

OCD-ARTESIA

ATS-11-604

R-111-POTASH

Form 3160-3
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

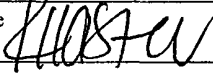
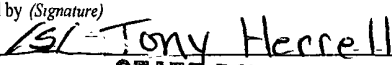
FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. LC 068905, E5229
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator BOPCO, L. P.		7. If Unit or CA Agreement, Name and No. Poker Lake Unit NMNM 71016F
3a. Address P. O. Box 2760 Midland, TX 79702		8. Lease Name and Well No. Poker Lake Unit #328H
3b. Phone No. (include area code) 432-683-2277		9. API Well No. 30-015-39293
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NWSW, UL L, 2400' FSL, 305' FWL, Lat N32.231639, Long W103.841478 At proposed prod. zone 2295' FSL, 715' FWL, Sec 2, T24S, R30E, Lat N32.245781, Lg W103.857458		10. Field and Pool, or Exploratory Poker Lake NW (Delaware)
14. Distance in miles and direction from nearest town or post office* 17 miles east of Malaga, NM		11. Sec., T. R. M. or Blk. and Survey or Area Sec 12, T24S, R30E, Mer NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 305'	16. No. of acres in lease 1920	17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2,111'	19. Proposed Depth 14,853' MD, 7,784' TVD	20. BLM/BIA Bond No. on file COB000050
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3509' GL	22. Approximate date work will start* 06/01/2011	23. Estimated duration 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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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) | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Katy Holster	Date 6/16/11
Title Administrative Assistant		
Approved by (Signature) 	Name (Printed/Typed) Tony Herrell	Date JUL 20 2011
Title STATE DIRECTOR		
Office NM STATE OFFICE		

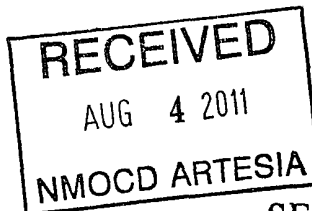
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

BOPCO, L. P.
6 DESTA DRIVE, SUITE 3700 (79705)
P. O. BOX 2760
MIDLAND, TEXAS 79702

(432) 683-2277

FAX (432) 687-0329

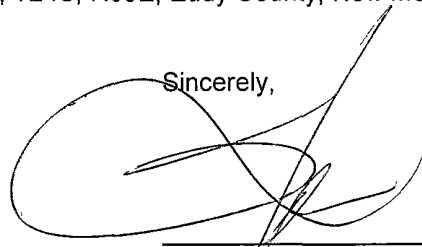
March 24, 2011

Bureau of Land Management
620 E. Greene
Carlsbad, New Mexico 88220
Attn: John Chopp

Dear Mr. Chopp,

BOPCO, L.P. respectfully requests exception to the Prairie Chicken timing restrictions for Poker Lake Unit #328H located 2400' FSL, 305' FWL, of Section 12, T24S, R30E, Eddy County, New Mexico.

Sincerely,



Stephen Martinez
Division Drilling Superintendent

SMM/keh

Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 815' and cement circulated to surface.

7" casing will be set at approximately 8398' MD, 7912' TVD (thru curve) and cemented in two stages with DV Tool set at approximately 5000'. Cement will be circulated to surface.

Production liner will be 4-1/2" with Baker hydraulic packers for zone isolation. Top of 4-1/2" liner will be 150' above 7" casing shoe at an approximate depth of 8248'.

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

This well is located inside the R111 Potash area.

The surface and bottom hole locations are both 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 #328H

LEGAL DESCRIPTION - SURFACE: 2400' FSL, 305' FWL, Section 12, T24S, R30E, Eddy County, NM.
 BHL: 2295' FSL, 715' 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 3528' (estimated)
 GL 3509'

