

OCD-ARTESIA

Form 3160-5
(April 2004)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

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

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

RECEIVED

JUL 16 2010

NM OCD ARTESIA

5 Lease Serial No

NM0506A - NM0522A

6 If Indian, Allottee or Tribe Name

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

8 Well Name and No.

Poker Lake Unit #302H

9 API Well No

30-015-37647

10 Field and Pool, or Exploratory Area

Poker Lake S (Delaware)

11 County or Parish, State

Eddy Co., NM

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1 Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2 Name of Operator

BOPCO, L. P.

3a Address

P. O. Box 2760 Midland, TX 79702

3b Phone No (include area code)

432-683-2277

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

Surface: SWNE, 2200' FNL, 2030' FEL, Sec 28, T24S, R31S, Lat N32.189406, Lon W103.780289

BHL: NWSW, 2118' FNL, 969' FWL, Sec 21, T24S, R31E, Lat N32.204144, Long W103.787681

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

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

☐ Acidize

☒ Alter Casing

☐ Casing Repair

☒ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☐ Plug and Abandon

☐ Plug Back

☐ Production (Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☐ Other

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 recompleate 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 recompleation 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 requests approval of the following:

The 9-5/8" casing program will change from 0-1000' of 40#, N80, LT&C to 0-1000' of 40#, L80, LT&C. 1000-4367' will remain the same 40#, J55, LT&C.

The 7" casing program will change from 0-8351' of 26#, N80, LT&C to 0-8666' of 26#, N80, LT&C.

The 4-1/2" casing program will change from 7370-8351' of 11.6#, HCP110, ultra FJT and 8351'-13654' of 11.6#, HCP110, LT&C with Baker packers to 8516-13767' of 11.6#, HCP110, LT&C with Baker packers and top of liner hanger at 8516'.

There will be no pilot hole drilled on this well.

Updated cement program is attached.

The revised horizontal drilling plan is attached.

BOPCO L.P. Bond # on file: COB000050

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Brian Hammit

Title Drilling Engineer

Signature

Brian Hammit

Date

7/8/2010

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

Office

APPROVED

Petroleum Engineer

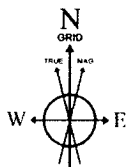
JUL 13 2010

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Title 18 USC Section 1001 and Title 43 USC 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)

Slot	No	302H SHL
Well	No	302H
Wellbore	No	302H PWB



No. 302H PBHL 90 00* Inc 13767 77ft MD 8143 00ft TVD 5829 23ft VS

No 302H PBHL

Vertical Section (ft)
Azimuth 336.61° with reference 0.00 N, 0.00 E



Planned Wellpath Report

Prelim_4

Page 1 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 302H SHL
Area	Eddy County, NM	Well	No. 302H
Field	Poker Lake Unit	Wellbore	No. 302H PWB
Facility	Poker Lake Unit No. 302H		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Victor Hernandez
Scale	0.999943	Report Generated	6/29/2010 at 10:26:09 AM
Convergence at slot	0.29° East	Database/Source file	WellArchitectDB/No. 302H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	671088.73	433066.10	32°11'21.863"N	103°46'49.039"W
Facility Reference Pt			671088.73	433066.10	32°11'21.863"N	103°46'49.039"W
Field Reference Pt			630272.49	405347.85	32°06'49.387"N	103°54'45.266"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 302H SHL (KB) to GL	19.00ft
Horizontal Reference Pt	SL	Rig on No. 302H SHL (KB) to Mean Sea Level	3503.00ft
Vertical Reference Pt	Rig on No. 302H SHL (KB)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 302H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	336.61°



Planned Wellpath Report

Prelim_4

Page 2 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 302H SHL
Area	Eddy County, NM	Well	No. 302H
Field	Poker Lake Unit	Wellbore	No. 302H PWB
Facility	Poker Lake Unit No. 302H		

