

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-4 or 3160-5 form.

Operator Signature Date: 7/2/14

Well information:

30-043-21214, Lybrook J31-2307 #1H, Encana, J 31, T23N,R7W

Application Type:

☐ P&A ☒ Drilling/Casing Change ☐ Recomplete/DHC
☒ Location Change ☒ Other: Project area enlarged

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations

Hold C-104 for directional survey, as drilled plat, NSL, NSP, DHC

NMOCD Approved by Signature

8-13-2014

Date

OIL CONS. DIV DIST. 3

Form 3160-3
(March 2012)

RECEIVED

AUG 13 2014

JUL 03 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.5. Lease Serial No.
NM 6681, NM LG-9090, BIA NO-G-1402-18826. If Indian, Allottee or Tribe Name
Allottee

SUBMIT IN TRIPLICATE - Other instructions on page 2.

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 802023b. Phone No. (include area code)
720-876-39264. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SHL: 2215' FSL and 2531' FEL Sec 31, T23N, R7W
BHL: 2217' FSL and 330' FWL Sec 36, T23N, R8W7. If Unit of CA/Agreement, Name and/or No.
Pending8. Well Name and No.
Lybrook J31-2307 01H9. API Well No.
30-043-2121410. Field and Pool or Exploratory Area
Alamito-Gallup Pool11. County or Parish, State
Sandoval and San Juan Counties; NM

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

TYPE OF SUBMISSION

- ☒
- Notice of Intent
-
- ☐
- Subsequent Report
-
- ☐
- Final Abandonment Notice

TYPE OF ACTION

- ☐
- Acidize
- ☐
- Deepen
- ☐
- Production (Start/Resume)
- ☐
- Water Shut-Off
-
- ☐
- Alter Casing
- ☐
- Fracture Treat
- ☐
- Reclamation
- ☐
- Well Integrity
-
- ☐
- 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 recompletable 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 recompletable 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.)

In order to avoid stranding allottee minerals, Encana Oil & Gas (USA) Inc. (Encana) extended the Lybrook J31-2307 01H well lateral to include the N2SW of Section 36, T23N, R8W. Encana would like to revise the survey plat, 10-Point Drilling Plan, Well Summary Diagram, and Directional Drilling Plan submitted on March 20, 2014. Additionally, Encana is revising the C-102 to reflect these changes as well as a change to the project area and bottom hole location.

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

BLM'S APPROVAL OR ACCEPTANCE OF THIS
ACTION DOES NOT RELIEVE THE LESSEE AND
OPERATOR FROM OBTAINING ANY OTHER
AUTHORIZATION REQUIRED FOR OPERATIONS
ON FEDERAL AND INDIAN LANDS

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

Jessica Gregg

Title Regulatory Analyst

Signature

Jessica Gregg

Date 07/02/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

William Tambekou

Title

Petroleum Engineer

Date

7/7/2014

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)

NIMCO A
OPERATOR

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

District II
111 S. First Street, Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

☒ AMENITY DIST. 3
OIL CONSERVATION DIST. 3

AUG 13 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-043-21214		*Pool Code 97232/1039	*Pool Name Basin Mancos Gas/Alamito-Gallup
*Property Code 313511	*Property Name LYBROOK J31-2307		*Well Number 01H
*UGRIU NO. 282327	*Operator Name ENCANA OIL & GAS (USA) INC.		*Elevation 6974'

¹⁰ Surface Location

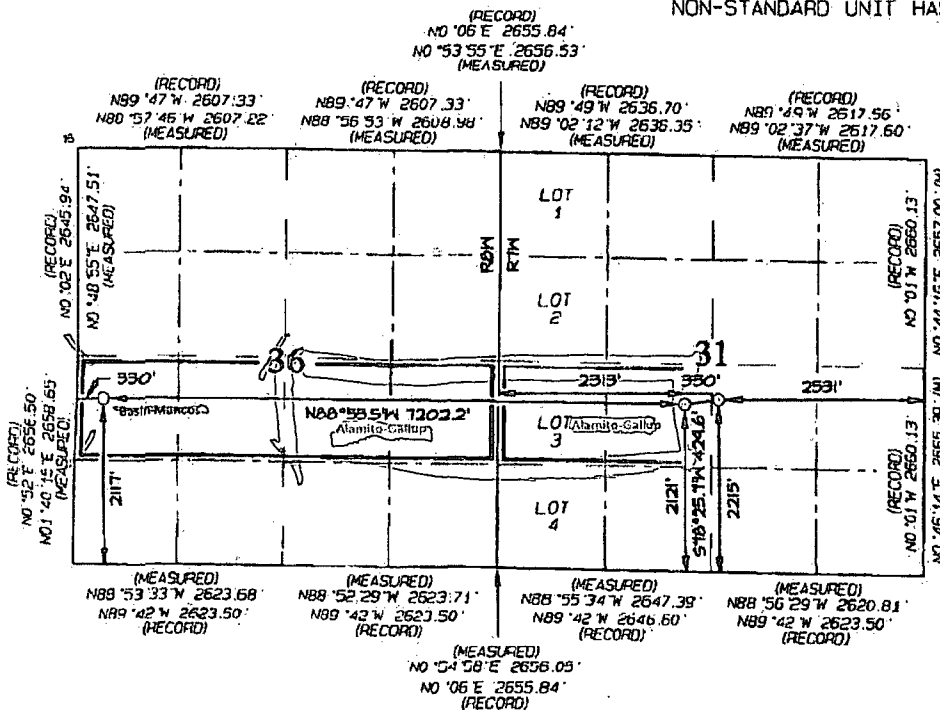
UL or lot no.	Section	Township	Range	Lot 1st	Feet from the	North/South line	Feet from the	East/West line	County
J	31	23N	7W		2215	SOUTH	2531	EAST	SANDOVAL

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 1st	Feet from the	North/South line	Feet from the	East/West line	County
L	36	23N	8W		2117	SOUTH	330	WEST	SAN JUAN

*Dedicated Acres N2SW Sec 31, N2SE Sec 36 - Alamito-Gallup -160.65; N2SW Sec 36 - Basin Mancos (80 ac)	*Joint or Infill	*Consolidation Code	*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



END-OF-LATERAL
2117' FSL 330' FWL
SECTION 36, T23N, R7W
LAT: 36.18191°N
LONG: 107.54031°W
DATUM: NAD1927

LAT: 36.18193°N
LONG: 107.54092°W
DATUM: NAD1983

POINT-OF-ENTRY
2121' FSL 2313' FWL
SECTION 31, T23N, R7W
LAT: 36.18182°N
LONG: 107.61391°W
DATUM: NAD1927

LAT: 36.18194°N
LONG: 107.61552°W
DATUM: NAD1983

SURFACE LOCATION
2215' FSL 2531' FWL
SECTION 31, T23N, R7W
LAT: 36.18208°N
LONG: 107.61449°W
DATUM: NAD1927

LAT: 36.18209°N
LONG: 107.61509°W
DATUM: NAD1983

¹² 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: Holly Hill Date: 5/22/14
Printed Name: Holly Hill
E-mail Address: holly.hill@encana.com

¹³ SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true, and correct to the best of my belief.

Date Revised: APRIL 15, 2014
Survey Date: NOVEMBER 12, 2013

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
15269

JASON C. EDWARDS
Certificate Number 15269

Lybrook J31-2307 01H
 SHL: NWSE Sec 31 T23N R7W
 2215' FSL, 2531' FEL
 BHL: NWSW Sec 36 T23N R8W
 2117' FSL, 330' FWL
 San Juan and 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
Ojo Alamo Ss.	874
Kirtland Shale	1,069
Fruitland Coal	1,335
Pictured Cliffs Ss.	1,459
Lewis Shale	1,575
Cliffhouse Ss.	2,228
Menefee Fn.	3,018
Point Lookout Ss.	3,843
Mancos Shale	4,025
Mancos Silt	4,548
Gallup Fn.	4,809
Horizontal Target	5,075
Base Gallup	5,149

The referenced surface elevation is 6974', KB 6990'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,335
Oil/Gas	Pictured Cliffs Ss.	1,459
Oil/Gas	Cliffhouse Ss.	2,228
Gas	Menefee Fn.	3,018
Oil/Gas	Point Lookout Ss.	3,843
Oil/Gas	Mancos Shale	4,025
Oil/Gas	Mancos Silt	4,548
Oil/Gas	Gallup Fn.	4,809

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.

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- 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'	30"	20"	94#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5221'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5021'-12454'	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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 2117' FSL, 330' FWL
 San Juan and Sandoval, New Mexico

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% CaCl2 + 0.125lbm/sk Poly-E-Flake. 15.8 ppg, 1.174 cuft/sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5221'	30% open hole excess Stage 1 Lead: 315 sks Stage 1 Tail: 364 sks Stage 2 Lead: 156 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. Stage 2 Contingency: HALCEM™ SYSTEM + 5lbm/sk Kol-Seal + 0.125lbm/sk Poly-E-Flake. 12.3 ppg,	Surface	1 every 3 joints through water bearing zones
Production Liner	5021'-12454'	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 4423'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
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Lybrook J31-2307 01H
 SHL: NWSE Sec 31 T23N R7W
 2215' FSL, 2531' FEL
 BHL: NWSW Sec 36 T23N R8W
 2117' FSL, 330' FWL
 San Juan and Sandoval, New Mexico

Horizontal Lateral TD	5008'/12454'	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'-5042'/5221'	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"	5042'/5221'- 5008'/12454'	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 +/- 2375 psi based on a 9.0 ppg at 5075' 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.

