ATS-10-237

#### OCD-ARTESIA

Form 3160-3 (April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR

RECEIVED
FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007
EA 349

BUREAU OF LAND MAI	The state of the s	CU AF	TESHASION N	M-0532A NM/38/1457	
APPLICATION FOR PERMIT TO			6 If Indian, Allotee	or Tribe Name	
la. Type of work.  DRILL  REENT	TER		7 If Unit or CA Agre	ement, Name and No	
lb. Type of Well Oil Well Gas Well Other	Single Zone Multi	ple Zone	8 Lease Name and V Poker Lake Ui		
Name of Operator BOPCO, L. P.			9 API Well No.	5-37646	
Address P. O. Box 2760 Midland, TX 79702	3b Phone No. (include area code) 432-683-2277		10 Field and Pool, or I		
At surface SWNE, UL N, 1264' FSL, 2310' FV At proposed prod zone 660' FNL, 2310'FWL, Sec 5, T25S,	WL, Lat N32.155642, Long W10.		11 Sec , T R M or B Sec 4, T25S, R.	lk and Survey or Area	
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	
5 Distance from proposed* (ocation to nearest property or lease line, ft (Also to nearest drig unit line, if any)	16 No of acres in lease	17 Spacin	ing Unit dedicated to this well		
8 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft  3499'	19 Proposed Depth 14,265' MD 8,050' TVD	COB000050			
Elevations (Show whether DF, KDB, RT, GL, etc.) 3411' GL	22 Approximate date work will sta 08/01/2010	art*	23 Estimated duration 30 days	1	
	24. Attachments				
the following, completed in accordance with the requirements of Onshowell plat certified by a registered surveyor.  A Drilling Plan  A Surface Use Plan (if the location is on National Forest System SUPO shall be filed with the appropriate Forest Service Office)	4 Bond to cover ltem 20 above) Lands, the 5 Operator certifi	the operation		existing bond on file (see	
5 Signature Childre	Name (Printed/Typed)  Annette Childers			1-21-2010	
itle Regulatory Clerk					
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)			Pate FEB 2 3 2010	
FIELD MANAGER	CARLSE	AD F	IELD OFFIC	CE	
Application approval does not warrant or certify that the applicant hole conduct operations thereon. Conditions of approval, if any, are attached	ds legal or equitable title to those rig.		oject lease which would e	• •	

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

NVZ

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED DISTRICT I \_ '1625 N. French Dr., Hobbs, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102 Revised October 15, 2009

Submit one copy to appropriate

#### 1625 N. French Dr., Hobbs, NM 88240 DISTRICT II 1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III

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

ON

1000 Rio Brazos Rd., Aztec, NM 87410 DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87605

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

District Office

API Number	Pool Code 2 9/ Pollar La La Pool Name	
30-015-37646	96757 303% Cotton Draw S. (Delaware) South	1
Property Code	Property Name	Well Number
306402	POKER LAKE UNIT	303H
OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3411'

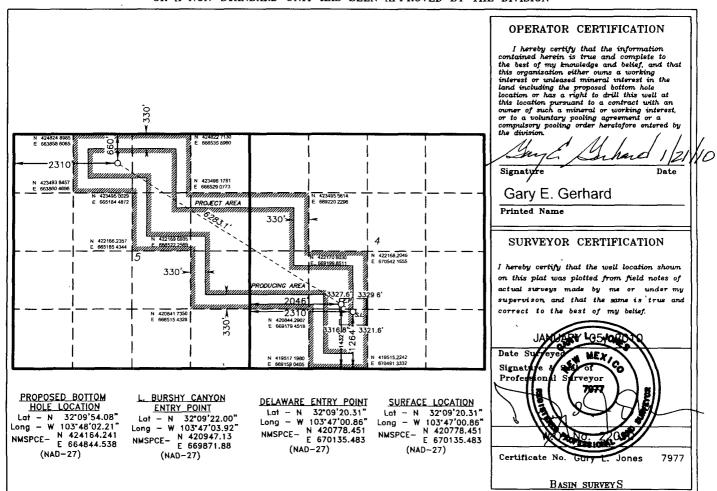
#### Surface Location

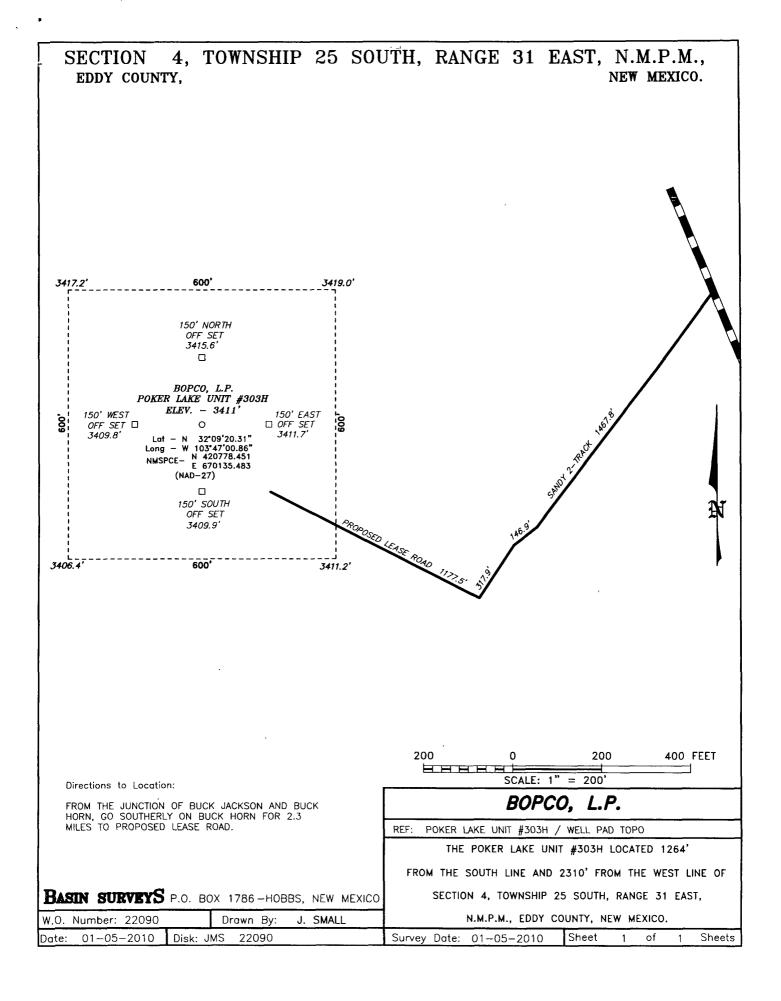
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	4	25 S	31 E		1264	SOUTH	2310	WEST	EDDY

