

OCD-ARTESIA

ATS-11-1081

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, LC 068431 (see box 6)
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name See pg 1 of 8pt DP for lease info.
2. Name of Operator BOPCO, L. P.		7. If Unit or CA Agreement, Name and No. Poker Lake Unit NMNM 71016X
3a. Address P. O. Box 2760 Midland, TX 79702		8. Lease Name and Well No. Poker Lake Unit 337H <306402>
3b. Phone No. (include area code) 432-683-2277		9. API Well No. 30-015-39691
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SWSE, UL A, 100' FNL & 1080' FEL, Lat:N32.210239, Long:W103.845992 At proposed prod. zone 650' FSL & 1780' FEL, Sec 10-T24S-R30E, Lat:N32.226733, Lg:W103.865508		10. Field and Pool, or Exploratory Poker Lake (Delaware) Southwest <96047>
14. Distance in miles and direction from nearest town or post office* 20 miles East of Malaga		11. Sec., T. R. M. or Blk. and Survey or Area Sec 23, T24S-R30E, Mer, NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 100'	16. No. of acres in lease 6200.84	17. Spacing Unit dedicated to this well 640
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1533.63' (PLU 335H)	19. Proposed Depth 16,173' MD/ 7,776' TVD	20. BLM/BIA Bond No. on file COB 000050
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3,438'	22. Approximate date work will start* 02/01/2012	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 <i>Jeremy Braden</i>	Name (Printed/Typed) Jeremy Braden	RECEIVED NOV 18 2011 NOV 10/18/2011 NMOCD ARTESIA NOV 09 2011
Title Engineering Assistant		
Approved by (Signature) <i>/s/ W. W. Ingram</i>	Name (Printed/Typed)	
Title FIELD MANAGER	Office CARLSBAD FIELD 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

Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 752' and cement circulated to surface.

7" casing will be set at approximately 8,222' MD, 7,866' TVD (thru curve) and cemented in two stages with DV Tool set at approximately 5,000'. Cement will be circulated 500' into the 9-5/8" intermediate casing.

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

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

The surface location is nonstandard and located inside the Poker Lake Unit.

The bottom hole location is nonstandard and located inside the Poker Lake Unit.

Surface Lease Numbers – NMNM 030452

Bottom Hole Lease Numbers – LC 068905, LC 068431

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

EIGHT POINT DRILLING PROGRAM **BOPCO, L.P.**

NAME OF WELL: Poker Lake Unit 337H

LEGAL DESCRIPTION - SURFACE: 100' FNL, 1080' FEL, Section 23, T24S, R30E, Eddy County, NM.
BHL: 650' FSL, 1780' FEL, Section 10, 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 3460' (estimated)
GL 3438'

<u>FORMATION</u>	<u>ESTIMATED TOP FROM KB</u>		<u>ESTIMATED SUB-SEA TOP</u>	<u>BEARING</u>
	<u>TVD</u>	<u>MD</u>		
T/Fresh Water	400'	400'	+ 3,060'	Fresh Water
T/Rustler	430'	430'	+ 3,030'	Barren
T/Salado	565'	565'	+ 2,895'	Barren
T/Salt	762'	762'	+ 2,698'	Barren
B/Salt	3,840'	3,840'	- 380'	Barren
T/Lamar	4,060'	4,060'	- 600'	Barren
T/Ramsey	4,103'	4,103'	- 643'	Oil/Gas
T/Lower Cherry Canyon	6,257'	6,257'	- 2,797'	Oil/Gas
KOP	7,388'	7,388'	- 3,928'	Oil/Gas
LBC 8A Sand	7,665'	7,683'	- 4,205'	Oil/Gas
Target #1	7,866'	8,317'	- 4,406'	Oil/Gas
EOC	7,866'	8,138'	- 4,406'	Oil/Gas
TD Horizontal Hole	7,776'	16,173'	- 4,316'	Oil/Gas

POINT 3: CASING PROGRAM

<u>TYPE</u>	<u>INTERVALS (MD)</u>	<u>Hole Size</u>	<u>PURPOSE</u>	<u>CONDITION</u>
20"	0' - 80'	24"	Conductor	Contractor Discretion
13-3/8", 48#, H-40, or 54.5#, J-55 8rd, ST&C*	0' - 752'	17-1/2"	Surface	New
9-5/8", 40#, N-80, 8rd, LT&C	0' - 4,080'	12-1/4"	Intermediate	New
7", 26#, N-80, Buttress or 8rd LTC*	0' - 8,222'	8-3/4"	Production	New

Completion System

4-1/2", 11.6#, HCP-110 8rd. LT&C*	8,172' - 16,173'	6-1/8"	Completion System	New
4-1/2", 11.6#, N-80, 8rd, LT&C*	8,172' - 16,173'	6-1/8"	Completion System	New

CASING DESIGN SAFETY FACTORS:

<u>TYPE</u>	<u>TENSION</u>	<u>COLLAPSE</u>	<u>BURST</u>
13-3/8", 48#, H-40, 8rd, ST&C*	10.31	1.99	4.12
13-3/8", 54.5#, J-55, 8rd, STC*	24.21	3.10	6.51
9-5/8", 40#, N-80, 8rd, LT&C	5.35	1.31	2.53
7", 26#, N-80, Buttress*	3.78	1.28	1.65
7", 26#, N-80, 8rd, LTC*	2.94	1.21	1.65

Completion System

4-1/2", 11.6#, HCP-110 8rd. LT&C*	3.59	2.06	2.46
4-1/2", 11.6#, N-80, 8rd, LT&C*	2.87	1.43	1.79

* 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.

Production 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.

Completion System - (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 1 & 2)

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.

Please refer to diagram 2 for choke manifold and closed loop system layout.

POINT 5: MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0' - 752'	FW Spud Mud	8.5 - 9.2	38-70	NC	NC	NC	10.0
752' - 4,080'	Brine Water	9.8 - 10.2	28-30	NC	NC	NC	9.5 - 10.5
4,080' - 8,222'	FW/Gel	8.7 - 9.0	28-36	NC	NC	NC	9.5 - 10.0
8,222' - 16,173'	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

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

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' – 652'	550	652	ExtendaCem CZ	8.72	13.70	1.68
Tail: 652' – 752'	110	100	ExtendaCem CZ	8.72	13.70	1.68
INTERMEDIATE:						
Lead: 0' – 3,580'	1140	3580	EconoCem HLC 5% CaCl + 5 #/sk Gilsonite	9.32	12.90	1.85
Tail: 3,580' – 4,080'	270	500	HalCem C	6.34	14.80	1.33
Production						
Stage 1:						
Lead: 5,000' – 7,288'	200	2288	Tuned Light + 0.75% CFR-3 + 1.5#/sk CaCl	12.41	10.20	2.76
Tail: 7,288' – 8,222'	150	934	VersaCem-PBSH2 + 0.4% Halad-9	8.76	13.0	1.65
DV Tool @ 5,000'						
Stage 2:						
Lead: 3,580' – 4,500'	100	920	EconoCem HLC + 1% Econolite + 5% CaCl + 5#/sk Gilsonite	10.71	12.60	2.04
Tail: 4,500' – 5,000'	100	500	HalCem C	6.34	14.80	1.33

Cement excesses will be as follows:

Surface – 100% excess with cement circulated to surface.

