

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMLC061672A
2. Name of Operator BOPCO LP		6. If Indian, Allottee or Tribe Name
3a. Address MIDLAND, TX 79702		7. If Unit or CA/Agreement, Name and/or No. 891000303X
3b. Phone No. (include area code) Ph: 432-683-2277		8. Well Name and No. PLU BIG SINKS 3 25 31 USA 1H 1H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 3 T25S R31E NENW 330FNL 1980FWL 32.165769 N Lat, 103.767286 W Lon		9. API Well No. 30-015-42111-00-X1
		10. Field and Pool, or Exploratory WOLFCAMP
		11. County or Parish, and State EDDY COUNTY, NM

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

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

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

BOPCO, L.P. respectfully request to run and cement an additional string of casing not included in the original APD due to severe losses in the Brushy Canyon. Currently we have a string of 13-3/8" 48lb/ft H-40 ST&C set at 841' and a string of 8-5/8" 32 lb/ft L-80 LT&C set at 4,351'. The intent is to run 7" 26 lb/ft HCP-110 Ultra Flush Joint casing inside our 7-7/8" open hole down to 9,671', 100' above planned KOP. We will request to not run centralizers on this 7" casing due to tight annular clearances and since it will not be in the curve or lateral portion of the well. A 4-1/2" liner will be ran and cemented through the curve and lateral with a hanger and liner top packer set inside the last joint of 7" casing. In addition to setting a 2nd intermediate string of casing we will also change the hole profile for the curve and lateral portion of the well from a 7-7/8" hole profile to a 6-1/8", along with the production casing string. It was originally permitted for a 5-1/2" full string. We will be amending that for a 4-1/2" full string cemented liner. The following changes will not alter the directional plan.

NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 16 2014

RECEIVED

SEE ATTACHED FOR
CONDITIONS OF APPROVALAccepted for record
NMOCD 105,494

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #248257 verified by the BLM Well Information System For BOPCO LP, sent to the Carlsbad Committed to AFMSS for processing by CHRISTOPHER WALLS on 06/05/2014 (14CRW0290SE)	
Name (Printed/Typed) BRIAN BRAUN	Title DRILLING ENGINEER
Signature (Electronic Submission)	Date 06/04/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____	Title _____
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office _____

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully 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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional data for EC transaction #248257 that would not fit on the form

32. Additional remarks, continued

2nd intermediate string of casing:

? 7? 26 lb/ft HCP-110 Ultra Flush Joint casing

o Collapse: 7,800 Psi/ 1.757 SF

o Max OD: 7.00?

o Annular clearance between 7-7/8? OH and 7? Casing: 0.4375?

o Set Depth: 9,671?

? Cement volumes:

o 600 sacks of lead Class H cement with thixotropic added

 Density: 12.0 ppg

 Yield: 2.09 ft³/sack

 H₂O requirement: 11.74 gal/sack

o 100 sacks of Tail Class C cement

 Density: 14.8 ppg

 Yield: 1.33 ft³/sack

 H₂O: 6.34 gal/sack

Production Casing:

? 4-1/2? 11.6 lb/ft HCP-110 casing **BTC**

o Collapse: 8650 psi/ 1.751 SF

o Set Depth: 18,276? **Liner top 9491**

o Cement job

 Lead Volume: 500 sacks

 Lead Details: 11.9 ppg, 2.26 ft³/sk yield, H₂O 12.89 gal/sk

 Tail Volume: 1,600 sacks

 Tail Details: 14.5 ppg, 1.21 ft³/sk yield, H₂O 5.30 gal/sk

TOC = TOL

TOC - SOG' overlap into 8-5/8"



PLU Big Sinks 3 25 31 USA #1H

Braun, Brian A. <BABraun@basspet.com>

Thu, Jun 5, 2014 at 8:15 AM

To: "Walls, Christopher" <cwalls@blm.gov>

Ok, sorry about that;

- The liner top depth will be set approx. 9,491' (7" will be set at 9,691')
- Top of cement for the 7" casing will be approx. 3,372' (Planned for 1,000' inside 8-5/8" casing)
- Joint type for 4-1/2" liner will be HCP-110 11.6 lb/ft BTC, TOC will be approx. 9,500' (Top of the liner hanger and packer set depth)

Thanks,

Brian A. Braun

Drilling Engineer

BOPCO, L.P.