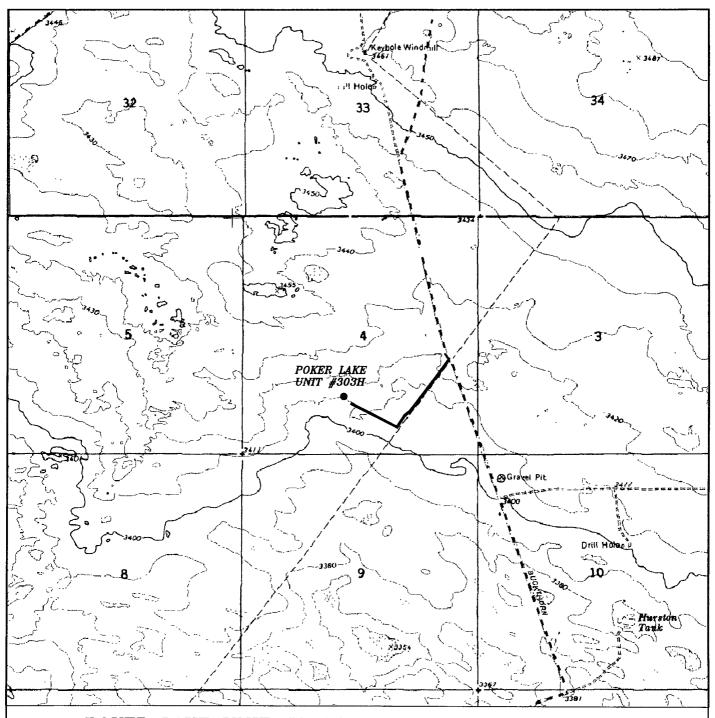
#### Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
С	5	25 S	31 E		660	NORTH	2310	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







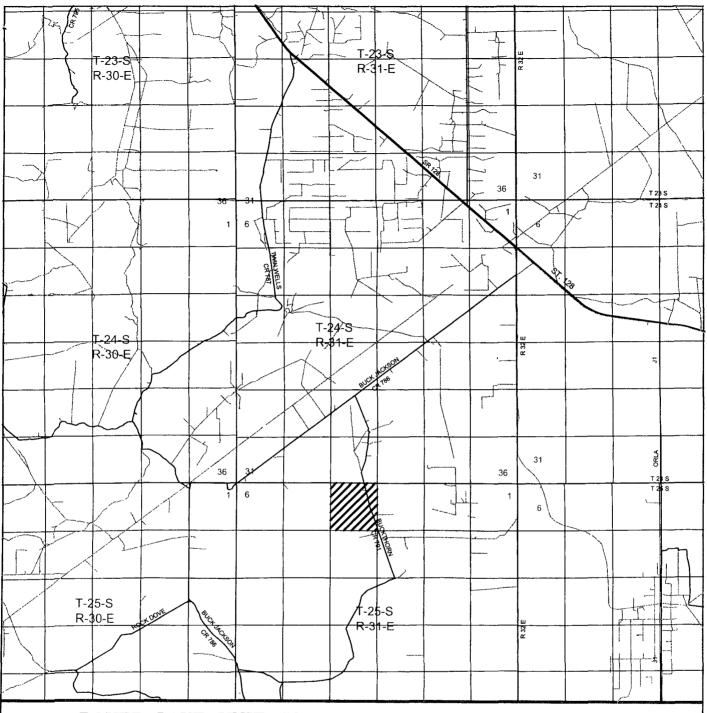
POKER LAKE UNIT #303H Located 1264' FSL and 2310' FWL Section 4, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico.



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

W.O. Number:	JMS	22090
Survey Date:	01-0	05-2010
Scale: 1" = 2	000'	
Date: 01-05-	-2010	

BOPCO, L.P.



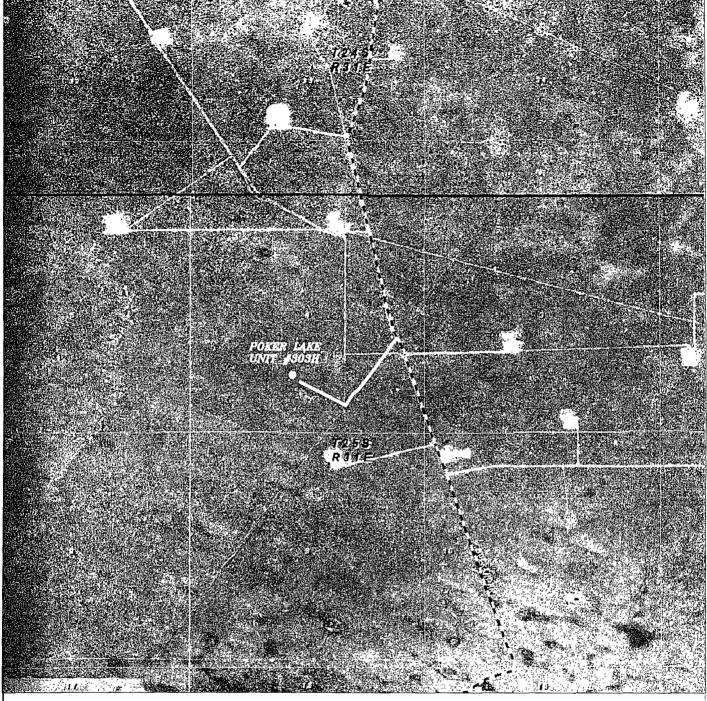
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W.O. Number. JMS 22090	
Survey Date: 01-05-2010	֓֞֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֟֓֓֓֓֓֓֡֡֡֡֡֓֓֓֡֡֡֡֡֡֓֓֡
Scale: 1" = 2 Miles	<b>ו</b>
Date: 01-05-2010	

BOPCO, L.P.



POKER LAKE UNIT #303H Located 1264' FSL and 2310' FWL Section 4, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico.



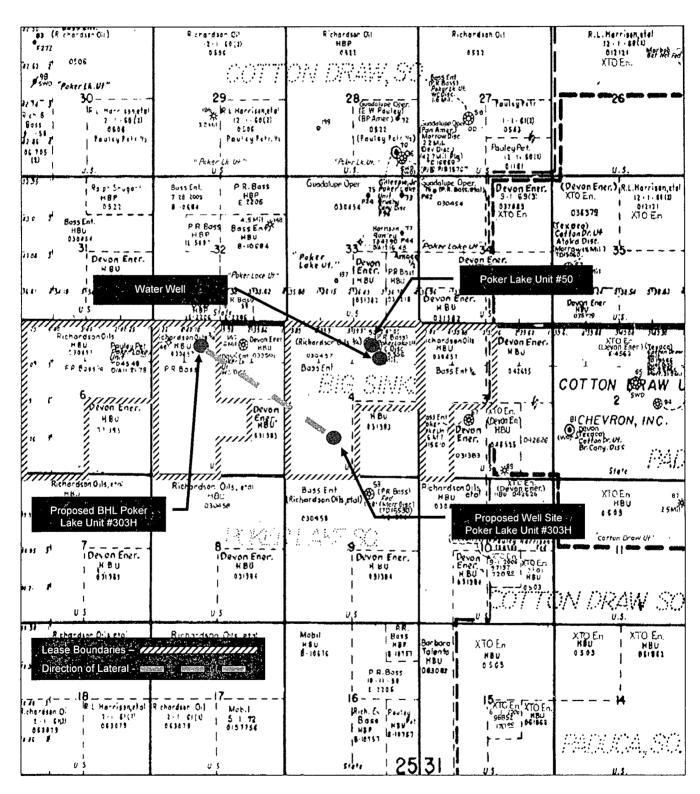
9.0 Bbx 1786 1100 N West County Rd Hoobs, NeW Mexico 88241 (\$75) 391-7316 - Office (\$75) 392-2206 - Fox Ecsinsurveys com WIO Number JMS 22090

