

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

MAR 26 2013

2. Name of Operator
BOPCO, L. P.

NMOCD ARTESIA

3a. Address
P. O. Box 2760 Midland, TX 797023b. Phone No. (include area code)
432-683-2277

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

SHL: 150' FNL, 660' FWL, Sec. 20, T25S-R31E, Lat: N32.122625, Long: W103.806089
BHL: 100' FSL, 660' FWL, Sec. 20, T25S-R31E, Lat: N32.108700, Long: W103.806211

5. Lease Serial No.

NMLC061634B

6. If Indian, Allottee or Tribe Name

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

NMNM071016X

8. Well Name and No.

PLU Phantom Banks 20 25 31 USA 1H

9. API Well No.

30-015-40764

10. Field and Pool, or Exploratory Area

Corral Canyon; Bone Spring

11. County or Parish, State

Eddy County, NM

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

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

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

BOPCO, L.P. respectfully requests the following changes to the above captioned well:

Deepen the 13-3/8", 48#, H-40, STC surface casing to a depth of 1,073'. Based on offsets and interpretation, our geology department believes top of the salado to be at 1,093'. This will place us above any salt and below any potential unconsolidated formations below the rustler. This will reduce the risk of lost returns while drilling with brine water in the 11" intermediate hole section. Cement will be circulated to surface as per COA.

Deepen the 8-5/8", 32#, J-55, LTC intermediate casing to a depth of 4,233'. Based on offsets and interpretation, our geology department believes the top of the Lamar to be at 4,213'. This will place us 20' inside of the Lamar, providing a more competent casing shoe for the remainder of the well. Cement will be circulated to surface as per COA.

Deepen the 5-1/2", 17#, HCP-110, BTC production casing to 14,316' while retaining the currently approved SHL & BHL. This is based on the updated directional plan provided by Phoenix Technologies. Please see attached, updated directional plan.

SEE ATTACHED FOR
CONDITIONS OF APPROVALDocumented
Mud Log Required

APPROVED

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Christopher Giese

Title Drilling Engineer

Signature

Christopher Giese

Date

2/27/13

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

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

Title

Date

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.

(Instructions on page 2)

SEE ATTACHED FOR
CONDITIONS OF APPROVALAccepted for record
NMOCDJES
3/6/2013

MAR 25 2013

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE



Bopco L P

**Eddy County, NM (NAD83 NME)
PLU Phantom Banks 20-25-31 USA
1H (CVX)**

Wellbore #1/Job #1310221

Plan: Plan #1 02-20-13

Standard Planning Report

20 February, 2013



PHOENIX
TECHNOLOGY SERVICES



Phoenix Technology Services

Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well 1H (CVX)
Company:	Bopco L P	TVD Reference:	RF @ 3403.00usft (Latshaw 14)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RF @ 3403.00usft (Latshaw 14)
Site:	PLU Phantom Banks 20-25-31 USA	North Reference:	Grid
Well:	1H (CVX)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1/Job #1310221		
Design:	Plan #1 02-20-13		

Project	Eddy County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	PLU Phantom Banks 20-25-31 USA			
Site Position:		Northing:	408,790.00 usft	Latitude: 32° 7' 21.8890 N
From:	Map	Easting:	704,412.00 usft	Longitude: 103° 48' 23.6397 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.28 °

Well	1H (CVX)			
Well Position	+N/-S	0.00 usft	Northing:	408,790.00 usft
	+E/-W	0.00 usft	Easting:	704,412.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,383.00 usft	

Wellbore	Wellbore #1/Job #1310221				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	02/19/13	7.48	60.01	48,362

Design	Plan #1 02-20-13			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	180.16

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,978.50	0.00	0.00	8,978.50	0.00	0.00	0.00	0.00	0.00	0.00	
9,725.69	89.66	180.16	9,455.96	-474.65	-1.31	12.00	12.00	-24.07	180.16	
14,316.13	89.66	180.16	9,483.00	-5,065.00	-14.00	0.00	0.00	0.00	0.00	PBHL-PB 20-25-31 #



