APD

Form 3160-5
(August 2007)

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.

5. Lease Serial No.
NMNM02860

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
891000303X

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

8. Well Name and No.
POKER LAKE UNIT 441H

2. Name of Operator
BOPCO LP
Contact: COURTNEY LOCKHART

9. API Well No.
30-015-41281-00-X1

3a. Address
MIDLAND, TX 79702

3b. Phone No. (include area code)
Ph: 432.683.2277

10. Field and Pool, or Exploratory
NASH DRAW

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 18 T24S R30E SWSE 1281FSL 2401FEL

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			
☒ 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 to Original A PD
	☐ 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 recomplete 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 recompletion 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.)

Accepted for record
NMOCD 11/14/2013

BOPCO, L.P. respectfully requests to change the bottom hole location of Poker Lake Unit 441H to 2,975? FSL and 2,401? FEL Sec7, T24S-R30E and change the intended target formation from the Avalon Shale to 2nd Bone Spring Shale. Please see the attached and updated plat.
BOPCO, L.P. respectfully requests to change plans for BOP testing due to the utilization of the Cameron MBS wellhead. BOPCO L.P. respectfully requests to nipple up and test BOPE on surface casing to 3,000 psi high and 250 psi low which will cover testing requirements for the duration of the well. Please find attached the schematic of the wellhead. The field report from the Cameron representative and the BOP test information will be provided in a subsequent report at the end of the well.
BOPCO, L.P. also respectfully requests permission to amend the casing program for Poker Lake Unit #441H. This will be accomplished by drilling a 17-1/2? surface hole and setting a 13-3/8?, 48 ppf, H-40, ST&C surface string at approximately 457?. The 13-3/8? surface casing will be cemented to

SEE ATTACHED FOR CONDITIONS OF APPROVAL

RECEIVED
NOV 14 2013
NMOCD ARTESIA

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #225987 verified by the BLM Well Information System
For BOPCO LP, sent to the Carlsbad
Committed to AFMSS for processing by JOHNNY DICKERSON on 11/07/2013 (14JLD1525SE)

Name *(Printed/Typed)* CHRISTOPHER VOLEK — Title DRILLING ENGINEER

Signature (Electronic Submission) — Date 11/07/2013

APPROVED
NOV 13 2013
/s/ Chris Walls
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date

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 #225987 that would not fit on the form

32. Additional remarks, continued

surface. The salt string will be drilled with an 11? hole drilled to approximately 3,438? and then cased using an 8-5/8?, 32 ppf, J-55, LTC intermediate string that will be cemented to surface. The production hole will be a 7-7/8? hole drilled to TD (16,677? MD/9,912?TVD). The production hole will be cased with 5-1/2?, 17 ppf, HCP-110, BTC casing and cemented back to surface.
Revised Casing Program:

Type	Interval (MD)	Hole Size
20? (already set)	0-120?	24?
13-3/8?, 48 ppf, H-40, STC	0-457?	17-1/2?
8-5/8?, 32 ppf, J-55, LTC	0-3,425?	11?
5-1/2?, 17 ppf, HCP-110, BTC	0 ? 15,533	7-7/8?

Casing Program Safety Factors:

Type	Tension	Collapse	Burst
13-3/8?, 48 ppf, H-40, STC	16.95	3.64	1.41
8-5/8?, 32 ppf, J-55, LTC	4.04	1.39	1.27
5-1/2?, 17 ppf, HCP-110, BTC	3.92	1.81	2.24

Cementing Program: Please see below for updates to cement program

13-3/8? Surface (gauge hole + 100% excess)

Primary Volume: 380 sacks
Primary Details: 13.7 ppg, 1.67 ft3/sk yield, H2O 8.68 gal/sk
Top of Primary: Surface

Primary Slurry: Class ?C? Cement + 2% PF1

8-5/8? Intermediate salt string (fluid caliper + 30% excess)

Lead Slurry: Class ?C? Cement: 6% Bentonite Gel + 0.2% Retarder + 5 lb/sk Kol Seal + 0.25 lb/sk Antifoam + 5% Salt
Lead Volume: 650 sacks
Lead Details: 12.9 ppg, 1.85 ft3/sk yield, H2O 9.81 gal/sk

Tail Slurry: Class ?C? Cement: 0.2% Retarder
Tail Volume: 143 sacks
Tail Details: 14.8 ppg, 1.33 ft3/sk yield, H2O 6.300 gal/sk
Tail Length: 500?

