

ATS-11-843

EC

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

5. Lease Serial No. *SHL LC 061705, 030453, 002862*
6. If Indian, Allottee or Tribe Name

1a. Type of work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
Poker Lake Unit NMNM71016X

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

8. Lease Name and Well No.
Poker Lake Unit #345H *306402*

2. Name of Operator
BOPCO, L. P.

9. API Well No.
30-015-39488

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

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

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

4. Location of Well (Report location clearly and in accordance with any State requirements.)
At surface **NWSE, UL F, 1350' FNL, 1550' FWL, Lat N32.1778, Long W103.854747**
At proposed prod. zone **1995' FNL, 2325' FWL, Sec 27, T24S, R30E, Lat N32.190447, Lg W103.869586**

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 35, T24S, R30E, Mer NMP

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

12. County or Parish
Eddy County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any)
1350'

16. No. of acres in lease
5055.41

17. Spacing Unit dedicated to this well
520

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
1776'

19. Proposed Depth
14,039' MD, 7689 TVD

20. BLM/BIA Bond No. on file
COB000050

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3356' GL

22. Approximate date work will start*
09/01/2011

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 *Jeremy Braden*
Title **Drilling Engineering Assistant**

Name (Printed/Typed) **Jeremy Braden**
Date *8-10-11*

Approved by (Signature) */s/ Don Peterson*
Title **FIELD MANAGER**

Name (Printed/Typed) */s/ Don Peterson*
Office **CARLSBAD FIELD OFFICE**
Date **OCT 06 2011**

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

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

(Signature)

Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 1,300' and cement circulated to surface.

7" casing will be set at approximately 8,216' MD, 7,744' TVD (thru curve) and cemented in two stages with DV Tool set at approximately 4,500' with cement circulated 500' into the 9-5/8" shoe.

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 8,066'.

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

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

The surface is ~~orthodox~~ ^{unorthodox} and is located inside the Poker Lake Unit.

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

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 #345H

LEGAL DESCRIPTION - SURFACE: 1350' FNL, 1550' FWL, Section 35, T24S, R30E, Eddy County, NM.

BHL: 1995' FNL, 2325' FWL, Section 27, 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 3375' (estimated)
GL 3356'

FORMATION	ESTIMATED TOP FROM KB		ESTIMATED SUB-SEA TOP	BEARING
	TVD	MD		
T/Fresh Water	300	300	3,075	Fresh Water
T/Rustler	688	688	2,687	Barren
T/Salt	2,121	2,121	1,254	Barren
B/Salt	3,559	3,559	-184	Barren
T/Lamar	3,949	3,949	-574	Barren
T/Ramsey	4,025	4,025	-650	Oil/Gas
T/Lower Cherry Canyon	6,099	6,099	-2,724	Oil/Gas
KOP	7,267	7,267	-3,892	Oil/Gas
T/Lwr Brushy Canyon 8A	7,557	7,579	-4,182	Oil/Gas
T/Lwr Brushy Canyon Y Sand	7,724	7,882	-4,349	Oil/Gas
Target #1	7,742	8,214	-4,367	Oil/Gas
TD	7,689	14,039	-4,314	Oil/Gas

POINT 3: CASING PROGRAM

TYPE	INTERVALS (MD)	HOLE SIZE	PURPOSE	CONDITION
		SIZE		
20"	0'-60'	24"	Conductor	Unspecified
13-3/8", 54.5#, J-55, ST&C	0'-1,300'	17-1/2"	Surface	New
9-5/8", 40#, J-55, LT&C	0'-3,969'	12-1/4"	Intermediate	New
7", 26#, N-80, LT&C	0'-8216'	8-3/4"	Production	New
4-1/2", 11.6#, HCP-110, LT&C	8,066'-14,039'	6-1/8"	Production	New

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 54.5#, J-55, ST&C	14.01	1.77	2.58
9-5/8", 40#, J-55, LT&C	4.70	1.22	1.78
7", 26#, N-80, LT&C	3.01	1.17	1.55
4-1/2", 11.6#, HCP-110, LT&C	4.65	2.05	2.26

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 1)

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

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

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

These tests will be performed:

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

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

POINT 5: MUD PROGRAM

<u>DEPTH</u>	<u>MUD TYPE</u>	<u>WEIGHT</u>	<u>FV</u>	<u>PV</u>	<u>YP</u>	<u>FL</u>	<u>Ph</u>
0' - 1,300'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10
1,300' - 3,969'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5 – 10.5
3,969' - 8,216'	FW/Gel	8.7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0
8,216' - 14,039'	FW/Gel/Starch	8.7 – 9.0	28-36	NC	NC	<100	9.5 – 10.0

NOTE: May increase vis for logging purposes only.

POINT 6: TECHNICAL STAGES OF OPERATION

A) TESTING

None anticipated.

B) LOGGING

See COA

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

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

Mud Logger: Rigged up at 100'.