1st Intermediate – 50% excess above fluid caliper with cement circulated to surface.

Production – 50% above gauge hole or 35% above electric log caliper with cement circulated 500' up into the 9-5/8" 1st intermediate casing in areas outside the SOPA. Cement will be circulated to surface on areas inside the SOPA.

Cement volumes will be adjusted proportionately for depth changes of the multi stage tool.

E) COMPLETIONS SYSTEM

A 4-1/2" completion system with open hole packers will be run in the producing lateral to a depth of 16,173'. The top of the Completion System will be set at approximately 8,172'. Cement will not be required for this system.

F) 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 7,388' at which point a directional hole will be kicked off and drilled at an azimuth of 314.577 degrees, building angle at 11.99 deg/100' to 90 degrees at a TVD of 7,866' (MD 8,138'). This angle and azimuth will be maintained for 84' to a measured depth of 8,222' (7,866' 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 cement circulated 500' inside the 9-5/8" intermediate casing. A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 314.577 degrees, inclination of 90.658 degrees to a measured depth of 16,173', TVD 7,776'. At this depth a 4-1/2" Completion System with packers installed for zone isolation will be run into the producing lateral.

G) H₂S SAFETY EQUIPMENT

As stated in the BLM Onshore Order 6, for wells located in the SOPA, H₂S equipment will be rigged up after setting surface casing. For the wells located inside the SOPA the flare pit or 1/2 steel pits will be located 150' from the location. For wells located outside the SOPA the flare pit or 1/2 steel pit will be located 100' away from the location. **(See page 6 of Survey plat package and diagram 2)** There is not any H₂S anticipated in the area, although in the event that H₂S is encountered, the H₂S contingency plan attached will be implemented. **(Please refer to diagram 2 for choke manifold and closed loop system layout.)**

H) CLOSED LOOP AND CHOKE MANIFOLD

Please see diagram 2.

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout Delaware section. A BHP of 3681 psi (max) or MWE of 9.0 ppg is expected. Lost circulation may exist in the Delaware Section from 4,060'-7,866' TVD.

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

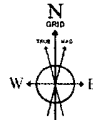
JDB



BOPCO, L.P.

Location Eddy County, NM
Field Poker Lake Unit
Facility Poker Lake Unit No. 337H

Slot No 337H SHL
Well No 337H
Wellbore No. 337H PWB



BGM (1945 to 2012) Dip 80° 12' Field 48375.5 nT
Magnetic North is 7.72 degrees East of True North (at 9/26/2011)
Grid North is 0.26 degrees East of True North
To correct azimuth from True to Grid subtract 0.26 degrees
To correct azimuth from Magnetic to Grid add 7.46 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.46 = 97.46

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	22.00	0.000	314.577	22.00	0.00	0.00	0.00	0.00
Est KOP	7388.00	0.000	314.577	7388.00	0.00	0.00	0.00	0.00
EOC	8138.84	90.000	314.577	7866.00	335.49	-340.48	11.99	478.00
Target #1	8317.84	90.000	314.577	7866.00	461.13	-467.99	0.00	657.00
Build	8350.73	90.858	314.577	7865.81	484.21	-491.42	2.00	689.89
No 337H PBHL	16173.09	90.658	314.577	7776.00	5974.06	-6063.02	0.00	8511.74

Plot reference wellpath is Prelim. 1

True vertical depths are referenced to Rig on No 337H SHL (KB)

Measured depths are referenced to Rig on No 337H SHL (KB)

Rig on No 337H SHL (KB) to Mean Sea Level 3460 feet

Mean Sea Level to Mud line (At Slot No 337H SHL) -3438 feet

Coordinates are in feet referenced to Slot

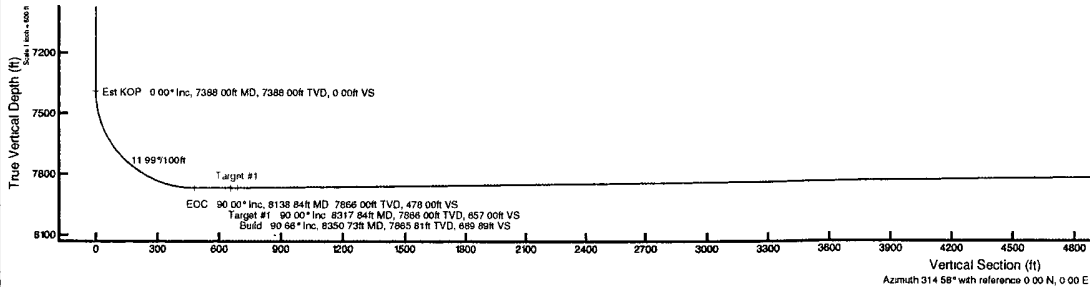
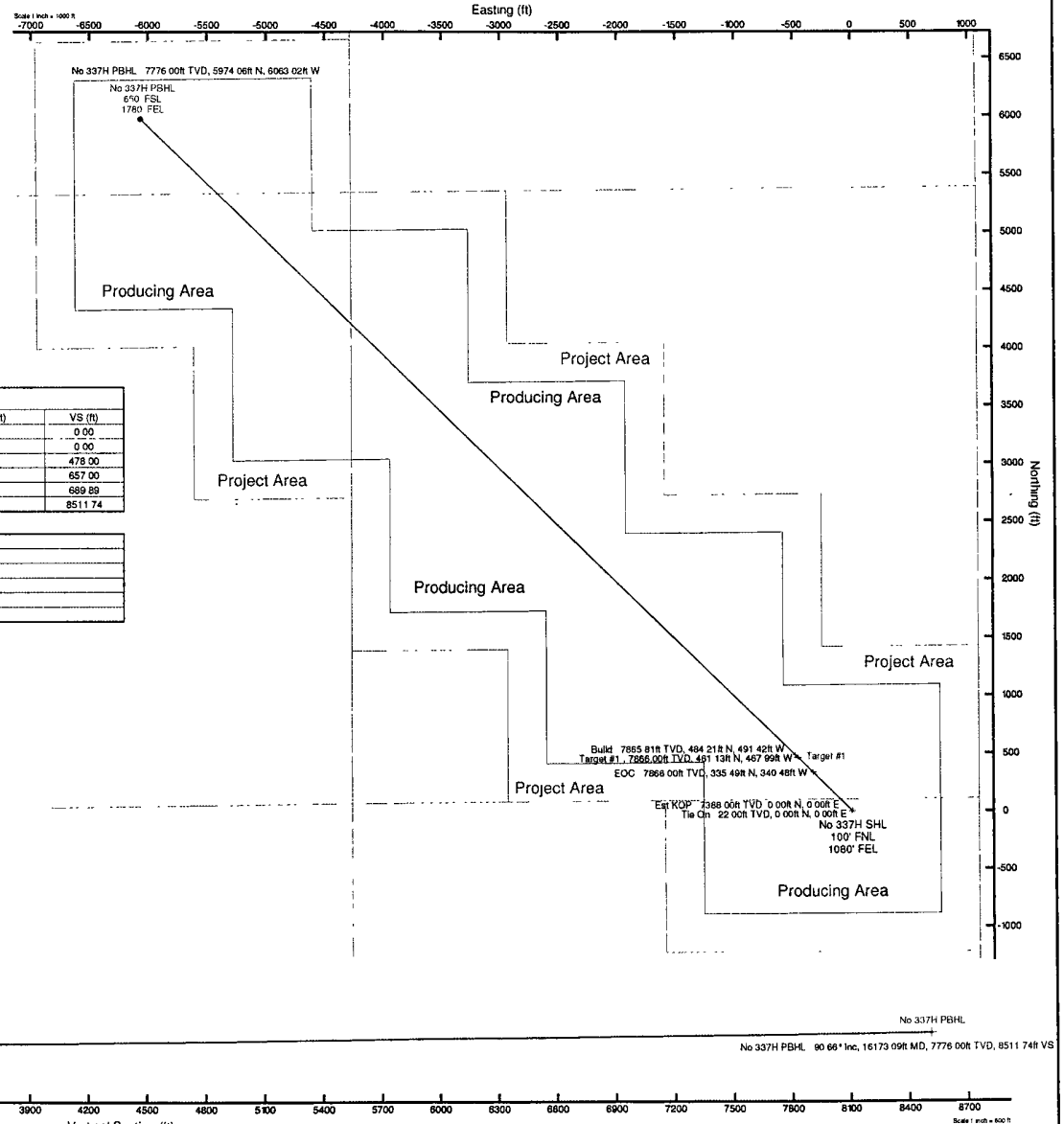
Grid System NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet

North Reference Grid north

Scale True distance

Depths are in feet

Created by gentry on 9/28/2011





Planned Wellpath Report

Prelim_1

Page 1 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No.337H SHL
Area	Eddy County, NM	Well	No.337H
Field	Poker Lake Unit	Wellbore	No.337H PWB
Facility	Poker Lake Unit No. 337H		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect@ 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.999935	Report Generated	9/28/2011 at 4:53:37 PM
Convergence at slot	0.26° East	Database/Source file	WA Midland/No.337H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W
Facility Reference Pt			650728.47	440545.65	32°12'36.856"N	103°50'45.569"W
Field Reference Pt			630272.49	405347.85	32°06'49.387"N	103°54'45.266"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No.337H SHL (KB) to Facility Vertical Datum	22.00ft
Horizontal Reference Pt	Slot	Rig on No.337H SHL (KB) to Mean Sea Level	3460.00ft
Vertical Reference Pt	Rig on No.337H SHL (KB)	Rig on No.337H SHL (KB) to Mud Line at Slot (No.337H SHL)	22.00ft
MD Reference Pt	Rig on No.337H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	314.58°



Planned Wellpath Report

Prelim_1

Page 2 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No.337H SHL
Area	Eddy County, NM	Well	No.337H
Field	Poker Lake Unit	Wellbore	No.337H PWB
Facility	Poker Lake Unit No. 337H		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	314.577	0.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
22.00	0.000	314.577	22.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Tie On
122.00†	0.000	314.577	122.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
222.00†	0.000	314.577	222.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
322.00†	0.000	314.577	322.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
422.00†	0.000	314.577	422.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
430.00†	0.000	314.577	430.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Rustler
522.00†	0.000	314.577	522.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
565.00†	0.000	314.577	565.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Salado
622.00†	0.000	314.577	622.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
722.00†	0.000	314.577	722.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
762.00†	0.000	314.577	762.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Salt
822.00†	0.000	314.577	822.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
922.00†	0.000	314.577	922.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1022.00†	0.000	314.577	1022.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1122.00†	0.000	314.577	1122.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1222.00†	0.000	314.577	1222.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1322.00†	0.000	314.577	1322.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1422.00†	0.000	314.577	1422.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1522.00†	0.000	314.577	1522.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1622.00†	0.000	314.577	1622.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1722.00†	0.000	314.577	1722.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1822.00†	0.000	314.577	1822.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
1922.00†	0.000	314.577	1922.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2022.00†	0.000	314.577	2022.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2122.00†	0.000	314.577	2122.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2222.00†	0.000	314.577	2222.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2322.00†	0.000	314.577	2322.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2422.00†	0.000	314.577	2422.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2522.00†	0.000	314.577	2522.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2622.00†	0.000	314.577	2622.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2722.00†	0.000	314.577	2722.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2822.00†	0.000	314.577	2822.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
2922.00†	0.000	314.577	2922.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3022.00†	0.000	314.577	3022.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3122.00†	0.000	314.577	3122.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3222.00†	0.000	314.577	3222.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3322.00†	0.000	314.577	3322.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3422.00†	0.000	314.577	3422.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3522.00†	0.000	314.577	3522.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3622.00†	0.000	314.577	3622.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3722.00†	0.000	314.577	3722.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3822.00†	0.000	314.577	3822.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
3840.00†	0.000	314.577	3840.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Base/Salt
3922.00†	0.000	314.577	3922.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	