TOC: Surface

5-1/2? Production (gauge hole + 50% excess)

1st Stage

Lead Slurry: ECONOCEM H SYSTEM: 0.25 lbm/sk D-AIR 5000 (Defoamer)
Lead Volume: 600 sacks
Lead Details: 11.50 ppg, 2.25 ft3/sk yield, H2O 14.99 gal/sk
Top of Lead: DV Tool (+/- 5,000?)

Tail Slurry: VERSACEM H SYSTEM: 0.5% LAP-1 (Low Fluid Loss Control), 0.4% CFR-3 (Dispersant), 1 lbm/sk Salt, 0.25 lbm/sk D-AIR 5000 (Defoamer)
Tail Volume: 750 sacks
Tail Details: 14.2 ppg, 2.62 ft3/sk yield, H2O 6.17 gal/sk
Top of Tail: KOP (9,349?)

TOC: +/- 5,000? (DV Tool)

2nd Stage

Lead Slurry: ECONOCEM ?C? SYSTEM: 0.25 lbm/sk D-AIR 5000 (Defoamer)
Lead Volume: 550 sacks
Lead Details: 11.50 ppg, 2.25 ft3/sk yield, H2O 9.922 gal/sk
Top of Lead: Surface

32. Additional remarks, continued

Tail Slurry: Class ?C? Cement: 0.2% Retarder
Tail Volume: 100 sacks
Tail Details: 14.8 ppg, 1.33 ft3/sk yield, 6.320 gal/sk
Tail Length: 500?
TOC: 4,500?

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Form C-102
Revised July 16, 2010

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30 015 41281	47545	NASH DRAW (DELAWARE, BS AVALON SD)

Property Code	Property Name	Well Number
306402	POKER LAKE UNIT	441H

OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3159'

Surface Location

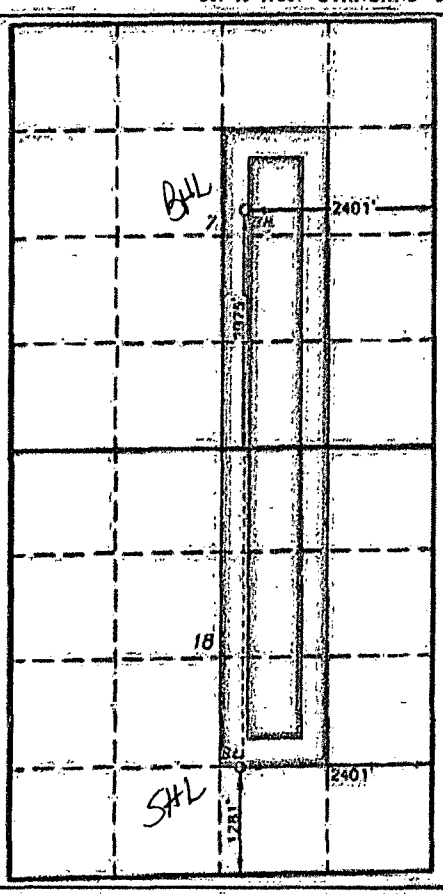
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	18	24 S	30 E		1281	SOUTH	2401	EAST	EDDY

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
G	7	24 S	30 E		2975	SOUTH	2401	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

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



PROPOSED BOTTOM HOLE LOCATION
Lat - N 32°13'08.46"
Long - W 103°55'09.99"
NMSPCE- N 448005.4
E 627078.6
(NAD-27)

SURFACE LOCATION
Lat - N 32°12'49.23"
Long - W 103°55'10.12"
NMSPCE- N 441700.319
E 627094.939
(NAD-27)

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Courtney Lockhart 11-4-13
Signature Date