210-683-9849

babraun@basspet.com

From: Walls, Christopher [mailto:cwalls@blm.gov]

Sent: Thursday, June 05, 2014 9:02 AM

To: Braun, Brian A.

Cc: McKee, Whitney B.

Subject: Re: PLU Big Sinks 3 25 31 USA #1H

[Quoted text hidden]

PERFORMANCE DATA

TMK UP FJ

7.000 in

26.00 lbs/ft

P-110 HC

Technical Data Sheet

Tubular Parameters

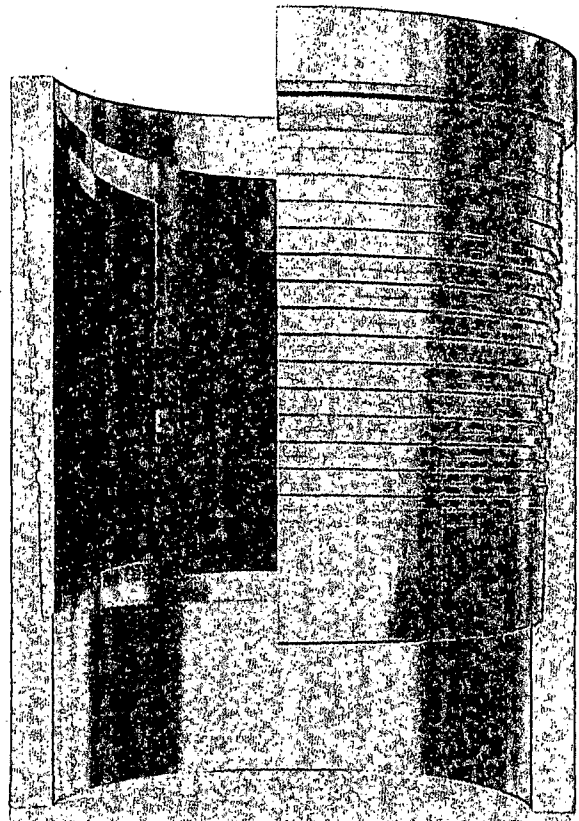
Size	7.000	in	Minimum Yield	110,000	psi
Nominal Weight	26.00	lbs/ft	Minimum Tensile	125,000	psi
Grade	P-110 HC		Yield Load	830,000	lbs
PE Weight	25.66	lbs/ft	Tensile Load	943,000	lbs
Wall Thickness	0.362	in	Min. Internal Yield Pressure	10,000	psi
Nominal ID	6.276	in	Collapse Pressure	7,410	psi
Drift Diameter	6.151	in			
Nom. Pipe Body Area	7.549	in ²			

Connection Parameters

Connection OD	7.000	in
Connection ID	6.279	in
Make-Up Loss	4.064	in
Critical Section Area	4.769	in ²
Tension Efficiency	63.2	%
Compression Efficiency	63.2	%
Yield Load In Tension	524,000	lbs
Min. Internal Yield Pressure	10,000	psi
Collapse Pressure	7,410	psi

Make-Up Torques

Min. Make-Up Torque	13,800	ft-lbs
Opt. Make-Up Torque	15,300	ft-lbs
Max. Make-Up Torque	16,800	ft-lbs
Yield Torque	24,500	ft-lbs



Printed on: June-04-2014

NOTE:

The content of this Technical Data Sheet is for general information only and does not guarantee performance or imply fitness for a particular purpose, which only a competent drilling professional can determine considering the specific installation and operation parameters. Information that is printed or downloaded is no longer controlled by TMK IPSCO and might not be the latest information. Anyone using the information herein does so at their own risk. To verify that you have the latest TMK IPSCO technical information, please contact TMK IPSCO Technical Sales toll-free at 1-888-258-2000.





