

OCD-ARTESIA

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 068431, E5558
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 71016X
3a. Address P. O. Box 2760 Midland, TX 79702		8. Lease Name and Well No. Poker Lake Unit #325H
3b. Phone No. (include area code) 432-683-2277		9. API Well No. 30-015-35392
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SWNW, UL E, 2250' FNL, 940' FWL, Lat N32.204214, Long W103.874064 At proposed prod. zone 2360' FNL, 2110' FEL, Sec16, T24S, R30E, Lat N32.218389, Lg W103.883886		10. Field and Pool, or Exploratory Poker Lake NW (Delaware)
14. Distance in miles and direction from nearest town or post office* 8.5 miles east of Malaga, NM		11. Sec., T. R. M. or Blk. and Survey or Area Sec 22, T24S, R30E, Mer NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) 380'	16. No. of acres in lease 1200	17. Spacing Unit dedicated to this well 360
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 4,866'	19. Proposed Depth 13,388' MD, 7,605' TVD	20. BLM/BIA Bond No. on file COB0000050
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3361' GL	22. Approximate date work will start* 07/01/2011	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.
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. |
|---|---|

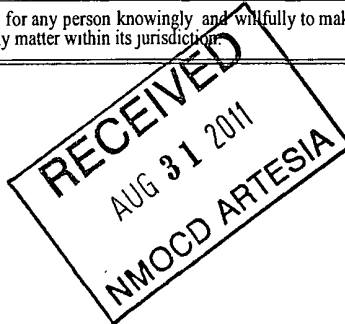
25. Signature	Name (Printed/Typed) Katy Holster	Date 6/1/11
Title Administrative Assistant		
Approved by (Signature)	Name (Printed/Typed) Don Peterson	Date AUG 25 2011
Title FIELD MANAGER		
Office CARLSBAD FIELD OFFICE		

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 USC. Section 1001 and Title 43 USC 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

**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 at an approximate depth of ~~784~~' and cement circulated to surface.

7" casing will be set at approximately 8078' MD, 7605' TVD (thru curve) and cemented in two stages with DV Tool set at approximately 5000'. TOC @ 3349' (500' above 9-5/8" casing).

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 7928'.

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

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

The surface is orthodox. 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 #325H

LEGAL DESCRIPTION - SURFACE: 2250' FNL, 940' FWL, Section 22, T24S, R30E, Eddy County, NM.
BHL: 2360' FNL, 2110' FEL, Section 16, 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 3380' (estimated)
GL 3361'

FORMATION	ESTIMATED TOP FROM KB		ESTIMATED SUB-SEA TOP	BEARING
	TVD	MD		
T/Rustler	339'	339'	+ 3,041'	Barren
T/Fresh Water	400'	400'	+ 2,980'	Fresh Water
B/Rustler	769'	769'	+ 2,661'	Barren
T/Salt	794'	794'	+ 2,586'	Barren
B/Salt	3,619'	3,619'	- 239'	Barren
T/Lamar	3,829'	3,829'	- 449'	Barren
T/Ramsey	3,862'	3,862'	- 482'	Oil/Gas
T/Lower Cherry Canyon	5,975'	5,975'	- 2,595'	Oil/Gas
KOP	7,128'	7,128'	- 3,748'	Oil/Gas
T/Lwr Brushy Canyon "8A" Sd	7,414'	7,435'	- 4,050'	Oil/Gas
T/Lwr Brushy Canyon "Y" Sd	7,515'	7,580'	- 4,200'	Oil/Gas
EOC	7,605'	7,878'	- 4,225'	Oil/Gas
Target #1	7,605'	8,260'	- 4,225'	Oil/Gas
TD Horizontal Hole	7,555'	13,388'	- 4,175'	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' - 284' 1100' <i>see for</i>	17-1/2"	Surface	New
9-5/8", 40#, J-55, 8rd, LT&C	0' - 3849' ✓	12-1/4"	Intermediate	New
7", 26#, N-80, Buttress or 8rd LTC*	0' - 8078'	8-3/4"	Production	New
4-1/2", 11.6#, HCP-110, 8rd, LT&C	8078' - 13,388' ✓	6-1/8"	Production	New

