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FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Farmington Field Office
Bureau of Land Management

Lease Serial No.
NM 28748

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		6. If Indian, Allottee or Tribe Name	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.	
2. Name of Operator Encana Oil & Gas (USA) Inc.		8. Lease Name and Well No. Lybrook H26-2307 01H	
3a. Address 370 17th Street, Suite 1700 Denver, CO 80202		9. API Well No. 30-043-21118	
3b. Phone No. (include area code) 720-876-3989		10. Field and Pool, or Exploratory Lybrook Gallup	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 2257' FNL and 357' FEL Section 26, T23N, R7W H At proposed prod. zone 2257' FNL and 330' FWL Section 26, T23N, R7W E		11. Sec., T. R. M. or Blk. and Survey or Area Section 26, T23N, R7W NMPM	
14. Distance in miles and direction from nearest town or post office* 51.0 miles SE of Farmington, NM		12. County or Parish Sandoval	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) BHL is 330' from west lease line	16. No. of acres in lease 640 acres	17. Spacing Unit dedicated to this well 640 acres	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL is +/- 775' north of Kinsale 2	19. Proposed Depth 6750' TVD/9975' MD	20. BLM/BIA Bond No. on file COB-000235	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7234' GL, 7245' KB	22. Approximate date work will start* 04/01/2012	23. Estimated duration 45 days	
24. Attachments		DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".	

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

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature 	Name (Printed/Typed) Brenda R. Linster	Date 12/29/2011
Title Regulatory Advisor		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 3/5/12
Title AFM	Office FFO	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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

(Continued on page 2)

*(Instructions on page 2)

Review & Follow 19.15.16.G 2

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Hold C104

for Directional Survey
and "As Drilled" plat

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

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Hold C104

for Directional Survey
and "As Drilled" plat

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A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

NOTIFY AZTEC UDD 24 HRS
PRIOR TO CASING & CEMENT

Hold C104
for Directional Survey
and "As Drilled" plat

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District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 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

Bureau of Land Management
Albuquerque Field Office

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

Form C-102

Revised August 1, 2011

Submit one copy to
Albuquerque District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-043-21118	Pool Code 42289	Pool Name LYBROOK GALLUP
Property Code 39120	Property Name LYBROOK H26 2307	Well Number H26-2307 01H
OGRI No. 282327	Operator Name ENCANA OIL & GAS (USA) INC.	Elevation 7234'

10 Surface Location

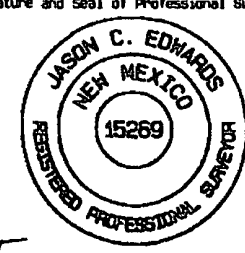
UL or lot no.	Section	Township	Range	Lot 10	Feet from the	North/South line	Feet from the	East/West line	County
H	26	23N	7W		2257	NORTH	357	EAST	SANDOVAL

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 10	Feet from the	North/South line	Feet from the	East/West line	County
E	26	23N	7W		2257	NORTH	330	WEST	SANDOVAL

Dedicated Acres 160 5/2 1/2 Entire Section	Joint or Initial	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

16 N88°09'35"W 2615.30' (MEASURED) N88°55'W 2613.27' (RECORD) N88°12'03"W 2601.33' (MEASURED) N88°55'W 2613.27' (RECORD) N88°10'9"W 4534.0' 2257' 330' 26 BOTTOM-HOLE LAT: 36.19830°N LONG: 107.55173°W DATUM: NAD1927 SURFACE LOCATION LAT: 36.19807°N LONG: 107.53635°W DATUM: NAD1927 LAT: 36.19832°N LONG: 107.55234°W DATUM: NAD1983 LAT: 36.19809°N LONG: 107.53696°W DATUM: NAD1983 N89°11'W 2621.52' (RECORD) N88°28'55"W 2619.94' (MEASURED) N89°11'W 2621.52' (RECORD) N88°28'22"W 2619.83' (MEASURED) 2257' 357' N88°48'W 2589.84' (RECORD) N88°09'13"W 2590.49' (MEASURED) N88°48'W 2589.84' (RECORD) N88°09'17"W 2590.24' (MEASURED)	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. <i>Brenda R. Linster</i> Signature Brenda R. Linster Printed Name brenda.linster@encana.com E-mail Address 18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Survey Date: NOVEMBER 2, 2011 Signature and Seal of Professional Surveyor  <i>JASON C. EDWARDS</i> Certificate Number 15269
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SHEET A

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Directions from the Intersection of US Hwy 550 & US Hwy 64

in Bloomfield, NM to Eucasa Oil & Gas (USA) Inc. Lybrook H26-2307 01H

2257' FNL & 357' FEL, Section 26, T23N, R7W, N.M.P.M., Sandoval County, NM

Latitude: 36.19809°N Longitude: 107.53696°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 48.2 miles to Mile Marker 103.1;

Go right (South-easterly) for 2.7 miles to fork in road;

Go right (North-westerly) 0.1 miles to new access on left-hand side of existing roadway which continues for 25.0' to staked location.