WELLPATH DATA (65 stations) * † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	336.608	0.00	0.00	0.00	0.00	671088.73	433066.10	32°11'21.863"N	103°46'49.039"W	0.00	Tie On
7666.00	0.000	336.608	7666.00	0.00	0.00	0.00	671088.73	433066.10	32°11'21.863"N	103°46'49.039"W	0.00	EST KOP
7766.00†	12.000	336.608	7765.27	10.43	9.58	-4.14	671084.59	433075.68	32°11'21.958"N	103°46'49.087"W	12.00	
7866.00†	24.000	336.608	7860.20	41.28	37.89	-16.39	671072.34	433103.98	32°11'22.239"N	103°46'49.227"W	12.00	
7966.00†	36.000	336.608	7946.65	91.19	83.69	-36.20	671052.53	433149.79	32°11'22.694"N	103°46'49.455"W	12.00	
8066.00†	48.000	336.608	8020.83	157.98	144.99	-62.72	671026.01	433211.09	32°11'23.301"N	103°46'49.760"W	12.00	
8166.00†	60.000	336.608	8079.50	238.73	219.11	-94.78	670993.95	433285.20	32°11'24.036"N	103°46'50.129"W	12.00	
8266.00†	72.000	336.608	8120.10	329.92	302.80	-130.99	670957.75	433368.89	32°11'24.867"N	103°46'50.545"W	12.00	
8366.00†	84.000	336.608	8140.85	427.56	392.41	-169.75	670918.99	433458.49	32°11'25.755"N	103°46'50.991"W	12.00	
8416.04	90.005	336.608	8143.46	477.51	438.26	-189.58	670899.16	433504.33	32°11'26.210"N	103°46'51.219"W	12.00	END OF CURVE
8466.00†	90.005	336.608	8143.46	527.46	484.11	-209.42	670879.33	433550.18	32°11'26.665"N	103°46'51.447"W	0.00	
8566.00†	90.005	336.608	8143.45	627.46	575.89	-249.12	670839.63	433641.96	32°11'27.575"N	103°46'51.903"W	0.00	
8666.00†	90.005	336.608	8143.44	727.46	667.67	-288.82	670799.93	433733.73	32°11'28.485"N	103°46'52.360"W	0.00	
8766.00†	90.005	336.608	8143.43	827.46	759.45	-328.52	670760.23	433825.51	32°11'29.395"N	103°46'52.816"W	0.00	
8866.00†	90.005	336.608	8143.43	927.46	851.24	-368.23	670720.53	433917.28	32°11'30.306"N	103°46'53.273"W	0.00	
8966.00†	90.005	336.608	8143.42	1027.46	943.02	-407.93	670680.83	434009.06	32°11'31.216"N	103°46'53.729"W	0.00	
9066.00†	90.005	336.608	8143.41	1127.46	1034.80	-447.63	670641.13	434100.84	32°11'32.126"N	103°46'54.186"W	0.00	
9166.00†	90.005	336.608	8143.40	1227.46	1126.58	-487.33	670601.43	434192.61	32°11'33.036"N	103°46'54.642"W	0.00	
9266.00†	90.005	336.608	8143.39	1327.46	1218.36	-527.03	670561.73	434284.39	32°11'33.946"N	103°46'55.099"W	0.00	
9366.00†	90.005	336.608	8143.38	1427.46	1310.14	-566.74	670522.03	434376.16	32°11'34.857"N	103°46'55.555"W	0.00	
9466.00†	90.005	336.608	8143.37	1527.46	1401.92	-606.44	670482.33	434467.94	32°11'35.767"N	103°46'56.012"W	0.00	
9566.00†	90.005	336.608	8143.36	1627.46	1493.70	-646.14	670442.63	434559.71	32°11'36.677"N	103°46'56.468"W	0.00	
9666.00†	90.005	336.608	8143.36	1727.46	1585.48	-685.84	670402.93	434651.49	32°11'37.587"N	103°46'56.925"W	0.00	
9766.00†	90.005	336.608	8143.35	1827.46	1677.26	-725.55	670363.23	434743.26	32°11'38.497"N	103°46'57.381"W	0.00	
9866.00†	90.005	336.608	8143.34	1927.46	1769.04	-765.25	670323.53	434835.04	32°11'39.408"N	103°46'57.838"W	0.00	
9966.00†	90.005	336.608	8143.33	2027.46	1860.82	-804.95	670283.83	434926.81	32°11'40.318"N	103°46'58.294"W	0.00	
10066.00†	90.005	336.608	8143.32	2127.46	1952.61	-844.65	670244.13	435018.59	32°11'41.228"N	103°46'58.751"W	0.00	
10166.00†	90.005	336.608	8143.31	2227.46	2044.39	-884.36	670204.43	435110.36	32°11'42.138"N	103°46'59.208"W	0.00	
10266.00†	90.005	336.608	8143.30	2327.46	2136.17	-924.06	670164.73	435202.14	32°11'43.049"N	103°46'59.664"W	0.00	
10366.00†	90.005	336.608	8143.30	2427.46	2227.95	-963.76	670125.03	435293.92	32°11'43.959"N	103°47'00.121"W	0.00	