Scale 1" = 3000'

YELLOW FINT — USA LAND BLUE TINT — STATE LAND NATURAL COLOR — FEE LAND BOPCO, L.P.

### Poker Lake Unit #303H Exhibit "A"





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

7" casing will be set at approximately 8374' (thru curve) and cemented in two stages with DV Tool set at approximately 5000'. Cement will be circulated 500' up into the 9-5/8" casing.

Production liner will be 4-1/2" run, with Baker hydraulic packers for zone isolation. Top of 4-1/2" liner will be approximately 200' above KOP (7370').

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 is unorthodox. Bottom hole 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 #303H

LEGAL DESCRIPTION - SURFACE: 1264' FSL, 2310' FWL, Section 4, T25S, R31E, Eddy County, NM.

BHL: 660' FNL, 2310' FWL, Section 5, T25S, 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 3430' (estimated)

GL 3411'

ESTIMATED								
	<u>TOP FROM KB</u> ESTIMATED							
<u>FORMATION</u>	TVD	_MD_	SUB-SEA TOP	BEARING				
T/Rustler	450'	450'	+ 2,980'	Barren				
B/Rustler	885'	885'	+ 2,545'	Barren				
T/Salt	910'	910'	+ 2,520'	Barren				
B/Salt	4,070'	4,070'	- 640'	Barren				
T/Delaware Mtn.Grp	4,290'	4,290'	- 860'	Barren				
T/Bell Canyon	4,325'	4,325'	- 895'	Oil/Gas				
T/Lower Brushy Canyon	7,928'	7,928'	- 4,498'	Oil/Gas				
T/"W" Sand	8,020'	8,020'	- 4,590'	Oil/Gas				
T/"Y" Sand	8,090'	8,090'	- 4,660'	Oil/Gas				
T/Bone Spring Lime	8,198'	8,198'	- 4,768'	Oil/Gas				
T/Avalon Sand	8,277'	8,277'	- 4,847'	Oil/Gas				
B/Avalon Sand	8,290'	8,290'	- 4,860'	Oil/Gas				
TD (Pilot Hole)	8,390'	8,390'	- 4,960'	Oil/Gas				
KOP	7,570'	7,570'	- 4,140'	Oil/Gas				
EOC "W" Target	8,050'	8,324'	- 4,620'	Oil/Gas				
TD Horizontal Hole "W" Sand	8,050'	14,265'	- 4,620'	Oil/Gas				

#### **POINT 3: CASING PROGRAM**

TYPE	INTERVALS (MD)	Hole Size	<b>PURPOSE</b>	CONDITION
20"	0'- 60'	24"	Conductor	Contractor Discretion
13-3/8", 48#, H-40, 8rd, ST&C	0' - 900'	17-1/2"	Surface	New
9-5/8", 36#, J-55, 8rd, LT&C	0' - 4310'	12-1/4"	Intermediate	New
7", 26#, N-80, 8rd, LT&C	0' - 8374'	8/3/4"	Production	New
4-1/2", 11.6#, HCP-110, UFJT	7,370' - 8374'	6-1/8"	Production	New
4-1/2", 11 6#, HCP-110, 8rd, LT&C	8,374' - 14,265'	6-1/8"	Production	New

#### **CASING DESIGN SAFETY FACTORS:**

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48#, H-40, 8rd, ST&C	8.67	1.76	1 96
9-5/8", 36#, J-55, 8rd, LT&C	3.56	1 09	1 08
7", 26#, N-80, LT&C	3.33	2.07	3 16
4-1/2", 11.6#, HCP-110, UFJT	2.87	1 17	2 30
4-1/2", 11.6#, HCP-110, 8rd, LT&C	2.87	1.17	2 30

#### **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 a 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 (9.0 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 (3529 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 equipment will be as shown in Diagram #2 and will consist of a double ram type preventer (5000 psi WP) and a bag type (Hydril) annular preventer (5000 psi WP). The same BOPE will be installed on the surface casinghead and on all subsequent casing strings. The BOP stack, chokes, kill lines, upper and lower kelly cocks, inside BOP, choke manifold when installed on the surface casinghead will be hydro-tested to 200 psig & 2000 psig by a independent tester. The BOP stack, chokes, kill lines, upper and lower kelly cocks, inside BOP, choke manifold, when rigged up on the intermediate casing spool will be tested to 3000 psig by independent tester. (hydril to 2500 psig) In addition to the high pressure test, a low pressure (250 psig) test will be required.

#### POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM) - con't...

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**

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	_Ph
0' - 900'	FW Spud Mud	8.5 - 9.2	38-70	NC	NC	NC	10.0
900' - 4310'	Brine Water	9.8 - 10.2	28-30	NC	NC	NC	9.5 - 10.5
4310' - 8374'	FW/Gel	8.7 - 9.0	28-36	NC	NC	NC	9.5 - 10.0
8374' - 14,265'	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

see COA

A) TESTING

None anticipated.

#### B) LOGGING

Run #1: PEX (GR-CNL/LDT-AIT) from TD of pilot hole (approx 8,390') to base of intermediate casing (est) 4,310'. GR/NL will be left on from 4310' to surface. (BLM rules)

Run #2: GR with MWD during drilling of build and horizontal portions of 8-3/4" and 6-1/8" hole.

Run #3: Shuttle log w/GR, PE, Density, Neutron, Resistivity in lateral leg open hole (lateral).

#### C) CONVENTIONAL CORING

None anticipated.

