

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

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 3160-3 APD form.

Operator Signature Date: 5-1-14

Well information;

Operator Encana, Well Name and Number Lybrook PO3-2206#1H

API# 30043-21221, Section 3, Township 22 N, Range 6 E

Conditions of Approval:

(See the below checked and handwritten conditions)

☒ Notify Aztec OCD 24hrs prior to casing & cement.

☒ Hold C-104 for directional survey & "As Drilled" Plat

☐ Hold C-104 for NSL, NSP, DHC

☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned

☐ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:

- A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
- A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
- A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C

☐ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

** Submit sundry w/ plat reflecting correct pool - Lybrook - And DHL on BLM 3160*

Charles Perera
NMOCD Approved by Signature

6-11-2014
Date

JUN 06 2014

RECEIVED

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

MAY 02 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
~~NM-109386~~; NM 117562
6. If Indian, Allottee or Tribe Name
N/A1a. Type of work: ☒ DRILL ☐ REENTER7. If Unit or CA Agreement, Name and No.
Pending1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone8. Lease Name and Well No.
Lybrook P03-2206 01H

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

9. API Well No.

30-043-21221

3a. Address 370 17th Street, Suite 1700, Denver, CO
802023b. Phone No. (include area code)
720-876-344810. Field and Pool, or Exploratory
Wildcat Gallup

4. Location of Well (Report location clearly and in accordance with any State requirements*)

At surface 438' FSL and 1222' FEL in Section 3, T22N, R6W

SESE

SH

Section 3, T22N, R6W NMPM

At proposed prod. zone 2347' FNL and 2070' FEL in Section 15, T22N, R6W

SWSE

BH

Sec 15, T22N, R6W

14. Distance in miles and direction from nearest town or post office*

+/- 58.5 miles for the intersection of US Hwy 550 and US Hwy 64 in Bloomfield, NM

12. County or Parish
Sandoval13. State
NM15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

SHL is 438' FSL in Section 3

16. No. of acres in lease
NM 109386- 1286.22
NM 117562- 224017. Spacing Unit dedicated to this well
160 acres W2E2 of Section 10
80 acres W2NE of Section 1518. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.Lybrook P03-2206 02H is
+/- 30' E of SHL19. Proposed Depth
5358' TVD, 13343' MD20. BLM/BIA Bond No. on file
COB 00023521. Elevations (Show whether DF, KDB, RT, GL, etc.)
GL 7124', KB 7140'22. Approximate date work will start*
10/15/201423. Estimated duration
20 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must be attached to this form:

1. Well plat certified by a registered surveyor.

2. A Drilling Plan.

3. A Surface Use Plan (if the location is on National Forest System Lands, the
SUPO must be filed with the appropriate Forest Service Office).4. Bond to cover the operations unless covered by an existing bond on file (see
Item 20 above).

5. Operator certification

6. Such other site specific information and/or plans as may be required by the
BLM.

25. Signature

Name (Printed/Typed)

Christopher Simmons

Date

05.01.14

Title

Regulatory Analyst

Approved by (Signature)

Name (Printed/Typed)

Date

5/3/14

Title

Office

FEC

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to
conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United
States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

AUTHORIZATION REQUIRED FOR OPERATIONS
ON FEDERAL AND INDIAN LANDS

NMOCDV

*Instructions on page 2)
DRILLING OPERATIONS
AUTHORIZED ARE SUBJECT TO
COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS"This action is subject to technical
and procedural review pursuant to
43 CFR 3165.3 and appeal
pursuant to 43 CFR 3165.4

DISTRICT I
1685 N. French Dr., Hobbs, N.M. 88340
Phone: (575) 363-6161 Fax: (575) 363-0700

DISTRICT II
811 S. First St., Artesia, N.M. 88310
Phone: (575) 740-1628 Fax: (575) 740-0780

DISTRICT III
1000 Rio Bravo Rd., Aztec, N.M. 87410
Phone: (505) 834-6178 Fax: (505) 834-6170

DISTRICT IV
1880 S. St. Francis Dr., Santa Fe, NM 87506
Phone: (505) 476-3480 Fax: (505) 476-3488

State of New Mexico
Energy, Minerals & Natural Resources Department

RECEIVED

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

MAY 02 2014

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

Farmington Field Office
Bureau of Land Management

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-043-21221	² Pool Code 42289	³ Pool Name Lybrook Gallup	⁴ Pool Name WIEDCAT
⁵ Property Code 313351	⁶ Property Name LYBROOK P03-2206		⁷ Well Number 01H
⁸ GRID No. 282327	⁹ Operator Name ENCANA OIL & GAS (USA) INC.		¹⁰ Elevation 7124.1'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/West line	County
P	3	22N	6W		438'	SOUTH	1222'	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	WEST/West line	County
G	15	22N	6W		2347'	NORTH	2070'	EAST	SANDOVAL

¹²Dedicated Acres PROJECT AREA
180.00 ACRES W/2 E/2 SEC. 10
80.00 ACRES W/2 NE/4 SEC. 15

¹³Joint or Infill

¹⁴Consolidation Code

¹⁵Order No.

Total
240

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

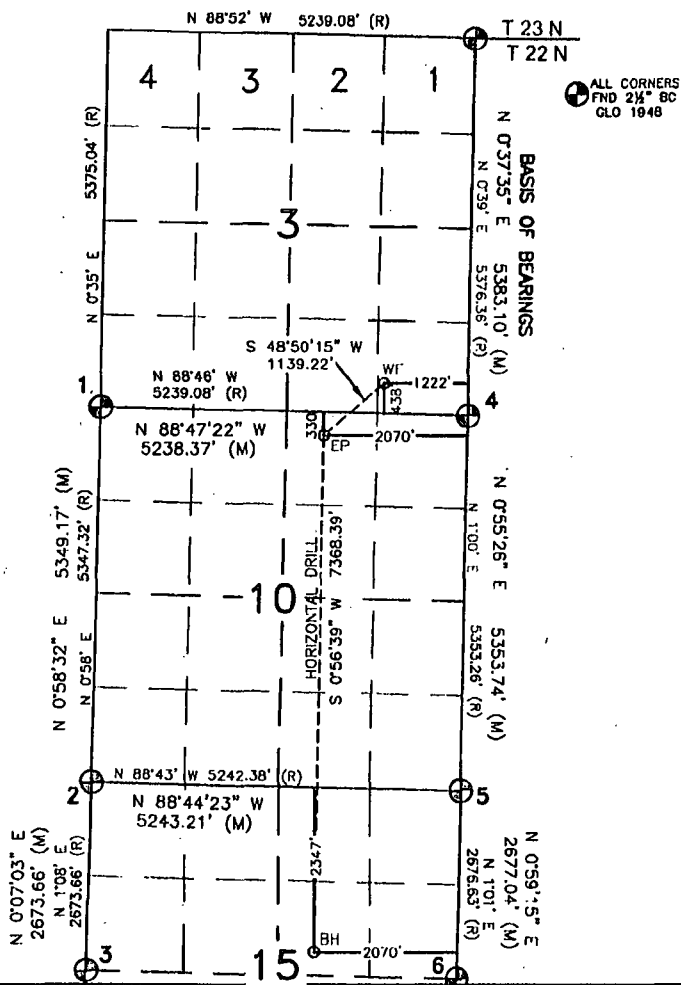
16

- LAT. 36.160110° N (NAD83)
LONG. 107.464533° W (NAD83)
LAT. 36.160095° N (NAD27)
LONG. 107.464533° W (NAD27)
- LAT. 36.145423° N (NAD83)
LONG. 107.464846° W (NAD83)
LAT. 36.145408° N (NAD27)
LONG. 107.464242° W (NAD27)
- LAT. 36.138078° N (NAD83)
LONG. 107.465026° W (NAD83)
LAT. 36.138063° N (NAD27)
LONG. 107.464422° W (NAD27)
- LAT. 36.159800° N (NAD83)
LONG. 107.446799° W (NAD83)
LAT. 36.159785° N (NAD27)
LONG. 107.446195° W (NAD27)
- LAT. 36.145101° N (NAD83)
LONG. 107.447099° W (NAD83)
LAT. 36.145086° N (NAD27)
LONG. 107.446495° W (NAD27)
- LAT. 36.137751° N (NAD83)
LONG. 107.447260° W (NAD83)
LAT. 36.137736° N (NAD27)
LONG. 107.446656° W (NAD27)