SHEET C

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Lybrook H26-2307 01H
SHL: SENE Section 26, T23N, R7W
2257 FNL and 357 FEL
BHL: SWNW Section 26, T23N, R7W
2257 FNL and 330 FWL
Sandoval County, New Mexico
Lease Number: NM 28748

**Encana Oil & Gas (USA) Inc.
Drilling Plan**

1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)

The estimated tops of important geologic markers are as follows:

<u>Formation</u>	<u>Depth (TVD)</u>
Nacimiento	100'
Ojo Alamo	1417'
Kirtland	1600'
Fruitland Coal	1840'
Pictured Cliffs	2074'
Lewis	2225'
Cliffhouse	3490'
Menefee	3655'
Point Lookout	4358'
Mancos	4565'
Gallup	5355'
Upper Carlile	5873'
Juana Lopez	5943'
Lower Carlile	6073'
Greenhorn	6284'
Graneros	6335'
Dakota	6385'
Morrison	6640'

The referenced surface elevation is 7234', KB 7245'

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

<u>Substance</u>	<u>Formation</u>	<u>Depth (TVD)</u>
Water	Ojo Alamo	1417'
Gas	Fruitland Coal	1840'
Gas	Pictured Cliffs	2074'
Gas	Cliffhouse	3490'
Gas	Point Lookout	4358'
Oil/Gas	Mancos	4565'
Oil/Gas	Dakota	6385'

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 either 70 percent of the casings internal yield pressure or 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	Hole Size	Csg Size	Weight	Grade
Conductor	0-60'	26"	20"	94#	H40, STC New
Surface	0'-500'	17 1/2"	13 3/8"	48#	H40, STC New
Intermediate	0'-4800'	12 1/4"	9 5/8"	40#	J55, STC New
Production Liner	4600'-9975'	8 1/2"	5 1/2"	17#	B80*, LTC New

Casing String				Casing Strength Properties			Minimum Design Factors		
Size	Weight (lb/ft)	Grade	Connection	Collapse (psi)	Burst (psi)	Tensile (1000lb)	Collapse	Burst	Tension
13 3/8"	48	H40	STC	740	1730	322	1.125	1.1	1.5
9 5/8"	40	J55	STC	2570	3950	452	1.125	1.1	1.5
5 1/2"	17	B80	LTC	6290	7740	320	1.125	1.1	1.5

*B80 pipe specifications are attached

Casing design is subject to revision based on geologic conditions encountered.

All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1,500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

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b) The proposed cementing program is as follows:

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a pre-flush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

Casing	Depth	Cement Volume (sacks)	Cement Type&Yield	Designed TOC	Centralizers
Conductor	60'	80sk	Redi-mix Construction Grade Cement	Surface	None
Surface	500'	Lead: 130sk Tail: 100sk	Lead: Varicem Poz Cmt 1% Cal-Seal 12.7ppg, 1.78cuft/sk Tail: Type III Prem Plus 6% Salt 13.5ppg 1.77cuft/sk	Surface	1 per joint on bottom 3 joints
Intermediate	4800'	50% open hole excess Lead: 1407sk Tail: 176sk	Lead: Fillseal Poz Cmt 1% foam 13ppg, 1.43cuft/sk Tail: HalCem Class H 1% foam 13ppg 1.43cuft/sk	Surface	1 per joint for bottom 3 joints, 1 every 3 joints for remaining joints, turbolizers will be used at base of the Ojo Alamo
Production Liner*	4600'-9975'	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 adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed well will be drilled in two phases. A pilot hole will be drilled in the first phase, followed by kicking off a horizontal lateral in the existing wellbore in the second phase. The intent of drilling a pilot hole is to obtain open hole log and core data. The intent of the second phase of the well is to plug back the pilot hole with cement to the kick off point. After plugging back, the plan is to drill a horizontal lateral from the kick off point in the existing wellbore to the proposed bottom hole location.

Directional plans are attached.

Lybrook H26-2307 01H**SHL: SENE Section 26, T23N, R7W****2257 FNL and 357 FEL****BHL: SWNW Section 26, T23N, R7W****2257 FNL and 330 FWL****Sandoval County, New Mexico****Lease Number: NM 28748**

Well Phase	Description	Proposed Depth (TVD/MD)	Formation
1	Vertical Pilot Hole	6750'/6750'	Morrison
2	Horizontal Lateral	5629'/9975'	Gallup

Proposed Plug Back Procedure:

TOPS:	TVD
KOP	5056'
Graneros Shale	6335'
Dakota	6385'

Set 2 cement plugs in 8 1/2" hole

Plug A: Bottom plug over Dakota

Plug B: Kick plug at KOP

Plug A

1. TIH to TD of vertical pilot hole at 6750'
2. Spot 400' cement plug from 6350' - 6750'
 - a. 135sx of Class A cement (1.18ft³/sk yield)
 - b. Spot tuned spacer
3. Pull uphole and reverse out
4. TIH and tag plug, proceed when cement is solid
5. Fill hole and move uphole to spot kick plug

Plug B

1. Spot 300' kick plug from 4956' - 5256'
 - a. 91sx of Class A cement with salt (1.3ft³/sk yield)
 - b. Spot tuned spacer
2. Pull uphole and reverse out
3. Pump bottoms up 2 times, pull uphole
4. Tag plug, drill ahead to KOP when cement is solid

6. DRILLING FLUIDS PROGRAM

a) Phase 1, Vertical Pilot Hole:

Hole Size (in)	TVD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
26"	0-60'	Fresh Water	8.3-9.2	38-100	4-28
17 1/2"	0-500'	Fresh Water	8.4-8.6	60-70	NC
12 1/4"	500-4800'	Fresh Water LSND	8.5-8.8	40-50	8-10
8 1/2"	4800-6750'	Fresh Water LSND	8.5-8.8	40-50	8-10

b) Phase 2, Kick off to Horizontal Lateral:

Hole Size (in)	TVD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
8 1/2"	5056' (KOP)- 9975'	Synthetic Oil Based Mud	8.6-9.0	15-25	<15

Lybrook H26-2307 01H

**SHL: SENE Section 26, T23N, R7W
2257 FNL and 357 FEL**

**BHL: SWNW Section 26, T23N, R7W
2257 FNL and 330 FWL**

Sandoval County, New Mexico

Lease Number: NM 28748

- 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, including fresh water and oil-based operations. 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 and LOGGING

- a) Drill Stem Testing – None anticipated
- b) Coring – Obtain core starting in the Mancos formation. Specific cored intervals will be determined real time by onsite geologists.
- c) Mud Logging – Mud loggers will be on location from Surface Casing to TD.
- d) Logging – See Below

Open Hole:

Triple combo with Spectral Gamma TD to surface casing

Specialty logs will be decided real time by onsite geologists

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 +/- 3,159 psi based on a 9.0 ppg at 6750' TVD of the vertical pilot hole. 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.

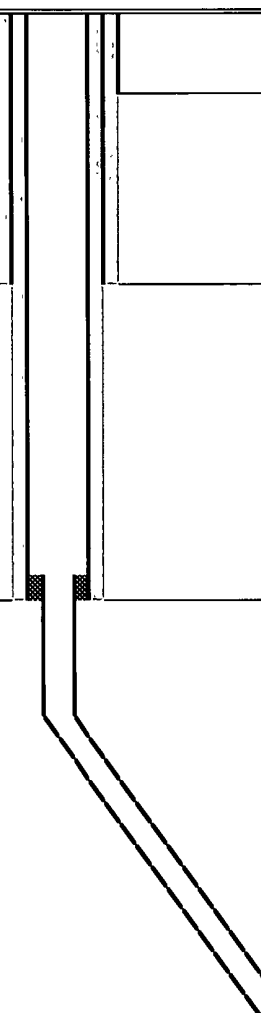
9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on March 1, 2012. 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 45 days.

10. NOTIFICATION REQUIREMENTS & OTHER ITEMS

- a) The spud date will be reported orally to the Authorized Officer within 24 hours prior to spudding. Written notification via a Sundry Notice (Form 3160-5) will be submitted to the Authorized Officer within 5 days of spudding.
- b) The Authorized Officer will be notified at least 24 hours in advance of BOP pressure tests.

LOC: Sec 26-T23N-R7W County: Sandoval WELL: Lybrook H26-2307 01H			WELL SUMMARY			encana™ natural gas		ENG: J. Fox/ A. 12/28/11 RIG: GLE: xxx RKBE: xxx	
MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH			HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			TVD	MD					
		Nacimiento	60	60'		26	20" 94# 80sx Type I Neat 48 8ppg cmt	Fresh wtr 8 3-9 2 Vis 38-100 YP 4-28 FL 4-28	
Surveys After csg is run	None Mud logger onsite at spud		500	500		17 1/2	13 3/8" 48ppf H40 STC Lead 130sx Vancem Poz cmt 1% Cal-Seal 12.7ppg 1.78cuft/sk (231 cuft) + tail 100sx Type III Prem Plus 0.3% Thix 6% Salt 13.5ppg 1.77cuft/sk (177 cuft). TOC @ sfc.	Fresh wtr 8 4-8 6 Vis 40-50 YP 25-35	Vertical <1°
Surveys every 500'	Triple combo	Ojo Alamo Ss Kirtland Shale Fruitland Coal Pictured Cliffs Ss Lewis Shale Cliffhouse Ss Menefee Fn Point Lookout Ss Mancos Sh	1417 1600 1840 2074 2225 3490 3655 4358 4565 4800			12 1/4	9 5/8" 40ppf J55 STC 50% OH Excess: Lead 1407sx Fillseal Poz Cmt w/1% foam 13ppg 1.43cuft/sk (2012 cuft) + tail 176sx HalCem Cmt Class H 1% foam 13ppg 1.43cuft/sk (252 cuft) Permit TOC @ surface	Fresh Wtr 8 5-8 8 Vis 40-50 YP 10-12 FL 8-10	Vertical <1°
Surveys every 500' Gyro at CP MWD Gamma Directional	High Def DLL Microlaterlog WTS comp Neut WTS ZDL with PE Caliper Digital GR DAL	KICK OFF PT	5056			8 1/2 w/opt 7 7/8 in lateral	5 1/2" 17ppf I/L80 LTC Running external swellable csg packers for isolation of prod string	Fresh Wtr LSND-in pilot 8 5-8 8 Switch to OBM at K/O 8 6-9 0	KOP 5056 10 deg/100'
		Gallup Top horz target Prodelta Gallup Upper Carlile Shale Juana Lopez Sh Lower Carlile Sh Greenhorn LS Graneros Sh Dakota Grp Morrison Pilot Hole TD	5355 5628 5665 5873 5943 6073 6284 6335 6385 6640 6750	5961			4013' Lateral	8 6-9 0 OBM	5594'TVD TD = 9,975' MD