#### D) CEMENT

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	PPG	FT <sup>3</sup> /SX
SURFACE: Lead. 0 – 600' (100% excess Circ to surface)	500	600	Class "C" + 4% Extender + 2% CaCl <sub>2</sub>	9.15	13.50	1.74
Tail. 600' – 900' (100% excess)	330	300	Class "C" + 2% CaCl <sub>2</sub>	6 35	14.80	1.34

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

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	<u>PPG</u>	FT <sup>3</sup> /SX
INTERMEDIATE: Lead: 0' – 3810' (100% excess Circ to surface)	1050	3810	35/65 Poz + 5% NaCl + 0.20% Anti Foam + 6%+ Extender + 0.125 lb/sk Lost circulation material	11.44	12.60	2.08
Tail: 3810' – 4310' (100% excess)	300	500	Class "C" cement	6.36	14.8	1.33
2 <sup>ND</sup> INTERMEDIATE Stage 1: Lead: 5000' - 8374' (50% excess)	360	3374	Lite CRETE + 3 lb/sk extender + 0.20% Anti Foam + 0.30% Retarder + 0.30% Dispersant	7.48	10.20	2.18
Stage 2: Lead: 3810' – 4900' (50% excess) (TOC 500' into 9-5/8'	150	1090	35/65 Poz + 5% NaCl + 0.60% Extender + 0 20% Anti Foam	10 92	12.60	1.98
Tail· 4900'-5000' (50% excess)	50	100	Cass "C" + 0.20% Retarder	6.35	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 8390' at which point open-hole logs will be run. The 8-3/4" hole will be plugged back to approximately 7320'. At this depth a 8-3/4" directional hole will be initiated at an azimuth of 302.62', building angle at 12.00°/100' to a max of 90° at a TVD of 8050' (MD 8324'). At this depth 7" casing will be installed and TOC circulated 500' up into the 9-5/8" casing. A 6-1/8" open hole will be drilled thru the lateral to a MD of 14,265' (TVD 8050') 4-1/2" casing will be installed in the lateral using Baker Hydraulic packers to isolated pay intervals in the "W" Sand.

#### POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout Delaware section. A BHP of 3581 psi (max) or MWE of 8.4 ppg is expected. Lost circulation may exist in the Delaware Section from 4290'-8198' TVD. No  $H_2S$  is anticipated.

#### **POINT 8: OTHER PERTINENT INFORMATION**

#### A) Auxiliary Equipment

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

#### POINT 8: OTHER PERTINENT INFORMATION - con't...

B) Anticipated Starting Date

Upon approval

30 days drilling operations

14 days completion operations

GEG/mac January 19, 2010 Gary E. Gerhard



### BOPCO, L.P.

Location Eddy County, NM Field (PLU) Sec 4, T25S, R31E Poker Lake Unit No 303H

No 303H SHL Well No 303H Wellbore No 303H PWB



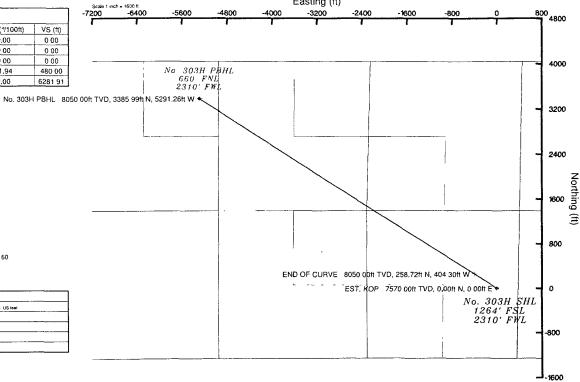
Well Profile Data											
Design Comment	MD (ft)	Inc (°)	Az (")	TVD (ft)	Local N (ft)	Local E (ft)	DLS (%100ft)	VS (ft)			
Tie On	0.00	0.000	302 616	0 00	0 00	0 00	0.00	0.00			
Tie On	7500 00	0 000	302 616	7500 00	0 00	0.00	0 00	0 00			
EST KOP	7570 00	0 000	302 616	7570 00	0 00	0.00	0 00	0.00			
END OF CURVE	8323 98	90 000	302.616	8050 00	258 72	-404 30	11,94	480 00			
No 303H PBHL	14125 89	90,000	302,616	8050.00	3385 99	-5291.26	0.00	6281 91			



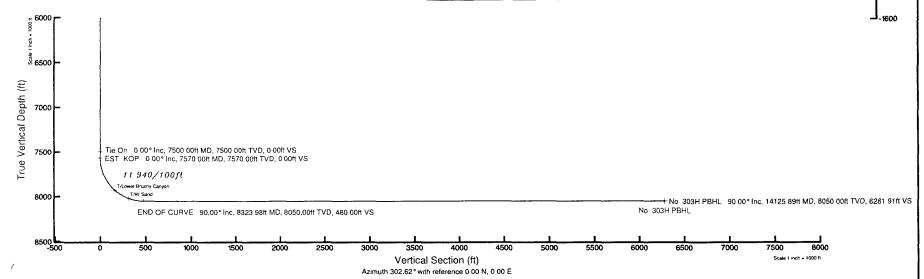
BGGM (1945 0 to 2011 0) Dip 60 13° Field 48751 7 nT Magnetic North is 7 89 degrees East of True North (at 1/12/2010) Grd North is 0.29 degrees East of True North To correct azimuth from True to Gnd subtract 0.29 degrees

To correct azimuth from Magnetic to Grid add 7.60 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7 60 = 97 60

Plot reference wellpatn is Prelim_1	
True vertical depths are referenced to Rig on No. 303H SHL (RT)	Grid System NA027 / TM New Mexico State Planes Eastern Zone (3001): US leet
Measured depths are referenced to Rig on No. 303H SHL (RT)	North Reference Grid north
Rig on No. 303H SHL (RT) to Mean Sea Level 3430 feet	Scale True distance
Mean Sea Level to Mud line (Facility: Poker Lake Unit No. 303H) -3411 feet	Depths are in feet
Coordinates are in feet retarenced to Surface Location	Created by Victor Hernandez on 1/13/2010



Easting (ft)





# Planned Wellpath Report Prelim\_1 Page 1 of 4



(राष्ट्राधावासम्	NCE WELLPATH IDENTIFICATION		
Operator	BOPCO, L.P.	Slot	No. 303H SHL
Area	Eddy County, NM	Well	No. 303H
Field	Poker Lake Unit	Wellbore	No. 303H PWB
Facility	Poker Lake Unit No. 303H	Sidetrack from	PILOT HOLE at 7500.00 MD

REPORT SETUP INTO	DRMATION		
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	0.999942	Report Generated	1/19/2010 at 3:23:39 PM
Convergence at slot	0.29° East	Database/Source file	WA_Midland/No303H_PWB.xml

WELLPATH LOCATION	Local coo	rdinates		c coordinates		
**************************************	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	670135.48	420778.45	32°09'20.313"N	103°47'00.862"W
Facility Reference Pt			670135.48	420778.45	32°09'20.313"N	103°47'00.862"W
Field Reference Pt	The state of the s		630272.49	405347.85	32°06'49.387"N	103°54'45.266"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 303H SHL (RT) to GL	19.00ft
Horizontal Reference Pt	Surface Location	Rig on No 303H SHL (RT) to Mean Sea Level	3430.00ft
Vertical Reference Pt	Rig on No. 303H SHL (RT)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 303H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	302.62°