Project: Eddy County, NM (NAD27 NME)
Site: Poker Lake Unit CVX JV BS
Well: #027H
Wellbore: WB1/Job #1311615
Design: Plan #4 05-20-14
Rig: Latshaw 14

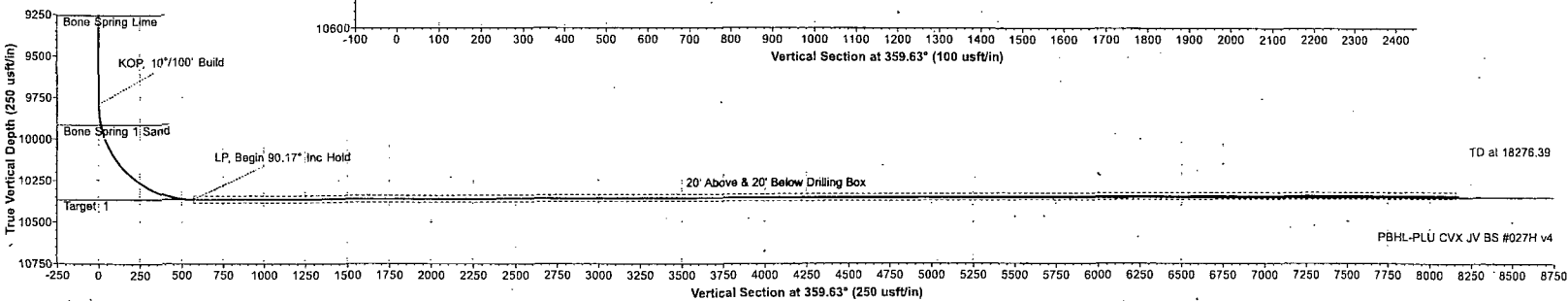
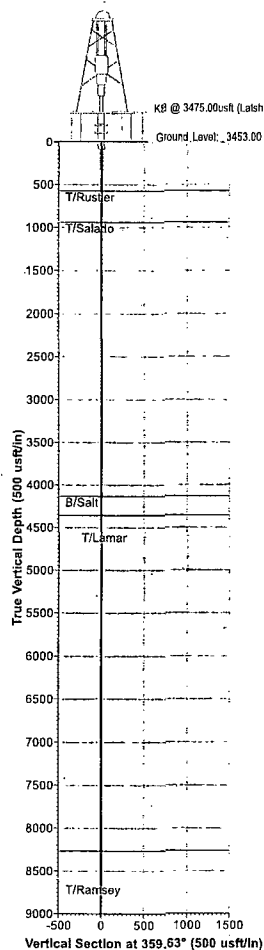


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TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.30°
Magnetic North: 7.01°

Magnetic Field
Strength: 48270.25nT
Dip Angle: 60.03°
Date: 05/08/2014
Model: IGRF2010_14



WELL DETAILS									
+N-S	+E-W	Northing	Ground Level	3453.00	Latitude	Longitude			
0.00	0.00	424489.10	Easting	675156.40	32° 9' 56.77628 N	103° 46' 2.23055 W			

SECTION DETAILS									
Sec	MD	Inc	Asi	TVD	+N-S	+E-W	Dleg	TFace	VSeal Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	9791.54	0.00	0.00	9791.54	0.00	0.00	0.00	0.00	0.00
3	10693.24	90.17	359.63	10364.53	574.85	-3.70	10.00	359.63	574.86
4	18276.39	90.17	359.63	10342.00	8157.60	-52.50	0.00	0.00	8157.77

