

RECEIVED

Form 3160-5  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Farmington Field Office  
Bureau of Land Management

AUG 07 2012

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

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

5- Lease Serial No.  
NM-28748

6 If Indian, Allottee or Tribe Name  
N/A

RCVD AUG 24 '12

**SUBMIT IN TRIPLICATE – Other instructions on page 2.**

1 Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

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

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

3b. Phone No. (include area code)  
720-876-3437

7 If Unit of CA/Agreement, Name and/or No.

OIL CONS. DIV.

8. Well Name and No.  
Lybrook H26-2307 01H

DIST. 3

9 API Well No.  
30-043-21118

10. Field and Pool or Exploratory Area  
Lybrook Gallup

4. Location of Well (Footage, Sec., T, R, M., or Survey Description)  
SHL: 2272 FNL and 357' FEL Section 26, T23N, R7W  
BHL: 2030' FNL and 330' FWL Section 26, T23N, R7W

11. Country or Parish, State  
Sandoval New Mexico

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13 Describe Proposed or Completed Operation. Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Encana Oil & Gas (USA) Inc. (Encana) would like to adjust the surface hole location, bottom hole location, casing and cementing program and mud program for the Lybrook H26-2307 01H oil well.

The new surface hole location will be 2272' FNL, 357' FEL Section 26, T23N, R7W. The new bottom hole location will be 2030' FNL, 330' FWL Section 26, T23N, R7W.

Encana's casing program will contain the following changes: Surface casing: from 13 3/8" to 9 5/8". Intermediate casing: from 9 5/8" to 7", will be set at 5904' MD (88deg in curve). Production string: from 5 1/2" to 4 1/2" to be set from 5704' to 9939' MD at the well's TD. Encana will use a gelled freshwater mud system in the surface and intermediate sections and an oil-based mud system from 5904' MD/5597' TVD (intermediate casing point) to the TD of the horizontal lateral.

Please see attached 10 point drilling plan for cement changes.

**CONDITIONS OF APPROVAL**

Adhere to previously issued stipulations.

Comply with 19, 15, 16, 10, G-2.

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

**CONFIDENTIAL**

Hold C104 for Directional Survey and "As Drilled" plat

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

Name (Printed/Typed)

Amanda Cavoto

Title Engineering Technologist

Signature

*Amanda Cavoto*

Date

08/06/12

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Troy L. Solvers

Title

Petroleum Engineer

Date

8/14/2012

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

Office

FFO

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

(Instructions on page 2)

Hold C104

NMOCD W

for Directional Survey and "As Drilled" plat

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

Form C-102  
Revised August 1, 2011

Submit one copy to  
Appropriate District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Drive  
Santa Fe, NM 87505

☒ AMENDED REPORT

RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number <b>36-043-21118</b>		*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code		*Property Name LYBROOK H26-2307	
*OGRIID No. 282327		*Operator Name ENCANA OIL & GAS (USA) INC.	
		*Elevation 7233'	

AUG 07 2012

Field Office  
Bureau of Oil and Gas Management

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	26	23N	7W		2272	NORTH	357	EAST	SANDOVAL

11 Bottom Hole Location If Different From Surface

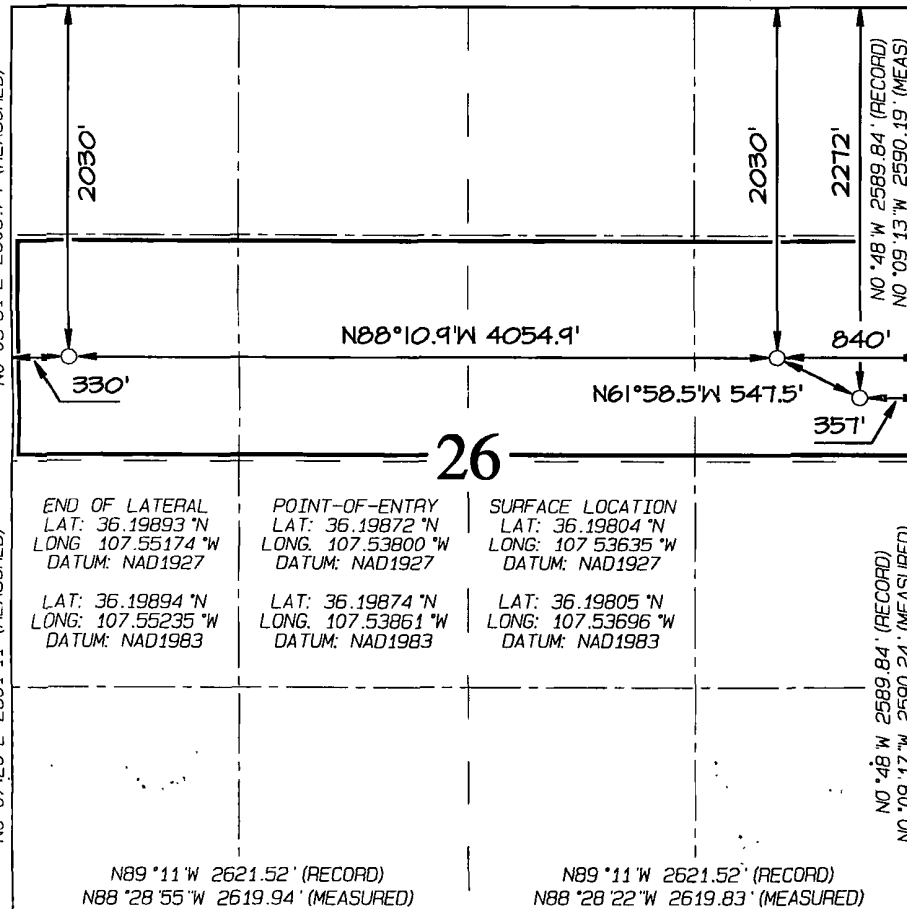
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	25	23N	7W		2030	NORTH	330	WEST	SANDOVAL