FORMATION	ESTIMATED TOP FROM KB		ESTIMATED SUB-SEA TOP	BEARING
	TVD	MD		
T/Fresh Water	360'	360'	+ 3,168'	Fresh Water
T/Rustler	457'	457'	+ 3,071'	Barren
T/Salt	825'	825'	+ 2,703'	Barren
B/Salt	3,897'	3,897'	- 369'	Barren
T/Lamar	4,123'	4,123'	- 595'	Barren
T/Ramsey	4,165'	4,165'	- 637'	Oil/Gas
T/Lower Cherry Canyon	6,198'	6,198'	- 2,670'	Oil/Gas
KOP	7,446'	7,446'	- 3,918'	Oil/Gas
T/Lwr Brushy Canyon	7,545'	7,546'	- 4,017'	Oil/Gas
T/Lwr Brushy Canyon "8A" Sd	7,711'	7,727'	- 4,183'	Oil/Gas
T/Lwr Brushy Canyon "Y" Sd	7,874'	7,977'	- 4,346'	Oil/Gas
EOC	7,923'	8,205'	- 4,395'	Oil/Gas
Target #1	7,914'	8,640'	- 4,386'	Oil/Gas
TD Horizontal Hole	7,784'	14,853'	- 4,256'	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, or 54.5#, J-55 8rd, ST&C*	0' - 815'	17-1/2"	Surface	New
9-5/8", 40#, J-55, 8rd, LT&C	0' - 4143'	12-1/4"	Intermediate	New
7", 26#, N-80, Buttress or 8rd LTC*	0' - 8406'	8-3/4"	Production	New
4-1/2", 11.6#, HCP-110, 8rd, LT&C	8256' - 14,853'	6-1/8"	Production	New

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48#, H-40, 8rd, ST&C	16.18	1.95	2.18
13-3/8", 54.5#, J-55, 8rd, STC	22.60	2.98	3.43
9-5/8", 40#, J-55, 8rd, LT&C	18.00	1.19	1.04
7", 26#, N-80, Buttress	3.79	1.46	1.08
7", 26#, N-80, 8rd, LTC	2.95	1.46	1.09
4-1/2", 11.6#, HCP-110, 8rd, LT&C	4.65	2.34	2.40

* 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 at 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. 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.

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 blowout preventer for 12-1/4" intermediate 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' - 815'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10.0
815' - 4143'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5 – 10.5
4143' - 8406'	FW/Gel	8.7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0
8406' – 14,853'	FW/Gel/Starch	8.7 – 9.0	28-36	NC	NC	<20	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.

Mud Logger: Rigged up at 100'.

C) CONVENTIONAL CORING

None anticipated.

POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM)**D) CEMENT**

<u>INTERVAL</u>	<u>AMOUNT SXS</u>	<u>FT OF FILL</u>	<u>TYPE</u>	<u>GALS/SX</u>	<u>PPG</u>	<u>FT³/SX</u>
SURFACE:						
Lead: 0 – 515' (100% excess Circ to surface)	375	515	Class "C" 35/65+6% gel +3pps star-seal+.04% FL10+0.25% R-38+5% salt	9.95	12.8	1.91
Tail: 515' – 815' (100% excess)	350	300	Class "C" + 2% CaCl ₂ +3lb star-seal+0.25% R-38	6.12	14.8	1.36
INTERMEDIATE:						
Lead: 0' – 3643' (100% excess Circ to surface)	1200	3643	Class "C" 35/65+6% gel +3pps star-seal+.04% FL10+0.25% R-38+5% salt	9.95	12.8	1.91
Tail: 3643' – 4143' (100% excess)	300	500	Class "C" + 2% CaCl ₂ + 0.25% R-38	6.34	14.8	1.35
2ND INTERMEDIATE						
Stage 1:						
Lead: 5000' - 7449' (50% excess)	250	2446	RSS Micro+.5% FMS+ 0.3% FL10+0.8% C-12 +3pps Gilsonite+0.25 R-38	10.09	10.5	2.41
Tail: 7449'-8406' (50% excess)	175	960	RSS Micro+0.2% C-37+ 0.2%+C-12+0.2% FL10+ +0.25% R-38	7.03	13.0	1.38
DV Tool @ 5,000'						
Stage 2:						
Lead: 0'– 4900' (50% excess) (Circ to surface)	317	4900	RSS Micro+35% FMS+ 0.5% C-12+3pps Gilsonite +0.5% R-38	10.16	10.5	2.42
Tail: 4900'-5000' (50% excess)	50	100	Cass "C" + 0.20% R-38	6.31	14.8	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 7446' at which point a directional hole will be kicked off and drilled at an azimuth of 314.26 degrees, building angle at 12 deg/100' to 91.20 degrees at a TVD of 7923' (MD 8206'). This angle and azimuth will be maintained for 200' to a measured depth of 8406' (7919' TVD). At this depth 7", 26#, N80, Buttruss, or 8rd LTC casing will be installed and cemented in two stages (DV Tool @ approximately 5000') with cement circulated to surface. A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 316.07 degrees, inclination of 91.20 degrees to a measured depth of 14,853', TVD 7784'. 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 8256' (150' above 7" casing shoe).