WELL FLAG
LAT. 36.161075° N (NAD83)
LONG. 107.450920° W (NAD83)
LAT. 36.161060° N (NAD27)
LONG. 107.450316° W (NAD27)

ENTRY POINT
LAT. 36.159017° N (NAD83)
LONG. 107.453825° W (NAD83)
LAT. 36.159002° N (NAD27)
LONG. 107.453221° W (NAD27)

BOTTOM HOLE
LAT. 36.138786° N (NAD83)
LONG. 107.454246° W (NAD83)
LAT. 36.138771° N (NAD27)
LONG. 107.453642° 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.

Katie Wegner 5/11/14
Signature Date

Katie Wegner

Printed Name

Katie.Wegner@encana.com

E-mail Address

SURVEYOR CERTIFICATION

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

SEPTEMBER 9, 2013

Date of Survey

Signature and Seal of Professional Surveyor:

David Russell
DAVID RUSSELL
REGISTERED PROFESSIONAL LAND SURVEYOR
10201
3/25/14
Certificate Number 10201

Lybrook P03-2206 01H
 SHL: SESE Sec 3 T22N R6W
 438' FSL, 1222' FEL
 BHL: SWNE Sec 15 T22N R6W
 2347' FNL, 2070' FEL
 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
Nacimiento Fn.	0
Ojo Alamo Ss.	1,367
Kirtland Shale	1,543
Fruitland Coal	1,704
Pictured Cliffs Ss.	1,920
Lewis Shale	2,020
Cliffhouse Ss.	2,725
Menefee Fn.	3,447
Point Lookout Ss.	4,179
Mancos Shale	4,352
Mancos Silt	4,937
Gallup Fn.	5,207

The referenced surface elevation is 7124', KB 7140'

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

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,704
Oil/Gas	Pictured Cliffs Ss.	1,920
Oil/Gas	Cliffhouse Ss.	2,725
Gas	Menefee Fn.	3,447
Oil/Gas	Point Lookout Ss.	4,179
Oil/Gas	Mancos Shale	4,352
Oil/Gas	Mancos Silt	4,937
Oil/Gas	Gallup Fn.	5,207

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

3. PRESSURE CONTROL

- a) Pressure control equipment and configuration will be designed to meet 2M standards.
- b) Working pressure on rams and BOPE will be 3,000 psi.
- c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
- d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
- e) Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
- f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.

Lybrook P03-2206 01H

SHL: SESE Sec 3 T22N R6W

438' FSL, 1222' FEL

BHL: SWNE Sec 15 T22N R6W

2347' FNL, 2070' FEL

Sandoval, New Mexico

- 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
- 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#	H40, STC New
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5885'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5685'-13343'	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.

Lybrook P03-2206 01H
 SHL: SESE Sec 3 T22N R6W
 438' FSL, 1222' FEL
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 2347' FNL, 2070' FEL
 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'	201 sks	Type III Cement + 1% CaCl + 0.25lb/sk Cello Flake + 0.2% FL, 16ppg, 1.38cuf/sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5885'	30% open hole excess Stage 1 Lead: 373 sks Stage 1 Tail: 325 sks Stage 2 Lead: 185 sks	Lead (Stages 1 and 2): PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13cuf/sk Tail (Stage 1): Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuf/sk	Surface	1 every 3 joints through water bearing zones
Production Liner	5685'-13343'	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 3891'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5358'/13343'	Gallup

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'-0'/0'	Fresh Water	8.3-10	60-70	NC
8 3/4"	0'/0'-0'/0'	Fresh Water LSND	8.3-10	40-50	8-10

Lybrook P03-2206 01H

SHL: SESE Sec 3 T22N R6W

438' FSL, 1222' FEL

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2347' FNL, 2070' FEL

Sandoval, New Mexico

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"	0'/0'-0'/0'	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 +/- 2554 psi based on a 9.0 ppg at 5457' 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 December 2, 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: SE/4 SE/4 Sec 3 T22N R6W, 438' F			Encana Natural Gas			ENG: S Kuykendall 5/1/14			
County: New Mexico			WELL SUMMARY			RIG: Aztec 950			
WELL: Lybrook P03-2206 01H						GLE: 6791.8			
						RKBE: 6807.8			
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			TVD	MD					
			60	60'		30	20" 94# 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						9 5/8" 36ppf J55 STC	Fresh wtr	Vertical <1°
		Nacimiento 9 5/8" Csg	0 500	500.00		12 1/4	TOC Surface - 201 sks of Type III Cement	8.3-10	
Survey Every 60"-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5	No OH logs	Ojo Alamo Ss. Kirtland Shale	1,383 1,559		Stage tool @ ~ 2,085	8 3/4	7" 26ppf J55 LTC TOC @ surface 30% OH excess: 698 sksTotal. Stage 1 Lead: 373 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: 325 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. 185 Stage 2: 185 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.	Fresh Wtr	Vertical <1°
		Fruitland Coal	1,720						
		Pictured Cliffs Ss. Lewis Shale	1,936 2,036						
		Cliffhouse Ss. Menefee Fn.	2,741 3,463						
		Point Lookout Ss. Mancos Shale	4,195 4,368						
Surveys every 30' through the curve	Mud logger onsite	KOP	3,891	3,900					
		Mancos Silt	4,953						
		Gallup Fn. 7" Csg	5,223 5,442	5,885'					
Surveys every stand to TD unless directed otherwise by Geologist	No OH Logs	Horizontal Target TD	5,457 5,358	13,343		6 1/8	200' overlap at liner top 7458' Drilled Lateral	Horizontal inclination Horizontal TVD	Horz Inc/TVD 90.7°/5457
		Base Gallup	5,517				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 = 13342.5 MD
MWD Gamma Directional									

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/A BOP and surface equipment
- 4) Drill to KOP of 3900', 8 3/4 inch holesize
- 5) PU directional tools and start curve at 10deg/100' build rate
- 6) Drill to csg point of 5885' MD
- 7) R&C 7" csg, circ cmt to surface, switch to WBM
- 8) Land at 90 deg, drill lateral to 13343' run 4 1/2 inch liner with external swellable csg packers