Courtney Lockhart
Printed Name

cjlockhart@basspet.com
Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

NOVEMBER 1, 2012
Date Surveyed

Signature & Seal of Professional Surveyor
7977

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 27682

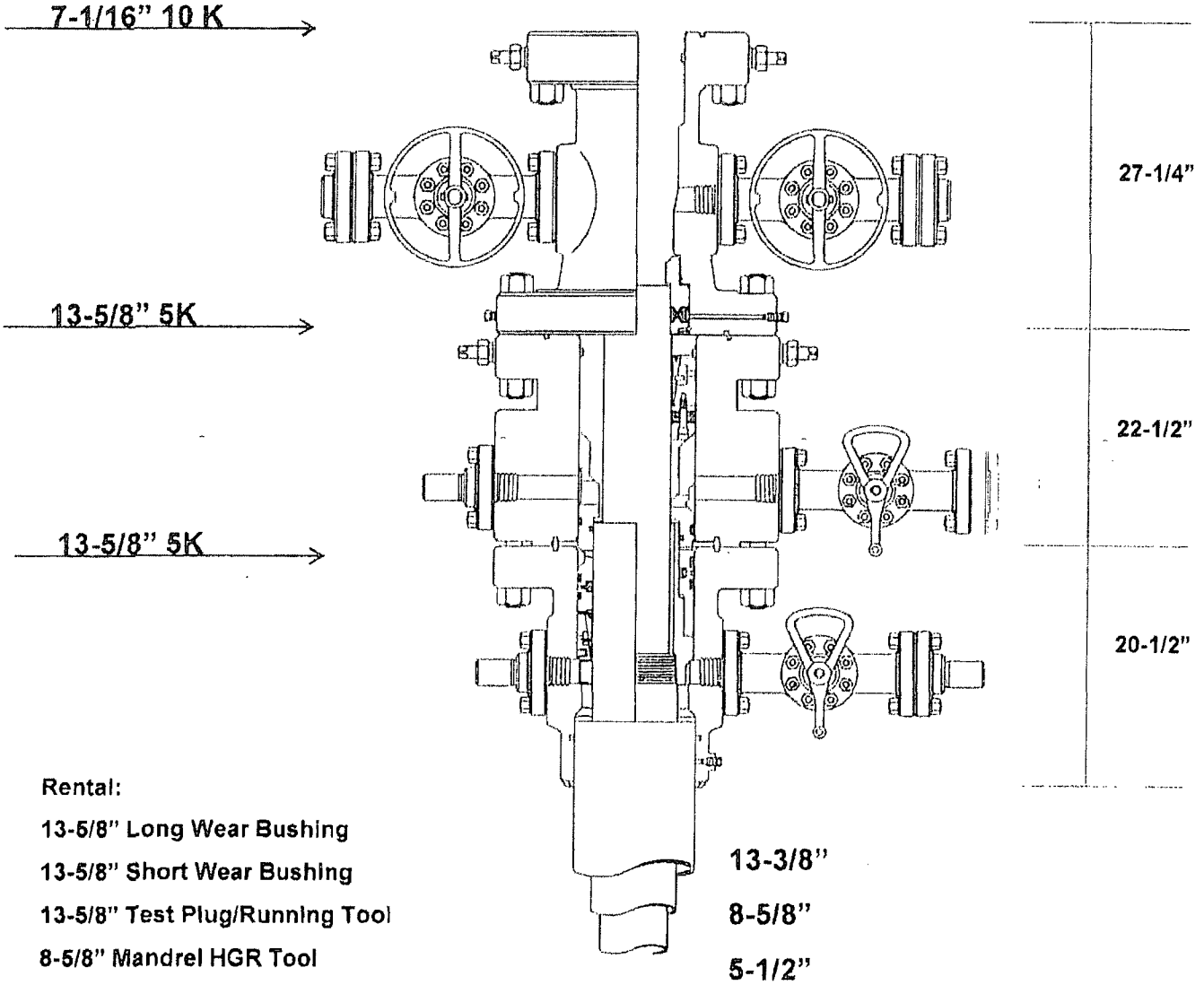
CAMERON

CUSTOMER: BOPCO

PROJECT: Poker Lake Unit 440H

RIG: Latshaw #4

CASING PROGRAM: 13-3/8" x 8-5/8" x 5-1/2"



Rental:

13-5/8" Long Wear Bushing

13-5/8" Short Wear Bushing

13-5/8" Test Plug/Running Tool

8-5/8" Mandrel HGR Tool

Packoff Support Bushing Running Tool

Jetting/Wash Tool

BOPCO, L.P.

