

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 EA 5535. Lease Serial No. NM0157566 314
NM-0522-A & NM-0506-A

6. If Indian, Allottee or Tribe Name

1a. Type of work ☒ DRILL ☐ REENTER1b. Type of Well. ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone2 Name of Operator
BOPCO, L. P.3a Address P. O. Box 2760
Midland, TX 797023b. Phone No. (include area code)
432-683-22774. Location of Well (Report location clearly and in accordance with any State requirements.)*
At surface NWSE, UL J, 1695' FSL, 2280' FEL, Lat N32.185589, Long W103.781083
At proposed prod zone 910' FSL, 1425' FEL, Sec 20, T24S, R31E, Lat N32.197939, Lg W103.795406

7 If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
Poker Lake Unit #357H9. API Well No.
30-015-3914310. Field and Pool, or Exploratory
Poker Lake SW (Delaware)11. Sec., T. R. M. or Blk and Survey or Area
Sec 28, T24S, R31E, Mer NMP14 Distance in miles and direction from nearest town or post office*
17 miles east of Malaga, NM12. County or Parish
Eddy County13 State
NM15 Distance from proposed*
location to nearest
property or lease line, ft
(Also to nearest drg unit line, if any)
375'16 No. of acres in lease
280517. Spacing Unit dedicated to this well
32018 Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft
1310'19. Proposed Depth
✓ 14,212' MD, 8107' TVD20. BLM/BIA Bond No. on file
COB00005021 Elevations (Show whether DF, KDB, RT, GL, etc.)
3485' KB, 3466' GL ✓22. Approximate date work will start*
04/10/201123. 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 *Katy Holster*
Title Administrative AssistantName (Printed/Typed)
Katy Holster

Date 2/18/11

Approved by (Signature) */s/ Don Peterson*Name (Printed/Typed) */s/ Don Peterson*

Date MAY 13 2011

Title FIELD MANAGER

Office

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

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on page 2)

RECEIVED

MAY 20 2011

NMOCD ARTESIA

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

CARLSBAD CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

*Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 951' and cement circulated to surface..

7" casing will be set at approximately 8580' MD, 8107' TVD (thru curve) and cemented in two stages with DV Tool set at approximately 5000'. Cement will be circulated to surface.

Production liner will be 4-1/2" with Baker hydraulic packers for zone isolation. Top of 4-1/2" liner will be 150' above 7" casing shoe at an approximate depth of 8430'.

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

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

The surface location 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. COB000050 (Nationwide).

EIGHT POINT DRILLING PROGRAM

BOPCO, L.P.

NAME OF WELL: Poker Lake Unit #357H

LEGAL DESCRIPTION - SURFACE: 1695' FSL, 2280' FEL, Section 28, T24S, R31E, Eddy County, NM.
 BHL: 910' FSL, 1425' FEL, Section 20, T24S, R31E, 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 3485' (estimated)
 GL 3466'

FORMATION	ESTIMATED TOP FROM KB		ESTIMATED SUB-SEA TOP	BEARING
	TVD	MD		
T/Fresh Water	390'	390'	+ 3,095'	Fresh Water
T/Rustler	580'	580'	+ 2,905'	Barren
T/Salt	961'	961'	+ 2,524'	Barren
B/Salt	4,111'	4,111'	- 626'	Barren
T/Lamar	4,330'	4,330'	- 845'	Barren
T/Ramsey	4,360'	4,360'	- 875'	Oil/Gas
T/Lower Cherry Canyon	6,459'	6,459'	- 2,974'	Oil/Gas
KOP	7,628'	7,628'	- 4,143'	Oil/Gas
T/Lwr Brushy Canyon	7,914'	7,934'	- 4,429'	Oil/Gas
T/LBC "Y" Sand	8,077'	8,209'	- 4,592'	Oil/Gas
EOC	8,107'	8,380'	- 4,622'	Oil/Gas
TD Horizontal Hole	8,107'	14,212'	- 4,622'	Oil/Gas