Phoenix Technology Services

Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well 1H (CVX)
Company:	Bopco LP	TVD Reference:	RF @ 3403.00usft (Latshaw 14)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RF @ 3403.00usft (Latshaw 14)
Site:	PLU Phantom Banks 20-25-31 USA	North Reference:	Grid
Well:	1H (CVX)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1/Job #1310221		
Design:	Plan #1 02-20-13		

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
723.00	0.00	0.00	723.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,093.00	0.00	0.00	1,093.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
4,213.00	0.00	0.00	4,213.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar Lime									
4,253.00	0.00	0.00	4,253.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware Sands									
8,106.00	0.00	0.00	8,106.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring LS									
8,430.00	0.00	0.00	8,430.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Avalon									
8,624.00	0.00	0.00	8,624.00	0.00	0.00	0.00	0.00	0.00	0.00
Lower Avalon									
8,978.50	0.00	0.00	8,978.50	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start DLS 12.00 TFO 180.16									
9,000.00	2.58	180.16	8,999.99	-0.48	0.00	0.48	12.00	12.00	0.00
9,100.00	14.58	180.16	9,098.69	-15.38	-0.04	15.38	12.00	12.00	0.00
9,200.00	26.58	180.16	9,192.14	-50.46	-0.14	50.46	12.00	12.00	0.00
9,300.00	38.58	180.16	9,276.25	-104.21	-0.29	104.21	12.00	12.00	0.00
9,400.00	50.58	180.16	9,347.35	-174.27	-0.48	174.27	12.00	12.00	0.00
9,500.00	62.58	180.16	9,402.32	-257.59	-0.71	257.59	12.00	12.00	0.00
9,521.14	65.12	180.16	9,411.64	-276.56	-0.76	276.56	12.00	12.00	0.00
Top of target sand									
9,600.00	74.58	180.16	9,438.78	-350.51	-0.97	350.51	12.00	12.00	0.00
9,700.00	86.58	180.16	9,455.11	-448.98	-1.24	448.98	12.00	12.00	0.00
9,714.11	88.27	180.16	9,455.75	-463.07	-1.28	463.08	12.00	12.00	0.00
Target sand									
9,725.69	89.66	180.16	9,455.96	-474.65	-1.31	474.65	12.00	12.00	0.00
LP Start 4590.45 hold at 9725.69 MD									
9,800.00	89.66	180.16	9,456.39	-548.96	-1.52	548.96	0.00	0.00	0.00
9,900.00	89.66	180.16	9,456.98	-648.96	-1.79	648.96	0.00	0.00	0.00
10,000.00	89.66	180.16	9,457.57	-748.96	-2.07	748.96	0.00	0.00	0.00
10,100.00	89.66	180.16	9,458.16	-848.96	-2.35	848.96	0.00	0.00	0.00
10,200.00	89.66	180.16	9,458.75	-948.95	-2.62	948.96	0.00	0.00	0.00
10,300.00	89.66	180.16	9,459.34	-1,048.95	-2.90	1,048.95	0.00	0.00	0.00
10,400.00	89.66	180.16	9,459.93	-1,148.95	-3.18	1,148.95	0.00	0.00	0.00
10,500.00	89.66	180.16	9,460.52	-1,248.95	-3.45	1,248.95	0.00	0.00	0.00
10,600.00	89.66	180.16	9,461.11	-1,348.94	-3.73	1,348.95	0.00	0.00	0.00
10,700.00	89.66	180.16	9,461.70	-1,448.94	-4.00	1,448.95	0.00	0.00	0.00
10,800.00	89.66	180.16	9,462.29	-1,548.94	-4.28	1,548.95	0.00	0.00	0.00
10,900.00	89.66	180.16	9,462.87	-1,648.94	-4.56	1,648.94	0.00	0.00	0.00
11,000.00	89.66	180.16	9,463.46	-1,748.94	-4.83	1,748.94	0.00	0.00	0.00
11,100.00	89.66	180.16	9,464.05	-1,848.93	-5.11	1,848.94	0.00	0.00	0.00
11,200.00	89.66	180.16	9,464.64	-1,948.93	-5.39	1,948.94	0.00	0.00	0.00
11,300.00	89.66	180.16	9,465.23	-2,048.93	-5.66	2,048.94	0.00	0.00	0.00
11,400.00	89.66	180.16	9,465.82	-2,148.93	-5.94	2,148.94	0.00	0.00	0.00
11,500.00	89.66	180.16	9,466.41	-2,248.93	-6.22	2,248.93	0.00	0.00	0.00
11,600.00	89.66	180.16	9,467.00	-2,348.92	-6.49	2,348.93	0.00	0.00	0.00
11,700.00	89.66	180.16	9,467.59	-2,448.92	-6.77	2,448.93	0.00	0.00	0.00
11,800.00	89.66	180.16	9,468.18	-2,548.92	-7.05	2,548.93	0.00	0.00	0.00
11,900.00	89.66	180.16	9,468.77	-2,648.92	-7.32	2,648.93	0.00	0.00	0.00



