R-111-POTASH

ATS-11-627

OCD Artesia

Form 3160-3
(April 2004)

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No.
E 5229, LC 68905

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No.
NMNM 71016F Poker Lake Unit

1b. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
Poker Lake Unit #327H (306402)

2 Name of Operator
BOPCO, L. P. (260737)

9 API Well No.
30-015-37251

3a Address **P. O. Box 2760**
Midland, TX 79702

3b Phone No. *(include area code)*
432-683-2277

10. Field and Pool, or Exploratory
Poker Lake SW (Delaware) (96046)

4. Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface (E) **1400' FNL, 635'FWL, Sec 12, T24S, R30E, Lt N32.235658, LgW103.840428**
At proposed prod. zone **2295' FSL,2580'FWL,Sec 2, T24S, R30E, Lt N32.245803, Lg W103.851425**

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 12, T24S, R30E, Mer NMP

14 Distance in miles and direction from nearest town or post office*
8.5 miles east of Malaga, NM

12 County or Parish
Eddy County

13 State
NM

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any)	16 No. of acres in lease	17 Spacing Unit dedicated to this well
635'	**3,800**	**200**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth	20 BLM/BIA Bond No. on file
1497'	**12,743' MD 7840' TVD**	**COB000050**
21 Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3,514' GL, 3,533' KB	**06/15/2011**	**30 days**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall 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 shall 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 authorized officer.

25 Signature	Name *(Printed/Typed)*	Date
Katy Holster	**Katy Holster**	5/17/11

Title
Administrative Assistant

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Terry L. Herrell	Terry L. Herrell	JUL - 1 2011
Title **STATE DIRECTOR**	Office **NM STATE OFFICE**	

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.

APPROVAL FOR TWO YEARS

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)

RECEIVED
JUL 15 2011
NMOCD ARTESIA

Carlsbad Controlled Water Basin
KZ 07/29/11

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

Surface casing is to be set into the Rustler below all fresh water sands.

7" casing will be set at approximately 9,153' MD, 7,910' TVD (thru curve) and cemented in two stages with DV Tool set at approximately 5000'. TOC at surface.

Production liner will be 4-1/2" run, with Baker hydraulic packers for zone isolation. Top of 4-1/2" liner will be approximately 150' above 7" casing shoe at an approximate depth of 9,003'.

Drilling procedure, BOP diagram, and anticipated tops are attached.

This well is located inside the R111 Potash area and inside Secretary's Potash area.

The surface location is outside of Poker Lake Unit. EOG lease LC 82898. Bottom hole location is unorthodox.

BOPCO, L.P., at P. O. Box 2760, Midland, TX, 79702 is a subsidiary of BOPCO, L.P., 201 Mail Street, Ft. Worth, TX, 76102. Bond No. COB000050 (Nationwide).

EIGHT POINT DRILLING PROGRAM
BOPCO, L.P.

NAME OF WELL: Poker Lake Unit #327H
LEGAL DESCRIPTION - SURFACE: 1400' FNL, 635' FWL, Section 12, T24S, R30E, Eddy County, NM.
BHL: 2295' FSL, 2580' FWL, Section 2, T24S, R30E, Eddy County, New Mexico.

POINT 1: ESTIMATED FORMATION TOPS
(See No. 2 Below)

POINT 2: WATER, OIL, GAS AND/OR MINERAL BEARING FORMATIONS

Anticipated Formation Tops: KB 3,533' (estimated)
GL 3,514'

FORMATION	ESTIMATED TOP FROM KB TVD	MD	ESTIMATED SUB-SEA TOP	BEARING
T/Fresh Water	379'	379'	+ 3,154'	Fresh Water
T/Rustler	483'	483'	+ 3,050'	Barren
T/Salt	840'	840'	+ 2,693'	Barren
B/Salt	3,915'	3,915'	- 382'	Barren
T/Lamar	4,136'	4,136'	- 603'	Barren
T/Ramsey	4,176'	4,176'	- 643'	Oil/Gas
T/Lower Cherry Canyon	6,279'	6,279'	- 2,746'	Oil/Gas
KOP	7,451'	7,451'	- 3,918'	Oil/Gas
T/Lwr Brushy Canyon "U" Sd	7,566'	7,567'	- 4,033'	Oil/Gas
T/Lwr Brushy Canyon "8A" Sd	7,720'	7,737'	- 4,187'	Oil/Gas
T/Lwr Brushy Canyon "Y" Sd	7,890'	8,008'	- 4,357'	Oil/Gas
EOC	7,928'	8,210'	- 4,395'	Oil/Gas
Target #1	7,910'	9,153'	- 4,377'	Oil/Gas
TD Horizontal Hole	7,840'	12,743'	- 4,307'	Oil/Gas

