

CONFIDENTIAL

Form 3160-5
(August 2007)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010**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.5. Lease Serial No.
NMNM 112953 NMNM 1093866. If Indian, Allottee or Tribe Name
N/A

SUBMIT IN TRIPLICATE - Other instructions on page 2. JUL 14 2014

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
Encana Oil & Gas (USA) Inc.3a. Address
370 17th Street, Suite 1700
Denver, CO 80202

3b. Phone No. (include area code)

720-876-5867

7. If Unit of CA/Agreement, Name and/or No.
N/A8. Well Name and No.
Lybrook P28-2306 02H9. API Well No.
30-043-211774. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SHL: 348' FSL and 1252' FEL Sec 28, T23N, R6W
BHL: 2373' FNL and 400' FEL Sec 4, T22N, R6W10. Field and Pool or Exploratory Area
Lybrook Gallup11. Country or Parish, State
Sandoval, New Mexico

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
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ 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 recompleat 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 recompleat 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 Intermediate Casing/Cement plan for the Lybrook P28-2306 02H as follows:
No DV Tool will be run. TOC @ Surface (70% OH excess), Stage 1 Total 926 sks.

Attached is the updated Wellbore Diagram.

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

OIL CONS. DIV DIST. 3

JUL 25 2014

14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)
Cristi Bauer

Title Operations Technologist

Signature

Cristi Bauer

Date

7/11/14

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

William Tambekou

Title

Petroleum Engineer

Date

7/24/2014

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)

NMOCDAY

OPERATOR

Pinon Unit D14-2410 01H
SHL: NWNW 14 24N 10W
1321 FNL 449 FWL
BHL: NWNE 16 24N 10W
920FNL 1581FEL
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.	surface
Nacimiento Fn.	339
Ojo Alamo Ss.	1,564
Kirtland Shale	1,724
Fruitland Coal	1,865
Pictured Cliffs Ss.	2,112
Lewis Shale	2,248
Cliffhouse Ss.	2,938
Menefee Fn.	3,669
Point Lookout Ss.	4,384
Mancos Shale	4,552
Mancos Silt	5,162
Gallup Fn.	5,425

The referenced surface elevation is 7211', KB 7229'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,865
Oil/Gas	Pictured Cliffs Ss.	2,112
Oil/Gas	Cliffhouse Ss.	2,938
Gas	Menefee Fn.	3,669
Oil/Gas	Point Lookout Ss.	4,384
Oil/Gas	Mancos Shale	4,552
Oil/Gas	Mancos Silt	5,162
Oil/Gas	Gallup Fn.	5,425

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.

Pinon Unit D14-2410 01H
 SHL: NWNW 14 24N 10W
 1321 FNL 449 FWL
 BHL: NWNE 16 24N 10W
 920FNL 1581FEL
 San Juan, New Mexico

- 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'	30"	20"	94#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-6160'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5960'-13481'	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.

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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'	314 sks	HALCEM™ SYSTEM + 2% CaCl ₂ + 0.125lbm/sk Poly-E-Flake. 15.8 ppg, 1.174 cuft/sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-6160'	70% open hole excess Stage 1 Lead: 506 sks Stage 1 Tail: 420 sks	Stage 1 Lead: HALCEM™ SYSTEM + 0.2% HR-5 + 5lbm/sk Kol-Seal + 0.125lbm/sk Poly-E-Flake. 12.3 ppg, 1.948 cuft/sk Stage 1 Tail: VARICEM™ CEMENT + .15% CFR-3 + 5lbm/sk Kol-Seal + 0.125% Poly-E-Flake. 13.5 ppg, 1.308 cuft/sk.	Surface	1 every 3 joints through water bearing zones
Production Liner	5960'-13481'	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 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 3200'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5564'/13481'	Gallup

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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'-5661'/6160'	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"	5661'/6160'- 5564'/13481'	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 +/- 2656 psi based on a 9.0 ppg at 5675' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H₂S is encountered, the guidelines in Onshore Order No. 6 will be followed.

9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Pinon Unit D14-2410 01H
SHL: NWNW 14 24N 10W
1321 FNL 449 FWL
BHL: NWNE 16 24N 10W
920FNL 1581FEL
San Juan, New Mexico

Drilling is estimated to commence on January 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.

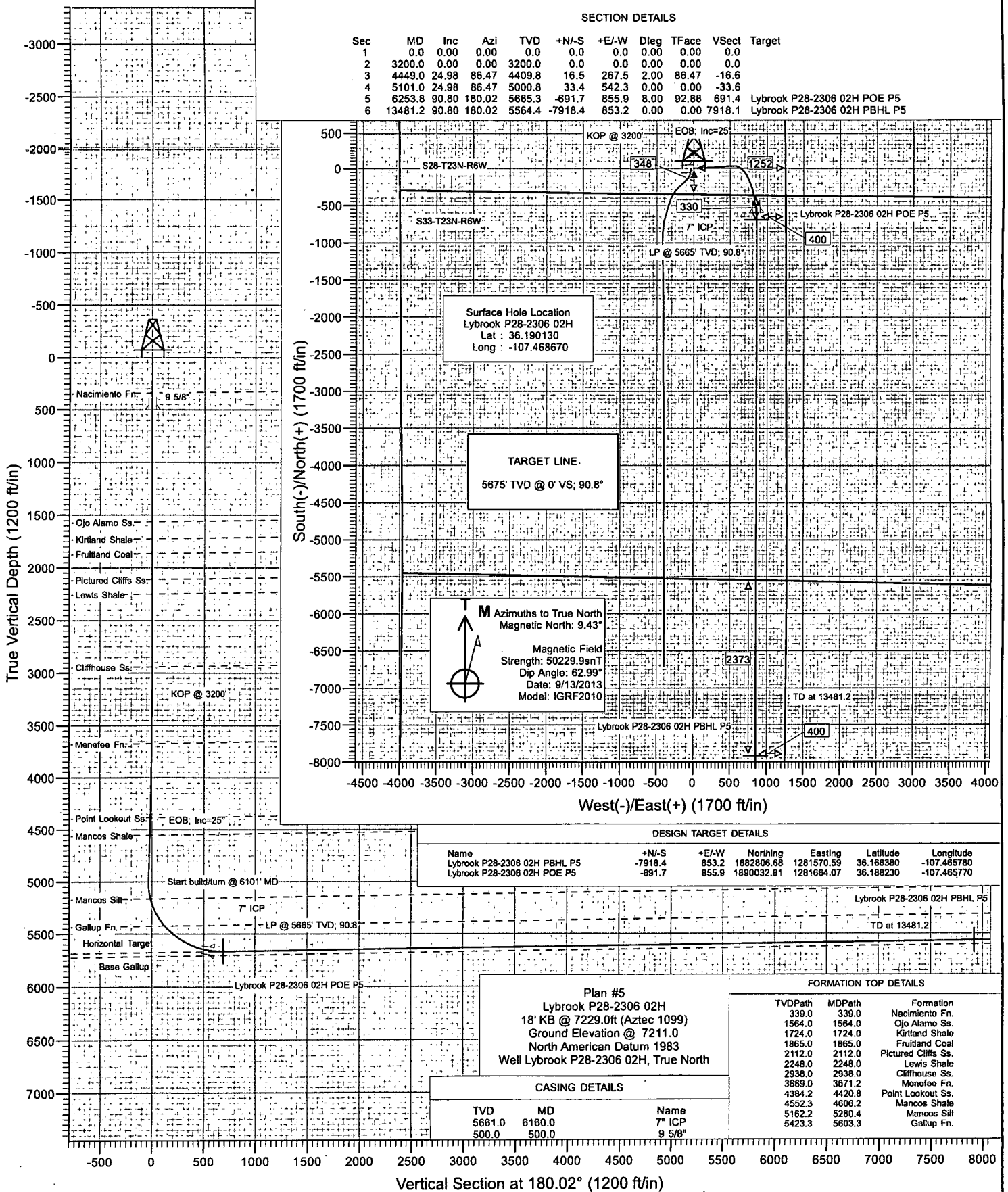
It is anticipated that the drilling of this well will take approximately 20 days.

Loc: SE/4 SE/4 Sec 28 T23N R6W, 348' F			Encana Natural Gas				ENO: Chris Cassie 7/11/14				
County: Sandoval			WELL SUMMARY				RIO: Artee 950				
WELL: Lybrook P28-2306 02H							GLE: 7211				
							RKBE: 7228.5				
MWD	OPEN HOLE	FORM	DEPTH		HOLE	CASINO	MW	DEVIATION			
LWD	LOGGING		TVD	MD					SIZE	SPECS	MUD TYPE
			60	60'		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.	surface		30						
		Nacimiento Fn.	339		12 1/4	9 5/8" 36ppf J55 STC	Fresh wtr	Vertical <1°			
		9 5/8" Csg	500	500.00		TOC Surface with 100% OH Excess: 314 sks of HALCEM™ SYSTEM + 2% CaCl2 + 0.125lbm/sk Poly-E-Flake. Mixed at 15.8 ppg. Yield 1.174 cuft/sk.	8.3-10				
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	1,564 1,724		8 3/4	7" 26ppf J55 LTC	Fresh Wtr	Vertical <1°			
		Fullband Coal	1,865								
		Pictured Cliffs Ss. Lewis Shale	2,112 2,248								
		Cliffhouse Ss. Menefee Fn.	2,938 3,669								
		Point Lookout Ss. Mancos Shale	4,384 4,552								
		KOP	3,200	3,200							
	Mud logger onsite	Mancos Sdt	5,162								
		Gallup Fn.	5,425								
		7" Csg	5,661	6,160'							
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD	5,675 5,584	13,481	6 1/8	200' overlap at liner top		Horz Inc/TVD 90.8deg/5674.5ft			
		Base Gallup	5,713			7321' Drilled Lateral		TD = 13481.2 MD			
MWD Gamma Directional						4 1/2" 11.6ppf SB80 LTC	WBM 8.3-10				
						Running external swellable csg packers for isolation of prod string					

encana.

