

JAN 08 SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

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

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

3b. Phone No. (include area code)
720-876-5994

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SHL: 375' FSL, 1366' FEL, Section 30, Township 23N, Range 7W
BHL: 330' FSL, 1650' FEL, Section 31, Township 23N, Range 7W

5. Lease Serial No.
NMNM 6681

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

8. Well Name and No.
Lybrook O30-2307 02H

9. API Well No.
30-043-21210

10. Field and Pool or Exploratory Area
Basin Mancos Gas Pool/Alamito-Gallup

11. Country or Parish, State
Sandoval County, 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.)

The SHL for the Lybrook O30-2307 02H was modified from 393' FSL, 1342' FEL (Section 30, T23N, R7W) to 375' FSL, 1366' FEL (Section 30, T23N, R7W). The BHL for the Lybrook O30-2307 02H was modified from 330' FSL, 660' FEL (Section 31, T23N, R7W) to 330' FSL, 1650' FEL (Section 31, T23N, R7W). The POE for the Lybrook O30-2307 02H was modified from 330' FNL, 660' FEL (Section 31, T23N, R7W) to 330' FNL, 1650' FEL (Section 31, T23N, R7W). Attached is a C-102, Directional Plan, Drilling Plan and Wellbore Diagram, which have been updated to reflect the changes in SHL, BHL and POE. The plans were also updated to include a cemented production liner, instead of running open hole swell packers, as previously planned. Finally, the 7" ICP was moved from approximately 72 degrees to 55 degrees.

OIL CONS. DIV DIST. 3

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

JAN 14 2015

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

ADHERE TO PREVIOUS NMOC

14. I hereby certify that the foregoing is true and correct.
Name (Printed/Typed)
Shawn Turk

CONDITIONS OF APPROVAL

Title Regulatory Analyst

Signature

Date

1/7/15

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

William Tambekou

Title

Petroleum Engineer

Date

1/12/2015

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)

NMOC

District I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (505) 334-6170
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-043-21210		² Pool Code 97232/1039		³ Pool Name BASIN MANCOS / ALAMITO - GALLUP	
⁴ Property Code 313257		⁵ Property Name LYBROOK 030-2307			⁶ Well Number 02H
⁷ OGRID No. 282327		⁸ Operator Name ENCANA OIL & GAS (USA) INC.			⁹ Elevation 7028'

¹⁰ Surface Location

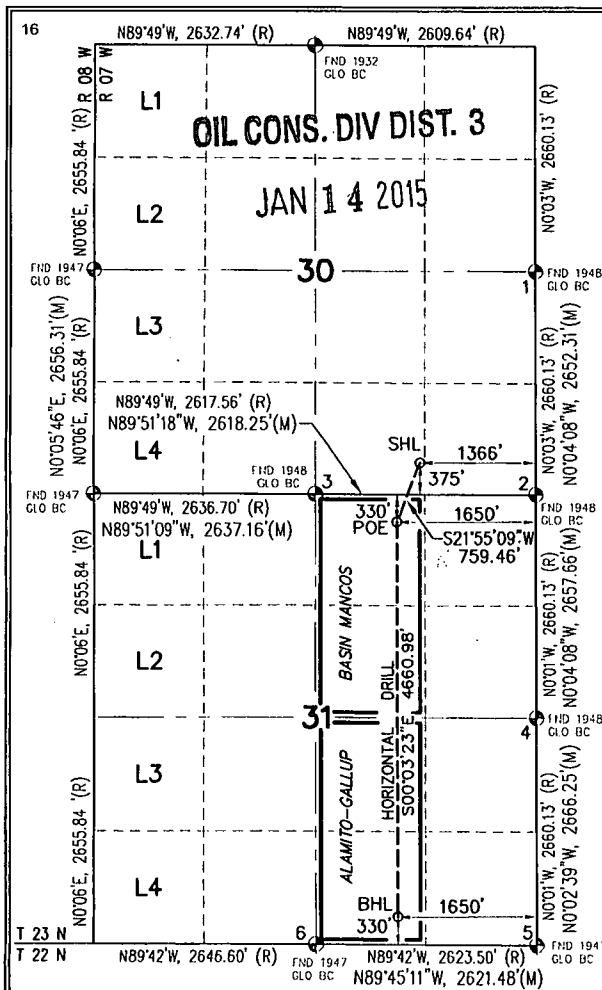
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West Line	County
O	30	23N	7W		375	SOUTH	1366	EAST	SANDOVAL

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
O	31	23N	7W		330	SOUTH	1650	EAST	SANDOVAL

¹² Dedicated Acres 160 ACRES	PROJECT AREA W/2 NE/4 SEC 31 BASIN MANCOS/ W/2 SE/4 SEC 31 ALAMITO-GALLUP	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.



LYBROOK 030-2307 02H WELL
SHL (WELL FLAG)
LAT. 36.191633°N (NAD83)
LONG. 107.611158°W (NAD83)
LAT. 36.191619°N (NAD27)
LONG. 107.610549°W (NAD27)
POE (POINT OF ENTRY)
LAT. 36.189699°N (NAD83)
LONG. 107.612119°W (NAD83)
LAT. 36.189685°N (NAD27)
LONG. 107.611510°W (NAD27)
BHL (BOTTOM HOLE LOCATION)
LAT. 36.176900°N (NAD83)
LONG. 107.612105°W (NAD83)
LAT. 36.176886°N (NAD27)
LONG. 107.611496°W (NAD27)

SECTION CORNERS

- LAT. 36.197876°N (NAD83)
LONG. 107.606539°W (NAD83)
LAT. 36.197862°N (NAD27)
LONG. 107.605931°W (NAD27)
- LAT. 36.190593°N (NAD83)
LONG. 107.606530°W (NAD83)
LAT. 36.190579°N (NAD27)
LONG. 107.605922°W (NAD27)
- LAT. 36.190612°N (NAD83)
LONG. 107.615400°W (NAD83)
LAT. 36.190598°N (NAD27)
LONG. 107.614791°W (NAD27)
- LAT. 36.183295°N (NAD83)
LONG. 107.606521°W (NAD83)
LAT. 36.183281°N (NAD27)
LONG. 107.605913°W (NAD27)
- LAT. 36.175973°N (NAD83)
LONG. 107.606516°W (NAD83)
LAT. 36.175959°N (NAD27)
LONG. 107.605907°W (NAD27)
- LAT. 36.176005°N (NAD83)
LONG. 107.615395°W (NAD83)
LAT. 36.175991°N (NAD27)
LONG. 107.614786°W (NAD27)

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Shawn Turk* Date: 1/7/15

Printed Name: Shawn Turk

E-mail Address: shawn.turk@encana.com

18 SURVEYOR CERTIFICATION

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

October 10, 2014

Date of Survey

Signature and Seal of Professional Surveyor:

Richard L. Mulliken
RICHARD L. MULLIKEN
NEW MEXICO
16873
PROFESSIONAL SURVEYOR
10-10-14

RICHARD L. MULLIKEN

Certificate Number

16873

encana.

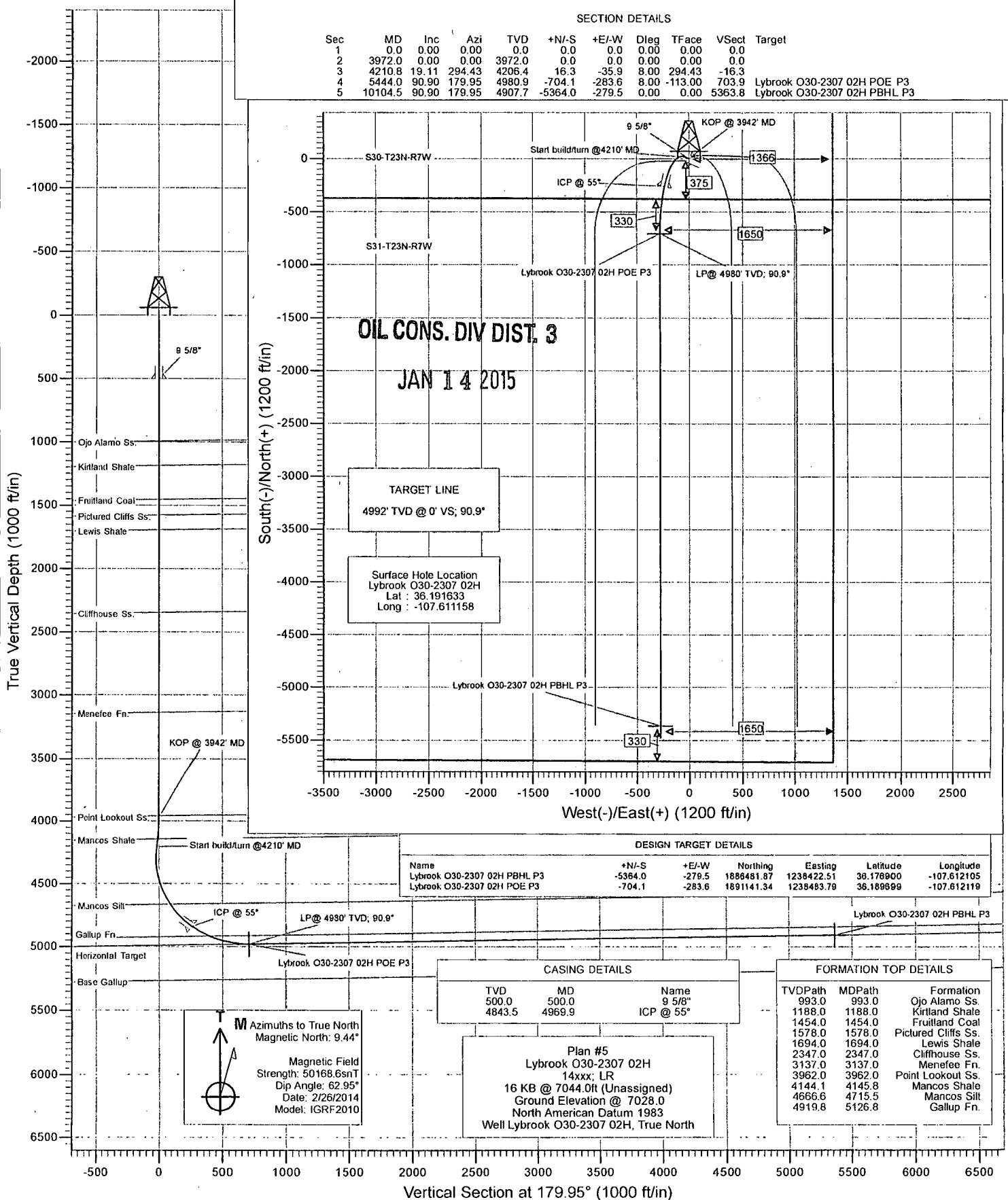
natural gas

Project: Sandoval County, NM
Site: S30-T23N-R7W
Well: Lybrook O30-2307 02H
Wellbore: Hz
Design: Plan #5



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dlog	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3972.0	0.00	0.00	3972.0	0.0	0.0	0.00	0.00	0.0	
3	4210.8	19.11	294.43	4206.4	16.3	-35.9	8.00	294.43	-16.3	
4	5444.0	90.90	179.95	4980.9	-704.1	-283.6	8.00	-113.00	703.9	Lybrook O30-2307 02H POE P3
5	10104.5	90.90	179.95	4907.7	-5364.0	-279.5	0.00	0.00	5363.8	Lybrook O30-2307 02H PBHL P3



HP
Planning Report

JAN 14 2015

Database:	USA EDM R5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Project:	Sandoval County, NM	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site:	S30-T23N-R7W	North Reference:	True
Well:	Lybrook O30-2307 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	S30-T23N-R7W				
Site Position:		Northing:	1,891,883.94 ft	Latitude:	36.191750
From:	Lat/Long	Easting:	1,238,783.16 ft	Longitude:	-107.611140
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.80 °

Well	Lybrook O30-2307 02H					
Well Position	+N/-S	0.0 ft	Northing:	1,891,841.42 ft	Latitude:	36.191633
	+E/-W	0.0 ft	Easting:	1,238,777.25 ft	Longitude:	-107.611158
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,028.0 ft	

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/26/2014	9.44	62.95	50,169

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	179.95

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	
3,972.0	0.00	0.00	3,972.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,210.8	19.11	294.43	4,206.4	16.3	-35.9	8.00	8.00	0.00	294.43	
5,444.0	90.90	179.95	4,980.9	-704.1	-283.6	8.00	5.82	-9.28	-113.00	Lybrook O30-2307 02
10,104.5	90.90	179.95	4,907.7	-5,364.0	-279.5	0.00	0.00	0.00	0.00	Lybrook O30-2307 02