Planned Wellpath Report

Prelim_4

Page 3 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 302H SHL
Area	Eddy County, NM	Well	No. 302H
Field	Poker Lake Unit	Wellbore	No. 302H PWB
Facility	Poker Lake Unit No. 302H		

WELLPATH DATA (65 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10466.00†	90.005	336.608	8143.29	2527.46	2319.73	-1003.46	670085.33	435385.69	32°11'44.869"N	103°47'00.577"W	0.00	
10566.00†	90.005	336.608	8143.28	2627.46	2411.51	-1043.16	670045.63	435477.47	32°11'45.779"N	103°47'01.034"W	0.00	
10666.00†	90.005	336.608	8143.27	2727.46	2503.29	-1082.87	670005.93	435569.24	32°11'46.689"N	103°47'01.490"W	0.00	
10766.00†	90.005	336.608	8143.26	2827.46	2595.07	-1122.57	669966.23	435661.02	32°11'47.600"N	103°47'01.947"W	0.00	
10866.00†	90.005	336.608	8143.25	2927.46	2686.85	-1162.27	669926.53	435752.79	32°11'48.510"N	103°47'02.403"W	0.00	
10966.00†	90.005	336.608	8143.24	3027.46	2778.63	-1201.97	669886.83	435844.57	32°11'49.420"N	103°47'02.860"W	0.00	
11066.00†	90.005	336.608	8143.23	3127.46	2870.41	-1241.68	669847.13	435936.34	32°11'50.330"N	103°47'03.316"W	0.00	
11166.00†	90.005	336.608	8143.23	3227.46	2962.19	-1281.38	669807.43	436028.12	32°11'51.241"N	103°47'03.773"W	0.00	
11266.00†	90.005	336.608	8143.22	3327.46	3053.98	-1321.08	669767.73	436119.89	32°11'52.151"N	103°47'04.230"W	0.00	
11366.00†	90.005	336.608	8143.21	3427.46	3145.76	-1360.78	669728.03	436211.67	32°11'53.061"N	103°47'04.686"W	0.00	
11466.00†	90.005	336.608	8143.20	3527.46	3237.54	-1400.49	669688.33	436303.45	32°11'53.971"N	103°47'05.143"W	0.00	
11566.00†	90.005	336.608	8143.19	3627.46	3329.32	-1440.19	669648.63	436395.22	32°11'54.881"N	103°47'05.599"W	0.00	
11666.00†	90.005	336.608	8143.18	3727.46	3421.10	-1479.89	669608.93	436487.00	32°11'55.792"N	103°47'06.056"W	0.00	
11766.00†	90.005	336.608	8143.17	3827.46	3512.88	-1519.59	669569.23	436578.77	32°11'56.702"N	103°47'06.512"W	0.00	