natural gas

Project: Sandoval County, NM
Site: Lybrook
Well: Lybrook P28-2306 02H
Wellbore: HZ
Design: Plan #5



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Project:	Sandoval County, NM	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	North Reference:	True
Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #5		

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	Lybrook				
Site Position:		Northing:	1,882,676.45 ft	Latitude:	36.168210
From:	Lat/Long	Easting:	1,287,068.90 ft	Longitude:	-107.447150
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.71 °

Well	Lybrook P28-2306 02H					
Well Position	+N/-S	0.0 ft	Northing:	1,890,735.22 ft	Latitude:	36.190130
	+E/-W	0.0 ft	Easting:	1,280,816.97 ft	Longitude:	-107.468670
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,211.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	9/13/2013	9.43	62.99	50,230

Design	Plan #5				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	180.02	

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	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,449.0	24.98	86.47	4,409.8	16.5	267.5	2.00	2.00	0.00	86.47	
5,101.0	24.98	86.47	5,000.8	33.4	542.3	0.00	0.00	0.00	0.00	
6,253.8	90.80	180.02	5,665.3	-691.7	855.9	8.00	5.71	8.11	92.88	Lybrook P28-2306 02
13,481.2	90.80	180.02	5,564.4	-7,918.4	853.2	0.00	0.00	0.00	0.00	Lybrook P28-2306 02

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000.Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Project:	Sandoval County,NM	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	North Reference:	True
Well:	Lybrook P28-2306 02H	Survey Calculation Method	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #5		

Planned Survey									
Measured	Vertical		Vertical		Vertical		Deg/deg	Build	Comments /
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Formations
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	
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	
339.0	0.00	0.00	339.0	0.0	0.0	0.0	0.00	0.00	Nacimiento Fn.
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	
1,400.0	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	
1,564.0	0.00	0.00	1,564.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
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	
1,724.0	0.00	0.00	1,724.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,865.0	0.00	0.00	1,865.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,112.0	0.00	0.00	2,112.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,248.0	0.00	0.00	2,248.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
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	
2,800.0	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	
2,938.0	0.00	0.00	2,938.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
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	KOP @ 3200'
3,300.0	2.00	86.47	3,300.0	0.1	1.7	-0.1	2.00	2.00	
3,400.0	4.00	86.47	3,399.8	0.4	7.0	-0.4	2.00	2.00	
3,500.0	6.00	86.47	3,499.5	1.0	15.7	-1.0	2.00	2.00	
3,600.0	8.00	86.47	3,598.7	1.7	27.8	-1.7	2.00	2.00	
3,671.2	9.42	86.47	3,669.0	2.4	38.6	-2.4	2.00	2.00	Menefee Fn.
3,700.0	10.00	86.47	3,697.5	2.7	43.4	-2.7	2.00	2.00	
3,800.0	12.00	86.47	3,795.6	3.8	62.5	-3.9	2.00	2.00	
3,900.0	14.00	86.47	3,893.1	5.2	84.9	-5.3	2.00	2.00	
4,000.0	16.00	86.47	3,989.6	6.8	110.8	-6.9	2.00	2.00	
4,100.0	18.00	86.47	4,085.3	8.6	139.9	-8.7	2.00	2.00	
4,200.0	20.00	86.47	4,179.8	10.6	172.4	-10.7	2.00	2.00	
4,300.0	22.00	86.47	4,273.2	12.8	208.2	-12.9	2.00	2.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Project:	Sandoval County, NM	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	North Reference:	True
Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #5		

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
4,400.0	24.00	86.47	4,365.2	15.2	247.2	-15.3	2.00	2.00	
4,420.8	24.42	86.47	4,384.2	15.8	255.7	-15.8	2.00	2.00	Point Lookout Ss.
4,449.0	24.98	86.47	4,409.8	16.5	267.5	-16.6	2.00	2.00	EOB; Inc=25°
4,500.0	24.98	86.47	4,456.0	17.8	289.0	-17.9	0.00	0.00	
4,600.0	24.98	86.47	4,546.7	20.4	331.1	-20.5	0.00	0.00	
4,606.2	24.98	86.47	4,552.3	20.6	333.7	-20.7	0.00	0.00	Mancos Shale
4,700.0	24.98	86.47	4,637.3	23.0	373.3	-23.1	0.00	0.00	
4,800.0	24.98	86.47	4,728.0	25.6	415.4	-25.7	0.00	0.00	
4,900.0	24.98	86.47	4,818.6	28.2	457.6	-28.3	0.00	0.00	
5,000.0	24.98	86.47	4,909.3	30.8	499.7	-31.0	0.00	0.00	
5,100.0	24.98	86.47	4,999.9	33.4	541.9	-33.6	0.00	0.00	
5,101.0	24.98	86.47	5,000.8	33.4	542.3	-33.6	0.00	0.00	Start build/turn @ 6101' MD
5,200.0	25.75	104.94	5,090.4	29.1	584.0	-29.3	8.00	0.77	
5,280.4	27.94	118.37	5,162.2	15.7	617.5	-15.9	8.00	2.73	Mancos Silt
5,300.0	28.66	121.31	5,179.5	11.1	625.5	-11.3	8.00	3.65	
5,400.0	33.15	134.24	5,265.3	-20.5	665.7	20.3	8.00	4.50	
5,500.0	38.68	144.13	5,346.4	-65.0	703.7	64.8	8.00	5.53	
5,600.0	44.86	151.78	5,421.0	-121.5	738.7	121.3	8.00	6.18	
5,603.3	45.07	152.00	5,423.3	-123.6	739.8	123.3	8.00	6.42	Gallup Fn.
5,700.0	51.45	157.89	5,487.7	-188.9	770.1	188.7	8.00	6.59	
5,800.0	58.30	162.95	5,545.2	-266.0	797.4	265.7	8.00	6.85	
5,900.0	65.32	167.31	5,592.4	-351.1	819.9	350.8	8.00	7.02	
6,000.0	72.45	171.19	5,628.4	-442.7	837.2	442.4	8.00	7.13	
6,071.4	77.59	173.77	5,646.9	-511.0	846.2	510.7	8.00	7.20	Payzone Top
6,100.0	79.66	174.78	5,652.5	-538.9	849.0	538.6	8.00	7.22	
6,160.0	84.00	176.85	5,661.0	-598.1	853.3	597.8	8.00	7.24	7" ICP
6,200.0	86.90	178.21	5,664.2	-638.0	855.0	637.7	8.00	7.25	
6,253.8	90.80	180.02	5,665.3	-691.7	855.9	691.4	8.00	7.25	LP @ 5665' TVD; 90.8°
6,300.0	90.80	180.02	5,664.7	-737.9	855.8	737.6	0.00	0.00	
6,400.0	90.80	180.02	5,663.3	-837.9	855.8	837.6	0.00	0.00	
6,500.0	90.80	180.02	5,661.9	-937.9	855.8	937.6	0.00	0.00	
6,600.0	90.80	180.02	5,660.5	-1,037.9	855.7	1,037.6	0.00	0.00	
6,700.0	90.80	180.02	5,659.1	-1,137.9	855.7	1,137.6	0.00	0.00	
6,800.0	90.80	180.02	5,657.7	-1,237.9	855.7	1,237.6	0.00	0.00	
6,900.0	90.80	180.02	5,656.3	-1,337.9	855.6	1,337.6	0.00	0.00	
7,000.0	90.80	180.02	5,654.9	-1,437.9	855.6	1,437.6	0.00	0.00	
7,100.0	90.80	180.02	5,653.5	-1,537.8	855.5	1,537.6	0.00	0.00	
7,200.0	90.80	180.02	5,652.1	-1,637.8	855.5	1,637.5	0.00	0.00	
7,300.0	90.80	180.02	5,650.7	-1,737.8	855.5	1,737.5	0.00	0.00	
7,400.0	90.80	180.02	5,649.3	-1,837.8	855.4	1,837.5	0.00	0.00	
7,500.0	90.80	180.02	5,647.9	-1,937.8	855.4	1,937.5	0.00	0.00	
7,600.0	90.80	180.02	5,646.5	-2,037.8	855.4	2,037.5	0.00	0.00	
7,700.0	90.80	180.02	5,645.1	-2,137.8	855.3	2,137.5	0.00	0.00	
7,800.0	90.80	180.02	5,643.7	-2,237.8	855.3	2,237.5	0.00	0.00	
7,900.0	90.80	180.02	5,642.3	-2,337.8	855.2	2,337.5	0.00	0.00	
8,000.0	90.80	180.02	5,640.9	-2,437.8	855.2	2,437.5	0.00	0.00	
8,100.0	90.80	180.02	5,639.5	-2,537.8	855.2	2,537.5	0.00	0.00	
8,200.0	90.80	180.02	5,638.1	-2,637.7	855.1	2,637.4	0.00	0.00	
8,300.0	90.80	180.02	5,636.7	-2,737.7	855.1	2,737.4	0.00	0.00	
8,400.0	90.80	180.02	5,635.3	-2,837.7	855.1	2,837.4	0.00	0.00	
8,500.0	90.80	180.02	5,633.9	-2,937.7	855.0	2,937.4	0.00	0.00	
8,600.0	90.80	180.02	5,632.5	-3,037.7	855.0	3,037.4	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Project:	Sandoval County, NM	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	North Reference:	True
Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #5		