POINT 3: CASING PROGRAM

TYPE	INTERVALS (MD)	Hole Size	PURPOSE	CONDITION
20"	0' - 60'	24"	Conductor	Contractor Discretion
<i>See copy</i> 13-3/8", 48#, H-40, 8rd STC or				
13-3/8", 54.5#, J-55, 8rd, LT&C*	0' - 951' 700	17-1/2"	Surface	New
9-5/8", 40#, J-55, 8rd, LT&C	0' - 4,340'	12-1/4"	Intermediate	New
7", 26#, N-80, Buttress or LT&C	0' - 8,580'	8-3/4"	Production	New
4-1/2", 11.6#, HCP-110, 8rd, LT&C	8430' - 14,212'	6-1/8"	Production	New

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48#, H-40, 8rd, ST&C	8.03	1.55	3.20
13-3/8", 54 5#, J-55, 8rd, LT&C	11.28	2.49	2.87
9-5/8", 40#, J-55, 8rd, LT&C	4.29	1.02	1.64
7", 26#, N-80, Buttress	3.32	1.21	1.60
7", 26#, N-80, 8rd, LTC	2.39	1.08	1.40
4-1/2", 11.6#, HCP-110, 8rd, LT&C	3.44	2.28	1.35

* Depending on availability

DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:

SURFACE CASING - (13-3/8")

Tension	A 1.6 design factor utilizing the effects of buoyancy (9.2 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.3 design factor with a surface pressure equal to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient. The effects of tension on burst will not be utilized.

PROTECTIVE CASING - (9-5/8")

Tension	A 1.6 design factor utilizing the effects of buoyancy (10 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered. In the case of development drilling, collapse design should be analyzed using internal evacuation equal to 1/3 the proposed total depth of the well. This criterion will be used when there is absolutely no potential of the protective string being used as a production casing string.
Burst	A 1.0 surface design factor and a 1.3 downhole design factor with a surface pressure equivalent to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient.

2ND INTERMEDIATE CASING - (7")

Tension	A 1.6 design factor utilizing the effects of buoyancy (9.0 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient. (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized.

PRODUCTION CASING - (4-1/2")

Tension	A 1.6 design factor utilizing the effects of buoyancy (9.0 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient. (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized.

POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM)

The blowout preventer for 12-1/4" intermediate hole will consist of 13-5/8" X 5000 psi dual ram BOP's with mud cross, choke manifold, chokes, and hydril per Diagram 1 (5000 psi WP). The BOP stack, 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 BOPE when rigged up on the 9-5/8" intermediate casing spool will consist of 13-5/8" x 5000 psi annular, pipe & blind rams with choke manifold and chokes as in Diagram 1 and 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 2500 psig.

The BOPE when rigged up on the 7" intermediate casing spool will consist of 13-5/8" x 5000 psi annular, pipe & blind rams with choke manifold and chokes as in Diagram 1 and 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 2500 psig.

These tests will be performed:

- a) Upon installation
- b) After any component changes
- c) 30 days after a previous test
- d) As required by well conditions

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

POINT 5: MUD PROGRAM

DEPTH <i>70'</i>	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0' - <i>951'</i>	FW Spud Mud	8.5 - 9.2	38-70	NC	NC	NC	10.0
<i>951'</i> - 4,340'	Brine Water	9.8 - 10.2	28-30	NC	NC	NC	9.5 - 10.5
4340' - 8,580'	FW/Gel	8.7 - 9.0	28-36	NC	NC	NC	9.5 - 10.0
8,580' - 14,212'	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.