POINT 3: CASING PROGRAM

TYPE	INTERVALS (MD)	Hole Size	PURPOSE	CONDITION
20"	0'- 60'	24"	Conductor	Contractor Discretion
13-3/8", 48#, H-40, 8rd, ST&C or 54 5# J-55, 8rd, STC*	0' - 830'	17-1/2"	Surface	New
9-5/8", 40#, J-55, 8rd, LT&C	0' - 4,156'	12-1/4"	Intermediate	New
7", 26#, N-80, 8rd, LT&C or Buttress*	0' - 9,153'	8/3/4"	Production	New
4-1/2", 11.6#, HCP-110, 8rd, LT&C	9,003' – 12,743'	6-1/8"	Production	New

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48#, H-40, 8rd, ST&C	9.63	1.95	2.18
13-3/8", 54 5#, J-55, 8rd, ST&C*	13.67	2.98	3.43
9-5/8", 40#, J-55, 8rd, LT&C	14 60	1.19	1.04
7", 26#, N-80, LT&C	2 95	1.46	1.08
7", 26#, N-80, Buttress*	3.79	1.46	1.08
4-1/2", 11.6#, HCP-110, 8rd, LT&C	4.65	2.34	2.14

***Depending on Availability**

DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:

SURFACE CASING - (13-3/8")

Tension — A 1 6 design factor utilizing the effects of buoyancy (9.2 ppg).

Collapse — A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered

Burst — A 1.3 design factor with a surface pressure equal to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure a that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient. The effects of tension on burst will not be utilized.

PROTECTIVE CASING - (9-5/8")

Tension — A 1.6 design factor utilizing the effects of buoyancy (10 ppg).

Collapse — A 1 0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered

In the case of development drilling, collapse design should be analyzed using internal evacuation equal to 1/3 the proposed total depth of the well. This criterion will be used when there is absolutely no potential of the protective string being used as a production casing string.

Burst — A 1.0 surface design factor and a 1.3 downhole design factor with a surface pressure equivalent to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Back pressure will be formation pore pressure In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient.

2ND INTERMEDIATE CASING - (7")

Tension — A 1.6 design factor utilizing the effects of buoyancy (9.0 ppg).

Collapse — A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.

Burst — A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient (0.433 psi/ft) Backup on production strings will be formation pore pressure (0.433 psi/ft) The effects of tension on burst will not be utilized

PRODUCTION CASING - (4-1/2")

Tension — A 1.6 design factor utilizing the effects of buoyancy (9.0 ppg).

Collapse — A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft) The effects of axial load on collapse will be considered.

Burst — A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized

POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM)

The BOPE when rigged up on the 13-3/8" surface casing head (12-1/4" open hole) will consist of 13-5/8" X 5,000 psi dual ram BOP's with mud cross, choke manifold, chokes, and hydril per Diagram 1 (5,000 psi WP). The pipe and blind rams, choke, kill lines, kelly cocks, inside BOP, etc. when installed on the surface casing head will be hydro-tested to 250-300 psig and 2000 psig by independent tester. The hydril when installed on surface casing head will be tested to 1000 psi.

The BOPE when rigged up on the 9-5/8" intermediate casing spool (8-3/4" open hole) will consist of 13-5/8" x 5,000 psi annular, 13-5/8" x 5,000 psi pipe & blind rams with mud cross, choke manifold and chokes as in Diagram 1. The pipe and blind rams, choke, kill lines, kelly cocks inside BOP, etc. will be tested to 3000 psig by independent tester. In addition to the high pressure test, a low pressure (250-300 psig) test will be required. Hydril will be tested to 1500 psig.

The BOPE when rigged up on the 7" intermediate casing spool (6-1/8" open hole) will consist of 13-5/8" x 5,000 psi annular, 13-5/8" x 5,000 psi pipe & blind rams with mud cross choke manifold and chokes as in Diagram 1. The pipe and blind rams, choke, kelly lines, kelly cocks inside BOP, etc. will be tested to 3000 psig by independent tester. In addition to the high pressure test, a low pressure (250-300 psig) test will be required. Hydril will be tested to 1500 psig.

These tests will be performed:

a) Upon installation
b) After any component changes
c) Thirty days after a previous test
d) As required by well conditions

A function test to insure that the preventers are operating correctly will be performed on each trip.

POINT 5: MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0' - 830'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10.0
830' – 4,156'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5 – 10.5
4,156' – 9,153'	FW/Gel	8.7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0
9,153' -12,743'	FW/Gel/Starch	8.7 – 9 0	28-36	NC	NC	<100	9.5 – 10.0

NOTE: May increase vis for logging purposes only.

POINT 6: TECHNICAL STAGES OF OPERATION

A) TESTING

None anticipated.

B) LOGGING See COA

Run #1: GR with MWD during drilling of build and horizontal portions of 8-3/4" and 6-1/8" hole.

Run #2: Shuttle log w/GR, PE, Density, Neutron, Resistivity in lateral leg open hole (lateral).

Mud Logger: Rigged up at 100' to assist with picking T/Salt.

C) CONVENTIONAL CORING

None anticipated.

