

OCD-ARTESIA

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## SUNDRY NOTICES AND REPORTS ON WELLS

*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

**SUBMIT IN TRIPLICATE- Other instructions on reverse side.**1 Type of Well  
☒ Oil Well ☐ Gas Well ☐ Other2 Name of Operator  
**BOPCO, L. P.**3a Address  
**P. O. Box 2760 Midland, TX 79702**3b Phone No (include area code)  
**432-683-2277**

4 Location of Well (Footage, Sec., T., R., M., or Survey Description)

**Surface: NWNE, 810' FNL, 1980' FEL, Sec 21, T24S, R30E, Lat N32.208278, Lon W103.883487**

5 Lease Serial No

NMLC 06843

6 If Indian, Allottee or Tribe Name

7 If Unit or CA/Agreement, Name and/or No.

NMNM 71016X

8 Well Name and No.

Poker Lake Unit #293H

9 API Well No

30-015-35548

10 Field and Pool, or Exploratory Area

Nash Draw (Dela, BS, Avalon Sd)

11 County or Parish, State

Eddy County, NM

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13 Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

**BOPCO, L.P. requests the changes listed below be approved for the captioned well:**

**1. The APD approved 4/12/07 and amended on 11/10/09 to reflect a horizontal well be further amended to reflect a change to a dual lateral well. Both laterals will be in the lower Brushy Canyon formation.**

**2. Dedicated acreage will be 320 acres for first lateral as marked on attached plat and 280 acres for second lateral as marked on attached plat.**

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

**BOPCO L.P. Bond # on file: COB000050**

14 I hereby certify that the foregoing is true and correct  
Name (Printed/Typed)**Annette Childers**Title **Regulatory Clerk**

Signature

*Annette Childers*

Date

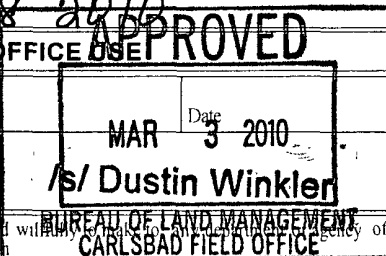
**1-28-2010**

Approved by

Conditions of approval, if any, are attached. Approval of this notice 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.

Title

Office



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 making any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**D.J. 3-15-10**

BHL: 1<sup>st</sup> Lateral - 2266' FSL, 1471' FEL, Sec 21, T24S, R30E, Lat N32.202197, Long W103.864561, Eddy County, New Mexico

BHL: 2<sup>nd</sup> Lateral - 330' FNL, 1650' FWL, Sec 16, T24S, R30E, Lat N32.223958, Long W103.889039, Eddy County, New Mexico

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

4 1/2" production casing will be run in both laterals with Baker external hydraulic packers for formation isolation.

Drilling procedure, BOP diagram, and anticipated tops attached.

This surface location is located outside the R111 area and outside the Secretary's area. There are no potash leases within 1 mile of the location.

The location of surface hole is orthodox. The bottom hole location of the lateral ending in Sec 22, T24S, R30E is unorthodox. The bottom hole location of the lateral ending in Sec 16, T24S, R30E is orthodox.

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. COB 000050 (Nationwide).

Note: This well was originally approved as Delaware vertical 4/12/07. APD extended 2/19/08. Amended to a Brushy Canyon Horizontal 11/10/09. Surface location has not changed since 4/12/07 approval. Original surface use plan attached.

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240  
DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210  
DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410  
DISTRICT IV  
1220 St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised October 12, 2005

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	47545	Nash Draw (Delaware, Bone Spring, Avalon Sand)
Property Code	Property Name	Well Number
068431	POKER LAKE UNIT	293H
OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3343'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	21	24 S	30 E		810	NORTH	1980	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	22	24 S	30 E		2266	SOUTH	1471	EAST	EDDY
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						
320	N								

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

				<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Gary E. Gerhard</i> 1/28/10 Signature Date</p> <p>Gary E. Gerhard Printed Name</p>	
<p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>JUL 1 2009 Date Surveyed Signature of Professional Surveyor Professional Surveyor W.C. Jones 7977</p>				<p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>	

DISTRICT I  
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DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

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Form C-102  
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State Lease - 4 Copies  
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OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
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☐ AMENDED REPORT

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UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	21	24 S	30 E		810	NORTH	1980	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	16	24 S	30 E		330	NORTH	1650	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
280	N		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

**BOTTOM HOLE LOCATION**  
Lat - N 32°13'26.25"  
Long - W 103°53'20.54"  
NMSPC- N 445479.449  
E 637393.880  
(NAD-27)

**PROP. BRUSHY CANYON E.P.**  
Lat - N 32°12'30.50"  
Long - W 103°53'01.01"  
NMSPC- N 439852.85  
E 639094.88  
(NAD-27)

**SURFACE LOCATION**  
Lat - N 32°12'29.31"  
Long - W 103°53'00.59"  
NMSPC- N 439732.399  
E 639131.386  
(NAD-27)

**PROP. DELAWARE ENTRY POINT**  
Lat - N 32°12'29.31"  
Long - W 103°53'00.59"  
NMSPC- N 439732.399  
E 639131.386  
(NAD-27)

**OPERATOR CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

*Gary E. Gerhard* 1/20/10  
Signature Date

Gary E. Gerhard  
Printed Name

**SURVEYOR CERTIFICATION**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JULY 1, 2008  
Date Surveyed

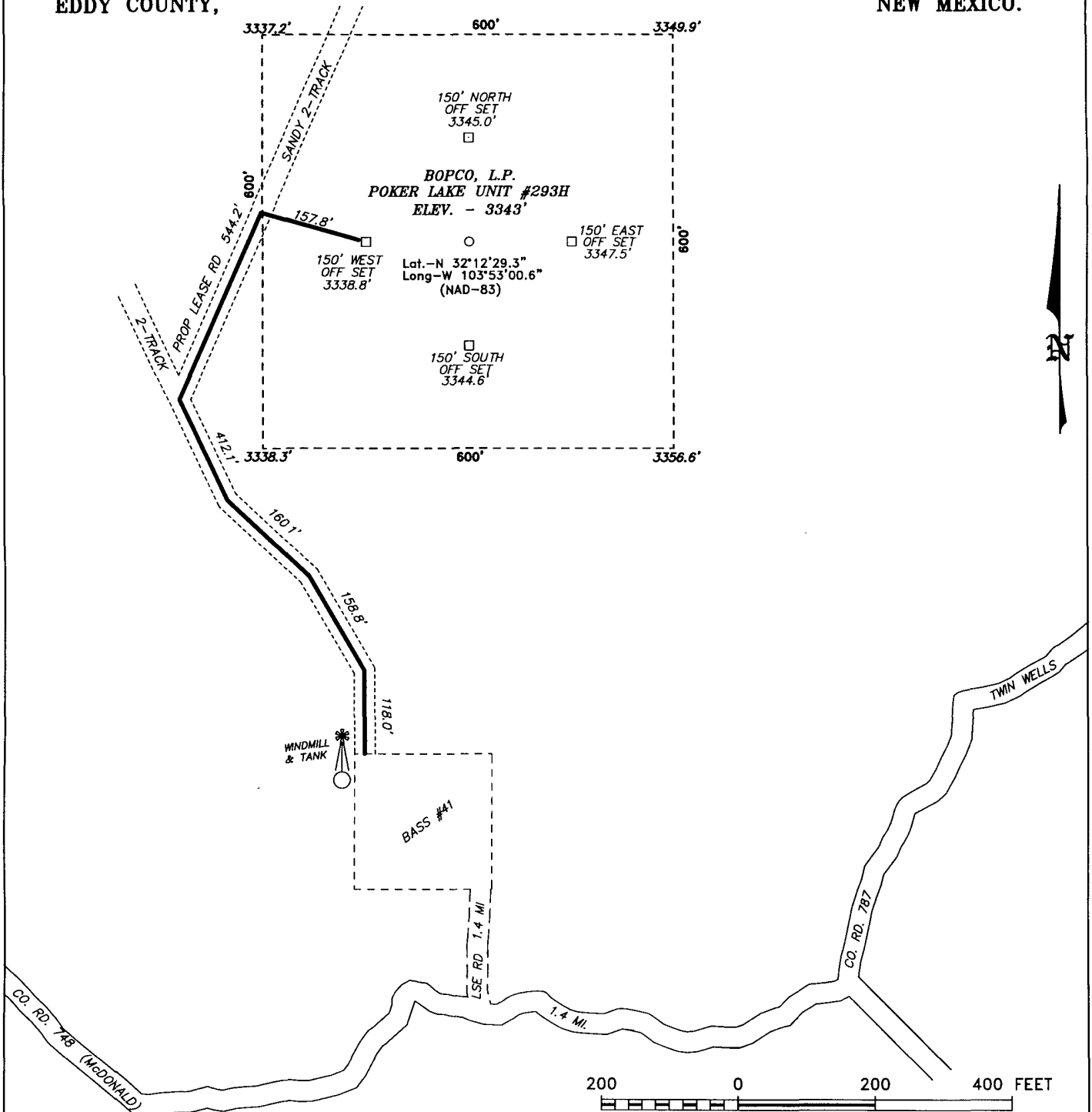
Signature of Surveyor  
Professional Surveyor

W.O. 100-179-386

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SECTION 21, TOWNSHIP 24 SOUTH, RANGE 30 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



**DIRECTIONS TO LOCATION:**

FROM THE JUNCTION OF CO. RD. 787 (TWIN WELLS) AND CO. RD. 746 (McDONALD), PROCEED WEST ON CO. RD. 746 FOR 1.4 MILES TO LEASE ROAD. ON LEASE ROAD PROCEED NORTH 1.4 MILE TO THE #41 WELL AND PROPOSED LEASE ROAD.