Lybrook J31-2307 01H
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2215' FSL, 2531' FEL
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San Juan and Sandoval, New Mexico

9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on November 16, 2014. 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: NE/4 SW/4 Sec 31 T23N R7W, 2121'			Encana Natural Gas				ENG: Ashley Lantz 7/2/14		
County: Sandoval			WELL SUMMARY				RIG: Arctic 960		
WELL: Lybrook J31-2307 01H							OLE: 6974		
							RKBE: 6990		
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			TVD	MD					
			60	60'		30	16" 42.08# 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	Nacimiento 9 5/8" Csg	0 500	500.00		12 1/4	9 5/8" 38ppf J55 STC 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.	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 Kittling Shale Fruitland Coal Pictured Cliffs Ss Lewis Shale Cliffhouse Ss Menefee Fn. Point Lookout Ss Manos Shale	874 1,060 1,335 1,459 1,575 2,228 3,018 3,843 4,025		Stage tool Ⓢ - 1,025	8 3/4	7" 26ppf J55 LTC TOC @ surface (30% OH excess) Stage 1 Total: 879sks If necessary, Stage 2 Total: 156sks Stage 1 Lead: 315 sks HALCEM™ SYSTEM + 0.2% HR-5 + 5lbm/sk Kol- Seal + 0.125lbm/sk Poly-E-Flake, Mixed at 12.3 ppg. Yield 1.948 cuft/sk. Stage 1 Tail: 384 sks VARICEM™ CEMENT + .15% CFR-3 + 5lbm/sk Kol- Seal + 0.125% Poly-E-Flake, Mixed at 13.5 ppg. Yield 1.308 cuft/sk. Stage 2: 156 sks HALCEM™ SYSTEM + 5lbm/sk Kol-Seal + 0.125lbm/sk Poly- E-Flake, Mixed at 12.3 ppg. Yield 1.948 cuft/sk.	Fresh Wtr 8.3-10	Vertical <1°
Surveys every 20' through the curve	Mud logger onsite	KOP Manos Silt Gallup Fn. 7" Csg	4,423 4,548 4,809 5,042	4,423 5,221'					
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD Base Gallup	5,075 5,008 5,149	12,454		6 1/8	200' overlap at liner top 7233' Drilled Lateral		Horz Inc/TVD 80.5 deg/deg/5075'
MWD Gamma Directional							4 1/2" 11.6ppf SB80 LTC Running external swellable csg packers for isolation of prod string Plan on setting top packer within 100' of intermediate casing shoe	WBM 8.3-10	TD = 12454 1 MD

NOTES:

- 1) Drill with 30" bit to 60', set 20" 94# conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 4423', 8 3/4 inch holesize
- 5) PU directional tools and start curve at 10deg/100' build rate
- 6) Drill to csg point of 5221' MD
- 7) R&C 7" csg, circ cmt to surface, switch to WBM
- 8) Land at 90 deg, drill lateral to 12454' run 4 1/2 inch liner with external swellable csg packers



Boomerang Tube LLC

CASING (OR) TUBING DESCRIPTION AND PERFORMANCE PROPERTIES

Pipe Outside Diameter (ins)	_____	4.500
Pipe Wall Thickness (ins)	_____	0.250
Nominal Weight Per Foot (lbs)	_____	11.60

Thread Name	_____	Long Thread CSG
Grade Name	_____	SB-80

Pipe Minimum Yield (psi)	_____	80,000
Pipe Minimum Ultimate (psi)	_____	90,000

Coupling Minimum Yield (psi)	_____	80,000
Coupling Minimum Ultimate (psi)	_____	100,000

Coupling or Joint Outside Diameter (ins)	_____	5.000
Drift Diameter (ins)	_____	3.875
Plain End Weight per Foot (lbs)	_____	11.36

Joint Strength (lbs)	_____	201,000
Internal Yield (psi)	_____	7,780
Collapse Rating (psi)	_____	6,350

MAXIMUM DEPTH/LENGTH BASED ON MUD WTS & SAFETY FACTORS

Drilling Mud Weight (ppg)	_____	9.625
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Tension Safety Factor	_____	1.80
Maximum Tension Length (ft)	_____	9,630

Internal Yield Safety Factor	_____	1.10
Maximum Depth for Internal Yield (ft)	_____	14,150

Collapse Safety Factor	_____	1.125
Maximum Collapse Depth (ft)	_____	11,290

API RELATED VALUES and INTERMEDIATE CALCULATION RESULTS

Coupling Thread Fracture Strength	_____	464,000
Pipe Thread Fracture Strength (lbs)	_____	201,000

Pipe Body Plain End Yield (lbs)	_____	267,000
Round Thread Pull-Out (lbs)	_____	219,000

Minimum Make-up Torque (ft-lbs)	_____	1,640
Nominal Make-up Torque (ft-lbs)	_____	2,190
Maximum Make-up Torque (ft-lbs)	_____	2,740

Coupling Internal Yield (psi)	_____	10,660
Pipe Body Internal Yield (psi)	_____	7,780
Leak @ E1 or E7 plane (psi)	_____	17,920

Pipe Hydrostatic Test Pressure @ 80 % SMYS	_____	7,100
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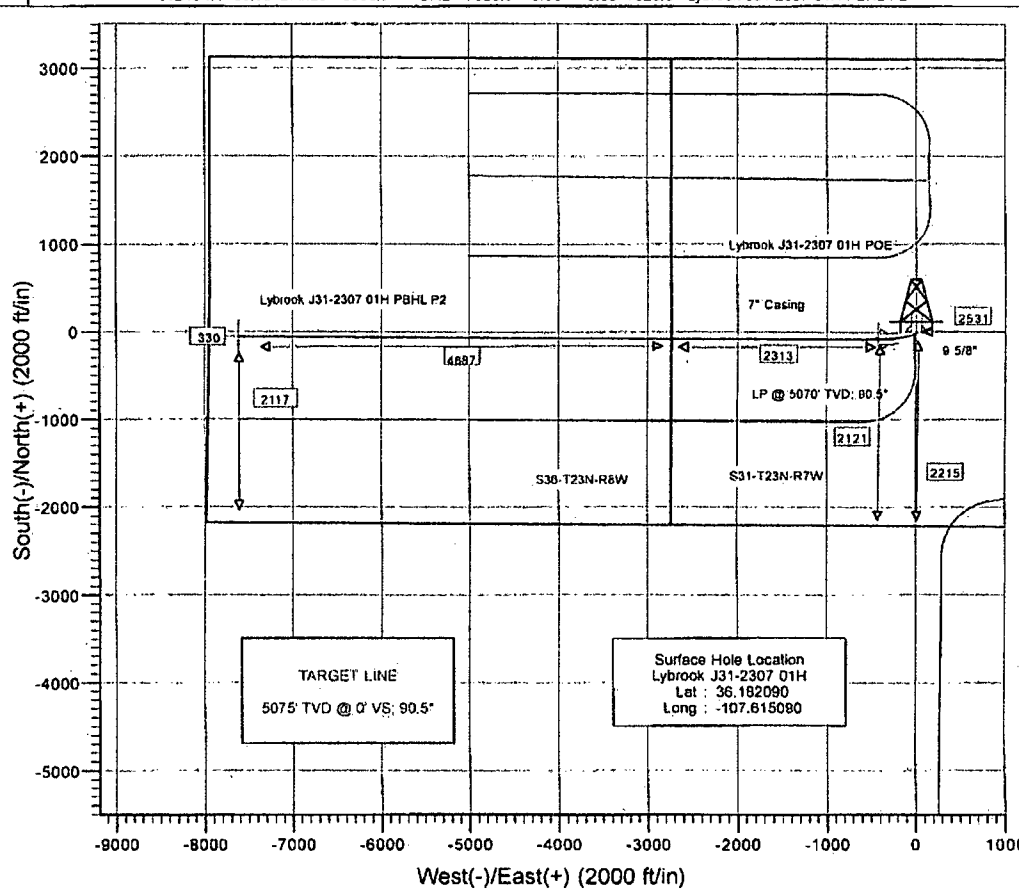
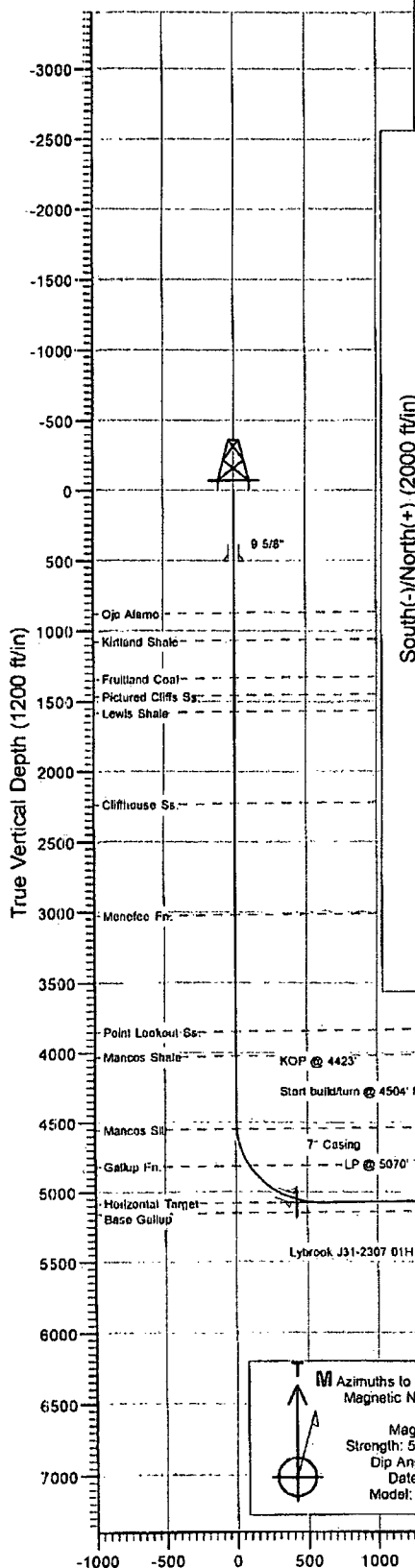


Project: Sandoval County, NM
 Site: S31-T23N-R7W
 Well: Lybrook J31-2307 01H
 Wellbore: Hz
 Design: Plan #2



SECTION DETAILS

Sec	MD	inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4423.0	0.00	0.00	4423.0	0.0	0.0	0.00	0.00	0.0	
3	4504.8	8.18	181.28	4504.5	-5.8	-0.1	10.00	181.28	0.1	
4	5408.1	90.50	270.23	5070.0	-85.5	-578.3	10.00	88.91	577.9	
512454.1	90.50	270.23	5008.5	-57.2	-7623.9	0.00	0.00	7623.6	Lybrook J31-2307 01H PBHL P2	

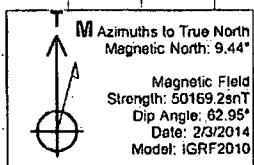


DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Lybrook J31-2307 01H PBHL P2	+57.2	-7623.9	1858433.85	1228644.08	36.181830	-107.640920
Lybrook J31-2307 01H POE	-91.0	-422.1	1858298.57	1237144.78	36.181840	-107.616520