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

5

Normal pressures are anticipated throughout Delaware section. A BHP of 3415 psi (max) or MWE of 8.4 ppg is expected. Lost circulation may exist in the Delaware Section from 4165'-7887' TVD. No H₂S 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

SMM/keh



Weatherford[®]

Drilling Services

Proposal

BOPCO, L.P.

POKER LAKE UNIT #328H

EDDY CO, NM

WELL FILE: **PLAN 2**

MARCH 10, 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 328H Eddy Co, NM

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	314.26	0.00	0.00	0.00	0.00	0.00	0.00	
2	7445.73	0.00	314.26	7445.73	0.00	0.00	0.00	0.00	0.00	
3	8205.73	91.20	314.26	7923.09	340.23	-349.09	12.00	314.26	487.27	
4	8639.73	91.20	314.26	7914.00	643.08	-659.82	0.00	0.00	920.99	Hz Tgt
5	8702.64	91.20	316.15	7912.68	687.71	-704.14	3.00	90.01	983.88	
6	14853.01	91.20	316.15	7784.00	5122.23	-4963.90	0.00	0.00	7132.85	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
328H	0.00	0.00	448336.76	652088.54	32°13'53.896N	103°50'29.324W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	7784.00	5122.23	-4963.90	453458.99	647124.64	Point
Hz Tgt	7914.00	643.08	-659.82	448979.84	651428.72	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

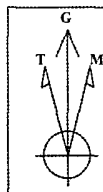
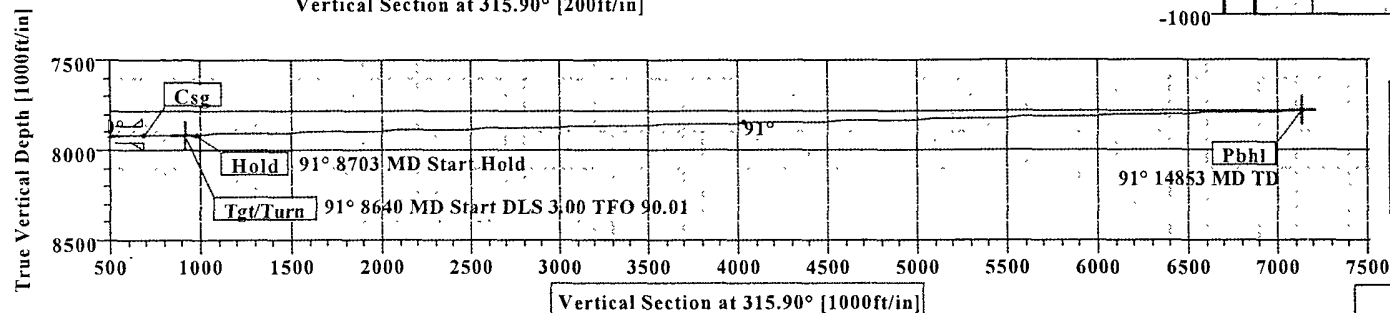
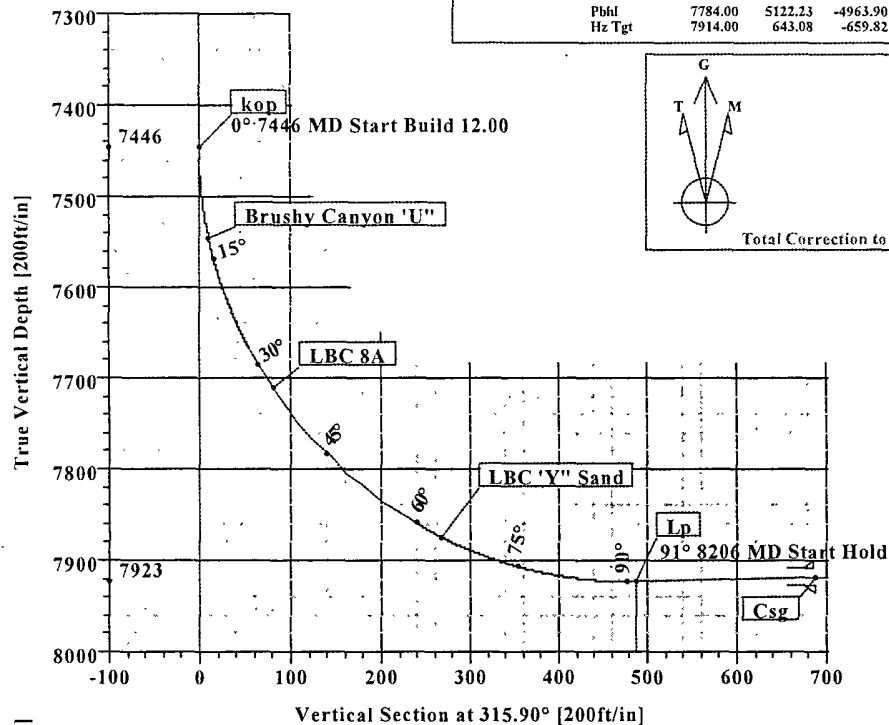
SITE DETAILS