12 Dedicated Acres 160.0 Acres (S/2 N/2) Section 26		13 Joint or Infill	14 Consolidation Code	15 Order No. RCVD AUG 24 '12
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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 OIL CONS. DIV.

16 N88°55'W 2613.27' (RECORD)  
N88°09'35"W 2615.30' (MEASURED)  
N88°55'W 2613.27' (RECORD)  
N88°12'03"W 2601.33' (MEASURED)

DIST. 3



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

Signature: *Brenda R. Linster* Date: 08/06/12  
Printed Name: Brenda R. Linster, Regulatory Advisor  
E-mail Address: brenda.linster@encana.com

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

Date of Survey: JULY 26, 2012  
Signature and Seal of Professional Surveyor



JASON C. EDWARDS  
Certificate Number 15269

Lybrook H26-2307 01H  
SHL: SENE Section 26, T23N, R7W  
2272 FNL and 357 FEL  
BHL: SWNW Section 26, T23N, R7W  
2030 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>
Ojo Alamo Ss.	1419'
Kirtland	1602'
Fruitland Coal	1842'
Pictured Cliffs	2076'
Lewis	2227'
Cliffhouse	2913'
Menefee	3657'
Point Lookout	4360'
Mancos Shale	4567'
Gallup	5357'

The referenced surface elevation is 7234', KB 7247'

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

<u>Substance</u>	<u>Formation</u>	<u>Depth (TVD)</u>
Gas	Fruitland Coal	1842'
Gas	Pictured Cliffs	2076'
Gas	Cliffhouse	2913'
Gas	Point Lookout	4360'
Oil/Gas	Mancos	4567'

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

### 3. PRESSURE CONTROL

- Pressure control equipment and configuration will be designed to meet 2M standards.
- Working pressure on rams and BOPE will be 3,000 psi
- Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
- The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
- Blind and Pipe Rams/BOP will be tested against a test plug to ~~either 70 percent of the casing internal yield pressure or~~ 100 percent of rated working pressure.
- Pressure tests are required before drilling out from under all casing strings set and cemented in place.
- BOP controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.
- BOP testing procedures and testing frequency will conform to Onshore Order No. 2.

**Lybrook H26-2307 01H****SHL: SENE Section 26, T23N, R7W  
2272 FNL and 357 FEL****BHL: SWNW Section 26, T23N, R7W  
2030 FNL and 330 FWL****Sandoval County, New Mexico****Lease Number: NM-28748**

- 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. ( See APP )

**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'	30"	20"	94#	H40, STC New
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5904'	8 1/2"	7"	26#	J55, LTC New
Production Liner	5704'-9939'	6 1/8"	4 1/2"	11.6#	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
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 1/2"	11.6	B80	LTC	6350	7780	201	1.125	1.1	1.5

\*B80 pipe specifications are attached ( See APP )

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.

- 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.

**Lybrook H26-2307 01H****SHL: SENE Section 26, T23N, R7W****2272 FNL and 357 FEL****BHL: SWNW Section 26, T23N, R7W****2030 FNL and 330 FWL****Sandoval County, New Mexico****Lease Number: NM-28748**

<b>Casing</b>	<b>Depth</b>	<b>Cement Volume (sacks)</b>	<b>Cement Type&amp;Yield</b>	<b>Designed TOC</b>	<b>Centralizers</b>
Conductor	60'	100sk	Redi-mix Construction Grade Cement	Surface	None
Surface	500'	178sk	Type III Cement + 1% CaCl + 0.25lb/sk Cello Flake + 0.2% FL, 14.6ppg, 1.38cuf/sk	Surface	1 per joint on bottom 3 joints
Intermediate	5904'	30% open hole excess Lead: 155sk Tail: 472sk	Lead: PremLite + 3% CaCl + 0.25lb/sk Cello Flake + 5lb/sk LCM, 12.1ppg 2.13cuf/sk Tail: Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg 1.38cuf/sk	Surface	1 per joint for bottom 3 joints, 1 every 3 joints for remaining joints
Production Liner*	5704' - 9939'	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 a 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 5024'. Directional plans are attached.