NOTES:

- 1) Drill with 26" bit to 60', set 20" 94# conductor pipe
- 2) Drill surface to 500', R&C 13 3/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to 4800', 12 1/4" hole size
- 5) Run OH logs, R&C 9 5/8" casing, circ cmt 50' into sur csg shoe
- 6) Drill 8 1/2" hole to core point, core Gallup, confirm coring details
- 7) RIH with 8 1/2" bit to drill 150' rathole, run OH logs
- 8) Plugback to 4800' with cmt
- 9) PU directional tools and K/O cmt plug and start curve at 10deg/100' build rate
- 10) Drill curve to 20-30deg then switch over to OBM system
- 11) If drill curve without hole issues, omit contingent csg string and proceed with 8 1/2 bit to landing depth
- 12) If need bit trip, option to switch to 7 7/8 bit for remainder of well
- 13) Land at 90deg, drill 4000' lateral to 9,975', run 5 1/2" liner with external swellable csg packers

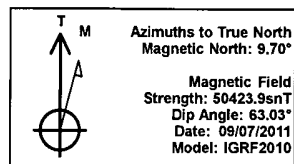
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Encana Oil & Gas
 Project: San Juan Co., NM
 Site: Sec.26-T23N-R7W
 Well: Lybrook H26-2307 01H
 Wellbore: Wellbore #1
 Design: Design #1
 Lat: 36.197890
 Long: -107.536170
 Pad GL: 7231.00
 KB: WELL @ 7245.00usft

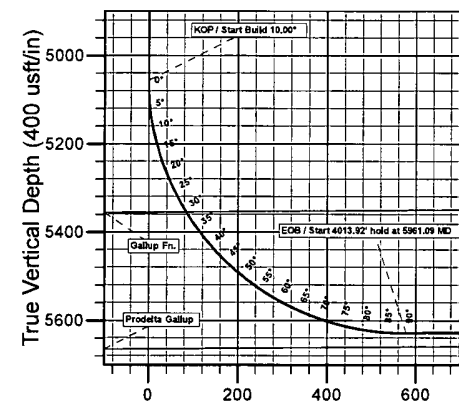


PROJECT DETAILS: San Juan Co., NM	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Western Zone
System Datum:	Mean Sea Level



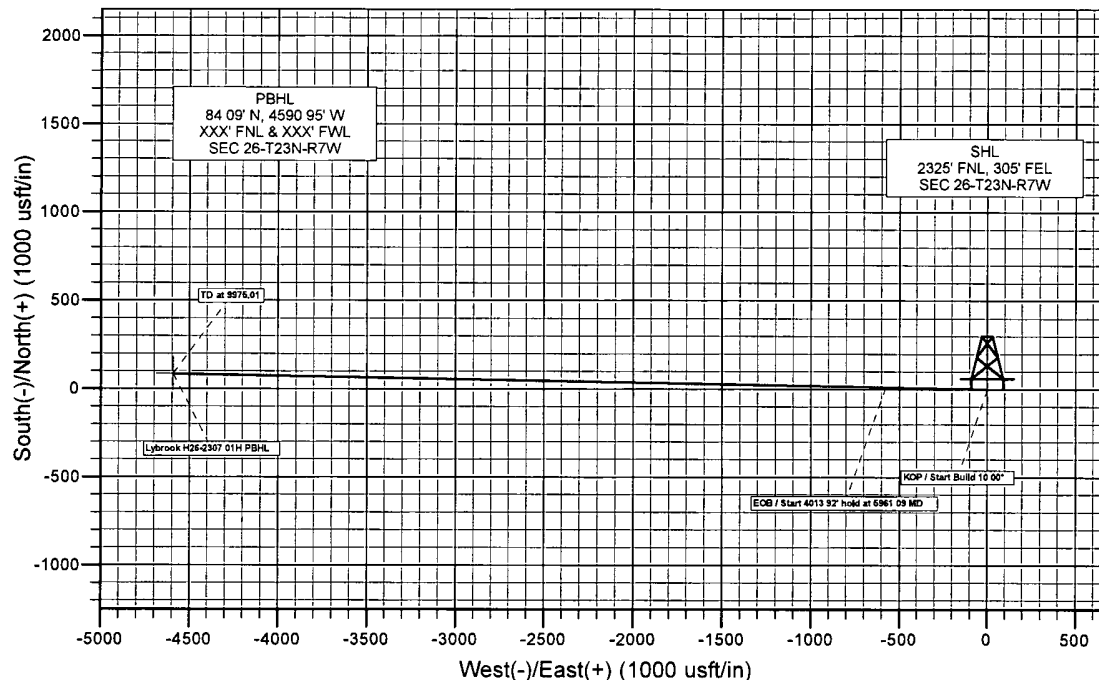
WELL DETAILS: Lybrook H26-2307 01H						
+N/-S	+E/-W	Northing	Ground Level: Easting	7231.00 Latitude	Longitude	Slot
0.00	0.00	1891463.642	2810768.829	36.197890	-107.536170	

WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Lybrook H26-2307 01H PBHL	5594.00	84.09	-4590.95	36.198120	-107.551730	Point