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48#, H-40, 8rd, ST&C	9.60	1.95	2.18
13-3/8", 54.5#, J-55, 8rd, STC	13.66	2.98	3.43
9-5/8", 40#, J-55, 8rd, LT&C	3.97	1.28	1.12
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. 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 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:

- Upon installation
- After any component changes
- Thirty days after a previous test
- 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' - 784' / 100	FW Spud Mud	8.5 - 9.2	38-70	NC	NC	NC	10.0
784' - 3849'	Brine Water	9.8 - 10.2	28-30	NC	NC	NC	9.5 - 10.5
3849' - 8078'	FW/Gel	8.7 - 9.0	28-36	NC	NC	NC	9.5 - 10.0
8078' - 13,388'	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 – 484' (100% excess Circ to surface)	390	484	ExtendaCem-C	9.20	13.6	1.75
Tail: 484' – 784' (100% excess)	350	300	HalCem-C+2% CaCl ₂	6.39	14.8	1.35
INTERMEDIATE:						
Lead: 0' – 3349' (100% excess Circ to surface)	1200	3349	EconoCem-HLC+5% Salt+5 lb/sk Gilsonite	9.32	12.9	1.85
Tail: 3349' – 3849' (100% excess)	300	500	HalCem-C	6.34	14.8	1.35
2ND INTERMEDIATE						
Stage 1:						
Lead: 5000' - 7128' (50% excess)	225	2128	EconoCem-H+1 lb/sk Silicate+5 lb/sk Gilsonite	12.18	12.2	2.28
Tail: 7128'-8078' (50% excess)	180	950	VersaCem-H+0.6% Haled-9+0.2%HR-800	5.46	14.4	1.22
DV Tool @ 5,000'						
Stage 2:						
Lead: 3349'–4900' (50% excess) (TOC 500' into 9-5/8")	160	1551	EconoCem-H+1 lb/sk Silicate+5 lb/sk Gillsonite	12.18	12.2	2.28
Tail: 4900'-5000' (50% excess)	50	100	HalCem-C	6.34	14.8	1.35

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 7128' at which point a directional hole will be kicked off and drilled at an azimuth of 332.851 degrees, building angle at 12 deg/100' to 90 degrees at a TVD of 7605' (MD 7878'). This angle and azimuth will be maintained for 200' to a measured depth of 8078' (7605' 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 3349' (500' above 9-5/8" casing shoe). A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 332.851 degrees, inclination of 90 degrees to a measured depth of 8260', TVD 7605'. At this point the path will be turned at 2 deg/100' to a final azimuth of 328.552 degrees at a measured depth of 8476' (7604' MD). This azimuth will be maintained to TD of 13,388' MD, 7555' 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 7928' (150' above 7" casing shoe).

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

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Normal pressures are anticipated throughout Delaware section. A BHP of 3293 psi (max) or MWE of 8.4 ppg is expected. Lost circulation may exist in the Delaware Section from 3862'-7605' 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

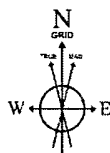
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BOPCO, L.P.

Location: Eddy County, NM
Field: Poker Lake Unit
Facility: Poker Lake Unit No. 325H