Planned Wellpath Report

Prelim_1

Page 3 of 5



BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No.337H SHL
Area	Eddy County, NM	Well	No.337H
Field	Poker Lake Unit	Wellbore	No.337H PWB
Facility	Poker Lake Unit No. 337H		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4022.00†	0.000	314.577	4022.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4060.00†	0.000	314.577	4060.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Lamar
4103.00†	0.000	314.577	4103.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Ramsey
4122.00†	0.000	314.577	4122.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4222.00†	0.000	314.577	4222.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4322.00†	0.000	314.577	4322.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4422.00†	0.000	314.577	4422.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4522.00†	0.000	314.577	4522.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4622.00†	0.000	314.577	4622.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4722.00†	0.000	314.577	4722.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4822.00†	0.000	314.577	4822.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
4922.00†	0.000	314.577	4922.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5022.00†	0.000	314.577	5022.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5122.00†	0.000	314.577	5122.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5222.00†	0.000	314.577	5222.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5322.00†	0.000	314.577	5322.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5422.00†	0.000	314.577	5422.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5522.00†	0.000	314.577	5522.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5622.00†	0.000	314.577	5622.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5722.00†	0.000	314.577	5722.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5822.00†	0.000	314.577	5822.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
5922.00†	0.000	314.577	5922.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6022.00†	0.000	314.577	6022.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6122.00†	0.000	314.577	6122.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6222.00†	0.000	314.577	6222.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6257.00†	0.000	314.577	6257.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Lower Cherry Canyon
6322.00†	0.000	314.577	6322.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6422.00†	0.000	314.577	6422.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6522.00†	0.000	314.577	6522.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6622.00†	0.000	314.577	6622.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6722.00†	0.000	314.577	6722.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6822.00†	0.000	314.577	6822.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
6922.00†	0.000	314.577	6922.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
7022.00†	0.000	314.577	7022.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
7122.00†	0.000	314.577	7122.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
7222.00†	0.000	314.577	7222.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
7322.00†	0.000	314.577	7322.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	
7388.00	0.000	314.577	7388.00	0.00	0.00	0.00	650728.47	440545.65	32°12'36.856"N	103°50'45.569"W	0.00	Est KOP
7422.00†	4.075	314.577	7421.97	1.21	0.85	-0.86	650727.61	440546.50	32°12'36.864"N	103°50'45.579"W	11.99	
7522.00†	16.062	314.577	7520.25	18.66	13.10	-13.29	650715.18	440558.74	32°12'36.986"N	103°50'45.723"W	11.99	
7622.00†	28.049	314.577	7612.77	56.14	39.40	-39.99	650688.49	440585.05	32°12'37.248"N	103°50'46.032"W	11.99	
7683.46†	35.415	314.577	7665.00	88.44	62.07	-63.00	650665.48	440607.72	32°12'37.473"N	103°50'46.299"W	11.99	LBC 8A
7722.00†	40.035	314.577	7695.48	112.02	78.62	-79.79	650648.69	440624.27	32°12'37.638"N	103°50'46.494"W	11.99	
7822.00†	52.022	314.577	7764.78	183.86	129.04	-130.96	650597.52	440674.68	32°12'38.139"N	103°50'47.087"W	11.99	
7922.00†	64.008	314.577	7817.65	268.52	188.47	-191.27	650537.22	440734.10	32°12'38.730"N	103°50'47.785"W	11.99	



Planned Wellpath Report

Prelim_1

Page 4 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No.337H SHL
Area	Eddy County, NM	Well	No.337H
Field	Poker Lake Unit	Wellbore	No.337H PWB
Facility	Poker Lake Unit No. 337H		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8022.00†	75.995	314.577	7851.79	362.32	254.30	-258.08	650470.41	440799.93	32°12'39.384"N	103°50'48.559"W	11.99	
8122.00†	87.981	314.577	7865.70	461.16	323.68	-328.49	650400.01	440869.30	32°12'40.074"N	103°50'49.375"W	11.99	
8138.84	90.000	314.577	7866.00	478.00	335.49	-340.48	650388.01	440881.12	32°12'40.191"N	103°50'49.514"W	11.99	EOC
8222.00†	90.000	314.577	7866.00	561.16	393.86	-399.72	650328.78	440939.48	32°12'40.771"N	103°50'50.201"W	0.00	
8317.84	90.000	314.577	7866.00	657.00	461.13	-467.99	650260.52	441006.74	32°12'41.440"N	103°50'50.992"W	0.00	Target #1
8322.00†	90.083	314.577	7866.00	661.16	464.05	-470.95	650257.56	441009.66	32°12'41.469"N	103°50'51.026"W	2.00	
8350.73	90.658	314.577	7865.81	689.89	484.21	-491.42	650237.09	441029.83	32°12'41.669"N	103°50'51.263"W	2.00	Build
8422.00†	90.658	314.577	7864.99	761.15	534.23	-542.18	650186.33	441079.84	32°12'42.167"N	103°50'51.851"W	0.00	
8522.00†	90.658	314.577	7863.84	861.15	604.41	-613.40	650115.11	441150.02	32°12'42.864"N	103°50'52.676"W	0.00	
8622.00†	90.658	314.577	7862.70	961.14	674.59	-684.63	650043.89	441220.20	32°12'43.562"N	103°50'53.502"W	0.00	
8722.00†	90.658	314.577	7861.55	1061.13	744.77	-755.86	649972.67	441290.37	32°12'44.260"N	103°50'54.327"W	0.00	
8822.00†	90.658	314.577	7860.40	1161.13	814.95	-827.08	649901.45	441360.55	32°12'44.957"N	103°50'55.152"W	0.00	
8922.00†	90.658	314.577	7859.25	1261.12	885.14	-898.31	649830.22	441430.73	32°12'45.655"N	103°50'55.978"W	0.00	
9022.00†	90.658	314.577	7858.10	1361.11	955.32	-969.54	649759.00	441500.90	32°12'46.353"N	103°50'56.803"W	0.00	
9122.00†	90.658	314.577	7856.96	1461.11	1025.50	-1040.76	649687.78	441571.08	32°12'47.050"N	103°50'57.628"W	0.00	
9222.00†	90.658	314.577	7855.81	1561.10	1095.68	-1111.99	649616.56	441641.26	32°12'47.748"N	103°50'58.454"W	0.00	
9322.00†	90.658	314.577	7854.66	1661.09	1165.86	-1183.22	649545.34	441711.43	32°12'48.446"N	103°50'59.279"W	0.00	
9422.00†	90.658	314.577	7853.51	1761.09	1236.04	-1254.44	649474.11	441781.61	32°12'49.143"N	103°51'00.104"W	0.00	
9522.00†	90.658	314.577	7852.36	1861.08	1306.23	-1325.67	649402.89	441851.79	32°12'49.841"N	103°51'00.930"W	0.00	
9622.00†	90.658	314.577	7851.22	1961.07	1376.41	-1396.90	649331.67	441921.96	32°12'50.538"N	103°51'01.755"W	0.00	
9722.00†	90.658	314.577	7850.07	2061.07	1446.59	-1468.12	649260.45	441992.14	32°12'51.236"N	103°51'02.580"W	0.00	
9822.00†	90.658	314.577	7848.92	2161.06	1516.77	-1539.35	649189.23	442062.32	32°12'51.934"N	103°51'03.406"W	0.00	
9922.00†	90.658	314.577	7847.77	2261.06	1586.95	-1610.58	649118.00	442132.49	32°12'52.631"N	103°51'04.231"W	0.00	
10022.00†	90.658	314.577	7846.62	2361.05	1657.13	-1681.80	649046.78	442202.67	32°12'53.329"N	103°51'05.056"W	0.00	
10122.00†	90.658	314.577	7845.47	2461.04	1727.31	-1753.03	648975.56	442272.85	32°12'54.027"N	103°51'05.882"W	0.00	
10222.00†	90.658	314.577	7844.33	2561.04	1797.50	-1824.26	648904.34	442343.02	32°12'54.724"N	103°51'06.707"W	0.00	
10322.00†	90.658	314.577	7843.18	2661.03	1867.68	-1895.48	648833.12	442413.20	32°12'55.422"N	103°51'07.532"W	0.00	
10422.00†	90.658	314.577	7842.03	2761.02	1937.86	-1966.71	648761.90	442483.38	32°12'56.120"N	103°51'08.358"W	0.00	
10522.00†	90.658	314.577	7840.88	2861.02	2008.04	-2037.94	648690.67	442553.56	32°12'56.817"N	103°51'09.183"W	0.00	
10622.00†	90.658	314.577	7839.73	2961.01	2078.22	-2109.16	648619.45	442623.73	32°12'57.515"N	103°51'10.009"W	0.00	
10722.00†	90.658	314.577	7838.59	3061.00	2148.40	-2180.39	648548.23	442693.91	32°12'58.212"N	103°51'10.834"W	0.00	
10822.00†	90.658	314.577	7837.44	3161.00	2218.59	-2251.62	648477.01	442764.09	32°12'58.910"N	103°51'11.659"W	0.00	
10922.00†	90.658	314.577	7836.29	3260.99	2288.77	-2322.84	648405.79	442834.26	32°12'59.608"N	103°51'12.485"W	0.00	
11022.00†	90.658	314.577	7835.14	3360.98	2358.95	-2394.07	648334.56	442904.44	32°13'00.305"N	103°51'13.310"W	0.00	
11122.00†	90.658	314.577	7833.99	3460.98	2429.13	-2465.30	648263.34	442974.62	32°13'01.003"N	103°51'14.135"W	0.00	
11222.00†	90.658	314.577	7832.85	3560.97	2499.31	-2536.52	648192.12	443044.79	32°13'01.701"N	103°51'14.961"W	0.00	
11322.00†	90.658	314.577	7831.70	3660.96	2569.49	-2607.75	648120.90	443114.97	32°13'02.398"N	103°51'15.786"W	0.00	
11422.00†	90.658	314.577	7830.55	3760.96	2639.67	-2678.98	648049.68	443185.15	32°13'03.096"N	103°51'16.612"W	0.00	
11522.00†	90.658	314.577	7829.40	3860.95	2709.86	-2750.20	647978.45	443255.32	32°13'03.793"N	103°51'17.437"W	0.00	
11622.00†	90.658	314.577	7828.25	3960.94	2780.04	-2821.43	647907.23	443325.50	32°13'04.491"N	103°51'18.262"W	0.00	
11722.00†	90.658	314.577	7827.10	4060.94	2850.22	-2892.66	647836.01	443395.68	32°13'05.189"N	103°51'19.088"W	0.00	
11822.00†	90.658	314.577	7825.96	4160.93	2920.40	-2963.88	647764.79	443465.85	32°13'05.886"N	103°51'19.913"W	0.00	
11922.00†	90.658	314.577	7824.81	4260.92	2990.58	-3035.11	647693.57	443536.03	32°13'06.584"N	103°51'20.739"W	0.00	
12022.00†	90.658	314.577	7823.66	4360.92	3060.76	-3106.34	647622.35	443606.21	32°13'07.281"N	103°51'21.564"W	0.00	
12122.00†	90.658	314.577	7822.51	4460.91	3130.94	-3177.56	647551.12	443676.38	32°13'07.979"N	103°51'22.390"W	0.00	