11866.00†	90.005	336.608	8143.16	3927.46	3604.66	-1559.30	669529.53	436670.55	32°11'57.612"N	103°47'06.969"W	0.00	
11966.00†	90.005	336.608	8143.16	4027.46	3696.44	-1599.00	669489.83	436762.32	32°11'58.522"N	103°47'07.426"W	0.00	
12066.00†	90.005	336.608	8143.15	4127.46	3788.22	-1638.70	669450.13	436854.10	32°11'59.432"N	103°47'07.882"W	0.00	
12166.00†	90.005	336.608	8143.14	4227.46	3880.00	-1678.40	669410.43	436945.87	32°12'00.343"N	103°47'08.339"W	0.00	
12266.00†	90.005	336.608	8143.13	4327.46	3971.78	-1718.10	669370.73	437037.65	32°12'01.253"N	103°47'08.795"W	0.00	
12366.00†	90.005	336.608	8143.12	4427.46	4063.56	-1757.81	669331.03	437129.42	32°12'02.163"N	103°47'09.252"W	0.00	
12466.00†	90.005	336.608	8143.11	4527.46	4155.35	-1797.51	669291.33	437221.20	32°12'03.073"N	103°47'09.708"W	0.00	
12566.00†	90.005	336.608	8143.10	4627.46	4247.13	-1837.21	669251.63	437312.97	32°12'03.983"N	103°47'10.165"W	0.00	
12666.00†	90.005	336.608	8143.10	4727.46	4338.91	-1876.91	669211.93	437404.75	32°12'04.894"N	103°47'10.622"W	0.00	
12766.00†	90.005	336.608	8143.09	4827.46	4430.69	-1916.62	669172.23	437496.53	32°12'05.804"N	103°47'11.078"W	0.00	
12866.00†	90.005	336.608	8143.08	4927.46	4522.47	-1956.32	669132.53	437588.30	32°12'06.714"N	103°47'11.535"W	0.00	
12966.00†	90.005	336.608	8143.07	5027.46	4614.25	-1996.02	669092.83	437680.08	32°12'07.624"N	103°47'11.991"W	0.00	
13066.00†	90.005	336.608	8143.06	5127.46	4706.03	-2035.72	669053.13	437771.85	32°12'08.534"N	103°47'12.448"W	0.00	
13166.00†	90.005	336.608	8143.05	5227.46	4797.81	-2075.43	669013.43	437863.63	32°12'09.445"N	103°47'12.905"W	0.00	
13266.00†	90.005	336.608	8143.04	5327.46	4889.59	-2115.13	668973.73	437955.40	32°12'10.355"N	103°47'13.361"W	0.00	
13366.00†	90.005	336.608	8143.03	5427.46	4981.37	-2154.83	668934.03	438047.18	32°12'11.265"N	103°47'13.818"W	0.00	