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 – 651' (100% excess Circ to surface)	500	651	Class "C" 35/65+6% gel +3pps star-seal+.04% FL10+0.25% R-38+5% salt	9.95	12.8	1.91
Tail: 651' – 951' (100% excess)	325	300	Class "C" + 2% CaCl ₂ +3lb star-seal+0.25% R-38	6.12	14.8	1.36
1ST INTERMEDIATE:						
Lead: 0' – 3,840' (100% excess Circ to surface)	1,270	3,840	Class "C" 35/65+6% gel +3pps star-seal+.04% FL10+0.25% R-38+5% salt	9.95	12.8	1.91
Tail: 3,840' – 4,340' (100% excess)	250	500	Class "C" + 2% CaCl ₂ + 0.25% R-38	6.34	14.8	1.35
2ND INTERMEDIATE						
Stage 1:						
Lead: 5,000' – 7,630' (50% excess)	250	2,630	RSS Micro+.5% FMS+ 0.3% FL10+0.8% C-12 +3pps Gilsonite+0.25 R-38	10.09	10.5	2.41
Tail: 7,630'-8,580' (50% excess)	170	950	RSS Micro+0.2% C-37+ 0.2%+C-12+0.2% FL10+ +0.25% R-38	7.03	13.0	1.38
DV Tool @ 5,000'						
Stage 2:						
Lead: 0' – 4,900' (50% excess) (TOC 500' into 9-5/8")	500	4,900	RSS Micro+35% FMS+ 0.5% C-12+3pps Gilsonite +0.5% R-38	10.16	10.5	2.42
Tail: 4,900'-5,000' (50% excess)	50	100	Cass "C" + 0.20% R-38	6.31	14.8	1.33

E) DIRECTIONAL DRILLING

BOPCO, L.P. plans to drill out the 9-5/8" intermediate casing with a 8-3/4" bit to a TVD of approximately 7,628' at which depth a directional hole will be kicked off and drilled at an azimuth of 315.11 degrees, building angle at 12 deg/ 100' to 90 degrees at a TVD of 8107' (MD 8380'). This angle and azimuth will be maintained for 200' to a measured depth of 8580' (8107' TVD). At this depth 7", 26#, N80, Buttress, or 7", 26#, N-80, 8rd LT&C casing will be installed and cemented in two stages (DV Tool @ approximately 5000') with TOC at least 500' into 9-5/8" intermediate. A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 315.11 degrees, inclination of 90 degrees to a measured depth of 14,212', TVD 8107'. At this depth 4-1/2", 11.6#, HCP110, 8rd, LTC casing will be installed with Baker hydraulic packers installed for zone isolation in the lateral. Top of 4-1/2" liner will be 150' above 7" casing shoe.

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

5

Normal pressures are anticipated throughout Delaware section. A BHP of 3,541 psi (max) or MWE of 8.4 ppg is expected. Lost circulation may exist in the Delaware Section from 4,360'-8,107' TVD. No H₂S is anticipated.

POINT 8: OTHER PERTINENT INFORMATION

A) Auxiliary Equipment

Upper and lower kelly cocks. Full opening stab in valve on the rig floor.

B) Anticipated Starting Date

Upon approval

30 days drilling operations

14 days completion operations

SMM/keh



Weatherford®

Drilling Services

Proposal

BOPCO, L.P.

POKER LAKE UNIT #357H

EDDY CO NM

WELL FILE: **PLAN 1**

DECEMBER 29, 2010

Weatherford International, Ltd

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+1 432 561 8895 Fax
www.weatherford.com

BOPCO, L.P.

Poker Lake Unit 357H Eddy Co, NM

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	7914.00	7934.27	Lower Brushy Canyon
2	8077.00	8209.38	LBC "Y" Sand

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	315.11	0.00	0.00	0.00	0.00	0.00	0.00	
2	7629.54	0.00	315.11	7629.54	0.00	0.00	0.00	0.00	0.00	
3	8379.54	90.00	315.11	8107.00	338.26	-336.98	12.00	315.11	477.46	
4	14212.45	90.00	315.11	8107.00	4470.56	-4453.64	0.00	0.00	6310.38	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Poker Lake Unit 357H	0.00	0.00	431675.83	670850.17	32°11'08.118N	103°46'51.898W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	8107.00	4470.56	-4453.65	436146.39	666396.53	Point

FIELD DETAILS

Eddy County, NM (Nad 27)

Geodetic System: US State Plane Coordinate System 1927
Ellipsoid: NAD27 (Clarke 1866)
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010