# Planned Wellpath Report Prelim\_1 Page 2 of 4

BAKER HUGHES **INTEQ** 

REFERE	NCE WELLPATH IDENTIFICATION		
Operator	BOPCO, L.P.	Slot	No. 303H SHL
Area	Eddy County, NM	Well	No. 303H
Field	Poker Lake Unit	Wellbore	No. 303H PWB
Facility	Poker Lake Unit No. 303H	Sidetrack from	PILOT HOLE at 7500.00 MD

WELLPATH I	DATA (79 stati	$ions)$ $\dagger = int$	erpolated/e	xtrapolated s	tation	,				× 2
MD (fe)	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	DLS [°/100ft]	Comments
[ft] 0.00	0.000	302.616	[ft] 0.00	[ft] 0.00	[ft] (0.00 ·	[ft] (.00)	[srv ft] 670135.48	[srv ft] 420778.45		Tie On
450.00†	0.000	302.616	450.00	0.00	0.00	0.00	670135.48	420778.45		T/Rustler
885.00†	0.000	302.616	885.00	0.00	0.00	0.00	670135.48	420778.45		B/Rustler
910.00†	0.000	302.616	910.00	0.00	0.00	0.00	670135.48	420778.45		T/Salt
4070.00†	THE PROPERTY OF THE PARTY OF TH	302.616	4070.00	0.00	0.00	and the transfer of a commence of the transfer of	670135.48	420778.45	0.00	B/Salt
4290 00†	0.000;	302.616	4290.00	0.00	0.00	0.00	670135.48	420778.45	0.00	T/Delaware Mtn. Grp
4325.00†	0.000	302.616	4325.00	0.00	0.00	0.00	670135.48	420778 45	0.00	T/Bell Canyon
7500 00	0.000	302.616	7500.00	0.00	0.00	0.00	670135.48	420778.45	0.00	Tie On
7570 00	0 000,	302.616	7570.00	0 00	0.00	0.00	670135.48	420778.45		EST KOP
7600.001	3.581	302.616	7599.98	0.94	0.51	n -40 / 3 -0.79 S	670134.69	420778.96	11.94	
7700 00†	15 518.	302.616	7698.42	17.50	9.43	-14 74	670120.74	420787.88	11.94	
7800.00†	27.454	302.616	7791.30	54 06	29.14	-45.53	670089.95	420807.59	11 94	
7900 00†	39.391	302.616	7874.61	109 04	58.77	-91.84	670043.64	420837 22	11.94	
7974 06†	48.231	302.616	7928.00	160.26	86.38	-134.98	670000.50	420864.82	11.94	T/Lower Brushy Canyon
8000:00†	51,327	302.616	7944.75	180.06	97.06	-151.67	669983.82	420875.50	11.94	
8100.00†	63.264	302 616	7998.68	264.06	142.33	-222.42	669913.08 :	420920.77	11.94	
8153.38†	69.636	302 616	8020.00	312.97	168.69	-263.61	669871.88	420947.13		T/W Sand
8200.00†	75.201	302.616	8034.08	357.39	192.64	-301.03	669834.47	420971.08	11.94	
8300.00†	87.137	302.616	8049.40	456.03	245.80	-384.11	669751.39	421024.24	11.94	TOUR LA TERROR OF THE TRACES STREET, THE PROPERTY OF THE PROPE
8323.98	90.000	302,616	8050.00	480.00	258.72	-404.30	669731.20	421037.16	man mark and a second	END OF CURVE
8400 00†	90.000	302.616	8050.00	556.02	299.70	-468.33	669667.17	421078.13	0.00	The state of the s
8500.00†	90.000	302.616	8050.00	656.02	353.60	-552.56	669582.95	421132.03	0.00	
8600.00†	90.000	302.616	8050.00	756.02	407.50	-636.79	669498.72	421185.92	0.00	regional series services on the contract of the services of the contract of th
8700.00†	90 000	302.616	8050.00	856.02	461.40	-721.02	669414.50	421239.82	0.00	N 000000000000000000000000000000000000
#800.00#	90.000	302.616	mm, m 5 7, , , ,	956.02	515.30	-805.25	669330.27	an 1 years 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.00	The state of the s
8900.00†	90.000	302.616	8050.00	1056.02	569.20	-889.48	669246.05	421347.62	0.00	
9000.00†	90.000	302.616	8050.00	1156.02	623.10	-973.72	669161.82	421401.51	0.00	
9100 00†	90.000	302 616	8050.00	1256 02	677.00	-1057.95	669077.60	421455 41	0.00	
9200 00†	90.000	302.616	8050.00	1356.02	730.90	-1142.18	668993.37	421509.31	0.00	REPRESENTATION OF THE PROPERTY
9300.00†	90.000	302.616	8050.00	1456.02	784.80	-1226.41	668909.15	421563.21	0.00	



# Planned Wellpath Report Prelim\_1 Page 3 of 4



Releases	NCE WELLPATH IDENTIFICATION		14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Operator	BOPCO, L.P.	Slot	No. 303H SHL
Area	Eddy County, NM	Well	No. 303H
Field	Poker Lake Unit	Wellbore	No. 303H PWB
Facility	Poker Lake Unit No. 303H	Sidetrack from	PILOT HOLE at 7500.00 MD