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
8,700.0	90.80	180.02	5,631.1	-3,137.7	854.9	3,137.4	0.00	0.00	
8,800.0	90.80	180.02	5,629.8	-3,237.7	854.9	3,237.4	0.00	0.00	
8,900.0	90.80	180.02	5,628.4	-3,337.7	854.9	3,337.4	0.00	0.00	
9,000.0	90.80	180.02	5,627.0	-3,437.7	854.8	3,437.4	0.00	0.00	
9,100.0	90.80	180.02	5,625.6	-3,537.7	854.8	3,537.4	0.00	0.00	
9,200.0	90.80	180.02	5,624.2	-3,637.6	854.8	3,637.3	0.00	0.00	
9,300.0	90.80	180.02	5,622.8	-3,737.6	854.7	3,737.3	0.00	0.00	
9,400.0	90.80	180.02	5,621.4	-3,837.6	854.7	3,837.3	0.00	0.00	
9,500.0	90.80	180.02	5,620.0	-3,937.6	854.6	3,937.3	0.00	0.00	
9,600.0	90.80	180.02	5,618.6	-4,037.6	854.6	4,037.3	0.00	0.00	
9,700.0	90.80	180.02	5,617.2	-4,137.6	854.6	4,137.3	0.00	0.00	
9,800.0	90.80	180.02	5,615.8	-4,237.6	854.5	4,237.3	0.00	0.00	
9,900.0	90.80	180.02	5,614.4	-4,337.6	854.5	4,337.3	0.00	0.00	
10,000.0	90.80	180.02	5,613.0	-4,437.6	854.5	4,437.3	0.00	0.00	
10,100.0	90.80	180.02	5,611.6	-4,537.6	854.4	4,537.3	0.00	0.00	
10,200.0	90.80	180.02	5,610.2	-4,637.5	854.4	4,637.2	0.00	0.00	
10,300.0	90.80	180.02	5,608.8	-4,737.5	854.3	4,737.2	0.00	0.00	
10,400.0	90.80	180.02	5,607.4	-4,837.5	854.3	4,837.2	0.00	0.00	
10,500.0	90.80	180.02	5,606.0	-4,937.5	854.3	4,937.2	0.00	0.00	
10,600.0	90.80	180.02	5,604.6	-5,037.5	854.2	5,037.2	0.00	0.00	
10,700.0	90.80	180.02	5,603.2	-5,137.5	854.2	5,137.2	0.00	0.00	
10,800.0	90.80	180.02	5,601.8	-5,237.5	854.2	5,237.2	0.00	0.00	
10,900.0	90.80	180.02	5,600.4	-5,337.5	854.1	5,337.2	0.00	0.00	
11,000.0	90.80	180.02	5,599.0	-5,437.5	854.1	5,437.2	0.00	0.00	
11,100.0	90.80	180.02	5,597.6	-5,537.5	854.0	5,537.2	0.00	0.00	
11,200.0	90.80	180.02	5,596.2	-5,637.5	854.0	5,637.2	0.00	0.00	
11,300.0	90.80	180.02	5,594.9	-5,737.4	854.0	5,737.1	0.00	0.00	
11,400.0	90.80	180.02	5,593.5	-5,837.4	853.9	5,837.1	0.00	0.00	
11,500.0	90.80	180.02	5,592.1	-5,937.4	853.9	5,937.1	0.00	0.00	
11,600.0	90.80	180.02	5,590.7	-6,037.4	853.9	6,037.1	0.00	0.00	
11,700.0	90.80	180.02	5,589.3	-6,137.4	853.8	6,137.1	0.00	0.00	
11,800.0	90.80	180.02	5,587.9	-6,237.4	853.8	6,237.1	0.00	0.00	
11,900.0	90.80	180.02	5,586.5	-6,337.4	853.7	6,337.1	0.00	0.00	
12,000.0	90.80	180.02	5,585.1	-6,437.4	853.7	6,437.1	0.00	0.00	
12,100.0	90.80	180.02	5,583.7	-6,537.4	853.7	6,537.1	0.00	0.00	
12,200.0	90.80	180.02	5,582.3	-6,637.4	853.6	6,637.1	0.00	0.00	
12,300.0	90.80	180.02	5,580.9	-6,737.3	853.6	6,737.0	0.00	0.00	
12,400.0	90.80	180.02	5,579.5	-6,837.3	853.6	6,837.0	0.00	0.00	
12,500.0	90.80	180.02	5,578.1	-6,937.3	853.5	6,937.0	0.00	0.00	
12,600.0	90.80	180.02	5,576.7	-7,037.3	853.5	7,037.0	0.00	0.00	
12,700.0	90.80	180.02	5,575.3	-7,137.3	853.4	7,137.0	0.00	0.00	
12,800.0	90.80	180.02	5,573.9	-7,237.3	853.4	7,237.0	0.00	0.00	
12,900.0	90.80	180.02	5,572.5	-7,337.3	853.4	7,337.0	0.00	0.00	
13,000.0	90.80	180.02	5,571.1	-7,437.3	853.3	7,437.0	0.00	0.00	
13,100.0	90.80	180.02	5,569.7	-7,537.3	853.3	7,537.0	0.00	0.00	
13,200.0	90.80	180.02	5,568.3	-7,637.3	853.3	7,637.0	0.00	0.00	
13,300.0	90.80	180.02	5,566.9	-7,737.2	853.2	7,736.9	0.00	0.00	
13,400.0	90.80	180.02	5,565.5	-7,837.2	853.2	7,836.9	0.00	0.00	
13,481.2	90.80	180.02	5,564.4	-7,918.4	853.2	7,918.1	0.00	0.00	TD at 13481.2

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Project:	Sandoval County, NM	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site:	Lybrook	North Reference:	True
Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #5		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Lybrook P28-2306 02H I	0.00	0.00	5,638.5	-7,874.8	803.0	1,882,851.00	1,281,520.96	36.168500	-107.465950
- plan misses target center by 96.2ft at 13400.0ft MD (5565.5 TVD, -7837.2 N, 853.2 E)									
- Point									
Lybrook P28-2306 02H I	0.00	0.00	5,663.6	-691.7	805.7	1,890,033.43	1,281,613.90	36.188230	-107.465940
- plan misses target center by 50.2ft at 6253.0ft MD (5665.3 TVD, -690.9 N, 855.9 E)									
- Point									
Lybrook P28-2306 02H I	0.00	0.00	5,671.3	-691.7	855.9	1,890,032.81	1,281,664.07	36.188230	-107.465770
- plan misses target center by 6.0ft at 6253.8ft MD (5665.3 TVD, -691.7 N, 855.9 E)									
- Point									
Lybrook P28-2306 02H I	0.00	0.00	5,664.9	-691.7	855.9	1,890,032.81	1,281,664.07	36.188230	-107.465770
- plan misses target center by 0.4ft at 6253.8ft MD (5665.3 TVD, -691.7 N, 855.9 E)									
- Point									
Lybrook P28-2306 02H I	0.00	0.00	5,564.4	-7,918.4	853.2	1,882,806.68	1,281,570.59	36.168380	-107.465780
- plan hits target center									
- Point									
Lybrook P28-2306 02H I	0.00	0.00	5,570.4	-7,918.4	853.2	1,882,806.68	1,281,570.59	36.168380	-107.465780
- plan misses target center by 6.0ft at 13481.1ft MD (5564.4 TVD, -7918.4 N, 853.2 E)									
- Point									
Lybrook P28-2306 02H I	0.00	0.00	5,665.3	-691.7	855.9	1,890,032.81	1,281,664.07	36.188230	-107.465770
- plan hits target center									
- Point									
Lybrook P28-2306 02H I	0.00	0.00	5,538.8	-7,918.4	853.2	1,882,806.68	1,281,570.59	36.168380	-107.465780
- plan misses target center by 25.6ft at 13481.2ft MD (5564.4 TVD, -7918.4 N, 853.2 E)									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(in)	(in)	
6,160.0	5,661.0	7" ICP	0.000	0.000	
500.0	500.0	9 5/8"	0.000	0.000	

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB Company: EnCana Oil & Gas (USA) Inc Project: Sandoval County, NM Site: Lybrook Well: Lybrook P28-2306 02H Wellbore: HZ Design: Plan #5	Local Co-ordinate Reference: Well Lybrook P28-2306 02H TVD Reference: 18' KB @ 7229.0ft (Aztec 1099) MD Reference: 18' KB @ 7229.0ft (Aztec 1099) North Reference: True Survey Calculation Method: Minimum Curvature	
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Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
339.0	339.0	Nacimiento Fn.		-0.80	180.02
1,564.0	1,564.0	Ojo Alamo Ss.		-0.80	180.02
1,724.0	1,724.0	Kirtland Shale		-0.80	180.02
1,865.0	1,865.0	Fruitland Coal		-0.80	180.02
2,112.0	2,112.0	Pictured Cliffs Ss.		-0.80	180.02
2,248.0	2,248.0	Lewis Shale		-0.80	180.02
2,938.0	2,938.0	Cliffhouse Ss.		-0.80	180.02
3,671.2	3,669.0	Menefee Fn.		-0.80	180.02
4,420.8	4,384.0	Point Lookout Ss.		-0.80	180.02
4,606.2	4,552.0	Mancos Shale		-0.80	180.02
5,280.4	5,162.0	Mancos Silt		-0.80	180.02
5,603.3	5,425.0	Gallup Fn.		-0.80	180.02
6,071.4	5,654.0	Payzone Top		-0.80	180.02

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,200.0	3,200.0	0.0	0.0	KOP @ 3200'
4,449.0	4,409.8	16.5	267.5	EOB; Inc=25°
5,101.0	5,000.8	33.4	542.3	Start build/turn @ 6101' MD
6,253.8	5,665.3	-691.7	855.9	LP @ 5665' TVD; 90.8°
13,481.2	5,564.4	-7,918.4	853.2	TD at 13481.2

EnCana Oil & Gas (USA) Inc

Sandoval County, NM

Lybrook

Lybrook P28-2306 02H

HZ

Plan #5

Anticollision Report

09 July, 2014

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Reference Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Reference	Plan #5
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 1,291.1ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	Systematic Ellipse
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program Date 7/9/2014

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	13,481.2	Plan #5 (HZ)	Geolink MWD	Geolink MWD