Slot: No. 325H SHL
Well: No. 325H
Wellbore: No. 325H PWB

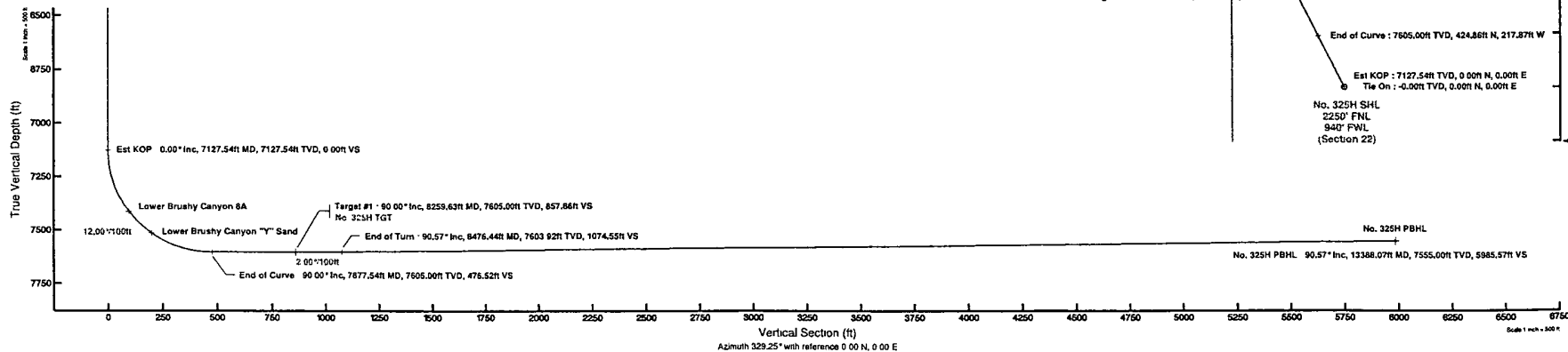


BQGM (1945 0 to 2012.0) Dip 90.12° Field 48621 nT
Magnetic North is 7.80 degrees East of True North (at 4/6/2011)
Grid North is 0.24 degrees East of True North
To correct azimuth from True to Grid subtract 0.24 degrees
To correct azimuth from Magnetic to Grid add 7.55 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = $90 + 7.55 = 97.55$

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	332.851	0.00	0.00	0.00	0.00	0.00
Est KOP	7127.54	0.000	332.851	7127.54	0.00	0.00	0.00	0.00
End of Curve	7877.54	90.000	332.851	7605.00	424.86	-217.87	12.00	476.52
Target #1	8259.63	90.000	332.851	7605.00	764.85	-392.22	0.00	857.86
End of Turn	8476.44	90.571	328.552	7603.92	953.89	-498.30	2.00	1074.55
No. 325H PBHL	13388.07	90.571	328.552	7555.00	5143.86	-3060.68	0.00	5985.57

Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No. 325H SHL (RT)	Grid System NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 325H SHL (RT)	North Reference Grid north
Rig on No. 325H SHL (RT) to Mean Sea Level 3361 feet	Scale True distance
Mean Sea Level to Mud Line (Facility: Poker Lake Unit No. 325H) -3361 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by calphik on 4/7/2011





Planned Wellpath Report

Prelim_1
Page 1 of 5



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 325H SHL
Area	Eddy County, NM	Well	No. 325H
Field	Poker Lake Unit	Wellbore	No. 325H PWB
Facility	Poker Lake Unit No. 325H		

REPORT SETUP INFORMATION			
Projection System	NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect@ 2.0
North Reference	Grid	User	Calhphik
Scale	0.999932	Report Generated	4/7/2011 at 3:29:39 PM
Convergence at slot	0.24° East	Database/Source file	WA Midland/No._325H_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W
Facility Reference Pt			642055.50	438315.90	32°12'15.168"N	103°52'26.628"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. 325H SHL (RT) to Facility Vertical Datum	0.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 325H SHL (RT) to Mean Sea Level	3361.00ft
Vertical Reference Pt	Rig on No. 325H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 325H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	329.25°



Planned Wellpath Report

Prelim 1
Page 2 of 5



INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 325H SHL
Area	Eddy County, NM	Well	No. 325H
Field	Poker Lake Unit	Wellbore	No. 325H PWB
Facility	Poker Lake Unit No. 325H		