Planned Wellpath Report

Prelim_4

Page 4 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 302H SHL
Area	Eddy County, NM	Well	No. 302H
Field	Poker Lake Unit	Wellbore	No. 302H PWB
Facility	Poker Lake Unit No. 302H		

WELLPATH DATA (65 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13466.00†	90.005	336.608	8143.03	5527.46	5073.15	-2194.53	668894.33	438138.95	32°12'12.175"N	103°47'14.274"W	0.00	
13566.00†	90.005	336.608	8143.02	5627.46	5164.94	-2234.23	668854.63	438230.73	32°12'13.085"N	103°47'14.731"W	0.00	
13666.00†	90.005	336.608	8143.01	5727.46	5256.72	-2273.94	668814.93	438322.50	32°12'13.996"N	103°47'15.188"W	0.00	
13766.00†	90.005	336.608	8143.00	5827.46	5348.50	-2313.64	668775.23	438414.28	32°12'14.906"N	103°47'15.644"W	0.00	
13767.77	90.005	336.608	8143.00	5829.23	5350.12	-2314.34	668774.53	438415.90	32°12'14.922"N	103°47'15.652"W	0.00	No. 302H PBHL

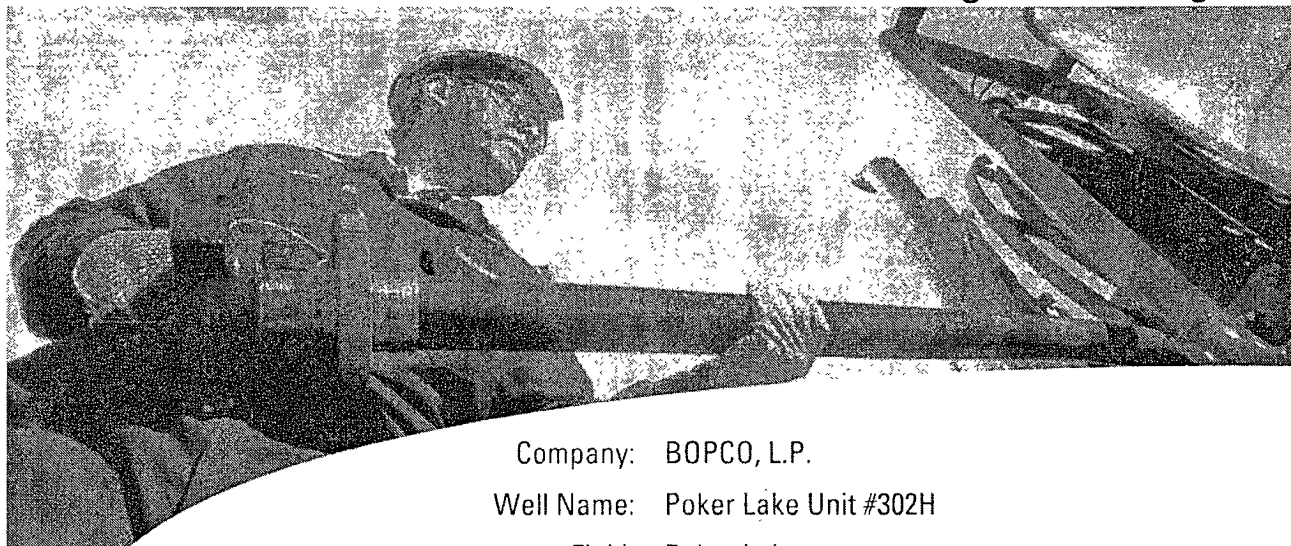
TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 302H PBHL	13767.77	8143.00	5350.12	-2314.34	668774.53	438415.90	32°12'14.922"N	103°47'15.652"W	point

SURVEY PROGRAM Ref Wellbore: No. 302H PWB Ref Wellpath: Prelim_4

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
19.00	13767.77	NaviTrak (Standard)		No. 302H PWB

Casing Cementing



Company: BOPCO, L.P.

Well Name: Poker Lake Unit #302H

Field: Poker Lake

County: Eddy

State: NM

Date: 6/30/2010

Well Location: PLU #302H

API Number:

Proposal Number: 1

Contact: Jeremy Sockwell

Made By: Lynn Northcutt

Service from District: Artesia, NM

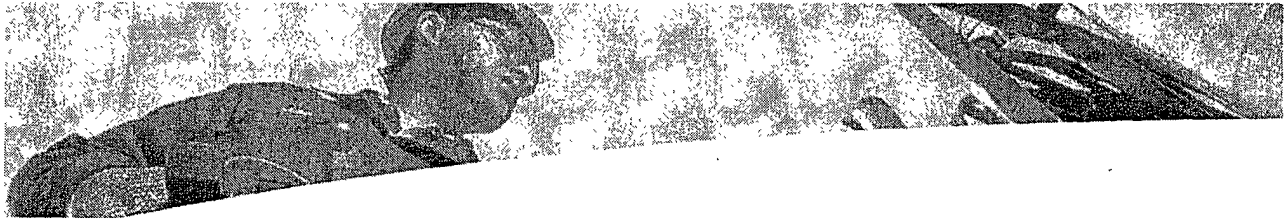
District Phone: 1-575-393-6186

Objective: Cement 972' of 13 3/8" casing in a 17 1/2" open hole.
Cement calculations based on 100% excess.