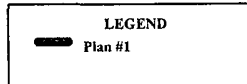
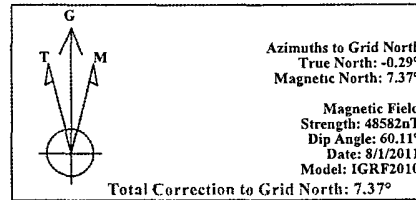
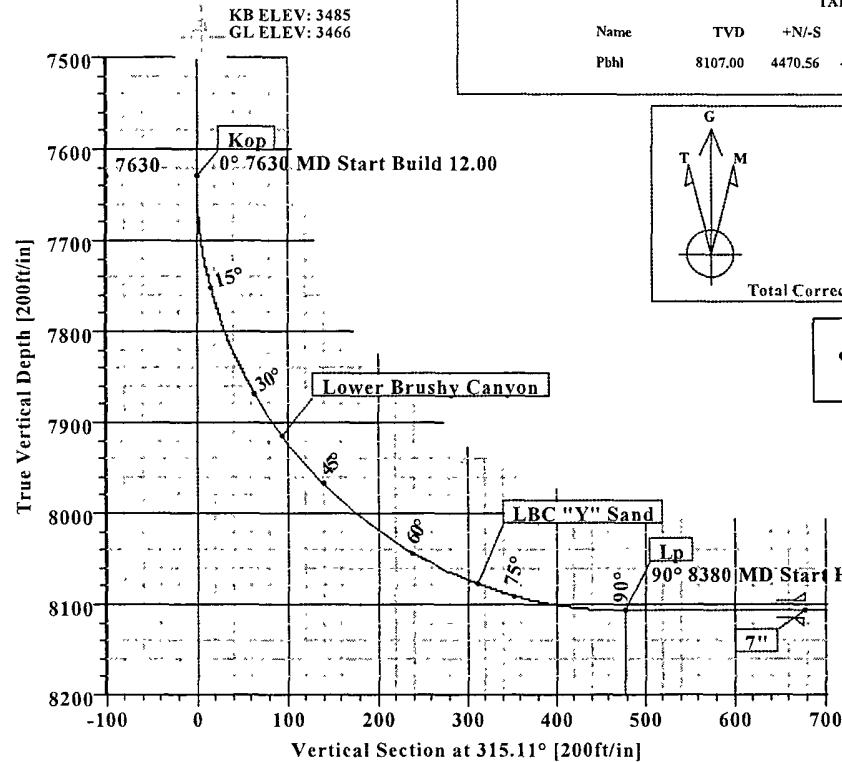
System Datum: Mean Sea Level
Local North: Grid North