Boomerang Tube LLC

CASING (OR) TUBING DESCRIPTION AND PERFORMANCE PROPERTIES

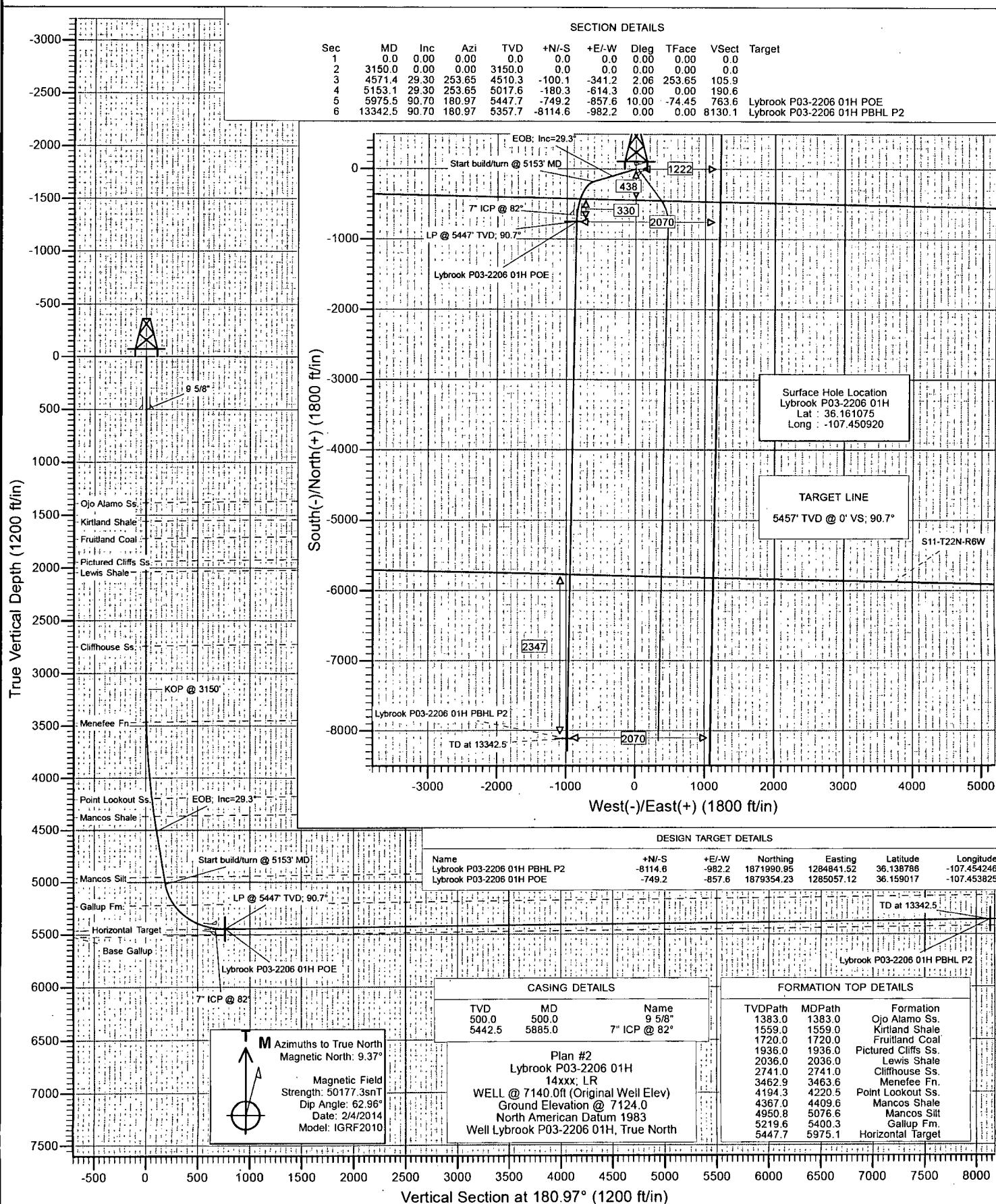
Pipe Outside Diameter (ins)	_____	4.500
Pipe Wall Thickness (ins)	_____	0.250
Nominal Weight Per Foot (lbs)	_____	11.60
Thread Name	_____	Long Thread CSG
Grade Name	_____	SB-80
Pipe Minimum Yield (psi)	_____	80,000
Pipe Minimum Ultimate (psi)	_____	90,000
Coupling Minimum Yield (psi)	_____	80,000
Coupling 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
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



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site:	S3-T22N-R6W	North Reference:	True
Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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	S3-T22N-R6W			
Site Position:		Northing:	1,880,092.79 ft	Latitude: 36.161075
From:	Lat/Long	Easting:	1,285,923.97 ft	Longitude: -107.450920
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -0.71 °

Well	Lybrook P03-2206 01H			
Well Position	+N/-S	0.0 ft	Northing:	1,880,092.79 ft
	+E/-W	0.0 ft	Easting:	1,285,923.97 ft
Position Uncertainty	0.0 ft		Wellhead Elevation:	ft
			Ground Level:	7,124.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/4/2014	9.37	62.96	50,177

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	180.95

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	
3,150.0	0.00	0.00	3,150.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,571.4	29.30	253.65	4,510.3	-100.1	-341.2	2.06	2.06	0.00	253.65	
5,153.1	29.30	253.65	5,017.6	-180.3	-614.3	0.00	0.00	0.00	0.00	
5,975.5	90.70	180.97	5,447.7	-749.2	-857.6	10.00	7.47	-8.84	-74.45	Lybrook P03-2206 01
13,342.5	90.70	180.97	5,357.7	-8,114.6	-982.2	0.00	0.00	0.00	0.00	Lybrook P03-2206 01

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site:	S3-T22N-R6W	North Reference:	True
Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	9 5/8"
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,383.0	0.00	0.00	1,383.0	0.0	0.0	0.0	0.00	0.00	Ojo Alamo Ss.
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,559.0	0.00	0.00	1,559.0	0.0	0.0	0.0	0.00	0.00	Kirtland 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	
1,720.0	0.00	0.00	1,720.0	0.0	0.0	0.0	0.00	0.00	Fruitland Coal
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
1,936.0	0.00	0.00	1,936.0	0.0	0.0	0.0	0.00	0.00	Pictured Cliffs Ss.
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,036.0	0.00	0.00	2,036.0	0.0	0.0	0.0	0.00	0.00	Lewis Shale
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,741.0	0.00	0.00	2,741.0	0.0	0.0	0.0	0.00	0.00	Cliffhouse Ss.
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,150.0	0.00	0.00	3,150.0	0.0	0.0	0.0	0.00	0.00	KOP @ 3150'
3,200.0	1.03	253.65	3,200.0	-0.1	-0.4	0.1	2.06	2.06	
3,300.0	3.09	253.65	3,299.9	-1.1	-3.9	1.2	2.06	2.06	
3,400.0	5.15	253.65	3,399.7	-3.2	-10.8	3.3	2.06	2.06	
3,463.6	6.46	253.65	3,462.9	-5.0	-17.0	5.3	2.06	2.06	Menefee Fn.
3,500.0	7.21	253.65	3,499.1	-6.2	-21.1	6.5	2.06	2.06	
3,600.0	9.28	253.65	3,598.0	-10.2	-34.9	10.8	2.06	2.06	
3,700.0	11.34	253.65	3,696.4	-15.3	-52.0	16.1	2.06	2.06	
3,800.0	13.40	253.65	3,794.1	-21.3	-72.6	22.5	2.06	2.06	
3,900.0	15.46	253.65	3,890.9	-28.3	-96.5	29.9	2.06	2.06	
4,000.0	17.52	253.65	3,986.8	-36.3	-123.7	38.4	2.06	2.06	
4,100.0	19.58	253.65	4,081.6	-45.3	-154.3	47.8	2.06	2.06	
4,200.0	21.64	253.65	4,175.2	-55.2	-188.0	58.3	2.06	2.06	
4,220.5	22.07	253.65	4,194.3	-57.3	-195.4	60.6	2.06	2.06	Point Lookout Ss.