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 17558 Drawn By: J. SMALL

Date: 07-01-2009 Disk: 17558W JMS

**BOPCO, L.P.**

REF: POKER LAKE UNIT #293H / WELL PAD AND TOPO

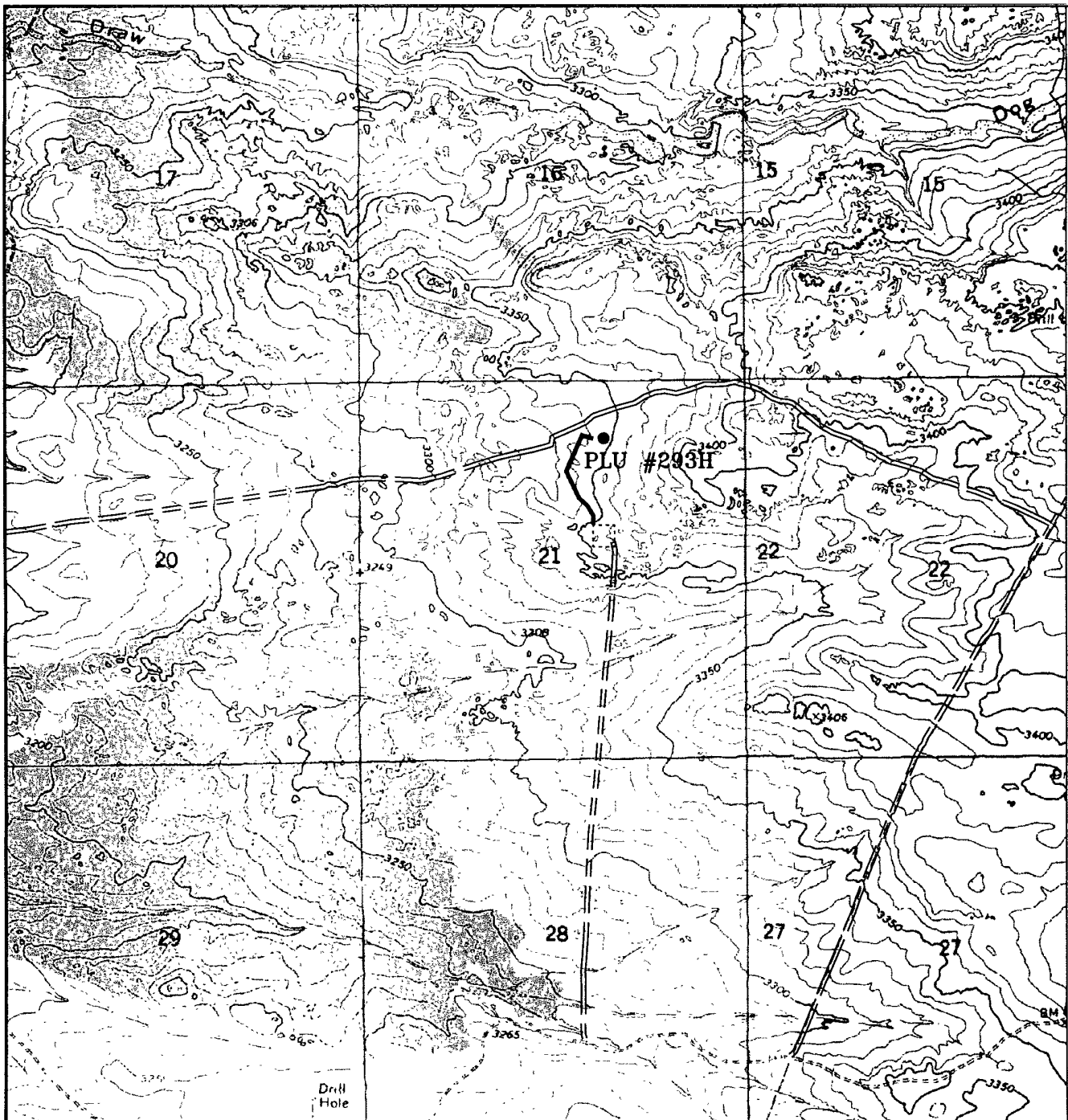
THE POKER LAKE UNIT No. 293H LOCATED 810'

FROM THE NORTH LINE AND 1980' FROM THE EAST LINE OF

SECTION 21, TOWNSHIP 24 SOUTH, RANGE 30 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

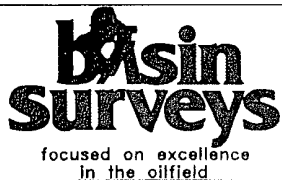
Survey Date: 07-01-2009 Sheet 1 of 1 Sheets



# POKER LAKE UNIT #293H

810' FNL and 1980' FEL

Section 21, Township 24 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(505) 393-7316 - Office  
(505) 392-3074 - Fax  
basinsurveys.com

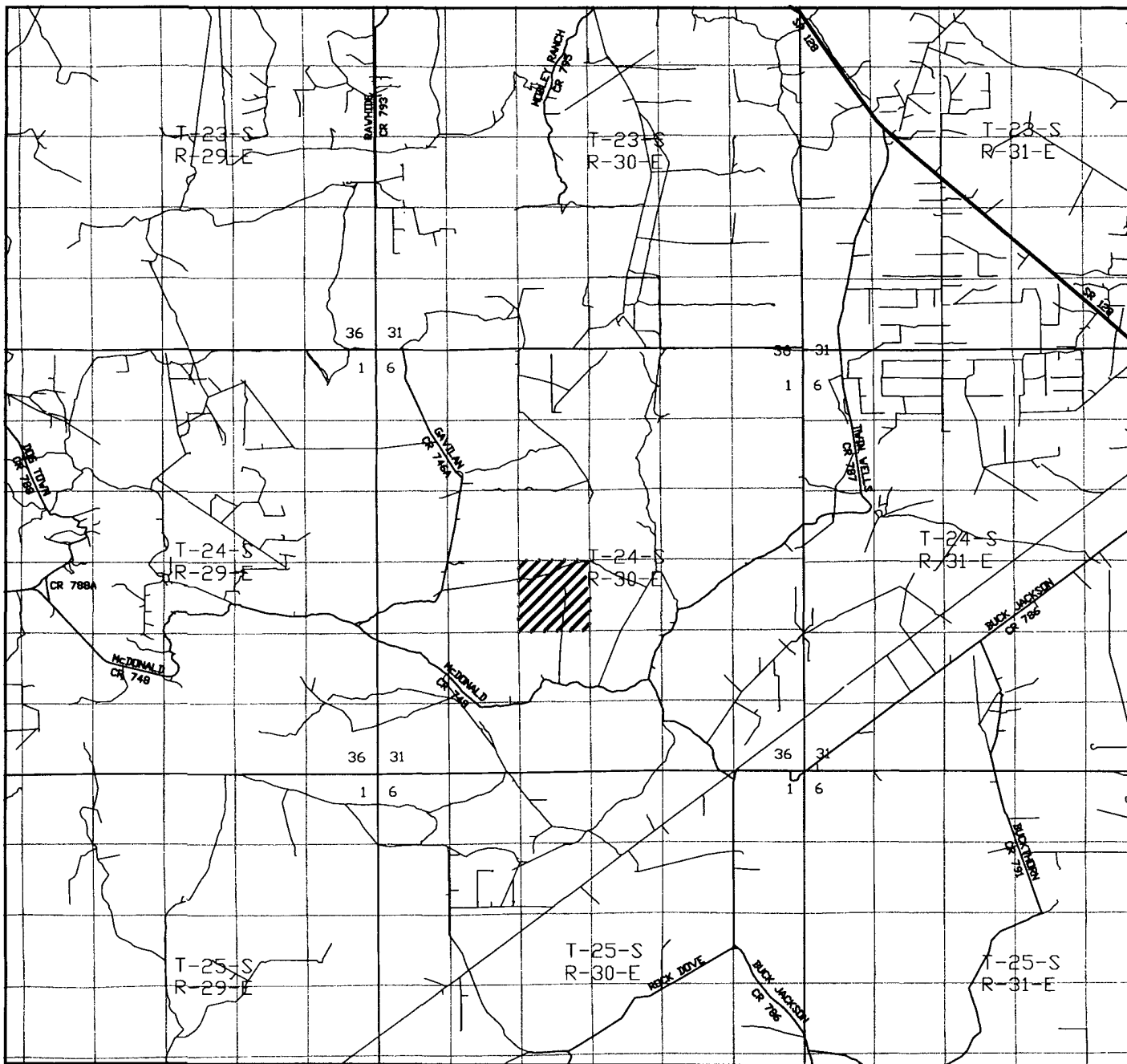
W.O. Number: JMS 17558T

Survey Date: 07-01-2009

Scale: 1" = 2000'

Date: 07-01-2009

BOPCO, L.P.



POKER LAKE UNIT #293H

810' FNL and 1980' FEL

Section 21, Township 24 South, Range 30 East,  
N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(505) 393-7316 - Office  
(505) 392-3074 - Fax  
basinsurveys.com

W.O. Number: JMS 17558TR

Survey Date: 07-01-2009

Scale: 1" = 2 MILES

Date: 07-01-2009

BOPCO, L.P.

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

**NAME OF WELL: Poker Lake Unit #293H**

LEGAL DESCRIPTION - SURFACE: 810' FNL & 1980' FEL, Section 21, T-24-S, R-30-E, Eddy County, NM.  
BHL: 2266' FSL, 1471' FEL, Section 22, T24S, R30E, Eddy County, NM. (1<sup>st</sup> lateral)  
BHL: 330' FNL, 1650' FWL, Section 16, T24S, R30E, Eddy County, NM. (2<sup>nd</sup> lateral)

**POINT 1: ESTIMATED FORMATION TOPS**

(See No. 2 Below)

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

Anticipated Formation Tops: KB 3362' (est)      GL 3343'

1<sup>st</sup> Lateral:

FORMATION	ESTIMATED TOP FROM KB		ESTIMATED SUBSEA TOP	BEARING
	TVD	MD		
T/Rustler	1082'	1082'	+2,280'	Barren
B/Rustler	1332'	1332'	+2,030'	Barren
T/Salt	1362'	1362'	+2,000'	Barren
B/Salt	3,601'	3,601'	- 239'	Barren
T/Lamar Lime	3,811'	3,811'	- 449'	Barren
T/Ramsey	3,844'	3,844'	- 482'	Oil/Gas
T/Lwr Cherry Canyon	5,957'	5,957'	-2,595'	Oil/Gas
T/Lwr Brushy Canyon	7,375'	7,375'	-4,013'	Oil/Gas
Avalon Sand	7,745'	7,745'	-4,383'	Oil/Gas
TD (Pilot Hole)	7,875'	7,875'	-4,513'	Oil/Gas
KOP	7,094'	7,094'	-3,732'	NA
EOC	7,571'	7,836'	-4,209'	NA
TD Lateral	7,671'	13,611'	-4,309'	Oil/Gas

2<sup>nd</sup> Lateral:

FORMATION	ESTIMATED TOP FROM KB		ESTIMATED SUBSEA TOP	BEARING
	TVD	MD		
T/Rustler	1082'	1082'	+2,280'	Barren
B/Rustler	1332'	1332'	+2,030'	Barren
T/Salt	1362'	1362'	+2,000'	Barren
B/Salt	3,601'	3,601'	- 239'	Barren
T/Lamar Lime	3,811'	3,811'	- 449'	Barren
T/Ramsey	3,844'	3,844'	- 482'	Oil/Gas
T/Lwr Cherry Canyon	5,957'	5,957'	-2,595'	Oil/Gas
T/Lwr Brushy Canyon	7,375'	7,375'	-4,013'	Oil/Gas
KOP	7,000'	7,000'	-3,638'	NA
EOC	7,550'	7,824'	-4,188'	NA
TD Lateral	7,550'	13,334'	-4,188'	Oil/Gas



**POINT 3: CASING PROGRAM****1<sup>st</sup> Lateral:**

<u>TYPE</u>	<u>INTERVALS (MD)</u>	<u>Hole Size</u>	<u>PURPOSE</u>	<u>CONDITION</u>
30"	0'-80'	36"	Conductor	Contractor Discretion
20", 133#, J55, Butress	0'-950'	26"	Surface	New
9-5/8", 40#, J55, 8rd, LTC	0'-2,500'	17-1/2"	Intermediate	New
9-5/8", 40#, J55, 8rd, LTC	2,500'-3,831'	12-1/4"	Intermediate	New
7", 26#, N80, 8rd, LTC	0'-7,886'	8-3/4"	Production	New
4-1/2", 11 6#, HCP110, Ultra FJT	6894'-7,886'	6-1/8"	Production	New
4-1/2", 11 6#, HCP110, 8rd, LTC	7886'-13,611'	6-1/8"	Production	New

**2<sup>nd</sup> Lateral:**

<u>TYPE</u>	<u>INTERVALS (MD)</u>	<u>Hole Size</u>	<u>PURPOSE</u>	<u>CONDITION</u>
30"	0'-80'	36"	Conductor	Contractor Discretion
20", 133#, J55, Butress	0'-950'	26"	Surface	New
9-5/8", 40#, J55, 8rd, LTC	0'-2,500'	17-1/2"	Intermediate	New
9-5/8", 40#, J55, 8rd, LTC	2,500'-3,831'	12-1/4"	Intermediate	New
7", 26#, N80, 8rd, LTC	0'-7,886'	8-3/4"	Production	New
4-1/2", 11.6#, HCP110, Ultra FJT	6,800'-7,874'	6-1/8"	Production	New
4-1/2", 11.6#, HCP110, 8rd, LTC	7,874'-13,334'	6-1/8"	Production	New

**CASING DESIGN SAFETY FACTORS:****1<sup>st</sup> Lateral:**

<u>TYPE</u>	<u>TENSION</u>	<u>COLLAPSE</u>	<u>BURST</u>
20", 133#, J55, Butress	13.81	2.18	2.31
9-5/8", 40#, J55, 8rd, LTC	3.40	1.29	1.10
7", 26#, N80, 8rd, LTC	2.87	1.48	1.09
4-1/2", 11.6#, HCP-110, Ultra FJT	3.86	2.53	3.73
4-1/2", 11.6#, HCP110, 8rd, LTC	3.86	2.53	3.73

**2<sup>nd</sup> Lateral:**

<u>TYPE</u>	<u>TENSION</u>	<u>COLLAPSE</u>	<u>BURST</u>
20", 133#, J55, Butress	13.81	2.18	2.31
9-5/8", 40#, J55, 8rd, LTC	3.40	1.29	1.10
7", 26#, N80, 8rd, LTC	2.97	1.48	1.09
4-1/2", 11.6#, HCP-110, Ultra FJT	3.86	2.53	3.73
4-1/2", 11.6#, HCP110, 8rd, LTC	3.86	2.53	3.73

**DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:****SURFACE CASING**

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

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.

### PRODUCTION CASING

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 1.25 design factor with anticipated maximum tubing pressure (3575 psig) on top of the maximum anticipated packer fluid gradient. Backup on production strings will be formation pore pressure. The effects of tension on burst will not be utilized

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

The blowout preventer for 17-1/2" & 12-1/4" intermediate hole will consist of 21-1/4" X 2000 psi hydril with mud cross, choke manifold, and chokes as per Diagram 2 (2000 psi WP). The BOP stack, choke, kill lines, upper and lower kelly cocks, inside BOP, etc. when installed on the surface casinghead will be hydro-tested to 250-300 psig and 2000 psig by independent tester. The BOPE when rigged up on the intermediate casing spool will consist of 13-5/8" 5000 psi annular, 5000 psi pipe & blind rams with choke manifold, chokes, as in Diagram 3 and will be tested to 3000 psig by independent tester. Upper and lower kelly cocks, inside BOP will also be tested to 3000 psig. In addition to the high pressure test, a low pressure (250-300 psig) test will be required. Hydril will be tested to 2500 psig.

These tests will be performed:

- a) Upon installation
- b) After any component changes
- c) Fifteen 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**

#### **1<sup>st</sup> Lateral:**

<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' - 950'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10.0
950' - 3,831'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5-10.0
3,831' - 13,611'	FW/Gel	8.7 – 9.2	28-36	NC	NC	20	9.5-10.0

**POINT 5: MUD PROGRAM - con't...****2<sup>nd</sup> Lateral:**

<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' - 950'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10.0
950' - 3,831'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5-10.0
3,831' - 13,334'	FW/Gel	8.7 – 9.2	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**

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

Run #2: Drill pipe conveyed GR/PE/NL/Density/Resistivity/Caliper log run from TD to KOP in each lateral.

**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>FT<sup>3</sup>/SX</u>
<b>SURFACE.</b>						
Lead: 0 – 650' (100% excess Circ to surface)	1120	650	ExtendaCem CZ + 4% Gel + 2% CaCl <sub>2</sub>	9.20	13.5	1.75
Tail: 650' – 950' (100% excess)	670	300	Halcem + 2% CaCl <sub>2</sub>	6.39	14.8	1.35
<b>INTERMEDIATE:</b>						
Lead: 0' - 3331' (100% excess Circ to surface)	3400	3331	EconoCem-HLC + 5% Salt + 5 pps Gilsonite	9.59	12.9	1.88
Tail: 3331' - 3831' (100% excess)	250	500	HalCem-C	6.34	14.8	1.33

## D) CEMENT - con't...

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	PPG	FT <sup>3</sup> /SX
<b>2<sup>ND</sup> INTERMEDIATE :</b>						
Stage 1:						
Lead: 5000' – 6800' (50% excess)	220	1800	Halco Tuned Lite (Versa Cem) + 20 pps HGS 6000 + 1% Cal-Seal 60 + 1 pps NaCl + 1.25 pps DFR-3 + 0.15 pps FWCA	14.68	9.7	3.16
Tail: 6800' – 7886' (50% excess)	170	1086	HalcoCem-H + 0.6% Halad-9 + 2% Bentonite	5.85	15.2	1.28
DV Tool @ 5,000'						
Stage 2:						
Lead: 0' – 4900' (50% excess)	400	4900	EconoCem-HLC + 3 pps Gilsonite + 3% NaCl	10.57	12.6	1.87
Tail: 4900' – 5000' (50% excess)	100	100	Hal-Cem C	6.34	14.8	1.33

## E) DIRECTIONAL DRILLING

**1<sup>st</sup> Lateral:**

BOPCO, L.P. plans to drill out the 9-5/8" intermediate casing with an 8-3/4" bit to a TVD of approximately 7875'. Openhole logs will be run and this pilot hole plugged back to approximately 7094'. At which point a directional hole will be kicked off and drilled at an azimuth of 110.0°, building angle at 12.00°/100' to a max angle of 89.012° at a TVD of 7571' (MD 7836'). This 89.012° angle will be maintained to a MD of 7886' or TVD of 7571'. At 7886'; 7", 26#, N80, 8rd, LTC casing will be installed and cemented in two stages (DV Tool @ 5000') with cement being circulated to the surface. A 6-1/8" openhole lateral will be drilled out from under the 7" casing to a measured depth of 13,611' at an azimuth of 110.02°. 4-1/2", 11.6#, HCP110, 8rd, LTC casing will be installed with Baker hydraulic packers installed for zone isolation in the lateral and 4-1/2", 11.6#, HCP110, Ultra FJT thru the curve. Liner hanger will be set at approx 7050'. Rotary drilling equipment will be rigged down and moved to another location.

**2<sup>nd</sup> Lateral:**

Move back on to Poker Lake Unit #293H with rotary drilling equipment, bridge plug / bottom trip anchor will be set above the previously set liner hanger. A whipstock and milling assembly will then be set in the 7" casing, and a window cut in 7" casing. The second lateral will be kicked off at approximately 7000'. The 6-1/8" curve will be built at 12°/100' to 90° (7824' MD) and azimuth of 343.237°. (TVD of end of curve 7550') This 6-1/8" lateral will be maintained to a measured depth of 13,334' (TVD 7550'). 4-1/2" liner will then be installed as follows: 5500' of 4-1/2", 11.6#, HCP110, LTC casing from TD to end of curve (EOC) and 4-1/2", 11.6#, HCP110, Ultra FJT casing from EOC to window. Liner will be set with S3 hook hanger.