D) CEMENT

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	PPG	FT^3/SX
SURFACE: Lead: 0 – 530' (100% excess Circ to surface)	400	530	RSS Micro/C 35/65 + Additives	9.5	12.8	1.87
Tail. 530' – 830' (100% excess)	350	300	Class "C" + Additives	6.12	14.8	1.36
INTERMEDIATE. Lead: 0' – 3,656' (100% excess Circ to surface)	1,200	3,656	Class "C" 35/65 + Additives	9.95	12.8	1.91
Tail. 3,656' – 4,156' (100% excess)	300	500	Class "C" cement + Additives	6.33	14 8	1 33
2ND INTERMEDIATE Stage 1: Lead: 5,000' – 7,451' (50% excess)	250	2,451	RSS Ultra Lite + Additives	10.09	10.5	2 41
Tail: 7,451'-9,153' (50% excess)	325	1,702	RSS Ultra Lite + Additives	7 03	13.0	1.38
DV Tool @ 5,000'						
Stage 2 Lead: 0' – 4,900' (50% excess) (Circ to surface)	400	4900	RSS Ultra Lite + Additives	10 16	10.5	2.42
Tail. 4,900'-5,000' (50% excess)	100	100	Class "C" + Additives	6.31	14 80	1.33

E) DIRECTIONAL DRILLING

BOPCO, L.P. plans to drill out the 9-5/8" intermediate casing with a 8-3/4" bit to a TVD of approximately 7451' at which point a directional hole will be kicked off and drilled at an azimuth of 316.01 degrees, building angle at 12 deg/100' to 91.12 degrees at a TVD of 7928' (MD 8210'). This angle and azimuth will be maintained for 943' to a measured depth of 9153' (7910' TVD). At this depth 7", 26#, N80, Buttress, or 8rd LTC casing will be installed and cemented in two stages (DV Tool @ approximately 5000') with TOC at ~~3656' (500' above 9-5/8" casing shoe)~~ > Surface see COA A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 316.01 degrees, inclination of 91.12 degrees. The azimuth will be turned at a rate of 3 deg/100' to a new azimuth of 317.51 degrees at MD of 9203'. This azimuth will be maintained to a total measured depth of 12,743', 7840' TVD.. At this depth 4-1/2", 11.6#, HCP110, 8rd, LTC casing will be installed with Baker hydraulic packers installed for zone isolation in the lateral. Top of 4-1/2" liner at approximately ~~8260'~~ 9003 per csg. pgm. (150' above 7" casing shoe).

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout Delaware section. A BHP of 3581 psi (max) or MWE of 8.4 ppg is expected. Lost circulation may exist in the Delaware Section from 4,136'-7,890' TVD. No H_2S is anticipated.

POINT 8: OTHER PERTINENT INFORMATION

A) Auxiliary Equipment

Upper and lower kelly cocks. Full opening stab in valve on the rig floor.

B) Anticipated Starting Date

Upon approval

30 days drilling operations

14 days completion operations

TAM/keh

Weatherford®

Drilling Services

Proposal

BOPCO, L.P.

POKER LAKE UNIT #327H

EDDY CO, NM

WELL FILE: **PLAN 1**

FEBRUARY 14, 2011

Weatherford International, Ltd
P.O Box 61028
Midland, TX 79711 USA
+1 432.561 8892 Main
+1 432 561 8895 Fax
www weatherford com

BOPCO, L.P.

Poker Lake Unit 327H
Eddy Co, NM

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	316.01	0.00	0.00	0.00	0.00	0.00	0.00	
2	7451.06	0.00	316.01	7451.06	0.00	0.00	0.00	0.00	0.00	
3	8210.39	91.12	316.01	7928.43	350.25	-338.08	12.00	316.01	486.71	
4	9153.40	91.12	316.01	7910.00	1028.60	-992.87	0.00	0.00	1429.38	Hz Tgt
5	9203.23	91.12	317.51	7909.03	1064.90	-1027.00	3.00	90.09	1479.20	
6	12742.96	91.12	317.51	7840.00	3674.51	-3417.59	0.00	0.00	5018.16	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
327H	0.00	0.00	449801.18	652407.17	32°14'08.373N	103°50'25.536W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	7840.00	3674.51	-3417.59	453475.69	648989.58	Point
Hz Tgt	7910.00	1028.60	-992.87	450829.79	651414.30	Point

FIELD DETAILS

Eddy County, NM (Nad 27)

Geodetic System: US State Plane Coordinate System 1927
Ellipsoid: NAD27 (Clarke 1866)
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010