Planned Wellpath Report

Prelim_1
Page 5 of 5



REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.337H SHL
Area	Eddy County, NM	Well	No.337H
Field	Poker Lake Unit	Wellbore	No.337H PWB
Facility	Poker Lake Unit No. 337H		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12222.00†	90.658	314.577	7821.36	4560.90	3201.13	-3248.79	647479.90	443746.56	32°13'08.677"N	103°51'23.215"W	0.00	
12322.00†	90.658	314.577	7820.22	4660.90	3271.31	-3320.02	647408.68	443816.74	32°13'09.374"N	103°51'24.040"W	0.00	
12422.00†	90.658	314.577	7819.07	4760.89	3341.49	-3391.24	647337.46	443886.92	32°13'10.072"N	103°51'24.866"W	0.00	
12522.00†	90.658	314.577	7817.92	4860.88	3411.67	-3462.47	647266.24	443957.09	32°13'10.769"N	103°51'25.691"W	0.00	
12622.00†	90.658	314.577	7816.77	4960.88	3481.85	-3533.70	647195.01	444027.27	32°13'11.467"N	103°51'26.517"W	0.00	
12722.00†	90.658	314.577	7815.62	5060.87	3552.03	-3604.92	647123.79	444097.45	32°13'12.165"N	103°51'27.342"W	0.00	
12822.00†	90.658	314.577	7814.48	5160.86	3622.22	-3676.15	647052.57	444167.62	32°13'12.862"N	103°51'28.168"W	0.00	
12922.00†	90.658	314.577	7813.33	5260.86	3692.40	-3747.38	646981.35	444237.80	32°13'13.560"N	103°51'28.993"W	0.00	
13022.00†	90.658	314.577	7812.18	5360.85	3762.58	-3818.60	646910.13	444307.98	32°13'14.257"N	103°51'29.819"W	0.00	
13122.00†	90.658	314.577	7811.03	5460.84	3832.76	-3889.83	646838.90	444378.15	32°13'14.955"N	103°51'30.644"W	0.00	
13222.00†	90.658	314.577	7809.88	5560.84	3902.94	-3961.06	646767.68	444448.33	32°13'15.653"N	103°51'31.469"W	0.00	
13322.00†	90.658	314.577	7808.73	5660.83	3973.12	-4032.28	646696.46	444518.51	32°13'16.350"N	103°51'32.295"W	0.00	
13422.00†	90.658	314.577	7807.59	5760.82	4043.30	-4103.51	646625.24	444588.68	32°13'17.048"N	103°51'33.120"W	0.00	
13522.00†	90.658	314.577	7806.44	5860.82	4113.49	-4174.74	646554.02	444658.86	32°13'17.745"N	103°51'33.946"W	0.00	
13622.00†	90.658	314.577	7805.29	5960.81	4183.67	-4245.96	646482.80	444729.04	32°13'18.443"N	103°51'34.771"W	0.00	
13722.00†	90.658	314.577	7804.14	6060.80	4253.85	-4317.19	646411.57	444799.21	32°13'19.140"N	103°51'35.597"W	0.00	
13822.00†	90.658	314.577	7802.99	6160.80	4324.03	-4388.42	646340.35	444869.39	32°13'19.838"N	103°51'36.422"W	0.00	
13922.00†	90.658	314.577	7801.85	6260.79	4394.21	-4459.64	646269.13	444939.57	32°13'20.536"N	103°51'37.248"W	0.00	
14022.00†	90.658	314.577	7800.70	6360.78	4464.39	-4530.87	646197.91	445009.74	32°13'21.233"N	103°51'38.073"W	0.00	
14122.00†	90.658	314.577	7799.55	6460.78	4534.58	-4602.10	646126.69	445079.92	32°13'21.931"N	103°51'38.899"W	0.00	
14222.00†	90.658	314.577	7798.40	6560.77	4604.76	-4673.32	646055.46	445150.10	32°13'22.628"N	103°51'39.724"W	0.00	