HP Planning Report

Database:	USA EDM R5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Project:	Sandoval County, NM	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site:	S30-T23N-R7W	North Reference:	True
Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	H2		
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
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	
993.0	0.00	0.00	993.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,188.0	0.00	0.00	1,188.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,454.0	0.00	0.00	1,454.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,578.0	0.00	0.00	1,578.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,694.0	0.00	0.00	1,694.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,347.0	0.00	0.00	2,347.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
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	
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	
3,137.0	0.00	0.00	3,137.0	0.0	0.0	0.0	0.00	0.00	Menefee Fn.
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	
3,500.0	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	
3,962.0	0.00	0.00	3,962.0	0.0	0.0	0.0	0.00	0.00	Point Lookout Ss.
3,972.0	0.00	0.00	3,972.0	0.0	0.0	0.0	0.00	0.00	KOP @ 3942' MD
4,000.0	2.24	294.43	4,000.0	0.2	-0.5	-0.2	8.00	8.00	
4,100.0	10.24	294.43	4,099.3	4.7	-10.4	-4.7	8.00	8.00	
4,145.8	13.91	294.43	4,144.1	8.7	-19.1	-8.7	8.00	8.00	Mancos Shale

HP

Planning Report

Database:	USA EDM R5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Project:	Sandoval County, NM	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site:	S30-T23N-R7W	North Reference:	True
Well:	Lybrook O30-2307 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
4,200.0	18.24	294.43	4,196.2	14.9	-32.8	-14.9	8.00	8.00	
4,210.8	19.11	294.43	4,206.4	16.3	-35.9	-16.3	8.00	8.00	Start build/turn @4210' MD
4,300.0	17.55	272.14	4,291.2	22.9	-62.7	-22.9	8.00	-1.75	
4,400.0	19.00	246.84	4,386.3	17.0	-92.8	-17.1	8.00	1.45	
4,500.0	23.19	227.75	4,479.7	-2.7	-122.4	2.6	8.00	4.20	
4,600.0	28.96	215.05	4,569.5	-35.8	-150.9	35.6	8.00	5.77	
4,700.0	35.54	206.49	4,654.1	-81.7	-177.8	81.5	8.00	6.58	
4,715.5	36.61	205.41	4,666.6	-89.9	-181.8	89.7	8.00	6.87	Mancos Silt
4,800.0	42.56	200.36	4,731.7	-139.5	-202.6	139.3	8.00	7.04	
4,900.0	49.83	195.71	4,800.9	-208.1	-224.7	207.9	8.00	7.26	
4,969.9	55.00	193.02	4,843.5	-261.7	-238.4	261.5	8.00	7.40	ICP @ 55°
5,000.0	57.24	191.97	4,860.3	-286.1	-243.8	285.9	8.00	7.45	
5,100.0	64.75	188.81	4,908.8	-372.1	-259.5	371.9	8.00	7.51	
5,126.8	66.77	188.03	4,919.8	-396.2	-263.0	396.0	8.00	7.55	Gallup Fn.
5,200.0	72.32	186.02	4,945.4	-464.3	-271.4	464.1	8.00	7.57	
5,300.0	79.92	183.45	4,969.3	-561.0	-279.4	560.7	8.00	7.60	
5,400.0	87.54	181.01	4,980.3	-660.2	-283.2	660.0	8.00	7.62	
5,444.0	90.90	179.95	4,980.9	-704.1	-283.6	703.9	8.00	7.63	LP@ 4980' TVD; 90.9°
5,500.0	90.90	179.95	4,980.0	-760.1	-283.6	759.9	0.00	0.00	
5,600.0	90.90	179.95	4,978.4	-860.1	-283.5	859.9	0.00	0.00	
5,700.0	90.90	179.95	4,976.9	-960.1	-283.4	959.8	0.00	0.00	
5,800.0	90.90	179.95	4,975.3	-1,060.1	-283.3	1,059.8	0.00	0.00	
5,900.0	90.90	179.95	4,973.7	-1,160.1	-283.2	1,159.8	0.00	0.00	
6,000.0	90.90	179.95	4,972.2	-1,260.0	-283.1	1,259.8	0.00	0.00	
6,100.0	90.90	179.95	4,970.6	-1,360.0	-283.0	1,359.8	0.00	0.00	
6,200.0	90.90	179.95	4,969.0	-1,460.0	-283.0	1,459.8	0.00	0.00	
6,300.0	90.90	179.95	4,967.5	-1,560.0	-282.9	1,559.8	0.00	0.00	
6,400.0	90.90	179.95	4,965.9	-1,660.0	-282.8	1,659.8	0.00	0.00	
6,500.0	90.90	179.95	4,964.3	-1,760.0	-282.7	1,759.7	0.00	0.00	
6,600.0	90.90	179.95	4,962.7	-1,860.0	-282.6	1,859.7	0.00	0.00	
6,700.0	90.90	179.95	4,961.2	-1,960.0	-282.5	1,959.7	0.00	0.00	
6,800.0	90.90	179.95	4,959.6	-2,060.0	-282.4	2,059.7	0.00	0.00	
6,900.0	90.90	179.95	4,958.0	-2,159.9	-282.3	2,159.7	0.00	0.00	
7,000.0	90.90	179.95	4,956.5	-2,259.9	-282.2	2,259.7	0.00	0.00	
7,100.0	90.90	179.95	4,954.9	-2,359.9	-282.2	2,359.7	0.00	0.00	
7,200.0	90.90	179.95	4,953.3	-2,459.9	-282.1	2,459.7	0.00	0.00	
7,300.0	90.90	179.95	4,951.7	-2,559.9	-282.0	2,559.6	0.00	0.00	
7,400.0	90.90	179.95	4,950.2	-2,659.9	-281.9	2,659.6	0.00	0.00	
7,500.0	90.90	179.95	4,948.6	-2,759.9	-281.8	2,759.6	0.00	0.00	
7,600.0	90.90	179.95	4,947.0	-2,859.9	-281.7	2,859.6	0.00	0.00	
7,700.0	90.90	179.95	4,945.5	-2,959.8	-281.6	2,959.6	0.00	0.00	
7,800.0	90.90	179.95	4,943.9	-3,059.8	-281.5	3,059.6	0.00	0.00	
7,900.0	90.90	179.95	4,942.3	-3,159.8	-281.5	3,159.6	0.00	0.00	
8,000.0	90.90	179.95	4,940.8	-3,259.8	-281.4	3,259.6	0.00	0.00	
8,100.0	90.90	179.95	4,939.2	-3,359.8	-281.3	3,359.5	0.00	0.00	
8,200.0	90.90	179.95	4,937.6	-3,459.8	-281.2	3,459.5	0.00	0.00	
8,300.0	90.90	179.95	4,936.0	-3,559.8	-281.1	3,559.5	0.00	0.00	
8,400.0	90.90	179.95	4,934.5	-3,659.8	-281.0	3,659.5	0.00	0.00	
8,500.0	90.90	179.95	4,932.9	-3,759.7	-280.9	3,759.5	0.00	0.00	
8,600.0	90.90	179.95	4,931.3	-3,859.7	-280.8	3,859.5	0.00	0.00	
8,700.0	90.90	179.95	4,929.8	-3,959.7	-280.7	3,959.5	0.00	0.00	
8,800.0	90.90	179.95	4,928.2	-4,059.7	-280.7	4,059.5	0.00	0.00	

HP

Planning Report

Database:	USA EDM R5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Project:	Sandoval County, NM	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site:	S30-T23N-R7W	North Reference:	True
Well:	Lybrook O30-2307 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
8,900.0	90.90	179.95	4,926.6	-4,159.7	-280.6	4,159.4	0.00	0.00	
9,000.0	90.90	179.95	4,925.0	-4,259.7	-280.5	4,259.4	0.00	0.00	
9,100.0	90.90	179.95	4,923.5	-4,359.7	-280.4	4,359.4	0.00	0.00	
9,200.0	90.90	179.95	4,921.9	-4,459.7	-280.3	4,459.4	0.00	0.00	
9,300.0	90.90	179.95	4,920.3	-4,559.6	-280.2	4,559.4	0.00	0.00	
9,400.0	90.90	179.95	4,918.8	-4,659.6	-280.1	4,659.4	0.00	0.00	
9,500.0	90.90	179.95	4,917.2	-4,759.6	-280.0	4,759.4	0.00	0.00	
9,600.0	90.90	179.95	4,915.6	-4,859.6	-280.0	4,859.4	0.00	0.00	
9,700.0	90.90	179.95	4,914.1	-4,959.6	-279.9	4,959.3	0.00	0.00	
9,800.0	90.90	179.95	4,912.5	-5,059.6	-279.8	5,059.3	0.00	0.00	
9,900.0	90.90	179.95	4,910.9	-5,159.6	-279.7	5,159.3	0.00	0.00	
10,000.0	90.90	179.95	4,909.3	-5,259.6	-279.6	5,259.3	0.00	0.00	
10,100.0	90.90	179.95	4,907.8	-5,359.5	-279.5	5,359.3	0.00	0.00	
10,104.5	90.90	179.95	4,907.7	-5,364.0	-279.5	5,363.8	0.00	0.00	TD at 10104.5

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Lybrook O30-2307 02H I - hit/miss target - Shape - Point	0.00	0.00	4,980.9	-704.1	-283.6	1,891,141.34	1,238,483.79	36.189699	-107.612119
Lybrook O30-2307 02H I - plan misses target center by 393.1ft at 10100.0ft MD (4907.8 TVD, -5359.5 N, -279.5 E) - Point	0.00	0.00	5,108.4	-5,364.0	58.5	1,886,477.13	1,238,760.45	36.176900	-107.610960
Lybrook O30-2307 02H I - plan misses target center by 394.1ft at 5443.6ft MD (4980.9 TVD, -703.8 N, -283.6 E) - Point	0.00	0.00	5,181.6	-703.8	55.5	1,891,136.94	1,238,822.86	36.189700	-107.610970
Lybrook O30-2307 02H I - plan misses target center by 1011.4ft at 10104.5ft MD (4907.7 TVD, -5364.0 N, -279.5 E) - Point	0.00	0.00	5,113.3	-5,367.6	710.8	1,886,464.35	1,239,412.68	36.176890	-107.608750
Lybrook O30-2307 02H I - plan hits target center - Point	0.00	0.00	4,907.7	-5,364.0	-279.5	1,886,481.87	1,238,422.51	36.176900	-107.612105
Lybrook O30-2307 02H I - plan misses target center by 1009.6ft at 5438.0ft MD (4980.9 TVD, -698.3 N, -283.6 E) - Point	0.00	0.00	5,186.6	-703.8	704.8	1,891,127.84	1,239,472.08	36.189700	-107.608770

500.0	500.0	9 5/8"	0.000	0.000
4,969.9	4,843.5	ICP @ 55°	0.000	0.000

HP

Planning Report

Database:	USA EDM R5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Project:	Sandoval County, NM	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site:	S30-T23N-R7W	North Reference:	True
Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #5		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
993.0	993.0	Ojo Alamo Ss.		-0.90	179.95	
1,188.0	1,188.0	Kirtland Shale		-0.90	179.95	
1,454.0	1,454.0	Fruitland Coal		-0.90	179.95	
1,578.0	1,578.0	Pictured Cliffs Ss.		-0.90	179.95	
1,694.0	1,694.0	Lewis Shale		-0.90	179.95	
2,347.0	2,347.0	Cliffhouse Ss.		-0.90	179.95	
3,137.0	3,137.0	Menefee Fn.		-0.90	179.95	
3,962.0	3,962.0	Point Lookout Ss.		-0.90	179.95	
4,145.8	4,144.0	Mancos Shale		-0.90	179.95	
4,715.5	4,668.0	Mancos Silt		-0.90	179.95	
5,126.8	4,926.0	Gallup Fn.		-0.90	179.95	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
3,972.0	3,972.0	0.0	0.0	KOP @ 3942' MD	
4,210.8	4,206.4	16.3	-35.9	Start build/turn @4210' MD	
5,444.0	4,980.9	-704.1	-283.6	LP@ 4980' TVD; 90.9°	
10,104.5	4,907.7	-5,364.0	-279.5	TD at 10104.5	