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site:	S3-T22N-R6W	North Reference:	True
Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

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	23.70	253.65	4,267.5	-66.0	-225.0	69.7	2.06	2.06	
4,400.0	25.76	253.65	4,358.3	-77.8	-265.2	82.2	2.06	2.06	
4,409.6	25.96	253.65	4,367.0	-79.0	-269.2	83.4	2.06	2.06	Mancos Shale
4,500.0	27.83	253.65	4,447.6	-90.5	-308.4	95.6	2.06	2.06	
4,571.4	29.30	253.65	4,510.3	-100.1	-341.2	105.8	2.06	2.06	EOB; Inc=29.3°
4,600.0	29.30	253.65	4,535.2	-104.0	-354.6	109.9	0.00	0.00	
4,700.0	29.30	253.65	4,622.4	-117.8	-401.6	124.5	0.00	0.00	
4,800.0	29.30	253.65	4,709.6	-131.6	-448.5	139.0	0.00	0.00	
4,900.0	29.30	253.65	4,796.8	-145.4	-495.5	153.6	0.00	0.00	
5,000.0	29.30	253.65	4,884.0	-159.2	-542.4	168.1	0.00	0.00	
5,076.6	29.30	253.65	4,950.8	-169.7	-578.4	179.3	0.00	0.00	Mancos Silt
5,100.0	29.30	253.65	4,971.2	-172.9	-589.4	182.7	0.00	0.00	
5,153.1	29.30	253.65	5,017.6	-180.3	-614.3	190.4	0.00	0.00	Start build/turn @ 5153' MD
5,200.0	30.86	244.82	5,058.2	-188.6	-636.2	199.1	10.00	3.33	
5,300.0	35.87	229.01	5,141.8	-218.8	-681.7	230.1	10.00	5.01	
5,400.0	42.47	217.07	5,219.4	-265.1	-724.2	277.1	10.00	6.60	
5,400.3	42.49	217.04	5,219.6	-265.2	-724.4	277.2	10.00	7.16	Gallup Fm.
5,500.0	50.03	207.97	5,288.6	-326.0	-762.7	338.6	10.00	7.55	
5,600.0	58.14	200.74	5,347.2	-399.8	-795.8	412.9	10.00	8.12	
5,700.0	66.60	194.72	5,393.6	-484.1	-822.5	497.6	10.00	8.46	
5,800.0	75.27	189.42	5,426.3	-576.4	-842.1	590.3	10.00	8.66	
5,885.0	82.72	185.26	5,442.5	-659.1	-852.8	673.1	10.00	8.77	7" ICP @ 82°
5,900.0	84.04	184.54	5,444.2	-673.9	-854.0	688.0	10.00	8.80	
5,975.1	90.66	180.99	5,447.7	-748.8	-857.6	762.9	10.00	8.81	Horizontal Target
5,975.5	90.70	180.97	5,447.7	-749.2	-857.6	763.3	10.00	8.82	LP @ 5447' TVD; 90.7°
6,000.0	90.70	180.97	5,447.4	-773.7	-858.1	787.8	0.00	0.00	
6,100.0	90.70	180.97	5,446.1	-873.7	-859.7	887.8	0.00	0.00	
6,200.0	90.70	180.97	5,444.9	-973.7	-861.4	987.8	0.00	0.00	
6,300.0	90.70	180.97	5,443.7	-1,073.6	-863.1	1,087.8	0.00	0.00	
6,400.0	90.70	180.97	5,442.5	-1,173.6	-864.8	1,187.8	0.00	0.00	
6,500.0	90.70	180.97	5,441.3	-1,273.6	-866.5	1,287.8	0.00	0.00	
6,600.0	90.70	180.97	5,440.0	-1,373.6	-868.2	1,387.8	0.00	0.00	
6,700.0	90.70	180.97	5,438.8	-1,473.5	-869.9	1,487.8	0.00	0.00	
6,800.0	90.70	180.97	5,437.6	-1,573.5	-871.6	1,587.8	0.00	0.00	
6,900.0	90.70	180.97	5,436.4	-1,673.5	-873.3	1,687.7	0.00	0.00	
7,000.0	90.70	180.97	5,435.2	-1,773.5	-875.0	1,787.7	0.00	0.00	
7,100.0	90.70	180.97	5,433.9	-1,873.5	-876.6	1,887.7	0.00	0.00	
7,200.0	90.70	180.97	5,432.7	-1,973.4	-878.3	1,987.7	0.00	0.00	
7,300.0	90.70	180.97	5,431.5	-2,073.4	-880.0	2,087.7	0.00	0.00	
7,400.0	90.70	180.97	5,430.3	-2,173.4	-881.7	2,187.7	0.00	0.00	
7,500.0	90.70	180.97	5,429.0	-2,273.4	-883.4	2,287.7	0.00	0.00	
7,600.0	90.70	180.97	5,427.8	-2,373.3	-885.1	2,387.7	0.00	0.00	
7,700.0	90.70	180.97	5,426.6	-2,473.3	-886.8	2,487.7	0.00	0.00	
7,800.0	90.70	180.97	5,425.4	-2,573.3	-888.5	2,587.7	0.00	0.00	
7,900.0	90.70	180.97	5,424.2	-2,673.3	-890.2	2,687.7	0.00	0.00	
8,000.0	90.70	180.97	5,422.9	-2,773.3	-891.9	2,787.7	0.00	0.00	
8,100.0	90.70	180.97	5,421.7	-2,873.2	-893.6	2,887.7	0.00	0.00	
8,200.0	90.70	180.97	5,420.5	-2,973.2	-895.2	2,987.7	0.00	0.00	
8,300.0	90.70	180.97	5,419.3	-3,073.2	-896.9	3,087.6	0.00	0.00	
8,400.0	90.70	180.97	5,418.1	-3,173.2	-898.6	3,187.6	0.00	0.00	
8,500.0	90.70	180.97	5,416.8	-3,273.2	-900.3	3,287.6	0.00	0.00	
8,600.0	90.70	180.97	5,415.6	-3,373.1	-902.0	3,387.6	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site:	S3-T22N-R6W	North Reference:	True
Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,700.0	90.70	180.97	5,414.4	-3,473.1	-903.7	3,487.6	0.00	0.00	
8,800.0	90.70	180.97	5,413.2	-3,573.1	-905.4	3,587.6	0.00	0.00	
8,900.0	90.70	180.97	5,411.9	-3,673.1	-907.1	3,687.6	0.00	0.00	
9,000.0	90.70	180.97	5,410.7	-3,773.0	-908.8	3,787.6	0.00	0.00	
9,100.0	90.70	180.97	5,409.5	-3,873.0	-910.5	3,887.6	0.00	0.00	
9,200.0	90.70	180.97	5,408.3	-3,973.0	-912.1	3,987.6	0.00	0.00	
9,300.0	90.70	180.97	5,407.1	-4,073.0	-913.8	4,087.6	0.00	0.00	
9,400.0	90.70	180.97	5,405.8	-4,173.0	-915.5	4,187.6	0.00	0.00	
9,500.0	90.70	180.97	5,404.6	-4,272.9	-917.2	4,287.6	0.00	0.00	
9,600.0	90.70	180.97	5,403.4	-4,372.9	-918.9	4,387.5	0.00	0.00	
9,700.0	90.70	180.97	5,402.2	-4,472.9	-920.6	4,487.5	0.00	0.00	
9,800.0	90.70	180.97	5,400.9	-4,572.9	-922.3	4,587.5	0.00	0.00	
9,900.0	90.70	180.97	5,399.7	-4,672.8	-924.0	4,687.5	0.00	0.00	
10,000.0	90.70	180.97	5,398.5	-4,772.8	-925.7	4,787.5	0.00	0.00	
10,100.0	90.70	180.97	5,397.3	-4,872.8	-927.4	4,887.5	0.00	0.00	
10,200.0	90.70	180.97	5,396.1	-4,972.8	-929.0	4,987.5	0.00	0.00	
10,300.0	90.70	180.97	5,394.8	-5,072.8	-930.7	5,087.5	0.00	0.00	
10,400.0	90.70	180.97	5,393.6	-5,172.7	-932.4	5,187.5	0.00	0.00	
10,500.0	90.70	180.97	5,392.4	-5,272.7	-934.1	5,287.5	0.00	0.00	
10,600.0	90.70	180.97	5,391.2	-5,372.7	-935.8	5,387.5	0.00	0.00	
10,700.0	90.70	180.97	5,390.0	-5,472.7	-937.5	5,487.5	0.00	0.00	
10,800.0	90.70	180.97	5,388.7	-5,572.7	-939.2	5,587.5	0.00	0.00	
10,900.0	90.70	180.97	5,387.5	-5,672.6	-940.9	5,687.5	0.00	0.00	
11,000.0	90.70	180.97	5,386.3	-5,772.6	-942.6	5,787.4	0.00	0.00	
11,100.0	90.70	180.97	5,385.1	-5,872.6	-944.3	5,887.4	0.00	0.00	
11,200.0	90.70	180.97	5,383.8	-5,972.6	-945.9	5,987.4	0.00	0.00	
11,300.0	90.70	180.97	5,382.6	-6,072.5	-947.6	6,087.4	0.00	0.00	
11,400.0	90.70	180.97	5,381.4	-6,172.5	-949.3	6,187.4	0.00	0.00	
11,500.0	90.70	180.97	5,380.2	-6,272.5	-951.0	6,287.4	0.00	0.00	
11,600.0	90.70	180.97	5,379.0	-6,372.5	-952.7	6,387.4	0.00	0.00	
11,700.0	90.70	180.97	5,377.7	-6,472.5	-954.4	6,487.4	0.00	0.00	
11,800.0	90.70	180.97	5,376.5	-6,572.4	-956.1	6,587.4	0.00	0.00	
11,900.0	90.70	180.97	5,375.3	-6,672.4	-957.8	6,687.4	0.00	0.00	
12,000.0	90.70	180.97	5,374.1	-6,772.4	-959.5	6,787.4	0.00	0.00	
12,100.0	90.70	180.97	5,372.8	-6,872.4	-961.2	6,887.4	0.00	0.00	
12,200.0	90.70	180.97	5,371.6	-6,972.3	-962.8	6,987.4	0.00	0.00	
12,300.0	90.70	180.97	5,370.4	-7,072.3	-964.5	7,087.3	0.00	0.00	
12,400.0	90.70	180.97	5,369.2	-7,172.3	-966.2	7,187.3	0.00	0.00	
12,500.0	90.70	180.97	5,368.0	-7,272.3	-967.9	7,287.3	0.00	0.00	
12,600.0	90.70	180.97	5,366.7	-7,372.3	-969.6	7,387.3	0.00	0.00	
12,700.0	90.70	180.97	5,365.5	-7,472.2	-971.3	7,487.3	0.00	0.00	
12,800.0	90.70	180.97	5,364.3	-7,572.2	-973.0	7,587.3	0.00	0.00	
12,900.0	90.70	180.97	5,363.1	-7,672.2	-974.7	7,687.3	0.00	0.00	
13,000.0	90.70	180.97	5,361.9	-7,772.2	-976.4	7,787.3	0.00	0.00	
13,100.0	90.70	180.97	5,360.6	-7,872.2	-978.1	7,887.3	0.00	0.00	
13,200.0	90.70	180.97	5,359.4	-7,972.1	-979.7	7,987.3	0.00	0.00	
13,300.0	90.70	180.97	5,358.2	-8,072.1	-981.4	8,087.3	0.00	0.00	
13,342.5	90.70	180.97	5,357.7	-8,114.6	-982.2	8,129.8	0.00	0.00	TD at 13342.5