C) CONVENTIONAL CORING

None anticipated.

POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM 1)**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' – 800' (100% excess Circ to surface)	670	800	ExtendaCem CZ	8.72	13.70	1.68
Tail: 800' – 1300' (100% excess)	475	500	ExtendaCem CZ	8.72	13.70	1.68
INTERMEDIATE:						
Lead: 0' – 3469' (100% excess Circ to surface)	1000	3469	EconoCem HLC 5% CaCl + 5 #/sk Gilsonite	9.32	12.90	1.85
Tail: 3469' – 3969' (100% excess)	300	500	HalCem C	6.34	14.80	1.33
2ND INTERMEDIATE						
Stage 1:						
Lead: 4500' - 7267' (50% excess)	240	2767	Tuned Light + 0.75% CFR-3 + 1.5#/sk CaCl	12.41	10.20	2.76
Tail: 7267'-8216' (50% excess)	150	949	VersaCem-PBSH2 + 0.4% Halad-9	8.76	13.0	1.65
DV Tool @ 4,500'						
Stage 2:						
Lead: 3469'–4500' (50% excess) (TOC 500' into 9-5/8")	150	531	EconoCem HLC + 1% Econolite + 5% CaCl + 5#/sk Gilsonite	10.71	12.60	2.04
Tail: 4000'-4500' (50% excess)	100	500	HalCem C	6.34	14.80	1.33

E) DIRECTIONAL DRILLING

BOPCO, L.P. plans to drill out the 9-5/8" intermediate casing with a 8-3/4" bit to a TVD of approximately 7,267' at which point a directional hole will be kicked off and drilled at an azimuth of 314.811 degrees, building angle at 12 deg/100' to 90.0 degrees at a TVD of 7,744' (MD 8,016'). This angle and azimuth will be maintained for 200' to a measured depth of 8,216' (7,744' TVD). At this depth 7", 26#, N-80, LTC casing will be installed and cemented in two stages (DV Tool @ approximately 4,500') with TOC 500' into the 9-5/8" shoe. A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 314.811 degrees, inclination of 90.542 degrees to a measured depth of 14,039', TVD 7,689'. At this depth 4-1/2", 11.6#, HCP-110, LTC casing will be installed with Baker hydraulic packers installed for zone isolation in the lateral. Top of 4-1/2" liner at approximately 8,066' (150' above 7" casing shoe).

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

5

Normal pressures are anticipated throughout Delaware section. A BHP of 3,383 psi (max) or MWE of 8.4 ppg is expected. Lost circulation may exist in the Delaware Section from 4,027'-7,559' 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