EnCana Oil & Gas (USA) Inc

Sandoval County, NM

S30-T23N-R7W

Lybrook O30-2307 02H

Hz

Plan #5

Anticollision Report

23 December, 2014

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at:	2.00 sigma
Reference Wellbore:	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Reference	Plan #5		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,210.4ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date 12/23/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	10,103.7	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						
S29-T23N-R7W						
Lybrook L29-2307 04H - Hz - Plan #1	4,900.0	7,054.1	476.9	433.0	10.866	SF
Lybrook L29-2307 04H - Hz - Plan #1	4,946.2	7,063.1	473.3	431.0	11.195	CC, ES
S30-T23N-R7W						
Lybrook O30-2307 01H - Hz - Plan #3	4,115.8	4,114.8	26.1	11.8	1.825	CC, ES, SF
Lybrook O30-2307 03H - Hz - Plan #2	3,900.0	3,900.0	30.3	16.7	2.234	CC
Lybrook O30-2307 03H - Hz - Plan #2	4,000.0	4,000.0	30.5	16.6	2.197	ES, SF
Lybrook O30-2307 04H - Hz - Plan #1	2,800.0	2,800.0	60.1	50.4	6.185	CC, ES
Lybrook O30-2307 04H - Hz - Plan #1	2,900.0	2,898.2	61.6	51.5	6.122	SF
S31-T23N-R7W						
Lybrook G31-2307 01H - Hz - Plan #4	6,026.5	5,035.5	670.3	633.4	18.162	CC, ES
Lybrook G31-2307 01H - Hz - Plan #4	6,300.0	4,918.8	704.4	664.8	17.772	SF
Lybrook G31-2307 02H - Hz - Plan #4	6,493.1	4,700.0	733.2	694.0	18.715	CC
Lybrook G31-2307 02H - Hz - Plan #4	6,500.0	4,700.0	733.2	693.9	18.664	ES
Lybrook G31-2307 02H - Hz - Plan #4	6,700.0	4,700.0	761.8	719.3	17.929	SF
Lybrook G31-2307 03H - Hz - Plan #4	6,932.2	4,950.0	679.1	628.0	13.291	CC, ES
Lybrook G31-2307 03H - Hz - Plan #4	7,200.0	5,050.0	717.1	659.6	12.482	SF
Lybrook J31-2307 01H - Hz - Plan #3	8,261.7	4,600.0	944.2	875.8	13.797	CC, ES
Lybrook J31-2307 01H - Hz - Plan #3	8,500.0	4,600.0	973.8	901.5	13.454	SF
Lybrook J31-2307 02H - Hz - Plan #4	8,672.0	4,900.0	897.1	815.8	11.037	CC
Lybrook J31-2307 02H - Hz - Plan #4	8,700.0	4,900.0	897.6	815.8	10.977	ES
Lybrook J31-2307 02H - Hz - Plan #4	9,000.0	5,025.0	936.2	847.0	10.497	SF
Lybrook P31-2307 01H - Hz - Plan #2	10,104.5	4,904.1	348.4	262.1	4.036	CC, ES, SF
Lybrook P31-2307 03H - Hz - Plan #2	10,104.5	5,120.0	892.7	785.8	8.353	CC, ES, SF

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:		0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor	Warning			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)						
4,000.0	4,000.0	6,833.2	5,053.5	7.0	54.2	122.49	45.0	-4.6	1,206.3	1,183.1	23.25	51.874				
4,100.0	4,099.3	6,842.8	5,053.4	7.1	54.4	168.76	45.0	-14.1	1,106.9	1,065.5	41.31	26.796				
4,200.0	4,196.2	6,864.8	5,053.4	7.3	54.9	175.05	45.1	-36.2	1,009.6	965.4	44.23	22.828				
4,300.0	4,291.2	6,894.4	5,053.3	7.6	55.6	175.33	45.2	-65.8	914.4	884.0	30.37	30.106				
4,400.0	4,386.3	6,924.2	5,053.2	7.9	56.2	174.37	45.3	-95.5	819.4	796.4	22.93	35.729				
4,500.0	4,479.7	6,953.4	5,053.0	8.2	56.9	173.25	45.3	-124.8	727.0	692.3	34.64	20.988				
4,600.0	4,569.5	6,981.5	5,053.0	8.5	57.5	172.46	45.4	-152.9	640.6	597.8	42.76	14.983				
4,700.0	4,654.1	7,008.0	5,052.9	9.0	58.1	171.97	45.5	-179.4	565.3	519.2	46.05	12.274				
4,800.0	4,731.7	7,032.3	5,052.8	9.6	58.6	171.67	45.5	-203.7	508.0	461.9	46.10	11.019				
4,900.0	4,800.9	7,054.1	5,052.7	10.3	59.1	171.53	45.6	-225.4	476.9	433.0	43.89	10.866 SF				
4,946.2	4,829.7	7,063.1	5,052.7	10.7	59.3	171.51	45.6	-234.5	473.3	431.0	42.27	11.195 CC, ES				
5,000.0	4,860.3	7,072.7	5,052.6	11.2	59.5	171.55	45.7	-244.1	478.2	438.1	40.01	11.951				
5,100.0	4,908.8	7,088.0	5,052.6	12.3	59.9	171.81	45.7	-259.4	511.9	477.0	34.86	14.684				
5,200.0	4,945.4	7,099.6	5,052.5	13.5	60.1	172.47	45.7	-271.0	572.1	543.3	28.79	19.868				
5,300.0	4,969.3	7,107.2	5,052.5	14.8	60.3	173.95	45.7	-278.6	650.7	628.4	22.30	29.177				
5,400.0	4,980.3	7,110.8	5,052.5	16.1	60.4	177.44	45.8	-282.1	740.7	723.7	17.03	43.506				
5,500.0	4,980.0	7,110.8	5,052.5	17.6	60.4	-179.44	45.8	-282.2	836.5	819.8	16.77	49.896				
5,600.0	4,978.4	7,110.5	5,052.5	19.0	60.4	-179.35	45.8	-281.9	933.6	916.6	17.04	54.785				
5,700.0	4,976.9	7,110.1	5,052.5	20.6	60.4	-179.25	45.8	-281.5	1,031.3	1,014.0	17.31	59.566				
5,800.0	4,975.3	7,109.8	5,052.5	22.1	60.4	-179.16	45.8	-281.2	1,129.3	1,111.8	17.58	64.235				

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	H2	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S30-T23N-R7W - Lybrook O30-2307 01H - H2 - Plan #3														Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-126.73	-17.8	-23.9	29.8					
100.0	100.0	100.0	100.0	0.1	0.1	0.1	-126.73	-17.8	-23.9	29.8	29.5	0.29	101.727		
200.0	200.0	200.0	200.0	0.3	0.3	0.3	-126.73	-17.8	-23.9	29.8	29.2	0.64	46.440		
300.0	300.0	300.0	300.0	0.5	0.5	0.5	-126.73	-17.8	-23.9	29.8	28.8	0.99	30.088		
400.0	400.0	400.0	400.0	0.7	0.7	0.7	-126.73	-17.8	-23.9	29.8	28.5	1.34	22.253		
500.0	500.0	500.0	500.0	0.8	0.8	0.8	-126.73	-17.8	-23.9	29.8	28.1	1.69	17.655		
600.0	600.0	600.0	600.0	1.0	1.0	1.0	-126.73	-17.8	-23.9	29.8	27.8	2.04	14.632		
700.0	700.0	700.0	700.0	1.2	1.2	1.2	-126.73	-17.8	-23.9	29.8	27.4	2.39	12.493		
800.0	800.0	800.0	800.0	1.4	1.4	1.4	-126.73	-17.8	-23.9	29.8	27.1	2.74	10.899		
900.0	900.0	900.0	900.0	1.5	1.5	1.5	-126.73	-17.8	-23.9	29.8	26.7	3.09	9.666		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	1.7	-126.73	-17.8	-23.9	29.8	26.4	3.43	8.684		
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	1.9	-126.73	-17.8	-23.9	29.8	26.0	3.78	7.883		
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	2.1	-126.73	-17.8	-23.9	29.8	25.7	4.13	7.217		
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	2.2	-126.73	-17.8	-23.9	29.8	25.3	4.48	6.655		
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	2.4	-126.73	-17.8	-23.9	29.8	25.0	4.83	6.174		
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	2.6	-126.73	-17.8	-23.9	29.8	24.6	5.18	5.758		
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	2.8	-126.73	-17.8	-23.9	29.8	24.3	5.53	5.395		
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	2.9	-126.73	-17.8	-23.9	29.8	23.9	5.88	5.074		
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	3.1	-126.73	-17.8	-23.9	29.8	23.6	6.23	4.790		
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	3.3	-126.73	-17.8	-23.9	29.8	23.3	6.58	4.536		
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	3.5	-126.73	-17.8	-23.9	29.8	22.9	6.93	4.307		
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	3.6	-126.73	-17.8	-23.9	29.8	22.6	7.27	4.100		
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	3.8	-126.73	-17.8	-23.9	29.8	22.2	7.62	3.913		
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	4.0	-126.73	-17.8	-23.9	29.8	21.9	7.97	3.741		
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	4.2	-126.73	-17.8	-23.9	29.8	21.5	8.32	3.584		
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	4.3	-126.73	-17.8	-23.9	29.8	21.2	8.67	3.440		
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	4.5	-126.73	-17.8	-23.9	29.8	20.8	9.02	3.307		
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	4.7	-126.73	-17.8	-23.9	29.8	20.5	9.37	3.184		
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	4.9	-126.73	-17.8	-23.9	29.8	20.1	9.72	3.069		
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	5.0	-126.73	-17.8	-23.9	29.8	19.8	10.07	2.963		
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	5.2	-126.73	-17.8	-23.9	29.8	19.4	10.42	2.864		
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	5.4	-126.73	-17.8	-23.9	29.8	19.1	10.77	2.771		
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	5.6	-126.73	-17.8	-23.9	29.8	18.7	11.11	2.684		
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	5.7	-126.73	-17.8	-23.9	29.8	18.4	11.46	2.602		
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	5.9	-126.73	-17.8	-23.9	29.8	18.0	11.81	2.525		
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	6.1	-126.73	-17.8	-23.9	29.8	17.7	12.16	2.453		
3,600.0	3,600.0	3,600.0	3,600.0	6.3	6.3	6.3	-126.73	-17.8	-23.9	29.8	17.3	12.51	2.384		
3,700.0	3,700.0	3,700.0	3,700.0	6.4	6.4	6.4	-126.73	-17.8	-23.9	29.8	17.0	12.86	2.320		
3,800.0	3,800.0	3,800.0	3,800.0	6.6	6.6	6.6	-126.73	-17.8	-23.9	29.8	16.6	13.21	2.258		
3,900.0	3,900.0	3,900.0	3,900.0	6.8	6.8	6.8	-126.73	-17.8	-23.9	29.8	16.3	13.56	2.200		
4,000.0	4,000.0	4,000.0	4,000.0	7.0	7.0	7.0	-62.11	-17.8	-23.9	29.6	15.7	13.91	2.126		
4,100.0	4,099.3	4,099.3	4,099.3	7.1	7.1	7.1	-83.60	-17.8	-23.9	26.3	12.0	14.26	1.844		
4,115.8	4,114.8	4,114.8	4,114.8	7.2	7.2	7.2	-90.00	-17.8	-23.9	26.1	11.8	14.32	1.825 CC, ES, SF		
4,200.0	4,196.2	4,196.2	4,196.2	7.3	7.3	7.3	-128.14	-17.8	-23.9	33.9	19.5	14.44	2.347		
4,300.0	4,291.2	4,293.1	4,293.1	7.6	7.5	7.5	-134.14	-17.9	-24.8	55.6	40.9	14.76	3.769		
4,400.0	4,386.3	4,398.7	4,397.6	7.9	7.7	7.7	-125.20	-18.1	-38.5	65.6	50.4	15.18	4.321		
4,500.0	4,479.7	4,505.7	4,500.1	8.2	7.9	7.9	-125.96	-18.6	-68.9	59.4	44.0	15.46	3.844		
4,600.0	4,569.5	4,607.1	4,591.7	8.5	8.2	8.2	-152.19	-19.3	-112.3	47.5	32.3	15.15	3.135		
4,612.2	4,580.1	4,618.7	4,601.8	8.6	8.3	8.3	-157.41	-19.4	-118.1	47.2	32.1	15.09	3.129		
4,700.0	4,654.1	4,697.3	4,666.9	9.0	8.7	8.7	167.01	-20.1	-162.0	64.9	49.5	15.35	4.226		
4,800.0	4,731.7	4,773.6	4,724.8	9.6	9.2	9.2	146.37	-20.9	-211.7	119.2	102.9	16.32	7.303		
4,900.0	4,800.9	4,835.7	4,767.5	10.3	9.8	9.8	136.21	-21.6	-256.6	192.2	175.0	17.16	11.201		