**POINT 7: ANTICIPATED RESERVOIR CONDITIONS**

Normal pressures are anticipated throughout the Delaware section. A BHP of 3533 psi (max) or MWE of 9.0 ppg is expected. Lost circulation may exist in the Delaware Section from 3844'-7550' TVD. No H<sub>2</sub>S 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

40 days drilling operations

20 days completion operations

BOPCO  
Poker Lake 293 H

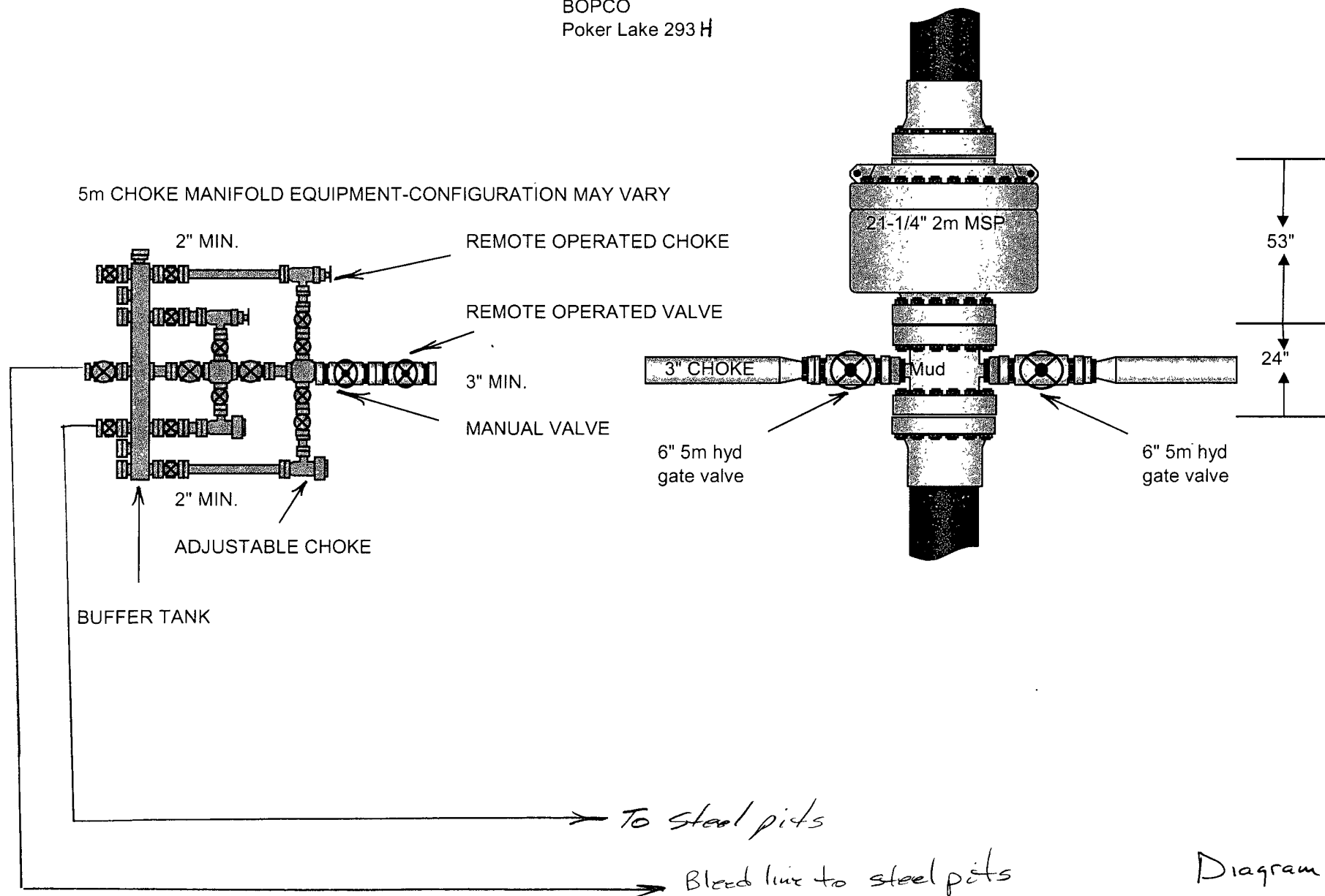


Diagram #2

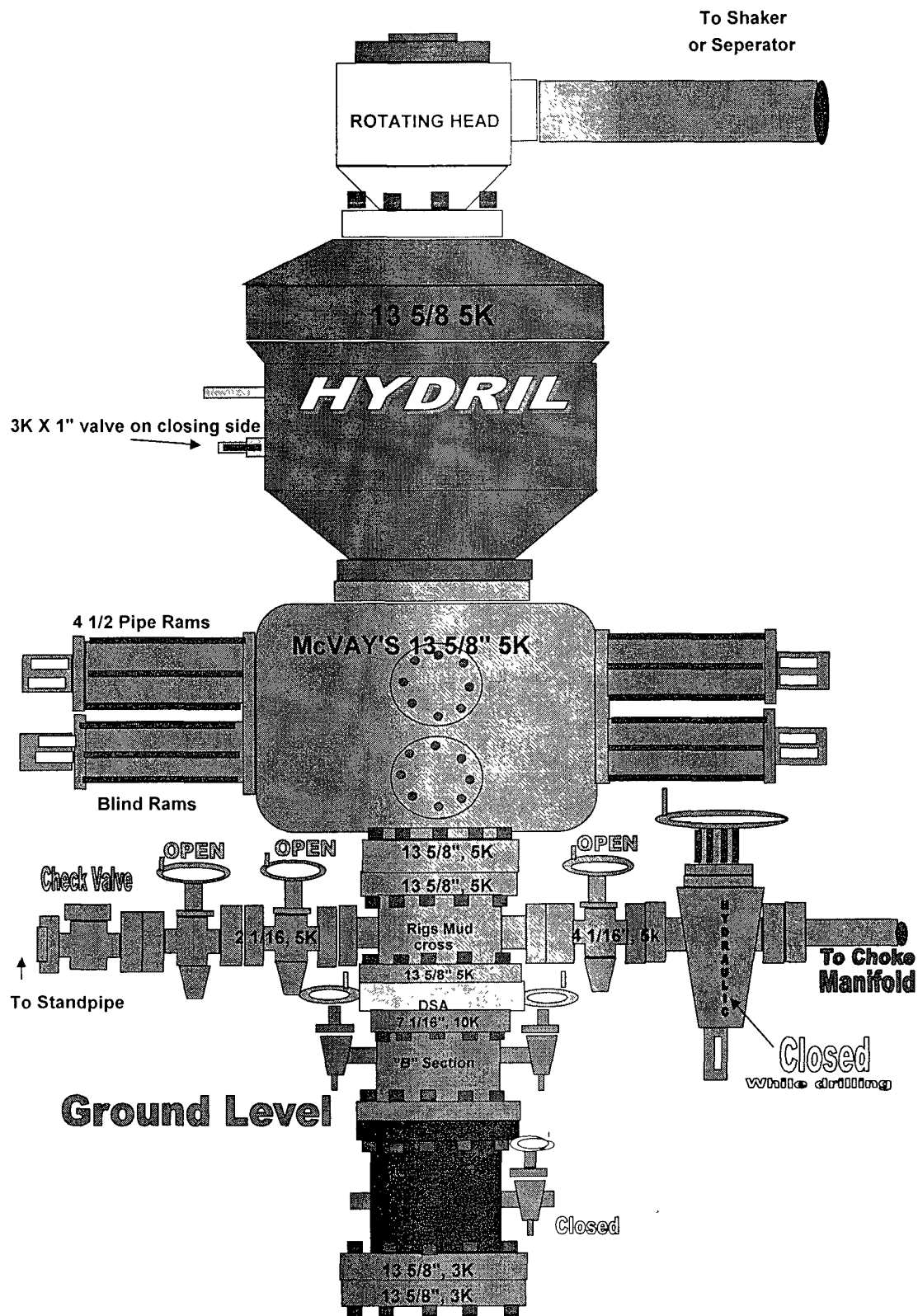


Diagram #3

## **MULTI-POINT SURFACE USE PLAN**

### **NAME OF WELL: Poker Lake Unit #293H**

LEGAL DESCRIPTION - SURFACE: 810' FNL & 1980' FEL, Section 21, T-24-S, R-30-E, Eddy County, NM.

BHL: 2266' FSL, 1471' FEL, Section 22, T24S, R30E, Eddy County, NM. (1<sup>st</sup> lateral)

BHL: 330' FNL, 1650' FWL, Section 16, T24S, R30E, Eddy County, NM. (2<sup>nd</sup> lateral)

### **POINT 1: EXISTING ROADS**

A) Proposed Well Site Location:

See Exhibit A and Survey Plats

B) Existing Roads:

From the junction of Co. Rd. 787 (Twin Wells) and Co. Rd. 746 (McDonald), proceed west on Co. Rd. 746 for 1.4 miles to lease road. On lease road proceed north 1.4 miles to the Poker Lake Unit #41 well and proposed lease road.

C) Existing Road Maintenance or Improvement Plan:

See Exhibit B and Survey Plats.

### **POINT 2: NEW PLANNED ACCESS ROUTE**

A) Route Location:

Approximately 1550' of new road will be built from the existing lease road to Poker Lake Unit #41.

B) Width

12'

C) Maximum Grade

Grade to match existing topography or as per BLM requirements.

D) Turnout Ditches

Spaced per BLM requirements.

E) Culverts, Cattle Guards, and Surfacing Equipment

If required, culverts and cattle guards will be set per BLM Specs.

### **POINT 3: LOCATION OF EXISTING WELLS**

Exhibit A indicates existing wells within the surrounding area.



#### **POINT 4: LOCATION OF EXISTING OR PROPOSED FACILITIES**

Page 2

- A) Existing facilities are located within approximately 1.5 miles, which are owned or controlled by lessee/operator:

Closest Oil/Gas production facilities are located at Poker Lake Unit #213 wellsite. Poker Lake Unit #213 is located approximately 1.5 miles west of proposed well.

- B) New Facilities in the Event of Production:

New production facilities will be constructed on Poker Lake Unit #261 location. Power lines and flow lines will follow the existing and new roads.

- C) Rehabilitation of Disturbed Areas Unnecessary for Production:

Following flowline construction, those access areas required for continued production will be graded to provide drainage and minimize erosion. The areas unnecessary for use will be graded to blend in with the surrounding topography (see Point 10)

#### **POINT 5: LOCATION AND TYPE OF WATER SUPPLY**

- A) Location and Type of Water Supply

Fresh water will be hauled from Johnson Station 50 miles east of Carlsbad, New Mexico or other commercial facilities. Brine water will be hauled from commercial facilities.

- B) Water Transportation System

Water hauling to the location will be over the existing and proposed roads.

#### **POINT 6: SOURCE OF CONSTRUCTION MATERIALS**

- A) Materials

On-site caliche will be used.

- B) Land Ownership

Federally Owned.

- C) Materials Foreign to the Site

If on-site caliche is not sufficient, we will haul caliche from a BLM approved site.

- D) Access Roads

See Exhibit B.

## **POINT 7: METHODS FOR HANDLING WASTE MATERIAL**

Page 3

### **A) Cuttings**

Cuttings will be contained in the reserve pit.

### **B) Drilling Fluids**

Drilling fluids will be contained in the reserve pit.

### **C) Produced Fluids**

Water production will be contained in the reserve pit.

Hydrocarbon fluid or other fluids that may be produced during testing will be retained in test tanks. Prior to cleanup operations, any hydrocarbon material in the reserve pit will be removed by skimming or burning as the situation would dictate.

### **D) Sewage**

Current laws and regulations pertaining to the disposal of human waste will be complied with.

### **E) Garbage**

Portable containers will be utilized for garbage disposal during the drilling of this well.