Location: Eddy County, NM
Field: Poker Lake Unit
Facility: Poker Lake Unit No. 440H and No. 441H
Slot: No. 441H SHL
Well: No. 441H
Wellbore: No. 441H PWB

BAKER HUGHES

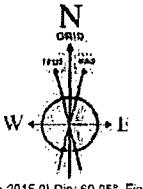
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	22.00	0.000	90.000	22.00	0.00	0.00	0.00	0.00
Nudge	3000.00	0.000	90.000	3000.00	0.00	0.00	0.00	0.00
EOB	3250.00	5.000	90.000	3249.68	0.00	10.90	2.00	-0.03
End of Tangent	5750.00	5.000	90.000	5740.17	0.00	228.79	0.00	-0.53
End of Drop	6000.00	0.000	357.904	5989.85	0.00	239.69	2.00	-0.56
Est. KOP	9349.00	0.000	357.904	9338.85	0.00	239.69	0.00	-0.56
EOC	10249.30	90.000	357.904	9912.00	572.76	218.73	10.00	572.25
No.441H PBHL	16677.43	90.000	357.904	9912.00	6996.60	-16.34	0.00	6996.62

Nudge : 0.00° Inc, 3000.00ft MD, 3000.00ft TVD, 0.00ft VS
2.00°/100ft
EOB : 5.00° Inc, 3250.00ft MD, 3249.68ft TVD, -0.03ft VS

Plot reference wellpath is Rev-E.0	
True vertical depths are referenced to Rig on No. 441H SHL (RKB)	Grid System: NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 441H SHL (RKB)	North Reference: Grid north
Rig on No. 441H SHL (RKB) is Mean Sea Level 3181 feet	Scale: True distance
Mean Sea Level is Ref Rig on No. 441H SHL 0 feet	Depths are in feet
Coordinates are in feet referenced to SHL	Created by: gridley on 10/3/2013

End of Tangent : 5.00° Inc, 5750.00ft MD, 5740.17ft TVD, -0.53ft VS
2.00°/100ft
End of Drop : 0.00° Inc, 6000.00ft MD, 5989.85ft TVD, -0.56ft VS



BGGM (1945.0 to 2015.0) Dip: 60.05° Field: 48351.1 nT
Magnetic North is 7.60 degrees East of True North (at 7/18/2013)
Grid North is 0.22 degrees East of True North
To correct azimuth from True to Grid subtract 0.22 degrees
To correct azimuth from Magnetic to Grid add 7.38 degrees

No. 441H SHL

Nudge : 3000.00ft TVD, 0.00ft N, 0.00ft E
EOB : 3249.68ft TVD, 0.00ft N, 10.90ft E

EOC : 9912.00ft TVD, 572.76ft N, 218.73ft E
Est. KOP : 9338.85ft TVD, 0.00ft N, 239.69ft E
End of Drop : 5989.85ft TVD, 0.00ft N, 239.69ft E
End of Tangent : 5740.17ft TVD, 0.00ft N, 228.79ft E

Est. KOP : 0.00° Inc, 9349.00ft MD, 9338.85ft TVD, -0.56ft VS
10.00°/100ft
EOC : 90.00° Inc, 10249.30ft MD, 9912.00ft TVD, 572.25ft VS

Poker Lake Unit No. 441H PBHL
No.441H PBHL : 90.00° Inc, 16677.43ft MD, 9912.00ft TVD, 6996.62ft VS

Easting (ft)
Northing (ft)
True Vertical Depth (ft)
Vertical Section (ft)
Azimuth 359.87° with reference 0.00 N, 0.00 E

Rev-E.0

Planned Wellpath Report

Rev-E.0

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 441H SHL
Area	Eddy County, NM	Well	No. 441H
Field	Poker Lake Unit	Wellbore	No. 441H PWB
Facility	Poker Lake Unit No. 440H and No. 441H		

REPORT SETUP INFORMATION			
Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Gentbry
Scale	0.999928	Report Generated	10/30/2013 at 3:22:46 PM
Convergence at slot	0.22° East	Database/Source file	MidlandDB/No._441H_PWB.xml