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S30-T23N-R7W - Lybrook O30-2307 01H - Hz - Plan #3													Offset Site Error:
Survey Program: 0-Geolink-MWD													Offset Well Error:
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,000.0	4,860.3	4,884.4	4,798.1	11.2	10.3	128.04	-22.2	-294.6	275.9	257.8	18.09	15.254	
5,100.0	4,908.8	4,921.2	4,819.3	12.3	10.8	117.77	-22.7	-324.6	366.5	347.1	19.44	18.854	
5,200.0	4,945.4	4,978.1	4,849.9	13.5	11.5	104.73	-24.8	-372.5	461.0	439.7	21.25	21.694	
5,300.0	4,969.3	5,106.1	4,917.3	14.8	13.4	99.00	-46.8	-478.9	554.0	531.1	22.89	24.208	
5,400.0	4,980.3	5,518.9	5,098.1	16.1	19.5	105.25	-267.3	-768.4	635.4	609.5	25.82	24.604	
5,500.0	4,980.0	6,051.2	5,175.3	17.6	25.3	107.53	-763.3	-901.9	648.4	615.5	32.92	19.695	
5,600.0	4,978.4	6,151.2	5,173.7	19.0	26.3	107.53	-863.3	-901.9	648.5	612.7	35.79	18.120	
5,700.0	4,976.9	6,251.2	5,172.2	20.6	27.4	107.52	-963.3	-901.9	648.6	609.8	38.73	16.746	
5,800.0	4,975.3	6,351.2	5,170.6	22.1	28.5	107.52	-1,063.3	-901.8	648.6	606.9	41.73	15.542	
5,900.0	4,973.7	6,451.2	5,169.0	23.7	29.6	107.52	-1,163.3	-901.8	648.7	603.9	44.78	14.485	
6,000.0	4,972.2	6,551.2	5,167.4	25.3	30.9	107.52	-1,263.3	-901.8	648.8	600.9	47.88	13.551	
6,100.0	4,970.6	6,651.2	5,165.9	26.9	32.2	107.52	-1,363.2	-901.8	648.8	597.8	51.00	12.722	
6,200.0	4,969.0	6,751.2	5,164.3	28.6	33.5	107.52	-1,463.2	-901.7	648.9	594.7	54.15	11.983	
6,300.0	4,967.5	6,851.2	5,162.7	30.2	34.9	107.51	-1,563.2	-901.7	648.9	591.6	57.32	11.321	
6,400.0	4,965.9	6,951.2	5,161.2	31.9	36.3	107.51	-1,663.2	-901.7	649.0	588.5	60.51	10.725	
6,500.0	4,964.3	7,051.2	5,159.6	33.6	37.7	107.51	-1,763.2	-901.7	649.1	585.3	63.72	10.186	
6,600.0	4,962.7	7,151.2	5,158.0	35.2	39.2	107.51	-1,863.2	-901.6	649.1	582.2	66.94	9.697	
6,700.0	4,961.2	7,251.2	5,156.4	36.9	40.6	107.51	-1,963.2	-901.6	649.2	579.0	70.18	9.251	
6,800.0	4,959.6	7,351.2	5,154.9	38.6	42.2	107.51	-2,063.2	-901.6	649.3	575.8	73.42	8.843	
6,900.0	4,958.0	7,451.2	5,153.3	40.3	43.7	107.50	-2,163.1	-901.6	649.3	572.6	76.67	8.469	
7,000.0	4,956.5	7,551.2	5,151.7	42.0	45.2	107.50	-2,263.1	-901.6	649.4	569.4	79.93	8.124	
7,100.0	4,954.9	7,651.2	5,150.2	43.7	46.8	107.50	-2,363.1	-901.5	649.4	566.2	83.20	7.806	
7,200.0	4,953.3	7,751.2	5,148.6	45.5	48.4	107.50	-2,463.1	-901.5	649.5	563.0	86.47	7.511	
7,300.0	4,951.7	7,851.2	5,147.0	47.2	50.0	107.50	-2,563.1	-901.5	649.6	559.8	89.75	7.237	
7,400.0	4,950.2	7,951.2	5,145.5	48.9	51.6	107.50	-2,663.1	-901.5	649.6	556.6	93.04	6.982	
7,500.0	4,948.6	8,051.2	5,143.9	50.6	53.2	107.49	-2,763.1	-901.4	649.7	553.4	96.33	6.745	
7,600.0	4,947.0	8,151.2	5,142.3	52.3	54.8	107.49	-2,863.1	-901.4	649.7	550.1	99.62	6.522	
7,700.0	4,945.5	8,251.2	5,140.7	54.0	56.5	107.49	-2,963.0	-901.4	649.8	546.9	102.91	6.314	
7,800.0	4,943.9	8,351.2	5,139.2	55.8	58.1	107.49	-3,063.0	-901.4	649.9	543.7	106.21	6.119	
7,900.0	4,942.3	8,451.2	5,137.6	57.5	59.7	107.49	-3,163.0	-901.4	649.9	540.4	109.52	5.935	
8,000.0	4,940.8	8,551.2	5,136.0	59.2	61.4	107.48	-3,263.0	-901.3	650.0	537.2	112.82	5.761	
8,100.0	4,939.2	8,651.2	5,134.5	61.0	63.0	107.48	-3,363.0	-901.3	650.1	533.9	116.13	5.598	
8,200.0	4,937.6	8,751.2	5,132.9	62.7	64.7	107.48	-3,463.0	-901.3	650.1	530.7	119.44	5.443	
8,300.0	4,936.0	8,851.2	5,131.3	64.4	66.4	107.48	-3,563.0	-901.3	650.2	527.4	122.75	5.297	
8,400.0	4,934.5	8,951.2	5,129.7	66.2	68.1	107.48	-3,663.0	-901.2	650.2	524.2	126.07	5.158	
8,500.0	4,932.9	9,051.2	5,128.2	67.9	69.7	107.48	-3,762.9	-901.2	650.3	520.9	129.38	5.026	
8,600.0	4,931.3	9,151.2	5,126.6	69.6	71.4	107.47	-3,862.9	-901.2	650.4	517.7	132.70	4.901	
8,700.0	4,929.8	9,251.2	5,125.0	71.4	73.1	107.47	-3,962.9	-901.2	650.4	514.4	136.02	4.782	
8,800.0	4,928.2	9,351.2	5,123.5	73.1	74.8	107.47	-4,062.9	-901.2	650.5	511.2	139.34	4.668	
8,900.0	4,926.6	9,451.2	5,121.9	74.8	76.5	107.47	-4,162.9	-901.1	650.6	507.9	142.67	4.560	
9,000.0	4,925.0	9,551.2	5,120.3	76.6	78.2	107.47	-4,262.9	-901.1	650.6	504.6	145.99	4.457	
9,100.0	4,923.5	9,651.2	5,118.7	78.3	79.9	107.47	-4,362.9	-901.1	650.7	501.4	149.31	4.358	
9,200.0	4,921.9	9,751.2	5,117.2	80.1	81.6	107.46	-4,462.9	-901.1	650.7	498.1	152.64	4.263	
9,300.0	4,920.3	9,851.2	5,115.6	81.8	83.3	107.46	-4,562.8	-901.0	650.8	494.8	155.97	4.173	
9,400.0	4,918.8	9,951.2	5,114.0	83.5	85.0	107.46	-4,662.8	-901.0	650.9	491.6	159.30	4.086	
9,500.0	4,917.2	10,051.2	5,112.5	85.3	86.7	107.46	-4,762.8	-901.0	650.9	488.3	162.62	4.003	
9,600.0	4,915.6	10,151.2	5,110.9	87.0	88.4	107.46	-4,862.8	-901.0	651.0	485.0	165.95	3.923	
9,700.0	4,914.1	10,251.2	5,109.3	88.8	90.1	107.45	-4,962.8	-900.9	651.1	481.8	169.29	3.846	
9,800.0	4,912.5	10,351.2	5,107.8	90.5	91.8	107.45	-5,062.8	-900.9	651.1	478.5	172.62	3.772	
9,900.0	4,910.9	10,451.2	5,106.2	92.3	93.5	107.45	-5,162.8	-900.9	651.2	475.2	175.95	3.701	
10,000.0	4,909.3	10,551.2	5,104.6	94.0	95.3	107.45	-5,262.8	-900.9	651.2	472.0	179.28	3.633	
10,100.0	4,907.8	10,650.2	5,103.1	95.8	97.0	107.45	-5,361.8	-900.9	651.3	468.7	182.60	3.567	

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at:	2.00 sigma
Reference Wellbore:	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design: S30-T23N-R7W - Lybrook O30-2307 01H - Hz - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-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	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
10,104.5	4,907.7	10,650.2	5,103.1	95.8	97.0	107.45	-5,361.8	-900.9	651.3	458.7	182.68	3.566		

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S30-T23N-R7W - Lybrook O30-2307 03H - HZ - Plan #2													Offset Site Error:
Survey Program: 0-Geolink MWD													0.0 ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning		Offset Well Error:	
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	
0.0	0.0	0.0	0.0	0.0	0.0	53.05	18.2	24.2	30.3				
100.0	100.0	100.0	100.0	0.1	0.1	53.05	18.2	24.2	30.3	30.0	0.29	103.277	
200.0	200.0	200.0	200.0	0.3	0.3	53.05	18.2	24.2	30.3	29.6	0.64	47.148	
300.0	300.0	300.0	300.0	0.5	0.5	53.05	18.2	24.2	30.3	29.3	0.99	30.547	
400.0	400.0	400.0	400.0	0.7	0.7	53.05	18.2	24.2	30.3	28.9	1.34	22.592	
500.0	500.0	500.0	500.0	0.8	0.8	53.05	18.2	24.2	30.3	28.6	1.69	17.924	
600.0	600.0	600.0	600.0	1.0	1.0	53.05	18.2	24.2	30.3	28.2	2.04	14.855	
700.0	700.0	700.0	700.0	1.2	1.2	53.05	18.2	24.2	30.3	27.9	2.39	12.683	
800.0	800.0	800.0	800.0	1.4	1.4	53.05	18.2	24.2	30.3	27.5	2.74	11.065	
900.0	900.0	900.0	900.0	1.5	1.5	53.05	18.2	24.2	30.3	27.2	3.09	9.814	
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	53.05	18.2	24.2	30.3	26.8	3.43	8.816	
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	53.05	18.2	24.2	30.3	26.5	3.78	8.003	
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	53.05	18.2	24.2	30.3	26.1	4.13	7.327	
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	53.05	18.2	24.2	30.3	25.8	4.48	6.756	
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	53.05	18.2	24.2	30.3	25.5	4.83	6.268	
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	53.05	18.2	24.2	30.3	25.1	5.18	5.846	
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	53.05	18.2	24.2	30.3	24.8	5.53	5.477	
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	53.05	18.2	24.2	30.3	24.4	5.88	5.152	
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	53.05	18.2	24.2	30.3	24.1	6.23	4.863	
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	53.05	18.2	24.2	30.3	23.7	6.58	4.605	
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	53.05	18.2	24.2	30.3	23.4	6.93	4.373	
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	53.05	18.2	24.2	30.3	23.0	7.27	4.163	
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	53.05	18.2	24.2	30.3	22.7	7.62	3.972	
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	53.05	18.2	24.2	30.3	22.3	7.97	3.798	
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	53.05	18.2	24.2	30.3	22.0	8.32	3.639	
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	53.05	18.2	24.2	30.3	21.6	8.67	3.492	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	53.05	18.2	24.2	30.3	21.3	9.02	3.357	
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	53.05	18.2	24.2	30.3	20.9	9.37	3.232	
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	53.05	18.2	24.2	30.3	20.6	9.72	3.116	
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	53.05	18.2	24.2	30.3	20.2	10.07	3.008	
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	53.05	18.2	24.2	30.3	19.9	10.42	2.907	
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	53.05	18.2	24.2	30.3	19.5	10.77	2.813	
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	53.05	18.2	24.2	30.3	19.2	11.11	2.725	
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	53.05	18.2	24.2	30.3	18.8	11.46	2.642	
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	53.05	18.2	24.2	30.3	18.5	11.81	2.564	
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	53.05	18.2	24.2	30.3	18.1	12.16	2.490	
3,600.0	3,600.0	3,600.0	3,600.0	6.3	6.3	53.05	18.2	24.2	30.3	17.8	12.51	2.421	
3,700.0	3,700.0	3,700.0	3,700.0	6.4	6.4	53.05	18.2	24.2	30.3	17.4	12.86	2.355	
3,800.0	3,800.0	3,800.0	3,800.0	6.6	6.6	53.05	18.2	24.2	30.3	17.1	13.21	2.293	
3,900.0	3,900.0	3,900.0	3,900.0	6.8	6.8	53.05	18.2	24.2	30.3	16.7	13.56	2.234 CC	
3,948.4	3,948.4	3,948.4	3,948.4	6.9	6.9	119.37	18.2	24.2	30.5	16.8	13.73	2.222	
4,000.0	4,000.0	4,000.0	4,000.0	7.0	7.0	119.50	18.2	24.2	30.5	16.6	13.91	2.197 ES, SF	
4,100.0	4,099.3	4,099.3	4,099.3	7.1	7.1	133.81	18.2	24.2	37.1	22.9	14.19	2.617	
4,200.0	4,196.2	4,196.2	4,196.2	7.3	7.3	151.00	18.2	24.2	57.1	42.8	14.24	4.006	
4,300.0	4,291.2	4,284.7	4,284.6	7.6	7.5	-179.11	18.3	26.1	89.2	74.7	14.49	6.153	
4,400.0	4,386.3	4,363.1	4,362.4	7.9	7.6	-154.84	18.6	36.2	131.1	116.3	14.82	8.850	
4,500.0	4,479.7	4,432.1	4,429.5	8.2	7.7	-137.99	19.1	52.0	182.7	167.6	15.12	12.084	
4,600.0	4,569.5	4,490.8	4,485.2	8.5	7.9	-126.39	19.6	70.4	243.2	227.8	15.45	15.738	
4,700.0	4,654.1	4,539.9	4,530.5	9.0	8.0	-117.14	20.2	89.3	311.5	295.5	15.94	19.543	
4,800.0	4,731.7	4,615.7	4,599.3	9.6	8.3	-112.20	17.2	120.9	383.0	366.5	16.56	23.134	
4,900.0	4,800.9	4,701.2	4,676.0	10.3	8.6	-108.41	4.1	156.2	453.6	436.2	17.39	26.083	
5,000.0	4,860.3	4,801.4	4,763.4	11.2	9.1	-105.84	-23.8	196.4	521.6	503.1	18.45	28.267	