### **F) Cleanup of Well Site**

Upon release of the drilling rig, the surface of the drilling pad will be graded to accommodate a completion rig if electric log analysis indicates potential productive zones. The reserve pit will be fenced and bird netted. The fence will be maintained until the pit is backfilled. Reasonable cleanup will be performed prior to the final restoration of the site.

## **POINT 8: ANCILLARY FACILITIES**

None required.

## **POINT 9: WELL SITE LAYOUT**

### **A) Rig Orientation and Layout**

Exhibit "D" shows the dimensions of the well pad and reserve pits, and the location of major rig components. Only minor leveling of the well site will be required. No significant cuts or fills will be necessary.

B) Locations of Pits and Access Road

See Exhibits "B", "C" & "D".

C) Lining of the Pits

The reserve pit will be lined with plastic.

**POINT 10: PLANS FOR RESTORATION OF THE SURFACE**

A) Reserve Pit Cleanup

The pits will be fenced immediately after construction and shall be maintained until they are backfilled. Previous to backfill operations, any hydrocarbon material on the pits' surfaces shall be removed. The fluids and solids contained in the pits shall be backfilled with soil excavated from the site and soil adjacent to the reserve pits. The restored surface of the pits shall be contoured to prevent impoundment of surface water flow. Water-bars will be constructed as needed to prevent excessive erosion. Topsoil, as available, shall be placed over the restored surface in a uniform layer. The area will be seeded according to the Bureau of Land Management stipulations during the appropriate season following restoration.

B) Restoration Plans - Production Developed

The reserve pits will be backfilled and restored as described above under Item A. In addition, those areas not required for production will be graded to blend with the surrounding topography. Topsoil, as available, will be placed upon those areas and seeded. The portion of the site required for production will be graded to minimize erosion and provide access during inclement conditions. Following depletion and abandonment of the site, restoration procedures will be those that follow under Item C.

C) Restoration Plans - No Production Developed

The reserve pits will be restored as described above. With no production developed, the entire surface disturbed by construction of the well site will be restored. The site will be contoured to blend with the surrounding topography and provide drainage of surface water. The topsoil, as available, shall be replaced in a uniform layer and seeded according to the Bureau of Land Management's stipulations.

D) Rehabilitation's Timetable

Upon completion of drilling operations, the initial cleanup of the site will be performed as soon as weather and site conditions allow economic execution of the work.

## POINT 11: OTHER INFORMATION

Page 5

A) Terrain

Relatively flat with moderate sand dunes.

B) Soil

Caliche and sand.

C) Vegetation

Sparse, primarily grasses and mesquite with very little grass.

D) Surface Use

Primarily grazing.

E) Surface Water

There are no ponds, lakes, streams or rivers within 1-1/2 miles of the wellsite.

F) Water Wells

There are three water wells located within 1.5 miles of the proposed well. (See Exhibit A)

G) Residences and Buildings

None in the immediate vicinity.

H) Historical Sites

None observed.

I) Archeological Resources

An archeological survey will be obtained for this area. Before any construction begins, a full and complete archeological survey will be submitted to the Bureau of Land Management. Any location or construction conflicts will be resolved before construction begins.

J) Surface Ownership

The well site is on federally owned land.

K) Well signs will be posted at the drilling site.

L) Open Pits

All pits containing liquid or mud will be fenced and bird-netted.

**POINT 12: OPERATOR'S FIELD REPRESENTATIVE**

Page 6

(Field personnel responsible for compliance with development plan for surface use).

**DRILLING**

William R. Dannels  
Box 2760  
Midland, Texas 79702  
(432) 683-2277

**PRODUCTION**

Dean Clemmer  
3104 East Green Street  
Carlsbad, New Mexico 88220  
(505) 887-7329

Carlos Cruz  
Box 2760  
Midland, Texas 79702  
(432) 683-2277

1/28/10  
Date

Gary E. Gerhard  
Gary E. Gerhard

GEG/mac

## OPERATOR CERTIFICATION

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by BOPCO, L.P. and it's contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

1/28/10  
Date

Gary E. Gerhard  
Gary E. Gerhard (432) 683-2277

BOPCO, L.P.

Location: Eddy County, NM  
Field: (PLU) Sec 21, T24S, R30E  
Facility: Poker Lake Unit No. 293

Slot No 293 SHL - 810' FNL & 1980' FEL  
Well No 293H  
Wellbore No. 293H PWB

## Plot reference wellpath is Prelim.1

True vertical depths are referenced to Pig on No. 293H SHL (RT)

Grid System NAD27 / TM New Mexico State Planes Eastern Zone (3001) US feet

Measured depths are referenced to Rig on No. 293H SHL (RT)

North Reference Gnd north

Alt on No. 293H SHL (AT) to Mean Sea Level 3352 feet

Scale True distance

Mean Sea Level to Mud line (Facility Poker Lake Unit No. 293) 3343 feet

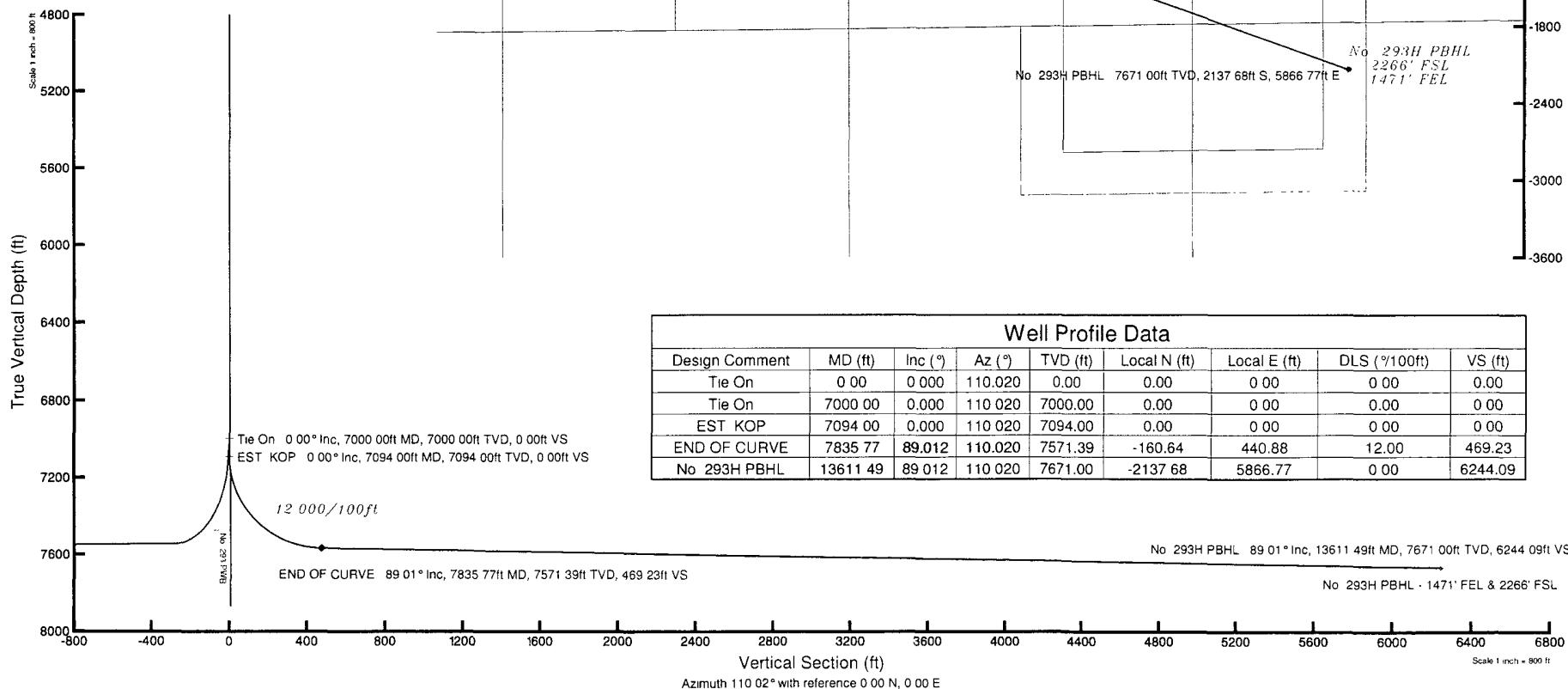
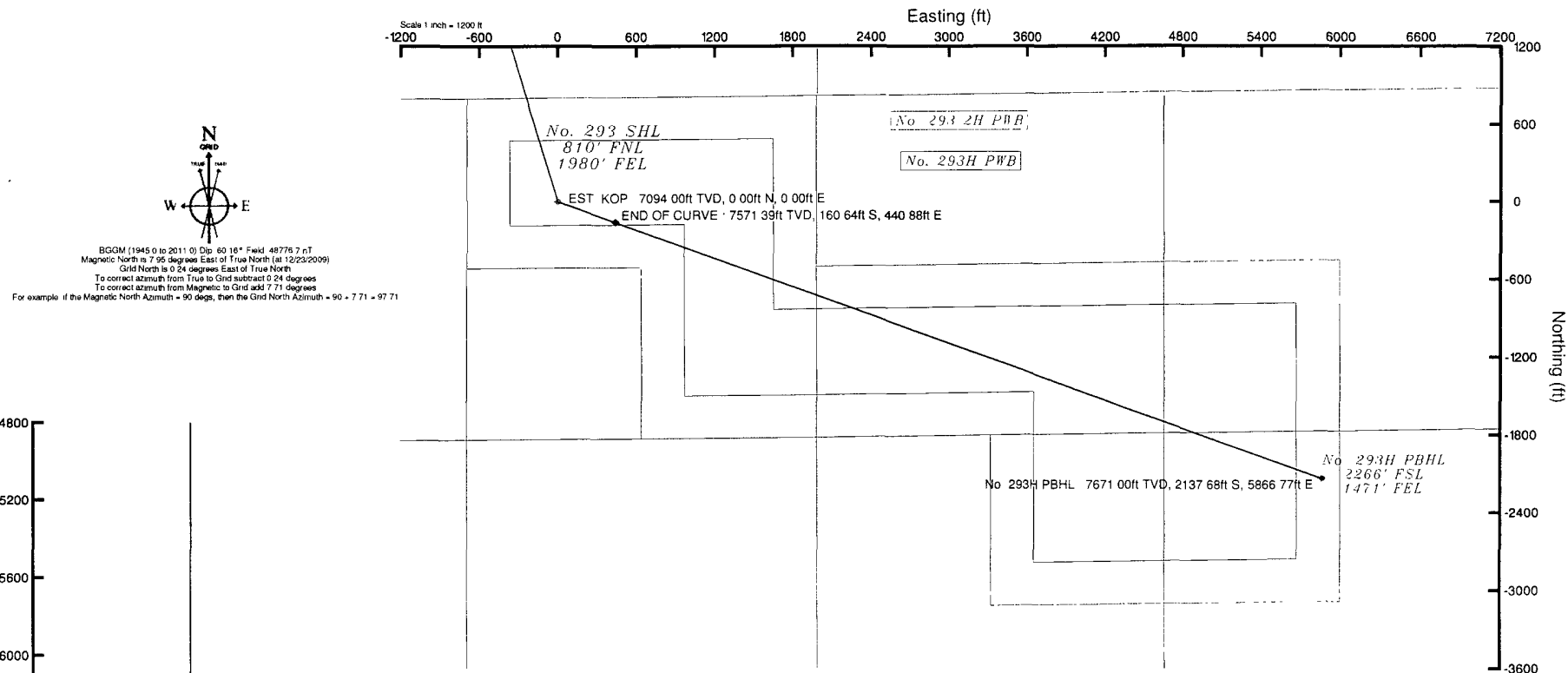
Depths are in feet