WELLPATH DATA (141 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	332.851	0.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	Tie On
100.00†	0.000	332.851	100.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
200.00†	0.000	332.851	200.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
300.00†	0.000	332.851	300.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
400.00†	0.000	332.851	400.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
500.00†	0.000	332.851	500.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
600.00†	0.000	332.851	600.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
700.00†	0.000	332.851	700.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
800.00†	0.000	332.851	800.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
900.00†	0.000	332.851	900.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1000.00†	0.000	332.851	1000.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1100.00†	0.000	332.851	1100.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1200.00†	0.000	332.851	1200.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1300.00†	0.000	332.851	1300.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1400.00†	0.000	332.851	1400.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1500.00†	0.000	332.851	1500.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1600.00†	0.000	332.851	1600.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1700.00†	0.000	332.851	1700.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1800.00†	0.000	332.851	1800.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
1900.00†	0.000	332.851	1900.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2000.00†	0.000	332.851	2000.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2100.00†	0.000	332.851	2100.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2200.00†	0.000	332.851	2200.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2300.00†	0.000	332.851	2300.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2400.00†	0.000	332.851	2400.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2500.00†	0.000	332.851	2500.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2600.00†	0.000	332.851	2600.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2700.00†	0.000	332.851	2700.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2800.00†	0.000	332.851	2800.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
2900.00†	0.000	332.851	2900.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3000.00†	0.000	332.851	3000.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3100.00†	0.000	332.851	3100.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3200.00†	0.000	332.851	3200.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3300.00†	0.000	332.851	3300.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3400.00†	0.000	332.851	3400.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3500.00†	0.000	332.851	3500.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3600.00†	0.000	332.851	3600.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3700.00†	0.000	332.851	3700.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3800.00†	0.000	332.851	3800.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
3900.00†	0.000	332.851	3900.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4000.00†	0.000	332.851	4000.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4100.00†	0.000	332.851	4100.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4200.00†	0.000	332.851	4200.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4300.00†	0.000	332.851	4300.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4400.00†	0.000	332.851	4400.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	



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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 325H SHL
Area	Eddy County, NM	Well	No. 325H
Field	Poker Lake Unit	Wellbore	No. 325H PWB
Facility	Poker Lake Unit No. 325H		