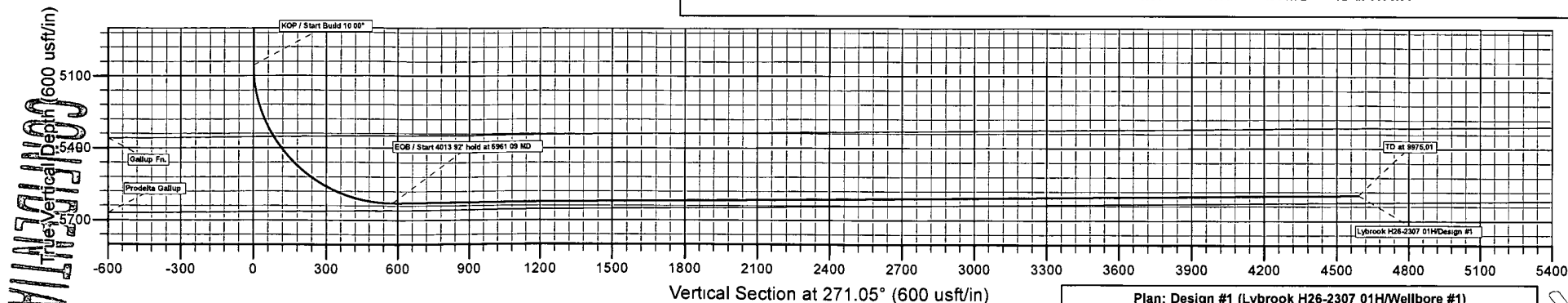


CASING DETAILS	
No casing data is available	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
100.00	100.00	Nacimiento Fn.
1417.00	1417.00	Ojo Alamo Ss.
1600.00	1600.00	Kirtland Shale
1840.00	1840.00	Fruitland Coal
2074.00	2074.00	Pictured Cliffs Ss.
2225.00	2225.00	Lewis Shale
3490.00	3490.00	Cliffhouse Ss.
3655.00	3655.00	Manefee Fn.
4358.00	4358.00	Point Lookout Ss.
4565.00	4565.00	Mancon Shale
5354.27	5369.70	Gallup Fn.



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5056.09	0.00	0.00	5056.09	0.00	0.00	0.00	0.00	0.00	KOP / Start Build 10.00°
5961.09	90.50	271.05	5629.03	10.58	-577.86	10.00	271.05	577.96	EOB / Start 4013.92' hold at 5961.09 MD
9975.01	90.50	271.05	5594.00	84.09	-4590.95	0.00	0.00	4591.72	TD at 9975.01



Plan: Design #1 (Lybrook H26-2307 01H/Wellbore #1)
 Created By: Bret Wolford Date: 12:13, September 07 2011

CONFIDENTIAL

Database:	EDM 5000.1 EDMDBBW	Local Co-ordinate Reference:	Well Lybrook H26-2307 01H
Company:	Encana Oil & Gas	TVD Reference:	WELL @ 7245.00usft
Project:	San Juan Co., NM	MD Reference:	WELL @ 7245.00usft
Site:	Sec.26-T23N-R7W	North Reference:	True
Well:	Lybrook H26-2307 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	San Juan Co., NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site		Sec.26-T23N-R7W			
Site Position:		Northing:		1,891,463.642 usft	
From:		Easting:		2,810,768.829 usft	
Position Uncertainty:		Slot Radius:		13-3/16"	
Lat/Long		Longitude:		-107.536170	
0.00 usft		Grid Convergence:		0.18 °	

Well	Lybrook H26-2307 01H					
Well Position	+N/-S	0.00 usft	Northing:	1,891,463.642 usft	Latitude:	36.197890
	+E/-W	0.00 usft	Easting:	2,810,768.829 usft	Longitude:	-107.536170
Position Uncertainty	-	0.00 usft	Wellhead Elevation:	usft	Ground Level:	7,231.00 usft

Wellbore		Wellbore #1			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	09/07/11	9.70	63.03	50,424

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	5,594.00	0.00	0.00	271.05

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO * (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,056.09	0.00	0.00	5,056.09	0.00	0.00	0.00	0.00	0.00	0.00	
5,961.09	90.50	271.05	5,629.03	10.58	-577.86	10.00	10.00	0.00	271.05	Lybrook H26-2307 01
9,975.01	90.50	271.05	5,594.00	84.09	-4,590.95	0.00	0.00	0.00	0.00	Lybrook H26-2307 01