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Project:	Sandoval County, NM	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site:	S3-T22N-R6W	North Reference:	True
Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #2		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Lybrook P03-2206 01H f	0.00	0.00	5,357.7	-8,114.6	-982.2	1,871,990.95	1,284,841.52	36.138786	-107.454246
- plan hits target center									
- Point									
Lybrook P03-2206 01H f	0.00	0.00	5,390.4	-5,439.1	-935.1	1,874,665.67	1,284,921.63	36.146135	-107.454087
- plan misses target center by 1.8ft at 10666.4ft MD (5390.4 TVD, -5439.1 N, -936.9 E)									
- Point									
Lybrook P03-2206 01H f	0.00	0.00	5,447.7	-749.2	-857.6	1,879,354.23	1,285,057.12	36.159017	-107.453825
- plan hits target center									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
500.0	500.0	9 5/8"	0.000	0.000
5,885.0	5,442.5	7" ICP @ 82°	0.000	0.000

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
1,383.0	1,383.0	Ojo Alamo Ss.		-0.70	180.97
1,559.0	1,559.0	Kirtland Shale		-0.70	180.97
1,720.0	1,720.0	Fruitland Coal		-0.70	180.97
1,936.0	1,936.0	Pictured Cliffs Ss.		-0.70	180.97
2,036.0	2,036.0	Lewis Shale		-0.70	180.97
2,741.0	2,741.0	Cliffhouse Ss.		-0.70	180.97
3,463.6	3,463.0	Menefee Fn.		-0.70	180.97
4,220.5	4,195.0	Point Lookout Ss.		-0.70	180.97
4,409.6	4,368.0	Mancos Shale		-0.70	180.97
5,076.6	4,953.0	Mancos Silt		-0.70	180.97
5,400.3	5,223.0	Gallup Fm.		-0.70	180.97
5,975.1	5,457.0	Horizontal Target		-0.70	180.97

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
3,150.0	3,150.0	0.0	0.0	KOP @ 3150'
4,571.4	4,510.3	-100.1	-341.2	EOB; Inc=29.3°
5,153.1	5,017.6	-180.3	-614.3	Start build/turn @ 5153' MD
5,975.5	5,447.7	-749.2	-857.6	LP @ 5447' TVD; 90.7°
13,342.5	5,357.7	-8,114.6	-982.2	TD at 13342.5