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
GCU						
GCU H33-2306 - Hz - Plan #2	7,630.7	5,412.6	490.4	445.2	10.854	CC, ES
GCU H33-2306 - Hz - Plan #2	7,800.0	5,466.5	514.5	464.8	10.346	SF
Lybrook						
Lybrook A03-2206 01H - Hz - FINAL	11,932.5	9,565.0	764.9	635.7	5.921	CC, ES
Lybrook A03-2206 01H - Hz - FINAL	12,000.0	9,565.0	767.9	637.5	5.891	SF
Lybrook H03-2206 01H - Hz - FINAL	13,376.7	9,870.0	740.4	585.4	4.777	CC
Lybrook H03-2206 01H - Hz - FINAL	13,400.0	9,870.0	740.8	585.4	4.767	ES, SF
Lybrook M27-2306 03H - Hz - Plan #1	5,300.0	5,808.4	556.6	521.4	15.817	SF
Lybrook M27-2306 03H - Hz - Plan #1	5,309.3	5,804.6	556.5	521.4	15.862	CC, ES
Lybrook M27-2306 04H - Hz - FINAL	5,500.0	6,130.5	408.5	377.9	13.331	SF
Lybrook M27-2306 04H - Hz - FINAL	5,594.5	6,096.1	392.9	364.3	13.748	CC, ES
Lybrook P28-2306 01H - Hz - FINAL	0.0	0.0	32.9			
Lybrook P28-2306 01H - Hz - FINAL	3,000.0	3,001.1	38.2	27.8	3.671	ES, SF

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: Sandoval County, NM
 Reference Site: Lybrook
 Site Error: 0.0ft
 Reference Well: Lybrook P28-2306 02H
 Well Error: 0.0ft
 Reference Wellbore: HZ
 Reference Design: Plan #5

Local Co-ordinate Reference: Well Lybrook P28-2306 02H
 TVD Reference: 18' KB @ 7229.0ft (Aztec 1099)
 MD Reference: 18' KB @ 7229.0ft (Aztec 1099)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

Offset Design: GCU - GCU H33-2306 - HZ - Plan #2													Offset Site Error: 0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis			Distance			Total			Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor	
6,400.0	5,663.3	5,200.0	5,188.0	24.7	9.5	-43.49	-1,984.7	1,237.9	1,279.3	1,257.2	22.17	57.700	
6,500.0	5,661.9	5,222.6	5,209.4	25.8	9.6	-45.34	-1,990.9	1,241.6	1,189.4	1,165.7	23.74	50.103	
6,600.0	5,660.5	5,232.4	5,218.6	27.0	9.6	-46.18	-1,993.8	1,243.4	1,101.3	1,076.2	25.08	43.907	
6,700.0	5,659.1	5,250.0	5,235.0	28.3	9.7	-47.72	-1,999.2	1,247.0	1,015.1	988.4	26.71	38.010	
6,800.0	5,657.7	5,250.0	5,235.0	29.6	9.7	-47.72	-1,999.2	1,247.0	931.3	903.4	27.87	33.409	
6,900.0	5,656.3	5,267.6	5,251.1	31.0	9.8	-49.33	-2,005.0	1,250.9	850.4	820.8	29.64	28.692	
7,000.0	5,654.9	5,281.7	5,263.9	32.4	9.8	-50.65	-2,009.9	1,254.2	773.6	742.2	31.36	24.668	
7,100.0	5,653.5	5,300.0	5,280.3	33.9	9.9	-52.43	-2,016.6	1,258.9	701.8	668.5	33.30	21.079	
7,200.0	5,652.1	5,314.2	5,292.8	35.3	10.0	-53.83	-2,022.1	1,262.8	636.8	601.7	35.15	18.116	
7,300.0	5,650.7	5,333.1	5,309.2	36.8	10.1	-55.73	-2,029.7	1,268.4	580.7	543.4	37.25	15.589	
7,400.0	5,649.3	5,350.0	5,323.6	38.3	10.2	-57.46	-2,036.8	1,273.6	535.9	496.6	39.31	13.633	
7,500.0	5,647.9	5,377.7	5,346.6	39.9	10.4	-60.31	-2,049.1	1,282.9	505.3	463.5	41.87	12.070	
7,600.0	5,646.5	5,400.0	5,364.6	41.4	10.5	-62.62	-2,059.5	1,291.0	491.2	447.0	44.23	11.107	
7,630.7	5,646.1	5,412.6	5,374.5	41.9	10.6	-63.92	-2,065.7	1,295.8	490.4	445.2	45.18	10.854 CC, ES	
7,700.0	5,645.1	5,433.4	5,390.5	43.0	10.7	-66.04	-2,076.1	1,304.0	494.5	447.5	47.02	10.519	
7,800.0	5,643.7	5,466.5	5,415.0	44.6	11.0	-69.31	-2,093.4	1,317.9	514.5	464.8	49.73	10.346 SF	
7,900.0	5,642.3	5,500.0	5,438.4	46.2	11.3	-72.45	-2,112.0	1,333.1	548.8	496.5	52.37	10.480	
8,000.0	5,640.9	5,550.0	5,470.6	47.8	11.7	-76.73	-2,141.3	1,357.5	594.4	539.1	55.31	10.746	
8,100.0	5,639.5	5,591.8	5,494.9	49.4	12.2	-79.85	-2,167.1	1,379.4	648.1	590.3	57.85	11.203	
8,200.0	5,638.1	5,643.0	5,521.3	51.1	12.8	-83.10	-2,200.5	1,408.2	707.6	647.2	60.41	11.714	
8,300.0	5,636.7	5,700.0	5,545.9	52.7	13.5	-85.93	-2,239.1	1,442.1	770.9	708.1	62.89	12.259	
8,400.0	5,635.3	5,759.8	5,566.1	54.3	14.4	-88.08	-2,281.1	1,479.5	836.6	771.3	65.32	12.808	
8,500.0	5,633.9	5,823.8	5,581.2	56.0	15.4	-89.54	-2,327.1	1,521.3	903.7	836.0	67.77	13.336	
8,600.0	5,632.5	5,889.8	5,589.3	57.6	16.5	-90.28	-2,375.2	1,565.7	971.7	901.4	70.26	13.830	
8,700.0	5,631.1	5,958.7	5,590.5	59.3	17.7	-90.41	-2,425.5	1,612.8	1,040.1	967.3	72.82	14.283	
8,800.0	5,629.8	6,031.5	5,590.2	61.0	19.0	-90.42	-2,478.6	1,662.7	1,108.6	1,033.1	75.47	14.690	
8,900.0	5,628.4	6,104.4	5,590.0	62.6	20.4	-90.43	-2,531.6	1,712.6	1,177.1	1,099.0	78.13	15.066	
9,000.0	5,627.0	6,177.2	5,589.7	64.3	21.8	-90.43	-2,584.7	1,762.4	1,245.6	1,164.8	80.83	15.411	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Reference Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design: Lybrook - Lybrook A03-2206 01H - HZ - FINAL										Offset Site Error: 0.0 ft			
Survey Program: S10-MWD, 4726-MWD										Offset Well Error: 0.0 ft			
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,900.0	5,600.4	9,565.0	5,334.7	96.7	110.0	-88.48	-6,369.9	1,618.4	1,285.0	1,173.8	111.15	11.560	
11,000.0	5,599.0	9,565.0	5,334.7	98.4	110.0	-88.48	-6,369.9	1,618.4	1,206.1	1,093.2	112.90	10.683	
11,100.0	5,597.6	9,565.0	5,334.7	100.2	110.0	-88.48	-6,369.9	1,618.4	1,130.5	1,015.9	114.64	9.862	
11,200.0	5,596.2	9,565.0	5,334.7	101.9	110.0	-88.48	-6,369.9	1,618.4	1,059.1	942.7	116.39	9.100	
11,300.0	5,594.9	9,565.0	5,334.7	103.6	110.0	-88.48	-6,369.9	1,618.4	992.5	874.4	118.13	8.402	
11,400.0	5,593.5	9,565.0	5,334.7	105.3	110.0	-88.48	-6,369.9	1,618.4	932.0	812.1	119.88	7.775	
11,500.0	5,592.1	9,565.0	5,334.7	107.1	110.0	-88.48	-6,369.9	1,618.4	878.7	757.1	121.62	7.225	
11,600.0	5,590.7	9,565.0	5,334.7	108.8	110.0	-88.48	-6,369.9	1,618.4	834.0	710.7	123.37	6.761	
11,700.0	5,589.3	9,565.0	5,334.7	110.5	110.0	-88.48	-6,369.9	1,618.4	799.5	674.3	125.11	6.390	
11,800.0	5,587.9	9,565.0	5,334.7	112.3	110.0	-88.48	-6,369.9	1,618.4	776.3	649.4	126.86	6.119	
11,900.0	5,586.5	9,565.0	5,334.7	114.0	110.0	-88.48	-6,369.9	1,618.4	765.6	637.0	128.61	5.953	
11,932.5	5,586.0	9,565.0	5,334.7	114.6	110.0	-88.48	-6,369.9	1,618.4	764.9	635.7	129.17	5.921 CC, ES	
12,000.0	5,585.1	9,565.0	5,334.7	115.7	110.0	-88.48	-6,369.9	1,618.4	767.9	637.5	130.35	5.891 SF	
12,100.0	5,583.7	9,565.0	5,334.7	117.5	110.0	-88.48	-6,369.9	1,618.4	783.0	650.9	132.10	5.928	
12,200.0	5,582.3	9,565.0	5,334.7	119.2	110.0	-88.48	-6,369.9	1,618.4	810.3	676.5	133.85	6.054	
12,300.0	5,580.9	9,565.0	5,334.7	120.9	110.0	-88.48	-6,369.9	1,618.4	848.6	713.0	135.59	6.258	
12,400.0	5,579.5	9,565.0	5,334.7	122.7	110.0	-88.48	-6,369.9	1,618.4	896.5	759.1	137.34	6.527	
12,500.0	5,578.1	9,565.0	5,334.7	124.4	110.0	-88.48	-6,369.9	1,618.4	952.4	813.3	139.09	6.848	
12,600.0	5,576.7	9,565.0	5,334.7	126.1	110.0	-88.48	-6,369.9	1,618.4	1,015.2	874.4	140.84	7.208	
12,700.0	5,575.3	9,565.0	5,334.7	127.9	110.0	-88.48	-6,369.9	1,618.4	1,083.6	941.0	142.58	7.600	
12,800.0	5,573.9	9,565.0	5,334.7	129.6	110.0	-88.48	-6,369.9	1,618.4	1,156.6	1,012.2	144.33	8.013	
12,900.0	5,572.5	9,565.0	5,334.7	131.3	110.0	-88.48	-6,369.9	1,618.4	1,233.3	1,087.3	146.08	8.443	