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S30-T23N-R7W - Lybrook O30-2307 03H - Hz - Plan #2														Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
5,100.0	4,908.8	4,924.8	4,864.6	12.3	9.8	-104.61	-76.1	243.3	585.1	565.3	19.81	29.537			
5,200.0	4,945.4	5,083.7	4,980.4	13.5	10.9	-104.70	-170.2	297.1	641.0	619.3	21.68	29.572			
5,300.0	4,969.3	5,293.5	5,099.0	14.8	13.0	-105.76	-333.1	352.8	684.4	659.8	24.57	27.854			
5,400.0	4,980.3	5,559.0	5,179.7	16.1	16.3	-106.78	-581.4	391.7	708.2	679.2	29.01	24.409			
5,500.0	4,980.0	5,740.9	5,186.7	17.6	18.7	-106.91	-762.8	396.4	710.7	677.7	32.98	21.552			
5,600.0	4,978.4	5,840.9	5,185.1	19.0	20.1	-106.91	-862.8	396.5	710.7	674.8	35.91	19.790			
5,700.0	4,976.9	5,940.9	5,183.6	20.6	21.6	-106.91	-962.8	396.6	710.7	671.8	38.92	18.262			
5,800.0	4,975.3	6,040.9	5,182.0	22.1	23.1	-106.91	-1,062.7	396.7	710.7	668.7	41.98	16.931			
5,900.0	4,973.7	6,140.9	5,180.4	23.7	24.7	-106.91	-1,162.7	396.7	710.7	665.6	45.08	15.766			
6,000.0	4,972.2	6,240.9	5,178.9	25.3	26.3	-106.91	-1,262.7	396.8	710.7	662.5	48.21	14.741			
6,100.0	4,970.6	6,340.9	5,177.3	26.9	27.8	-106.91	-1,362.7	396.9	710.7	659.3	51.38	13.833			
6,200.0	4,969.0	6,440.9	5,175.7	28.6	29.5	-106.91	-1,462.7	397.0	710.7	656.1	54.56	13.025			
6,300.0	4,967.5	6,540.9	5,174.1	30.2	31.1	-106.91	-1,562.7	397.1	710.7	652.9	57.77	12.302			
6,400.0	4,965.9	6,640.9	5,172.6	31.9	32.7	-106.91	-1,662.7	397.2	710.7	649.7	60.99	11.652			
6,500.0	4,964.3	6,740.9	5,171.0	33.6	34.4	-106.91	-1,762.7	397.2	710.7	646.4	64.23	11.065			
6,600.0	4,962.7	6,840.9	5,169.4	35.2	36.0	-106.91	-1,862.7	397.3	710.7	643.2	67.48	10.532			
6,700.0	4,961.2	6,940.9	5,167.9	36.9	37.7	-106.91	-1,962.6	397.4	710.7	639.9	70.73	10.047			
6,800.0	4,959.6	7,040.9	5,166.3	38.6	39.4	-106.91	-2,062.6	397.5	710.6	636.6	74.00	9.603			
6,900.0	4,958.0	7,140.9	5,164.7	40.3	41.1	-106.91	-2,162.6	397.6	710.6	633.4	77.28	9.196			
7,000.0	4,956.5	7,240.9	5,163.2	42.0	42.8	-106.91	-2,262.6	397.7	710.6	630.1	80.56	8.821			
7,100.0	4,954.9	7,340.9	5,161.6	43.7	44.5	-106.91	-2,362.6	397.7	710.6	626.8	83.85	8.475			
7,200.0	4,953.3	7,440.9	5,160.0	45.5	46.2	-106.91	-2,462.6	397.8	710.6	623.5	87.14	8.155			
7,300.0	4,951.7	7,540.9	5,158.4	47.2	47.9	-106.91	-2,562.6	397.9	710.6	620.2	90.44	7.858			
7,400.0	4,950.2	7,640.9	5,156.9	48.9	49.6	-106.91	-2,662.6	398.0	710.6	616.9	93.74	7.581			
7,500.0	4,948.6	7,740.9	5,155.3	50.6	51.3	-106.91	-2,762.5	398.1	710.6	613.6	97.05	7.322			
7,600.0	4,947.0	7,840.9	5,153.7	52.3	53.0	-106.91	-2,862.5	398.2	710.6	610.3	100.36	7.081			
7,700.0	4,945.5	7,940.9	5,152.2	54.0	54.7	-106.91	-2,962.5	398.3	710.6	606.9	103.67	6.855			
7,800.0	4,943.9	8,040.9	5,150.6	55.8	56.4	-106.91	-3,062.5	398.3	710.6	603.6	106.98	6.642			
7,900.0	4,942.3	8,140.9	5,149.0	57.5	58.2	-106.91	-3,162.5	398.4	710.6	600.3	110.30	6.442			
8,000.0	4,940.8	8,240.9	5,147.4	59.2	59.9	-106.91	-3,262.5	398.5	710.6	597.0	113.62	6.254			
8,100.0	4,939.2	8,340.9	5,145.9	61.0	61.6	-106.91	-3,362.5	398.6	710.6	593.7	116.95	6.076			
8,200.0	4,937.6	8,440.9	5,144.3	62.7	63.3	-106.91	-3,462.5	398.7	710.6	590.3	120.27	5.908			
8,300.0	4,936.0	8,540.9	5,142.7	64.4	65.0	-106.91	-3,562.4	398.8	710.6	587.0	123.60	5.749			
8,400.0	4,934.5	8,640.9	5,141.2	66.2	66.8	-106.91	-3,662.4	398.8	710.6	583.7	126.92	5.599			
8,500.0	4,932.9	8,740.9	5,139.6	67.9	68.5	-106.91	-3,762.4	398.9	710.6	580.3	130.25	5.455			
8,600.0	4,931.3	8,840.9	5,138.0	69.6	70.2	-106.91	-3,862.4	399.0	710.6	577.0	133.58	5.319			
8,700.0	4,929.8	8,940.9	5,136.5	71.4	72.0	-106.91	-3,962.4	399.1	710.6	573.7	136.92	5.190			
8,800.0	4,928.2	9,040.9	5,134.9	73.1	73.7	-106.91	-4,062.4	399.2	710.6	570.3	140.25	5.066			
8,900.0	4,926.6	9,140.9	5,133.3	74.8	75.4	-106.91	-4,162.4	399.3	710.6	567.0	143.58	4.949			
9,000.0	4,925.0	9,240.9	5,131.7	76.6	77.2	-106.91	-4,262.4	399.3	710.6	563.6	146.92	4.836			
9,100.0	4,923.5	9,340.9	5,130.2	78.3	78.9	-106.91	-4,362.3	399.4	710.6	560.3	150.26	4.729			
9,200.0	4,921.9	9,440.9	5,128.6	80.1	80.6	-106.91	-4,462.3	399.5	710.6	557.0	153.59	4.626			
9,300.0	4,920.3	9,540.9	5,127.0	81.8	82.4	-106.91	-4,562.3	399.6	710.6	553.6	156.93	4.528			
9,400.0	4,918.8	9,640.9	5,125.5	83.5	84.1	-106.91	-4,662.3	399.7	710.5	550.3	160.27	4.433			
9,500.0	4,917.2	9,740.9	5,123.9	85.3	85.9	-106.91	-4,762.3	399.8	710.5	546.9	163.61	4.343			
9,600.0	4,915.6	9,840.9	5,122.3	87.0	87.6	-106.91	-4,862.3	399.9	710.5	543.6	166.95	4.256			
9,700.0	4,914.1	9,940.9	5,120.7	88.8	89.3	-106.91	-4,962.3	399.9	710.5	540.2	170.29	4.172			
9,800.0	4,912.5	10,040.9	5,119.2	90.5	91.1	-106.91	-5,062.3	400.0	710.5	536.9	173.63	4.092			
9,900.0	4,910.9	10,140.9	5,117.6	92.3	92.8	-106.91	-5,162.2	400.1	710.5	533.6	176.98	4.015			
10,000.0	4,909.3	10,240.9	5,116.0	94.0	94.6	-106.91	-5,262.2	400.2	710.5	530.2	180.32	3.940			
10,100.0	4,907.8	10,340.9	5,114.5	95.8	96.3	-106.91	-5,362.2	400.3	710.5	526.9	183.66	3.869			
10,104.5	4,907.7	10,345.3	5,114.4	95.8	96.4	-106.91	-5,366.7	400.3	710.5	526.7	183.81	3.865			