WELLPATH DATA (141 stations) $\dagger$ = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4500.00 $\dagger$	0.000	332.851	4500.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4600.00 $\dagger$	0.000	332.851	4600.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4700.00 $\dagger$	0.000	332.851	4700.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4800.00 $\dagger$	0.000	332.851	4800.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
4900.00 $\dagger$	0.000	332.851	4900.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5000.00 $\dagger$	0.000	332.851	5000.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5100.00 $\dagger$	0.000	332.851	5100.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5200.00 $\dagger$	0.000	332.851	5200.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5300.00 $\dagger$	0.000	332.851	5300.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5400.00 $\dagger$	0.000	332.851	5400.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5500.00 $\dagger$	0.000	332.851	5500.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5600.00 $\dagger$	0.000	332.851	5600.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5700.00 $\dagger$	0.000	332.851	5700.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5800.00 $\dagger$	0.000	332.851	5800.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
5900.00 $\dagger$	0.000	332.851	5900.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6000.00 $\dagger$	0.000	332.851	6000.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6100.00 $\dagger$	0.000	332.851	6100.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6200.00 $\dagger$	0.000	332.851	6200.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6300.00 $\dagger$	0.000	332.851	6300.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6400.00 $\dagger$	0.000	332.851	6400.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6500.00 $\dagger$	0.000	332.851	6500.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6600.00 $\dagger$	0.000	332.851	6600.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6700.00 $\dagger$	0.000	332.851	6700.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6800.00 $\dagger$	0.000	332.851	6800.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
6900.00 $\dagger$	0.000	332.851	6900.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
7000.00 $\dagger$	0.000	332.851	7000.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
7100.00 $\dagger$	0.000	332.851	7100.00	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	
7127.54	0.000	332.851	7127.54	0.00	0.00	0.00	642055.50	438315.90	32°12'15.168"N	103°52'26.628"W	0.00	Est KOP
7200.00 $\dagger$	8.696	332.851	7199.72	5.48	4.88	-2.50	642052.99	438320.79	32°12'15.217"N	103°52'26.657"W	12.00	
7300.00 $\dagger$	20.696	332.851	7296.27	30.75	27.42	-14.06	642041.44	438343.32	32°12'15.440"N	103°52'26.790"W	12.00	
7400.00 $\dagger$	32.696	332.851	7385.45	75.50	67.32	-34.52	642020.98	438383.22	32°12'15.836"N	103°52'27.026"W	12.00	
7435.00 $\dagger$	36.896	332.851	7414.19	95.43	85.09	-43.63	642011.87	438400.98	32°12'16.012"N	103°52'27.131"W	12.00	Lower Brushy Canyon 8A
7500.00 $\dagger$	44.696	332.851	7463.36	137.79	122.85	-63.00	641992.50	438438.74	32°12'16.386"N	103°52'27.355"W	12.00	
7580.00 $\dagger$	54.296	332.851	7515.26	198.42	176.91	-90.72	641964.78	438492.80	32°12'16.923"N	103°52'27.675"W	12.00	Lower Brushy Canyon "Y" Sand
7600.00 $\dagger$	56.696	332.851	7526.58	214.87	191.58	-98.24	641957.26	438507.46	32°12'17.068"N	103°52'27.762"W	12.00	
7700.00 $\dagger$	68.696	332.851	7572.37	303.39	270.50	-138.71	641916.79	438586.38	32°12'17.851"N	103°52'28.229"W	12.00	
7800.00 $\dagger$	80.696	332.851	7598.72	399.48	356.17	-182.65	641872.86	438672.05	32°12'18.700"N	103°52'28.736"W	12.00	
7877.54	90.000	332.851	7605.00	476.52	424.86	-217.87	641837.64	438740.73	32°12'19.382"N	103°52'29.142"W	12.00	End of Curve
7900.00 $\dagger$	90.000	332.851	7605.00	498.94	444.85	-228.12	641827.39	438760.72	32°12'19.580"N	103°52'29.261"W	0.00	
8000.00 $\dagger$	90.000	332.851	7605.00	598.74	533.83	-273.75	641781.76	438849.69	32°12'20.462"N	103°52'29.787"W	0.00	
8100.00 $\dagger$	90.000	332.851	7605.00	698.55	622.81	-319.38	641736.13	438938.67	32°12'21.345"N	103°52'30.314"W	0.00	
8200.00 $\dagger$	90.000	332.851	7605.00	798.35	711.79	-365.02	641690.51	439027.65	32°12'22.227"N	103°52'30.840"W	0.00	
8259.63	90.000	332.851	7605.00	857.86	764.85	-392.22	641663.30	439080.70	32°12'22.753"N	103°52'31.154"W	0.00	Target #1
8300.00 $\dagger$	90.106	332.050	7604.96	898.17	800.65	-410.90	641644.63	439116.49	32°12'23.108"N	103°52'31.370"W	2.00	
8400.00 $\dagger$	90.370	330.068	7604.55	998.11	888.15	-459.28	641596.24	439203.99	32°12'23.976"N	103°52'31.929"W	2.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 325H SHL
Area	Eddy County, NM	Well	No. 325H
Field	Poker Lake Unit	Wellbore	No. 325H PWB
Facility	Poker Lake Unit No. 325H		