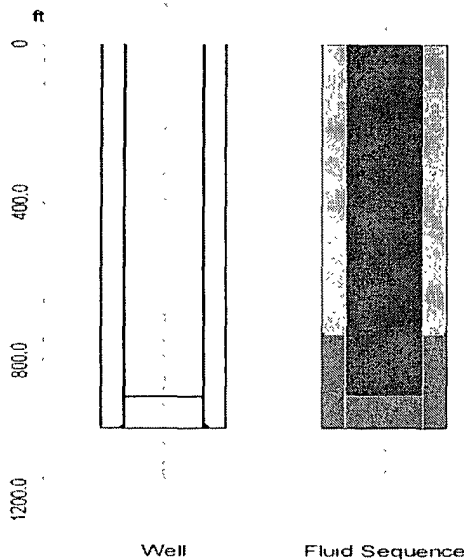
Disclaimer Notice

The information presented in this report is a summary of data and calculations provided by the customer and is not intended to be used as a basis for any decision. Schlumberger assumes no liability for any loss or damage resulting from the use of any product or service. The results given here are based on calculations performed by a computer program which is subject to assumptions of the well log interpretation and treatment. The results shown or input data provided by the customer and Schlumberger's known data and calculations are used in the model. The accuracy and reliability of the input data and the quality of the information presented is Schlumberger's best estimate of the results that may be achieved and should be used for comparison purposes only. The quality of input data and hence results may be improved through the use of certain tests and procedures which Schlumberger can assist in selecting. Schlumberger disclaims any liability for any loss or damage resulting from the use of this information or the results of Schlumberger's best estimate of the results that may be achieved and should be used for comparison purposes only. Schlumberger disclaims any liability for any loss or damage resulting from the use of this information or the results of Schlumberger's best estimate of the results that may be achieved and should be used for comparison purposes only.

Schlumberger



WELL DATA



IMPORTANT

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Fluid Placement			
Fluid Name	Volume bbl	Density lb/gal	Top of Fluid ft
Fresh Water	20.0	8.32	0.0
Lead Slurry	184.2	12.60	0.0
Tail Slurry	71.6	14.80	733.4
Fresh Water	140.1	8.32	0.0

Total Liquid Volume 415.9 bbl

Well Data	
Job Type	Casing Cementing
Total Depth (Measured)	972.0 ft
True Vertical Depth (TVD)	972.0 ft
BHST (Tubular Bottom Static Temperature)	80 degF
BHCT (Tubular Bottom Circulating Temperature)	80 degF

Open Hole		
Mean Diameter without Excess	Bottom Depth	Annular Excess
17.500 in	972.0 ft	100.00 %

Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
13 3/8 in	48.0 lb/ft	H-40	STC	0.88 ft ³ /ft	972.0 ft

Annular Capacity (without Excess) Casing Bottom / Open Hole 0.69 ft³/ft



FLUID SYSTEMS

Fresh Water			
System	Water		
Density	8.32 lb/gal		
Total Volume	160.1 bbl		
Additives	Code	Description	Concentration

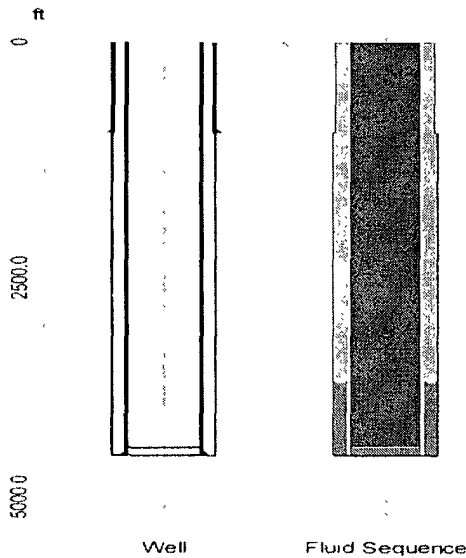
Lead Slurry (525 sacks, 89 lb per sack of Blend)			
System	35/65 (Poz/C)		
Density	12.60 lb/gal		
Yield	1.97 ft ³ /sk		
Mixed Water	10,822 gal/sk		
Mixed Fluid	10,822 gal/sk		
Total Volume	184.2 bbl		
Additives	Code	Description	Concentration
	C	Cement	61 lb/sk WBWOB
	D132	Extender	28 lb/sk WBWOB
	D020	Extender	6.00 % BWOB
	S001	CaCl ₂	2.00 % BWOC
	D130	Lost Circulation Control Agent	0 lb/sk WBWOB