SITE DETAILS

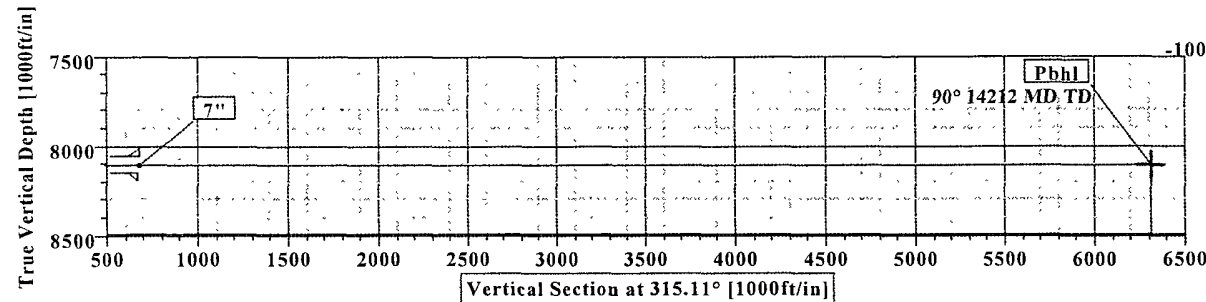
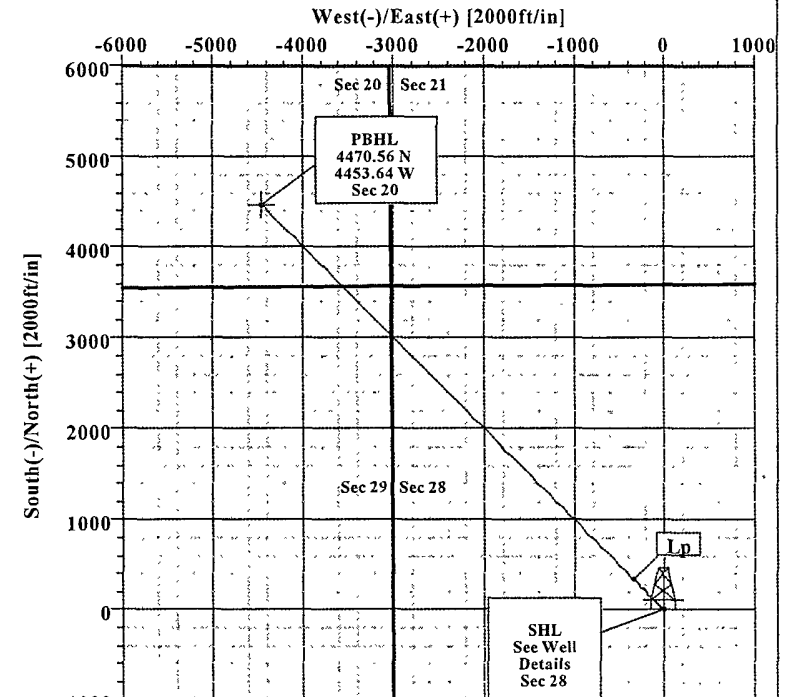
Poker Lake Unit 357H

Site Centre Northing: 431675.83
Easting: 670850.17

Ground Level: 3466.00
Positional Uncertainty: 0.00
Convergence: 0.29



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Plan: Plan #1 (Poker Lake Unit 357H/1)

Created By: Russell W. Joyner

Date: 12/29/2010

Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: BOPCO, L.P. Date: 12/29/2010 Time: 14:35:09 Page: 1
 Field: Eddy County, NM (Nad 27) Co-ordinate(NE) Reference: Well: Poker Lake Unit 357H, Grid North
 Site: Poker Lake Unit 357H Vertical (TVD) Reference: SITE 3485.0
 Well: Poker Lake Unit 357H Section (VS) Reference: Well (0.00N,0.00E,315.11Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Plan: Plan #1 Date Composed: 12/29/2010
 Principal: Yes Version: 1
 Tied-to: From Surface

Field: Eddy County, NM (Nad 27)

Map System: US State Plane Coordinate System 1927 Map Zone: New Mexico, Eastern Zone
 Geo Datum: NAD27 (Clarke 1866) Coordinate System: Well Centre
 Sys Datum: Mean Sea Level Geomagnetic Model: IGRF2010

Site: Poker Lake Unit 357H

Site Position: Northing: 431675.83 ft Latitude: 32 11 8.118 N
 From: Map Easting: 670850.17 ft Longitude: 103 46 51.898 W
 Position Uncertainty: 0 00 ft North Reference: Grid
 Ground Level: 3466 00 ft Grid Convergence: 0.29 deg

Well: Poker Lake Unit 357H Slot Name:
 Well Position: +N/-S 0 00 ft Northing: 431675.83 ft Latitude: 32 11 8.118 N
 +E/-W 0 00 ft Easting: 670850.17 ft Longitude: 103 46 51.898 W
 Position Uncertainty: 0 00 ft

Wellpath: 1 Drilled From: Surface
 Current Datum: SITE Tie-on Depth: 0.00 ft
 Magnetic Data: 8/1/2011 Height 3485.00 ft Above System Datum: Mean Sea Level
 Field Strength: 48582 nT Declination: 7.66 deg
 Vertical Section: Depth From (TVD) +N/-S Mag Dip Angle: 60.11 deg
 ft ft ft Direction deg
 0 00 0.00 0 00 315.11