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Reference Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design: Lybrook - Lybrook H03-2206 01H - HZ - FINAL													Offset Site Error:	0.0 ft
Survey Program: 558-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
12,400.0	5,579.5	9,870.0	5,397.0	122.7	117.3	-89.63	-7,814.1	1,593.6	1,225.6	1,087.7	137.92	8.886		
12,500.0	5,578.1	9,870.0	5,397.0	124.4	117.3	-89.63	-7,814.1	1,593.6	1,147.5	1,007.8	139.67	8.216		
12,600.0	5,576.7	9,870.0	5,397.0	126.1	117.3	-89.63	-7,814.1	1,593.6	1,073.1	931.6	141.42	7.588		
12,700.0	5,575.3	9,870.0	5,397.0	127.9	117.3	-89.63	-7,814.1	1,593.6	1,003.0	859.9	143.17	7.006		
12,800.0	5,573.9	9,870.0	5,397.0	129.6	117.3	-89.63	-7,814.1	1,593.6	938.5	793.6	144.92	6.476		
12,900.0	5,572.5	9,870.0	5,397.0	131.3	117.3	-89.63	-7,814.1	1,593.6	860.6	733.9	146.66	6.004		
13,000.0	5,571.1	9,870.0	5,397.0	133.1	117.3	-89.63	-7,814.1	1,593.6	830.7	682.3	148.41	5.597		
13,100.0	5,569.7	9,870.0	5,397.0	134.8	117.3	-89.63	-7,814.1	1,593.6	790.4	640.3	150.16	5.264		
13,200.0	5,568.3	9,870.0	5,397.0	136.5	117.3	-89.63	-7,814.1	1,593.6	761.2	609.3	151.91	5.011		
13,300.0	5,566.9	9,870.0	5,397.0	138.3	117.3	-89.63	-7,814.1	1,593.6	744.4	580.7	153.66	4.844		
13,376.7	5,565.9	9,870.0	5,397.0	139.6	117.3	-89.63	-7,814.1	1,593.6	740.4	585.4	155.00	4.777 CC		
13,400.0	5,565.5	9,870.0	5,397.0	140.0	117.3	-89.63	-7,814.1	1,593.6	740.8	585.4	155.41	4.767 ES, SF		
13,481.2	5,564.4	9,870.0	5,397.0	141.4	117.3	-89.63	-7,814.1	1,593.6	747.7	590.9	156.83	4.768		

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Reference Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at:	2.00 sigma
Reference Wellbore:	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design: Lybrook - Lybrook M27-2306 03H - HZ - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-MWD													Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
4,200.0	4,179.8	6,265.0	5,258.7	8.1	31.9	-124.10	548.9	175.7	1,281.4	1,247.4	33.93	37.761	
4,300.0	4,273.2	6,228.9	5,258.8	8.5	31.0	-124.48	548.4	211.7	1,196.2	1,162.7	33.53	35.678	
4,400.0	4,365.2	6,189.6	5,258.9	9.1	30.1	-124.43	547.8	251.0	1,113.4	1,080.1	33.24	33.491	
4,500.0	4,456.0	6,147.6	5,259.1	9.7	29.1	-122.88	547.3	293.0	1,033.0	999.6	33.41	30.922	
4,600.0	4,546.7	6,105.1	5,259.2	10.3	28.1	-120.00	546.7	335.5	954.7	920.8	33.92	28.142	
4,700.0	4,637.3	6,062.7	5,259.4	10.9	27.1	-116.91	546.1	377.9	878.7	844.3	34.44	25.514	
4,800.0	4,728.0	6,020.3	5,259.5	11.6	26.1	-113.60	545.6	420.3	805.8	770.8	34.93	23.065	
4,900.0	4,818.6	5,977.9	5,259.7	12.3	25.2	-110.06	545.0	462.7	736.7	701.3	35.39	20.819	
5,000.0	4,909.3	5,935.4	5,259.8	13.0	24.2	-106.32	544.4	505.2	672.8	637.0	35.78	18.806	
5,100.0	4,899.9	5,893.0	5,259.9	13.7	23.2	-102.37	543.8	547.6	615.6	579.5	36.07	17.065	
5,200.0	5,090.4	5,850.5	5,260.1	14.4	22.2	-114.24	543.3	590.1	573.3	537.3	36.01	15.923	
5,300.0	5,179.5	5,808.4	5,260.2	15.1	21.3	-124.67	542.7	632.2	556.6	521.4	35.19	15.817 SF	
5,309.3	5,187.6	5,804.6	5,260.3	15.2	21.2	-125.48	542.6	636.0	556.5	521.4	35.08	15.862 CC, ES	
5,400.0	5,265.3	5,767.6	5,260.4	15.8	20.4	-132.00	542.1	673.0	568.3	534.4	33.82	16.801	
5,500.0	5,346.4	5,728.7	5,260.5	16.6	19.5	-136.29	541.6	711.8	606.7	574.6	32.06	18.923	
5,600.0	5,421.0	5,692.7	5,260.6	17.3	18.7	-138.00	541.1	747.9	667.1	637.0	30.08	22.177	
5,700.0	5,487.7	5,660.1	5,260.8	18.1	18.0	-137.22	540.7	780.5	743.6	715.5	28.09	26.471	
5,800.0	5,545.2	5,631.6	5,260.9	18.9	17.4	-133.26	540.3	809.0	830.9	804.5	26.36	31.523	
5,900.0	5,592.4	5,607.8	5,260.9	19.8	16.9	-123.31	540.0	832.8	924.9	899.5	25.35	36.483	
6,000.0	5,628.4	5,591.0	5,261.0	20.7	16.6	-97.66	539.8	849.5	1,022.6	997.4	25.15	40.655	
6,100.0	5,652.5	5,582.0	5,261.0	21.6	16.4	-44.41	539.6	858.5	1,121.6	1,102.4	19.19	58.454	
6,200.0	5,664.2	5,577.7	5,260.9	22.6	16.3	-9.92	539.6	862.8	1,220.1	1,206.2	13.89	87.870	