Tail Slurry (300 sacks, 94 lb per sack of Blend)			
System	Class "C"		
Density	14.80 lb/gal		
Yield	1.34 ft ³ /sk		
Mixed Water	6,348 gal/sk		
Mixed Fluid	6,348 gal/sk		
Total Volume	71.6 bbl		
Additives	Code	Description	Concentration
	C	Cement	94 lb/sk WBWOB
	S001	CaCl ₂	2.00 % BWOB
	D130	Lost Circulation Control Agent	0.125 lb/sk WBWOB

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Fluid Placement			
Fluid Name	Volume bbl	Density lb/gal	Top of Fluid ft
Fresh Water	20.0	8.32	0.0
Lead Slurry	296.3	11.80	0.0
Tail Slurry	70.7	14.80	3595.9
Fresh Water	331.4	8.32	0.0

Total Liquid Volume 718.4 bbl

Well Data	
Job Type	Casing Cementing
Total Depth (Measured)	4367.0 ft
True Vertical Depth (TVD)	4367.0 ft
BHST (Tubular Bottom Static Temperature)	110 degF
BHCT (Tubular Bottom Circulating Temperature)	96 degF

Open Hole		
Mean Diameter without Excess	Bottom Depth	Annular Excess
12.250 in	4367.0 ft	50.00 %

Previous Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
13 3/8 in	54.5 lb/ft	J-55	BTC	0.87 ft ³ /ft	972.0 ft

Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
9 5/8 in	36.0 lb/ft	K-55	LTC	0.43 ft ³ /ft	4367.0 ft

Annular Capacity (without Excess) Casing Bottom / Open Hole 0.31 ft³/ft
 Annular Capacity (without Excess) Previous Casing Bottom / Casing 0.36 ft³/ft



FLUID SYSTEMS

Fresh Water			
System	Water		
Density	8.32 lb/gal		
Total Volume	351.4 bbl		
Additives	Code	Description	Concentration

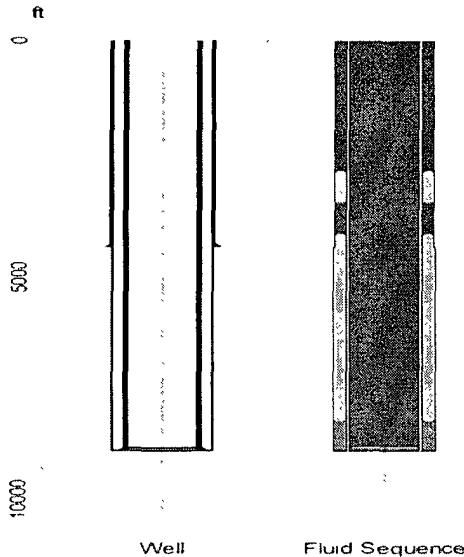
Lead Slurry (650 sacks, 87 lb per sack of Blend)			
System	50/50 (Poz/C)		
Density	11.80 lb/gal		
Yield	2.56 ft ³ /sk		
Mixed Water	14,949 gal/sk		
Mixed Fluid	14,949 gal/sk		
Total Volume	296.3 bbl		
Additives	Code	Description	Concentration
	D044	NaCl	5.00 % BWOW
	D903	Cement	47 lb/sk WBWOB
	D132	Extender	40 lb/sk WBWOB
	D046	Anti Foam	0.20 % BWOB
	D020	Extender	8.00 % BWOB
	D042	Extender	3 lb/sk WBWOB
	D130	Lost Circulation Control Agent	0.125 lb/sk WBWOB