Phoenix Technology Services

Planning Report



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Company:	Bopco LP	TVD Reference:	RF @ 3403.00usft (Latshaw 14)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RF @ 3403.00usft (Latshaw 14)
Site:	PLU Phantom Banks 20-25-31 USA	North Reference:	Grid
Well:	1H (CVX)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1/Job #1310221		
Design:	Plan #1 02-20-13		

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)
12,000.00	89.66	180.16	9,469.36	-2,748.91	-7.60	2,748.93	0.00	0.00	0.00
12,100.00	89.66	180.16	9,469.94	-2,848.91	-7.87	2,848.92	0.00	0.00	0.00
12,200.00	89.66	180.16	9,470.53	-2,948.91	-8.15	2,948.92	0.00	0.00	0.00
12,300.00	89.66	180.16	9,471.12	-3,048.91	-8.43	3,048.92	0.00	0.00	0.00
12,400.00	89.66	180.16	9,471.71	-3,148.91	-8.70	3,148.92	0.00	0.00	0.00
12,500.00	89.66	180.16	9,472.30	-3,248.90	-8.98	3,248.92	0.00	0.00	0.00
12,600.00	89.66	180.16	9,472.89	-3,348.90	-9.26	3,348.92	0.00	0.00	0.00
12,700.00	89.66	180.16	9,473.48	-3,448.90	-9.53	3,448.91	0.00	0.00	0.00
12,800.00	89.66	180.16	9,474.07	-3,548.90	-9.81	3,548.91	0.00	0.00	0.00
12,900.00	89.66	180.16	9,474.66	-3,648.90	-10.09	3,648.91	0.00	0.00	0.00
13,000.00	89.66	180.16	9,475.25	-3,748.89	-10.36	3,748.91	0.00	0.00	0.00
13,100.00	89.66	180.16	9,475.84	-3,848.89	-10.64	3,848.91	0.00	0.00	0.00
13,200.00	89.66	180.16	9,476.42	-3,948.89	-10.91	3,948.90	0.00	0.00	0.00
13,300.00	89.66	180.16	9,477.01	-4,048.89	-11.19	4,048.90	0.00	0.00	0.00
13,400.00	89.66	180.16	9,477.60	-4,148.89	-11.47	4,148.90	0.00	0.00	0.00
13,500.00	89.66	180.16	9,478.19	-4,248.88	-11.74	4,248.90	0.00	0.00	0.00
13,600.00	89.66	180.16	9,478.78	-4,348.88	-12.02	4,348.90	0.00	0.00	0.00
13,700.00	89.66	180.16	9,479.37	-4,448.88	-12.30	4,448.90	0.00	0.00	0.00
13,800.00	89.66	180.16	9,479.96	-4,548.88	-12.57	4,548.89	0.00	0.00	0.00
13,900.00	89.66	180.16	9,480.55	-4,648.87	-12.85	4,648.89	0.00	0.00	0.00
14,000.00	89.66	180.16	9,481.14	-4,748.87	-13.13	4,748.89	0.00	0.00	0.00
14,100.00	89.66	180.16	9,481.73	-4,848.87	-13.40	4,848.89	0.00	0.00	0.00
14,200.00	89.66	180.16	9,482.32	-4,948.87	-13.68	4,948.89	0.00	0.00	0.00
14,300.00	89.66	180.16	9,482.91	-5,048.87	-13.96	5,048.89	0.00	0.00	0.00
14,316.13	89.66	180.16	9,483.00	-5,065.00	-14.00	5,065.02	0.00	0.00	0.00