WELLPATH DATA (141 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8476.44	90.571	328.552	7603.92	1074.55	953.89	-498.30	641557.23	439269.72	32°12'24.628"N	103°52'32.380"W	2.00	End of Turn
8500.00†	90.571	328.552	7603.69	1098.10	973.98	-510.59	641544.94	439289.82	32°12'24.828"N	103°52'32.522"W	0.00	
8600.00†	90.571	328.552	7602.69	1198.09	1059.29	-562.76	641492.78	439375.12	32°12'25.674"N	103°52'33.125"W	0.00	
8700.00†	90.571	328.552	7601.69	1298.08	1144.60	-614.93	641440.61	439460.42	32°12'26.520"N	103°52'33.728"W	0.00	
8800.00†	90.571	328.552	7600.70	1398.07	1229.90	-667.10	641388.45	439545.72	32°12'27.367"N	103°52'34.330"W	0.00	
8900.00†	90.571	328.552	7599.70	1498.05	1315.21	-719.27	641336.28	439631.02	32°12'28.213"N	103°52'34.933"W	0.00	
9000.00†	90.571	328.552	7598.71	1598.04	1400.52	-771.44	641284.11	439716.32	32°12'29.059"N	103°52'35.536"W	0.00	
9100.00†	90.571	328.552	7597.71	1698.03	1485.83	-823.61	641231.95	439801.62	32°12'29.906"N	103°52'36.139"W	0.00	
9200.00†	90.571	328.552	7596.71	1798.02	1571.13	-875.78	641179.78	439886.92	32°12'30.752"N	103°52'36.742"W	0.00	
9300.00†	90.571	328.552	7595.72	1898.00	1656.44	-927.95	641127.62	439972.23	32°12'31.598"N	103°52'37.345"W	0.00	
9400.00†	90.571	328.552	7594.72	1997.99	1741.75	-980.12	641075.45	440057.53	32°12'32.445"N	103°52'37.948"W	0.00	
9500.00†	90.571	328.552	7593.73	2097.98	1827.05	-1032.28	641023.28	440142.83	32°12'33.291"N	103°52'38.551"W	0.00	
9600.00†	90.571	328.552	7592.73	2197.97	1912.36	-1084.45	640971.12	440228.13	32°12'34.137"N	103°52'39.154"W	0.00	
9700.00†	90.571	328.552	7591.73	2297.95	1997.67	-1136.62	640918.95	440313.43	32°12'34.984"N	103°52'39.757"W	0.00	
9800.00†	90.571	328.552	7590.74	2397.94	2082.98	-1188.79	640866.78	440398.73	32°12'35.830"N	103°52'40.360"W	0.00	
9900.00†	90.571	328.552	7589.74	2497.93	2168.28	-1240.96	640814.62	440484.03	32°12'36.676"N	103°52'40.963"W	0.00	
10000.00†	90.571	328.552	7588.75	2597.92	2253.59	-1293.13	640762.45	440569.34	32°12'37.523"N	103°52'41.566"W	0.00	
10100.00†	90.571	328.552	7587.75	2697.91	2338.90	-1345.30	640710.29	440654.64	32°12'38.369"N	103°52'42.169"W	0.00	
10200.00†	90.571	328.552	7586.75	2797.89	2424.20	-1397.47	640658.12	440739.94	32°12'39.215"N	103°52'42.772"W	0.00	
10300.00†	90.571	328.552	7585.76	2897.88	2509.51	-1449.64	640605.95	440825.24	32°12'40.062"N	103°52'43.375"W	0.00	
10400.00†	90.571	328.552	7584.76	2997.87	2594.82	-1501.81	640553.79	440910.54	32°12'40.908"N	103°52'43.978"W	0.00	
10500.00†	90.571	328.552	7583.77	3097.86	2680.13	-1553.98	640501.62	440995.84	32°12'41.754"N	103°52'44.581"W	0.00	