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-28.23	28.37	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W
Facility Reference Pt			627966.57	441728.55	32°12'49.506"N	103°55'10.451"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. 441H SHL (KB) to Facility Vertical Datum	3181.00ft
Horizontal Reference Pt	Slot	Rig on No. 441H SHL (KB) to Mean Sea Level	3181.00ft
Vertical Reference Pt	Rig on No. 441H SHL (KB)	Rig on No. 441H SHL (KB) to Mud Line at Slot (No. 441H SHL)	3181.00ft
MD Reference Pt	Rig on No. 441H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.87°

Planned Wellpath Report

Rev-E.0

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 441H SHL
Area	Eddy County, NM	Well	No. 441H
Field	Poker Lake Unit	Wellbore	No. 441H PWB
Facility	Poker Lake Unit No. 440H and No. 441H		

WELLPATH DATA (187 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	90.000	0.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
22.00	0.000	90.000	22.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	Tie On
122.00†	0.000	90.000	122.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
202.00†	0.000	90.000	202.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	Rustler
222.00†	0.000	90.000	222.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
322.00†	0.000	90.000	322.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
422.00†	0.000	90.000	422.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
482.00†	0.000	90.000	482.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	Salado
522.00†	0.000	90.000	522.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
622.00†	0.000	90.000	622.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
722.00†	0.000	90.000	722.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
822.00†	0.000	90.000	822.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
922.00†	0.000	90.000	922.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1022.00†	0.000	90.000	1022.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1122.00†	0.000	90.000	1122.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1222.00†	0.000	90.000	1222.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1322.00†	0.000	90.000	1322.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1422.00†	0.000	90.000	1422.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1522.00†	0.000	90.000	1522.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1622.00†	0.000	90.000	1622.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1722.00†	0.000	90.000	1722.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1822.00†	0.000	90.000	1822.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
1922.00†	0.000	90.000	1922.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2022.00†	0.000	90.000	2022.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2122.00†	0.000	90.000	2122.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2222.00†	0.000	90.000	2222.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2322.00†	0.000	90.000	2322.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2422.00†	0.000	90.000	2422.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2522.00†	0.000	90.000	2522.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2622.00†	0.000	90.000	2622.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2722.00†	0.000	90.000	2722.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2822.00†	0.000	90.000	2822.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
2922.00†	0.000	90.000	2922.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	
3000.00	0.000	90.000	3000.00	0.00	0.00	0.00	627994.94	441700.32	32°12'49.226"N	103°55'10.122"W	0.00	Nudge
3022.00†	0.440	90.000	3022.00	0.00	0.00	0.08	627995.02	441700.32	32°12'49.226"N	103°55'10.121"W	2.00	
3122.00†	2.440	90.000	3121.96	-0.01	0.00	2.60	627997.54	441700.32	32°12'49.226"N	103°55'10.092"W	2.00	
3222.00†	4.440	90.000	3221.78	-0.02	0.00	8.60	628003.54	441700.32	32°12'49.226"N	103°55'10.022"W	2.00	
3250.00	5.000	90.000	3249.68	-0.03	0.00	10.90	628005.84	441700.32	32°12'49.225"N	103°55'09.995"W	2.00	EOB
3322.00†	5.000	90.000	3321.41	-0.04	0.00	17.18	628012.12	441700.32	32°12'49.225"N	103°55'09.922"W	0.00	
3422.00†	5.000	90.000	3421.03	-0.06	0.00	25.89	628020.83	441700.32	32°12'49.225"N	103°55'09.821"W	0.00	
3429.00†	5.000	90.000	3428.00	-0.06	0.00	26.50	628021.44	441700.32	32°12'49.225"N	103°55'09.813"W	0.00	Lamar
3457.11†	5.000	90.000	3456.00	-0.07	0.00	28.95	628023.89	441700.32	32°12'49.225"N	103°55'09.785"W	0.00	Delaware Sands
3522.00†	5.000	90.000	3520.65	-0.08	0.00	34.61	628029.55	441700.32	32°12'49.225"N	103°55'09.719"W	0.00	
3622.00†	5.000	90.000	3620.27	-0.10	0.00	43.32	628038.26	441700.32	32°12'49.224"N	103°55'09.618"W	0.00	
3722.00†	5.000	90.000	3719.89	-0.12	0.00	52.04	628046.98	441700.32	32°12'49.224"N	103°55'09.516"W	0.00	