System Datum: Mean Sea Level
Local North: Grid North

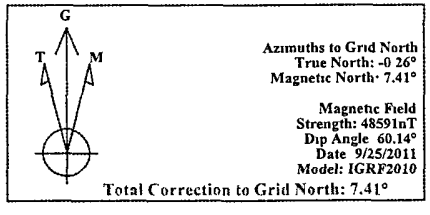
SITE DETAILS

Poker Lake Unit 327H

Site Centre Northing: 449801.18
Easting: 652407.17

Ground Level: 3514.00
Positional Uncertainty: 0.00
Convergence: 0.26

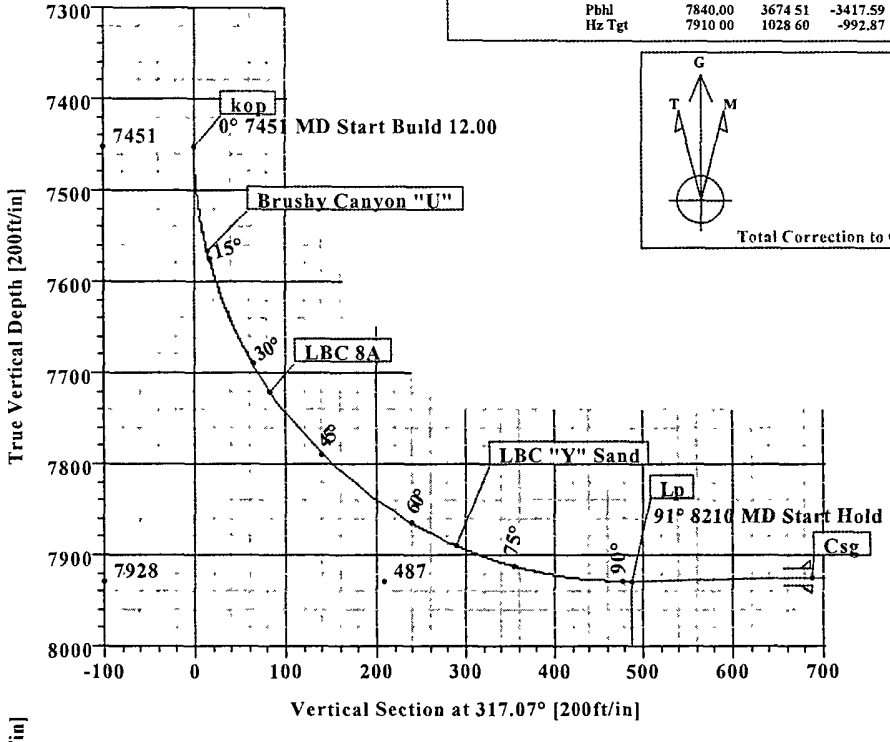
KB ELEV: 3533
GL ELEV: 3514

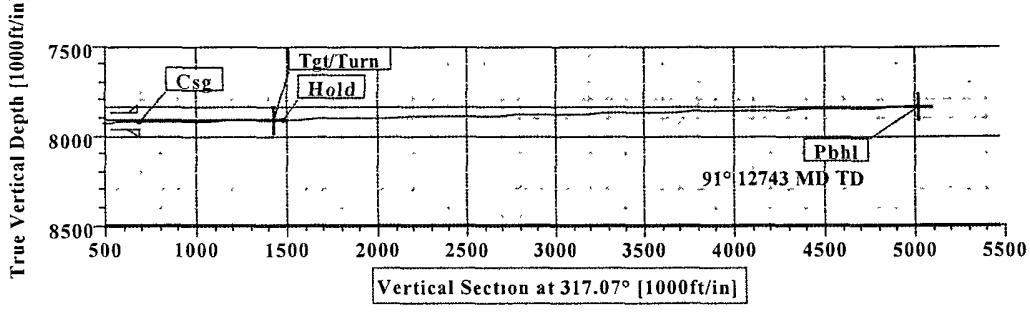


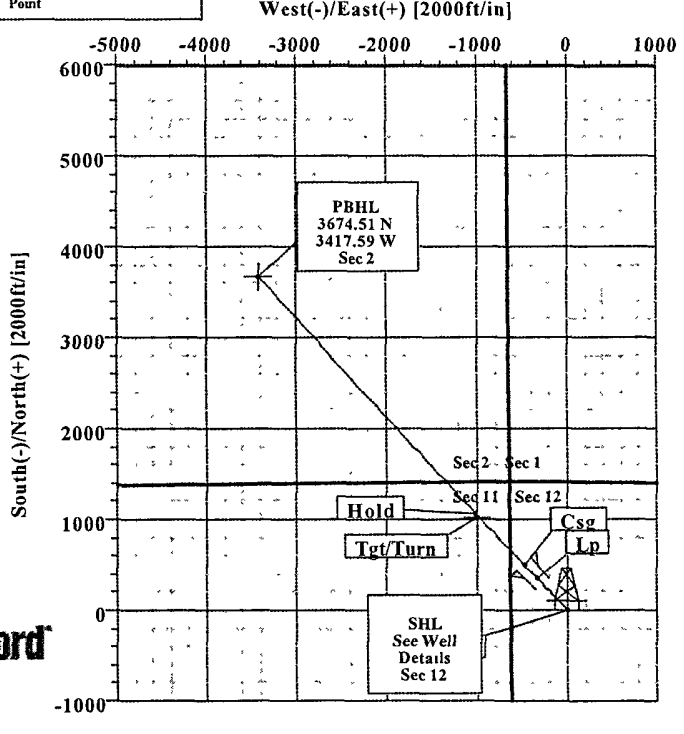
Azimuths to Grid North
True North: -0.26°
Magnetic North: 7.41°

Magnetic Field
Strength: 48591nT
Dip Angle: 60.14°
Date: 9/25/2011
Model: IGRF2010

Total Correction to Grid North: 7.41°







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FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	7566.00	7567.14	Brushy Canyon "U"
2	7720.00	7736.74	LBC 8A
3	7890.00	8007.94	LBC "Y" Sand

Plan: Plan #1 (327H/1)

Created By: Russell W. Joyner Date: 2/14/2011

Weatherford International Ltd.