10600.00†	90.571	328.552	7582.77	3197.84	2765.43	-1606.15	640449.46	441081.14	32°12'42.601"N	103°52'45.184"W	0.00	
10700.00†	90.571	328.552	7581.77	3297.83	2850.74	-1658.32	640397.29	441166.44	32°12'43.447"N	103°52'45.787"W	0.00	
10800.00†	90.571	328.552	7580.78	3397.82	2936.05	-1710.49	640345.12	441251.75	32°12'44.293"N	103°52'46.390"W	0.00	
10900.00†	90.571	328.552	7579.78	3497.81	3021.36	-1762.66	640292.96	441337.05	32°12'45.140"N	103°52'46.993"W	0.00	
11000.00†	90.571	328.552	7578.79	3597.79	3106.66	-1814.83	640240.79	441422.35	32°12'45.986"N	103°52'47.596"W	0.00	
11100.00†	90.571	328.552	7577.79	3697.78	3191.97	-1867.00	640188.63	441507.65	32°12'46.832"N	103°52'48.199"W	0.00	
11200.00†	90.571	328.552	7576.79	3797.77	3277.28	-1919.17	640136.46	441592.95	32°12'47.679"N	103°52'48.802"W	0.00	
11300.00†	90.571	328.552	7575.80	3897.76	3362.58	-1971.34	640084.29	441678.25	32°12'48.525"N	103°52'49.405"W	0.00	
11400.00†	90.571	328.552	7574.80	3997.75	3447.89	-2023.51	640032.13	441763.55	32°12'49.371"N	103°52'50.008"W	0.00	
11500.00†	90.571	328.552	7573.81	4097.73	3533.20	-2075.68	639979.96	441848.85	32°12'50.218"N	103°52'50.611"W	0.00	
11600.00†	90.571	328.552	7572.81	4197.72	3618.51	-2127.85	639927.80	441934.16	32°12'51.064"N	103°52'51.214"W	0.00	
11700.00†	90.571	328.552	7571.81	4297.71	3703.81	-2180.02	639875.63	442019.46	32°12'51.910"N	103°52'51.817"W	0.00	
11800.00†	90.571	328.552	7570.82	4397.70	3789.12	-2232.19	639823.46	442104.76	32°12'52.757"N	103°52'52.420"W	0.00	
11900.00†	90.571	328.552	7569.82	4497.68	3874.43	-2284.36	639771.30	442190.06	32°12'53.603"N	103°52'53.023"W	0.00	
12000.00†	90.571	328.552	7568.83	4597.67	3959.74	-2336.53	639719.13	442275.36	32°12'54.449"N	103°52'53.626"W	0.00	
12100.00†	90.571	328.552	7567.83	4697.66	4045.04	-2388.70	639666.96	442360.66	32°12'55.296"N	103°52'54.229"W	0.00	
12200.00†	90.571	328.552	7566.83	4797.65	4130.35	-2440.87	639614.80	442445.96	32°12'56.142"N	103°52'54.832"W	0.00	
12300.00†	90.571	328.552	7565.84	4897.63	4215.66	-2493.04	639562.63	442531.26	32°12'56.988"N	103°52'55.435"W	0.00	
12400.00†	90.571	328.552	7564.84	4997.62	4300.96	-2545.21	639510.47	442616.57	32°12'57.835"N	103°52'56.038"W	0.00	
12500.00†	90.571	328.552	7563.85	5097.61	4386.27	-2597.38	639458.30	442701.87	32°12'58.681"N	103°52'56.641"W	0.00	
12600.00†	90.571	328.552	7562.85	5197.60	4471.58	-2649.55	639406.13	442787.17	32°12'59.527"N	103°52'57.244"W	0.00	
12700.00†	90.571	328.552	7561.85	5297.59	4556.89	-2701.72	639353.97	442872.47	32°13'00.374"N	103°52'57.847"W	0.00	
12800.00†	90.571	328.552	7560.86	5397.57	4642.19	-2753.89	639301.80	442957.77	32°13'01.220"N	103°52'58.451"W	0.00	