EnCana Oil & Gas (USA) Inc

Sandoval County, NM

S3-T22N-R6W

Lybrook P03-2206 01H

Hz

Plan #2

Anticollision Report

11 April, 2014

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Reference Site:	S3-T22N-R6W	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
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 1,243.2ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 4/11/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	13,342.5	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						
Lybrook						
Lybrook B14-2206 01H - Hz - Plan #1	11,794.5	10,317.6	19.0	-17.8	0.517	Level 1, CC, ES, SF
Lybrook B14-2206 02H - Hz - Plan #1	13,113.0	10,667.3	16.3	-23.9	0.406	Level 1, CC, ES, SF
S3-T22N-R6W						
Lybrook P03-2206 02H - HZ - Plan #2	3,100.0	3,100.0	30.1	19.3	2.797	CC
Lybrook P03-2206 02H - HZ - Plan #2	3,127.8	3,127.8	30.2	19.3	2.778	ES
Lybrook P03-2206 02H - HZ - Plan #2	3,200.0	3,200.0	30.5	19.4	2.748	SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Reference Site:	S3-T22N-R6W	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Lybrook - Lybrook B14-2206 01H - Hz - Plan #1													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)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,600.0	5,391.2	10,323.9	5,379.6	97.6	124.8	161.35	-6,567.0	-962.4	1,194.6	1,143.6	51.09	23.384	
10,700.0	5,390.0	10,323.4	5,379.6	99.4	124.8	162.79	-6,567.0	-961.9	1,094.7	1,044.9	49.71	22.019	
10,800.0	5,388.7	10,322.8	5,379.6	101.1	124.8	164.25	-6,567.1	-961.3	994.7	946.4	48.27	20.608	
10,900.0	5,387.5	10,322.3	5,379.6	102.8	124.8	165.73	-6,567.1	-960.8	894.7	847.9	46.76	19.134	
11,000.0	5,386.3	10,321.8	5,379.6	104.5	124.7	167.23	-6,567.1	-960.3	794.7	749.5	45.22	17.576	
11,100.0	5,385.1	10,321.3	5,379.6	106.3	124.7	168.75	-6,567.1	-959.8	694.8	651.1	43.66	15.914	
11,200.0	5,383.8	10,320.7	5,379.6	108.0	124.7	170.28	-6,567.1	-959.2	594.8	552.7	42.12	14.121	
11,300.0	5,382.6	10,320.2	5,379.6	109.7	124.7	171.83	-6,567.1	-958.7	494.9	454.2	40.66	12.172	
11,400.0	5,381.4	10,319.7	5,379.6	111.5	124.7	173.38	-6,567.1	-958.2	395.0	355.6	39.31	10.046	
11,500.0	5,380.2	10,319.2	5,379.6	113.2	124.7	174.95	-6,567.1	-957.7	295.1	256.9	38.17	7.731	
11,600.0	5,379.0	10,318.6	5,379.6	114.9	124.7	176.52	-6,567.2	-957.2	195.4	158.1	37.31	5.238	
11,700.0	5,377.7	10,318.1	5,379.6	116.7	124.7	178.10	-6,567.2	-956.6	96.4	59.6	36.83	2.617	
11,794.5	5,376.6	10,317.6	5,379.6	118.3	124.6	179.60	-6,567.2	-956.1	19.0	-17.8	36.79	0.517 Level 1, CC, ES, SF	
11,800.0	5,376.5	10,317.6	5,379.6	118.4	124.6	179.68	-6,567.2	-956.1	19.8	-17.0	36.80	0.538 Level 1	
11,900.0	5,375.3	10,317.1	5,379.6	120.1	124.6	-178.73	-6,567.2	-955.6	107.2	69.9	37.28	2.875	
12,000.0	5,374.1	10,316.5	5,379.6	121.9	124.6	-177.16	-6,567.2	-955.1	206.4	168.1	38.28	5.391	
12,100.0	5,372.8	10,316.0	5,379.6	123.6	124.6	-175.58	-6,567.2	-954.5	306.1	266.3	39.77	7.697	
12,200.0	5,371.6	10,315.5	5,379.6	125.3	124.6	-174.02	-6,567.2	-954.0	405.9	364.2	41.69	9.736	
12,300.0	5,370.4	10,315.0	5,379.6	127.1	124.6	-172.46	-6,567.2	-953.5	505.8	461.9	43.99	11.500	
12,400.0	5,369.2	10,314.4	5,379.6	128.8	124.6	-170.92	-6,567.2	-953.0	605.8	559.2	46.58	13.004	
12,500.0	5,368.0	10,313.9	5,379.6	130.5	124.6	-169.38	-6,567.3	-952.4	705.7	656.3	49.42	14.280	
12,600.0	5,366.7	10,313.4	5,379.6	132.3	124.5	-167.87	-6,567.3	-951.9	805.7	753.2	52.46	15.360	
12,700.0	5,365.5	10,312.9	5,379.6	134.0	124.5	-166.37	-6,567.3	-951.4	905.7	850.0	55.64	16.277	
12,800.0	5,364.3	10,312.3	5,379.6	135.8	124.5	-164.89	-6,567.3	-950.9	1,005.7	946.7	58.95	17.060	
12,900.0	5,363.1	10,311.8	5,379.6	137.5	124.5	-163.43	-6,567.3	-950.3	1,105.6	1,043.3	62.35	17.733	
13,000.0	5,361.9	10,311.3	5,379.6	139.2	124.5	-162.00	-6,567.3	-949.8	1,205.6	1,139.8	65.82	18.317	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Reference Site:	S3-T22N-R6W	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design Lybrook - Lybrook B14-2206 02H - 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		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning		
11,900.0	5,375.3	10,674.6	5,360.7	120.1	125.0	155.42	-7,885.1	-985.7	1,213.0	1,143.3	69.71	17.400			
12,000.0	5,374.1	10,674.0	5,360.8	121.9	125.0	157.21	-7,885.1	-985.1	1,113.0	1,045.8	67.26	16.548			
12,100.0	5,372.8	10,673.4	5,360.8	123.6	125.0	159.05	-7,885.2	-984.5	1,013.1	948.4	64.64	15.672			
12,200.0	5,371.6	10,672.8	5,360.8	125.3	125.0	160.93	-7,885.2	-983.9	913.1	851.2	61.87	14.758			
12,300.0	5,370.4	10,672.2	5,360.8	127.1	125.0	162.85	-7,885.2	-983.3	813.1	754.1	58.97	13.789			
12,400.0	5,369.2	10,671.6	5,360.8	128.8	125.0	164.82	-7,885.2	-982.7	713.1	657.1	55.97	12.741			
12,500.0	5,368.0	10,671.0	5,360.8	130.5	125.0	166.82	-7,885.2	-982.1	613.2	560.2	52.92	11.586			
12,600.0	5,366.7	10,670.4	5,360.8	132.3	124.9	168.85	-7,885.2	-981.5	513.2	463.3	49.90	10.285			
12,700.0	5,365.5	10,669.8	5,360.8	134.0	124.9	170.91	-7,885.2	-980.9	413.3	366.3	46.99	8.794			
12,800.0	5,364.3	10,669.2	5,360.8	135.8	124.9	172.99	-7,885.2	-980.3	313.4	269.0	44.35	7.066			
12,900.0	5,363.1	10,668.6	5,360.8	137.5	124.9	175.09	-7,885.3	-979.7	213.6	171.4	42.17	5.065			
13,000.0	5,361.9	10,668.0	5,360.8	139.2	124.9	177.20	-7,885.3	-979.1	114.1	73.4	40.70	2.804			
13,100.0	5,360.6	10,667.4	5,360.8	141.0	124.9	179.32	-7,885.3	-978.5	20.8	-19.4	40.20	0.518 Level 1			
13,113.0	5,360.5	10,667.3	5,360.8	141.2	124.9	179.60	-7,885.3	-978.4	16.3	-23.9	40.21	0.406 Level 1, CC, ES, SF			
13,200.0	5,359.4	10,666.8	5,360.8	142.7	124.9	-178.56	-7,885.3	-977.9	88.6	47.7	40.84	2.169			
13,300.0	5,358.2	10,666.2	5,360.8	144.5	124.8	-176.44	-7,885.3	-977.3	187.8	145.1	42.64	4.404			
13,342.5	5,357.7	10,665.9	5,360.8	145.2	124.8	-175.55	-7,885.3	-977.0	230.1	186.4	43.72	5.265			