WELLPATH DA	ATA (79 stations)	† = interp	olated/extrapol	lated station		2 34.5		·	management is the second to the bush of the companion and the second of the second of the second of the second
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	DLS Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft] :	[srv ft]	[srv ft]	[°/100ft]
9400.00†	90.000	302 616	8050.00	1556.02	838.70	-1310.64	668824.92	421617.10	0.00
9500 00†	90.000,	302.616	8050.00	1656.02	892.61	-1394.87	668740.70	421671.00	0.00 ,
9600 00†	90.000	302.616	8050.00	1756 02	946.51	-1479.10	668656.47	421724.90	0.00
9700.00†	90.000	302.616	8050.00	1856.02	1000.41 ;	-1563.33	668572.25	421778.80	0.00 ;
9800.00†	90.000		records and	1956.02	1054:31	-1647.56	668488.02	421832.69	0.00
9900.00†	90 000	302.616	8050.00	2056.02	1108.21	-1731.79	668403.80	421886.59	0.00
10000 00†	90.000	302.616	8050.00	2156.02	1162.11	-1816.02	668319.57	421940.49	0.00
10100 00†	90 000	302.616	8050.00	2256.02	1216.01	-1900.25	668235.35	421994.39	0.00
10200 00†	90.000	302.616	8050.00 ;	2356.02 }	1269.91	-1984.48 ;	668151.12	422048.28	0.00
10300.00†	90.000	302.616	8050.00	2456.02	1323.81	-2068.71	668066.90	422102.18	0:00
10400.00†]	90.000	302.616	8050.00	2556.02	1377.71	-2152.94	667982.67	422156.08	0.00
10500.00†	90.000	302.616	8050.00	2656.02	1431.61	-2237.17	667898.45	422209.98	0.00
10600.00†	90.000	302.616	8050.00	2756.02	1485.51	-2321.40	667814.22	422263.87	0.00
10700.00†	90.000	302.616	8050.00	2856.02	1539.41	-2405.63	667730.00	422317.77	0.00
10800.00†	90.000	302.616	8050.00	2956.02	1593.31	-2489.86	667645 <i>7</i> 7	422371.67	0.00
10900.00†	90.000	302.616	8050.00 ,	3056.02	1647.22	-2574.09	667561.55	422425.57	0.00
11000.00†	90 000	302.616	8050.00	3156.02	1701.12	-2658.32	667477.32	422479.46	0.00
11100.00†	90.000	302.616	8050.00	3256.02	1755.02	-2742.55	667393.10	422533.36	0.00
11200 00†	90.000	302.616	8050.00	3356.02	1808.92	-2826.78	667308.87	422587.26	0.00
11300.00†	90.000	302.616	8050.00	3456.02	1862.82	-2911.01	667224.65	422641.16	0.00
11400 00†	90.000	302.616	8050.00	3556.02	1916.72	-2995.24	667140 42	422695.05	0.00
11500.00†	90.000	302.616	8050.00	3656.02	1970.62	-3079.47	667056.20	422748.95	0.00
11600.00†	90.000	302.616	8050.00	3756.02	2024.52	-3163.70	666971.97	422802.85	0.00
11700.00†	90.000	302.616	8050.00	3856 02	2078.42	-3247.93	666887.75	422856 75	0.00 ,
11800.00†	90:000	302.616	8050.00	3956.02	2132.32	-3332.16	666803.52	422910.64	0.00
11900.00†	90.000	302.616	8050.00	4056.02	2186.22	-3416.39	666719.30	422964.54	0.00
12000 00†	90.000	302.616	8050.00	4156.02	2240.12	-3500.62	666635.07	423018.44	0.00 /
12100.00†	90 000	302.616	8050.00	4256.02	2294.02	-3584.85	666550.85	423072.34	0.00 ;
12200 00†	90.000;	302.616	8050.00	4356.02	2347.92	-3669.08	666466.62	423126.23	0.00 ,
12300.00†	90.000	302.616	8050.00	4456.02	2401.83	-3753.31	666382.40	423180.13	0.00



# Planned Wellpath Report Prelim\_1 Page 4 of 4



Renderio	NCE WELLPATH IDENTIFICATION		
Operator	BOPCO, L.P.	Slot	No. 303H SHL
Area	Eddy County, NM	Well	No. 303H
Field	Poker Lake Unit	Wellbore	No. 303H PWB
Facility	Poker Lake Unit No. 303H	Sidetrack from	PILOT HOLE at 7500.00 MD

ELLPATH DA	TA (79 station	$s)$ $\dagger = interp$	olated/extrapo	lated static	)nį	and the property of the proper	The same of the sa	The state of the s	the statement or supplementation	
MD	Inclination	Azimuth		Vert Sect	North	East	Grid East	Grid North	DLS	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[srv ft]	[srv ft]	[°/100ft]	
12400 00†	90.000	302 616	8050.00	4556 02	2455 73	-3837.54	666298.17	423234.03	0.00	
12500.00†	90 000	302.616	8050.00	4656.02	2509.63	-3921.77	666213.95	423287.93	0.00	
12600.00†	90.000	302.616	8050.00	4756.02	2563.53	-4006.00	666129.72	423341.82	0.00	
12700.00†	90.000	302.616	8050.00	4856.02	2617.43	-4090.23	666045.49	423395.72	0.00	
12800.00†	90.000	302.616	8050.00	4956.02		-4174.46	665961.27	423449.62	0.00	
12900.00†	90.000	302.616	8050.00	5056.02	2725.23	-4258.69	665877.04	423503.52	0.00	
13000 00†	90.000	302.616	8050.00	5156.02	2779.13	-4342.92	665792.82	423557.41	0.00	
13100 00†	90.000	302.616	8050.00	5256.02	2833.03	-4427.15	665708.59	423611.31	0.00	
13200.00†	90.000	302.616,	8050.00 ;	5356.02	2886.93	-4511.38	665624.37	423665.21	0.00	
13300.00†	90.000	302.616	8050:00	5456:02	2940.83	-4595.61	665540.14	423719.11	0.00	
13400.00†	90.000	302.616	8050.00	5556.02	2994.73	-4679.84	665455.92	423773.00	0.00	
13500 00†	90 000	302.616	8050.00	5656.02	3048 63	-4764.07	665371.69	423826.90	0.00	
13600.00†	90.000	302.616	8050.00	5756.02	3102.53	-4848.30	665287.47	423880.80	0.00	
13700 00†	90 000	302.616	8050.00	5856 02	3156.44	-4932.53	665203.24	423934.70	0.00	
13800.00†	90.000	302.616	8050.00	5956.02	3210.34	-5016.76	665119.02	423988.59	0.00	
13900.00†	90.000	302.616	8050.00	6056.02	3264.24	-5100.99	665034.79 ,	424042.49	0.00	
14000 00†	90 000	302.616	8050.00	6156.02	3318.14	-5185.22	664950.57	424096 39	0.00	
14100.00†	90.000	302.616	8050.00	6256.02	3372.04	-5269.45	664866.34	424150.29	0.00	
14125.89	90 000	302.616	8050.00	6281.91	3385 99	-5291.26	664844.54	424164.24	0.00	No. 303H PBHL

SURVEY PROGRAM Ref Wellbore: No. 303H PWB Ref Wellpath: Prelim_1					
Start MD End MD Positional Uncertainty Model Log Name/Comment	Wellbore				
[ft] [ft]					
19.00 14125.89 NaviTrak (Standard)	No. 303H PWB				