Poker Lake Unit 328H

Site Centre Northing: 448336.76
Easting: 652088.54

Ground Level: 3509.00
Positional Uncertainty: 0.00
Convergence: 0.26

KB ELEV: 3528
GL ELEV: 3509

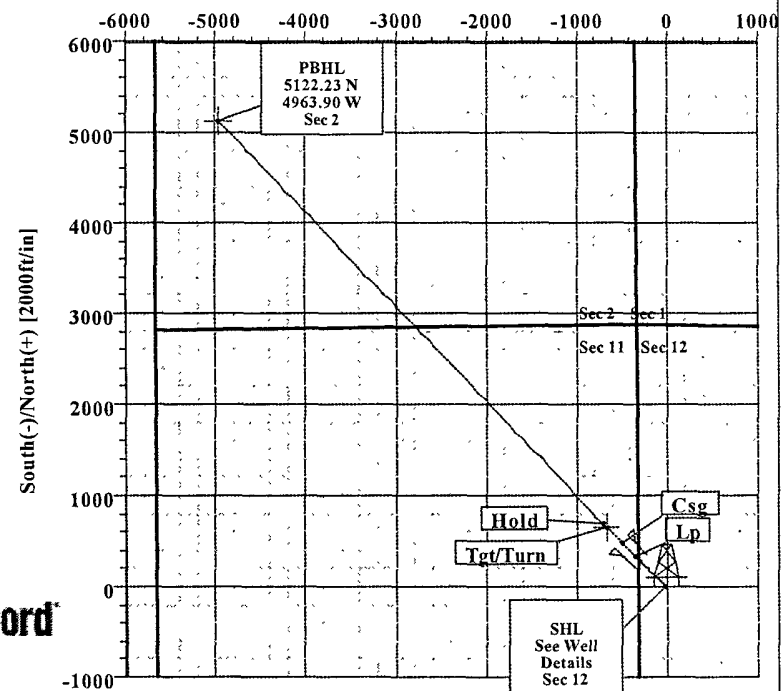


Azimuths to Grid North
True North: -0.26°
Magnetic North: 7.42°

Magnetic Field
Strength: 48595nT
Dip Angle: 60.14°
Date: 9/1/2011
Model: IGRF2010
Total Correction to Grid North: 7.42°



Weatherford



FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	7545.00	7545.73	Brushy Canyon 'U'
2	7711.00	7726.99	LBC 8A
3	7874.00	7977.08	LBC 'Y' Sand

Plan: Plan #2 (328H/1)

Created By: Russell W. Joyner

Date: 3/10/2011

Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: BOPCO, L P Date: 3/10/2011 Time: 14:14:48 Page: 1
 Field: Eddy County, NM (Nad 27) Co-ordinate(NE) Reference: Well: 328H, Grid North
 Site: Poker Lake Unit 328H Vertical (TVD) Reference: SITE 3528.0
 Well: 328H Section (VS) Reference: Well (0.00N,0.00E,315.90Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Plan: Plan #2 Date Composed: 3/10/2011
 Principal: Yes Version: 1
 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 328H

Site Position: Northing: 448336.76 ft Latitude: 32 13 53.896 N
 From: Map Easting: 652088.54 ft Longitude: 103 50 29.324 W
 Position Uncertainty: 0.00 ft North Reference: Grid
 Ground Level: 3509.00 ft Grid Convergence: 0.26 deg

Well: 328H Slot Name:
 Well Position: +N/-S 0.00 ft Northing: 448336.76 ft Latitude: 32 13 53.896 N
 +E/-W 0.00 ft Easting: 652088.54 ft Longitude: 103 50 29.324 W
 Position Uncertainty: 0.00 ft