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	315.11	0 00	0.00	0.00	0.00	0.00	0.00	0.00	
7629.54	0.00	315.11	7629.54	0.00	0.00	0.00	0.00	0.00	0.00	
8379.54	90.00	315.11	8107.00	338.26	-336.98	12.00	12.00	0.00	315.11	
14212.45	90.00	315.11	8107.00	4470.56	-4453.64	0.00	0.00	0.00	0.00	Pbhl

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
7600.00	0 00	315.11	7600.00	0 00	0 00	0 00	0 00	431675.83	670850.17	
7629.54	0 00	315.11	7629.54	0 00	0 00	0 00	0 00	431675.83	670850.17	Kop
7700.00	8 46	315.11	7699.74	3.68	-3.66	5.19	12.00	431679.51	670846.51	
7800.00	20.46	315.11	7796.40	21.33	-21.25	30.11	12.00	431697.16	670828.92	
7900.00	32.46	315.11	7885.77	52.83	-52.63	74.58	12.00	431728.67	670797.54	
7934.27	36.57	315.11	7914.00	66.59	-66.34	93.99	12.00	431742.42	670783.84	Lower Brushy Canyo
8000.00	44.46	315.11	7963.93	96.81	-96.45	136.65	12.00	431772.65	670753.72	
8100.00	56.46	315.11	8027.48	151.34	-150.77	213.63	12.00	431827.18	670699.40	
8200.00	68.46	315.11	8073.64	214.04	-213.23	302.13	12.00	431889.88	670636.94	
8209.38	69.58	315.11	8077.00	220.25	-219.41	310.89	12.00	431896.08	670630.76	LBC "Y" Sand
8300.00	80.46	315.11	8100.39	282.17	-281.10	398.30	12.00	431958.00	670569.07	
8379.54	90.00	315.11	8107.00	338.26	-336.98	477.46	12.00	432014.09	670513.19	Lp
8400.00	90.00	315.11	8107.00	352.76	-351.42	497.93	0.00	432028.59	670498.75	
8500.00	90.00	315.11	8107.00	423.60	-422.00	597.93	0.00	432099.43	670428.17	
8579.54	90.00	315.11	8107.00	479.95	-478.13	677.47	0.00	432155.78	670372.04	7"
8600.00	90.00	315.11	8107.00	494.45	-492.57	697.93	0 00	432170.28	670357.60	
8700.00	90.00	315.11	8107.00	565.29	-563.15	797.93	0.00	432241.12	670287.02	