FORMATION TOP DETAILS

TVDPth	MDPath	Formation
874.0	874.0	Ojo Alamo
1069.0	1069.0	Kirtland Shale
1335.0	1335.0	Fruitland Coal
1459.0	1459.0	Pictured Cliffs Ss.
1575.0	1575.0	Lewis Shale
2228.0	2228.0	Cliffhouse Ss.
3018.0	3018.0	Monofee Fm.
3843.0	3843.0	Point Lookout Ss.
4025.0	4025.0	Mancos Shale
4548.0	4548.0	Mancos Silt
4808.2	4828.9	Gallup Fm.
5070.0	5402.2	Horizontal Target



Plan #2
 Lybrook J31-2307 01H
 14xxx; LR
 WELL @ 6990.0ft (Original Well Elev)
 Ground Elevation @ 6974.0
 North American Datum 1983
 Well Lybrook J31-2307 01H, True North

Vertical Section at 270.23° (1200 ft/in)

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: Sandoval County, NM
Site: S31-T23N-R7W
Well: Lybrook J31-2307 01H
Wellbore: Hz
Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
TVD Reference: WELL @ 6990.0ft (Original Well Elev)
MD Reference: WELL @ 6990.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project: Sandoval County, NM

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Central Zone

System Datum: Mean Sea Level

Site: S31-T23N-R7W

Site Position:		Northing:	1,890,125.34 ft	Latitude:	36.186880
From:	Lat/Long	Easting:	1,237,740.16 ft	Longitude:	-107.614590
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.81 °

Well: Lybrook J31-2307 01H

Well Position	+N-S	0.0 ft	Northing:	1,888,383.64 ft	Latitude:	36.182090
	+E-W	0.0 ft	Easting:	1,237,568.08 ft	Longitude:	-107.615090
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,974.0 ft

Wellbore: Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/3/2014	9.44	62.95	50,169

Design: Plan #2

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	270.23

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,423.0	0.00	0.00	4,423.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,504.8	8.18	181.26	4,504.5	-5.8	-0.1	10.00	10.00	0.00	181.26	
5,408.1	90.50	270.23	5,070.0	-85.5	-578.3	10.00	9.11	9.85	88.91	
12,454.1	90.50	270.23	5,008.5	-57.2	-7,623.9	0.00	0.00	0.00	0.00	Lybrook J31-2307 011

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc.
 Project: Sandoval County, NM
 Site: S31-T23N-R7W
 Well: Lybrook J31-2307 01H
 Wellbore: Hz
 Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
 TVD Reference: WELL @ 6990.0ft (Original Well Elev)
 MD Reference: WELL @ 6990.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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	
874.0	0.00	0.00	874.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo
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	
1,069.0	0.00	0.00	1,069.0	0.0	0.0	0.0	0.00	0.00	Kirtland Shale
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	
1,335.0	0.00	0.00	1,335.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,459.0	0.00	0.00	1,459.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,575.0	0.00	0.00	1,575.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
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	
1,800.0	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	
2,228.0	0.00	0.00	2,228.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,018.0	0.00	0.00	3,018.0	0.0	0.0	0.0	0.00	0.00	Menefee Fn.
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	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	
3,843.0	0.00	0.00	3,843.0	0.0	0.0	0.0	0.00	0.00	Point Lookout Ss.
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	
4,025.0	0.00	0.00	4,025.0	0.0	0.0	0.0	0.00	0.00	Mancos Shale
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc.
 Project: Sandoval County, NM
 Site: S31-T23N-R7W
 Well: Lybrook J31-2307 01H
 Wellbore: Hz
 Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
 TVD Reference: WELL @ 6990.0ft (Original Well Elev)
 MD Reference: WELL @ 6990.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	
4,423.0	0.00	0.00	4,423.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4423'
4,450.0	2.70	181.26	4,450.0	-0.6	0.0	0.0	10.00	10.00	
4,504.8	8.18	181.26	4,504.5	-5.8	-0.1	0.1	10.00	10.00	Start build/turn @ 4504' MD
4,548.8	9.35	209.38	4,548.0	-12.1	-2.0	1.9	10.00	2.67	Mancos Silt
4,550.0	9.42	210.05	4,549.2	-12.2	-2.1	2.0	10.00	4.88	
4,600.0	12.65	230.31	4,598.3	-19.3	-8.3	8.2	10.00	6.46	
4,650.0	16.76	241.64	4,646.7	-26.2	-18.9	18.8	10.00	8.23	
4,700.0	21.25	248.46	4,693.9	-33.0	-33.7	33.5	10.00	8.98	
4,750.0	25.92	252.95	4,739.7	-39.5	-52.5	52.4	10.00	9.34	
4,800.0	30.69	256.14	4,783.8	-45.8	-75.4	75.2	10.00	9.54	
4,828.9	33.47	257.60	4,808.2	-49.2	-90.3	90.1	10.00	9.64	Gallup Fn.
4,850.0	35.52	258.54	4,825.6	-51.7	-102.0	101.8	10.00	9.68	
4,900.0	40.38	260.43	4,865.0	-57.3	-132.3	132.0	10.00	9.73	
4,950.0	45.27	261.97	4,901.7	-62.5	-165.8	165.6	10.00	9.78	
5,000.0	50.18	263.27	4,935.3	-67.2	-202.5	202.2	10.00	9.81	
5,050.0	55.10	264.40	4,965.7	-71.5	-242.0	241.7	10.00	9.84	
5,100.0	60.03	265.40	4,992.5	-75.2	-284.0	283.7	10.00	9.88	
5,150.0	64.96	266.31	5,015.6	-78.4	-328.3	327.9	10.00	9.87	
5,200.0	69.90	267.14	5,034.7	-81.0	-374.3	374.0	10.00	9.88	
5,221.2	72.00	267.48	5,041.7	-82.0	-394.4	394.0	10.00	9.89	7" Casing.
5,250.0	74.85	267.93	5,049.9	-83.1	-421.9	421.6	10.00	9.89	
5,300.0	79.80	268.68	5,060.9	-84.5	-470.7	470.3	10.00	9.89	
5,350.0	84.74	269.40	5,067.6	-85.3	-520.2	519.8	10.00	9.90	
5,400.0	89.69	270.11	5,070.0	-85.6	-570.1	569.8	10.00	9.90	
5,402.2	89.91	270.15	5,070.0	-85.5	-572.3	572.0	10.00	9.90	Horizontal Target
5,408.1	90.50	270.23	5,070.0	-85.5	-578.2	577.9	10.00	9.90	LP @ 5070' TVD; 90.5°
5,500.0	90.50	270.23	5,069.2	-85.2	-670.1	669.8	0.00	0.00	
5,600.0	90.50	270.23	5,068.3	-84.8	-770.1	769.8	0.00	0.00	
5,700.0	90.50	270.23	5,067.4	-84.4	-870.1	869.8	0.00	0.00	
5,800.0	90.50	270.23	5,066.6	-84.0	-970.1	969.8	0.00	0.00	
5,900.0	90.50	270.23	5,065.7	-83.6	-1,070.1	1,069.8	0.00	0.00	
6,000.0	90.50	270.23	5,064.8	-83.2	-1,170.1	1,169.7	0.00	0.00	
6,100.0	90.50	270.23	5,063.9	-82.8	-1,270.1	1,269.7	0.00	0.00	
6,200.0	90.50	270.23	5,063.1	-82.4	-1,370.1	1,369.7	0.00	0.00	
6,300.0	90.50	270.23	5,062.2	-81.9	-1,470.1	1,469.7	0.00	0.00	
6,400.0	90.50	270.23	5,061.3	-81.5	-1,570.1	1,569.7	0.00	0.00	
6,500.0	90.50	270.23	5,060.5	-81.1	-1,670.1	1,669.7	0.00	0.00	
6,600.0	90.50	270.23	5,059.6	-80.7	-1,770.1	1,769.7	0.00	0.00	
6,700.0	90.50	270.23	5,058.7	-80.3	-1,870.1	1,869.7	0.00	0.00	
6,800.0	90.50	270.23	5,057.8	-79.9	-1,970.1	1,969.7	0.00	0.00	
6,900.0	90.50	270.23	5,057.0	-79.5	-2,070.1	2,069.7	0.00	0.00	
7,000.0	90.50	270.23	5,056.1	-79.1	-2,170.0	2,169.7	0.00	0.00	
7,100.0	90.50	270.23	5,055.2	-78.7	-2,270.0	2,269.7	0.00	0.00	
7,200.0	90.50	270.23	5,054.4	-78.3	-2,370.0	2,369.7	0.00	0.00	
7,300.0	90.50	270.23	5,053.5	-77.9	-2,470.0	2,469.7	0.00	0.00	
7,400.0	90.50	270.23	5,052.6	-77.5	-2,570.0	2,569.7	0.00	0.00	
7,500.0	90.50	270.23	5,051.7	-77.1	-2,670.0	2,669.7	0.00	0.00	
7,600.0	90.50	270.23	5,050.9	-76.7	-2,770.0	2,769.7	0.00	0.00	
7,700.0	90.50	270.23	5,050.0	-76.3	-2,870.0	2,869.7	0.00	0.00	
7,800.0	90.50	270.23	5,049.1	-75.9	-2,970.0	2,969.7	0.00	0.00	