Coordinates are in feet referenced to Surface Location

Created by Victor Hernandez on 12/23/2009



# INTEO





# Planned Wellpath Report

Prelim\_1  
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**INTEQ**

## REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 293 SHL - 810' FNL & 1980' FEL
Area	Eddy County, NM	Well	No. 293H
Field	(PLU) Sec 21, T24S, R30E	Wellbore	No. 293H PWB
Facility	Poker Lake Unit No. 293	Sidetrack from	No. 293 PWB at 7000.00 MD

## 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	Victor Hernandez
Scale	0.999931	Report Generated	12/23/2009 at 10:03:59 AM
Convergence at slot	0.24° East	Database/Source file	WA_Midland/No. 293H_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	639131.39	439732.40	32°12'29.308"N	103°53'00.591"W
Facility Reference Pt			639131.39	439732.40	32°12'29.308"N	103°53'00.591"W
Field Reference Pt			639131.39	439732.40	32°12'29.308"N	103°53'00.591"W

## WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 293H SHL (RT) to GL	19.00ft
Horizontal Reference Pt	Surface Location	Rig on No. 293H SHL (RT) to Mean Sea Level	3362.00ft
Vertical Reference Pt	Rig on No. 293H SHL (RT)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 293H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	110.02°





# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 293 SHL - 810' FNL & 1980' FEL
Area	Eddy County, NM	Well	No. 293H
Field	(PLU) Sec 21, T24S, R30E	Wellbore	No. 293H PWB
Facility	Poker Lake Unit No. 293	Sidetrack from	No. 293 PWB at 7000.00 MD

## WELLPATH DATA (71 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]	DLS [°/100ft]	Comments
0.00	0.000	110.020	0.00	0.00	0.00	0.00	639131.39	439732.40	0.00	Tie On
7000.00	0.000	110.020	7000.00	0.00	0.00	0.00	639131.39	439732.40	0.00	Tie On
7094.00	0.000	110.020	7094.00	0.00	0.00	0.00	639131.39	439732.40	0.00	EST KOP
7100.00†	0.720	110.020	7100.00	0.04	-0.01	0.04	639131.43	439732.39	12.00	
7200.00†	12.720	110.020	7199.13	11.72	-3.01	11.01	639142.40	439728.39	12.00	
7300.00†	24.720	110.020	7293.67	43.75	-14.98	41.11	639172.50	439717.42	12.00	
7400.00†	36.720	110.020	7379.48	94.74	-32.44	89.02	639220.40	439699.97	12.00	
7500.00†	48.720	110.020	7452.81	162.46	-55.62	152.65	639284.02	439676.78	12.00	
7600.00†	60.720	110.020	7510.46	243.95	-83.52	229.21	639360.58	439648.89	12.00	
7700.00†	72.720	110.020	7549.91	335.64	-114.97	315.16	639445.72	439617.50	12.00	
7800.00†	84.720	110.020	7569.44	433.53	-148.42	407.33	639538.69	439583.99	12.00	
7835.77	89.012	110.020	7571.39	469.23	-160.64	440.88	639572.23	439571.77	12.00	END OF CURVE
7900.00†	89.012	110.020	7572.50	533.46	-182.63	501.22	639632.57	439549.78	0.00	
8000.00†	89.012	110.020	7574.23	633.44	-216.86	595.16	639726.51	439515.55	0.00	
8100.00†	89.012	110.020	7575.95	733.43	-251.09	689.11	639820.45	439481.33	0.00	
8200.00†	89.012	110.020	7577.68	833.41	-285.32	783.05	639914.38	439447.10	0.00	
8300.00†	89.012	110.020	7579.40	933.40	-319.55	876.99	640008.32	439412.87	0.00	
8400.00†	89.012	110.020	7581.12	1033.38	-353.78	970.94	640102.26	439378.64	0.00	
8500.00†	89.012	110.020	7582.85	1133.37	-388.01	1064.88	640196.19	439344.42	0.00	
8600.00†	89.012	110.020	7584.57	1233.35	-422.74	1158.82	640290.13	439310.19	0.00	
8700.00†	89.012	110.020	7586.30	1333.34	-456.47	1252.77	640384.07	439275.96	0.00	
8800.00†	89.012	110.020	7588.02	1433.32	-490.70	1346.71	640478.00	439241.73	0.00	
8900.00†	89.012	110.020	7589.75	1533.31	-524.93	1440.65	640571.94	439207.50	0.00	
9000.00†	89.012	110.020	7591.47	1633.29	-559.16	1534.59	640665.88	439173.28	0.00	
9100.00†	89.012	110.020	7593.20	1733.28	-593.39	1628.54	640759.81	439139.05	0.00	
9200.00†	89.012	110.020	7594.92	1833.26	-627.62	1722.48	640853.75	439104.82	0.00	
9300.00†	89.012	110.020	7596.65	1933.25	-661.85	1816.42	640947.69	439070.59	0.00	
9400.00†	89.012	110.020	7598.37	2033.23	-696.08	1910.37	641041.62	439036.37	0.00	
9500.00†	89.012	110.020	7600.09	2133.22	-730.31	2004.31	641135.56	439002.14	0.00	
9600.00†	89.012	110.020	7601.82	2233.20	-764.54	2098.25	641229.50	438967.91	0.00	



# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 293 SHL - 810' FNL & 1980' FEL
Area	Eddy County, NM	Well	No. 293H
Field	(PLU) Sec 21, T24S, R30E	Wellbore	No. 293H PWB
Facility	Poker Lake Unit No. 293	Sidetrack from	No. 293 PWB at 7000.00 MD

## WELLPATH DATA (71 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]	DLS [°/100ft]	Comments
9700.00†	89.012	110.020	7603.54	2333.19	-798.77	2192.20	641323.43	438933.68	0.00	
9800.00†	89.012	110.020	7605.27	2433.17	-833.00	2286.14	641417.37	438899.45	0.00	
9900.00†	89.012	110.020	7606.99	2533.16	-867.23	2380.08	641511.30	438865.23	0.00	
10000.00†	89.012	110.020	7608.72	2633.14	-901.46	2474.03	641605.24	438831.00	0.00	
10100.00†	89.012	110.020	7610.44	2733.13	-935.69	2567.97	641699.18	438796.77	0.00	
10200.00†	89.012	110.020	7612.17	2833.11	-969.93	2661.91	641793.11	438762.54	0.00	
10300.00†	89.012	110.020	7613.89	2933.10	-1004.16	2755.86	641887.05	438728.32	0.00	
10400.00†	89.012	110.020	7615.62	3033.08	-1038.39	2849.80	641980.99	438694.09	0.00	
10500.00†	89.012	110.020	7617.34	3133.07	-1072.62	2943.74	642074.92	438659.86	0.00	
10600.00†	89.012	110.020	7619.06	3233.05	-1106.85	3037.69	642168.86	438625.63	0.00	
10700.00†	89.012	110.020	7620.79	3333.04	-1141.08	3131.63	642262.80	438591.40	0.00	
10800.00†	89.012	110.020	7622.51	3433.02	-1175.31	3225.57	642356.73	438557.18	0.00	
10900.00†	89.012	110.020	7624.24	3533.01	-1209.54	3319.51	642450.67	438522.95	0.00	
11000.00†	89.012	110.020	7625.96	3632.99	-1243.77	3413.46	642544.61	438488.72	0.00	
11100.00†	89.012	110.020	7627.69	3732.98	-1278.00	3507.40	642638.54	438454.49	0.00	
11200.00†	89.012	110.020	7629.41	3832.96	-1312.23	3601.34	642732.48	438420.27	0.00	
11300.00†	89.012	110.020	7631.14	3932.95	-1346.46	3695.29	642826.42	438386.04	0.00	
11400.00†	89.012	110.020	7632.86	4032.94	-1380.69	3789.23	642920.35	438351.81	0.00	
11500.00†	89.012	110.020	7634.59	4132.92	-1414.92	3883.17	643014.29	438317.58	0.00	
11600.00†	89.012	110.020	7636.31	4232.91	-1449.15	3977.12	643108.23	438283.35	0.00	
11700.00†	89.012	110.020	7638.04	4332.89	-1483.38	4071.06	643202.16	438249.13	0.00	
11800.00†	89.012	110.020	7639.76	4432.88	-1517.61	4165.00	643296.10	438214.90	0.00	
11900.00†	89.012	110.020	7641.48	4532.86	-1551.84	4258.95	643390.04	438180.67	0.00	
12000.00†	89.012	110.020	7643.21	4632.85	-1586.07	4352.89	643483.97	438146.44	0.00	
12100.00†	89.012	110.020	7644.93	4732.83	-1620.30	4446.83	643577.91	438112.22	0.00	
12200.00†	89.012	110.020	7646.66	4832.82	-1654.53	4540.78	643671.84	438077.99	0.00	
12300.00†	89.012	110.020	7648.38	4932.80	-1688.76	4634.72	643765.78	438043.76	0.00	
12400.00†	89.012	110.020	7650.11	5032.79	-1722.99	4728.66	643859.72	438009.53	0.00	
12500.00†	89.012	110.020	7651.83	5132.77	-1757.22	4822.61	643953.65	437975.30	0.00	
12600.00†	89.012	110.020	7653.56	5232.76	-1791.45	4916.55	644047.59	437941.08	0.00	