Wellpath: 1 Drilled From: Surface
 Current Datum: SITE Tie-on Depth: 0.00 ft
 Magnetic Data: 9/1/2011 Height 3528.00 ft Above System Datum: Mean Sea Level
 Field Strength: 48595 nT Declination: 7.69 deg
 Vertical Section: Depth From (TVD) +N/-S +E/-W Mag Dip Angle: 60.14 deg
 ft ft ft deg
 0.00 0.00 0.00 315.90

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	314.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7445.73	0.00	314.26	7445.73	0.00	0.00	0.00	0.00	0.00	0.00	
8205.73	91.20	314.26	7923.09	340.23	-349.09	12.00	12.00	0.00	314.26	
8639.73	91.20	314.26	7914.00	643.08	-659.82	0.00	0.00	0.00	0.00	Hz Tgt
8702.64	91.20	316.15	7912.68	687.71	-704.14	3.00	0.00	3.00	90.01	
14853.01	91.20	316.15	7784.00	5122.23	-4963.90	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	314.26	7400.00	0.00	0.00	0.00	0.00	448336.76	652088.54	
7445.73	0.00	314.26	7445.73	0.00	0.00	0.00	0.00	448336.76	652088.54	kop
7500.00	6.51	314.26	7499.88	2.15	-2.21	3.08	12.00	448338.91	652086.34	
7545.73	12.00	314.26	7545.00	7.28	-7.47	10.43	12.00	448344.04	652081.07	Brushy Canyon 'U'
7600.00	18.51	314.26	7597.33	17.24	-17.69	24.70	12.00	448354.00	652070.85	
7700.00	30.51	314.26	7688.15	46.15	-47.35	66.09	12.00	448382.91	652041.19	
7726.99	33.75	314.26	7711.00	56.17	-57.63	80.44	12.00	448392.93	652030.92	LBC 8A
7800.00	42.51	314.26	7768.38	87.60	-89.88	125.46	12.00	448424.36	651998.66	
7900.00	54.51	314.26	7834.50	139.79	-143.43	200.20	12.00	448476.55	651945.11	
7977.08	63.76	314.26	7874.00	185.92	-190.76	266.27	12.00	448522.68	651897.78	LBC 'Y' Sand
8000.00	66.51	314.26	7883.63	200.44	-205.65	287.05	12.00	448537.20	651882.89	
8100.00	78.51	314.26	7913.63	266.88	-273.83	382.22	12.00	448603.64	651814.71	
8200.00	90.51	314.26	7923.17	336.23	-344.99	481.54	12.00	448672.99	651743.56	
8205.73	91.20	314.26	7923.09	340.23	-349.09	487.27	12.00	448676.99	651739.45	Lp
8300.00	91.20	314.26	7921.11	406.01	-416.59	581.48	0.00	448742.77	651671.96	