Database: USA EDM 5000 Multi Users DB
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 MD Reference: WELL @ 6990.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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
7,900.0	90.50	270.23	5,048.2	-75.5	-3,070.0	3,069.7	0.00	0.00	
8,000.0	90.50	270.23	5,047.4	-75.1	-3,170.0	3,169.7	0.00	0.00	
8,100.0	90.50	270.23	5,046.5	-74.7	-3,270.0	3,269.7	0.00	0.00	
8,200.0	90.50	270.23	5,045.6	-74.3	-3,370.0	3,369.7	0.00	0.00	
8,300.0	90.50	270.23	5,044.8	-73.9	-3,470.0	3,469.7	0.00	0.00	
8,400.0	90.50	270.23	5,043.9	-73.5	-3,570.0	3,569.7	0.00	0.00	
8,500.0	90.50	270.23	5,043.0	-73.1	-3,670.0	3,669.7	0.00	0.00	
8,600.0	90.50	270.23	5,042.1	-72.7	-3,770.0	3,769.7	0.00	0.00	
8,700.0	90.50	270.23	5,041.3	-72.3	-3,870.0	3,869.6	0.00	0.00	
8,800.0	90.50	270.23	5,040.4	-71.9	-3,970.0	3,969.6	0.00	0.00	
8,900.0	90.50	270.23	5,039.5	-71.5	-4,070.0	4,069.6	0.00	0.00	
9,000.0	90.50	270.23	5,038.6	-71.1	-4,170.0	4,169.6	0.00	0.00	
9,100.0	90.50	270.23	5,037.8	-70.7	-4,269.9	4,269.6	0.00	0.00	
9,200.0	90.50	270.23	5,036.9	-70.3	-4,369.9	4,369.6	0.00	0.00	
9,300.0	90.50	270.23	5,036.0	-69.9	-4,469.9	4,469.6	0.00	0.00	
9,400.0	90.50	270.23	5,035.2	-69.5	-4,569.9	4,569.6	0.00	0.00	
9,500.0	90.50	270.23	5,034.3	-69.1	-4,669.9	4,669.6	0.00	0.00	
9,600.0	90.50	270.23	5,033.4	-68.7	-4,769.9	4,769.6	0.00	0.00	
9,700.0	90.50	270.23	5,032.5	-68.3	-4,869.9	4,869.6	0.00	0.00	
9,800.0	90.50	270.23	5,031.7	-67.9	-4,969.9	4,969.6	0.00	0.00	
9,900.0	90.50	270.23	5,030.8	-67.5	-5,069.9	5,069.6	0.00	0.00	
10,000.0	90.50	270.23	5,029.9	-67.1	-5,169.9	5,169.6	0.00	0.00	
10,100.0	90.50	270.23	5,029.0	-66.7	-5,269.9	5,269.6	0.00	0.00	
10,200.0	90.50	270.23	5,028.2	-66.3	-5,369.9	5,369.6	0.00	0.00	
10,300.0	90.50	270.23	5,027.3	-65.9	-5,469.9	5,469.6	0.00	0.00	
10,400.0	90.50	270.23	5,026.4	-65.5	-5,569.9	5,569.6	0.00	0.00	
10,500.0	90.50	270.23	5,025.6	-65.1	-5,669.9	5,669.6	0.00	0.00	
10,600.0	90.50	270.23	5,024.7	-64.7	-5,769.9	5,769.6	0.00	0.00	
10,700.0	90.50	270.23	5,023.8	-64.3	-5,869.9	5,869.6	0.00	0.00	
10,800.0	90.50	270.23	5,022.9	-63.9	-5,969.9	5,969.6	0.00	0.00	
10,900.0	90.50	270.23	5,022.1	-63.5	-6,069.9	6,069.6	0.00	0.00	
11,000.0	90.50	270.23	5,021.2	-63.1	-6,169.9	6,169.6	0.00	0.00	
11,100.0	90.50	270.23	5,020.3	-62.7	-6,269.9	6,269.6	0.00	0.00	
11,200.0	90.50	270.23	5,019.4	-62.3	-6,369.9	6,369.6	0.00	0.00	
11,300.0	90.50	270.23	5,018.6	-61.9	-6,469.8	6,469.5	0.00	0.00	
11,400.0	90.50	270.23	5,017.7	-61.5	-6,569.8	6,569.5	0.00	0.00	
11,500.0	90.50	270.23	5,016.8	-61.1	-6,669.8	6,669.5	0.00	0.00	
11,600.0	90.50	270.23	5,016.0	-60.7	-6,769.8	6,769.5	0.00	0.00	
11,700.0	90.50	270.23	5,015.1	-60.3	-6,869.8	6,869.5	0.00	0.00	
11,800.0	90.50	270.23	5,014.2	-59.9	-6,969.8	6,969.5	0.00	0.00	
11,900.0	90.50	270.23	5,013.3	-59.5	-7,069.8	7,069.5	0.00	0.00	
12,000.0	90.50	270.23	5,012.5	-59.1	-7,169.8	7,169.5	0.00	0.00	
12,100.0	90.50	270.23	5,011.6	-58.7	-7,269.8	7,269.5	0.00	0.00	
12,200.0	90.50	270.23	5,010.7	-58.3	-7,369.8	7,369.5	0.00	0.00	
12,300.0	90.50	270.23	5,009.8	-57.9	-7,469.8	7,469.5	0.00	0.00	
12,400.0	90.50	270.23	5,009.0	-57.5	-7,569.8	7,569.5	0.00	0.00	
12,454.1	90.50	270.23	5,008.5	-57.2	-7,623.9	7,623.6	0.00	0.00	TD at 12454.1

Database: USA EDM 5000 Multi Users DB
 Company: EnCana Oil & Gas (USA) Inc
 Project: Sandoval County, NM
 Site: S31-T23N-R7W
 Well: Lybrook J31-2307 01H
 Wellbore: Hz
 Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
 TVD Reference: WELL @ 6990.0ft (Original Well Elev)
 MD Reference: WELL @ 6990.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Targets									
Target Name	hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Longitude
Lybrook J31-2307 01H F		0.00	0.00	5,031.2	-72.4	-5,020.6	1,888,381.89	1,232,546.92	36.181890
- plan misses target center by 4.7ft at 9850.7ft MD (5031.2 TVD, -67.7 N, -5020.6 E)									
- Point									
Lybrook J31-2307 01H F		0.00	0.00	5,071.3	-81.0	-422.1	1,888,298.57	1,237,144.78	36.181840
- plan misses target center by 22.1ft at 5255.1ft MD (5051.2 TVD, -83.2 N, -426.8 E)									
- Point									
Lybrook J31-2307 01H F		0.00	0.00	5,008.5	-57.2	-7,623.9	1,888,433.65	1,229,944.09	36.181930
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hold Diameter	
(ft)	(ft)		(in)	(in)	
500.0	500.0	9 5/8"	0.000	0.000	
5,221.2	5,041.7	7" Casing	0.000	0.000	

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
874.0	874.0	Ojo Alamo		-0.50	270.23	
1,069.0	1,069.0	Kirtland Shale		-0.50	270.23	
1,335.0	1,335.0	Fruitland Coal		-0.50	270.23	
1,459.0	1,459.0	Pictured Cliffs Ss.		-0.50	270.23	
1,575.0	1,575.0	Lewis Shale		-0.50	270.23	
2,228.0	2,228.0	Cliffhouse Ss.		-0.50	270.23	
3,018.0	3,018.0	Menefee Fn.		-0.50	270.23	
3,843.0	3,843.0	Point Lookout Ss.		-0.50	270.23	
4,025.0	4,025.0	Mancos Shale		-0.50	270.23	
4,548.8	4,548.0	Mancos Silt		-0.50	270.23	
4,828.9	4,809.0	Gallup Fn.		-0.50	270.23	
5,402.2	5,075.0	Horizontal Target		-0.50	270.23	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
4,423.0	4,423.0	0.0	0.0	KOP @ 4423'
4,504.8	4,504.5	-5.8	-0.1	Start build/turn @ 4504' MD
5,408.1	5,070.0	-85.5	-578.2	LP @ 5070' TVD; 90.5°
12,454.1	5,008.5	-57.2	-7,623.9	TD at 12454.1



EnCana Oil & Gas (USA) Inc

Sandoval County, NM

S31-T23N-R7W

Lybrook J31-2307 01H

Hz

Plan #2

Anticollision Report

22 April, 2014



Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: Sandoval County, NM
 Reference Site: S31-T23N-R7W
 Site Error: 0.0ft
 Reference Well: Lybrook J31-2307 01H
 Well Error: 0.0ft
 Reference Wellbore: Hz
 Reference Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
 TVD Reference: WELL @ 6990.0ft (Original Well Elev)
 MD Reference: WELL @ 6990.0ft (Original Well Elev)
 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

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,550.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date: 4/22/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,453.8	Plan #2 (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						
S31-T23N-R7W						
Lybrook G31-2307 01H - Hz - Plan #1						Out of range
Lybrook G31-2307 02H - Hz - Plan #1						Out of range
Lybrook G31-2307 03H - Hz - Plan #1	5,216.9	5,900.0	931.8	902.1	31.400	CC
Lybrook G31-2307 03H - Hz - Plan #1	9,900.0	10,502.1	936.1	682.8	3.696	ES, SF
Lybrook J31-2307 02H - Hz - Plan #2	4,343.1	4,343.1	30.1	15.0	1.991	CC, ES, SF
Lybrook P31-2307 01H - Hz - Plan #1						Out of range
Lybrook P31-2307 03H - Hz - Plan #1						Out of range