Database:	EDM 5000.1 EDMDBBW	Local Co-ordinate Reference:	Well Lybrook H26-2307 01H
Company:	Encana Oil & Gas	TVD Reference:	WELL @ 7245.00usft
Project:	San Juan Co., NM	MD Reference:	WELL @ 7245.00usft
Site:	Sec.26-T23N-R7W	North Reference:	True
Well:	Lybrook H26-2307 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nacimiento Fn.									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
Ojo Alamo Ss.									
1,417.00	0.00	0.00	1,417.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Kirtland Shale									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
Fruitland Coal									
1,840.00	0.00	0.00	1,840.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Pictured Cliffs Ss.									
2,074.00	0.00	0.00	2,074.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Lewis Shale									
2,225.00	0.00	0.00	2,225.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
Cliffhouse Ss.									
3,490.00	0.00	0.00	3,490.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
Menefee Fn.									
3,655.00	0.00	0.00	3,655.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1 EDMDBBW	Local Co-ordinate Reference:	Well Lybrook H26-2307 01H
Company:	Encana Oil & Gas	TVD Reference:	WELL @ 7245.00usft
Project:	San Juan Co., NM	MD Reference:	WELL @ 7245.00usft
Site:	Sec.26-T23N-R7W	North Reference:	True
Well:	Lybrook H26-2307 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
Point Lookout Ss.									
4,358.00	0.00	0.00	4,358.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Mancon Shale									
4,565.00	0.00	0.00	4,565.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP / Start Build 10.00°									
5,056.09	0.00	0.00	5,056.09	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	4.39	271.05	5,099.96	0.03	-1.68	1.68	10.00	10.00	0.00
5,150.00	9.39	271.05	5,149.58	0.14	-7.68	7.68	10.00	10.00	0.00
5,200.00	14.39	271.05	5,198.49	0.33	-17.98	17.98	10.00	10.00	0.00
5,250.00	19.39	271.05	5,246.32	0.60	-32.50	32.50	10.00	10.00	0.00
5,300.00	24.39	271.05	5,292.70	0.94	-51.13	51.14	10.00	10.00	0.00
5,350.00	29.39	271.05	5,337.28	1.35	-73.73	73.74	10.00	10.00	0.00
Gallup Fn.									
5,369.70	31.36	271.05	5,354.27	1.53	-83.69	83.70	10.00	10.00	0.00
5,400.00	34.39	271.05	5,379.72	1.83	-100.13	100.15	10.00	10.00	0.00
5,450.00	39.39	271.05	5,419.69	2.38	-130.14	130.16	10.00	10.00	0.00
5,500.00	44.39	271.05	5,456.90	2.99	-163.50	163.53	10.00	10.00	0.00
5,550.00	49.39	271.05	5,491.06	3.66	-199.99	200.02	10.00	10.00	0.00
5,600.00	54.39	271.05	5,521.91	4.38	-239.31	239.35	10.00	10.00	0.00
5,650.00	59.39	271.05	5,549.21	5.15	-281.17	281.22	10.00	10.00	0.00
5,700.00	64.39	271.05	5,572.76	5.96	-325.26	325.31	10.00	10.00	0.00
5,750.00	69.39	271.05	5,592.38	6.80	-371.22	371.28	10.00	10.00	0.00
5,800.00	74.39	271.05	5,607.92	7.67	-418.72	418.79	10.00	10.00	0.00
5,850.00	79.39	271.05	5,619.25	8.56	-467.39	467.47	10.00	10.00	0.00
5,900.00	84.39	271.05	5,626.30	9.47	-516.87	516.96	10.00	10.00	0.00
5,950.00	89.39	271.05	5,629.02	10.38	-566.77	566.87	10.00	10.00	0.00
EOB / Start 4013.92° hold at 5961.09 MD									
5,961.09	90.50	271.05	5,629.03	10.58	-577.86	577.96	10.00	10.00	0.00
6,000.00	90.50	271.05	5,628.69	11.30	-616.76	616.87	0.00	0.00	0.00
6,100.00	90.50	271.05	5,627.81	13.13	-716.74	716.86	0.00	0.00	0.00
6,200.00	90.50	271.05	5,626.94	14.96	-816.72	816.86	0.00	0.00	0.00
6,300.00	90.50	271.05	5,626.07	16.79	-916.70	916.85	0.00	0.00	0.00
6,400.00	90.50	271.05	5,625.20	18.62	-1,016.68	1,016.85	0.00	0.00	0.00
6,500.00	90.50	271.05	5,624.32	20.45	-1,116.66	1,116.85	0.00	0.00	0.00
6,600.00	90.50	271.05	5,623.45	22.29	-1,216.64	1,216.84	0.00	0.00	0.00
6,700.00	90.50	271.05	5,622.58	24.12	-1,316.62	1,316.84	0.00	0.00	0.00
6,800.00	90.50	271.05	5,621.71	25.95	-1,416.60	1,416.84	0.00	0.00	0.00
6,900.00	90.50	271.05	5,620.83	27.78	-1,516.58	1,516.83	0.00	0.00	0.00
7,000.00	90.50	271.05	5,619.96	29.61	-1,616.56	1,616.83	0.00	0.00	0.00
7,100.00	90.50	271.05	5,619.09	31.44	-1,716.54	1,716.82	0.00	0.00	0.00
7,200.00	90.50	271.05	5,618.21	33.27	-1,816.52	1,816.82	0.00	0.00	0.00
7,300.00	90.50	271.05	5,617.34	35.11	-1,916.50	1,916.82	0.00	0.00	0.00