# Planned Wellpath Report

Prelim\_1

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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 293 SHL - 810' FNL & 1980' FEL
Area	Eddy County, NM	Well	No. 293H
Field	(PLU) Sec 21, T24S, R30E	Wellbore	No. 293H PWB
Facility	Poker Lake Unit No. 293	Sidetrack from	No. 293 PWB at 7000.00 MD

## WELLPATH DATA (71 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]	DLS [°/100ft]	Comments
12700.00†	89.012	110.020	7655.28	5332.74	-1825.68	5010.49	644141.53	437906.85	0.00	
12800.00†	89.012	110.020	7657.01	5432.73	-1859.91	5104.43	644235.46	437872.62	0.00	
12900.00†	89.012	110.020	7658.73	5532.71	-1894.14	5198.38	644329.40	437838.39	0.00	
13000.00†	89.012	110.020	7660.45	5632.70	-1928.37	5292.32	644423.34	437804.17	0.00	
13100.00†	89.012	110.020	7662.18	5732.68	-1962.60	5386.26	644517.27	437769.94	0.00	
13200.00†	89.012	110.020	7663.90	5832.67	-1996.83	5480.21	644611.21	437735.71	0.00	
13300.00†	89.012	110.020	7665.63	5932.65	-2031.06	5574.15	644705.15	437701.48	0.00	
13400.00†	89.012	110.020	7667.35	6032.64	-2065.29	5668.09	644799.08	437667.25	0.00	
13500.00†	89.012	110.020	7669.08	6132.62	-2099.52	5762.04	644893.02	437633.03	0.00	
13600.00†	89.012	110.020	7670.80	6232.61	-2133.75	5855.98	644986.96	437598.80	0.00	
13611.49	89.012	110.020	7671.00	6244.09	-2137.68	5866.77	644997.75	437594.87	0.00	No 293H PBHL

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 293H PBHL - 1471' FEL & 2266' FSL	13611.49	7671.00	-2137.68	5866.77	644997.75	437594.87	32°12'07.907"N	103°51'52.421"W	point

## SURVEY PROGRAM Ref Wellbore: No. 293H PWB Ref Wellpath: Prelim\_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
19.00	7000.00	NaviTrak (Standard)		No. 293 PWB
7000.00	13611.49	NaviTrak (Standard)		No. 293H PWB

2nd Lateral



# BOPCO, L.P.

Location Eddy County, NM Slot No 293 SHL - 810' FNL & 1980' FEL  
 Field (PLU) Sec 21, T4S, R30E Well No 293 2H  
 Facility Poker Lake Unit No 293 Wellbore No 293 2H PWB



INTEQ

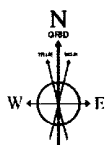
Scale 1 inch = 1200 ft  
 Easting (ft)  
 -3600 -3000 -2400 -1800 -1200 -600 0 600 1200

No 293 2H PWB

No 293 2H PBHL - 330' FNL &amp; 1650' FWL

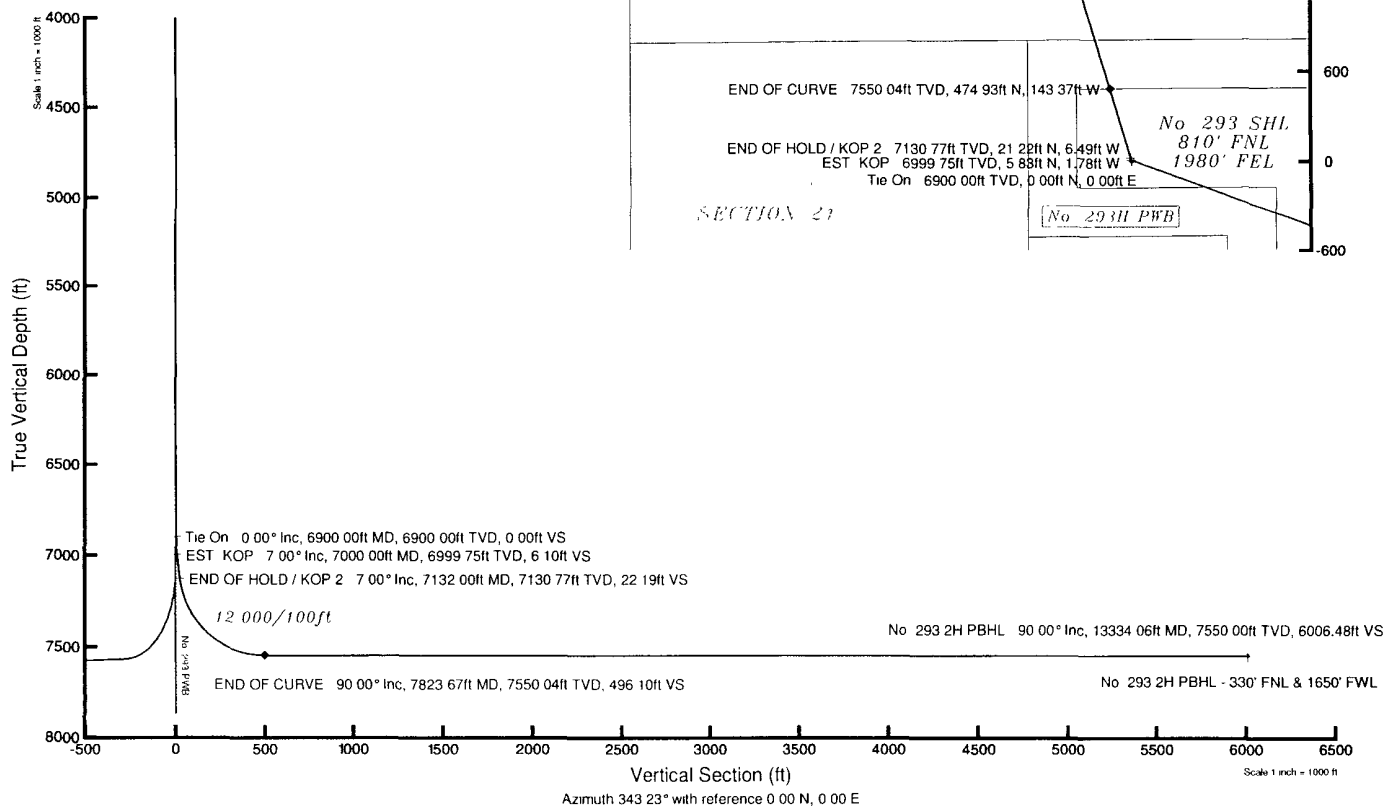
No 293 2H PBHL - 7550.00ft TVD, 5751 16ft N, 1732 63ft W

Well Profile Data							
Design Contingent	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°100ft)
Tie On	0.00	0.000	343.000	0.00	0.00	0.00	0.00
Tie On	6900.00	0.000	343.000	6900.00	0.00	0.00	0.00
EST KOP	7000.00	7.000	343.000	6999.75	5.83	-1.78	7.00
END OF HOLD / KOP 2	7132.00	7.000	343.000	7130.77	21.22	-6.49	0.00
END OF CURVE	7823.67	90.000	343.237	7550.04	474.93	-143.37	12.00
No 293 2H PBHL	13334.06	90.000	343.237	7550.00	5751.16	-1732.63	0.00



BGGM (1945.0 to 2011.0) Dp 60 16" Field 48778 7 nT  
 Magnetic North is 7.95 degrees East of True North (at 12/23/2009)  
 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 7.71 degrees  
 For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.71 = 97.71

True vertical depths are referenced to Rig on No. 293H SHL (RT)		Grid System: NAD2011 / T4S R30E State Planes, Eastern Zone (NAD83) US feet
Measured depths are referenced to Rig on No. 293H SHL (RT)		North Reference: Grid north
Rig on No. 293H SHL (RT) to Mean Sea Level: 3362 feet		Scale: True distance
Mean Sea Level to Mud line (Facility: Poker Lake Unit No. 293) - 3343 feet		Depths are in feet
Coordinates are in feet referenced to Surface Location		Created by: Victor Hernandez on 12/23/2009





# Planned Wellpath Report

Prelim\_1  
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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 293 SHL - 810' FNL & 1980' FEL
Area	Eddy County, NM	Well	No. 293 2H
Field	(PLU) Sec 21, T24S, R30E	Wellbore	No. 293 2H PWB
Facility	Poker Lake Unit No. 293	Sidetrack from	No. 293 PWB at 6900.00 MD

## 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	Victor Hernandez
Scale	0.999931	Report Generated	12/23/2009 at 12:47:45 PM
Convergence at slot	0.24° East	Database/Source file	WA_Midland/No. 293_2H_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	639131.39	439732.40	32°12'29.308"N	103°53'00.591"W
Facility Reference Pt			639131.39	439732.40	32°12'29.308"N	103°53'00.591"W
Field Reference Pt			639131.39	439732.40	32°12'29.308"N	103°53'00.591"W

## WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 293H SHL (RT) to GL	19.00ft
Horizontal Reference Pt	Surface Location	Rig on No. 293H SHL (RT) to Mean Sea Level	3362.00ft
Vertical Reference Pt	Rig on No. 293H SHL (RT)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 293H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	343.23°



# Planned Wellpath Report

Prelim\_1

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**INTEQ**

## REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 293 SHL - 810' FNL & 1980' FEL
Area	Eddy County, NM	Well	No. 293 2H
Field	(PLU) Sec 21, T24S, R30E	Wellbore	No. 293 2H PWB
Facility	Poker Lake Unit No. 293	Sidetrack from	No. 293 PWB at 6900.00 MD