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: S31-T23N-R7W
Site Error: 0.0ft
Reference Well: Lybrook J31-2307 01H
Well Error: 0.0ft
Reference Wellbore: Hz
Reference Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
TVD Reference: WELL @ 6990.0ft (Original Well Elev)
MD Reference: WELL @ 6990.0ft (Original Well Elev)
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 S31-T23N-R7W - Lybrook G31-2307 03H - Hz - Plan #1													Offset Site Error: 0.0 ft
Survey Program: 0-Geolink MWD													Offset Well Error: 0.0 ft
Reference													
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Serial Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
3,900.0	3,900.0	5,638.6	5,088.8	6.8	18.9	-10.26	902.7	-163.5	1,483.5	1,453.0	20.54	72.221	
4,000.0	4,000.0	5,650.0	5,088.9	7.0	19.0	-10.95	898.2	-173.7	1,406.2	1,385.2	21.01	66.924	
4,100.0	4,100.0	5,650.0	5,088.9	7.1	19.0	-10.95	898.2	-173.7	1,331.8	1,310.7	21.19	62.863	
4,200.0	4,200.0	5,689.4	5,092.2	7.3	19.3	-12.13	891.0	-181.4	1,260.8	1,238.6	21.80	57.573	
4,300.0	4,300.0	5,678.2	5,093.7	7.5	19.4	-12.66	887.9	-189.5	1,193.8	1,171.5	22.32	53.488	
4,400.0	4,400.0	5,686.3	5,094.9	7.7	19.6	-13.17	885.1	-207.1	1,131.6	1,108.9	22.72	49.789	
4,423.0	4,423.0	5,700.0	5,097.0	7.7	19.7	-14.02	880.7	-219.8	1,118.2	1,095.0	23.16	48.297	
4,450.0	4,450.0	5,700.0	5,097.0	7.7	19.7	-165.19	880.7	-219.8	1,103.1	1,080.2	22.92	48.120	
4,504.8	4,504.8	5,700.0	5,097.0	7.8	19.7	-165.92	880.7	-219.8	1,077.4	1,054.5	22.82	47.209	
4,550.0	4,549.2	5,700.0	5,097.0	7.9	19.7	-139.38	880.7	-219.8	1,059.3	1,036.7	22.60	46.872	
4,600.0	4,598.3	5,700.0	5,097.0	8.0	19.7	-121.47	880.7	-219.8	1,040.6	1,018.2	22.36	46.538	
4,650.0	4,646.7	5,716.1	5,099.2	8.1	20.0	-111.47	876.8	-235.0	1,023.0	1,000.4	22.58	45.309	
4,700.0	4,693.9	5,726.2	5,100.5	8.2	20.1	-108.17	872.9	-244.6	1,006.9	984.2	22.86	44.434	
4,750.0	4,739.7	5,750.0	5,103.3	8.4	20.5	-102.37	866.8	-267.5	992.4	969.3	23.14	42.885	
4,800.0	4,783.8	5,750.0	5,103.3	8.6	20.6	-100.93	866.8	-267.5	979.2	956.1	23.05	42.480	
4,850.0	4,825.6	5,764.2	5,104.7	8.8	20.7	-99.44	863.6	-281.2	967.7	944.3	23.41	41.329	
4,900.0	4,865.0	5,779.1	5,106.1	9.1	20.9	-98.30	860.5	-295.8	957.9	934.0	23.87	40.122	
4,950.0	4,901.7	5,800.0	5,107.7	9.4	21.2	-97.16	856.8	-316.2	949.7	925.1	24.57	38.657	
5,000.0	4,935.3	5,800.0	5,107.7	9.8	21.2	-96.94	856.8	-316.2	943.2	918.3	24.86	37.946	
5,050.0	4,965.7	5,829.2	5,109.5	10.4	21.6	-95.75	852.7	-345.1	937.9	912.0	25.08	36.126	
5,100.0	4,992.5	5,850.0	5,110.3	11.0	21.9	-94.94	850.6	-365.7	934.4	907.5	26.06	34.663	
5,150.0	5,015.8	5,866.1	5,110.8	11.7	22.1	-94.30	849.4	-381.8	932.3	904.4	27.95	33.362	
5,200.0	5,034.7	5,900.0	5,111.1	12.5	22.5	-93.30	848.3	-415.7	931.9	902.5	29.41	31.686	
5,216.9	5,040.3	5,900.0	5,111.1	12.6	22.5	-93.23	848.3	-415.7	931.8	902.1	29.67	31.400 CC	
5,250.0	5,049.9	5,906.4	5,111.0	13.4	22.6	-92.92	848.3	-422.1	932.2	901.9	30.33	30.732	
5,300.0	5,060.9	5,951.5	5,110.7	14.3	23.3	-92.01	848.5	-467.1	933.5	901.3	32.16	29.023	
5,350.0	5,067.6	6,000.9	5,110.2	15.3	24.1	-91.40	848.7	-516.6	934.3	900.2	34.00	27.404	
5,400.0	5,070.0	6,050.8	5,109.8	16.3	24.9	-91.15	848.9	-566.5	934.6	898.6	36.08	25.905	
5,408.1	5,070.0	6,059.0	5,109.7	16.5	25.0	-91.15	848.9	-574.6	934.7	898.2	36.41	25.674	
5,500.0	5,089.2	6,150.8	5,108.9	18.5	26.6	-91.15	849.3	-666.5	934.7	894.2	40.41	23.128	
5,600.0	5,068.3	6,250.8	5,108.0	20.7	28.4	-91.15	849.7	-766.5	934.7	889.8	44.89	20.620	
5,700.0	5,087.4	6,350.8	5,107.2	22.9	30.4	-91.15	850.1	-866.5	934.7	885.2	49.48	18.897	
5,800.0	5,086.6	6,460.8	5,106.3	25.2	32.4	-91.15	850.5	-966.5	934.7	880.8	54.10	17.277	
5,900.0	5,065.7	6,550.8	5,105.4	27.6	34.5	-91.15	850.9	-1,066.5	934.7	875.9	58.79	15.899	
6,000.0	5,054.8	6,650.8	5,104.6	29.9	36.6	-91.15	851.3	-1,166.5	934.7	871.2	63.52	14.716	
6,100.0	5,053.9	6,750.8	5,103.7	32.3	38.8	-91.15	851.7	-1,266.5	934.7	866.4	68.28	13.690	
6,200.0	5,063.1	6,850.8	5,102.8	34.7	41.0	-91.15	852.1	-1,366.5	934.7	861.6	73.06	12.793	
6,300.0	5,062.2	6,950.8	5,101.9	37.1	43.3	-91.15	852.5	-1,466.5	934.7	856.8	77.87	12.004	
6,400.0	5,061.3	7,050.8	5,101.1	39.5	45.5	-91.15	853.0	-1,566.4	934.7	852.0	82.69	11.304	
6,500.0	5,060.5	7,150.8	5,100.2	41.9	47.8	-91.15	853.4	-1,666.4	934.7	847.2	87.52	10.679	
6,600.0	5,059.6	7,250.8	5,099.3	44.3	50.1	-91.15	853.8	-1,766.4	934.7	842.3	92.37	10.119	
6,700.0	5,058.7	7,350.8	5,098.4	46.8	52.5	-91.15	854.2	-1,866.4	934.7	837.5	97.23	9.613	
6,800.0	5,057.8	7,450.8	5,097.6	49.2	54.8	-91.15	854.8	-1,966.4	934.7	832.6	102.10	9.155	
6,900.0	5,057.0	7,550.8	5,096.7	51.6	57.2	-91.15	855.0	-2,066.4	934.7	827.7	106.97	8.738	
7,000.0	5,056.1	7,650.8	5,095.8	54.1	59.5	-91.15	855.4	-2,166.4	934.7	822.9	111.85	8.357	
7,100.0	5,055.2	7,750.8	5,095.0	56.5	61.9	-91.15	855.8	-2,266.4	934.7	818.0	116.74	8.007	
7,200.0	5,054.4	7,850.8	5,094.1	59.0	64.3	-91.15	856.2	-2,366.4	934.7	813.1	121.63	7.685	
7,300.0	5,053.5	7,950.8	5,093.2	61.4	66.7	-91.15	856.6	-2,466.4	934.7	808.2	126.52	7.388	
7,400.0	5,052.6	8,050.8	5,092.3	63.9	69.1	-91.15	857.0	-2,566.4	934.7	803.3	131.42	7.112	
7,500.0	5,051.7	8,150.8	5,091.5	66.3	71.5	-91.15	857.4	-2,666.4	934.7	798.4	136.33	6.857	
7,600.0	5,050.9	8,250.8	5,090.6	68.8	73.9	-91.15	857.8	-2,766.4	934.7	793.5	141.23	6.619	
7,700.0	5,050.0	8,350.8	5,089.7	71.2	76.3	-91.15	858.2	-2,866.4	934.8	788.6	146.14	6.396	

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: S31-T23N-R7W
Site Error: 0.0ft
Reference Well: Lybrook J31-2307 01H
Well Error: 0.0ft
Reference Wellbore: H2
Reference Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
TVD Reference: WELL @ 6990.0ft (Original Well Elev)
MD Reference: WELL @ 6990.0ft (Original Well Elev)
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 S31-T23N-R7W - Lybrook G31-2307 03H - H2 - Plan #1													Offset Site Error: 0.0 ft
Survey Program: O-Geolink MWD													Offset Well Error: 0.0 ft
Reference	Offset	Semi Major Axis		Distance		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)	Total Uncertainty Axis	Separation Factor	Warning
7,800.0	5,049.1	8,450.8	5,088.8	73.7	78.7	91.15	858.6	-2,966.4	934.8	783.7	151.05	6.188	
7,900.0	5,048.2	8,550.8	5,088.0	76.1	81.1	91.15	859.0	-3,066.4	934.8	778.8	155.97	5.993	
8,000.0	5,047.4	8,650.8	5,087.1	78.6	83.5	91.15	859.4	-3,166.4	934.8	773.9	160.88	5.810	
8,100.0	5,046.5	8,750.8	5,086.2	81.1	85.9	91.15	859.8	-3,266.4	934.8	769.0	165.80	5.638	
8,200.0	5,045.6	8,850.8	5,085.4	83.5	88.4	91.15	860.3	-3,366.4	934.8	764.1	170.72	5.476	
8,300.0	5,044.8	8,950.8	5,084.5	86.0	90.8	91.15	860.7	-3,466.4	934.8	759.1	175.64	5.322	
8,400.0	5,043.9	9,050.8	5,083.6	88.4	93.2	91.15	861.1	-3,566.4	934.8	754.2	180.56	5.177	
8,500.0	5,043.0	9,150.8	5,082.7	90.9	95.7	91.15	861.5	-3,666.4	934.8	749.3	185.48	5.040	
8,600.0	5,042.1	9,250.8	5,081.9	93.4	98.1	91.15	861.9	-3,766.3	934.8	744.4	190.41	4.909	
8,700.0	5,041.3	9,350.8	5,081.0	95.8	100.5	91.15	862.3	-3,866.3	934.8	739.5	195.34	4.786	
8,800.0	5,040.4	9,450.8	5,080.1	98.3	103.0	91.15	862.7	-3,966.3	934.8	734.5	200.26	4.668	
8,900.0	5,039.5	9,550.8	5,079.3	100.8	105.4	91.15	863.1	-4,066.3	934.8	729.6	205.19	4.556	
9,000.0	5,038.6	9,650.8	5,078.4	103.2	107.9	91.15	863.5	-4,166.3	934.8	724.7	210.12	4.449	
9,100.0	5,037.8	9,750.8	5,077.5	105.7	110.3	91.15	863.9	-4,266.3	934.8	719.8	215.05	4.347	
9,200.0	5,036.9	9,850.8	5,076.6	108.2	112.7	91.15	864.3	-4,366.3	934.8	714.8	219.98	4.250	
9,300.0	5,036.0	9,950.8	5,075.8	110.6	115.2	91.15	864.7	-4,466.3	934.8	709.9	224.91	4.156	
9,400.0	5,035.2	10,050.8	5,074.9	113.1	117.6	91.15	865.1	-4,566.3	934.8	705.0	229.85	4.067	
9,500.0	5,034.3	10,150.8	5,074.0	115.6	120.1	91.15	865.5	-4,666.3	934.8	700.0	234.78	3.982	
9,600.0	5,033.4	10,250.8	5,073.1	118.0	122.5	91.15	865.9	-4,766.3	934.8	695.1	239.71	3.900	
9,700.0	5,032.5	10,350.8	5,072.3	120.5	125.0	91.15	866.3	-4,866.3	934.8	690.2	244.65	3.821	
9,800.0	5,031.7	10,450.8	5,071.4	123.0	127.4	91.15	866.7	-4,966.3	934.8	685.3	249.58	3.746	
9,829.2	5,031.4	10,480.1	5,071.1	123.7	128.2	91.15	866.9	-4,995.5	934.8	683.8	251.02	3.724	
9,900.0	5,030.8	10,502.1	5,070.9	125.4	128.7	91.15	867.0	-5,017.5	936.1	682.8	253.31	3.696 ES, SF	
10,000.0	5,029.9	10,502.1	5,070.9	127.9	128.7	91.15	867.0	-5,017.5	946.6	690.8	255.78	3.701	
10,100.0	5,029.0	10,502.1	5,070.9	130.4	128.7	91.15	867.0	-5,017.5	967.4	709.1	258.25	3.746	
10,200.0	5,028.2	10,502.1	5,070.9	132.8	128.7	91.15	867.0	-5,017.5	987.8	737.1	260.72	3.827	
10,300.0	5,027.3	10,502.1	5,070.9	135.3	128.7	91.15	867.0	-5,017.5	1,037.0	773.8	263.19	3.940	
10,400.0	5,026.4	10,502.1	5,070.9	137.8	128.7	91.15	867.0	-5,017.5	1,084.0	818.4	265.65	4.081	
10,500.0	5,025.6	10,502.1	5,070.9	140.2	128.7	91.15	867.0	-5,017.5	1,137.9	869.8	268.12	4.244	
10,600.0	5,024.7	10,502.1	5,070.9	142.7	128.7	91.15	867.0	-5,017.5	1,197.8	927.2	270.59	4.426	
10,700.0	5,023.8	10,502.1	5,070.9	145.2	128.7	91.15	867.0	-5,017.5	1,262.7	989.6	273.06	4.624	
10,800.0	5,022.9	10,502.1	5,070.9	147.7	128.7	91.15	867.0	-5,017.5	1,332.0	1,056.4	275.53	4.834	
10,900.0	5,022.1	10,502.1	5,070.9	150.1	128.7	91.15	867.0	-5,017.5	1,405.0	1,127.0	278.00	5.054	
11,000.0	5,021.2	10,502.1	5,070.9	152.6	128.7	91.15	867.0	-5,017.5	1,481.1	1,200.6	280.47	5.281	