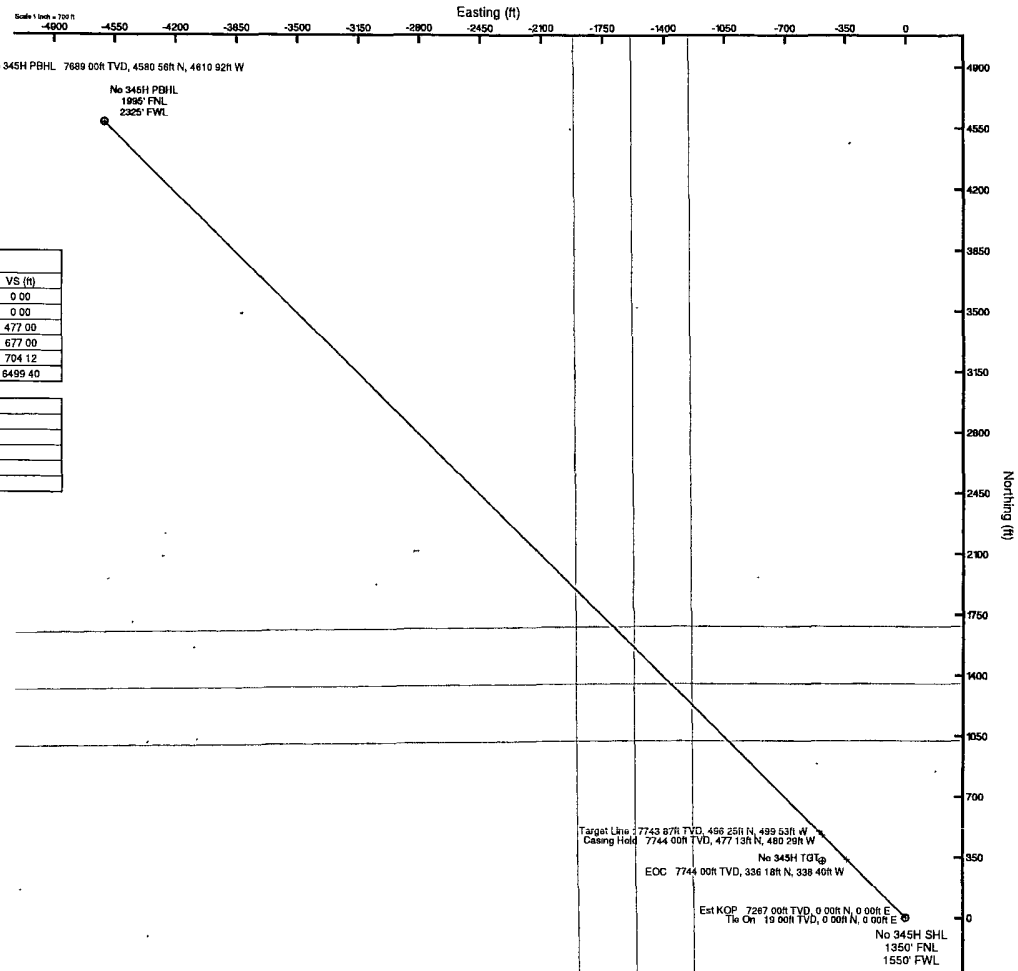
SMM/keh



BOPCO, L.P.

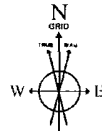
Location Eddy County, NM
Field Poker Lake Unit
Facility Poker Lake Unit No. 345H

Slot No 345H SHL
Well No 345H
Wellbore No 345H PWB

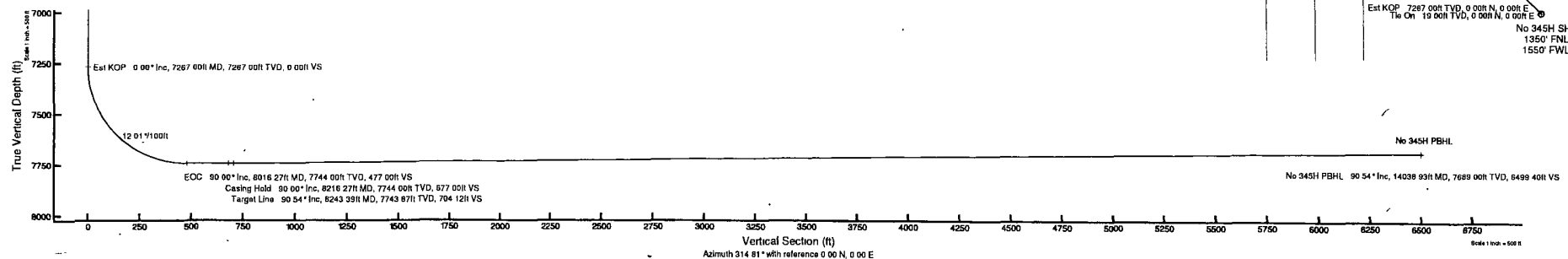


Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/100ft)	VS (ft)
Tie On	19 00	0 000	314 811	19 00	0 00	0 00	0 00	0 00
Est KOP	7267 00	0 000	314 811	7267 00	0 00	0 00	0 00	0 00
EOC	8016 27	90 000	314 811	7744 00	336 18	-338 40	12 01	477 00
Casing Hold	8216 27	90 000	314 811	7744 00	477 13	-480 29	0 00	677 00
Target Line	8243 39	90 542	314 811	7743 87	496 25	-499 53	2 00	704 12
No 345H PWBH	14038 93	90 542	314 811	7689 00	4580 56	-4610 92	0 00	8499 40

Plot reference wellpath is Prelim_2	
True vertical depths are referenced to Rig on No 345H SHL (KB)	Grid System: NAD27 / TM New Mexico SP, Eastern Zone (2001), US feet
Measured depths are referenced to Rig on No 345H SHL (KB)	North Reference: Grid north
Rig on No 345H SHL (KB) to Mean Sea Level, 3375 feet	Scale: True distance
Mean Sea Level to Mud Line (At Slot No 345H SHL) -3356 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: genibry on 4/26/2011



BGDM (1945 to 2012) Dip 89 18° F old 48692 8 nT
Magnetic North is 7 78 degrees East of True North (at 4/21/2011)
Grid North is 0 25 degrees East of True North
To correct azimuth from True to Grid subtract 0 25 degrees
To correct azimuth from Magnetic to Grid add 7 53 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7 53 = 97 53





Planned Wellpath Report

Prelim_2

Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.345H SHL
Area	Eddy County, NM	Well	No.345H
Field	Poker Lake Unit	Wellbore	No.345H PWB
Facility	Poker Lake Unit No. 345H		

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	0.999934	Report Generated	4/26/2011 at 10:26:13 AM
Convergence at slot	0.25° East	Database/Source file	WA Midland/No.345H_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	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W
Facility Reference Pt			648072.77	428733.59	32°10'40.081"N	103°51'17.092"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.345H SHL (KB) to Facility Vertical Datum	19.00ft
Horizontal Reference Pt	Facility Center	Rig on No.345H SHL (KB) to Mean Sea Level	3375.00ft
Vertical Reference Pt	Rig on No.345H SHL (KB)	Rig on No.345H SHL (KB) to Mud Line at Slot (No.345H SHL)	19.00ft
MD Reference Pt	Rig on No.345H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	314.81°