Planned Wellpath Report

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 441H SHL
Area	Eddy County, NM	Well	No. 441H
Field	Poker Lake Unit	Wellbore	No. 441H PWB
Facility	Poker Lake Unit No. 440H and No. 441H		

WELLPATH DATA (187 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3822.00†	5.000	90.000	3819.51	-0.14	0.00	60.75	628055.69	441700.32	32°12'49.224"N	103°55'09.415"W	0.00	
3922.00†	5.000	90.000	3919.13	-0.16	0.00	69.47	628064.40	441700.32	32°12'49.223"N	103°55'09.313"W	0.00	
4022.00†	5.000	90.000	4018.75	-0.18	0.00	78.19	628073.12	441700.32	32°12'49.223"N	103°55'09.212"W	0.00	
4122.00†	5.000	90.000	4118.36	-0.20	0.00	86.90	628081.83	441700.32	32°12'49.223"N	103°55'09.110"W	0.00	
4222.00†	5.000	90.000	4217.98	-0.22	0.00	95.62	628090.55	441700.32	32°12'49.222"N	103°55'09.009"W	0.00	
4322.00†	5.000	90.000	4317.60	-0.24	0.00	104.33	628099.26	441700.32	32°12'49.222"N	103°55'08.908"W	0.00	
4422.00†	5.000	90.000	4417.22	-0.26	0.00	113.05	628107.98	441700.32	32°12'49.222"N	103°55'08.806"W	0.00	
4522.00†	5.000	90.000	4516.84	-0.28	0.00	121.76	628116.69	441700.32	32°12'49.221"N	103°55'08.705"W	0.00	
4622.00†	5.000	90.000	4616.46	-0.30	0.00	130.48	628125.41	441700.32	32°12'49.221"N	103°55'08.603"W	0.00	
4722.00†	5.000	90.000	4716.08	-0.33	0.00	139.19	628134.12	441700.32	32°12'49.221"N	103°55'08.502"W	0.00	
4822.00†	5.000	90.000	4815.70	-0.35	0.00	147.91	628142.84	441700.32	32°12'49.220"N	103°55'08.400"W	0.00	
4922.00†	5.000	90.000	4915.32	-0.37	0.00	156.63	628151.55	441700.32	32°12'49.220"N	103°55'08.299"W	0.00	
5022.00†	5.000	90.000	5014.94	-0.39	0.00	165.34	628160.27	441700.32	32°12'49.220"N	103°55'08.198"W	0.00	
5122.00†	5.000	90.000	5114.56	-0.41	0.00	174.06	628168.98	441700.32	32°12'49.219"N	103°55'08.096"W	0.00	
5222.00†	5.000	90.000	5214.18	-0.43	0.00	182.77	628177.70	441700.32	32°12'49.219"N	103°55'07.995"W	0.00	
5322.00†	5.000	90.000	5313.80	-0.45	0.00	191.49	628186.41	441700.32	32°12'49.219"N	103°55'07.893"W	0.00	
5422.00†	5.000	90.000	5413.42	-0.47	0.00	200.20	628195.13	441700.32	32°12'49.218"N	103°55'07.792"W	0.00	
5522.00†	5.000	90.000	5513.04	-0.49	0.00	208.92	628203.84	441700.32	32°12'49.218"N	103°55'07.690"W	0.00	
5622.00†	5.000	90.000	5612.66	-0.51	0.00	217.63	628212.56	441700.32	32°12'49.218"N	103°55'07.589"W	0.00	
5722.00†	5.000	90.000	5712.28	-0.53	0.00	226.35	628221.27	441700.32	32°12'49.217"N	103°55'07.487"W	0.00	
5750.00	5.000	90.000	5740.17	-0.53	0.00	228.79	628223.71	441700.32	32°12'49.217"N	103°55'07.459"W	0.00	End of Tangent
5822.00†	3.560	90.000	5811.97	-0.55	0.00	234.16	628229.09	441700.32	32°12'49.217"N	103°55'07.396"W	2.00	
5922.00†	1.560	90.000	5911.86	-0.56	0.00	238.63	628233.55	441700.32	32°12'49.217"N	103°55'07.344"W	2.00	
6000.00	0.000	357.904	5989.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	2.00	End of Drop
6022.00†	0.000	357.904	6011.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6122.00†	0.000	357.904	6111.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6222.00†	0.000	357.904	6211.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6322.00†	0.000	357.904	6311.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6422.00†	0.000	357.904	6411.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6522.00†	0.000	357.904	6511.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6622.00†	0.000	357.904	6611.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6722.00†	0.000	357.904	6711.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6822.00†	0.000	357.904	6811.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6922.00†	0.000	357.904	6911.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
6999.15†	0.000	357.904	6989.00	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	Lower Brushy Canyon
7022.00†	0.000	357.904	7011.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
7122.00†	0.000	357.904	7111.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
7222.00†	0.000	357.904	7211.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
7251.15†	0.000	357.904	7241.00	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	Bone Spring LS
7322.00†	0.000	357.904	7311.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
7422.00†	0.000	357.904	7411.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
7446.15†	0.000	357.904	7436.00	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	Upper Avalon Shale
7522.00†	0.000	357.904	7511.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
7622.00†	0.000	357.904	7611.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
7722.00†	0.000	357.904	7711.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	