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: S31-T23N-R7W
Site Error: 0.0ft
Reference Well: Lybrook J31-2307 01H
Well Error: 0.0ft
Reference Wellbore: Hz
Reference Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
TVD Reference: WELL @ 6990.0ft (Original Well Elev)
MD Reference: WELL @ 6990.0ft (Original Well Elev)
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 S31-T23N-R7W - Lybrook J31-2307 02H - 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		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)			
0.0	0.0	0.0	0.0	0.0	0.0	-136.60	-21.8	-20.7	30.1				
100.0	100.0	100.0	100.0	0.1	0.1	-136.60	-21.8	-20.7	30.1	29.8	0.29	102.545	
200.0	200.0	200.0	200.0	0.3	0.3	-136.60	-21.8	-20.7	30.1	29.4	0.64	46.814	
300.0	300.0	300.0	300.0	0.5	0.5	-136.60	-21.8	-20.7	30.1	29.1	0.99	30.330	
400.0	400.0	400.0	400.0	0.7	0.7	-136.60	-21.8	-20.7	30.1	28.7	1.34	22.432	
500.0	500.0	500.0	500.0	0.8	0.8	-136.60	-21.8	-20.7	30.1	28.4	1.69	17.797	
600.0	600.0	600.0	600.0	1.0	1.0	-136.60	-21.8	-20.7	30.1	28.0	2.04	14.750	
700.0	700.0	700.0	700.0	1.2	1.2	-136.60	-21.8	-20.7	30.1	27.7	2.39	12.593	
800.0	800.0	800.0	800.0	1.4	1.4	-136.60	-21.8	-20.7	30.1	27.3	2.74	10.987	
900.0	900.0	900.0	900.0	1.5	1.5	-136.60	-21.8	-20.7	30.1	27.0	3.09	9.744	
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	-136.60	-21.8	-20.7	30.1	26.6	3.43	8.754	
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	-136.60	-21.8	-20.7	30.1	26.3	3.78	7.946	
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	-136.60	-21.8	-20.7	30.1	25.9	4.13	7.275	
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	-136.60	-21.8	-20.7	30.1	25.6	4.48	6.709	
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	-136.60	-21.8	-20.7	30.1	25.2	4.83	6.224	
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	-136.60	-21.8	-20.7	30.1	24.9	5.18	5.804	
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	-136.60	-21.8	-20.7	30.1	24.5	5.53	5.438	
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	-136.60	-21.8	-20.7	30.1	24.2	5.88	5.115	
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	-136.60	-21.8	-20.7	30.1	23.8	6.23	4.828	
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	-136.60	-21.8	-20.7	30.1	23.5	6.58	4.572	
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	-136.60	-21.8	-20.7	30.1	23.1	6.93	4.342	
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	-136.60	-21.8	-20.7	30.1	22.8	7.27	4.133	
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	-136.60	-21.8	-20.7	30.1	22.4	7.62	3.944	
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	-136.60	-21.8	-20.7	30.1	22.1	7.97	3.771	
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	-136.60	-21.8	-20.7	30.1	21.7	8.32	3.613	
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	-136.60	-21.8	-20.7	30.1	21.4	8.67	3.468	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	-136.60	-21.8	-20.7	30.1	21.0	9.02	3.334	
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	-136.60	-21.8	-20.7	30.1	20.7	9.37	3.209	
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	-136.60	-21.8	-20.7	30.1	20.3	9.72	3.094	
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	-136.60	-21.8	-20.7	30.1	20.0	10.07	2.987	
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	-136.60	-21.8	-20.7	30.1	19.7	10.42	2.887	
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	-136.60	-21.8	-20.7	30.1	19.3	10.77	2.793	
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	-136.60	-21.8	-20.7	30.1	19.0	11.11	2.705	
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	-136.60	-21.8	-20.7	30.1	18.6	11.46	2.623	
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	-136.60	-21.8	-20.7	30.1	18.3	11.81	2.545	
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	-136.60	-21.8	-20.7	30.1	17.9	12.16	2.472	
3,600.0	3,600.0	3,600.0	3,600.0	6.3	6.3	-136.60	-21.8	-20.7	30.1	17.6	12.51	2.403	
3,700.0	3,700.0	3,700.0	3,700.0	6.4	6.4	-136.60	-21.8	-20.7	30.1	17.2	12.86	2.338	
3,800.0	3,800.0	3,800.0	3,800.0	6.6	6.6	-136.60	-21.8	-20.7	30.1	16.9	13.21	2.276	
3,900.0	3,900.0	3,900.0	3,900.0	6.8	6.8	-136.60	-21.8	-20.7	30.1	16.5	13.56	2.218	
4,000.0	4,000.0	4,000.0	4,000.0	7.0	7.0	-136.60	-21.8	-20.7	30.1	16.2	13.91	2.162	
4,100.0	4,100.0	4,100.0	4,100.0	7.1	7.1	-136.60	-21.8	-20.7	30.1	15.8	14.26	2.109	
4,200.0	4,200.0	4,200.0	4,200.0	7.3	7.3	-136.60	-21.8	-20.7	30.1	15.5	14.60	2.059	
4,300.0	4,300.0	4,300.0	4,300.0	7.5	7.5	-136.60	-21.8	-20.7	30.1	15.1	14.95	2.011	
4,343.1	4,343.1	4,343.1	4,343.1	7.6	7.6	-136.60	-21.8	-20.7	30.1	15.0	15.10	1.991 CC, ES, SF	
4,400.0	4,400.0	4,398.4	4,398.4	7.7	7.6	-138.42	-23.3	-20.6	31.1	15.8	15.30	2.035	
4,423.0	4,423.0	4,420.4	4,420.3	7.7	7.7	-140.75	-25.2	-20.6	32.7	17.3	15.38	2.125	
4,450.0	4,450.0	4,448.1	4,445.7	7.7	7.7	34.90	-28.6	-20.6	34.9	18.6	15.46	2.259	
4,504.8	4,504.5	4,497.8	4,496.4	7.8	7.8	29.78	-38.8	-20.4	39.5	23.9	15.58	2.535	
4,550.0	4,549.2	4,539.9	4,536.8	7.9	7.9	-4.41	-50.4	-20.2	44.0	28.3	15.68	2.806	
4,600.0	4,598.3	4,584.8	4,578.9	8.0	8.0	-34.09	-66.0	-20.0	51.9	36.1	15.81	3.280	
4,650.0	4,646.7	4,627.3	4,617.0	8.1	8.2	-54.95	-83.8	-19.7	64.6	48.5	16.01	4.027	