WFT Plan Report - X & Y's

Weatherford

Company:	BOPCO, L P.	**Date:** 2/14/2011	**Time:** 15:09:21	**Page:**	1
Field:	Eddy County, NM (Nad 27)	**Co-ordinate(NE) Reference:**	Well: 327H, Grid North		
Site:	Poker Lake Unit 327H	**Vertical (TVD) Reference:**	SITE 3533.0		
Well:	327H	**Section (VS) Reference:**	Well (0.00N,0.00E,317 07Azi)		
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Plan:	Plan #1	**Date Composed:**	2/14/2011
		Version:	1
Principal:	Yes	**Tied-to:**	From Surface

Field:	Eddy County, NM (Nad 27)		
Map System:	US State Plane Coordinate System 1927	**Map Zone:**	New Mexico, Eastern Zone
Geo Datum:	NAD27 (Clarke 1866)	**Coordinate System:**	Well Centre
Sys Datum:	Mean Sea Level	**Geomagnetic Model:**	IGRF2010

Site:	Poker Lake Unit 327H				
Site Position:		**Northing:**	449801 18 ft	**Latitude:**	32 14 8 373 N
From:	Map	**Easting:**	652407.17 ft	**Longitude:**	103 50 25 536 W
Position Uncertainty:	0 00 ft			**North Reference:**	Grid
Ground Level:	3514 00 ft			**Grid Convergence:**	0 26 deg

Well:	327H				**Slot Name:**	
Well Position:	+N/-S	0 00 ft	**Northing:**	449801.18 ft	**Latitude:**	32 14 8 373 N
	+E/-W	0 00 ft	**Easting :**	652407.17 ft	**Longitude:**	103 50 25.536 W
Position Uncertainty:		0 00 ft				

Wellpath:	1			**Drilled From:**	Surface
				Tie-on Depth:	0.00 ft
Current Datum:	SITE	**Height**	3533 00 ft	**Above System Datum:**	Mean Sea Level
Magnetic Data:	9/25/2011			**Declination:**	7.68 deg
Field Strength:	48591 nT			**Mag Dip Angle:**	60 14 deg

Vertical Section:	**Depth From (TVD)** ft	**+N/-S** ft	**+E/-W** ft	**Direction** deg
	0 00	0 00	0 00	317 07

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0 00	0 00	316 01	0 00	0.00	0.00	0.00	0 00	0.00	0 00	
7451 06	0 00	316 01	7451.06	0 00	0.00	0 00	0.00	0 00	0.00	
8210 39	91 12	316 01	7928 43	350.25	-338 08	12 00	12 00	0 00	316 01	
9153.40	91 12	316.01	7910 00	1028.60	-992 87	0 00	0 00	0 00	0.00	Hz Tgt
9203 23	91.12	317 51	7909 03	1064.90	-1027 00	3.00	-0 01	3.00	90 09	
12742 96	91 12	317 51	7840.00	3674.51	-3417.59	0 00	0.00	0 00	0 00	Pbhl

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
7400.00	0 00	316 01	7400 00	0.00	0 00	0.00	0.00	449801 18	652407 17	
7451 06	0.00	316 01	7451.06	0 00	0 00	0 00	0.00	449801.18	652407 17	kop
7500.00	5 87	316 01	7499.91	1 80	-1.74	2 51	12 00	449802 99	652405 43	
7567 14	13 93	316 01	7566.00	10.10	-9.75	14.04	12 00	449811 29	652397 42	Brushy Canyon "U"
7600 00	17 87	316 01	7597 60	16 58	-16.00	23.04	12.00	449817.76	652391 17	
7700 00	29.87	316 01	7688.87	45 64	-44 06	63 43	12 00	449846 83	652363.11	
7736 74	34 28	316 01	7720 00	59.68	-57 61	82 93	12 00	449860.87	652349 56	LBC 8A
7800 00	41 87	316 01	7769 76	87.73	-84 68	121.91	12 00	449888 91	652322 49	
7900.00	53 87	316 01	7836 71	140 99	-136.10	195.93	12.00	449942 18	652271 07	
8000 00	65 87	316 01	7886 81	203 11	-196 05	282 25	12 00	450004 30	652211.12	
8007 94	66 83	316 01	7890 00	208 35	-201 11	289 52	12 00	450009 53	652206 06	LBC "Y" Sand
8100 00	77 87	316 01	7917 87	271 36	-261.94	377 09	12 00	450072 55	652145 23	
8200 00	89.87	316 01	7928 52	342 77	-330.86	476 32	12 00	450143 96	652076 31	
8210 39	91 12	316 01	7928 43	350 25	-338.08	486 71	12 00	450151 43	652069 09	Lp
8300 00	91 12	316 01	7926 68	414 71	-400 30	576 29	0 00	450215 89	652006 87	

Weatherford International Ltd.