Planned Wellpath Report

Prelim_2

Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No.345H SHL
Area	Eddy County, NM	Well	No.345H
Field	Poker Lake Unit	Wellbore	No.345H PWB
Facility	Poker Lake Unit No. 345H		

WELLPATH DATA (156 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	314.811	0.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
19.00	0.000	314.811	19.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	Tie On
119.00†	0.000	314.811	119.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
219.00†	0.000	314.811	219.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
319.00†	0.000	314.811	319.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
419.00†	0.000	314.811	419.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
519.00†	0.000	314.811	519.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
619.00†	0.000	314.811	619.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
690.00†	0.000	314.811	690.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	Rustler
719.00†	0.000	314.811	719.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
819.00†	0.000	314.811	819.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
919.00†	0.000	314.811	919.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1019.00†	0.000	314.811	1019.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1119.00†	0.000	314.811	1119.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1219.00†	0.000	314.811	1219.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1319.00†	0.000	314.811	1319.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1419.00†	0.000	314.811	1419.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1519.00†	0.000	314.811	1519.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1619.00†	0.000	314.811	1619.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1719.00†	0.000	314.811	1719.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1819.00†	0.000	314.811	1819.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
1919.00†	0.000	314.811	1919.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2019.00†	0.000	314.811	2019.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2119.00†	0.000	314.811	2119.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2123.00†	0.000	314.811	2123.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	Salt
2219.00†	0.000	314.811	2219.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2319.00†	0.000	314.811	2319.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2419.00†	0.000	314.811	2419.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2519.00†	0.000	314.811	2519.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2619.00†	0.000	314.811	2619.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2719.00†	0.000	314.811	2719.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2819.00†	0.000	314.811	2819.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
2919.00†	0.000	314.811	2919.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3019.00†	0.000	314.811	3019.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3119.00†	0.000	314.811	3119.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3219.00†	0.000	314.811	3219.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3319.00†	0.000	314.811	3319.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3419.00†	0.000	314.811	3419.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3519.00†	0.000	314.811	3519.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3561.00†	0.000	314.811	3561.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	base/Salt
3619.00†	0.000	314.811	3619.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3719.00†	0.000	314.811	3719.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3819.00†	0.000	314.811	3819.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3919.00†	0.000	314.811	3919.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
3951.00†	0.000	314.811	3951.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	Lamar/Lime



Planned Wellpath Report

Prelim_2

Page 3 of 6



BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.345H SHL
Area	Eddy County, NM	Well	No.345H
Field	Poker Lake Unit	Wellbore	No.345H PWB
Facility	Poker Lake Unit No. 345H		

WELLPATH DATA (156 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
4019.00†	0.000	314.811	4019.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4027.00†	0.000	314.811	4027.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	Ramsey
4119.00†	0.000	314.811	4119.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4219.00†	0.000	314.811	4219.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4319.00†	0.000	314.811	4319.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4419.00†	0.000	314.811	4419.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4519.00†	0.000	314.811	4519.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4619.00†	0.000	314.811	4619.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4719.00†	0.000	314.811	4719.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4819.00†	0.000	314.811	4819.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
4919.00†	0.000	314.811	4919.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5019.00†	0.000	314.811	5019.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5119.00†	0.000	314.811	5119.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5219.00†	0.000	314.811	5219.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5319.00†	0.000	314.811	5319.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5419.00†	0.000	314.811	5419.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5519.00†	0.000	314.811	5519.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5619.00†	0.000	314.811	5619.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5719.00†	0.000	314.811	5719.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5819.00†	0.000	314.811	5819.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
5919.00†	0.000	314.811	5919.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6019.00†	0.000	314.811	6019.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6101.00†	0.000	314.811	6101.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	Lower Cherry Canyon
6119.00†	0.000	314.811	6119.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6219.00†	0.000	314.811	6219.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6319.00†	0.000	314.811	6319.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6419.00†	0.000	314.811	6419.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6519.00†	0.000	314.811	6519.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6619.00†	0.000	314.811	6619.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6719.00†	0.000	314.811	6719.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6819.00†	0.000	314.811	6819.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
6919.00†	0.000	314.811	6919.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
7019.00†	0.000	314.811	7019.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
7119.00†	0.000	314.811	7119.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
7219.00†	0.000	314.811	7219.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	
7267.00	0.000	314.811	7267.00	0.00	0.00	0.00	648072.77	428733.59	32°10'40.081"N	103°51'17.092"W	0.00	Est KOP
7319.00†	6.246	314.811	7318.90	2.83	2.00	-2.01	648070.76	428735.58	32°10'40.101"N	103°51'17.115"W	12.01	
7419.00†	18.258	314.811	7416.44	24.01	16.92	-17.04	648055.74	428750.51	32°10'40.249"N	103°51'17.289"W	12.01	
7519.00†	30.269	314.811	7507.44	65.03	45.83	-46.14	648026.64	428779.42	32°10'40.537"N	103°51'17.626"W	12.01	
7581.24†	37.746	314.811	7559.00	99.82	70.35	-70.82	648001.96	428803.93	32°10'40.780"N	103°51'17.912"W	12.01	LBC 8A
7619.00†	42.281	314.811	7587.91	124.09	87.46	-88.03	647984.74	428821.04	32°10'40.950"N	103°51'18.111"W	12.01	
7719.00†	54.293	314.811	7654.33	198.60	139.97	-140.90	647931.89	428873.55	32°10'41.472"N	103°51'18.724"W	12.01	
7819.00†	66.305	314.811	7703.79	285.31	201.07	-202.41	647870.38	428934.65	32°10'42.080"N	103°51'19.436"W	12.01	
7884.81†	74.210	314.811	7726.00	347.20	244.70	-246.32	647826.47	428978.27	32°10'42.513"N	103°51'19.945"W	12.01	LBC "Y" Sand
7919.00†	78.316	314.811	7734.12	380.40	268.10	-269.87	647802.92	429001.67	32°10'42.746"N	103°51'20.217"W	12.01	