Tail Slurry (300 sacks, 94 lb per sack of Blend)			
System	Class "C"		
Density	14.80 lb/gal		
Yield	1.33 ft ³ /sk		
Mixed Water	6,365 gal/sk		
Mixed Fluid	6,365 gal/sk		
Total Volume	70.7 bbl		
Additives	Code	Description	Concentration
	C	Cement	94 lb/sk WBWOB

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Well Data	
Job Type	Casing Cementing
Total Depth (Measured)	8666.0 ft
True Vertical Depth (TVD)	8666.0 ft
BHST (Tubular Bottom Static Temperature)	124 degF
BHCT (Tubular Bottom Circulating Temperature)	109 degF

Open Hole		
Mean Diameter without Excess	Bottom Depth	Annular Excess
8.750 in	8666.0 ft	30.00 %

Previous Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
9 5/8 in	36.0 lb/ft	K-55	LTC	0.43 ft ³ /ft	4367.0 ft

Casing					
OD	Weight	Grade	Thread	Inner Capacity	Bottom Depth
7 in	26.0 lb/ft	L-80	LTC	0.21 ft ³ /ft	8666.0 ft

Annular Capacity (without Excess) Casing Bottom / Open Hole 0.15 ft³/ft
 Annular Capacity (without Excess) Previous Casing Bottom / Casing 0.17 ft³/ft

Fluid Placement			
Fluid Name	Volume bbl	Density lb/gal	Top of Fluid ft
MUDPUSH XT	20.0	8.34	2753.7
Fresh Water	20.0	8.32	3426.8
Lead Slurry	135.5	10.20	4100.0
Tail Slurry	25.1	13.00	8032.8
Fresh Water	328.5	8.32	0.0

Total Liquid Volume: 529.2 bbl



FLUID SYSTEMS

MUDPUSH XT			
System	MUDPUSH II		
Density	8.34 lb/gal		
Total Volume	20.0 bbl		
Additives	Code	Description	Concentration

Fresh Water			
System	Water		
Density	8.32 lb/gal		
Total Volume	348.5 bbl		
Additives	Code	Description	Concentration

Lead Slurry (350 sacks, 100 lb per sack of Blend)			
System	LiteCRETE		
Density	10.20 lb/gal		
Yield	2.17 ft ³ /sk		
Mixed Water	7.449 gal/sk		
Mixed Fluid	7.499 gal/sk		
Total Volume	135.5 bbl		
Additives	Code	Description	Concentration
	D124	Extender	35 lb/sk WBWOB
	D177	Retarder	0.050 gal/sk VBWOB
	D042	Extender	3 lb/sk WBWOB
	D046	Anti Foam	0.20 % BWOB
	D065	Dispersant	0.30 % BWOB

Tail Slurry (100 sacks, 75 lb per sack of Blend)			
System	TXII		
Density	13.00 lb/gal		
Yield	1.41 ft ³ /sk		
Mixed Water	7.025 gal/sk		
Mixed Fluid	7.025 gal/sk		
Total Volume	25.1 bbl		
Additives	Code	Description	Concentration
	D049	Cement	75 lb/sk WBWOB
	D065	Dispersant	0.15 % BWOB
	D013	Retarder	0.20 % BWOB
	D042	Extender	3 lb/sk WBWOB
	D046	Anti Foam	0.20 % BWOB
	D167	Fluid loss	0.30 % BWOB

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PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NM0522A & NM0506A
WELL NAME & NO.:	Poker Lake Unit #302H
SURFACE HOLE FOOTAGE:	2200' FNL & 2030' FEL, Sec 28, T. 24 S., R 31 E
BOTTOM HOLE FOOTAGE	2118' FNL & 969' FWL, Sec 21, T. 24 S., R 31 E
LOCATION:	Section 28, T. 24 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **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 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 972 feet (a minimum of 25 feet into 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 **9-5/8** inch intermediate casing is:
☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
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** inch liner due to 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 is 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 **2000 (2M) psi. Operator is 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 a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. In addition, for the potash area, no tests are to be initiated prior to 24 hours (R-111-P regulations). Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more

float valves to hold the cement in place. 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 using 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.

RGH 071410