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306.02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Reference Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P28-2306.02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design: Lybrook - Lybrook M27-2306.04H - Hz - FINAL													Offset Site Error: 0.0 ft
Survey Program: 138-Geolink MWD													Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
4,400.0	4,365.2	4,291.1	4,290.8	9.1	7.5	-22.01	530.2	1,417.8	1,278.9	1,264.2	14.69	87.085	
4,500.0	4,456.0	8,529.7	5,597.0	9.7	29.0	-160.17	195.3	309.5	1,235.0	1,210.7	24.30	50.813	
4,600.0	4,546.7	6,492.2	5,596.9	10.3	28.2	-159.29	193.2	347.0	1,144.4	1,119.8	24.64	46.436	
4,700.0	4,637.3	6,438.9	5,596.2	10.9	27.0	-157.81	190.4	400.2	1,053.6	1,028.5	25.10	41.979	
4,800.0	4,728.0	6,396.7	5,595.4	11.6	26.1	-156.35	188.3	442.3	962.7	937.1	25.58	37.629	
4,900.0	4,818.6	6,354.9	5,594.5	12.3	25.1	-154.61	186.4	484.0	871.8	845.6	26.15	33.338	
5,000.0	4,909.3	6,319.0	5,593.7	13.0	24.4	-152.78	184.8	519.9	781.0	754.3	26.77	29.174	
5,100.0	4,999.9	6,282.9	5,593.0	13.7	23.6	-150.55	183.4	556.0	690.7	663.2	27.51	25.111	
5,200.0	5,090.4	6,247.9	5,592.7	14.4	22.9	-152.10	182.4	590.9	603.1	571.8	31.30	19.267	
5,300.0	5,179.5	6,207.2	5,592.5	15.1	22.0	-154.37	181.4	631.7	522.6	489.9	32.72	15.971	
5,400.0	5,265.3	6,167.1	5,592.2	15.8	21.2	-156.24	180.8	671.7	454.9	422.7	32.24	14.108	
5,500.0	5,346.4	6,130.5	5,591.8	16.6	20.5	-157.53	180.6	708.4	408.5	377.9	30.64	13.331 SF	
5,584.5	5,417.1	6,096.1	5,591.1	17.3	19.8	-157.85	180.6	742.8	392.9	364.3	28.57	13.748 CC, ES	
5,600.0	5,421.0	6,094.2	5,591.1	17.3	19.7	-157.85	180.6	744.7	392.9	364.5	28.45	13.812	
5,700.0	5,487.7	6,060.5	5,590.3	18.1	19.1	-157.56	180.4	778.3	412.6	386.6	26.01	15.863	
5,800.0	5,545.2	6,027.5	5,589.1	18.9	18.4	-156.30	180.0	811.3	463.3	439.7	23.62	19.617	
5,900.0	5,592.4	6,000.8	5,587.9	19.8	17.9	-154.69	179.4	838.0	536.2	514.7	21.57	24.855	
6,000.0	5,628.4	5,981.8	5,586.9	20.7	17.6	-152.67	178.8	856.9	623.1	602.9	20.13	30.957	
6,100.0	5,652.5	5,967.7	5,586.1	21.6	17.3	-148.49	178.4	871.0	717.8	698.0	19.80	36.246	
6,200.0	5,664.2	5,958.8	5,585.6	22.6	17.2	-132.66	178.2	879.9	816.5	793.4	23.14	35.279	
6,300.0	5,664.7	5,954.6	5,585.4	23.6	17.1	-68.44	178.0	884.1	916.4	888.2	28.20	32.494	
6,400.0	5,663.3	5,951.2	5,585.2	24.7	17.1	-70.29	177.9	887.5	1,016.3	986.5	29.82	34.079	
6,500.0	5,661.9	5,947.7	5,585.0	25.8	17.0	-71.84	177.8	890.9	1,116.3	1,084.8	31.46	35.485	
6,600.0	5,660.5	5,947.0	5,585.0	27.0	17.0	-72.13	177.8	891.7	1,216.2	1,183.3	32.96	36.896	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306.02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Reference Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P28-2306.02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at:	2.00 sigma
Reference Wellbore:	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design: Lybrook - Lybrook P28-2306.01H - HZ - FINAL														Offset Site Error:	0.0 ft
Survey Program: 562-Geolink MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Offset Wellbore Centre		Between Centres		Between Ellipses		Total Uncertainty	Separation Factor
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N-S (ft)	+E-W (ft)		(ft)	(ft)	(ft)	(ft)	Axis	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-116.26	-14.6	-29.5		32.9					
100.0	100.0	100.0	100.0	0.1	0.2	-116.25	-14.6	-29.5		32.9		32.6		0.31	105.501
200.0	200.0	200.0	200.0	0.3	0.3	-116.22	-14.6	-29.6		33.0		32.3		0.66	50.288
300.0	300.0	300.0	300.0	0.5	0.5	-116.17	-14.6	-29.7		33.0		32.0		1.00	33.070
400.0	400.0	400.0	400.0	0.7	0.7	-116.10	-14.6	-29.8		33.1		31.8		1.34	24.683
500.0	500.0	500.0	500.0	0.8	0.8	-116.00	-14.6	-29.9		33.3		31.6		1.69	19.731
600.0	600.0	599.9	599.9	1.0	1.0	-115.87	-14.6	-30.1		33.4		31.4		2.03	16.460
700.0	700.0	599.8	599.8	1.2	1.2	-115.52	-14.6	-30.6		33.9		31.5		2.38	14.234
800.0	800.0	799.8	799.8	1.4	1.4	-114.85	-14.5	-31.3		34.5		31.8		2.73	12.635
900.0	900.0	799.8	799.8	1.5	1.5	-113.73	-14.1	-32.2		35.2		32.1		3.08	11.417
1,000.0	1,000.0	999.7	999.7	1.7	1.7	-112.90	-14.0	-33.0		35.9		32.4		3.43	10.460
1,100.0	1,100.0	1,099.5	1,099.5	1.9	1.9	-112.57	-14.2	-34.1		37.0		33.2		3.78	9.786
1,200.0	1,200.0	1,199.5	1,199.5	2.1	2.1	-112.40	-14.6	-35.5		38.4		34.3		4.13	9.313
1,300.0	1,300.0	1,299.2	1,299.1	2.2	2.2	-112.83	-15.6	-37.0		40.2		35.7		4.48	8.970
1,400.0	1,400.0	1,398.9	1,398.8	2.4	2.4	-113.11	-16.8	-38.3		42.8		37.9		4.83	8.854
1,500.0	1,500.0	1,498.8	1,498.7	2.6	2.6	-113.82	-18.4	-41.7		45.6		40.4		5.18	8.791
1,600.0	1,600.0	1,598.5	1,598.4	2.8	2.8	-115.43	-20.8	-43.9		48.6		43.0		5.54	8.777
1,700.0	1,700.0	1,698.5	1,698.3	2.9	3.0	-116.73	-23.4	-46.5		52.1		46.2		5.89	8.847
1,800.0	1,800.0	1,799.8	1,799.6	3.1	3.1	-115.20	-23.2	-49.3		54.5		48.3		6.24	8.735
1,900.0	1,900.0	1,803.1	1,802.8	3.3	3.3	-112.64	-20.1	-48.2		52.3		45.7		6.59	7.931
2,000.0	2,000.0	2,003.0	2,002.5	3.5	3.5	-111.33	-16.8	-43.0		46.2		39.3		6.93	6.670
2,099.3	2,099.3	2,100.0	2,099.3	3.6	3.6	-115.83	-19.0	-39.2		43.5		36.2		7.27	5.985
2,100.0	2,100.0	2,100.7	2,100.0	3.6	3.6	-115.88	-19.0	-39.2		43.5		36.2		7.27	5.983
2,200.0	2,200.0	2,198.8	2,197.9	3.8	3.8	-123.79	-25.6	-38.2		46.1		38.4		7.62	6.042
2,300.0	2,300.0	2,300.4	2,299.4	4.0	4.0	-123.41	-27.1	-41.1		49.3		41.3		7.98	6.175
2,400.0	2,400.0	2,401.9	2,400.9	4.2	4.2	-119.10	-23.7	-42.6		48.8		40.4		8.33	5.857
2,500.0	2,500.0	2,502.3	2,501.2	4.3	4.3	-120.13	-23.3	-40.2		46.5		37.8		8.67	5.361
2,600.0	2,600.0	2,602.1	2,600.9	4.5	4.5	-123.02	-24.1	-37.1		44.3		35.2		9.02	4.906
2,700.0	2,700.0	2,701.9	2,700.6	4.7	4.7	-126.24	-25.1	-34.2		42.4		33.0		9.37	4.525
2,800.0	2,800.0	2,802.0	2,800.7	4.9	4.9	-129.80	-26.0	-31.3		40.7		31.0		9.72	4.187
2,900.0	2,900.0	2,901.9	2,900.6	5.0	5.0	-133.67	-27.0	-28.2		39.1		29.0		10.06	3.881
2,982.2	2,982.2	2,983.5	2,982.2	5.2	5.2	-137.08	-27.9	-26.0		38.2		27.8		10.35	3.687
3,000.0	3,000.0	3,001.1	2,999.7	5.2	5.2	-137.58	-28.2	-25.8		38.2		27.8		10.41	3.671 ES, SF
3,100.0	3,100.0	3,100.2	3,098.9	5.4	5.4	-137.98	-29.9	-26.9		40.2		29.5		10.76	3.739
3,200.0	3,200.0	3,200.7	3,199.2	5.6	5.6	-137.01	-31.3	-29.2		42.8		31.7		11.11	3.852
3,300.0	3,300.0	3,301.3	3,299.8	5.7	5.7	141.26	-30.4	-31.9		45.4		34.0		11.46	3.966
3,400.0	3,399.8	3,403.0	3,401.4	5.9	5.9	148.33	-27.4	-32.5		48.3		36.5		11.80	4.091
3,500.0	3,499.5	3,502.1	3,500.5	6.1	6.1	152.38	-26.0	-29.2		52.3		40.2		12.13	4.315
3,600.0	3,598.7	3,599.7	3,598.1	6.3	6.3	154.86	-28.3	-27.6		63.1		50.6		12.45	5.065
3,700.0	3,697.5	3,696.7	3,695.0	6.5	6.4	157.64	-31.3	-27.9		79.0		66.3		12.76	6.194
3,800.0	3,795.6	3,794.8	3,793.1	6.7	6.8	162.07	-31.9	-30.8		99.9		86.9		13.05	7.661
3,900.0	3,893.1	3,891.6	3,889.8	7.0	6.8	166.05	-31.0	-33.5		123.9		110.5		13.32	9.300
4,000.0	3,989.6	3,987.5	3,985.7	7.3	6.9	168.91	-30.1	-36.2		151.6		138.0		13.58	11.166
4,100.0	4,085.3	4,083.0	4,081.2	7.6	7.1	171.30	-28.6	-39.1		182.9		169.1		13.82	13.230
4,200.0	4,179.8	4,185.8	4,183.8	8.1	7.3	173.88	-24.2	-40.1		215.5		201.4		14.07	15.317
4,300.0	4,273.2	4,283.9	4,281.8	8.5	7.4	175.13	-22.1	-37.3		248.1		233.8		14.30	17.357
4,400.0	4,365.2	4,366.4	4,364.3	9.1	7.6	175.36	-23.3	-35.6		285.5		271.0		14.49	19.698
4,500.0	4,456.0	4,449.4	4,447.3	9.7	7.7	175.55	-25.2	-37.0		328.9		314.2		14.75	22.303
4,600.0	4,546.7	4,538.8	4,536.6	10.3	7.9	176.19	-24.7	-39.5		373.5		358.4		15.07	24.776
4,700.0	4,637.3	4,627.6	4,625.4	10.9	8.1	176.80	-23.5	-42.2		418.2		402.8		15.40	27.158
4,800.0	4,728.0	4,719.4	4,717.2	11.6	8.2	177.27	-22.5	-44.6		462.7		447.0		15.73	29.417
4,900.0	4,818.6	4,806.7	4,804.3	12.3	8.4	177.29	-24.4	-46.8		507.4		491.3		16.06	31.597