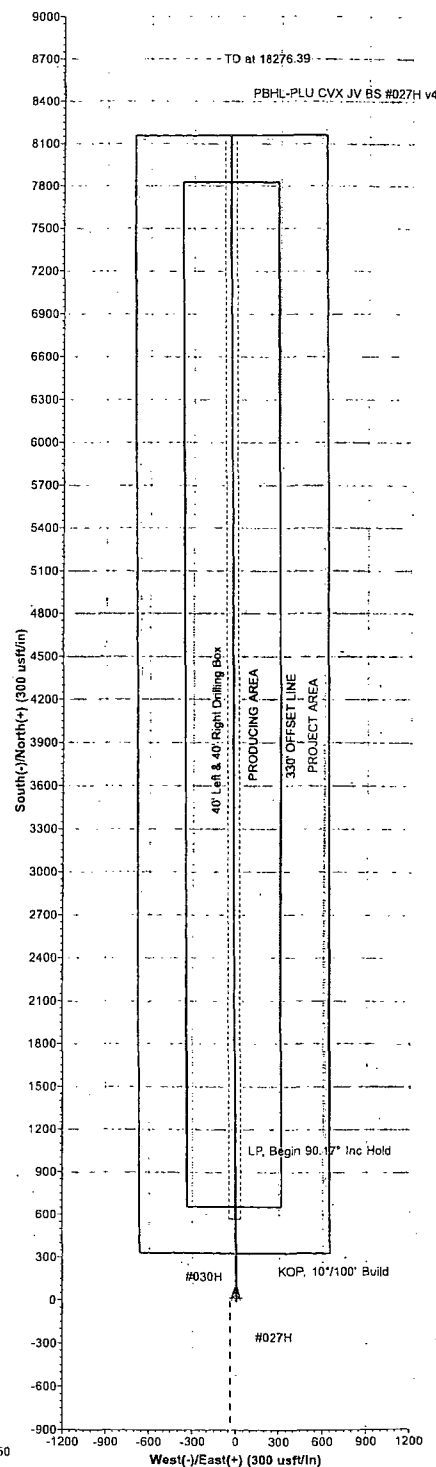
DESIGN TARGET DETAILS									
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL-PLU CVX JV BS #027H v4	10342.00	8157.60	-52.50	432846.70	675103.90	32° 11' 17.50641 N	103° 46' 2.34203 W	Rectangle (Sides: L40.00 W80.00)	
- plan hits target center									

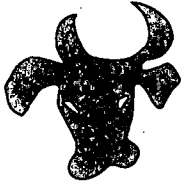
CASING DETAILS			
TVD	MD	Name	Size

LEGEND	
#030H, WB1, Plan #1	01-21-14 V0
—— Plan #4	05-20-14

Map System: US State Plane 1927 (Exact solution) Datum: NAD 1927 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone Name: New Mexico East 3001 Local Origin: Well #027H, Grid North Latitude: 32° 9' 56.77628 N Longitude: 103° 46' 2.23055 W Grid East: 675156.40 Grid North: 424489.10 Scale Factor: 1.000 Geomagnetic Model: IGRF2010_14 Sample Date: 08-May-14 Magnetic Declination: 7.32° Dip Angle from Horizontal: 60.03° Magnetic Field Strength: 48270 To convert a Magnetic Direction to a Grid Direction, Add 7.01° To convert a Magnetic Direction to a True Direction, Add 7.32° East To convert a True Direction to a Grid Direction, Subtract 0.30°

FORMATION TOP DETAILS				
TVDPath	MDPath	Formation	DipAngle	DpDir
570.00	570.00	T/Ruster	-0.08	359.63
935.00	935.00	T/Salado	-0.08	359.63
4130.00	4130.00	B/Salt	-0.08	359.63
4355.00	4355.00	T/Lamar	-0.08	359.63
8260.00	8260.00	T/Ramsey	-0.08	359.63
9255.00	9255.00	Bone Spring Lime	-0.08	359.63
9914.98	9915.96	Bone Spring 1 Sand	-0.08	359.63
10364.22	10673.72	Target 1	-0.08	359.63





BOPCO, L P

Eddy County, NM (NAD27 NME)

Poker Lake Unit CVX JV BS

#027H

WB1/Job #1311615

Plan: Plan #4 05-20-14

Standard Planning Report

20 May, 2014



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Phoenix Technology Services

Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #027H
Company:	BOPCO, LP	TVD Reference:	KB @ 3475.00usft (Latshaw 14)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3475.00usft (Latshaw 14)
Site:	Poker Lake Unit CVX JV BS	North Reference:	Grid
Well:	#027H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1/Job #1311615		
Design:	Plan #4 05-20-14		

Project:	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Poker Lake Unit CVX JV BS		
Site Position:		Northing:	424,489.10 usft
From:	Map	Easting:	675,156.40 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Grid Convergence:	0.30°