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

HP
Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

HP Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S30-T23N-R7W - Lybrook O30-2307 04H - HZ - Plan #1													Offset Site Error:
Survey Program: 0-Geolink MWD													Offset Well Error:
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	
0.0	0.0	0.0	0.0	0.0	0.0	53.16	36.0	48.1	60.1				
100.0	100.0	100.0	100.0	0.1	0.1	53.16	36.0	48.1	60.1	59.8	0.29	205.003	
200.0	200.0	200.0	200.0	0.3	0.3	53.16	36.0	48.1	60.1	59.5	0.64	93.588	
300.0	300.0	300.0	300.0	0.5	0.5	53.16	36.0	48.1	60.1	59.1	0.99	60.635	
400.0	400.0	400.0	400.0	0.7	0.7	53.16	36.0	48.1	60.1	58.8	1.34	44.844	
500.0	500.0	500.0	500.0	0.8	0.8	53.16	36.0	48.1	60.1	58.4	1.69	35.579	
600.0	600.0	600.0	600.0	1.0	1.0	53.16	36.0	48.1	60.1	58.1	2.04	29.487	
700.0	700.0	700.0	700.0	1.2	1.2	53.16	36.0	48.1	60.1	57.7	2.39	25.176	
800.0	800.0	800.0	800.0	1.4	1.4	53.16	36.0	48.1	60.1	57.4	2.74	21.965	
900.0	900.0	900.0	900.0	1.5	1.5	53.16	36.0	48.1	60.1	57.0	3.09	19.480	
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	53.16	36.0	48.1	60.1	56.7	3.43	17.500	
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	53.16	36.0	48.1	60.1	56.3	3.78	15.886	
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	53.16	36.0	48.1	60.1	56.0	4.13	14.544	
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	53.16	36.0	48.1	60.1	55.6	4.48	13.411	
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	53.16	36.0	48.1	60.1	55.3	4.83	12.442	
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	53.16	36.0	48.1	60.1	54.9	5.18	11.604	
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	53.16	36.0	48.1	60.1	54.6	5.53	10.871	
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	53.16	36.0	48.1	60.1	54.2	5.88	10.226	
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	53.16	36.0	48.1	60.1	53.9	6.23	9.653	
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	53.16	36.0	48.1	60.1	53.5	6.58	9.140	
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	53.16	36.0	48.1	60.1	53.2	6.93	8.680	
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	53.16	36.0	48.1	60.1	52.8	7.27	8.263	
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	53.16	36.0	48.1	60.1	52.5	7.62	7.885	
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	53.16	36.0	48.1	60.1	52.1	7.97	7.540	
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	53.16	36.0	48.1	60.1	51.8	8.32	7.223	
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	53.16	36.0	48.1	60.1	51.4	8.67	6.932	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	53.16	36.0	48.1	60.1	51.1	9.02	6.664	
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	53.16	36.0	48.1	60.1	50.7	9.37	6.416	
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	53.16	36.0	48.1	60.1	50.4	9.72	6.185 CC, ES	
2,900.0	2,900.0	2,898.2	2,898.1	5.0	5.0	54.25	36.0	50.0	61.6	51.5	10.06	6.122 SF	
3,000.0	3,000.0	2,996.0	2,995.8	5.2	5.2	57.21	35.8	55.6	66.2	55.8	10.41	6.363	
3,100.0	3,100.0	3,093.3	3,092.7	5.4	5.4	61.30	35.5	64.8	74.3	63.5	10.76	6.904	
3,200.0	3,200.0	3,189.8	3,188.3	5.6	5.6	65.68	35.1	77.6	86.0	74.9	11.11	7.737	
3,300.0	3,300.0	3,285.2	3,282.3	5.7	5.8	69.78	34.5	93.8	101.5	90.0	11.48	8.843	
3,400.0	3,400.0	3,379.2	3,374.3	5.9	6.0	73.31	33.9	113.1	120.9	109.0	11.86	10.190	
3,500.0	3,500.0	3,471.7	3,464.1	6.1	6.3	76.23	33.2	135.4	144.0	131.7	12.27	11.737	
3,600.0	3,600.0	3,562.4	3,551.3	6.3	6.6	78.60	32.4	160.4	170.7	158.0	12.70	13.441	
3,700.0	3,700.0	3,651.2	3,635.7	6.4	6.9	80.49	31.5	187.8	201.0	187.8	13.17	15.259	
3,800.0	3,800.0	3,738.0	3,717.3	6.6	7.3	82.02	30.5	217.4	234.6	221.0	13.68	17.154	
3,900.0	3,900.0	3,822.6	3,795.7	6.8	7.8	83.25	29.5	248.9	271.5	257.3	14.22	19.092	
4,000.0	4,000.0	3,900.0	3,866.7	7.0	8.2	149.27	28.4	280.0	311.9	298.1	13.75	22.687	
4,100.0	4,099.3	3,980.1	3,939.0	7.1	8.7	148.56	27.3	314.4	362.9	349.0	13.94	26.027	
4,200.0	4,196.2	4,046.0	3,997.6	7.3	9.2	147.33	26.3	344.3	426.3	412.3	14.02	30.402	
4,300.0	4,291.2	4,100.0	4,045.2	7.6	9.6	176.82	25.5	370.0	497.8	483.7	14.08	35.342	
4,400.0	4,386.3	4,160.7	4,097.9	7.9	10.1	-151.01	24.5	400.1	571.1	556.6	14.42	39.609	
4,500.0	4,479.7	4,213.4	4,143.1	8.2	10.5	-126.35	23.6	427.2	644.9	629.9	14.99	43.029	
4,600.0	4,569.5	4,262.1	4,184.4	8.5	11.0	-109.02	22.7	453.0	718.7	702.9	15.74	45.663	
4,700.0	4,654.1	4,306.2	4,221.3	9.0	11.4	-96.50	22.0	477.1	791.8	775.2	16.59	47.730	
4,800.0	4,731.7	4,351.0	4,258.4	9.6	11.8	-87.30	21.1	502.2	864.0	846.6	17.46	49.487	
4,900.0	4,800.9	4,389.2	4,289.8	10.3	12.2	-79.86	20.4	523.9	934.8	916.5	18.29	51.121	
5,000.0	4,860.3	4,428.7	4,322.3	11.2	12.6	-74.12	19.7	546.3	1,003.6	984.6	19.02	52.765	
5,100.0	4,908.8	4,461.3	4,349.1	12.3	12.9	-69.15	19.1	564.8	1,070.3	1,050.7	19.63	54.533	

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S30-T23N-R7W - Lybrook O30-2307 04H - HZ - Plan #1												Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD												Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
5,200.0	4,945.4	4,486.3	4,369.8	13.5	13.2	-64.72	18.6	579.0	1,134.8	1,114.7	20.09	56.484	
5,300.0	4,969.3	4,503.3	4,383.8	14.8	13.3	-60.72	18.3	588.7	1,196.7	1,176.2	20.43	58.576	

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S31-T23N-R7W - Lybrook G31-2307 01H - Hz - Plan #4														Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
4,900.0	4,800.9	5,378.3	5,001.4	10.3	16.2	51.65	-1,008.2	-1,059.3	1,179.6	1,156.6	22.93	51.434			
5,000.0	4,860.3	5,370.1	4,998.1	11.2	16.1	62.61	-1,014.1	-1,054.7	1,103.0	1,078.4	24.66	44.737			
5,100.0	4,908.8	5,350.0	4,989.8	12.3	15.8	71.56	-1,028.7	-1,043.7	1,029.2	1,002.9	26.29	39.146			
5,200.0	4,945.4	5,350.0	4,989.8	13.5	15.8	80.29	-1,028.7	-1,043.7	959.7	931.5	28.18	34.054			
5,300.0	4,969.3	5,300.0	4,968.5	14.8	15.2	84.80	-1,066.4	-1,018.6	896.1	867.0	29.12	30.768			
5,400.0	4,980.3	5,282.3	4,960.7	16.1	15.0	89.59	-1,080.1	-1,010.6	840.0	809.6	30.35	27.674			
5,500.0	4,980.0	5,250.0	4,946.2	17.6	14.6	90.37	-1,105.6	-997.1	792.7	761.4	31.38	25.263			
5,600.0	4,978.4	5,200.0	4,923.1	19.0	14.0	88.53	-1,146.1	-979.1	752.4	720.1	32.30	23.293			
5,700.0	4,976.9	5,170.9	4,909.4	20.6	13.6	87.40	-1,170.2	-970.3	719.2	685.7	33.51	21.465			
5,800.0	4,975.3	5,130.6	4,890.0	22.1	13.1	85.77	-1,204.1	-960.3	694.1	659.6	34.57	20.079			
5,900.0	4,973.7	5,100.0	4,875.1	23.7	12.8	84.51	-1,230.2	-954.4	678.0	642.2	35.77	18.956			
6,000.0	4,972.2	5,050.0	4,850.5	25.3	12.2	82.42	-1,273.2	-947.8	670.7	634.0	36.68	18.283			
6,026.5	4,971.8	5,035.5	4,843.3	25.7	12.0	81.82	-1,285.7	-946.6	670.3	633.4	36.91	18.162 CC, ES			
6,100.0	4,970.6	5,000.0	4,825.7	26.9	11.6	80.35	-1,316.5	-945.1	672.9	635.3	37.58	17.905			
6,200.0	4,969.0	4,950.0	4,800.8	28.6	11.1	78.34	-1,359.8	-946.3	684.4	646.0	38.47	17.793			
6,300.0	4,967.5	4,918.8	4,785.3	30.2	10.8	77.15	-1,386.8	-949.1	704.4	664.8	39.64	17.772 SF			
6,400.0	4,965.9	4,870.4	4,761.2	31.9	10.3	75.40	-1,428.1	-956.1	732.6	692.0	40.54	18.071			
6,500.0	4,964.3	4,809.6	4,727.3	33.6	9.7	73.02	-1,477.7	-965.4	766.5	725.3	41.21	18.597			
6,600.0	4,962.7	4,750.0	4,689.6	35.2	9.2	70.45	-1,523.0	-974.0	805.7	763.9	41.84	19.256			
6,700.0	4,961.2	4,700.0	4,654.7	36.9	8.8	68.15	-1,558.2	-980.6	850.6	808.0	42.57	19.981			
6,800.0	4,959.6	4,668.5	4,631.4	38.6	8.7	66.66	-1,579.0	-984.5	900.7	857.2	43.57	20.672			
6,900.0	4,958.0	4,632.8	4,603.7	40.3	8.5	64.93	-1,601.1	-988.6	956.2	911.8	44.45	21.515			
7,000.0	4,956.5	4,600.0	4,577.1	42.0	8.3	63.33	-1,620.1	-992.2	1,016.5	971.2	45.32	22.431			
7,100.0	4,954.9	4,574.0	4,555.4	43.7	8.2	62.05	-1,634.2	-994.8	1,081.2	1,034.9	46.29	23.355			
7,200.0	4,953.3	4,550.0	4,534.9	45.5	8.1	60.86	-1,646.3	-997.1	1,149.7	1,102.4	47.26	24.325			

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design: S31-T23N-R7W - Lybrook G31-2307 02H - HZ - Plan #4													Offset Site Error:
Survey Program: D-Geolink MWD													0.0 ft
Reference	Offset	Semi Major Axis		Distance		Total		Separation		Warning		Offset Well Error:	
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	0.0 ft	
5,600.0	4,978.4	4,714.7	4,698.4	19.0	8.2	71.47	-1,749.8	-977.8	1,155.3	1,129.8	25.50	45.314	
5,700.0	4,976.9	4,713.9	4,697.7	20.6	8.2	71.41	-1,749.8	-977.6	1,079.9	1,052.9	26.98	40.028	
5,800.0	4,975.3	4,700.0	4,684.5	22.1	8.2	70.32	-1,749.8	-973.0	1,008.9	980.6	28.32	35.625	
5,900.0	4,973.7	4,700.0	4,684.5	23.7	8.2	70.32	-1,749.8	-973.0	943.0	913.2	29.85	31.594	
6,000.0	4,972.2	4,700.0	4,684.5	25.3	8.2	70.32	-1,749.8	-973.0	883.6	852.2	31.39	28.144	
6,100.0	4,970.6	4,700.0	4,684.5	26.9	8.2	70.32	-1,749.8	-973.0	831.9	799.0	32.95	25.245	
6,200.0	4,969.0	4,700.0	4,684.5	28.6	8.2	70.32	-1,749.8	-973.0	789.6	755.1	34.52	22.871	
6,300.0	4,967.5	4,700.0	4,684.5	30.2	8.2	70.32	-1,749.8	-973.0	758.2	722.1	36.10	21.001	
6,400.0	4,965.9	4,700.0	4,684.5	31.9	8.2	70.32	-1,749.8	-973.0	739.1	701.4	37.69	19.609	
6,493.1	4,964.4	4,700.0	4,684.5	33.5	8.2	70.32	-1,749.8	-973.0	733.2	694.0	39.17	18.715 CC	
6,500.0	4,964.3	4,700.0	4,684.5	33.6	8.2	70.32	-1,749.8	-973.0	733.2	693.9	39.28	18.664 ES	
6,600.0	4,962.7	4,700.0	4,684.5	35.2	8.2	70.32	-1,749.8	-973.0	740.9	700.0	40.88	18.122	
6,700.0	4,961.2	4,700.0	4,684.5	36.9	8.2	70.32	-1,749.8	-973.0	761.8	719.3	42.49	17.929 SF	
6,800.0	4,959.6	4,700.0	4,684.5	38.6	8.2	70.32	-1,749.8	-973.0	794.8	750.7	44.10	18.024	
6,900.0	4,958.0	4,700.0	4,684.5	40.3	8.2	70.32	-1,749.8	-973.0	838.5	792.8	45.71	18.344	
7,000.0	4,956.5	4,700.0	4,684.5	42.0	8.2	70.32	-1,749.8	-973.0	891.3	844.0	47.33	18.833	
7,100.0	4,954.9	4,700.0	4,684.5	43.7	8.2	70.32	-1,749.8	-973.0	951.7	902.8	48.95	19.445	
7,200.0	4,953.3	4,700.0	4,684.5	45.5	8.2	70.32	-1,749.8	-973.0	1,018.4	967.9	50.57	20.140	
7,300.0	4,951.7	4,700.0	4,684.5	47.2	8.2	70.32	-1,749.8	-973.0	1,090.2	1,038.0	52.19	20.889	
7,400.0	4,950.2	4,700.0	4,684.5	48.9	8.2	70.32	-1,749.8	-973.0	1,166.2	1,112.4	53.82	21.669	