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Reference Site:	S3-T22N-R6W	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S3-T22N-R6W - Lybrook P03-2206 02H - HZ - Plan #2														Offset Site Error:	0.0 ft
Survey Program: O-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	90.00	0.0	30.1	30.1						
100.0	100.0	100.0	100.0	0.1	0.1	90.00	0.0	30.1	30.1	29.8	0.29	102.698			
200.0	200.0	200.0	200.0	0.3	0.3	90.00	0.0	30.1	30.1	29.5	0.64	46.884			
300.0	300.0	300.0	300.0	0.5	0.5	90.00	0.0	30.1	30.1	29.1	0.99	30.376			
400.0	400.0	400.0	400.0	0.7	0.7	90.00	0.0	30.1	30.1	28.8	1.34	22.465			
500.0	500.0	500.0	500.0	0.8	0.8	90.00	0.0	30.1	30.1	28.4	1.69	17.824			
600.0	600.0	600.0	600.0	1.0	1.0	90.00	0.0	30.1	30.1	28.1	2.04	14.772			
700.0	700.0	700.0	700.0	1.2	1.2	90.00	0.0	30.1	30.1	27.7	2.39	12.612			
800.0	800.0	800.0	800.0	1.4	1.4	90.00	0.0	30.1	30.1	27.4	2.74	11.003			
900.0	900.0	900.0	900.0	1.5	1.5	90.00	0.0	30.1	30.1	27.0	3.09	9.759			
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	90.00	0.0	30.1	30.1	26.7	3.43	8.767			
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	90.00	0.0	30.1	30.1	26.3	3.78	7.958			
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	90.00	0.0	30.1	30.1	26.0	4.13	7.286			
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	90.00	0.0	30.1	30.1	25.6	4.48	6.719			
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	90.00	0.0	30.1	30.1	25.3	4.83	6.233			
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	90.00	0.0	30.1	30.1	24.9	5.18	5.813			
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	90.00	0.0	30.1	30.1	24.6	5.53	5.446			
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	90.00	0.0	30.1	30.1	24.2	5.88	5.123			
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	90.00	0.0	30.1	30.1	23.9	6.23	4.836			
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	90.00	0.0	30.1	30.1	23.5	6.58	4.579			
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	90.00	0.0	30.1	30.1	23.2	6.93	4.348			
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	90.00	0.0	30.1	30.1	22.8	7.27	4.139			
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	90.00	0.0	30.1	30.1	22.5	7.62	3.950			
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	90.00	0.0	30.1	30.1	22.1	7.97	3.777			
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	90.00	0.0	30.1	30.1	21.8	8.32	3.619			
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	90.00	0.0	30.1	30.1	21.4	8.67	3.473			
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	90.00	0.0	30.1	30.1	21.1	9.02	3.338			
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	90.00	0.0	30.1	30.1	20.7	9.37	3.214			
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	90.00	0.0	30.1	30.1	20.4	9.72	3.099			
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	90.00	0.0	30.1	30.1	20.0	10.07	2.991			
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	90.00	0.0	30.1	30.1	19.7	10.42	2.891			
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	90.00	0.0	30.1	30.1	19.3	10.77	2.797 CC			
3,127.8	3,127.8	3,127.8	3,127.8	5.4	5.4	-163.68	0.0	30.1	30.2	19.3	10.86	2.778 ES			
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	-163.88	0.0	30.1	30.5	19.4	11.11	2.748 SF			
3,300.0	3,299.9	3,299.9	3,299.9	5.7	5.7	-165.55	0.0	30.1	34.0	22.6	11.45	2.970			
3,400.0	3,399.7	3,399.7	3,399.7	5.9	5.9	-168.02	0.0	30.1	41.0	29.2	11.78	3.481			
3,500.0	3,499.1	3,499.1	3,499.1	6.1	6.1	-170.47	0.0	30.1	51.6	39.5	12.10	4.264			
3,600.0	3,598.0	3,598.0	3,598.0	6.3	6.3	-172.50	0.0	30.1	65.8	53.4	12.41	5.303			
3,700.0	3,696.4	3,696.4	3,696.4	6.5	6.4	-174.06	0.0	30.1	83.6	70.9	12.70	6.580			
3,800.0	3,794.1	3,794.1	3,794.1	6.8	6.6	-175.23	0.0	30.1	104.9	91.9	12.98	8.081			
3,900.0	3,890.9	3,890.9	3,890.9	7.1	6.8	-176.11	0.0	30.1	129.7	116.5	13.25	9.794			
4,000.0	3,986.8	3,986.8	3,986.8	7.4	6.9	-176.78	0.0	30.1	158.1	144.6	13.50	11.709			
4,100.0	4,081.6	4,081.6	4,081.6	7.8	7.1	-177.28	0.0	30.1	189.8	176.1	13.74	13.818			
4,200.0	4,175.2	4,175.2	4,175.2	8.3	7.3	-177.68	0.0	30.1	225.0	211.1	13.96	16.115			
4,300.0	4,267.5	4,267.5	4,267.5	8.8	7.4	-177.99	0.0	30.1	263.5	249.4	14.17	18.595			
4,400.0	4,358.3	4,358.3	4,358.3	9.4	7.6	-178.23	0.0	30.1	305.4	291.0	14.37	21.253			
4,500.0	4,447.6	4,447.6	4,447.6	10.0	7.7	-178.43	0.0	30.1	350.4	335.9	14.55	24.088			
4,600.0	4,535.2	4,535.2	4,535.2	10.8	7.9	-178.60	0.0	30.1	398.5	383.8	14.76	27.001			
4,700.0	4,622.4	4,622.4	4,622.4	11.6	8.0	-178.76	0.0	30.1	447.5	432.4	15.09	29.660			
4,800.0	4,709.6	4,709.6	4,709.6	12.4	8.2	-178.88	0.0	30.1	496.4	481.0	15.41	32.207			
4,900.0	4,796.8	4,796.8	4,796.8	13.2	8.3	-178.98	0.0	30.1	545.3	529.6	15.74	34.649			
5,000.0	4,884.0	4,881.0	4,881.0	14.0	8.5	-179.05	0.0	30.1	594.3	578.2	16.06	37.006			