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Reference Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at:	2.00' sigma
Reference Wellbore:	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design: Lybrook - Lybrook P28-2306 01H - HZ - FINAL													Offset Site Error: 0.0 ft
Survey Program: 562-Geolink MWD													Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre N/S (ft)	Offset Wellbore Centre E/W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
5,000.0	4,909.3	4,902.8	4,899.4	13.0	8.5	175.89	-38.6	-48.0	552.2	535.8	16.43	33.618	
5,100.0	4,999.9	4,980.5	4,974.1	13.7	8.7	173.87	-59.4	-46.0	595.7	578.9	16.81	35.442	
5,200.0	5,090.4	5,027.0	5,018.5	14.4	8.8	152.12	-73.1	-47.4	643.7	626.2	17.46	36.858	
5,300.0	5,179.5	5,068.9	5,058.1	15.1	8.9	132.96	-86.2	-51.3	694.5	676.1	18.36	37.825	
5,400.0	5,265.3	5,110.0	5,096.4	15.8	9.0	117.74	-99.7	-57.4	746.8	727.4	19.42	38.448	
5,500.0	5,346.4	5,153.0	5,135.9	16.6	9.2	106.19	-114.3	-66.4	799.8	779.3	20.54	38.934	
5,600.0	5,421.0	5,184.0	5,164.0	17.3	9.3	97.07	-124.9	-74.2	852.5	830.9	21.64	39.399	
5,700.0	5,487.7	5,225.9	5,201.2	18.1	9.4	90.40	-139.7	-86.4	904.5	881.8	22.62	39.980	
5,800.0	5,545.2	5,258.6	5,229.6	18.9	9.6	84.91	-151.7	-97.3	955.5	932.0	23.48	40.697	
5,900.0	5,592.4	5,290.4	5,256.6	19.8	9.7	80.57	-163.9	-108.9	1,005.2	981.0	24.18	41.578	
6,000.0	5,628.4	5,320.1	5,281.1	20.7	9.9	77.10	-175.9	-120.7	1,053.3	1,028.5	24.71	42.622	
6,100.0	5,652.5	5,349.5	5,304.8	21.6	10.1	74.45	-188.1	-133.0	1,099.2	1,074.1	25.11	43.782	
6,200.0	5,664.2	5,372.0	5,322.7	22.6	10.2	72.22	-197.3	-143.0	1,143.2	1,117.8	25.34	45.112	
6,300.0	5,664.7	5,404.0	5,347.5	23.6	10.4	72.25	-211.1	-157.8	1,185.5	1,159.3	26.27	45.127	
6,400.0	5,663.3	5,422.8	5,361.8	24.7	10.5	73.13	-219.4	-166.7	1,232.5	1,204.6	27.88	44.205	
6,500.0	5,661.9	5,471.0	5,363.5	25.8	10.6	89.40	-609.8	-374.7	1,273.5	1,237.9	35.62	35.755	
6,600.0	5,660.5	6,441.0	5,674.0	27.0	23.4	90.63	-1,071.5	-423.8	1,280.0	1,235.8	44.15	28.989	
6,700.0	5,659.1	6,518.2	5,670.2	28.3	24.5	90.51	-1,148.6	-422.8	1,278.6	1,231.6	46.95	27.234	
6,800.0	5,657.7	6,645.1	5,665.3	29.6	26.5	90.36	-1,275.3	-420.8	1,277.0	1,226.4	50.58	25.247	
6,900.0	5,656.3	6,747.7	5,661.3	31.0	28.1	90.25	-1,377.8	-417.5	1,273.7	1,219.8	53.87	23.645	
7,000.0	5,654.9	6,834.9	5,655.6	32.4	29.4	90.05	-1,464.8	-415.1	1,271.0	1,214.1	56.93	22.326	
7,100.0	5,653.5	6,918.6	5,651.8	33.9	30.8	89.93	-1,548.4	-413.9	1,269.5	1,209.5	59.96	21.174	
7,200.0	5,652.1	7,017.7	5,648.6	35.3	32.4	89.85	-1,647.4	-413.3	1,268.8	1,205.5	63.26	20.058	
7,300.0	5,650.7	7,112.0	5,645.4	36.8	33.9	89.76	-1,741.7	-412.7	1,268.2	1,201.7	66.50	19.071	
7,400.0	5,649.3	7,208.6	5,642.6	38.3	35.5	89.70	-1,838.2	-412.5	1,267.9	1,198.2	69.79	18.168	
7,500.0	5,647.9	7,308.8	5,639.6	39.9	37.1	89.63	-1,938.4	-412.5	1,267.9	1,194.7	73.16	17.331	
7,600.0	5,646.5	7,412.5	5,639.3	41.4	38.8	89.68	-2,042.1	-412.3	1,267.7	1,191.1	76.60	16.549	
7,700.0	5,645.1	7,513.1	5,637.6	43.0	40.5	89.67	-2,142.7	-412.1	1,267.4	1,187.4	80.00	15.843	
7,789.5	5,643.9	7,598.0	5,635.0	44.4	41.9	89.60	-2,227.5	-411.7	1,267.0	1,184.1	82.96	15.272	
7,800.0	5,643.7	7,602.0	5,634.8	44.6	42.0	89.59	-2,231.5	-411.7	1,267.1	1,183.8	83.21	15.227	
7,900.0	5,642.3	7,690.6	5,631.8	46.2	43.5	89.51	-2,320.1	-412.5	1,267.9	1,181.4	86.43	14.670	
8,000.0	5,640.9	7,806.8	5,629.0	47.8	45.4	89.46	-2,436.2	-413.6	1,268.9	1,178.8	90.12	14.081	
8,064.5	5,640.0	7,872.0	5,628.8	48.8	46.5	89.49	-2,501.5	-413.5	1,268.7	1,176.4	92.34	13.740	
8,100.0	5,639.5	7,897.6	5,628.6	49.4	47.0	89.50	-2,527.0	-413.6	1,268.9	1,175.5	93.38	13.588	
8,200.0	5,638.1	7,988.2	5,627.0	51.1	48.5	89.48	-2,617.6	-414.8	1,270.2	1,173.5	96.65	13.142	
8,300.0	5,636.7	8,116.4	5,627.7	52.7	50.7	89.60	-2,745.8	-416.7	1,271.8	1,171.2	100.57	12.646	
8,400.0	5,635.3	8,247.9	5,627.1	54.3	52.9	89.65	-2,877.2	-413.4	1,269.0	1,164.5	104.56	12.137	
8,500.0	5,633.9	8,326.9	5,625.9	56.0	54.3	89.65	-2,956.2	-411.7	1,266.9	1,159.2	107.64	11.769	
8,600.0	5,632.5	8,421.9	5,625.8	57.6	55.9	89.70	-3,051.1	-410.6	1,265.6	1,154.6	111.01	11.402	
8,700.0	5,631.1	8,527.7	5,624.7	59.3	57.7	89.72	-3,156.9	-409.2	1,264.3	1,149.7	114.56	11.036	
8,800.0	5,629.8	8,620.5	5,622.4	61.0	59.3	89.67	-3,249.8	-407.8	1,262.8	1,144.9	117.89	10.712	
8,861.8	5,628.9	8,669.5	5,621.4	62.0	60.1	89.66	-3,298.8	-407.8	1,262.5	1,142.7	119.80	10.538	
8,900.0	5,628.4	8,705.3	5,621.1	62.6	60.7	89.67	-3,334.5	-407.7	1,262.6	1,141.5	121.09	10.427	
9,000.0	5,627.0	8,812.5	5,620.2	64.3	62.6	89.70	-3,441.7	-407.9	1,262.8	1,138.1	124.67	10.129	
9,100.0	5,625.6	8,934.5	5,618.9	66.0	64.7	89.71	-3,563.7	-406.3	1,261.4	1,132.9	128.52	9.815	
9,200.0	5,624.2	9,027.0	5,616.9	67.7	66.3	89.68	-3,656.1	-404.1	1,259.0	1,127.1	131.85	9.548	
9,296.5	5,622.8	9,104.5	5,614.5	69.3	67.6	89.62	-3,733.6	-403.1	1,257.9	1,123.0	134.87	9.327	
9,300.0	5,622.8	9,107.2	5,614.4	69.4	67.7	89.62	-3,736.3	-403.1	1,257.9	1,122.9	134.98	9.319	
9,400.0	5,621.4	9,193.7	5,613.6	71.1	69.2	89.64	-3,822.8	-403.9	1,258.7	1,120.5	138.21	9.107	
9,500.0	5,620.0	9,292.5	5,613.0	72.8	70.9	89.67	-3,921.6	-405.2	1,260.0	1,118.3	141.67	8.894	
9,600.0	5,618.6	9,404.0	5,610.9	74.5	72.8	89.65	-4,033.0	-406.0	1,260.6	1,115.3	145.34	8.674	
9,700.0	5,617.2	9,500.7	5,610.1	76.2	74.5	89.67	-4,129.8	-406.4	1,261.0	1,112.2	148.75	8.477	

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

Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: Sandoval County, NM
 Reference Site: Lybrook
 Site Error: 0.0ft
 Reference Well: Lybrook P28-2306 02H
 Well Error: 0.0ft
 Reference Wellbore: HZ
 Reference Design: Plan #5

Local Co-ordinate Reference: Well Lybrook P28-2306 02H
 TVD Reference: 18' KB @ 7229.0ft (Aztec 1099)
 MTD Reference: 18' KB @ 7229.0ft (Aztec 1099)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: USA EDM 5000 Multi Users DB
 Offset TVD Reference: Offset Datum