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

HP Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S31-T23N-R7W - Lybrook G31-2307 03H - Hz - Plan #4													Offset Site Error:	0.0 ft
Survey Program: 0-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		
5,800.0	4,975.3	4,528.2	4,505.0	22.1	8.2	58.89	-1,880.9	-985.9	1,165.6	1,139.3	26.28	44.352		
5,900.0	4,973.7	4,550.0	4,522.6	23.7	8.3	59.86	-1,893.2	-982.9	1,096.3	1,068.3	27.97	39.196		
6,000.0	4,972.2	4,583.5	4,549.0	25.3	8.5	61.35	-1,913.4	-977.9	1,030.5	1,000.6	29.89	34.479		
6,100.0	4,970.6	4,616.6	4,573.8	26.9	8.7	62.80	-1,934.5	-972.8	968.5	936.7	31.85	30.409		
6,200.0	4,969.0	4,650.0	4,597.8	28.6	8.9	64.24	-1,957.2	-967.2	910.9	877.0	33.87	26.898		
6,300.0	4,967.5	4,700.0	4,631.2	30.2	9.3	66.32	-1,993.2	-958.4	857.9	821.7	36.21	23.693		
6,400.0	4,965.9	4,742.2	4,657.2	31.9	9.6	68.00	-2,025.5	-950.5	809.6	771.2	38.47	21.047		
6,500.0	4,964.3	4,779.9	4,679.8	33.6	10.0	69.56	-2,055.2	-944.7	767.3	726.6	40.71	18.846		
6,600.0	4,962.7	4,818.2	4,702.9	35.2	10.3	71.27	-2,085.5	-941.2	732.2	689.1	43.03	17.014		
6,700.0	4,961.2	4,850.0	4,722.1	36.9	10.6	72.79	-2,110.8	-939.9	705.3	660.0	45.27	15.579		
6,800.0	4,959.6	4,900.0	4,752.4	38.6	11.1	75.31	-2,150.6	-941.2	687.4	639.5	47.91	14.349		
6,900.0	4,958.0	4,933.7	4,772.7	40.3	11.4	77.07	-2,177.3	-944.3	679.5	629.2	50.24	13.524		
6,932.2	4,957.5	4,950.0	4,782.5	40.9	11.6	77.92	-2,190.1	-946.4	679.1	628.0	51.10	13.291 CC, ES		
7,000.0	4,956.5	4,971.6	4,795.4	42.0	11.8	79.07	-2,207.1	-949.9	681.8	629.2	52.65	12.950		
7,100.0	4,954.9	5,000.0	4,812.2	43.7	12.1	80.58	-2,229.3	-955.5	694.6	639.7	54.87	12.658		
7,200.0	4,953.3	5,050.0	4,841.4	45.5	12.7	83.19	-2,267.7	-968.4	717.1	659.6	57.45	12.482 SF		
7,300.0	4,951.7	5,079.6	4,858.4	47.2	13.0	84.69	-2,290.0	-977.8	748.7	689.1	59.64	12.555		
7,400.0	4,950.2	5,100.0	4,869.9	48.9	13.2	85.70	-2,305.3	-985.0	788.9	727.3	61.66	12.794		
7,500.0	4,948.6	5,150.0	4,897.5	50.6	13.7	88.05	-2,341.7	-1,005.3	835.9	771.8	64.06	13.048		
7,600.0	4,947.0	5,175.9	4,911.4	52.3	14.0	89.18	-2,360.0	-1,017.3	889.3	823.2	66.10	13.453		
7,700.0	4,945.5	5,200.0	4,924.1	54.0	14.3	90.19	-2,376.7	-1,029.2	948.2	880.1	68.10	13.922		
7,800.0	4,943.9	5,232.7	4,940.8	55.8	14.7	91.46	-2,398.7	-1,046.6	1,011.5	941.4	70.17	14.416		
7,900.0	4,942.3	5,250.0	4,949.4	57.5	14.9	92.09	-2,410.1	-1,056.4	1,078.9	1,006.9	72.06	14.972		
8,000.0	4,940.8	5,283.5	4,965.6	59.2	15.3	93.23	-2,431.5	-1,076.3	1,149.5	1,075.4	74.08	15.517		

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S31-T23N-R7W - Lybrook J31-2307 01H - Hz - Plan #3														Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
7,600.0	4,947.0	4,566.1	4,560.1	52.3	8.0	70.03	-3,514.5	-1,169.1	1,151.9	1,095.1	56.82	20.274			
7,700.0	4,945.5	4,569.7	4,563.5	54.0	8.0	70.25	-3,514.8	-1,170.1	1,097.7	1,039.2	58.52	18.757			
7,800.0	4,943.9	4,573.3	4,566.9	55.8	8.0	70.46	-3,515.1	-1,171.2	1,050.3	990.1	60.23	17.437			
7,900.0	4,942.3	4,576.8	4,570.2	57.5	8.0	70.68	-3,515.5	-1,172.2	1,010.5	948.6	61.95	16.312			
8,000.0	4,940.8	4,580.3	4,573.6	59.2	8.0	70.89	-3,515.8	-1,173.3	979.4	915.7	63.67	15.382			
8,100.0	4,939.2	4,583.8	4,576.9	61.0	8.0	71.10	-3,516.2	-1,174.4	957.7	892.3	65.39	14.645			
8,200.0	4,937.6	4,600.0	4,592.2	62.7	8.1	72.08	-3,517.7	-1,179.6	946.2	878.8	67.42	14.035			
8,261.7	4,936.6	4,600.0	4,592.2	63.8	8.1	72.08	-3,517.7	-1,179.6	944.2	875.8	68.44	13.797 CC, ES			
8,300.0	4,936.0	4,600.0	4,592.2	64.4	8.1	72.08	-3,517.7	-1,179.6	945.0	875.9	69.07	13.681			
8,400.0	4,934.5	4,600.0	4,592.2	66.2	8.1	72.08	-3,517.7	-1,179.6	954.3	883.6	70.73	13.492			
8,500.0	4,932.9	4,600.0	4,592.2	67.9	8.1	72.08	-3,517.7	-1,179.6	973.8	901.5	72.38	13.454 SF			
8,600.0	4,931.3	4,600.0	4,592.2	69.6	8.1	72.08	-3,517.7	-1,179.6	1,003.0	929.0	74.04	13.546			
8,700.0	4,929.8	4,600.0	4,592.2	71.4	8.1	72.08	-3,517.7	-1,179.6	1,041.0	965.3	75.70	13.752			
8,800.0	4,928.2	4,600.0	4,592.2	73.1	8.1	72.08	-3,517.7	-1,179.6	1,086.9	1,009.5	77.36	14.050			
8,900.0	4,926.6	4,600.0	4,592.2	74.8	8.1	72.08	-3,517.7	-1,179.6	1,139.7	1,060.7	79.02	14.424			
9,000.0	4,925.0	4,614.8	4,606.0	76.6	8.1	72.97	-3,519.1	-1,184.6	1,198.4	1,117.3	81.07	14.782			

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S31-T23N-R7W - Lybrook J31-2307 02H - Hz - Plan #4													Offset Site Error:
Survey Program: 0-Geolink MWD													Offset Well Error:
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	
7,700.0	4,945.5	4,500.0	4,473.2	54.0	8.2	65.48	-3,625.9	-1,174.9	1,190.1	1,133.2	56.96	20.893	
7,800.0	4,943.9	4,521.6	4,490.7	55.8	8.3	66.41	-3,638.5	-1,174.2	1,136.3	1,077.3	59.03	19.249	
7,900.0	4,942.3	4,550.0	4,513.1	57.5	8.5	67.62	-3,656.0	-1,173.4	1,087.4	1,026.2	61.26	17.752	
8,000.0	4,940.8	4,600.0	4,550.8	59.2	8.8	69.72	-3,688.8	-1,171.8	1,043.9	979.9	63.98	16.317	
8,100.0	4,939.2	4,631.0	4,573.0	61.0	9.0	70.98	-3,710.3	-1,170.7	1,005.7	939.4	66.29	15.172	
8,200.0	4,937.6	4,677.3	4,604.4	62.7	9.4	72.81	-3,744.4	-1,169.1	973.3	904.4	68.93	14.120	
8,300.0	4,936.0	4,729.7	4,637.1	64.4	9.8	74.76	-3,785.2	-1,167.1	946.4	874.8	71.68	13.204	
8,400.0	4,934.5	4,788.6	4,670.2	66.2	10.4	76.79	-3,833.9	-1,164.7	924.9	850.3	74.53	12.409	
8,500.0	4,932.9	4,836.7	4,694.6	67.9	10.9	78.31	-3,875.3	-1,163.0	908.5	831.4	77.15	11.777	
8,600.0	4,931.3	4,875.2	4,713.8	69.6	11.4	79.55	-3,908.6	-1,163.7	899.2	819.6	79.59	11.299	
8,672.0	4,930.2	4,900.0	4,726.1	70.9	11.7	80.37	-3,930.1	-1,165.3	897.1	815.8	81.29	11.037 CC	
8,700.0	4,929.8	4,900.0	4,726.1	71.4	11.7	80.37	-3,930.1	-1,165.3	897.6	815.8	81.77	10.977 ES	
8,800.0	4,928.2	4,950.0	4,750.9	73.1	12.2	82.03	-3,973.2	-1,170.9	902.9	818.5	84.42	10.696	
8,900.0	4,926.6	5,000.0	4,775.4	74.8	12.8	83.69	-4,015.8	-1,180.1	916.1	829.1	87.03	10.527	
9,000.0	4,925.0	5,025.0	4,787.5	76.6	13.1	84.51	-4,036.9	-1,185.9	936.2	847.0	89.19	10.497 SF	
9,100.0	4,923.5	5,050.0	4,799.5	78.3	13.4	85.31	-4,057.7	-1,192.6	963.4	872.1	91.33	10.549	
9,200.0	4,921.9	5,100.0	4,823.0	80.1	14.1	86.88	-4,098.9	-1,208.5	996.9	903.0	93.84	10.623	
9,300.0	4,920.3	5,128.4	4,836.2	81.8	14.4	87.74	-4,121.8	-1,219.0	1,036.3	940.3	96.00	10.795	
9,400.0	4,918.8	5,150.0	4,846.0	83.5	14.7	88.37	-4,138.9	-1,227.7	1,081.4	983.3	98.04	11.030	
9,500.0	4,917.2	5,200.0	4,868.2	85.3	15.4	89.76	-4,177.7	-1,250.0	1,131.1	1,030.7	100.43	11.263	
9,600.0	4,915.6	5,220.7	4,877.2	87.0	15.6	90.30	-4,193.4	-1,260.2	1,185.3	1,082.9	102.42	11.573	