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

Company: EnCana Oil & Gas (USA) Inc
 Project: Sandoval County, NM
 Reference Site: S31-T23N-R7W
 Site Error: 0.0ft
 Reference Well: Lybrook J31-2307 01H
 Well Error: 0.0ft
 Reference Wellbore: Hz
 Reference Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
 TVD Reference: WELL @ 6990.0ft (Original Well Elev)
 MD Reference: WELL @ 6990.0ft (Original Well Elev)
 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: S31-T23N-R7W - Lybrook J31-2307 02H - Hz - Plan #2														Offset Site Error: 0.0 ft
Survey Program: D-Geotek 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		
4,700.0	4,693.9	4,666.9	4,652.2	8.2	8.3	-89.21	-102.8	-19.4	82.6	56.3	16.25	5.081		
4,750.0	4,739.7	4,700.0	4,680.2	8.4	8.4	-77.93	-120.6	-19.1	105.0	89.5	16.50	6.426		
4,800.0	4,783.8	4,735.8	4,709.2	8.6	8.6	-84.36	-141.5	-18.6	133.9	117.1	16.77	7.987		
4,850.0	4,825.6	4,765.0	4,731.9	8.8	8.7	-87.51	-160.0	-18.5	165.8	148.7	17.05	9.724		
4,900.0	4,865.0	4,790.8	4,751.1	9.1	8.9	-85.59	-177.2	-18.3	200.9	183.5	17.37	11.564		
4,950.0	4,901.7	4,813.4	4,767.3	9.4	9.0	-87.96	-192.8	-18.0	238.6	220.9	17.75	13.444		
5,000.0	4,935.3	4,832.9	4,780.7	9.8	9.1	-85.81	-207.0	-17.8	278.5	260.3	18.19	15.312		
5,050.0	4,965.7	4,850.0	4,792.1	10.4	9.2	-82.34	-219.8	-17.6	320.1	301.5	18.67	17.146		
5,100.0	4,992.5	4,863.4	4,800.8	11.0	9.3	-77.32	-228.9	-17.4	363.0	343.9	19.12	18.986		
5,150.0	5,015.6	4,874.8	4,808.0	11.7	9.4	-71.25	-238.8	-17.3	406.8	387.4	19.46	20.911		
5,200.0	5,034.7	4,883.8	4,813.5	12.3	9.5	-64.26	-245.9	-17.2	451.3	431.8	19.86	23.073		
5,250.0	5,049.9	4,890.6	4,817.7	13.4	9.6	-56.72	-261.4	-17.1	496.1	476.8	19.35	25.641		
5,300.0	5,060.9	4,900.0	4,823.2	14.3	9.8	-50.16	-258.9	-17.0	541.0	522.0	19.01	28.460		
5,350.0	5,067.6	4,900.0	4,823.2	15.3	9.6	-42.17	-258.9	-17.0	585.7	567.6	18.12	32.331		
5,400.0	5,070.0	4,900.0	4,823.2	16.3	9.6	-35.24	-258.9	-17.0	630.0	612.8	17.18	36.666		
5,403.1	5,070.0	4,900.0	4,823.2	16.5	9.6	-34.21	-258.9	-17.0	637.2	620.1	17.04	37.396		
5,500.0	5,089.2	4,900.0	4,823.2	18.5	9.6	-34.21	-258.9	-17.0	719.2	701.1	18.12	39.696		
5,600.0	5,066.3	4,900.0	4,823.2	20.7	9.6	-34.21	-258.9	-17.0	810.9	791.6	19.34	41.937		
5,700.0	5,067.4	4,900.0	4,823.2	22.9	9.6	-34.21	-258.9	-17.0	904.4	883.8	20.59	43.925		
5,800.0	5,066.6	6,417.4	5,049.7	25.2	30.5	-88.97	-1,023.3	-973.7	939.5	889.1	50.43	16.630		
5,900.0	5,065.7	6,517.4	5,048.9	27.6	32.4	-88.97	-1,022.9	-1,073.7	939.5	884.5	55.07	17.050		
6,000.0	5,064.8	6,617.4	5,048.0	29.9	34.3	-88.97	-1,022.5	-1,173.7	939.5	879.8	59.77	15.720		
6,100.0	5,063.9	6,717.4	5,047.1	32.3	36.4	-88.97	-1,022.1	-1,273.7	939.5	875.0	64.50	14.567		
6,200.0	5,063.1	6,817.4	5,046.3	34.7	38.5	-88.97	-1,021.7	-1,373.7	939.5	870.3	69.26	13.566		
6,300.0	5,062.2	6,917.4	5,045.4	37.1	40.6	-88.97	-1,021.3	-1,473.7	939.5	865.5	74.04	12.689		
6,400.0	5,061.3	7,017.4	5,044.5	39.5	42.8	-88.97	-1,020.9	-1,573.7	939.5	860.7	78.85	11.916		
6,500.0	5,060.5	7,117.4	5,043.6	41.9	45.0	-88.97	-1,020.5	-1,673.7	939.5	855.9	83.67	11.229		
6,600.0	5,059.6	7,217.4	5,042.8	44.3	47.2	-88.97	-1,020.1	-1,773.7	939.5	851.0	88.51	10.615		
6,700.0	5,058.7	7,317.4	5,041.9	46.8	49.5	-88.97	-1,019.7	-1,873.7	939.5	846.2	93.35	10.064		
6,800.0	5,057.8	7,417.4	5,041.0	49.2	51.7	-88.97	-1,019.3	-1,973.7	939.5	841.3	98.21	9.566		
6,900.0	5,057.0	7,517.4	5,040.1	51.6	54.0	-88.97	-1,018.9	-2,073.7	939.5	836.4	103.08	9.115		
7,000.0	5,056.1	7,617.4	5,039.3	54.1	56.3	-88.97	-1,018.5	-2,173.7	939.5	831.6	107.95	8.703		
7,100.0	5,055.2	7,717.4	5,038.4	56.5	58.7	-88.97	-1,018.1	-2,273.7	939.5	826.7	112.83	8.327		
7,200.0	5,054.4	7,817.4	5,037.5	59.0	61.0	-88.97	-1,017.7	-2,373.7	939.5	821.8	117.72	7.981		
7,300.0	5,053.5	7,917.4	5,036.7	61.4	63.4	-88.97	-1,017.3	-2,473.7	939.5	816.9	122.61	7.663		
7,400.0	5,052.6	8,017.4	5,035.8	63.9	65.7	-88.97	-1,016.9	-2,573.7	939.5	812.0	127.50	7.369		
7,500.0	5,051.7	8,117.4	5,034.9	66.3	68.1	-88.97	-1,016.5	-2,673.6	939.5	807.1	132.40	7.096		
7,600.0	5,050.9	8,217.4	5,034.0	68.8	70.5	-88.97	-1,016.1	-2,773.6	939.5	802.2	137.31	6.843		
7,700.0	5,050.0	8,317.4	5,033.2	71.2	72.9	-88.97	-1,015.7	-2,873.6	939.5	797.3	142.21	6.607		
7,800.0	5,049.1	8,417.4	5,032.3	73.7	75.2	-88.97	-1,015.3	-2,973.6	939.5	792.4	147.12	6.386		
7,900.0	5,048.2	8,517.4	5,031.4	76.1	77.6	-88.97	-1,014.9	-3,073.6	939.5	787.5	152.03	6.180		
8,000.0	5,047.4	8,617.4	5,030.5	78.6	80.0	-88.97	-1,014.5	-3,173.6	939.5	782.6	156.94	5.986		
8,100.0	5,046.5	8,717.4	5,029.7	81.1	82.4	-88.97	-1,014.1	-3,273.6	939.5	777.7	161.86	5.805		
8,200.0	5,045.6	8,817.4	5,028.8	83.5	84.9	-88.97	-1,013.7	-3,373.6	939.5	772.7	166.78	5.633		
8,300.0	5,044.8	8,917.4	5,027.9	86.0	87.3	-88.97	-1,013.3	-3,473.6	939.5	767.8	171.70	5.472		
8,400.0	5,043.9	9,017.4	5,027.1	88.4	89.7	-88.97	-1,012.9	-3,573.6	939.5	762.9	176.62	5.320		
8,500.0	5,043.0	9,117.4	5,026.2	90.9	92.1	-88.97	-1,012.5	-3,673.6	939.5	758.0	181.54	5.175		
8,600.0	5,042.1	9,217.4	5,025.3	93.4	94.5	-88.97	-1,012.1	-3,773.6	939.5	753.1	186.46	5.039		
8,700.0	5,041.3	9,317.4	5,024.4	95.8	97.0	-88.97	-1,011.7	-3,873.6	939.5	748.1	191.39	4.909		
8,800.0	5,040.4	9,417.4	5,023.6	98.3	99.4	-88.97	-1,011.3	-3,973.6	939.5	743.2	196.31	4.786		
8,900.0	5,039.5	9,517.4	5,022.7	100.8	101.8	-88.97	-1,010.9	-4,073.6	939.5	738.3	201.24	4.669		
9,000.0	5,038.6	9,617.4	5,021.8	103.2	104.2	-88.97	-1,010.5	-4,173.6	939.5	733.4	206.17	4.557		

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: S31-T23N-R7W
Site Error: 0.0ft
Reference Well: Lybrook J31-2307 01H
Well Error: 0.0ft
Reference Wellbore: Hz
Reference Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
TVD Reference: WELL @ 6990.0ft (Original Well Elev)
MD Reference: WELL @ 6990.0ft (Original Well Elev)
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 S31-T23N-R7W - Lybrook J31-2307 02H - Hz - Plan #2														Offset Site Error: 0.0 ft
Survey Program: 0-Geolink MWD														Offset Well Error: 0.0 ft
Reference				Offset		Distance								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)	Total Uncertainty Axis	Separation Factor		
9,100.0	5,037.8	9,717.4	5,020.9	105.7	106.7	-88.97	-1,010.1	-4,273.6	939.5	728.4	211.10	4.451		
9,200.0	5,036.9	9,817.4	5,020.1	108.2	109.1	-88.97	-1,009.7	-4,373.6	939.5	723.5	216.03	4.349		
9,300.0	5,036.0	9,917.4	5,019.2	110.6	111.5	-88.97	-1,009.3	-4,473.6	939.5	718.6	220.98	4.252		
9,400.0	5,035.2	10,017.4	5,018.3	113.1	114.0	-88.97	-1,008.9	-4,573.6	939.5	713.6	225.89	4.159		
9,500.0	5,034.3	10,117.4	5,017.5	115.6	116.4	-88.97	-1,008.5	-4,673.6	939.5	708.7	230.82	4.070		
9,600.0	5,033.4	10,217.4	5,016.6	118.0	118.9	-88.97	-1,008.1	-4,773.6	939.5	703.8	235.75	3.985		
9,700.0	5,032.5	10,317.4	5,015.7	120.5	121.3	-88.97	-1,007.7	-4,873.5	939.5	698.8	240.69	3.903		
9,800.0	5,031.7	10,417.4	5,014.8	123.0	123.8	-88.97	-1,007.3	-4,973.5	939.5	693.9	245.62	3.825		
9,900.0	5,030.8	10,517.4	5,014.0	125.4	126.2	-88.97	-1,006.9	-5,073.5	939.5	689.0	250.56	3.750		
10,000.0	5,029.9	10,617.4	5,013.1	127.9	128.6	-88.97	-1,006.5	-5,173.5	939.5	684.0	255.49	3.677		
10,100.0	5,029.0	10,717.4	5,012.2	130.4	131.1	-88.97	-1,006.1	-5,273.5	939.5	679.1	260.43	3.606		
10,200.0	5,028.2	10,817.4	5,011.3	132.8	133.5	-88.97	-1,005.7	-5,373.5	939.5	674.2	265.38	3.541		
10,300.0	5,027.3	10,917.4	5,010.5	135.3	136.0	-88.97	-1,005.3	-5,473.5	939.5	669.2	270.30	3.476		
10,400.0	5,026.4	11,017.4	5,009.6	137.8	138.4	-88.97	-1,004.9	-5,573.5	939.5	664.3	275.24	3.414		
10,500.0	5,025.6	11,117.4	5,008.7	140.2	140.9	-88.97	-1,004.5	-5,673.5	939.5	659.4	280.17	3.353		
10,600.0	5,024.7	11,217.4	5,007.9	142.7	143.4	-88.97	-1,004.1	-5,773.5	939.5	654.4	285.11	3.295		
10,700.0	5,023.8	11,317.4	5,007.0	145.2	145.8	-88.97	-1,003.7	-5,873.5	939.5	649.5	290.05	3.239		
10,800.0	5,022.9	11,417.4	5,006.1	147.7	148.3	-88.97	-1,003.3	-5,973.5	939.5	644.5	294.99	3.185		
10,900.0	5,022.1	11,517.4	5,005.2	150.1	150.7	-88.97	-1,002.9	-6,073.5	939.5	639.6	299.93	3.133		
11,000.0	5,021.2	11,617.4	5,004.4	152.6	153.2	-88.97	-1,002.4	-6,173.5	939.5	634.7	304.86	3.082		
11,100.0	5,020.3	11,717.4	5,003.5	155.1	155.6	-88.97	-1,002.0	-6,273.5	939.5	629.7	309.80	3.033		
11,200.0	5,019.4	11,817.4	5,002.6	157.5	158.1	-88.97	-1,001.6	-6,373.5	939.5	624.8	314.74	2.985		
11,300.0	5,018.6	11,917.4	5,001.7	160.0	160.5	-88.97	-1,001.2	-6,473.5	939.5	619.8	319.68	2.939		
11,400.0	5,017.7	12,017.4	5,000.9	162.6	163.0	-88.97	-1,000.8	-6,573.5	939.5	614.9	324.62	2.894		
11,500.0	5,016.8	12,117.4	5,000.0	164.9	165.5	-88.97	-1,000.4	-6,673.5	939.5	610.0	329.56	2.851		
11,600.0	5,016.0	12,217.4	4,999.1	167.4	167.9	-88.97	-1,000.0	-6,773.5	939.5	605.0	334.50	2.809		
11,700.0	5,015.1	12,317.4	4,998.3	169.9	170.4	-88.97	-999.6	-6,873.5	939.5	600.1	339.44	2.768		
11,800.0	5,014.2	12,417.4	4,997.4	172.4	172.8	-88.97	-999.2	-6,973.4	939.5	595.1	344.38	2.728		
11,900.0	5,013.3	12,517.4	4,996.5	174.8	175.3	-88.97	-998.8	-7,073.4	939.5	590.2	349.33	2.690		
12,000.0	5,012.6	12,617.4	4,995.6	177.3	177.7	-88.97	-998.4	-7,173.4	939.5	585.3	354.27	2.652		
12,100.0	5,011.6	12,717.4	4,994.8	179.8	180.2	-88.97	-998.0	-7,273.4	939.5	580.3	359.21	2.616		
12,200.0	5,010.7	12,817.4	4,993.9	182.2	182.7	-88.97	-997.6	-7,373.4	939.5	575.4	364.15	2.580		
12,300.0	5,009.8	12,917.4	4,993.0	184.7	185.1	-88.97	-997.2	-7,473.4	939.5	570.4	369.09	2.546		
12,400.0	5,009.0	13,017.4	4,992.1	187.2	187.6	-88.97	-996.8	-7,573.4	939.5	565.5	374.03	2.512		
12,454.1	5,008.5	13,071.5	4,991.7	188.5	188.9	-88.97	-996.6	-7,627.6	939.5	562.8	376.71	2.494		