14322.00†	90.658	314.577	7797.25	6660.77	4674.94	-4744.55	645984.24	445220.27	32°13'23.326"N	103°51'40.550"W	0.00	
14422.00†	90.658	314.577	7796.10	6760.76	4745.12	-4815.78	645913.02	445290.45	32°13'24.023"N	103°51'41.375"W	0.00	
14522.00†	90.658	314.577	7794.96	6860.75	4815.30	-4887.00	645841.80	445360.63	32°13'24.721"N	103°51'42.201"W	0.00	
14622.00†	90.658	314.577	7793.81	6960.75	4885.48	-4958.23	645770.58	445430.81	32°13'25.419"N	103°51'43.026"W	0.00	
14722.00†	90.658	314.577	7792.66	7060.74	4955.66	-5029.46	645699.35	445500.98	32°13'26.116"N	103°51'43.852"W	0.00	
14822.00†	90.658	314.577	7791.51	7160.73	5025.85	-5100.68	645628.13	445571.16	32°13'26.814"N	103°51'44.677"W	0.00	
14922.00†	90.658	314.577	7790.36	7260.73	5096.03	-5171.91	645556.91	445641.34	32°13'27.511"N	103°51'45.503"W	0.00	
15022.00†	90.658	314.577	7789.22	7360.72	5166.21	-5243.13	645485.69	445711.51	32°13'28.209"N	103°51'46.328"W	0.00	
15122.00†	90.658	314.577	7788.07	7460.71	5236.39	-5314.36	645414.47	445781.69	32°13'28.906"N	103°51'47.154"W	0.00	
15222.00†	90.658	314.577	7786.92	7560.71	5306.57	-5385.59	645343.24	445851.87	32°13'29.604"N	103°51'47.979"W	0.00	
15322.00†	90.658	314.577	7785.77	7660.70	5376.75	-5456.81	645272.02	445922.04	32°13'30.302"N	103°51'48.805"W	0.00	
15422.00†	90.658	314.577	7784.62	7760.69	5446.94	-5528.04	645200.80	445992.22	32°13'30.999"N	103°51'49.631"W	0.00	
15522.00†	90.658	314.577	7783.48	7860.69	5517.12	-5599.27	645129.58	446062.40	32°13'31.697"N	103°51'50.456"W	0.00	
15622.00†	90.658	314.577	7782.33	7960.68	5587.30	-5670.49	645058.36	446132.57	32°13'32.394"N	103°51'51.282"W	0.00	
15722.00†	90.658	314.577	7781.18	8060.67	5657.48	-5741.72	644987.14	446202.75	32°13'33.092"N	103°51'52.107"W	0.00	
15822.00†	90.658	314.577	7780.03	8160.67	5727.66	-5812.95	644915.91	446272.93	32°13'33.789"N	103°51'52.933"W	0.00	
15922.00†	90.658	314.577	7778.88	8260.66	5797.84	-5884.17	644844.69	446343.10	32°13'34.487"N	103°51'53.758"W	0.00	
16022.00†	90.658	314.577	7777.73	8360.65	5868.02	-5955.40	644773.47	446413.28	32°13'35.184"N	103°51'54.584"W	0.00	
16122.00†	90.658	314.577	7776.59	8460.65	5938.21	-6026.63	644702.25	446483.46	32°13'35.882"N	103°51'55.409"W	0.00	
16173.09	90.658	314.577	7776.00†	8511.74	5974.06	-6063.02	644665.86	446519.31	32°13'36.238"N	103°51'55.831"W	0.00	No.337H PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.337H PBHL	16173.09	7776.00	5974.06	-6063.02	644665.86	446519.31	32°13'36.238"N	103°51'55.831"W	point

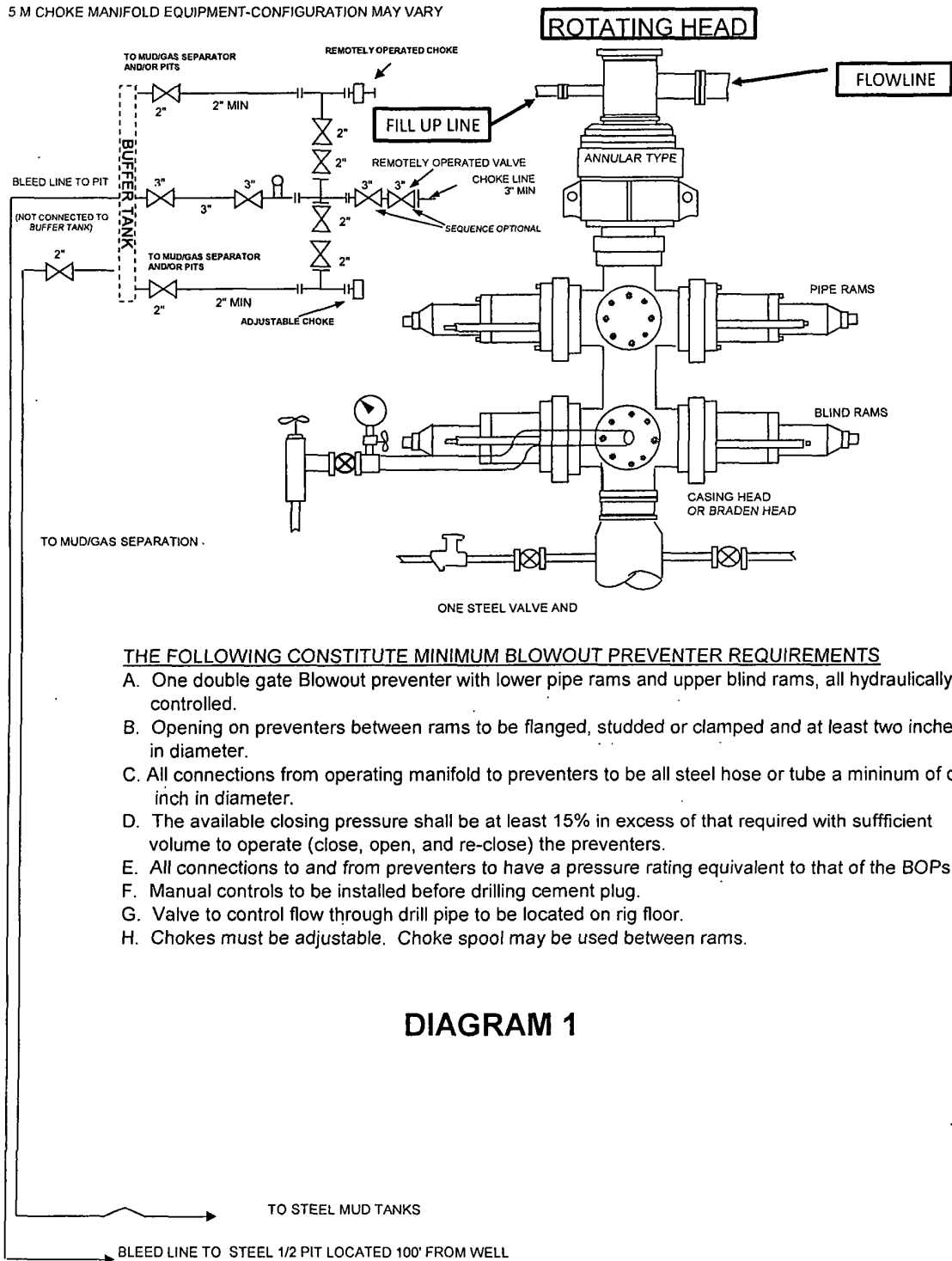
Target #1								
		7866.00	461.13	-467.99	650260.52	441006.74	32°12'41.440"N	103°50'50.992"W point