WFT Plan Report - X & Y's

Weatherford

Company:	BOPCO, L P	**Date:** 2/14/2011 **Time:** 15.09:21	**Page:** 2
Field:	Eddy County, NM (Nad 27)	**Co-ordinate(NE) Reference:**	Well: 327H, Grid North
Site:	Poker Lake Unit 327H	**Vertical (TVD) Reference:**	SITE 3533.0
Well:	327H	**Section (VS) Reference:**	Well (0 00N,0.00E,317 07Azi)
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature **Db:** Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
8400 00	91.12	316 01	7924 73	486 64	-469 74	676 25	0.00	450287.83	651937.43	
8410 36	91 12	316 01	7924 52	494 10	-476.93	686.61	0.00	450295 28	651930 24	~~Csg~~
8500 00	91.12	316 01	7922 77	558 58	-539.17	776.22	0 00	450359.76	651868.00	
8600 00	91.12	316.01	7920 82	630 52	-608.61	876 18	0 00	450431 70	651798.56	
8700 00	91 12	316.01	7918 86	702.45	-678 05	976 14	0.00	450503.64	651729.12	
8800 00	91.12	316.01	7916 91	774.39	-747 48	1076 11	0.00	450575.57	651659.69	
8900 00	91.12	316 01	7914 95	846.32	-816 92	1176 07	0.00	450647.51	651590.25	
9000 00	91.12	316.01	7913 00	918 26	-886.36	1276.04	0 00	450719.44	651520.81	
9100 00	91.12	316 01	7911 04	990 19	-955.79	1376.00	0.00	450791 38	651451.38	
9153.40	91 12	316.01	7910 00	1028 60	-992.87	1429.38	0 00	450829.79	651414 30	Hz Tgt 7" Csg
9200.00	91 12	317 41	7909 09	1062 52	-1024.82	1475.97	3 00	450863 71	651382 35	
9203 23	91.12	317.51	7909 03	1064 90	-1027.00	1479 20	3 00	450866 09	651380 17	Hold
9300.00	91 12	317 51	7907 14	1136 24	-1092 36	1575 95	0 00	450937.43	651314.81	
9400.00	91 12	317 51	7905 19	1209 97	-1159 89	1675.93	0.00	451011.15	651247.28	
9500.00	91.12	317.51	7903 24	1283 69	-1227 43	1775 90	0 00	451084 87	651179 74	
9600 00	91.12	317 51	7901 29	1357 41	-1294.96	1875 88	0 00	451158.60	651112.21	
9700 00	91.12	317 51	7899 34	1431 14	-1362.50	1975 86	0 00	451232.32	651044 67	
9800 00	91.12	317.51	7897.39	1504 86	-1430.03	2075 84	0 00	451306.04	650977.14	
9900.00	91 12	317.51	7895 44	1578.58	-1497.57	2175 82	0.00	451379.77	650909 60	
10000.00	91.12	317.51	7893 49	1652 30	-1565 11	2275.79	0.00	451453.49	650842.06	
10100 00	91.12	317 51	7891 54	1726.03	-1632 64	2375.77	0 00	451527 21	650774.53	
10200 00	91 12	317 51	7889 59	1799.75	-1700.18	2475.75	0.00	451600 94	650706.99	
10300.00	91 12	317 51	7887 64	1873 47	-1767.71	2575 73	0 00	451674.66	650639.46	
10400.00	91 12	317.51	7885 69	1947 20	-1835.25	2675 71	0 00	451748.38	650571.92	
10500 00	91 12	317.51	7883 74	2020 92	-1902 79	2775.68	0 00	451822.11	650504.38	
10600 00	91 12	317.51	7881 79	2094 64	-1970 32	2875.66	0.00	451895.83	650436 85	
10700 00	91.12	317.51	7879 84	2168 37	-2037 86	2975 64	0 00	451969.55	650369 31	
10800 00	91 12	317.51	7877 89	2242.09	-2105.39	3075 62	0 00	452043.28	650301 78	
10900 00	91.12	317.51	7875 94	2315 81	-2172.93	3175 60	0 00	452117.00	650234 24	
11000 00	91.12	317 51	7873 99	2389 54	-2240.46	3275.58	0 00	452190.72	650166 71	
11100 00	91 12	317.51	7872 04	2463 26	-2308 00	3375 55	0.00	452264 44	650099 17	
11200.00	91 12	317 51	7870 09	2536 98	-2375 54	3475 53	0 00	452338.17	650031.63	
11300 00	91 12	317 51	7868 14	2610 71	-2443 07	3575 51	0.00	452411.89	649964 10	
11400 00	91.12	317 51	7866 19	2684 43	-2510 61	3675 49	0 00	452485.61	649896.56	
11500 00	91 12	317 51	7864 24	2758 15	-2578 14	3775 47	0.00	452559.34	649829.03	
11600 00	91.12	317.51	7862 29	2831 88	-2645 68	3875 44	0.00	452633.06	649761.49	
11700 00	91 12	317.51	7860 34	2905 60	-2713 22	3975 42	0.00	452706.78	649693 95	
11800 00	91 12	317.51	7858 39	2979 32	-2780 75	4075.40	0 00	452780.51	649626.42	
11900 00	91.12	317 51	7856 44	3053 05	-2848.29	4175.38	0.00	452854 23	649558.88	
12000.00	91.12	317.51	7854 49	3126 77	-2915 82	4275.36	0 00	452927.95	649491.35	
12100.00	91 12	317.51	7852 54	3200 49	-2983 36	4375 33	0 00	453001.68	649423.81	
12200 00	91 12	317.51	7850 59	3274 21	-3050 89	4475.31	0.00	453075 40	649356 28	
12300 00	91.12	317 51	7848 64	3347 94	-3118 43	4575 29	0 00	453149.12	649288 74	
12400 00	91.12	317 51	7846 69	3421 66	-3185 97	4675 27	0 00	453222 85	649221 20	
12500 00	91.12	317 51	7844 74	3495 38	-3253 50	4775 25	0 00	453296 57	649153 67	
12600 00	91.12	317.51	7842.79	3569 11	-3321 04	4875 23	0.00	453370.29	649086 13	
12700 00	91 12	317 51	7840 84	3642 83	-3388 57	4975 20	0.00	453444 02	649018 60	
12742.96	91.12	317 51	7840 00	3674 51	-3417 59	5018 16	0.00	453475 69	648989 58	Pbhl