## WELLPATH DATA (69 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]	DLS [°/100ft]	Comments
0.00	0.000	343.000	0.00	0.00	0.00	0.00	639131.39	439732.40	0.00	Tie On
6900.00	0.000	343.000	6900.00	0.00	0.00	0.00	639131.39	439732.40	0.00	Tie On
7000.00	7.000	343.000	6999.75	6.10	5.83	-1.78	639129.61	439738.23	7.00	EST. KOP
7100.00†	7.000	343.000	7099.01	18.29	17.49	-5.35	639126.04	439749.89	0.00	
7132.00	7.000	343.000	7130.77	22.19	21.22	-6.49	639124.90	439755.62	0.00	END OF HOLD / KOP 2
7200.00†	15.160	343.130	7197.44	35.24	33.71	-10.29	639121.11	439766.11	12.00	
7300.00†	27.160	343.180	7290.53	71.28	68.20	-20.72	639110.67	439800.59	12.00	
7400.00†	39.160	343.201	7374.09	125.87	120.46	-36.51	639094.88	439852.85	12.00	
7500.00†	51.160	343.214	7444.48	196.65	188.22	-56.96	639074.44	439920.61	12.00	
7600.00†	63.160	343.222	7498.61	280.52	268.53	-87.17	639050.22	440000.20	12.00	
7700.00†	75.160	343.229	7534.12	373.80	357.83	-108.09	639023.30	440090.21	12.00	
7800.00†	87.160	343.236	7549.46	472.44	452.27	-136.55	638994.85	440184.64	12.00	
7823.67	90.000	343.237	7550.04	496.10	474.93	-143.37	638988.03	440207.29	12.00	END OF CURVE
7900.00†	90.000	343.237	7550.04	572.43	548.01	-165.39	638966.02	440280.38	0.00	
8000.00†	90.000	343.237	7550.04	672.43	643.76	-193.23	638937.18	440376.12	0.00	
8100.00†	90.000	343.237	7550.04	772.43	739.52	-223.07	638908.34	440471.86	0.00	
8200.00†	90.000	343.237	7550.04	872.43	835.27	-251.91	638879.50	440567.61	0.00	
8300.00†	90.000	343.237	7550.04	972.43	931.02	-280.75	638850.66	440663.35	0.00	
8400.00†	90.000	343.237	7550.04	1072.43	1026.77	-309.59	638821.82	440759.09	0.00	
8500.00†	90.000	343.237	7550.04	1172.43	1122.52	-338.43	638792.98	440854.84	0.00	
8600.00†	90.000	343.237	7550.04	1272.43	1218.27	-367.28	638764.14	440950.58	0.00	
8700.00†	90.000	343.237	7550.04	1372.43	1314.02	-396.12	638735.30	441046.33	0.00	
8800.00†	90.000	343.237	7550.04	1472.43	1409.77	-424.96	638706.46	441142.07	0.00	
8900.00†	90.000	343.237	7550.04	1572.43	1505.52	-453.80	638677.62	441237.81	0.00	
9000.00†	90.000	343.237	7550.03	1672.43	1601.27	-482.64	638648.78	441333.56	0.00	
9100.00†	90.000	343.237	7550.03	1772.43	1697.02	-511.48	638619.95	441429.30	0.00	
9200.00†	90.000	343.237	7550.03	1872.43	1792.77	-540.32	638591.11	441525.05	0.00	
9300.00†	90.000	343.237	7550.03	1972.43	1888.52	-569.16	638562.27	441620.79	0.00	
9400.00†	90.000	343.237	7550.03	2072.43	1984.27	-598.00	638533.43	441716.53	0.00	
9500.00†	90.000	343.237	7550.03	2172.43	2080.02	-626.85	638504.59	441812.28	0.00	



# Planned Wellpath Report

Prelim\_1

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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 293 SHL - 810' FNL & 1980' FEL
Area	Eddy County, NM	Well	No. 293 2H
Field	(PLU) Sec 21, T24S, R30E	Wellbore	No. 293 2H PWB
Facility	Poker Lake Unit No. 293	Sidetrack from	No. 293 PWB at 6900.00 MD

## WELLPATH DATA (69 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]	DLS [°/100ft]	Comments
9600.00†	90.000	343.237	7550.03	2272.43	2175.77	-655.69	638475.75	441908.02	0.00	
9700.00†	90.000	343.237	7550.03	2372.43	2271.53	-684.53	638446.91	442003.76	0.00	
9800.00†	90.000	343.237	7550.03	2472.43	2367.28	-713.37	638418.07	442099.51	0.00	
9900.00†	90.000	343.237	7550.03	2572.43	2463.03	-742.21	638389.23	442195.25	0.00	
10000.00†	90.000	343.237	7550.03	2672.43	2558.78	-771.05	638360.39	442291.00	0.00	
10100.00†	90.000	343.237	7550.03	2772.43	2654.53	-799.89	638331.55	442386.74	0.00	
10200.00†	90.000	343.237	7550.03	2872.43	2750.28	-828.73	638302.71	442482.48	0.00	
10300.00†	90.000	343.237	7550.02	2972.43	2846.03	-857.58	638273.87	442578.23	0.00	
10400.00†	90.000	343.237	7550.02	3072.43	2941.78	-886.42	638245.04	442673.97	0.00	
10500.00†	90.000	343.237	7550.02	3172.43	3037.53	-915.26	638216.20	442769.72	0.00	
10600.00†	90.000	343.237	7550.02	3272.43	3133.28	-944.10	638187.36	442865.46	0.00	
10700.00†	90.000	343.237	7550.02	3372.43	3229.03	-972.94	638158.52	442961.20	0.00	
10800.00†	90.000	343.237	7550.02	3472.43	3324.78	-1001.78	638129.68	443056.95	0.00	
10900.00†	90.000	343.237	7550.02	3572.43	3420.53	-1030.62	638100.84	443152.69	0.00	
11000.00†	90.000	343.237	7550.02	3672.43	3516.28	-1059.46	638072.00	443248.44	0.00	
11100.00†	90.000	343.237	7550.02	3772.43	3612.03	-1088.31	638043.16	443344.18	0.00	
11200.00†	90.000	343.237	7550.02	3872.43	3707.79	-1117.15	638014.32	443439.92	0.00	
11300.00†	90.000	343.237	7550.02	3972.43	3803.54	-1145.99	637985.48	443535.67	0.00	
11400.00†	90.000	343.237	7550.02	4072.43	3899.29	-1174.83	637956.64	443631.41	0.00	
11500.00†	90.000	343.237	7550.01	4172.43	3995.04	-1203.67	637927.80	443727.15	0.00	
11600.00†	90.000	343.237	7550.01	4272.43	4090.79	-1232.51	637898.97	443822.90	0.00	
11700.00†	90.000	343.237	7550.01	4372.43	4186.54	-1261.35	637870.13	443918.64	0.00	
11800.00†	90.000	343.237	7550.01	4472.43	4282.29	-1290.19	637841.29	444014.39	0.00	
11900.00†	90.000	343.237	7550.01	4572.43	4378.04	-1319.04	637812.45	444110.13	0.00	
12000.00†	90.000	343.237	7550.01	4672.43	4473.79	-1347.88	637783.61	444205.87	0.00	
12100.00†	90.000	343.237	7550.01	4772.43	4569.54	-1376.72	637754.77	444301.62	0.00	
12200.00†	90.000	343.237	7550.01	4872.43	4665.29	-1405.56	637725.93	444397.36	0.00	
12300.00†	90.000	343.237	7550.01	4972.43	4761.04	-1434.40	637697.09	444493.11	0.00	
12400.00†	90.000	343.237	7550.01	5072.43	4856.79	-1463.24	637668.25	444588.85	0.00	
12500.00†	90.000	343.237	7550.01	5172.43	4952.54	-1492.08	637639.41	444684.59	0.00	





# Planned Wellpath Report

Prelim\_1

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INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 293 SHL - 810' FNL & 1980' FEL
Area	Eddy County, NM	Well	No. 293 2H
Field	(PLU) Sec 21, T24S, R30E	Wellbore	No. 293 2H PWB
Facility	Poker Lake Unit No. 293	Sidetrack from	No. 293 PWB at 6900.00 MD

## WELLPATH DATA (69 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]	DLS [°/100ft]	Comments
12600.00†	90.000	343.237	7550.01	5272.43	5048.29	-1520.92	637610.57	444780.34	0.00	
12700.00†	90.000	343.237	7550.01	5372.43	5144.04	-1549.76	637581.73	444876.08	0.00	
12800.00†	90.000	343.237	7550.00	5472.43	5239.80	-1578.61	637552.90	444971.82	0.00	
12900.00†	90.000	343.237	7550.00	5572.43	5335.55	-1607.45	637524.06	445067.57	0.00	
13000.00†	90.000	343.237	7550.00	5672.43	5431.30	-1636.29	637495.22	445162.31	0.00	
13100.00†	90.000	343.237	7550.00	5772.43	5527.05	-1665.13	637466.38	445259.06	0.00	
13200.00†	90.000	343.237	7550.00	5872.43	5622.80	-1693.97	637437.54	445354.80	0.00	
13300.00†	90.000	343.237	7550.00	5972.43	5718.55	-1722.81	637408.70	445450.54	0.00	
13334.06	90.000	343.237	7550.00	6006.48	5751.16	-1732.63	637398.88	445483.15	0.00	No 293 2H PBHL

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 293 2H PBHL - 330' FNL & 1650' FWL	13334.06	7550.00	5751.16	-1732.63	637398.88	445483.15	32° 13' 26.290" N	103° 53' 20.480" W	point

## SURVEY PROGRAM: Ref Wellbore: No. 293 2H PWB Ref Wellpath: Prelim\_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
19.00	6900.00	NaviTrak (Standard)		No. 293 PWB
6900.00	13334.06	NaviTrak (Standard)		No. 293 2H PWB



# PECOS DISTRICT CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>BOPCO, L.P.</b>
<b>LEASE NO.:</b>	<b>NMLC-068431</b>
<b>WELL NAME &amp; NO.:</b>	<b>Poker Lake Unit #293H</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>810' FNL &amp; 1980' FEL Section 21</b>
<b>BOTTOM HOLE FOOTAGES:</b>	<b>2266' FSL &amp; 1471' FEL Section 22</b>
	<b>330' FNL &amp; 1650' FWL Section 16</b>
<b>LOCATION:</b>	<b>Section 21/22/16, T. 24 S., R 30 E., NMPM</b>
<b>COUNTY:</b>	<b>Eddy County, New Mexico</b>

## I. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

## **B. CASING**

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

~~Centralizers required on surface casing per Onshore Order 2.III.B.1.f.~~

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

### **Medium Cave/Karst**

Possible lost circulation in the Delaware and Bone Springs.

1. The 20 inch surface casing shall be set at **approximately 1352 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. Additional cement may be required because excess cement calculates to only 33%.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
  - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Set at approximately 3720' within the Lamar Limestone below the Castile Formation.**

**Pilot hole to be plugged back with a solid plug from TD to KOP for first lateral. Per procedure, pilot hole will be plugged prior to running 7 inch.**

3. The minimum required fill of cement behind the **7** inch production casing is:

a. First stage to DV tool, cement shall:

- ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool, cement shall:

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

4. The minimum required fill of cement behind the **4-1/2** inch production liners are:

- ☒ No cement required. Using hydraulic packers.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

### **C. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
  - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be **3000 (3M) psi. System is to be a 5M system tested as a 3M.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
  - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

**D. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

**DHW 021110**