Well:	#027H		
Well Position	+N/-S	0.00 usft	Northing: 424,489.10 usft
	+E/-W	0.00 usft	Easting: 675,156.40 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,453.00 usft

Wellbore:	WB1/Job #1311615		
Magnetics	Model/Name	Sample Date	Declination
	IGRF2010_14	05/08/14	7.32
			Dip Angle
			60.03
			Field Strength
			48,270

Design:	Plan #4 05-20-14		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			359.63

Plan Sections:										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,791.54	0.00	0.00	9,791.54	0.00	0.00	0.00	0.00	0.00	0.00	
10,693.24	90.17	359.63	10,364.50	574.65	-3.70	10.00	10.00	0.00	359.63	
18,276.39	90.17	359.63	10,342.00	8,157.60	-52.50	0.00	0.00	0.00	0.00	PBHL-PLU CVX JV B



Phoenix Technology Services
Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #027H
Company:	BOPCO, L.P.	TVD Reference:	KB @ 3475.00usft (Latshaw 14)
Project:	Eddy County, NM (NAD27, NME)	MD Reference:	KB @ 3475.00usft (Latshaw 14)
Site:	Poker Lake Unit CVX JV BS	North Reference:	Grid
Well:	#027H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1/Job #1311615		
Design:	Plan #4 05-20-14		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
570.00	0.00	0.00	570.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Rustler									
935.00	0.00	0.00	935.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Salado									
4,130.00	0.00	0.00	4,130.00	0.00	0.00	0.00	0.00	0.00	0.00
B/Salt									
4,355.00	0.00	0.00	4,355.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Lamar									
8,260.00	0.00	0.00	8,260.00	0.00	0.00	0.00	0.00	0.00	0.00
T/Ramsey									
9,255.00	0.00	0.00	9,255.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring Lime									
9,791.54	0.00	0.00	9,791.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP 10°/100 Build									
9,800.00	0.85	359.63	9,800.00	0.06	0.00	0.06	9.99	9.99	0.00
9,900.00	10.85	359.63	9,899.35	10.23	-0.07	10.23	10.00	10.00	0.00
9,915.96	12.44	359.63	9,914.98	13.45	-0.09	13.45	10.00	10.00	0.00
Bone Spring Sand									
10,000.00	20.85	359.63	9,995.43	37.50	-0.24	37.50	10.00	10.00	0.00
10,100.00	30.85	359.63	10,085.31	81.04	-0.52	81.04	10.00	10.00	0.00
10,200.00	40.85	359.63	10,166.27	139.53	-0.90	139.53	10.00	10.00	0.00
10,300.00	50.85	359.63	10,235.84	211.18	-1.36	211.18	10.00	10.00	0.00
10,400.00	60.85	359.63	10,291.91	293.83	-1.89	293.83	10.00	10.00	0.00
10,500.00	70.85	359.63	10,332.78	384.95	-2.48	384.96	10.00	10.00	0.00
10,600.00	80.85	359.63	10,357.20	481.79	-3.10	481.80	10.00	10.00	0.00
10,673.72	88.22	359.63	10,364.23	555.12	-3.57	555.14	10.00	10.00	0.00
Target 1									
10,693.24	90.17	359.63	10,364.50	574.64	-3.70	574.65	10.00	10.00	0.00
LP Begin 90.17° Inc Hold									
10,700.00	90.17	359.63	10,364.48	581.40	-3.74	581.41	0.01	0.01	0.00
10,800.00	90.17	359.63	10,364.18	681.40	-4.39	681.41	0.00	0.00	0.00
10,900.00	90.17	359.63	10,363.89	781.40	-5.03	781.41	0.00	0.00	0.00
11,000.00	90.17	359.63	10,363.59	881.39	-5.67	881.41	0.00	0.00	0.00
11,100.00	90.17	359.63	10,363.29	981.39	-6.32	981.41	0.00	0.00	0.00
11,200.00	90.17	359.63	10,363.00	1,081.39	-6.96	1,081.41	0.00	0.00	0.00
11,300.00	90.17	359.63	10,362.70	1,181.39	-7.60	1,181.41	0.00	0.00	0.00
11,400.00	90.17	359.63	10,362.40	1,281.38	-8.25	1,281.41	0.00	0.00	0.00
11,500.00	90.17	359.63	10,362.11	1,381.38	-8.89	1,381.41	0.00	0.00	0.00
11,600.00	90.17	359.63	10,361.81	1,481.38	-9.53	1,481.41	0.00	0.00	0.00
11,700.00	90.17	359.63	10,361.51	1,581.38	-10.18	1,581.41	0.00	0.00	0.00
11,800.00	90.17	359.63	10,361.22	1,681.37	-10.82	1,681.41	0.00	0.00	0.00
11,900.00	90.17	359.63	10,360.92	1,781.37	-11.46	1,781.41	0.00	0.00	0.00
12,000.00	90.17	359.63	10,360.62	1,881.37	-12.11	1,881.41	0.00	0.00	0.00
12,100.00	90.17	359.63	10,360.33	1,981.37	-12.75	1,981.41	0.00	0.00	0.00
12,200.00	90.17	359.63	10,360.03	2,081.36	-13.40	2,081.41	0.00	0.00	0.00
12,300.00	90.17	359.63	10,359.73	2,181.36	-14.04	2,181.41	0.00	0.00	0.00
12,400.00	90.17	359.63	10,359.44	2,281.36	-14.68	2,281.41	0.00	0.00	0.00
12,500.00	90.17	359.63	10,359.14	2,381.36	-15.33	2,381.41	0.00	0.00	0.00
12,600.00	90.17	359.63	10,358.84	2,481.35	-15.97	2,481.41	0.00	0.00	0.00
12,700.00	90.17	359.63	10,358.55	2,581.35	-16.61	2,581.40	0.00	0.00	0.00
12,800.00	90.17	359.63	10,358.25	2,681.35	-17.26	2,681.40	0.00	0.00	0.00
12,900.00	90.17	359.63	10,357.95	2,781.35	-17.90	2,781.40	0.00	0.00	0.00