Planned Wellpath Report

Prelim_2

Page 4 of 6



BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.345H SHL
Area	Eddy County, NM	Well	No.345H
Field	Poker Lake Unit	Wellbore	No.345H PWB
Facility	Poker Lake Unit No. 345H		

WELLPATH DATA (156 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
8016.27	90.000	314.811	7744.00	477.00	336.18	-338.40	647734.39	429069.74	32°10'43.422"N	103°51'21.011"W	12.01	EOC
8019.00†	90.000	314.811	7744.00	479.73	338.10	-340.34	647732.46	429071.66	32°10'43.442"N	103°51'21.034"W	0.00	
8119.00†	90.000	314.811	7744.00	579.73	408.58	-411.28	647661.52	429142.14	32°10'44.142"N	103°51'21.855"W	0.00	
8216.27	90.000	314.811	7744.00	677.00	477.13	-480.29	647592.52	429210.68	32°10'44.823"N	103°51'22.655"W	0.00	Casing Hold
8219.00†	90.055	314.811	7744.00	679.73	479.05	-482.22	647590.58	429212.61	32°10'44.843"N	103°51'22.677"W	2.00	
8243.39	90.542	314.811	7743.87	704.12	496.25	-499.53	647573.28	429229.80	32°10'45.013"N	103°51'22.878"W	2.00	Target Line
8319.00†	90.542	314.811	7743.16	779.73	549.53	-553.17	647519.64	429283.08	32°10'45.543"N	103°51'23.499"W	0.00	
8419.00†	90.542	314.811	7742.21	879.72	620.00	-624.11	647448.71	429353.55	32°10'46.244"N	103°51'24.321"W	0.00	
8519.00†	90.542	314.811	7741.26	979.72	690.47	-695.05	647377.77	429424.02	32°10'46.944"N	103°51'25.142"W	0.00	
8619.00†	90.542	314.811	7740.32	1079.71	760.95	-765.99	647306.84	429494.48	32°10'47.645"N	103°51'25.964"W	0.00	
8719.00†	90.542	314.811	7739.37	1179.71	831.42	-836.93	647235.90	429564.95	32°10'48.345"N	103°51'26.786"W	0.00	
8819.00†	90.542	314.811	7738.42	1279.70	901.90	-907.87	647164.96	429635.42	32°10'49.045"N	103°51'27.608"W	0.00	
8919.00†	90.542	314.811	7737.48	1379.70	972.37	-978.81	647094.03	429705.89	32°10'49.746"N	103°51'28.429"W	0.00	
9019.00†	90.542	314.811	7736.53	1479.69	1042.84	-1049.75	647023.09	429776.36	32°10'50.446"N	103°51'29.251"W	0.00	
9119.00†	90.542	314.811	7735.58	1579.69	1113.32	-1120.69	646952.16	429846.83	32°10'51.147"N	103°51'30.073"W	0.00	
9219.00†	90.542	314.811	7734.63	1679.69	1183.79	-1191.63	646881.22	429917.30	32°10'51.847"N	103°51'30.895"W	0.00	
9319.00†	90.542	314.811	7733.69	1779.68	1254.26	-1262.57	646810.28	429987.77	32°10'52.548"N	103°51'31.716"W	0.00	
9419.00†	90.542	314.811	7732.74	1879.68	1324.74	-1333.51	646739.35	430058.23	32°10'53.248"N	103°51'32.538"W	0.00	
9519.00†	90.542	314.811	7731.79	1979.67	1395.21	-1404.45	646668.41	430128.70	32°10'53.949"N	103°51'33.360"W	0.00	
9619.00†	90.542	314.811	7730.85	2079.67	1465.68	-1475.39	646597.48	430199.17	32°10'54.649"N	103°51'34.182"W	0.00	
9719.00†	90.542	314.811	7729.90	2179.66	1536.16	-1546.34	646526.54	430269.64	32°10'55.350"N	103°51'35.004"W	0.00	
9819.00†	90.542	314.811	7728.95	2279.66	1606.63	-1617.28	646455.61	430340.11	32°10'56.050"N	103°51'35.825"W	0.00	