TD at 14316.13 - PBHL-PB 20-25-31 #1H

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL-PB 20-25-31 #1H	-89.66	180.16	9,483.00	-5,065.00	-14.00	403,725.00	704,398.00	32° 6' 31.7674 N	103° 48' 24.0903 W
- plan hits target center									
- Rectangle (sides W100.00 H20.00 D4,590.45)									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
723.00	723.00	Rustler		0.34	180.16	
1,093.00	1,093.00	Salado		0.34	180.16	
4,213.00	4,213.00	Lamar Lime		0.34	180.16	
4,253.00	4,253.00	Delaware Sands		0.34	180.16	
8,106.00	8,106.00	Bone Spring LS		0.34	180.16	
8,430.00	8,430.00	Upper Avalon		0.34	180.16	
8,624.00	8,624.00	Lower Avalon		0.34	180.16	
9,521.14	9,411.64	Top of target sand		0.34	180.16	
9,714.11	9,455.75	Target sand		0.34	180.16	



Phoenix Technology Services

Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well 1H (CVX)
Company:	Bopco L P	TVD Reference:	RF @ 3403.00usft (Latshaw 14)
Project:	Eddy County, NM (NAD83 NME)	MD Reference:	RF @ 3403.00usft (Latshaw 14)
Site:	PLU Phantom Banks 20-25-31 USA	North Reference:	Grid
Well:	1H (CVX)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1/Job #1310221		
Design:	Plan #1. 02-20-13		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,978.50	8,978.50	0.00	0.00	KOP Start DLS 12.00 TFO 180.16
9,725.69	9,455.96	-474.65	-1.31	LP Start 4590.45 hold at 9725.69 MD
14,316.13	9,483.00	-5,065.00	-14.00	TD at 14316.13

CONDITIONS OF APPROVAL

Two Sundries dated 2/27/2013

OPERATOR'S NAME:	CHESAPEAKE OPERATING FOR BOPCO, LP
LEASE NO.:	LC061634B
WELL NAME & NO.:	1H-PLU PHANTOM BANKS 20 25 31 USA
SURFACE HOLE FOOTAGE:	150'/N. & 660'/W.
BOTTOM HOLE FOOTAGE:	100'/S. & 660'/W.
LOCATION:	Section 20, T. 25 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

Original COA still applies with the following changes:

**Possible water flows in the Castile, Salado, Delaware and Bone Springs Groups
Possible lost circulation in the Delaware and Bone Spring formations**

Operator has proposed to deepen the setting depth of the surface and intermediate casing without adequate and/or additional supporting justification. If operator is unable to supply structure maps and geologic cross sections of the Salado and Lamar formations the operator shall be required to have a mud logger on location.

The operator shall be required to have a mud logger on location to help pick the setting depth for the surface and intermediate casing. The operator shall be required to provide an actual mud logging report of this well to the BLM. The report shall be submitted to the BLM after the intermediated casing setting depth has been reached.

1. The **13-3/8 inch** surface casing shall be set at **approximately 1073 feet (below the Magenta Dolomite member of the Rustler Anhydrite and above the salt)** and cemented to the surface.
 - 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, **which shall be set at approximately 4233' in the Lamar Formation**, 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 **5-1/2** inch production casing is:
Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

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

EGF 032113