Weatherford International Ltd.

WFT Plan Report - X & Y's

Weatherford

Company:	BOPCO, L P	**Date:**	2/14/2011	**Time:** 15:09:21	**Page:** 3
Field:	Eddy County, NM (Nad 27)	**Co-ordinate(NE) Reference:**	Well 327H, Grid North		
Site:	Poker Lake Unit 327H	**Vertical (TVD) Reference:**	SITE 3533 0		
Well:	327H	**Section (VS) Reference:**	Well (0 00N,0 00E,317 07Azi)		
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature	**Db:** Sybase	

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<— Latitude —> Deg	Min	Sec		<— Longitude —> Deg	Min	Sec	
Pbhl			7840 00	3674 51	-3417 59	453475.69	648989.58	32	14	44.890	N	103	51	5.134	W
Hz Tgt			7910 00	1028.60	-992 87	450829 79	651414.30	32	14	18 597	N	103	50	37 041	W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
8410 36	7924 52	0 000	0 000	Csg

Annotation

MD ft	TVD ft	
7451 06	7451 06	kop
8210 39	7928 43	Lp
9153 40	7910 00	Tgt/Turn
9203 23	7909 03	Hold
12742 96	7840 00	Pbhl

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
7567 14	7566 00	Brushy Canyon "U"		0 00	0 00
7736.74	7720 00	LBC 8A		0 00	0 00
8007 94	7890 00	LBC "Y" Sand		0 00	0 00

Weatherford Drilling Services

GeoDec v5.03

Report Date:	February 14, 2011
Job Number:	
Customer:	BOPCO
Well Name:	Poker Lake Unit #327H
API Number:	
Rig Name:	
Location:	Eddy Co, NM
Block:	
Engineer:	RWJ