9919.00†	90.542	314.811	7728.01	2379.65	1677.10	-1688.22	646384.67	430410.58	32°10'56.751"N	103°51'36.647"W	0.00	
10019.00†	90.542	314.811	7727.06	2479.65	1747.58	-1759.16	646313.73	430481.05	32°10'57.451"N	103°51'37.469"W	0.00	
10119.00†	90.542	314.811	7726.11	2579.65	1818.05	-1830.10	646242.80	430551.52	32°10'58.151"N	103°51'38.291"W	0.00	
10130.99†	90.542	314.811	7726.00	2591.64	1826.50	-1838.60	646234.29	430559.96	32°10'58.235"N	103°51'38.389"W	0.00	LBC "Y" Sand
10219.00†	90.542	314.811	7725.17	2679.64	1888.53	-1901.04	646171.86	430621.98	32°10'58.852"N	103°51'39.113"W	0.00	
10319.00†	90.542	314.811	7724.22	2779.64	1959.00	-1971.98	646100.93	430692.45	32°10'59.552"N	103°51'39.934"W	0.00	
10419.00†	90.542	314.811	7723.27	2879.63	2029.47	-2042.92	646029.99	430762.92	32°11'00.253"N	103°51'40.756"W	0.00	
10519.00†	90.542	314.811	7722.33	2979.63	2099.95	-2113.86	645959.05	430833.39	32°11'00.953"N	103°51'41.578"W	0.00	
10619.00†	90.542	314.811	7721.38	3079.62	2170.42	-2184.80	645888.12	430903.86	32°11'01.654"N	103°51'42.400"W	0.00	
10719.00†	90.542	314.811	7720.43	3179.62	2240.89	-2255.74	645817.18	430974.33	32°11'02.354"N	103°51'43.222"W	0.00	
10819.00†	90.542	314.811	7719.49	3279.61	2311.37	-2326.68	645746.25	431044.80	32°11'03.055"N	103°51'44.043"W	0.00	
10919.00†	90.542	314.811	7718.54	3379.61	2381.84	-2397.62	645675.31	431115.27	32°11'03.755"N	103°51'44.865"W	0.00	
11019.00†	90.542	314.811	7717.59	3479.61	2452.31	-2468.56	645604.37	431185.73	32°11'04.455"N	103°51'45.687"W	0.00	
11119.00†	90.542	314.811	7716.65	3579.60	2522.79	-2539.51	645533.44	431256.20	32°11'05.156"N	103°51'46.509"W	0.00	
11219.00†	90.542	314.811	7715.70	3679.60	2593.26	-2610.45	645462.50	431326.67	32°11'05.856"N	103°51'47.331"W	0.00	
11319.00†	90.542	314.811	7714.75	3779.59	2663.73	-2681.39	645391.57	431397.14	32°11'06.557"N	103°51'48.153"W	0.00	
11419.00†	90.542	314.811	7713.81	3879.59	2734.21	-2752.33	645320.63	431467.61	32°11'07.257"N	103°51'48.974"W	0.00	
11519.00†	90.542	314.811	7712.86	3979.58	2804.68	-2823.27	645249.70	431538.08	32°11'07.958"N	103°51'49.796"W	0.00	
11619.00†	90.542	314.811	7711.91	4079.58	2875.15	-2894.21	645178.76	431608.55	32°11'08.658"N	103°51'50.618"W	0.00	
11719.00†	90.542	314.811	7710.96	4179.57	2945.63	-2965.15	645107.82	431679.02	32°11'09.358"N	103°51'51.440"W	0.00	
11819.00†	90.542	314.811	7710.02	4279.57	3016.10	-3036.09	645036.89	431749.48	32°11'10.059"N	103°51'52.262"W	0.00	
11919.00†	90.542	314.811	7709.07	4379.56	3086.58	-3107.03	644965.95	431819.95	32°11'10.759"N	103°51'53.084"W	0.00	
12019.00†	90.542	314.811	7708.12	4479.56	3157.05	-3177.97	644895.02	431890.42	32°11'11.460"N	103°51'53.906"W	0.00	



Planned Wellpath Report

Prelim 2

Page 5 of 6



BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.345H SHL
Area	Eddy County, NM	Well	No.345H
Field	Poker Lake Unit	Wellbore	No.345H PWB
Facility	Poker Lake Unit No. 345H		