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S31-T23N-R7W - Lybrook P31-2307 01H - Hz - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference Offset (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	
9,000.0	4,925.0	4,800.0	4,410.5	76.6	27.9	37.00	-5,348.2	-498.3	1,151.9	1,096.7	55.24	20.854		
9,100.0	4,923.5	4,800.0	4,410.5	78.3	27.9	37.00	-5,348.2	-498.3	1,057.5	1,001.2	56.30	18.785		
9,200.0	4,921.9	4,800.0	4,410.5	80.1	27.9	37.00	-5,348.2	-498.3	964.2	906.8	57.35	16.811		
9,300.0	4,920.3	4,800.0	4,410.5	81.8	27.9	37.00	-5,348.2	-498.3	872.4	814.0	58.41	14.935		
9,400.0	4,918.8	4,817.3	4,424.3	83.5	28.1	39.63	-5,350.3	-508.5	782.2	719.7	62.49	12.517		
9,500.0	4,917.2	4,823.9	4,429.6	85.3	28.2	40.64	-5,351.3	-512.4	694.8	630.1	64.77	10.728		
9,600.0	4,915.6	4,831.6	4,435.7	87.0	28.3	41.84	-5,352.5	-516.9	611.2	543.9	67.29	9.083		
9,700.0	4,914.1	4,850.0	4,450.3	88.8	28.5	44.73	-5,355.6	-527.6	533.1	461.3	71.74	7.431		
9,800.0	4,912.5	4,850.0	4,450.3	90.5	28.5	44.73	-5,355.6	-527.6	462.8	389.8	72.97	6.342		
9,900.0	4,910.9	4,865.0	4,462.1	92.3	28.7	47.10	-5,358.6	-536.3	404.9	328.0	76.90	5.265		
10,000.0	4,909.3	4,881.7	4,475.2	94.0	28.9	49.76	-5,362.2	-546.0	364.8	283.7	81.12	4.497		
10,100.0	4,907.8	4,903.0	4,491.9	95.8	29.1	53.18	-5,367.5	-558.3	348.5	262.4	86.07	4.049		
10,104.5	4,907.7	4,904.1	4,492.7	95.8	29.2	53.35	-5,367.8	-559.0	348.4	262.1	86.31	4.036 CC, ES, SF		

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

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Offset Design S31-T23N-R7W - Lybrook P31-2307 03H - Hz - Plan #2													Offset Site Error:	0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error:	0.0 ft
Reference	Measured Depth	Vertical Depth	Offset	Semi Major Axis	Reference	Offset	Highside Toolface	Offset Wellbore Centre	+N/-S	+E/-W	Distance	Total	Separation	Warning
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	Reference (ft)	Offset (ft)	Offset (ft)	(°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor	
9,500.0	4,917.2	4,762.2	4,689.4	85.3	9.6	-89.39	-5,412.7	703.6	1,180.9	1,086.5	94.38	12.512		
9,600.0	4,915.6	4,827.3	4,729.6	87.0	10.2	-91.82	-5,455.7	675.9	1,126.7	1,030.1	96.59	11.665		
9,700.0	4,914.1	4,902.5	4,770.1	88.8	11.1	-94.45	-5,509.0	641.7	1,074.8	976.0	98.78	10.880		
9,800.0	4,912.5	4,988.3	4,807.9	90.5	12.2	-97.16	-5,573.8	600.1	1,024.2	923.3	100.97	10.144		
9,900.0	4,910.9	5,032.5	4,824.0	92.3	12.8	-98.43	-5,608.7	578.5	976.0	873.1	102.93	9.483		
10,000.0	4,909.3	5,073.5	4,837.7	94.0	13.4	-99.56	-5,642.6	559.8	932.6	827.7	104.85	8.895		
10,100.0	4,907.8	5,117.9	4,851.2	95.8	14.1	-100.72	-5,680.7	541.4	894.2	787.5	106.78	8.375		
10,104.5	4,907.7	5,120.0	4,851.7	95.8	14.1	-100.78	-5,682.5	540.6	892.7	785.8	106.86	8.353 CC, ES, SF		

HP

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook O30-2307 02H
Project:	Sandoval County, NM	TVD Reference:	16 KB @ 7044.0ft (Unassigned)
Reference Site:	S30-T23N-R7W	MD Reference:	16 KB @ 7044.0ft (Unassigned)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook O30-2307 02H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore:	HZ	Database:	USA EDM R5000 Multi Users DB
Reference Design:	Plan #5	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 16 KB @ 7044.0ft (Unassigned)

Offset Depths are relative to Offset Datum

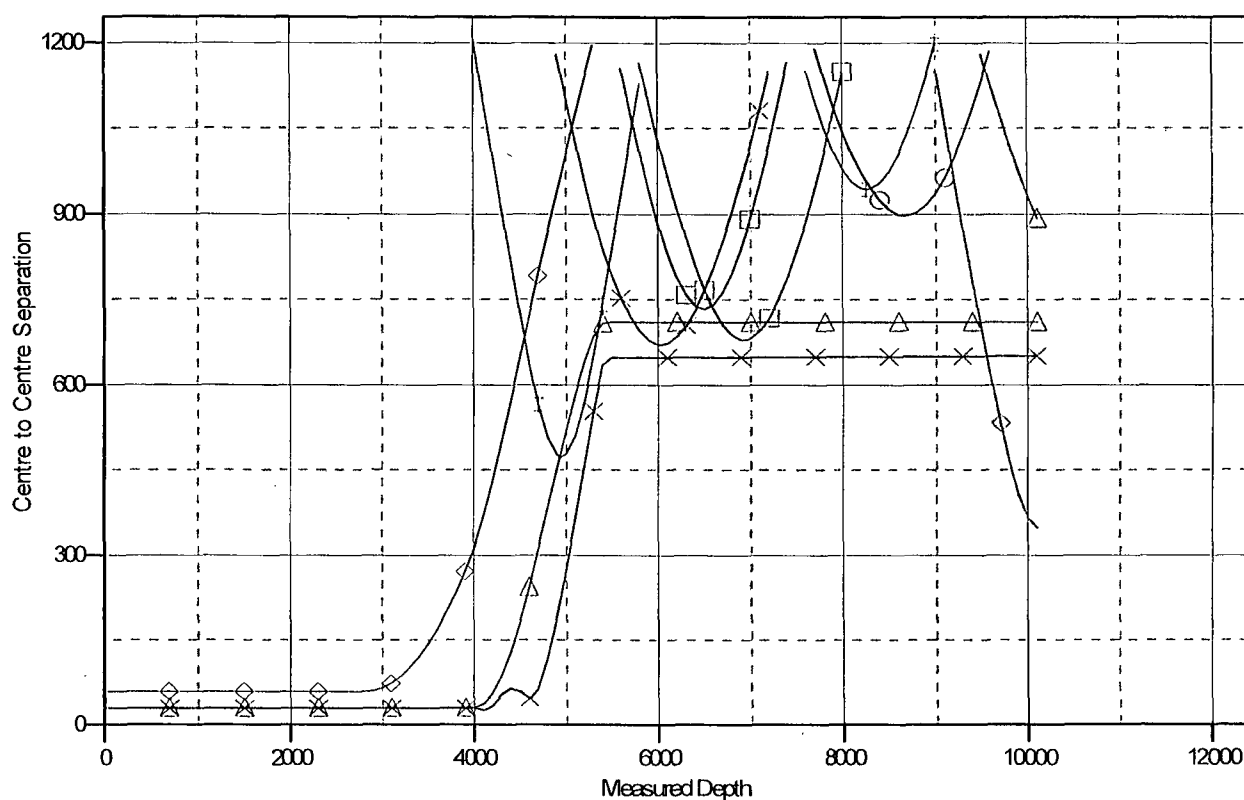
Central Meridian is -106.250000 °

Coordinates are relative to: Lybrook O30-2307 02H

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

Grid Convergence at Surface is: -0.80°

Ladder Plot



LEGEND

- | | | |
|--|--|--|
| —◇— Lybrook L29-2307 04H, HZ, Plan #1 V0 | —X— Lybrook G31-2307 01H, HZ, Plan #4 V0 | —○— Lybrook J31-2307 02H, HZ, Plan #4 V0 |
| —X— Lybrook C30-2307 01H, HZ, Plan #3 V0 | —□— Lybrook G31-2307 02H, HZ, Plan #4 V0 | —◇— Lybrook P31-2307 01H, HZ, Plan #2 V0 |
| —△— Lybrook C30-2307 03H, HZ, Plan #2 V0 | —□— Lybrook G31-2307 03H, HZ, Plan #4 V0 | —△— Lybrook P31-2307 03H, HZ, Plan #2 V0 |
| —◇— Lybrook C30-2307 04H, HZ, Plan #1 V0 | —X— Lybrook J31-2307 01H, HZ, Plan #3 V0 | |

Lybrook O30-2307 02H

SHL: 375' FSL, 1366' FEL Sec 30 23N 07W

BHL: 330' FSL, 1650' FEL Sec 31 23N 07W

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.	993
Kirtland Shale	1,188
Fruitland Coal	1,454
Pictured Cliffs Ss.	1,578
Lewis Shale	1,694
Cliffhouse Ss.	2,347
Menefee Fn.	3,137
Point Lookout Ss.	3,962
Mancos Shale	4,144
Mancos Silt	4,668
Gallup Fn.	4,926
Base Gallup	5,267

The referenced surface elevation is 7028', KB 7044'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,454
Oil/Gas	Pictured Cliffs Ss.	1,578
Oil/Gas	Cliffhouse Ss.	2,347
Gas	Menefee Fn.	3,137
Oil/Gas	Point Lookout Ss.	3,962
Oil/Gas	Mancos Shale	4,144
Oil/Gas	Mancos Silt	4,668
Oil/Gas	Gallup Fn.	4,926

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

Lybrook O30-2307 02H

SHL: 375' FSL, 1366' FEL Sec 30 23N 07W

BHL: 330' FSL, 1650' FEL Sec 31 23N 07W

Sandoval, New Mexico

3. PRESSURE CONTROL

- a) Pressure control equipment and configuration will be designed to meet 2M standards.
- b) Working pressure on rams and BOPE will be 3,000 psi.
- c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
- d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
- e) Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
- f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.
- g) BOP controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.
- h) BOP testing procedures and testing frequency will conform to Onshore Order No. 2.
- 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'-4970'	8 3/4"	7"	26#	J55, LTC New
Production Liner	4870'-10105'	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

Lybrook O30-2307 02H**SHL: 375' FSL, 1366' FEL Sec 30 23N 07W****BHL: 330' FSL, 1650' FEL Sec 31 23N 07W****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'	228 sks	Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water	Surface	1 per joint on bottom 3 joints
Intermediate	0'-4970'	100% open hole excess Stage 1 Lead: 460 sks Stage 1 Tail: 356 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	4870'- 10105'	50% OH excess Stage 1 Blend Total: 296sks	Blend: Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwoc 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 3972'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	4908'/10105'	Gallup

Lybrook O30-2307 02H

SHL: 375' FSL, 1366' FEL Sec 30 23N 07W

BHL: 330' FSL, 1650' FEL Sec 31 23N 07W

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'-4844'/4970'	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"	4844'/4970'- 4908'/10105'	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 +/- 2336 psi based on a 9.0 ppg at 4992' 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

Drilling is estimated to commence on November 5, 2015. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service companies.

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

LOC: 375' FSL, 1366' FEL Sec 30 23N 07W County: Sandoval WELL: Lybrook O30-2307 02H			Encana Natural Gas WELL SUMMARY				ENG: Michael Sanch RIG: Unassigned GLE: 7028 RKBE: 7044		1-7-15	
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH TVDMD			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION	
			60 0	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 anticollision report prior to spud	None	San Jose Fn. Nacimiento Fn. 9 5/8" Csg	surface 500	500.00		12 1/4	9 5/8" 36ppf J55 STC TOC Surface with 100% OH Excess: 228 sks Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water.	Fresh wtr 8.3-10	Vertical <1°	
Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5	No OH logs	Ojo Alamo Ss. Kirtland Shale Fruitland Coal Pictured Cliffs Ss. Lewis Shale Cliffhouse Ss. Menefee Fn. Point Lookout Ss. Mancos Shale	993 1,188 1,454 1,578 1,694 2,347 3,137 3,962 4,144			8 3/4	7" 26ppf J55 LTC TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 816sks Stage 1 Lead: 460 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: 356 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°	
Surveys every 30' through the curve	Mud logger onsite	KOP Mancos Silt Gallup Fn. 7" Csg	3,972 4,668 4,926 4,844	3,972						
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD Base Gallup	4,992 4,908 5,267	10,105		6 1/8	100' overlap at liner top 5135' Drilled Lateral		Horz Inc/TVD 90.9deg/4992ft	
MWD Gamma Directional							4 1/2" 11.6ppf SB80 LTC TOC @ hanger (50% OH excess) Stage 1 Total: 296sks Stage 1 Blend: 296 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	TD = 10104.5 MD	

NOTES:

- 1) Drill with 26" bit to 60', set 16" 42.09ppf conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 3972', 8 3/4 inch holesize
- 5) Start curve at 10deg/100' build rate
- 6) Drill to csg point of 4970' MD
- 7) R&C 7" csg, circ cmt to surface
- 8) Land at ~90 deg, drill lateral to 10105' run 4 1/2 inch cemented liner