Database:	EDM 5000.1 EDMDBBW	Local Co-ordinate Reference:	Well Lybrook H26-2307 01H
Company:	Encana Oil & Gas	TVD Reference:	WELL @ 7245.00usft
Project:	San Juan Co., NM	MD Reference:	WELL @ 7245.00usft
Site:	Sec.26-T23N-R7W	North Reference:	True
Well:	Lybrook H26-2307 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,400.00	90.50	271.05	5,616.47	36.94	-2,016.47	2,016.81	0.00	0.00	0.00
7,500.00	90.50	271.05	5,615.60	38.77	-2,116.45	2,116.81	0.00	0.00	0.00
7,600.00	90.50	271.05	5,614.72	40.60	-2,216.43	2,216.81	0.00	0.00	0.00
7,700.00	90.50	271.05	5,613.85	42.43	-2,316.41	2,316.80	0.00	0.00	0.00
7,800.00	90.50	271.05	5,612.98	44.26	-2,416.39	2,416.80	0.00	0.00	0.00
7,900.00	90.50	271.05	5,612.11	46.09	-2,516.37	2,516.79	0.00	0.00	0.00
8,000.00	90.50	271.05	5,611.23	47.92	-2,616.35	2,616.79	0.00	0.00	0.00
8,100.00	90.50	271.05	5,610.36	49.76	-2,716.33	2,716.79	0.00	0.00	0.00
8,200.00	90.50	271.05	5,609.49	51.59	-2,816.31	2,816.78	0.00	0.00	0.00
8,300.00	90.50	271.05	5,608.62	53.42	-2,916.29	2,916.78	0.00	0.00	0.00
8,400.00	90.50	271.05	5,607.74	55.25	-3,016.27	3,016.77	0.00	0.00	0.00
8,500.00	90.50	271.05	5,606.87	57.08	-3,116.25	3,116.77	0.00	0.00	0.00
8,600.00	90.50	271.05	5,606.00	58.91	-3,216.23	3,216.77	0.00	0.00	0.00
8,700.00	90.50	271.05	5,605.12	60.74	-3,316.21	3,316.76	0.00	0.00	0.00
8,800.00	90.50	271.05	5,604.25	62.58	-3,416.19	3,416.76	0.00	0.00	0.00
8,900.00	90.50	271.05	5,603.38	64.41	-3,516.17	3,516.76	0.00	0.00	0.00
9,000.00	90.50	271.05	5,602.51	66.24	-3,616.15	3,616.75	0.00	0.00	0.00
9,100.00	90.50	271.05	5,601.63	68.07	-3,716.12	3,716.75	0.00	0.00	0.00
9,200.00	90.50	271.05	5,600.76	69.90	-3,816.10	3,816.74	0.00	0.00	0.00
9,300.00	90.50	271.05	5,599.89	71.73	-3,916.08	3,916.74	0.00	0.00	0.00
9,400.00	90.50	271.05	5,599.02	73.56	-4,016.06	4,016.74	0.00	0.00	0.00
9,500.00	90.50	271.05	5,598.14	75.40	-4,116.04	4,116.73	0.00	0.00	0.00
9,600.00	90.50	271.05	5,597.27	77.23	-4,216.02	4,216.73	0.00	0.00	0.00
9,700.00	90.50	271.05	5,596.40	79.06	-4,316.00	4,316.73	0.00	0.00	0.00
9,800.00	90.50	271.05	5,595.53	80.89	-4,415.98	4,416.72	0.00	0.00	0.00
9,900.00	90.50	271.05	5,594.65	82.72	-4,515.96	4,516.72	0.00	0.00	0.00
TD at 9975.01 - Lybrook H26-2307 01H PBHL									
9,975.01	90.50	271.05	5,594.00	84.09	-4,590.95	4,591.72	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Lybrook H26-2307 01H I	0.00	0.00	5,594.00	84.09	-4,590.95	1,891,533.673	2,806,177.643	36.198120	-107.551730
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Database:	EDM 5000.1 EDMDBBW	Local Co-ordinate Reference:	Well Lybrook H26-2307 01H
Company:	Encana Oil & Gas	TVD Reference:	WELL @ 7245.00usft
Project:	San Juan Co., NM	MD Reference:	WELL @ 7245.00usft
Site:	Sec.26-T23N-R7W	North Reference:	True
Well:	Lybrook H26-2307 01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
100.00	100.00	Nacimiento Fn.		-0.50	271.05	
1,417.00	1,417.00	Ojo Alamo Ss.		-0.50	271.05	
1,600.00	1,600.00	Kirtland Shale		-0.50	271.05	
1,840.00	1,840.00	Fruitland Coal		-0.50	271.05	
2,074.00	2,074.00	Pictured Cliffs Ss.		-0.50	271.05	
2,225.00	2,225.00	Lewis Shale		-0.50	271.05	
3,490.00	3,490.00	Cliffhouse Ss.		-0.50	271.05	
3,655.00	3,655.00	Menefee Fn.		-0.50	271.05	
4,358.00	4,358.00	Point Lookout Ss.		-0.50	271.05	
4,565.00	4,565.00	Mancon Shale		-0.50	271.05	
5,369.70	5,355.00	Gallup Fn.		-0.50	271.05	