Planned Wellpath Report

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 441H SHL
Area	Eddy County, NM	Well	No. 441H
Field	Poker Lake Unit	Wellbore	No. 441H PWB
Facility	Poker Lake Unit No. 440H and No. 441H		

WELLPATH DATA (187 stations) †=interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7822.00†	0.000	357.904	7811.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
7844.15†	0.000	357.904	7834.00	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	Lower Avalon Shale
7922.00†	0.000	357.904	7911.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8022.00†	0.000	357.904	8011.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8122.00†	0.000	357.904	8111.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8214.15†	0.000	357.904	8204.00	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	1st Bone Spring Sand
8222.00†	0.000	357.904	8211.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8322.00†	0.000	357.904	8311.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8422.00†	0.000	357.904	8411.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8423.15†	0.000	357.904	8413.00	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	1st Bone Spring Shale
8522.00†	0.000	357.904	8511.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8622.00†	0.000	357.904	8611.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8722.00†	0.000	357.904	8711.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8822.00†	0.000	357.904	8811.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
8922.00†	0.000	357.904	8911.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
9022.00†	0.000	357.904	9011.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
9055.15†	0.000	357.904	9045.00	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	2nd Bone Spring Sand
9122.00†	0.000	357.904	9111.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
9222.00†	0.000	357.904	9211.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
9322.00†	0.000	357.904	9311.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	
9349.00	0.000	357.904	9338.85	-0.56	0.00	239.69	628234.61	441700.32	32°12'49.217"N	103°55'07.332"W	0.00	Est. KOP
9422.00†	7.298	357.904	9411.66	4.08	-4.64	239.52	628234.44	441704.96	32°12'49.263"N	103°55'07.334"W	10.00	
9522.00†	17.294	357.904	9509.24	25.34	25.89	238.74	628233.67	441726.21	32°12'49.473"N	103°55'07.342"W	10.00	
9622.00†	27.291	357.904	9601.65	63.20	63.75	237.36	628232.28	441764.07	32°12'49.848"N	103°55'07.356"W	10.00	
9722.00†	37.288	357.904	9686.07	116.52	117.07	235.41	628230.33	441817.38	32°12'50.375"N	103°55'07.377"W	10.00	
9733.30†	38.418	357.904	9695.00	123.45	124.00	235.15	628230.08	441824.31	32°12'50.444"N	103°55'07.379"W	10.00	2nd Bone Spring Shale
9822.00†	47.284	357.904	9759.96	183.68	184.22	232.95	628227.87	441884.53	32°12'51.040"N	103°55'07.402"W	10.00	
9922.00†	57.281	357.904	9821.06	262.64	263.17	230.06	628224.98	441963.47	32°12'51.821"N	103°55'07.432"W	10.00	
10022.00†	67.278	357.904	9867.52	350.99	351.53	226.83	628221.75	442051.82	32°12'52.696"N	103°55'07.466"W	10.00	
10122.00†	77.274	357.904	9897.92	446.07	446.59	223.35	628218.27	442146.88	32°12'53.637"N	103°55'07.502"W	10.00	
10222.00†	87.271	357.904	9911.35	544.98	545.49	219.73	628214.65	442245.77	32°12'54.615"N	103°55'07.540"W	10.00	
10249.30	90.000	357.904	9912.00	572.25	572.76	218.73	628213.65	442273.04	32°12'54.885"N	103°55'07.550"W	10.00	EOC
10322.00†	90.000	357.904	9912.00	644.91	645.42	216.07	628210.99	442345.69	32°12'55.604"N	103°55'07.578"W	0.00	
10422.00†	90.000	357.904	9912.00	744.85	745.35	212.41	628207.34	442445.62	32°12'56.593"N	103°55'07.616"W	0.00	
10522.00†	90.000	357.904	9912.00	844.79	845.28	208.76	628203.68	442545.54	32°12'57.582"N	103°55'07.654"W	0.00	
10622.00†	90.000	357.904	9912.00	944.74	945.22	205.10	628200.02	442645.47	32°12'58.571"N	103°55'07.692"W	0.00	
10722.00†	90.000	357.904	9912.00	1044.68	1045.15	201.44	628196.37	442745.39	32°12'59.560"N	103°55'07.730"W	0.00	
10822.00†	90.000	357.904	9912.00	1144.62	1145.08	197.78	628192.71	442845.32	32°13'00.549"N	103°55'07.768"W	0.00	
10922.00†	90.000	357.904	9912.00	1244.56	1245.02	194.13	628189.05	442945.24	32°13'01.538"N	103°55'07.807"W	0.00	
11022.00†	90.000	357.904	9912.00	1344.50	1344.95	190.47	628185.40	443045.17	32°13'02.527"N	103°55'07.845"W	0.00	
11122.00†	90.000	357.904	9912.00	1444.44	1444.88	186.81	628181.74	443145.10	32°13'03.516"N	103°55'07.883"W	0.00	
11222.00†	90.000	357.904	9912.00	1544.38	1544.82	183.16	628178.08	443245.02	32°13'04.505"N	103°55'07.921"W	0.00	
11322.00†	90.000	357.904	9912.00	1644.32	1644.75	179.50	628174.43	443344.95	32°13'05.494"N	103°55'07.959"W	0.00	
11422.00†	90.000	357.904	9912.00	1744.27	1744.68	175.84	628170.77	443444.87	32°13'06.484"N	103°55'07.997"W	0.00	
11522.00†	90.000	357.904	9912.00	1844.21	1844.61	172.18	628167.11	443544.80	32°13'07.473"N	103°55'08.035"W	0.00	