#### BOPCO, L.P. Poker Lake Unit #303H Sec 4, T25S-R31E Eddy County, NM

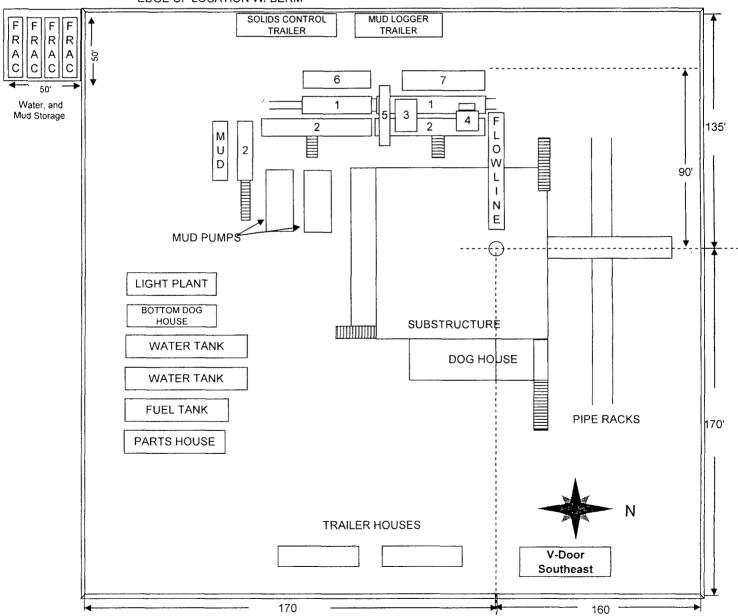
### RIG LAYOUT SCHEMATIC INCLUSIVE OF CLOSED-LOOP DESIGN PLAN

#### Solids Control Equipment Legend

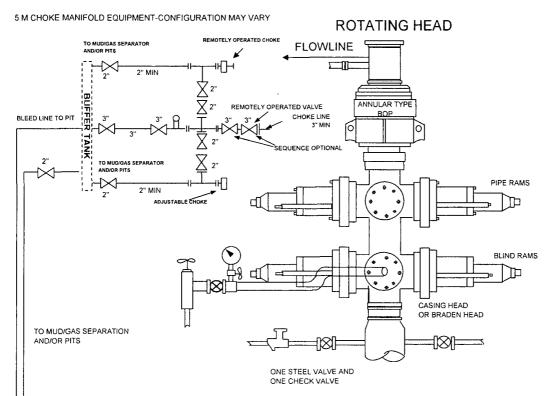
- 1) Roll Off Bin
- 5) Centrifuge
- 2) Steel Tank
- 6) Dewatering Unit
- 3) Mud Cleaner
- 7) Catch Tank

4) Shaker

#### EDGE OF LOCATION W/ BERM



### **BOPCO, L. P.** 5-M WP BOPE WITH 5-M WP ANNULAR



#### THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

- A One double gate Blowout preventer with lower pipe rams and upper blind rams, all hydraulically controlled
- B Opening on preventers between rams to be flanged, studded or clamped and at least two inches in diameter
- C All connections from operating manifold to preventers to be all steel hose or tube a mininum of one inch in diameter
- D. The available closing pressure shall be at least 15% in excess of that required with suffficient 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 2**

TO STEEL MUD TANKS

▶ BLEED LINE TO STEEL PIT (NOT CONNECTED TO BUFFER TANK

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

#### NAME OF WELL: Poker Lake Unit #303H

LEGAL DESCRIPTION - SURFACE: 1264' FSL, 2310' FWL, Section 4, T25S, R31E, Eddy County, NM. BHL: 660' FNL, 2310' FWL, Section 5, T25S, R31E, Eddy County, New Mexico.

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

A) Proposed Well Site Location:

See Exhibit "B" & "C".

B) Existing Roads:

From the junction of State Hwy 128 and County Road 786 (Buck Jackson Road), go southeast 4.7 miles on Buck Jackson Road to Buck Horn Road. On Buck Horn Road go southerly for 2.3 miles to proposed lease road.

C) Existing Road Maintenance or Improvement Plan:

See Exhibit "B"

#### POINT 2: NEW PLANNED ACCESS ROUTE

A) Route Location:

Approximately 2617' long from the existing lease road.

B) Width

12' wide

C) Maximum Grade

Grade to match existing topography or as per BLM requirements.

D) Turnout Ditches

As required by BLM stipulations

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**

Exhibits "A" indicates existing wells within the surrounding area.

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

- A) No existing facilities within one mile owned or controlled by lessee/operator.
- B) New Facilities in the Event of Production:

New production facilities will be built at Poker Lake Unit #303H well pad. A separator/treater along with 2-7/8" flowline will be located on the wellpad. A 2-7/8" gas line will follow existing roads which have been arch cleared. Initially a rental generator will be used to power pumping unit.

C) Rehabilitation of Disturbed Areas Unnecessary for Production:

Following the 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. If this is not sufficient, caliche will be hauled from a BLM approved pit.

B) Land Ownership

Federally Owned

C) Materials Foreign to the Site

No construction materials foreign to this area are anticipated for this drill site.

D) Access Roads

See Exhibits "C" & "B".

#### A) Cuttings

Cuttings will be contained in the roll off bins and disposed of a CRI.

#### B) Drilling Fluids

Drilling fluids will be contained in the steel pits, frac tanks and disposed at licensed disposal sites.

#### C) Produced Fluids

Water production will be contained in the steel pits.

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 indicate potential productive zones. 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, closed loop system, 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 Access Road

See Exhibits "C" and "B".

#### C) Lining of the Pits

No reserve pits - closed loop system.

#### A) Reserve Pit Cleanup - Not applicable

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

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

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**

A) Terrain

Slightly rolling hills.

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 several miles of the wellsite.

#### F) Water Wells

There are six existing water wells located approximately 1-1/2 miles away from the proposed location. These wells are located in T25S-R31E, section 2. There is one existing water well located within one mile of the proposed Poker Lake Unit #303H in the NE quarter of section 4. (See Exhibit "A")

G) Residences and Buildings

None in the immediate vicinity.

H) Historical Sites

None observed.

Archeological Resources

A search of BLM records by Boone Archeological indicate no know archeological sites will be impacted by these drilling operations. Payment of \$1625.40 has been submitted to the BLM (MOA). Any location or construction conflicts will be resolved before construction begins.

J) Surface Ownership

The well site is on federally owned land. There will be no new access roads required for this location.

- 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

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

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

1/21/10

PRODUCTION
Dean Cleammer
3104 East Green Street
Carlsbad, New Mexico 88220
(575) 887-7329

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

Date

Sen & Sahad 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.

1/21/10 Date

Gary E. Gerhard

C. Suhad

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME: BOPCO. L.P. LEASE NO.: NM-030457 WELL NAME & NO.: POKER LAKE UNIT #303H SURFACE HOLE FOOTAGE: 1264' FSL & 2310' FWL BOTTOM HOLE FOOTAGE 660' FNL & 2310' FWL SHL LOCATION: Section 04, T. 25 S., R. 31 E., NMPM Section 05, T. 25 S., R. 31 E., NMPM BHL LOCATION: COUNTY: Eddy County, New Mexico

#### TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

General Provisions
Permit Expiration
Archaeology, Paleontology, and Historical Sites
<b>☐</b> Noxious Weeds
Special Requirements
Lesser Prairie-Chicken Timing Stipulations
Ground-level Abandoned Well Marker.
Commercial Well Determination
Unit Plan of Development
☐ Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
Road Section Diagram
□ Drilling
Logging Requirements
<b>⊠</b> Production (Post Drilling)
Well Structures & Facilities
Pipelines
Electric Lines
Interim Reclamation
Final Abandonment & Reclamation

#### I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

#### II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

#### III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

#### IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

#### V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

#### **Commercial Well Determination**

Well is outside of NMNM - 71016D participating area. A commercial well determination will need to be submitted.