SURVEY PROGRAM - Ref Wellbore: No.337H PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
22.00	16173.09	NaviTrak (Standard)		No.337H PWB

BOPCO, L. P.

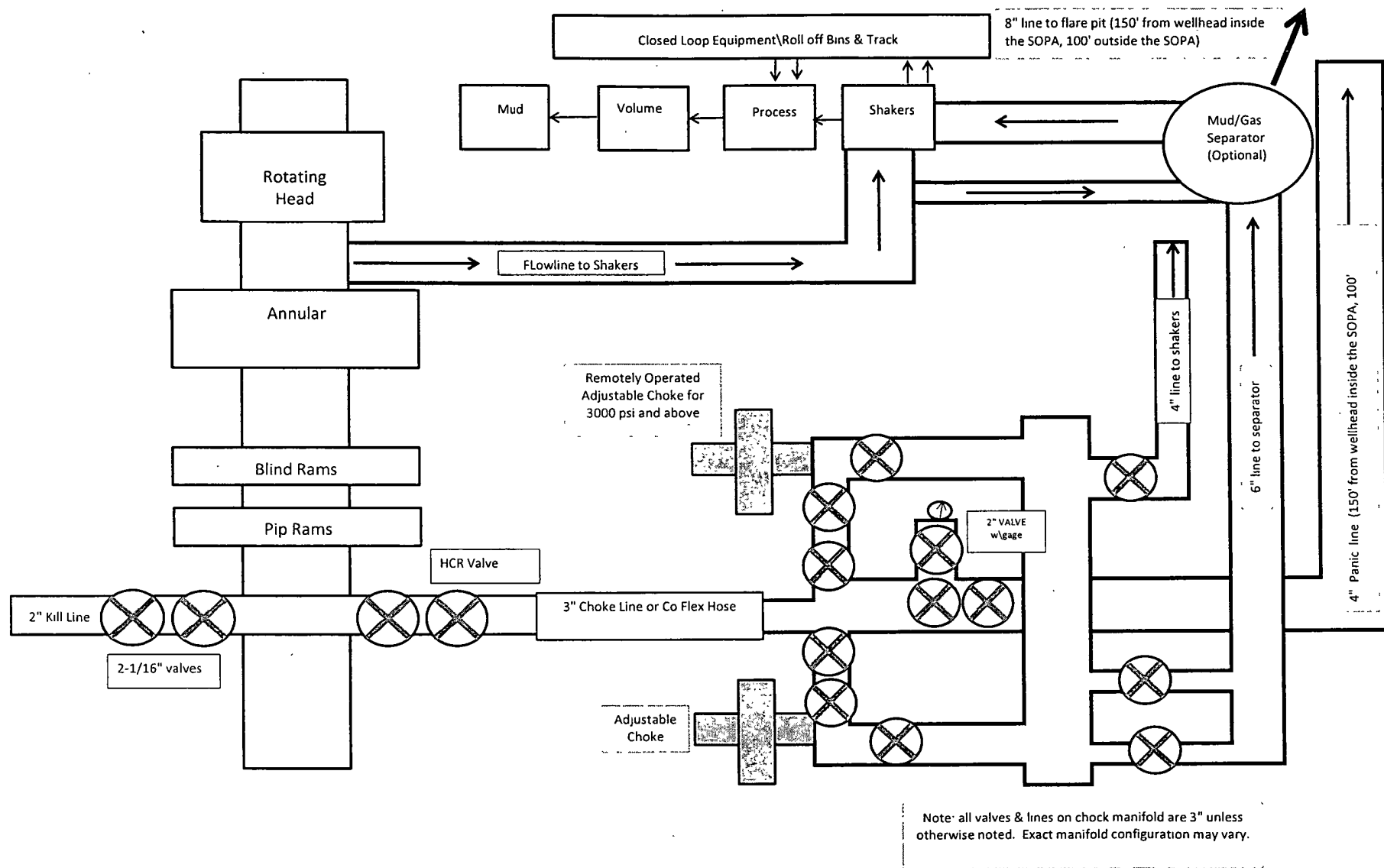
13 5/8" X 5-M WP BOPE WITH 5-M WP ANNULAR

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.



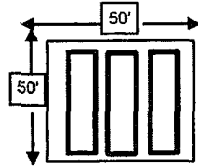
**13-5/8" X 5-M BOPE (2 Rams and Rotating Head) &
Closed Loop System Equipment Schematic
Diagram 2**