WELLPATH DATA (156 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
12119.00†	90.542	314.811	7707.18	4579.56	3227.52	-3248.91	644824.08	431960.89	32°11'12.160"N	103°51'54.727"W	0.00	
12219.00†	90.542	314.811	7706.23	4679.55	3298.00	-3319.85	644753.14	432031.36	32°11'12.861"N	103°51'55.549"W	0.00	
12319.00†	90.542	314.811	7705.28	4779.55	3368.47	-3390.79	644682.21	432101.83	32°11'13.561"N	103°51'56.371"W	0.00	
12419.00†	90.542	314.811	7704.34	4879.54	3438.94	-3461.73	644611.27	432172.30	32°11'14.261"N	103°51'57.193"W	0.00	
12519.00†	90.542	314.811	7703.39	4979.54	3509.42	-3532.68	644540.34	432242.77	32°11'14.962"N	103°51'58.015"W	0.00	
12619.00†	90.542	314.811	7702.44	5079.53	3579.89	-3603.62	644469.40	432313.23	32°11'15.662"N	103°51'58.837"W	0.00	
12719.00†	90.542	314.811	7701.50	5179.53	3650.36	-3674.56	644398.46	432383.70	32°11'16.363"N	103°51'59.659"W	0.00	
12819.00†	90.542	314.811	7700.55	5279.52	3720.84	-3745.50	644327.53	432454.17	32°11'17.063"N	103°52'00.481"W	0.00	
12919.00†	90.542	314.811	7699.60	5379.52	3791.31	-3816.44	644256.59	432524.64	32°11'17.764"N	103°52'01.302"W	0.00	
13019.00†	90.542	314.811	7698.66	5479.52	3861.78	-3887.38	644185.66	432595.11	32°11'18.464"N	103°52'02.124"W	0.00	
13119.00†	90.542	314.811	7697.71	5579.51	3932.26	-3958.32	644114.72	432665.58	32°11'19.164"N	103°52'02.946"W	0.00	
13219.00†	90.542	314.811	7696.76	5679.51	4002.73	-4029.26	644043.78	432736.05	32°11'19.865"N	103°52'03.768"W	0.00	
13319.00†	90.542	314.811	7695.82	5779.50	4073.21	-4100.20	643972.85	432806.52	32°11'20.565"N	103°52'04.590"W	0.00	
13419.00†	90.542	314.811	7694.87	5879.50	4143.68	-4171.14	643901.91	432876.98	32°11'21.266"N	103°52'05.412"W	0.00	
13519.00†	90.542	314.811	7693.92	5979.49	4214.15	-4242.08	643830.98	432947.45	32°11'21.966"N	103°52'06.234"W	0.00	
13619.00†	90.542	314.811	7692.98	6079.49	4284.63	-4313.02	643760.04	433017.92	32°11'22.666"N	103°52'07.056"W	0.00	
13719.00†	90.542	314.811	7692.03	6179.48	4355.10	-4383.96	643689.11	433088.39	32°11'23.367"N	103°52'07.878"W	0.00	
13819.00†	90.542	314.811	7691.08	6279.48	4425.57	-4454.90	643618.17	433158.86	32°11'24.067"N	103°52'08.700"W	0.00	
13919.00†	90.542	314.811	7690.14	6379.48	4496.05	-4525.85	643547.23	433229.33	32°11'24.768"N	103°52'09.522"W	0.00	
14019.00†	90.542	314.811	7689.19	6479.47	4566.52	-4596.79	643476.30	433299.80	32°11'25.468"N	103°52'10.343"W	0.00	
14038.93	90.542	314.811	7689.00	6499.40	4580.56	-4610.92	643462.16	433313.84	32°11'25.607"N	103°52'10.507"W	0.00	No.345H PBHL

HOLE & CASING SECTIONS - Ref Wellbore: No.345H PWB Ref Wellpath: Prelim 2									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
7in Casing	19.00	8216.27	8197.27	19.00	7744.00	0.00	0.00	477.13	-480.29



Planned Wellpath Report

Prelim_2

Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.345H SHL
Area	Eddy County, NM	Well	No.345H
Field	Poker Lake Unit	Wellbore	No.345H PWB
Facility	Poker Lake Unit No. 345H		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) No.345H PBHL	14038.93	7689.00	4580.56	-4610.92	643462.16	433313.84	32°11'25.607"N	103°52'10.507"W	point
No.345H TGT		7744.00	324.84	-478.50	647594.30	429058.40	32°10'43.316"N	103°51'22.642"W	point

SURVEY PROGRAM - Ref Wellbore: No.345H PWB Ref Wellpath: Prelim_2				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
19.00	14038.93	NaviTrak (Standard)		No.345H PWB

BOPCO, L. P.

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

- 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.