Phoenix Technology Services

Planning Report



Database:	GCR/DB	Local Co-ordinate Reference:	Well: #027H
Company:	BOPCO LP	TVD Reference:	KB @ 3475.00usft (Latshaw 14)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3475.00usft (Latshaw 14)
Site:	Poker Lake Unit CVX JV BS	North Reference:	Grid
Well:	#027H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1/Job #1311615		
Design:	Plan #4 05-20-14		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,000.00	90.17	359.63	10,357.66	2,881.34	-18.54	2,881.40	0.00	0.00	0.00
13,100.00	90.17	359.63	10,357.36	2,981.34	-19.19	2,981.40	0.00	0.00	0.00
13,200.00	90.17	359.63	10,357.06	3,081.34	-19.83	3,081.40	0.00	0.00	0.00
13,300.00	90.17	359.63	10,356.77	3,181.34	-20.47	3,181.40	0.00	0.00	0.00
13,400.00	90.17	359.63	10,356.47	3,281.33	-21.12	3,281.40	0.00	0.00	0.00
13,500.00	90.17	359.63	10,356.17	3,381.33	-21.76	3,381.40	0.00	0.00	0.00
13,600.00	90.17	359.63	10,355.88	3,481.33	-22.40	3,481.40	0.00	0.00	0.00
13,700.00	90.17	359.63	10,355.58	3,581.33	-23.05	3,581.40	0.00	0.00	0.00
13,800.00	90.17	359.63	10,355.28	3,681.32	-23.69	3,681.40	0.00	0.00	0.00
13,900.00	90.17	359.63	10,354.99	3,781.32	-24.34	3,781.40	0.00	0.00	0.00
14,000.00	90.17	359.63	10,354.69	3,881.32	-24.98	3,881.40	0.00	0.00	0.00
14,100.00	90.17	359.63	10,354.39	3,981.32	-25.62	3,981.40	0.00	0.00	0.00
14,200.00	90.17	359.63	10,354.10	4,081.31	-26.27	4,081.40	0.00	0.00	0.00
14,300.00	90.17	359.63	10,353.80	4,181.31	-26.91	4,181.40	0.00	0.00	0.00
14,400.00	90.17	359.63	10,353.50	4,281.31	-27.55	4,281.40	0.00	0.00	0.00
14,500.00	90.17	359.63	10,353.20	4,381.31	-28.20	4,381.40	0.00	0.00	0.00
14,600.00	90.17	359.63	10,352.91	4,481.30	-28.84	4,481.40	0.00	0.00	0.00
14,700.00	90.17	359.63	10,352.61	4,581.30	-29.48	4,581.40	0.00	0.00	0.00
14,800.00	90.17	359.63	10,352.31	4,681.30	-30.13	4,681.40	0.00	0.00	0.00
14,900.00	90.17	359.63	10,352.02	4,781.30	-30.77	4,781.40	0.00	0.00	0.00
15,000.00	90.17	359.63	10,351.72	4,881.29	-31.41	4,881.39	0.00	0.00	0.00
15,100.00	90.17	359.63	10,351.42	4,981.29	-32.06	4,981.39	0.00	0.00	0.00
15,200.00	90.17	359.63	10,351.13	5,081.29	-32.70	5,081.39	0.00	0.00	0.00
15,300.00	90.17	359.63	10,350.83	5,181.29	-33.35	5,181.39	0.00	0.00	0.00