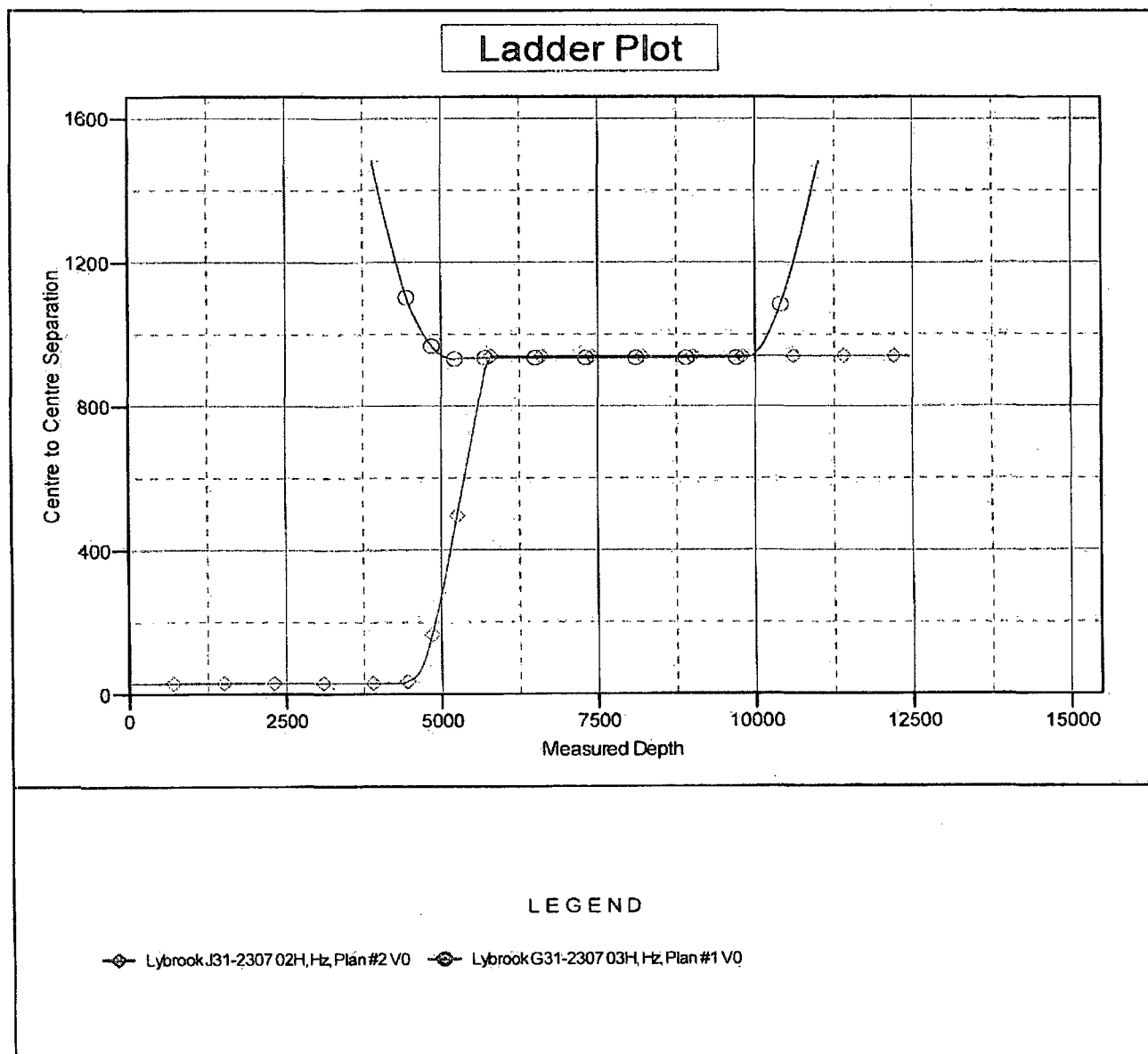
Anticollision Report

Company: EnCana Oil & Gas (USA) Inc
 Project: Sandoval County, NM
 Reference Site: S31-T23N-R7W
 Site Error: 0.0ft
 Reference Well: Lybrook J31-2307 01H
 Well Error: 0.0ft
 Reference Wellbore: Hz
 Reference Design: Plan #2

Local Co-ordinate Reference: Well Lybrook J31-2307 01H
 TVD Reference: WELL @ 6990.0ft (Original Well Elev)
 MD Reference: WELL @ 6990.0ft (Original Well Elev)
 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

Reference Depths are relative to WELL @ 6990.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -106.250000 °

Coordinates are relative to: Lybrook J31-2307 01H
 Coordinate System is US State Plane 1983, New Mexico Central Zone
 Grid Convergence at Surface is: -0.81°



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

Directions from the Intersection of US Hwy 550 & US Hwy 64
in Bloomfield, NM to Encana Oil & Gas (USA) Inc. Lybrook J31-2307 01H
2215' FSL & 2531' FEL, Section 31, T23N, R7W, N.M.P.M., Sandoval County, NM

Latitude: 36.18209°N Longitude: 107.61509°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.7 miles to Mile Marker 112.7;

Go right (Southerly) on County Road #7900 for 4.9 miles to fork in road;

Go straight (South-easterly) remaining on County Road #7900 for 0.2 miles to fork in road;

Go left (North-easterly) exiting County Road #7900 for 2.8 miles to three-way intersection;

Go left (North-easterly) for 0.2 miles to new access on right-hand side of existing roadway which continues for 4871' to staked Encana Lybrook J31-2307 01H location.

encana

SANDOVAL COUNTY,
NEW MEXICO

- ⊗ Abandoned
 - ⊗ Abandoned Gas
 - ⊗ Abandoned Oil
 - ⊗ Dry Hole
 - ⊗ GAS
 - ⊗ Injection
 - Basin Mancos Gas Pool
 - OIL
- 1 inch = 2,333 feet

24

KENC OIL GAS INC 22
19

20

23N
8W

Lybrook E20-2307 01H
Lybrook E20-2307 02H

Lybrook O20-2307 01H

KITE ACA FEDERAL 1

HENRY AGC FEDERAL 1

Lybrook G30-2307 01H
Lybrook G30-2307 02H
Lybrook G30-2307 03H
Lybrook G30-2307 04H

26

25

30

29

Lybrook L29-2307 01H
Lybrook L29-2307 02H
Lybrook L29-2307 03H
Lybrook L29-2307 04H

Lybrook O30-2307 01H Lybrook O30-2307 03H
Lybrook O30-2307 02H

Lybrook G31-2307 01H
Lybrook G31-2307 03H

LITTLE B 2
LITTLE B 1

35

36

Lybrook J31-2307 01H

Lybrook J31-2307 02H

FEDERAL C 2

ALAMITO UNIT 4
ALAMITO UNIT 3

ALAMITO UNIT 2

FULTON 1
FULTON 2

Lybrook P31-2307 01H
Lybrook P31-2307 02H
Lybrook P31-2307 03H
Lybrook P31-2307 04H

SOUTH SEAS 1

SOUTH SEAS 2

FEDERAL 6-22-7 1

22N
8W

Lybrook D12-2208 01H

ALAMITO
GALLUP
POOL

SOUTH CHACO 5
SOUTH CHACO 5
FEDERAL G 2

GALLO WASH 5

STATE K 10

Lybrook M35-2308 01H
Lybrook M35-2308 02H
Lybrook M35-2308 03H
Lybrook M35-2308 04H

ALAMITO
FEDERAL 1
FEDERAL 1

0 0.125 0.25 0.5 Miles

11

12

7

8

encana

Well Name and Number:
Lybrook J31-2307 01H