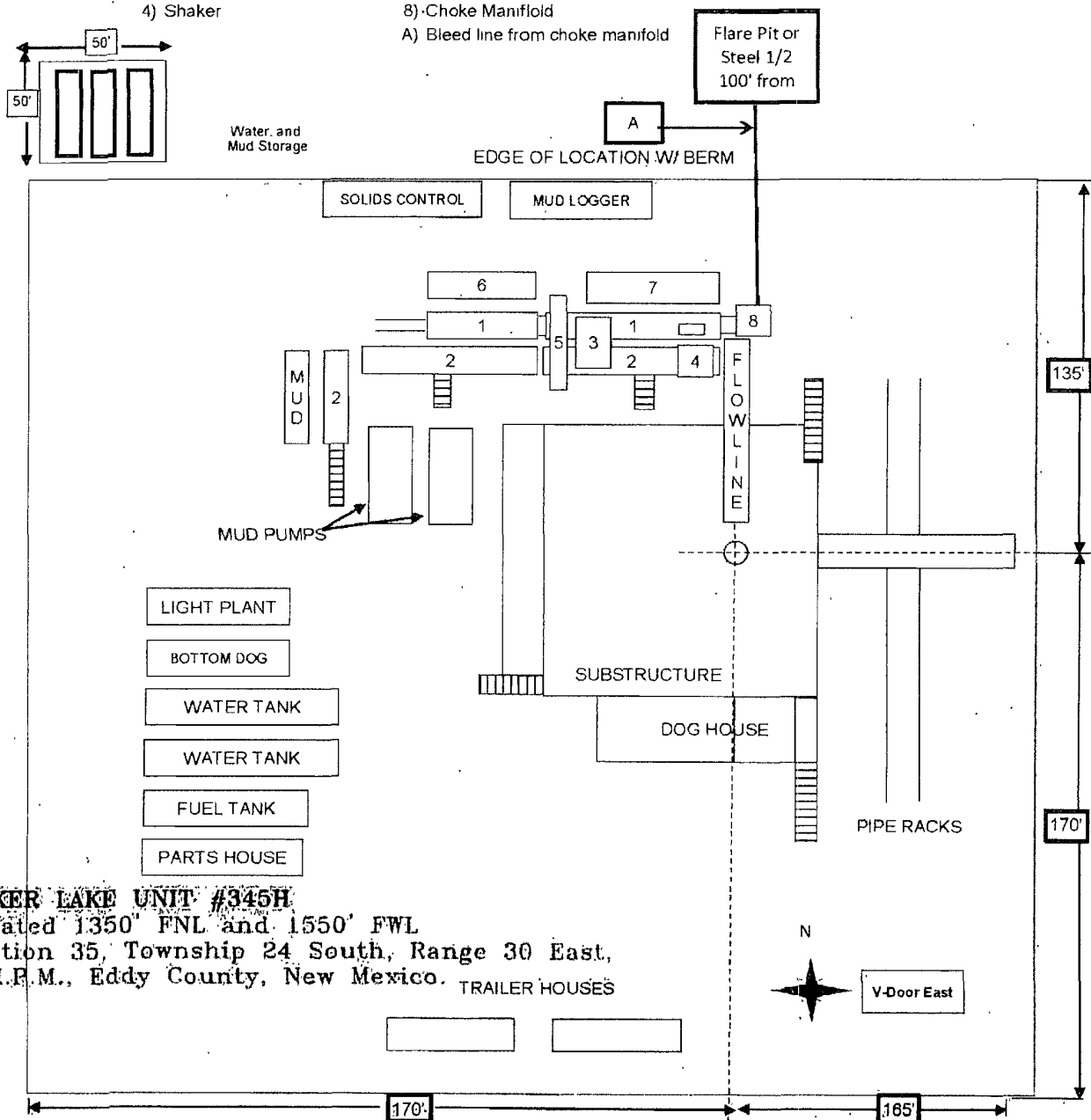
DIAGRAM 1

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 | |



POKER LAKE UNIT #345H
 Located 1350' FNL and 1550' FWL
 Section 35, Township 24 South, Range 30 East,
 N.M.P.M., Eddy County, New Mexico. TRAILER HOUSES

basin surveys
 focused on excellence
 in the oilfield

P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basin-surveys.com

W.O. Number: JMS 24263

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

Operator BOPCO, L.P. OGRID # 260737
 Well Name & # POKER LAKE 3457H Surface Type (F) (S) (P)
 Location: UL E Sect 35 Township 24 s, RNG 30 e, Sub-surface Type (F) (S) (P)

306402

A. Date C101 rec'd 10/11/2011 C101 reviewed 10/12/2011

B. 1. Check mark, Information is OK on Forms:

OGRID ☒, BONDING ☒, PROP CODE ☒, WELL # ☒, SIGNATURE ☒

2. Inactive Well list as of: 10/12/2011 # wells 424, # Inactive wells 4

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: 10/12/2011

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 NW D&L, Code 306402 96046

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 ☐, 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 10/12/2011

API # 30-015-39488

8. Reviewers TES