15,400.00	90.17	359.63	10,350.53	5,281.28	-33.99	5,281.39	0.00	0.00	0.00
15,500.00	90.17	359.63	10,350.24	5,381.28	-34.63	5,381.39	0.00	0.00	0.00
15,600.00	90.17	359.63	10,349.94	5,481.28	-35.28	5,481.39	0.00	0.00	0.00
15,700.00	90.17	359.63	10,349.64	5,581.28	-35.92	5,581.39	0.00	0.00	0.00
15,800.00	90.17	359.63	10,349.35	5,681.27	-36.56	5,681.39	0.00	0.00	0.00
15,900.00	90.17	359.63	10,349.05	5,781.27	-37.21	5,781.39	0.00	0.00	0.00
16,000.00	90.17	359.63	10,348.75	5,881.27	-37.85	5,881.39	0.00	0.00	0.00
16,100.00	90.17	359.63	10,348.46	5,981.27	-38.49	5,981.39	0.00	0.00	0.00
16,200.00	90.17	359.63	10,348.16	6,081.26	-39.14	6,081.39	0.00	0.00	0.00
16,300.00	90.17	359.63	10,347.86	6,181.26	-39.78	6,181.39	0.00	0.00	0.00
16,400.00	90.17	359.63	10,347.57	6,281.26	-40.42	6,281.39	0.00	0.00	0.00
16,500.00	90.17	359.63	10,347.27	6,381.26	-41.07	6,381.39	0.00	0.00	0.00
16,600.00	90.17	359.63	10,346.97	6,481.25	-41.71	6,481.39	0.00	0.00	0.00
16,700.00	90.17	359.63	10,346.68	6,581.25	-42.36	6,581.39	0.00	0.00	0.00
16,800.00	90.17	359.63	10,346.38	6,681.25	-43.00	6,681.39	0.00	0.00	0.00
16,900.00	90.17	359.63	10,346.08	6,781.25	-43.64	6,781.39	0.00	0.00	0.00
17,000.00	90.17	359.63	10,345.79	6,881.24	-44.29	6,881.39	0.00	0.00	0.00
17,100.00	90.17	359.63	10,345.49	6,981.24	-44.93	6,981.39	0.00	0.00	0.00
17,200.00	90.17	359.63	10,345.19	7,081.24	-45.57	7,081.38	0.00	0.00	0.00
17,300.00	90.17	359.63	10,344.90	7,181.24	-46.22	7,181.38	0.00	0.00	0.00
17,400.00	90.17	359.63	10,344.60	7,281.23	-46.86	7,281.38	0.00	0.00	0.00
17,500.00	90.17	359.63	10,344.30	7,381.23	-47.50	7,381.38	0.00	0.00	0.00
17,600.00	90.17	359.63	10,344.01	7,481.23	-48.15	7,481.38	0.00	0.00	0.00
17,700.00	90.17	359.63	10,343.71	7,581.23	-48.79	7,581.38	0.00	0.00	0.00
17,800.00	90.17	359.63	10,343.41	7,681.22	-49.43	7,681.38	0.00	0.00	0.00
17,900.00	90.17	359.63	10,343.12	7,781.22	-50.08	7,781.38	0.00	0.00	0.00
18,000.00	90.17	359.63	10,342.82	7,881.22	-50.72	7,881.38	0.00	0.00	0.00
18,100.00	90.17	359.63	10,342.52	7,981.22	-51.36	7,981.38	0.00	0.00	0.00
18,200.00	90.17	359.63	10,342.23	8,081.21	-52.01	8,081.38	0.00	0.00	0.00
18,276.39	90.17	359.63	10,342.00	8,157.60	-52.50	8,157.77	0.00	0.00	0.00