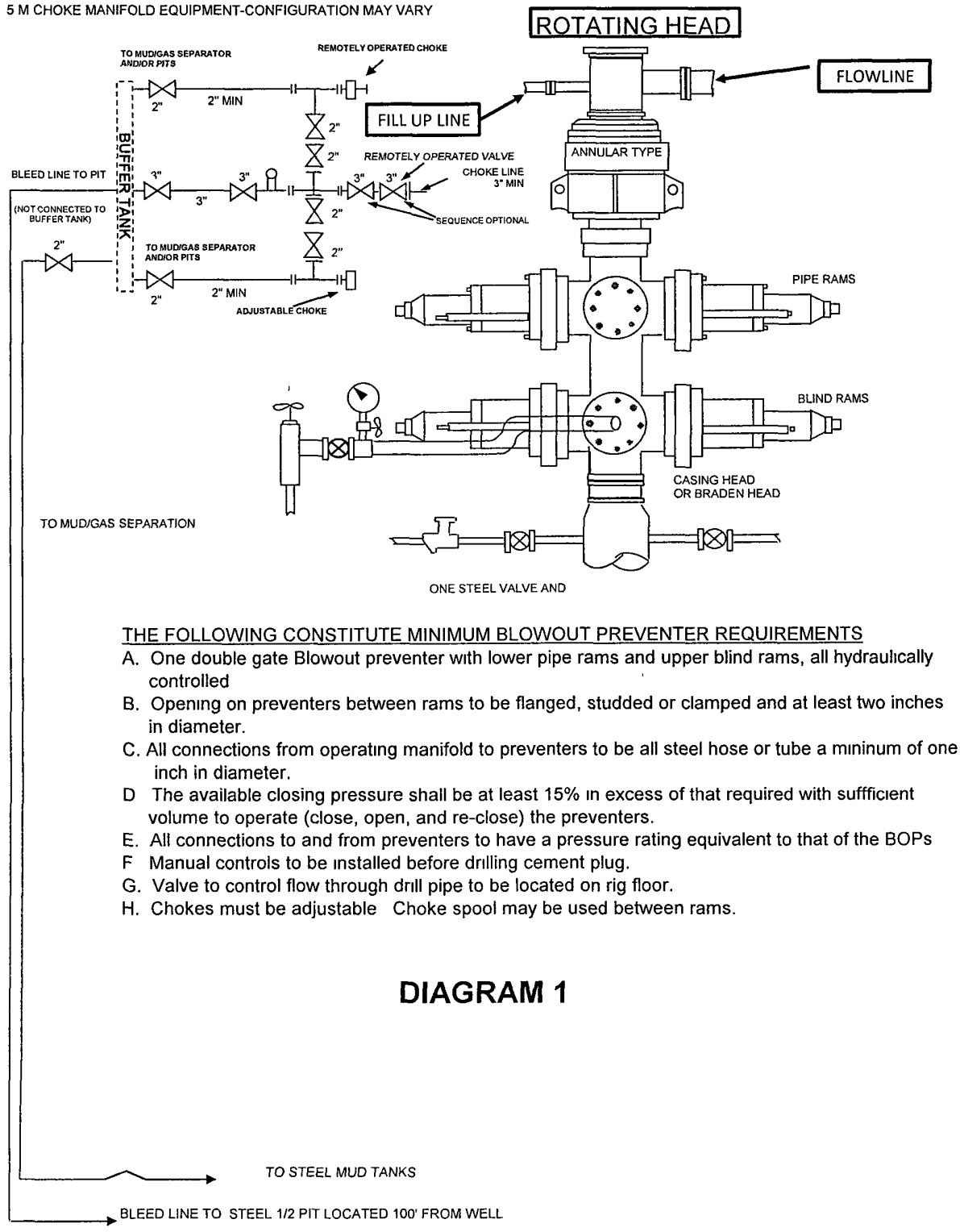
US State Plane 1927	Geodetic Latitude / Longitude
System: New Mexico East 3001 (NON-EXACT)	System: Latitude / Longitude
Projection: SPC27 Transverse Mercator	Projection: Geodetic Latitude and Longitude
Datum: NAD 1927 (NADCON CONUS)	Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866	Ellipsoid: Clarke 1866
North/South 449801.180 USFT	Latitude 32.2356592 DEG
East/West 652407.170 USFT	Longitude -103.8404267 DEG
Grid Convergence: .26°	
Total Correction: +7.42°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.23566° N	32° 14 min 8.373 sec
Longitude =	103.84043° W	103° 50 min 25.536 sec

Magnetic Declination =	7.68°	[True North Offset]	
Local Gravity =	.9988 g	CheckSum =	6570
Local Field Strength =	48587 nT	Magnetic Vector X =	23971 nT
Magnetic Dip =	60.14°	Magnetic Vector Y =	3231 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z =	42139 nT
Spud Date =	Sep 25, 2011	Magnetic Vector H =	24187 nT

Signed:_____ Date:_____

BOPCO, L. P.
13 5/8" X 5-M WP BOPE WITH 5-M WP ANNULAR



THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

A. One double gate Blowout preventer with lower pipe rams and upper blind rams, all hydraulically controlled
B. Opening on preventers between rams to be flanged, studded or clamped and at least two inches in diameter.
C. All connections from operating manifold to preventers to be all steel hose or tube a mininum of one inch in diameter.
D The available closing pressure shall be at least 15% in excess of that required with sufffficient volume to operate (close, open, and re-close) the preventers.
E. All connections to and from preventers to have a pressure rating equivalent to that of the BOPs
F Manual controls to be installed before drilling cement plug.
G. Valve to control flow through drill pipe to be located on rig floor.
H. Chokes must be adjustable Choke spool may be used between rams.

DIAGRAM 1

Exhibit "D"

BOPCO, L.P.
Poker Lake Unit #327H
Sec 12, T24S-R30E
Eddy County, NM

RIG LAYOUT SCHEMATIC
INCLUSIVE OF CLOSED-LOOP DESIGN PLAN

Solids Control Equipment Legend

1) Roll Off Bin
2) Steel Tank
3) Mud Cleaner
4) Shaker
5) Centrifuge
6) Dewatering Unit
7) Catch Tank
8) Choke Manifold
A) Bleed line from choke manifold