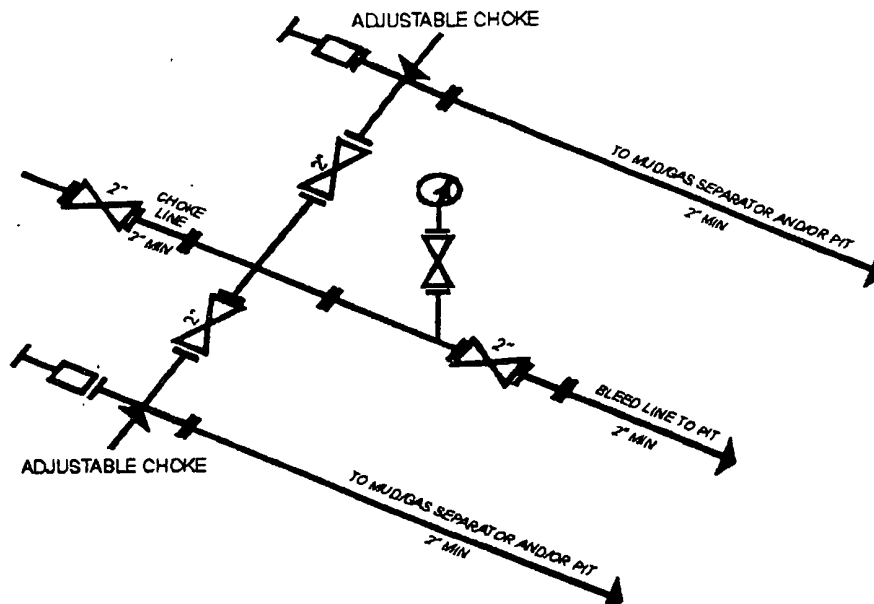
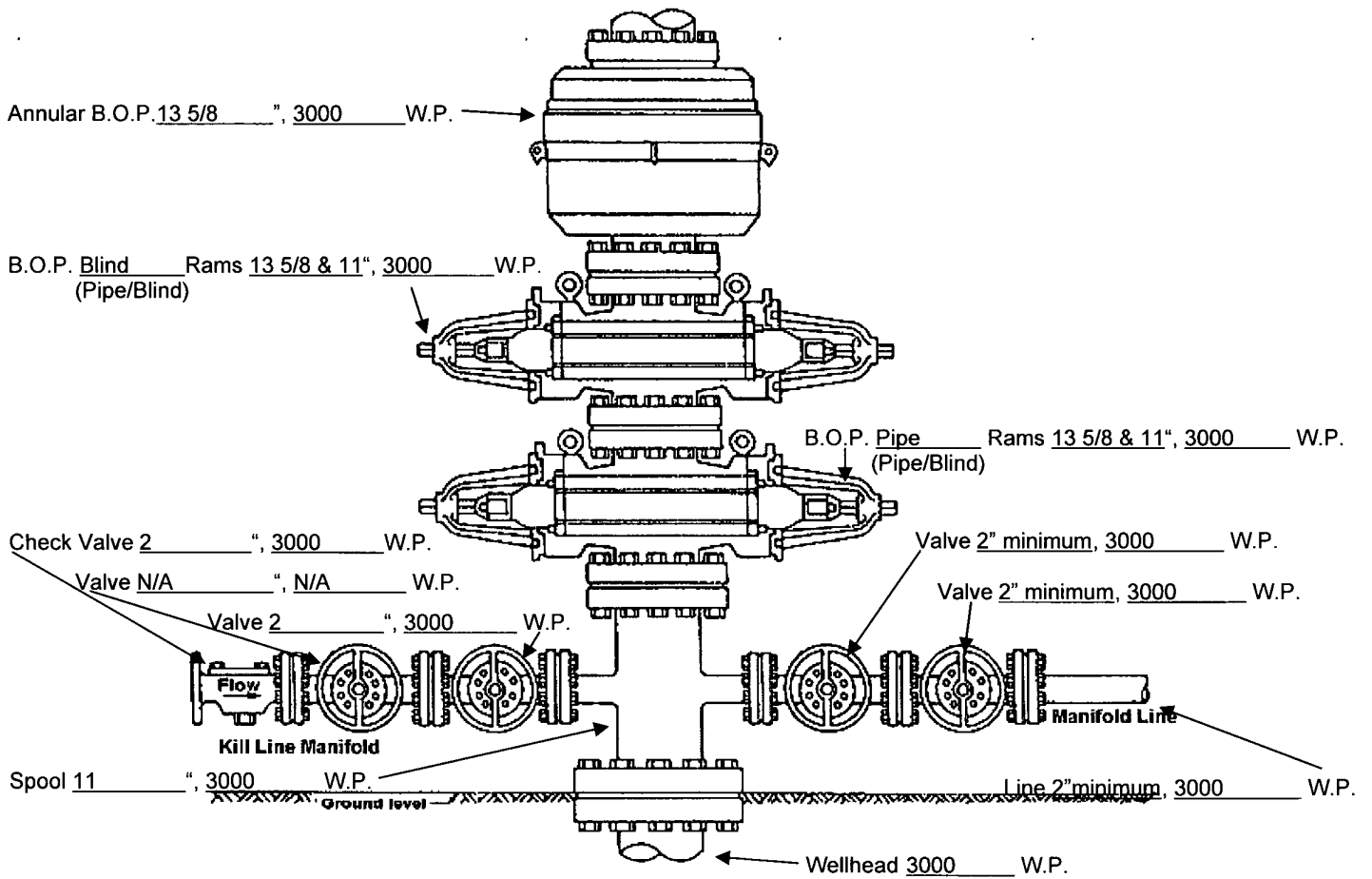
Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
5,056.09	5,056.09	0.00	0.00	KOP / Start Build 10.00"	
5,961.09	5,629.03	10.58	-577.86	EOB / Start 4013.92' hold at 5961.09 MD	
9,975.01	5,594.00	84.09	-4,590.95	TD at 9975.01	

WELLHEAD BLOWOUT CONTROL SYSTEM



Well name and number:

Lybrook H26-2307 01H



CONFIDENTIAL