<b>Description</b>	<b>Proposed Depth (TVD/MD)</b>	<b>Formation</b>
Horizontal Lateral TD	5576'/9939'	Gallup

**Lybrook H26-2307 01H**  
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**2030 FNL and 330 FWL**  
**Sandoval County, New Mexico**  
**Lease Number: NM-28748**

## 6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	TVD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
30"	0-60'	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0-500'	Fresh Water	8.4-8.6	60-70	NC
8 1/2"	500-5904'	Fresh Water LSND	8.5-8.8	40-50	8-10

b) Intermediate Casing Point to TD:

Hole Size (in)	MD (ft)	Mud Type	Density (lb/gal)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	5904'-9939'	Synthetic Oil Based Mud	8.6-9.0	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, 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 – None anticipated.  
c) Mud 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 +/- 2619 psi based on a 9.0 ppg at 5596' TVD of the landing point of the horizontal lateral. No abnormal pressure or temperatures are anticipated.

No hydrogen sulfide gas is anticipated, however, if H<sub>2</sub>S is encountered, the guidelines in Onshore Order No. 6 will be followed.

**Lybrook H26-2307 01H**

**SHL: SENE Section 26, T23N, R7W  
2272 FNL and 357 FEL**

**BHL: SWNW Section 26, T23N, R7W  
2030 FNL and 330 FWL**

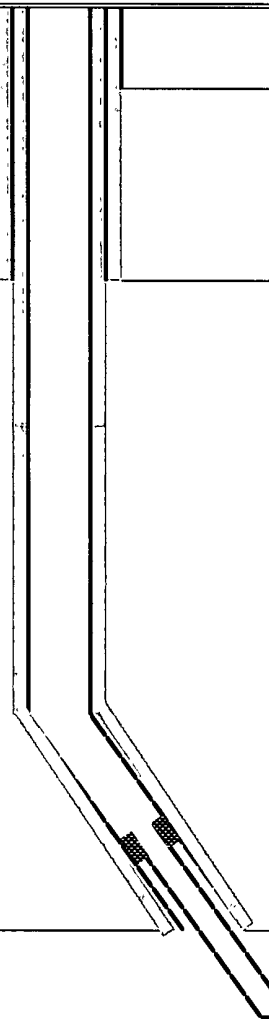
**Sandoval County, New Mexico**

**Lease Number: NM-28748**

**9. ANTICIPATED START DATE AND DURATION OF OPERATIONS**

Drilling is estimated to commence on September 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 25 days.

LOC: Sec 26-T23N-R7W County: Sandoval WELL: Lybrook H26-2307 01H			Encana Natural Gas  WELL SUMMARY			<div>encana<sup>™</sup></div> <div>natural gas</div>		ENG: J. Fox/ A. RIG: GLE: 7233 RKBE: 7247		8/6/12
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 48 8ppg cmt	Fresh wtr 8 3-9 2		
Surveys After csg is run	None	Nacimiento	45			12 1/4	9 5/8" 36ppf J55 STC  TOC @ surface 178 sks Type III Cmt	Fresh wtr 8 4-8 6	Vertical <1°	
Surveys every 500'	No OH logs	Ojo Alamo Kirtland  Fruitland Coal  Pictured Cliffs Ss Lewis Shale  Cliffhouse Ss Menefee Fn Point Lookout Ss Mancos Sh	1419 1,602  1842  2076 2227  2913 3657 4360 4567			8 1/2	7" 26ppf J55 LTC  TOC @ surface 30% OH excess. 627sks Lead 155 sks Tail 472sks	Fresh Wtr 8 5-8 8	Vertical <1°	
	Mud logger onsite	KICK OFF PT   Gallup	5024   5357						KOP 5024 10 deg/100'	
			5597	5904						
		horz target Base Gallup	5596 5667	6139		6 1/8	200' overlap at liner top  3800' Lateral			
Surveys every 500' Gyro at CP MWD Gamma Directional	No OH Logs						4 1/2" 11.6ppf SB80 LTC  Running external swellable csg packers for isolation of prod string	Switch to OBM 8 6-9 0	25deg updip 5576'TVD TD = 9939' MD	

**NOTES:**

- 1) Drill with 30" bit to 60', set 20" 94# conductor pipe
- 2) Drill surface to 500', R&C 9 5/8" casing
- 3) N/U BOP and surface equipment
- 4) Drill to KOP of 5024' , 8 1/2" hole size
- 5) PU directional tools and start curve at 10deg/100' build rate
- 6) Drill to casing point of 5904' MD (88deg)
- 7) R&C 7" casing, circ cmt to surface, switch to OBM
- 8) Land at 90deg, drill 3800' lateral to 9939', run 4 1/2" liner with external swellable csg packers