Phoenix Technology Services
Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #027H
Company:	BOPCO, L.P.	TVD Reference:	KB @ 3475.00usft (Latshaw 14)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3475.00usft (Latshaw 14)
Site:	Poker Lake Unit CVX JV BS	North Reference:	Grid
Well:	#027H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1/Job #1311615		
Design:	Plan #4 05-20-14		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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TD at 18276.39

Design Targets									
Target Name	hit/miss target Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	
PBHL-PLU CVX JV BS 1	- plan hits target center - Rectangle (sides W80.00 H40.00 D7,584.02)	-90.10	359.63	10,342.00	8,157.60	-52.50	432,646.70	675,103.90	32° 11' 17.50641 N 103° 46' 2.34203 W

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
570.00	570.00	T/Rustler		-0.08	359.63
935.00	935.00	T/Salado		-0.08	359.63
4,130.00	4,130.00	B/Salt		-0.08	359.63
4,355.00	4,355.00	T/Lamar		-0.08	359.63
8,260.00	8,260.00	T/Ramsey		-0.08	359.63
9,255.00	9,255.00	Bone Spring Lime		-0.08	359.63
9,915.96	9,914.98	Bone Spring 1 Sand		-0.08	359.63
10,673.72	10,364.23	Target 1		-0.08	359.63

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,791.54	9,791.54	0.00	0.00	KOP, 10°/100' Build
10,693.24	10,364.50	574.64	-3.70	LP, Begin 90.17° Inc Hold
18,276.39	10,342.00	8,157.60	-52.50	TD at 18276.39

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NMNM-0522A
WELL NAME & NO.:	PLU Big Sinks 3 25 31 USA 1H
SURFACE HOLE FOOTAGE:	0330' FNL & 1980' FWL
BOTTOM HOLE FOOTAGE:	2640' FSL & 1980' FWL Sec. 27, T. 24 S., R 31 E.,
LOCATION:	Section 03, T. 25 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**

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

1. **Operator has state that Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is encountered in quantities greater than 10 PPM the well shall be shut in and H₂S equipment shall be installed and flare line must be extended pursuant to Onshore Oil and Gas Order #6. After detection, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items.**
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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
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 is located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall 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 program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

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

Wait on cement (WOC) time prior to drilling out 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. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. 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.

Possibility of water flows in the Salado, Castile, and Delaware.

Possibility of lost circulation in the Red Beds, Rustler, Delaware, and Bone Spring. High pressures may be encountered within the 3rd Bone Spring and Wolfcamp formation.

1. The 13-3/8 inch surface casing shall be set at approximately 841 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 feet above 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 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 **8-5/8** inch intermediate casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

- ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

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

- ☒ Cement should tie-back to the top of the liner. Operator shall provide method of verification.

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. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the**

company man's trailer and on the rig floor. If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi.**
 - a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
 - b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
 - c. **Manufacturer representative shall install the test plug for the initial BOP test.**
 - d. **Operator shall perform the intermediate casing integrity tests to 70 % of the casing burst. This will test the multi-bowl seals.**
 - e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer.**
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

- d. The results of the test shall be reported to the appropriate BLM office.
- e. 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.**
- f. 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. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CRW 060514