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WFT Plan Report - X & Y's



Weatherford

Company: BOPCO, L.P.	Date: 3/10/2011	Time: 14:14:48	Page: 2
Field: Eddy County, NM (Nad 27)	Co-ordinate(NE) Reference: Well: 328H, Grid North		
Site: Poker Lake Unit 328H	Vertical (TVD) Reference: SITE 3528.0		
Well: 328H	Section (VS) Reference: Well (0.00N,0.00E,315.90Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Dh: 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	91.20	314.26	7919.02	475.80	-488.18	681.41	0.00	448812.56	651600.36	
8405.73	91.20	314.26	7918.90	479.79	-492.29	687.14	0.00	448816.55	651596.26	Csg
8500.00	91.20	314.26	7916.93	545.58	-559.78	781.35	0.00	448882.34	651528.76	
8600.00	91.20	314.26	7914.83	615.36	-631.38	881.29	0.00	448952.12	651457.16	
8639.73	91.20	314.26	7914.00	643.08	-659.82	920.99	0.00	448979.84	651428.72	Hz Tgt
8700.00	91.20	316.07	7912.74	685.81	-702.31	981.24	3.00	449022.57	651386.24	
8702.64	91.20	316.15	7912.68	687.71	-704.14	983.88	3.00	449024.47	651384.41	Hold
8800.00	91.20	316.15	7910.65	757.91	-771.57	1081.22	0.00	449094.67	651316.98	
8900.00	91.20	316.15	7908.55	830.01	-840.83	1181.20	0.00	449166.77	651247.72	
9000.00	91.20	316.15	7906.46	902.12	-910.09	1281.18	0.00	449238.88	651178.46	
9100.00	91.20	316.15	7904.37	974.22	-979.35	1381.15	0.00	449310.98	651109.20	
9200.00	91.20	316.15	7902.28	1046.32	-1048.61	1481.13	0.00	449383.08	651039.93	
9300.00	91.20	316.15	7900.18	1118.42	-1117.87	1581.11	0.00	449455.18	650970.67	
9400.00	91.20	316.15	7898.09	1190.52	-1187.13	1681.08	0.00	449527.28	650901.41	
9500.00	91.20	316.15	7896.00	1262.62	-1256.39	1781.06	0.00	449599.38	650832.15	
9600.00	91.20	316.15	7893.91	1334.72	-1325.65	1881.04	0.00	449671.48	650762.89	
9700.00	91.20	316.15	7891.82	1406.83	-1394.91	1981.02	0.00	449743.59	650693.63	
9800.00	91.20	316.15	7889.72	1478.93	-1464.17	2080.99	0.00	449815.69	650624.37	
9900.00	91.20	316.15	7887.63	1551.03	-1533.43	2180.97	0.00	449887.79	650555.11	
10000.00	91.20	316.15	7885.54	1623.13	-1602.69	2280.95	0.00	449959.89	650485.85	
10100.00	91.20	316.15	7883.45	1695.23	-1671.95	2380.92	0.00	450031.99	650416.59	
10200.00	91.20	316.15	7881.35	1767.33	-1741.21	2480.90	0.00	450104.09	650347.33	
10300.00	91.20	316.15	7879.26	1839.44	-1810.47	2580.88	0.00	450176.20	650278.07	
10400.00	91.20	316.15	7877.17	1911.54	-1879.73	2680.86	0.00	450248.30	650208.81	
10500.00	91.20	316.15	7875.08	1983.64	-1948.99	2780.83	0.00	450320.40	650139.55	
10600.00	91.20	316.15	7872.98	2055.74	-2018.25	2880.81	0.00	450392.50	650070.29	
10700.00	91.20	316.15	7870.89	2127.84	-2087.51	2980.79	0.00	450464.60	650001.03	
10800.00	91.20	316.15	7868.80	2199.94	-2156.77	3080.76	0.00	450536.70	649931.77	
10900.00	91.20	316.15	7866.71	2272.05	-2226.03	3180.74	0.00	450608.81	649862.51	
11000.00	91.20	316.15	7864.62	2344.15	-2295.29	3280.72	0.00	450680.91	649793.25	
11100.00	91.20	316.15	7862.52	2416.25	-2364.55	3380.70	0.00	450753.01	649723.99	
11200.00	91.20	316.15	7860.43	2488.35	-2433.82	3480.67	0.00	450825.11	649654.73	
11300.00	91.20	316.15	7858.34	2560.45	-2503.08	3580.65	0.00	450897.21	649585.47	
11400.00	91.20	316.15	7856.25	2632.55	-2572.34	3680.63	0.00	450969.31	649516.21	
11500.00	91.20	316.15	7854.15	2704.65	-2641.60	3780.60	0.00	451041.41	649446.95	
11600.00	91.20	316.15	7852.06	2776.76	-2710.86	3880.58	0.00	451113.52	649377.69	
11700.00	91.20	316.15	7849.97	2848.86	-2780.12	3980.56	0.00	451185.62	649308.43	
11800.00	91.20	316.15	7847.88	2920.96	-2849.38	4080.54	0.00	451257.72	649239.17	
11900.00	91.20	316.15	7845.79	2993.06	-2918.64	4180.51	0.00	451329.82	649169.91	
12000.00	91.20	316.15	7843.69	3065.16	-2987.90	4280.49	0.00	451401.92	649100.65	
12100.00	91.20	316.15	7841.60	3137.26	-3057.16	4380.47	0.00	451474.02	649031.39	
12200.00	91.20	316.15	7839.51	3209.37	-3126.42	4480.44	0.00	451546.13	648962.13	
12300.00	91.20	316.15	7837.42	3281.47	-3195.68	4580.42	0.00	451618.23	648892.87	
12400.00	91.20	316.15	7835.32	3353.57	-3264.94	4680.40	0.00	451690.33	648823.61	
12500.00	91.20	316.15	7833.23	3425.67	-3334.20	4780.38	0.00	451762.43	648754.35	
12600.00	91.20	316.15	7831.14	3497.77	-3403.46	4880.35	0.00	451834.53	648685.08	
12700.00	91.20	316.15	7829.05	3569.87	-3472.72	4980.33	0.00	451906.63	648615.82	
12800.00	91.20	316.15	7826.95	3641.97	-3541.98	5080.31	0.00	451978.73	648546.56	
12900.00	91.20	316.15	7824.86	3714.08	-3611.24	5180.28	0.00	452050.84	648477.30	
13000.00	91.20	316.15	7822.77	3786.18	-3680.50	5280.26	0.00	452122.94	648408.04	
13100.00	91.20	316.15	7820.68	3858.28	-3749.76	5380.24	0.00	452195.04	648338.78	
13200.00	91.20	316.15	7818.59	3930.38	-3819.02	5480.22	0.00	452267.14	648269.52	
13300.00	91.20	316.15	7816.49	4002.48	-3888.28	5580.19	0.00	452339.24	648200.26	

Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: BOPCO, L.P.	Date: 3/10/2011	Time: 14:14:48	Page: 3
Field: Eddy County, NM (Nad 27)	Co-ordinate(NE) Reference:	Well: 328H, Grid North	
Site: Poker Lake Unit 328H	Vertical (TVD) Reference:	SITE 3528.0	
Well: 328H	Section (VS) Reference:	Well (0.00N,0.00E,315.90Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature Dh: 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
13400.00	91.20	316.15	7814.40	4074.58	-3957.54	5680.17	0.00	452411.34	648131.00	
13500.00	91.20	316.15	7812.31	4146.69	-4026.80	5780.15	0.00	452483.45	648061.74	
13600.00	91.20	316.15	7810.22	4218.79	-4096.06	5880.12	0.00	452555.55	647992.48	
13700.00	91.20	316.15	7808.12	4290.89	-4165.32	5980.10	0.00	452627.65	647923.22	
13800.00	91.20	316.15	7806.03	4362.99	-4234.58	6080.08	0.00	452699.75	647853.96	
13900.00	91.20	316.15	7803.94	4435.09	-4303.84	6180.06	0.00	452771.85	647784.70	
14000.00	91.20	316.15	7801.85	4507.19	-4373.10	6280.03	0.00	452843.95	647715.44	
14100.00	91.20	316.15	7799.76	4579.29	-4442.36	6380.01	0.00	452916.05	647646.18	
14200.00	91.20	316.15	7797.66	4651.40	-4511.62	6479.99	0.00	452988.16	647576.92	
14300.00	91.20	316.15	7795.57	4723.50	-4580.88	6579.96	0.00	453060.26	647507.66	
14400.00	91.20	316.15	7793.48	4795.60	-4650.14	6679.94	0.00	453132.36	647438.40	
14500.00	91.20	316.15	7791.39	4867.70	-4719.40	6779.92	0.00	453204.46	647369.14	
14600.00	91.20	316.15	7789.29	4939.80	-4788.67	6879.90	0.00	453276.56	647299.88	
14700.00	91.20	316.15	7787.20	5011.90	-4857.93	6979.87	0.00	453348.66	647230.62	
14800.00	91.20	316.15	7785.11	5084.01	-4927.19	7079.85	0.00	453420.77	647161.36	
14853.01	91.20	316.15	7784.00	5122.23	-4963.90	7132.85	0.00	453458.99	647124.64	Pbhl

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		7784.00	5122.23	-4963.90	453458.99	647124.64	32	14	44.807 N	103	51	26.850 W
H2 Tgt		7914.00	643.08	-659.82	448979.84	651428.72	32	14	0.289 N	103	50	36.971 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
8405.73	7918.90	0.000	0.000	Csg

Annotation

MD ft	TVD ft	
7445.73	7445.73	kop
8205.73	7923.09	Lp
8639.73	7914.00	Tgt/Turn
8702.64	7912.68	Hold
14853.01	7784.00	Pbhl

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
7545.73	7545.00	Brushy Canyon "U"		0.00	0.00
7726.99	7711.00	LBC 8A		0.00	0.00
7977.08	7874.00	LBC "Y" Sand		0.00	0.00

**Weatherford®****Weatherford Drilling Services**

GeoDec v5.03

Report Date: February 14, 2011
Job Number: _____
Customer: BOPCO
Well Name: Poker Lake Unit #328H
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 448336.760 USFT	Latitude 32.2316377 DEG
East/West 652088.540 USFT	Longitude -103.8414788 DEG
Grid Convergence: .26°	
Total Correction: +7.43°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.23164° N	32° 13 min 53.896 sec
Longitude =	103.84148° W	103° 50 min 29.324 sec