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WFT Plan Report - X & Y's



Weatherford

Company: BOPCO, L.P.	Date: 12/29/2010	Time: 14:35:09	Page: 2
Field: Eddy County, NM (Nad-27)	Co-ordinate(NE) Reference:	Well: Poker Lake Unit 357H; Grid North	
Site: Poker Lake Unit 357H	Vertical (TVD) Reference:	SITE 3485.0	
Well: Poker Lake Unit 357H	Section (VS) Reference:	Well (0.00N,0.00E,315.11Azi)	
Wellpath: 1	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
8800.00	90.00	315.11	8107.00	636.13	-633.73	897.93	0.00	432311.97	670216.44	
8900.00	90.00	315.11	8107.00	706.98	-704.30	997.93	0.00	432382.81	670145.87	
9000.00	90.00	315.11	8107.00	777.82	-774.88	1097.93	0.00	432453.66	670075.29	
9100.00	90.00	315.11	8107.00	848.67	-845.46	1197.93	0.00	432524.50	670004.71	
9200.00	90.00	315.11	8107.00	919.51	-916.03	1297.93	0.00	432595.35	669934.14	
9300.00	90.00	315.11	8107.00	990.36	-986.61	1397.93	0.00	432666.19	669863.56	
9400.00	90.00	315.11	8107.00	1061.20	-1057.19	1497.93	0.00	432737.04	669792.98	
9500.00	90.00	315.11	8107.00	1132.05	-1127.76	1597.93	0.00	432807.88	669722.41	
9600.00	90.00	315.11	8107.00	1202.89	-1198.34	1697.93	0.00	432878.72	669651.83	
9700.00	90.00	315.11	8107.00	1273.74	-1268.92	1797.93	0.00	432949.57	669581.25	
9800.00	90.00	315.11	8107.00	1344.58	-1339.49	1897.93	0.00	433020.41	669510.68	
9900.00	90.00	315.11	8107.00	1415.43	-1410.07	1997.93	0.00	433091.26	669440.10	
10000.00	90.00	315.11	8107.00	1486.27	-1480.65	2097.93	0.00	433162.10	669369.53	
10100.00	90.00	315.11	8107.00	1557.11	-1551.22	2197.93	0.00	433232.95	669298.95	
10200.00	90.00	315.11	8107.00	1627.96	-1621.80	2297.93	0.00	433303.79	669228.37	
10300.00	90.00	315.11	8107.00	1698.80	-1692.38	2397.93	0.00	433374.64	669157.80	
10400.00	90.00	315.11	8107.00	1769.65	-1762.95	2497.93	0.00	433445.48	669087.22	
10500.00	90.00	315.11	8107.00	1840.49	-1833.53	2597.93	0.00	433516.33	669016.64	
10600.00	90.00	315.11	8107.00	1911.34	-1904.10	2697.93	0.00	433587.17	668946.07	
10700.00	90.00	315.11	8107.00	1982.18	-1974.68	2797.93	0.00	433658.01	668875.49	
10800.00	90.00	315.11	8107.00	2053.03	-2045.26	2897.93	0.00	433728.86	668804.91	
10900.00	90.00	315.11	8107.00	2123.87	-2115.83	2997.93	0.00	433799.70	668734.34	
11000.00	90.00	315.11	8107.00	2194.72	-2186.41	3097.93	0.00	433870.55	668663.76	
11100.00	90.00	315.11	8107.00	2265.56	-2256.99	3197.93	0.00	433941.39	668593.18	
11200.00	90.00	315.11	8107.00	2336.40	-2327.56	3297.93	0.00	434012.24	668522.61	
11300.00	90.00	315.11	8107.00	2407.25	-2398.14	3397.93	0.00	434083.08	668452.03	
11400.00	90.00	315.11	8107.00	2478.09	-2468.72	3497.93	0.00	434153.93	668381.45	
11500.00	90.00	315.11	8107.00	2548.94	-2539.29	3597.93	0.00	434224.77	668310.88	
11600.00	90.00	315.11	8107.00	2619.78	-2609.87	3697.93	0.00	434295.62	668240.30	
11700.00	90.00	315.11	8107.00	2690.63	-2680.45	3797.93	0.00	434366.46	668169.72	
11800.00	90.00	315.11	8107.00	2761.47	-2751.02	3897.93	0.00	434437.31	668099.15	
11900.00	90.00	315.11	8107.00	2832.32	-2821.60	3997.93	0.00	434508.15	668028.57	
12000.00	90.00	315.11	8107.00	2903.16	-2892.18	4097.93	0.00	434578.99	667957.99	
12100.00	90.00	315.11	8107.00	2974.01	-2962.75	4197.93	0.00	434649.84	667887.42	
12200.00	90.00	315.11	8107.00	3044.85	-3033.33	4297.93	0.00	434720.68	667816.84	
12300.00	90.00	315.11	8107.00	3115.70	-3103.91	4397.93	0.00	434791.53	667746.27	
12400.00	90.00	315.11	8107.00	3186.54	-3174.48	4497.93	0.00	434862.37	667675.69	
12500.00	90.00	315.11	8107.00	3257.38	-3245.06	4597.93	0.00	434933.22	667605.11	
12600.00	90.00	315.11	8107.00	3328.23	-3315.64	4697.93	0.00	435004.06	667534.54	
12700.00	90.00	315.11	8107.00	3399.07	-3386.21	4797.93	0.00	435074.91	667463.96	
12800.00	90.00	315.11	8107.00	3469.92	-3456.79	4897.93	0.00	435145.75	667393.38	
12900.00	90.00	315.11	8107.00	3540.76	-3527.36	4997.93	0.00	435216.60	667322.81	
13000.00	90.00	315.11	8107.00	3611.61	-3597.94	5097.93	0.00	435287.44	667252.23	
13100.00	90.00	315.11	8107.00	3682.45	-3668.52	5197.93	0.00	435358.28	667181.65	
13200.00	90.00	315.11	8107.00	3753.30	-3739.09	5297.93	0.00	435429.13	667111.08	
13300.00	90.00	315.11	8107.00	3824.14	-3809.67	5397.93	0.00	435499.97	667040.50	
13400.00	90.00	315.11	8107.00	3894.99	-3880.25	5497.93	0.00	435570.82	666969.92	
13500.00	90.00	315.11	8107.00	3965.83	-3950.82	5597.93	0.00	435641.66	666899.35	
13600.00	90.00	315.11	8107.00	4036.67	-4021.40	5697.93	0.00	435712.51	666828.77	
13700.00	90.00	315.11	8107.00	4107.52	-4091.98	5797.93	0.00	435783.35	666758.19	
13800.00	90.00	315.11	8107.00	4178.36	-4162.55	5897.93	0.00	435854.20	666687.62	
13900.00	90.00	315.11	8107.00	4249.21	-4233.13	5997.93	0.00	435925.04	666617.04	
14000.00	90.00	315.11	8107.00	4320.05	-4303.71	6097.93	0.00	435995.89	666546.46	

Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: BOPCO, L.P. Date: 12/29/2010 Time: 14:35:09 Page: 3
 Field: Eddy County, NM (Nad 27) Co-ordinate(NE) Reference: Well: Poker Lake Unit 357H Grid North
 Site: Poker Lake Unit 357H Vertical (TVD) Reference: SITE 3485.0
 Well: Poker Lake Unit 357H Section (VS) Reference: Well (0.00N,0.00E,315.11Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
14100.00	90.00	315.11	8107.00	4390.90	-4374.28	6197.93	0.00	436066.73	666475.89	
14200.00	90.00	315.11	8107.00	4461.74	-4444.86	6297.93	0.00	436137.58	666405.31	
14212.45	90.00	315.11	8107.00	4470.56	-4453.64	6310.38	0.00	436146.39	666396.53	Pbhl

Targets

Name	Description Dip	Dir	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	Latitude Deg Min Sec	Longitude Deg Min Sec
Pbhl			8107.00	4470.56	-4453.65	436146.39	666396.53	32 11 52.582 N	103 47 43.461 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
4200.00	4200.00	9.625	12.250	9 5/8"
8579.54	8107.00	7.000	8.750	7"

Annotation

MD ft	TVD ft	
7629.54	7629.54	Kop
8379.54	8107.00	Lp
14212.44	8107.00	Pbhl

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
7934.27	7914.00	Lower Brushy Canyon		0.00	0.00
8209.38	8077.00	LBC "Y" Sand		0.00	0.00

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

GeoDec v5.03

Report Date: December 29, 2010
Job Number: _____
Customer: BOPCO
Well Name: Poker Lake Unit #357H
API Number: _____
Rig Name: _____
Location: Eddy Co, NM
Block: _____
Engineer: RWJ

US State Plane 1927	Geodetic Latitude / Longitude
System: New Mexico East 3001 (NON-EXACT)	System: Latitude / Longitude
Projection: SPC27 Transverse Mercator	Projection: Geodetic Latitude and Longitude
Datum: NAD 1927 (NADCON CONUS)	Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866	Ellipsoid: Clarke 1866
North/South 431675.830 USFT	Latitude 32.1855882 DEG
East/West 670850.170 USFT	Longitude -103.7810828 DEG
Grid Convergence: .29°	

Total Correction: +7.38°

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.18559° N	32° 11 min 8.118 sec
Longitude =	103.78108° W	103° 46 min 51.898 sec

Magnetic Declination =	7.67°	[True North Offset]
Local Gravity =	.9988 g	Checksum = 6579
Local Field Strength =	48579 nT	Magnetic Vector X = 23991 nT
Magnetic Dip =	60.11°	Magnetic Vector Y = 3229 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z = 42118 nT
Spud Date =	Aug 01, 2011	Magnetic Vector H = 24207 nT

Signed: _____

Date: _____