#### Plan of Development

Operator is to submit a Unit Plan of Development (UPOD) annually to the BLM. Guidelines for UPOD are available upon request at the BLM Carlsbad Field Office.

#### VI. CONSTRUCTION

#### A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

В.	V-DOOR DIRECTION:	
C	TORON	
<b>C</b> .	TOPSOIL	

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

#### D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

#### E. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

#### F. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

#### G. ON LEASE ACCESS ROADS

#### Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

#### Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future

field development. The surfacing depth and type of material will be determined at the time of notification.

#### Crowning

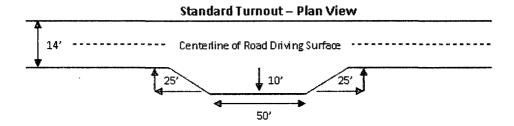
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

#### Ditching

Ditching shall be required on both sides of the road.

#### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

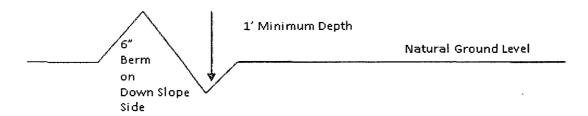


#### Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

#### Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be

determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

#### Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: 
$$\frac{400'}{4\%}$$
 + 100' = 200' lead-off ditch interval

#### **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

#### Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

#### **Fence Requirement**

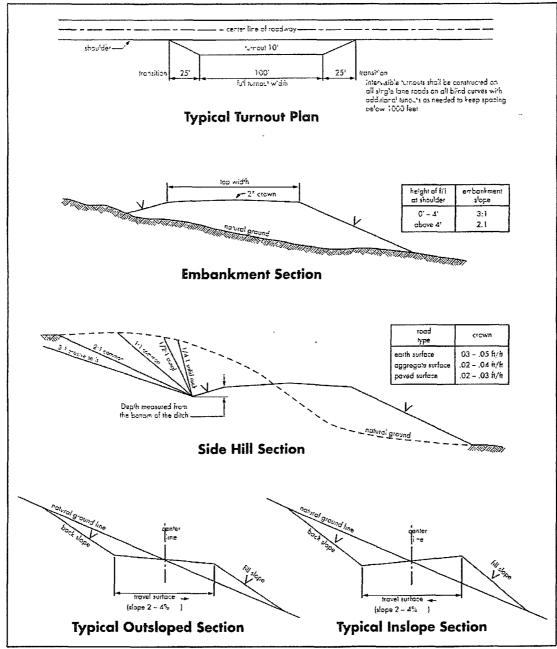
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

#### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



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#### VII. 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 this section, 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.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in the Delaware and Bone Spring formations.

- 1. The 13-3/8 inch surface casing shall be set at approximately 900 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If the salt is encountered set the casing 25 feet above the top of the salt.
  - 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. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - 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.

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be a minimum of 180' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug.

- 3. The minimum required fill of cement behind the 7 inch production casing is:
  - Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.
- 4. Cement not required on the 4-1/2" liner. Packer system being used.
- 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. Operator installing a 5M system but testing as a 2M.
  - 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 inch intermediate casing shoe shall be 3000 (3M) psi. Operator installing a 5M system but testing 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. Casing cut-off and BOP installation will not be initiated until the cement has had 4-6 hours of setup time in a water basin and 12 hours in the potash areas. This time will start after the cement plug is bumped. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.
  - b. The tests shall be done by an independent service company utilizing a test plug.
  - c. The results of the test shall be reported to the appropriate BLM office.

- d. 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.
- e. 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.

CRW 021610

#### VIII. PRODUCTION (POST DRILLING)

#### A. WELL STRUCTURES & FACILITIES

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color Shale Green, Munsell Soil Color Chart # 5Y 4/2

## B. PIPELINES – Steel Surface gas line approved in APD to flow to the PLU #50 well along previously disturbed roadways.

## SURFACE INSTALLED PIPELINE STIPULATIONS FOR CARLSBAD FIELD OFFICE, BLM

A copy of the grant and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

- 1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
- 2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or

spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

- 3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et. seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et. seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
- 4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec.\*\*2803/2883\*\*.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from fire or soil movement (including landslides and slumps as well as wind and water caused movement of particles) caused or substantially aggravated by any of the following within the right-of-way or permit area:
  - A. Activities of the holder, including but not limited to, construction, operation, maintenance, and termination of the facility.
  - B. Activities of other parties including but not limited to:
    - (1). Land clearing.
    - (2). Earth-disturbing and earth-moving work.
    - (3). Blasting.
    - (4). Vandalism and sabotage.

#### C. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction of in which the damage of injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from the negligent acts of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline or related facilities, any oil or other pollutant should be discharged from the pipeline or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area,

including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

- 6. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized right-of-way width of 20 feet.
- 7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.
- 8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.
- 9. The pipeline shall be buried a minimum of 36 inches under all roads, including "two-tracks" and trails. Burial will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of the construction, shall be returned to at least its former state, with no bumps, dips, or soft spots remaining in the road surface.
- 10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair impacted improvements to at least their former state. The holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence will be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
- 11. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound management practices. Any earth work will require prior approval by the Authorized Officer.
- 12. Excluding the pipe, all above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color that simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is Shale Green, Munsell Soil Color Chart Number 5Y 4/2.
- 13. The holder shall post signs designating the BLM serial number assigned to this right-of-way grant at the following locations: the points of origin and completion, or entry to and exit from public lands, of the right-of-way and at all major road crossings. These signs will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the term of the right-of-way.

- 14. The holder shall not use the right-of-way as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder shall take whatever steps are necessary to ensure that the right-of-way is not used as a roadway.
- 15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and the Authorized Officer will make any decision as to the proper mitigation measures after consulting with the holder.
- 16. The area will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle, and saltcedar.

**Special Stipulations: None** 

C. ELECTRIC LINES – not applied for in APD

#### IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

#### X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared; these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

#### Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is

established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>	
Plains Bris Sand Blue Little Blue Big Bluest Plains Cor	stem estem em eopsis	5lbs/A 5lbs/A 3lbs/A 6lbs/A 2lbs/A
Sand Drop	seed	1lbs/A
**Four-winge	ed Saltbush	5lbs/A

<sup>\*</sup>Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

<sup>\*\*</sup> This can be used around well pads and other areas where caliche cannot be removed.