Planned Wellpath Report

Prelim_1
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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 325H SHL
Area	Eddy County, NM	Well	No. 325H
Field	Poker Lake Unit	Wellbore	No. 325H PWB
Facility	Poker Lake Unit No. 325H		

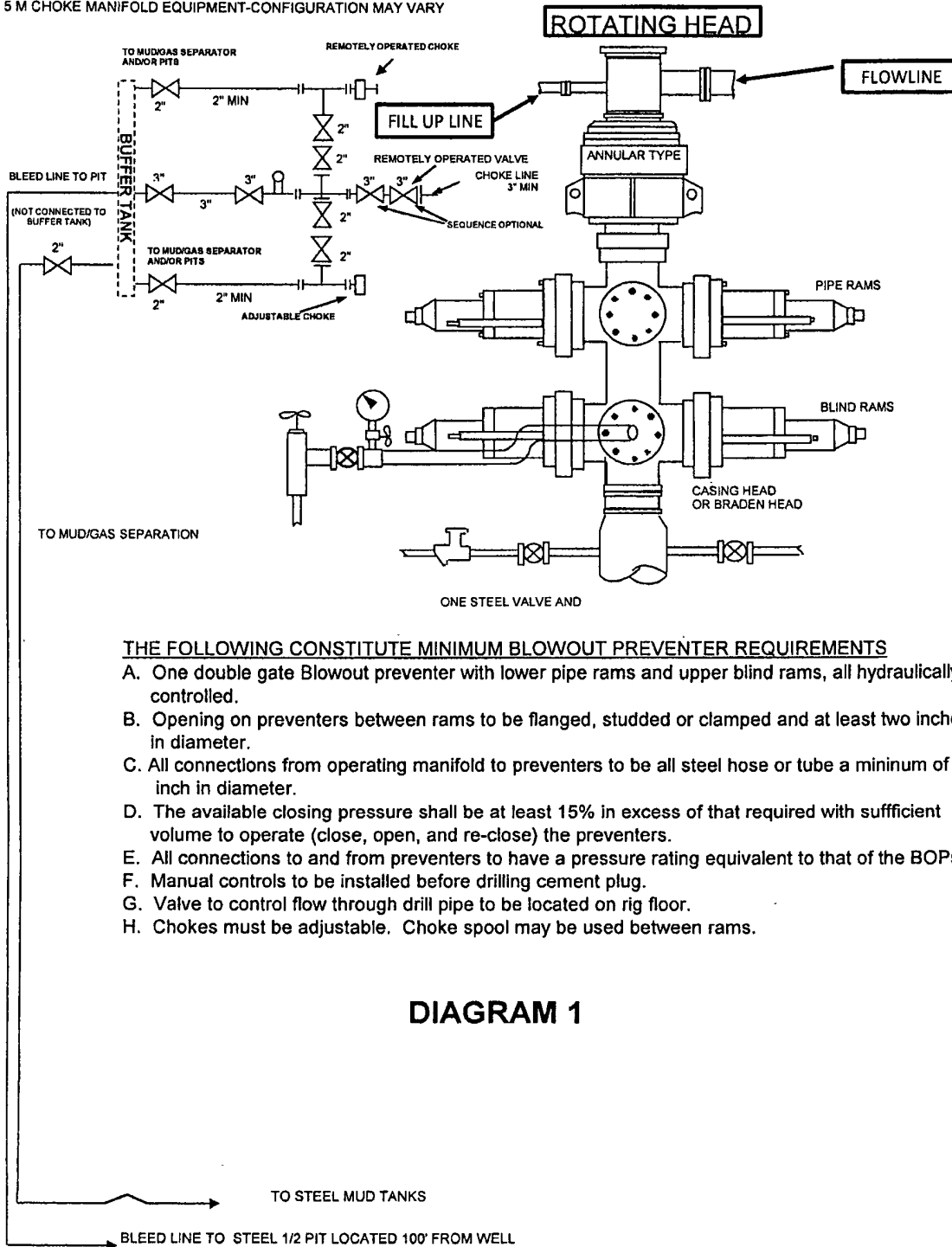
WELLPATH DATA (141 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12900.00†	90.571	328.552	7559.86	5497.56	4727.50	-2806.06	639249.64	443043.07	32°13'02.066"N	103°52'59.054"W	0.00	
13000.00†	90.571	328.552	7558.87	5597.55	4812.81	-2858.23	639197.47	443128.37	32°13'02.912"N	103°52'59.657"W	0.00	
13100.00†	90.571	328.552	7557.87	5697.54	4898.12	-2910.40	639145.30	443213.68	32°13'03.759"N	103°53'00.260"W	0.00	
13200.00†	90.571	328.552	7556.87	5797.52	4983.42	-2962.56	639093.14	443298.98	32°13'04.605"N	103°53'00.863"W	0.00	
13300.00†	90.571	328.552	7555.88	5897.51	5068.73	-3014.73	639040.97	443384.28	32°13'05.451"N	103°53'01.466"W	0.00	
13388.07	90.571	328.552	7555.00	5985.57	5143.86	-3060.68	638995.03	443459.40	32°13'06.197"N	103°53'01.997"W	0.00	No. 325H PBHL

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
2) No. 325H PBHL	13388.07	7555.00	5143.86	-3060.68	638995.03	443459.40	32°13'06.197"N	103°53'01.997"W	point
1) No. 325H TGT	8259.63	7605.00	764.85	-392.22	641663.30	439080.70	32°12'22.753"N	103°52'31.154"W	point

SURVEY PROGRAM Ref Wellbore: No. 325H PWB Ref Wellpath: Prelim_1				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	13388.07	NaviTrak (Standard)		No. 325H PWB

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