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

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Reference Site:	S3-T22N-R6W	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design S3-T22N-R6W - Lybrook P03-2206 02H - 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)	Semi Major Axis 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
5,100.0	4,971.2	4,942.4	4,942.2	14.9	8.6	-178.70	-3.4	32.6	645.4	629.0	16.35	39.483	
5,200.0	5,058.2	5,000.0	4,999.0	15.7	8.7	-167.23	-11.2	38.6	700.2	683.6	16.64	42.072	
5,300.0	5,141.8	5,050.0	5,047.2	16.7	8.8	-146.39	-21.7	46.4	760.2	742.7	17.54	43.332	
5,400.0	5,219.4	5,100.0	5,094.1	17.7	8.9	-129.36	-35.5	56.8	823.7	804.4	19.28	42.721	
5,500.0	5,288.6	5,150.0	5,139.3	18.7	9.1	-115.66	-52.6	69.6	888.7	867.2	21.45	41.433	
5,600.0	5,347.2	5,200.0	5,182.5	19.8	9.2	-104.73	-72.7	84.7	953.6	930.1	23.53	40.525	
5,700.0	5,393.6	5,240.1	5,215.4	20.8	9.4	-95.80	-90.9	98.4	1,017.1	991.9	25.21	40.347	
5,800.0	5,426.3	5,283.1	5,248.9	21.9	9.6	-88.99	-112.5	114.6	1,078.0	1,051.7	26.32	40.951	
5,900.0	5,444.2	5,325.9	5,280.2	23.0	9.9	-83.97	-136.0	132.2	1,135.4	1,108.4	26.94	42.149	
6,000.0	5,447.4	5,369.5	5,309.6	24.1	10.2	-81.72	-161.6	151.5	1,188.6	1,161.0	27.61	43.059	

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Lybrook P03-2206 01H
Project:	Sandoval County, NM	TVD Reference:	WELL @ 7140.0ft (Original Well Elev)
Reference Site:	S3-T22N-R6W	MD Reference:	WELL @ 7140.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Lybrook P03-2206 01H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	HZ	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 7140.0ft (Original Well Elev)

Offset Depths are relative to Offset Datum

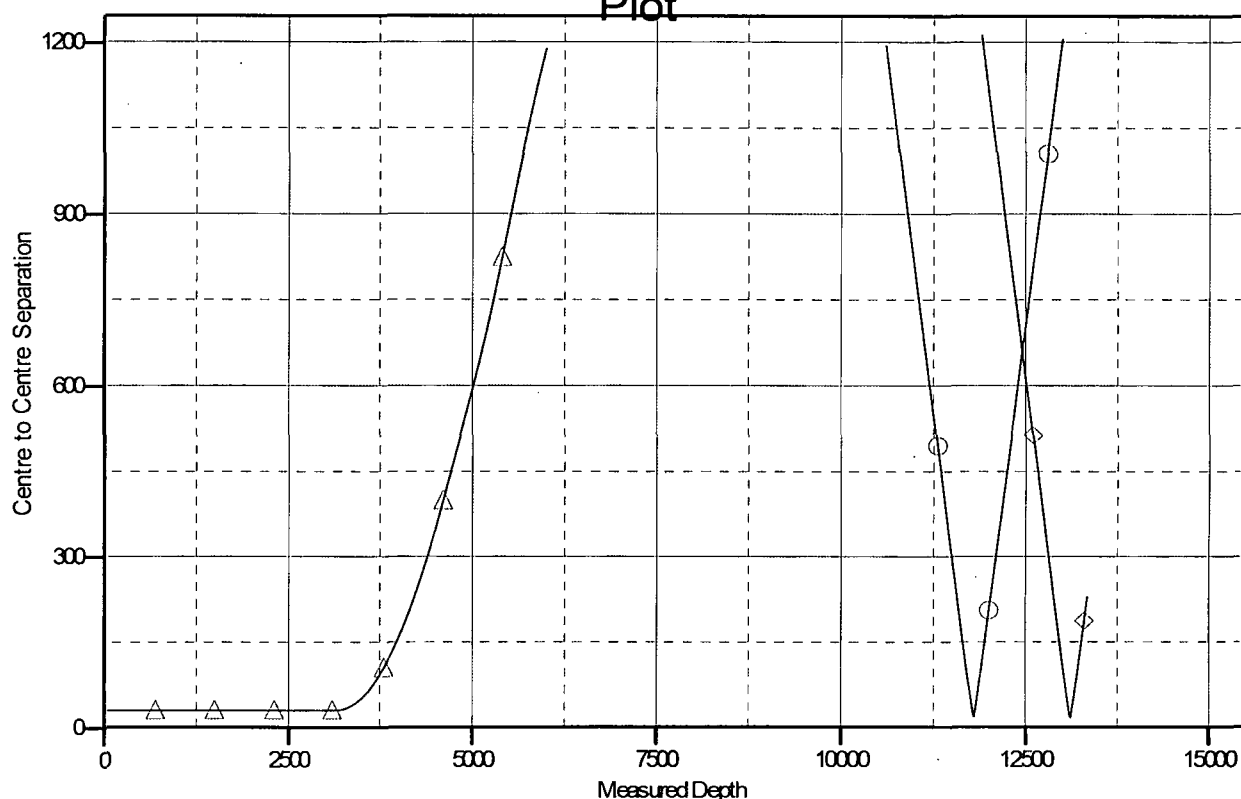
Central Meridian is -106.250000 °

Coordinates are relative to: Lybrook P03-2206 01H

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

Grid Convergence at Surface is: -0.71°

Ladder Plot



LEGEND

Lybrook B14-2206 02H, Hz, Plan #1 V0
 Lybrook B14-2206 01H, Hz, Plan #1 V0
 Lybrook P03-2206 02H, Hz, Plan #2 V0

ENCANA OIL & GAS (USA) INC.

LYBROOK P03-2206 #01H

438' FSL & 1222' FEL

LOCATED IN THE SE/4 SE/4 OF SECTION 3,

T22N, R6W, N.M.P.M.,

SANDOVAL COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM THE INTERSECTION OF HWY 64 & HWY 550 IN BLOOMFIELD, GO SOUTH ON HWY 550, 54.5 MILES TO ISR 471 (M.P. 97.1).
- 2) TURN RIGHT ONTO ISR 471 AND GO 4.0 MILES WHERE ACCESS IS STAKED ON RIGHT.

WELL FLAG LOCATED AT LAT. 36.161075° N, LONG. 107.450920° W (NAD 83).



encana

SANDOVAL COUNTY,
NEW MEXICO

Abandoned

Abandoned Gas

Abandoned Oil

Dry Hole

GAS

Injection

Basin Mancos
Gas Pool

OIL

1 inch = 2,167 feet

LOGOS 3

9

Lybrook P03-2206 01H

Lybrook P03-2206 02H

Lybrook N02-2206 01H
Lybrook N02-2206 02H

Chaco 2206-02P 228H

Lybrook H11-2206 01H
Lybrook H11-2206 02
Lybrook H11-2206 03
Lybrook H11-2206 04H

EL PASO-FEDERAL 1

CHACO 2206-16A 221H

CHORNEY-STATE 1

ADAMS 1

Lybrook D22-2206 01H

Lybrook D22-2206 02H

VERNADO 1

FEDERAL 20-22-6 2

FEDERAL 20-22-6 3

0 0.125 0.25 0.5 Miles

21

22

23

22N
6W

WELLHEAD BLOWOUT CONTROL SYSTEM

encana

Well Name and Number:
Lybrook P03-2206 01H