Magnetic Declination =	7.69°	[True North Offset]
Local Gravity =	.9988 g	Checksum = 6554
Local Field Strength =	48591 nT	Magnetic Vector X = 23974 nT
Magnetic Dip =	60.14°	Magnetic Vector Y = 3235 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z = 42141 nT
Spud Date =	Sep 01, 2011	Magnetic Vector H = 24191 nT

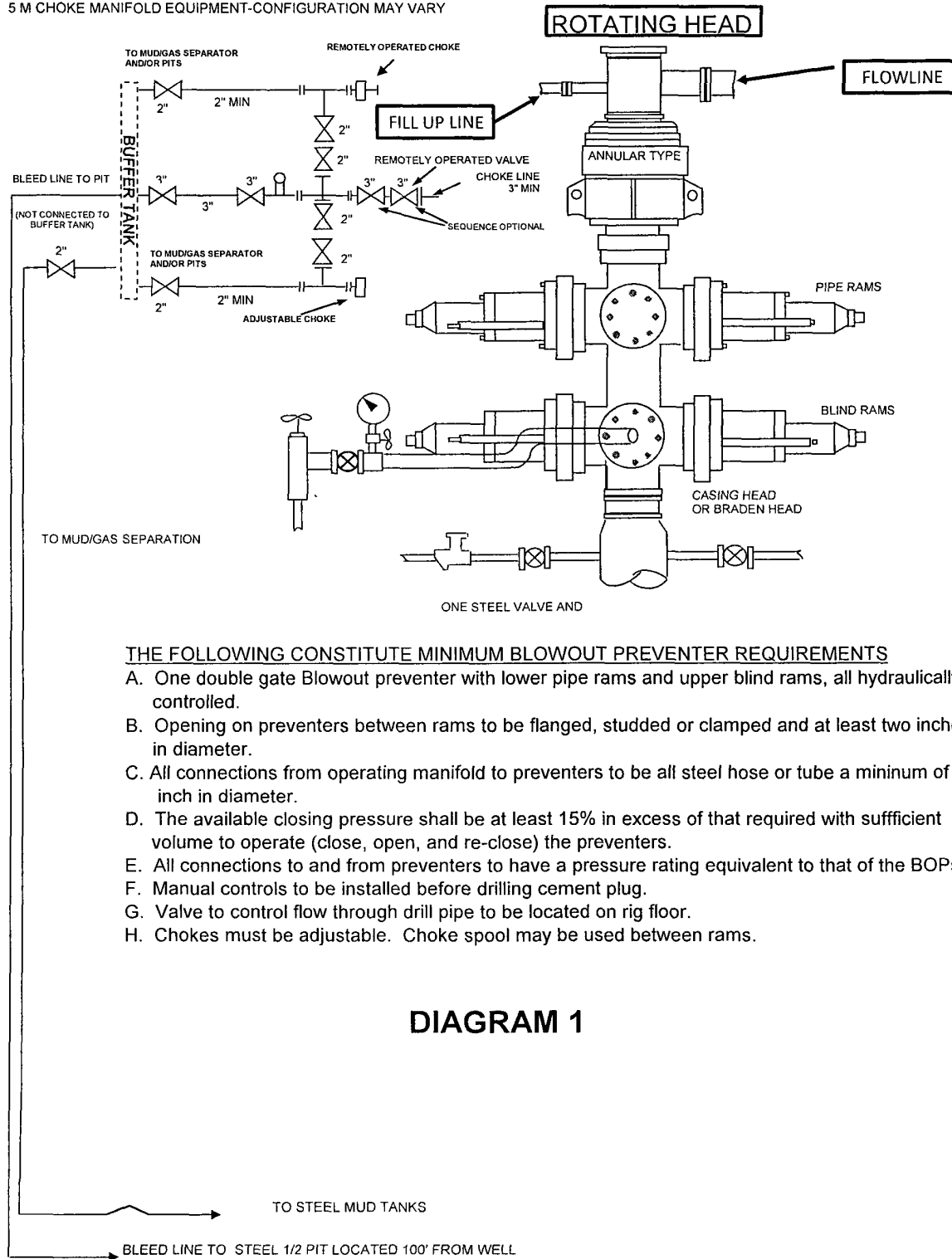
Signed: _____

Date: _____

BOPCO, L. P.

13 5/8" X 5-M WP BOPE WITH 5-M WP ANNULAR

5 M CHOKE MANIFOLD EQUIPMENT-CONFIGURATION MAY VARY



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 minimum of one inch in diameter.
- D. The available closing pressure shall be at least 15% in excess of that required with sufficient 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