RIG LAYOUT

RIG LAYOUT SCHEMATIC INCLUSIVE OF CLOSED-LOOP DESIGN PLAN

Solids Control Equipment Legend

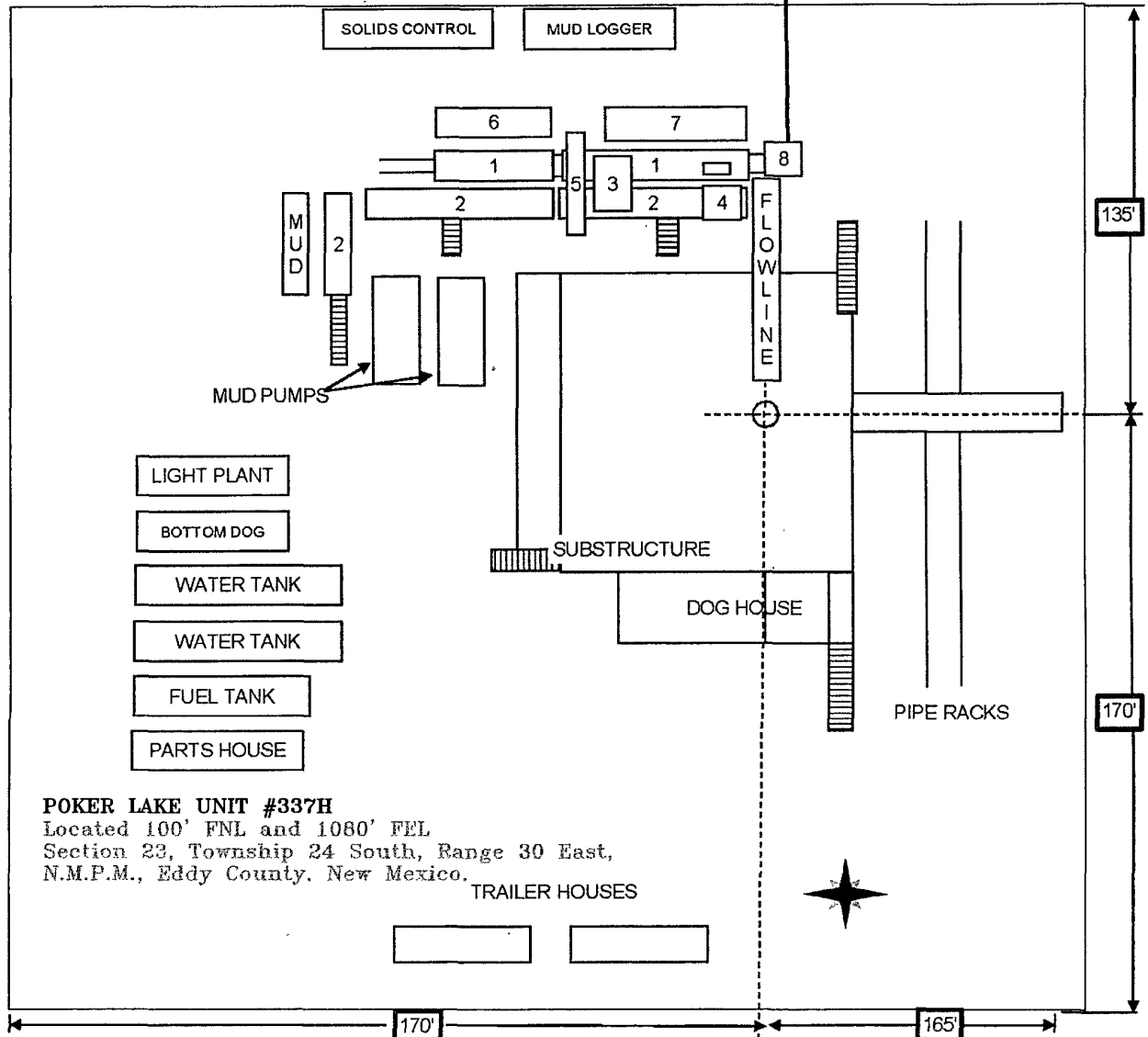
- | | |
|-----------------------------------|--------------------|
| 1) Roll Off Bin | 5) Centrifuge |
| 2) Steel Tank | 6) Dewatering Unit |
| 3) Mud Cleaner | 7) Catch Tank |
| 4) Shaker | 8) Choke Manifold |
| A) Bleed line from choke manifold | |



Water and
Mud Storage

EDGE OF LOCATION W/ BERM

Flare Pit or 1/2 Steel Pit will be
located at
150' - In H2S areas
100' - In non H2S areas
away from the location.



POKER LAKE UNIT #337H
Located 100' FNL and 1080' FEL
Section 23, Township 24 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

TRAILER HOUSES

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W.O Number: JMS 25083

Survey Date: 03-17-2011

Scale: 1" = 2000'

Date: 03-24-2011

BOPCO, L.P.

Sheet 6 of 6 Sheets

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

306402

Operator BOPCO OGRID # 260737
Well Name & # POKER LAKE UNIT 337H Surface Type (F)(S) (P)
Location: UL A, Sect 23, Township 24 s, RNG 30 e, Sub-surface Type (F)(S) (P)

A. Date C101 rec'd 11/18/2011 C101 reviewed 11/23/2011

B. 1. Check mark, Information is OK on Forms:
OGRID ☒, BONDING ☒, PROP CODE ☒, WELL # 337H SIGNATURE ☒
2. Inactive Well list as of: 11/23/2011 # wells 429, # Inactive wells 3

a. District Grant APD but see number of inactive wells:
No letter required ☐; Sent Letter to Operator ☐, to Santa Fe ☐

3. Additional Bonding as of: 11/23/2011

a. District Denial because operator needs addition bonding:
No Letter required ☒; Sent Letter to Operator ☐, To Santa Fe ☐
b. District Denial because of Inactive well list and Financial Assurance:
No Letter required ☒; Sent Letter to Operator ☐, To Santa Fe ☐

C. C102 YES ☒, NO ☐, Signature ☒
1. Pool POKER LAKE SW (DOL), Code 96047

a. Dedicated acreage ☐, What Units ☐
b. SUR. Location Standard ☐: Non-Standard Location ☐
c. Well shares acres: Yes ☐, No ☐, # of wells ☐ plus this well # ☐

2. 2nd. Operator in same acreage, Yes ☐, No ☐
Agreement Letter ☐, Disagreement letter ☐

3. Intent to Directional Drill Yes ☒, No ☐
a. Dedicated acreage 640, What Units ☐
b. Bottomhole Location Standard ☐, Non-Standard Bottomhole ☐

4. Downhole Commingle: Yes ☐, No ☐
a. Pool #2 ☐, Code ☐, Acres ☐
Pool #3 ☐, Code ☐, Acres ☐
Pool #4 ☐, Code ☐, Acres ☐

5. POTASH Area Yes ☐, No ☒

D. Blowout Preventer Yes ☒, No ☐

E. H2S Yes ☒, No ☐

F. C144 Pit Registration Yes ☒, No ☐

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes ☐, No ☒, NSL # ☐
2. Non-Standard Proration: Yes ☐, No ☒, NSP # ☐
3. Simultaneous Dedication: Yes ☐, No ☒, SD # ☐
Number of wells ☐ Plus # ☐

4. Injection order Yes ☐, No ☒; PMX # ☐ or WFX # ☐

5. SWD order Yes ☐, NO ☒; SWD # ☐

6. DHC from SF ☐; DHC-HOB ☐; Holding ☐

7. OCD Approval Date 11/23/2011

API #30-0 15-39691

8. Reviewers TCG