Offset Design: Lybrook - Lybrook P28-2306 01H - HZ - FINAL													Offset Site Error: 0.0 ft
Survey Program: 562-Geolink MWD													Offset Well Error: 0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
9,800.0	5,615.8	9,603.0	5,609.2	77.9	76.2	89.70	-4,232.1	-406.9	1,261.4	1,109.2	152.27	8.284	
9,900.0	5,614.4	9,711.1	5,607.0	79.8	78.1	89.66	-4,340.1	-407.1	1,261.6	1,105.8	155.89	8.093	
10,000.0	5,613.0	9,809.1	5,604.1	81.3	79.8	89.60	-4,438.1	-406.9	1,261.4	1,102.0	159.33	7.917	
10,100.0	5,611.6	9,909.7	5,602.3	83.0	81.5	89.58	-4,538.6	-406.8	1,261.2	1,098.4	162.82	7.746	
10,200.0	5,610.2	10,010.8	5,600.5	84.7	83.3	89.56	-4,639.8	-406.7	1,261.1	1,094.8	166.32	7.583	
10,300.0	5,608.8	10,127.2	5,599.7	86.4	85.3	89.60	-4,756.1	-406.0	1,260.5	1,090.5	170.09	7.411	
10,400.0	5,607.4	10,242.0	5,599.2	88.1	87.3	89.65	-4,870.9	-403.3	1,258.1	1,084.3	173.83	7.237	
10,500.0	5,606.0	10,326.9	5,598.0	89.8	88.8	89.65	-4,955.7	-401.5	1,255.9	1,078.9	177.05	7.093	
10,600.0	5,604.6	10,410.4	5,597.0	91.6	90.2	89.65	-5,039.3	-400.8	1,255.1	1,074.8	180.25	6.963	
10,700.0	5,603.2	10,523.9	5,594.9	93.3	92.2	89.63	-5,152.7	-400.4	1,254.7	1,070.8	183.97	6.820	
10,800.0	5,601.8	10,616.2	5,594.0	95.0	93.8	89.65	-5,245.1	-399.4	1,253.6	1,066.3	187.33	6.692	
10,900.0	5,600.4	10,730.3	5,591.1	96.7	95.8	89.59	-5,359.1	-398.4	1,252.8	1,061.7	191.06	6.557	
11,000.0	5,599.0	10,839.7	5,587.8	98.4	97.7	89.51	-5,468.4	-395.7	1,250.3	1,055.5	194.71	6.421	
11,100.0	5,597.6	10,922.3	5,587.9	100.2	99.1	89.56	-5,550.9	-394.3	1,248.5	1,050.6	197.90	6.309	
11,200.0	5,596.2	11,013.0	5,588.3	101.9	100.7	89.64	-5,641.7	-393.8	1,247.8	1,046.6	201.23	6.201	
11,227.7	5,595.9	11,036.3	5,588.4	102.4	101.1	89.66	-5,664.9	-393.8	1,247.8	1,045.7	202.12	6.174	
11,300.0	5,594.9	11,110.4	5,588.3	103.6	102.4	89.70	-5,739.1	-393.9	1,247.9	1,043.2	204.67	6.097	
11,400.0	5,593.5	11,227.7	5,585.5	105.3	104.4	89.65	-5,856.4	-393.0	1,247.1	1,038.7	208.47	5.982	
11,500.0	5,592.1	11,327.0	5,582.8	107.1	106.2	89.59	-5,955.6	-390.9	1,245.0	1,033.1	211.94	5.874	
11,556.0	5,591.3	11,364.2	5,582.3	108.0	106.8	89.59	-5,992.8	-390.6	1,244.5	1,030.9	213.57	5.827	
11,600.0	5,590.7	11,390.0	5,582.1	108.8	107.3	89.59	-6,018.6	-390.8	1,244.8	1,030.0	214.79	5.795	
11,700.0	5,589.3	11,481.5	5,581.9	110.5	108.9	89.64	-6,110.1	-392.6	1,246.7	1,028.6	218.14	5.715	
11,800.0	5,587.9	11,581.0	5,581.0	112.3	110.6	89.67	-6,209.5	-394.7	1,248.8	1,027.2	221.62	5.635	
11,900.0	5,586.5	11,707.0	5,579.3	114.0	112.8	89.67	-6,335.5	-396.0	1,249.8	1,024.2	225.57	5.541	
12,000.0	5,585.1	11,816.2	5,577.1	115.7	114.7	89.64	-6,444.7	-395.4	1,249.2	1,020.0	229.22	5.450	
12,085.7	5,583.9	11,894.0	5,574.3	117.2	116.1	89.56	-6,522.4	-395.2	1,248.9	1,016.8	232.07	5.381	
12,100.0	5,583.7	11,905.7	5,573.8	117.5	116.3	89.54	-6,534.1	-395.2	1,248.9	1,016.4	232.53	5.371	
12,200.0	5,582.3	11,980.9	5,570.7	119.2	117.6	89.45	-6,609.3	-396.0	1,250.0	1,014.4	235.59	5.306	
12,300.0	5,580.9	12,053.8	5,569.1	120.9	118.8	89.43	-6,682.1	-398.5	1,253.4	1,014.8	238.61	5.253	
12,400.0	5,579.5	12,170.3	5,569.3	122.7	120.9	89.51	-6,798.4	-403.3	1,257.5	1,015.1	242.40	5.188	
12,500.0	5,578.1	12,296.3	5,568.0	124.4	123.1	89.53	-6,924.5	-405.7	1,259.3	1,013.0	246.35	5.112	
12,600.0	5,576.7	12,382.0	5,567.3	126.1	124.6	89.55	-7,010.1	-406.9	1,260.7	1,011.1	249.59	5.051	
12,700.0	5,575.3	12,471.2	5,566.0	127.9	126.1	89.55	-7,099.3	-409.3	1,263.3	1,010.4	252.90	4.995	
12,800.0	5,573.9	12,563.8	5,565.0	129.6	127.8	89.57	-7,191.9	-412.3	1,266.5	1,010.2	256.27	4.942	
12,900.0	5,572.5	12,677.7	5,568.1	131.3	129.8	89.78	-7,305.6	-416.2	1,270.0	1,010.0	260.02	4.884	
13,000.0	5,571.1	12,801.7	5,568.9	133.1	131.9	89.90	-7,429.6	-417.6	1,271.0	1,007.1	263.94	4.816	
13,100.0	5,569.7	12,905.9	5,567.3	134.8	133.7	89.89	-7,533.7	-418.2	1,271.5	1,004.0	267.51	4.753	
13,200.0	5,568.3	12,985.7	5,564.9	136.5	135.1	89.83	-7,613.6	-418.9	1,272.4	1,001.8	270.65	4.701	
13,300.0	5,566.9	13,067.2	5,563.5	138.3	136.6	89.82	-7,695.0	-421.2	1,275.1	1,001.3	273.83	4.657	
13,400.0	5,565.5	13,168.1	5,561.4	140.0	138.3	89.79	-7,795.9	-424.6	1,278.5	1,001.1	277.34	4.610	
13,481.2	5,564.4	13,250.0	5,559.0	141.4	139.8	89.73	-7,877.7	-427.2	1,281.0	1,000.8	280.19	4.572	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P28-2306 02H
Project:	Sandoval County, NM	TVD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Reference Site:	Lybrook	MD Reference:	18' KB @ 7229.0ft (Aztec 1099)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P28-2306 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 18' KB @ 7229.0ft (Aztec 1099)

Offset Depths are relative to Offset Datum

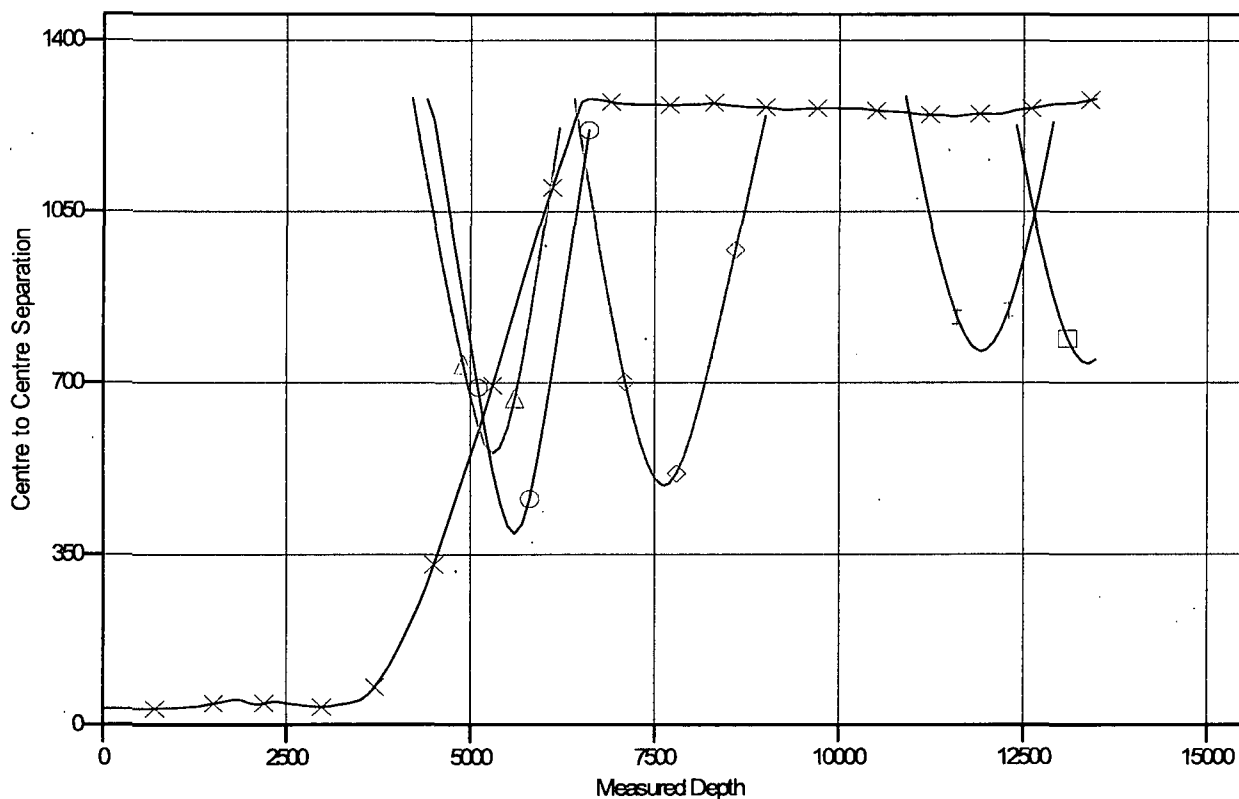
Central Meridian is -106.250000 °

Coordinates are relative to: Lybrook P28-2306 02H

Coordinate System is US State Plane 1983, New Mexico Central Zone

Grid Convergence at Surface is: -0.72°

Ladder Plot



LEGEND

✕ LybrookP28-2306 01H, Hz, FINAL V0	● LybrookA03-2206 01H, Hz, FINAL V0	△ LybrookM27-2306 03H, Hz, Plan #1 V0
◇ GCUH33-2306, Hz, Plan #2 V0	□ LybrookH03-2206 01H, Hz, FINAL V0	○ LybrookM27-2306 04H, Hz, FINAL V0