Planned Wellpath Report

Rev-E.0

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 441H SHL
Area	Eddy County, NM	Well	No. 441H
Field	Poker Lake Unit	Wellbore	No. 441H PWB
Facility	Poker Lake Unit No. 440H and No. 441H		

WELLPATH DATA (187 stations) †=interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11622.00†	90.000	357.904	9912.00	1944.15	1944.55	168.53	628163.45	443644.72	32°13'08.462"N	103°55'08.073"W	0.00	
11722.00†	90.000	357.904	9912.00	2044.09	2044.48	164.87	628159.80	443744.65	32°13'09.451"N	103°55'08.111"W	0.00	
11822.00†	90.000	357.904	9912.00	2144.03	2144.41	161.21	628156.14	443844.57	32°13'10.440"N	103°55'08.149"W	0.00	
11922.00†	90.000	357.904	9912.00	2243.97	2244.35	157.56	628152.48	443944.50	32°13'11.429"N	103°55'08.187"W	0.00	
12022.00†	90.000	357.904	9912.00	2343.91	2344.28	153.90	628148.83	444044.43	32°13'12.418"N	103°55'08.225"W	0.00	
12122.00†	90.000	357.904	9912.00	2443.86	2444.21	150.24	628145.17	444144.35	32°13'13.407"N	103°55'08.264"W	0.00	
12222.00†	90.000	357.904	9912.00	2543.80	2544.15	146.59	628141.51	444244.28	32°13'14.396"N	103°55'08.302"W	0.00	
12322.00†	90.000	357.904	9912.00	2643.74	2644.08	142.93	628137.86	444344.20	32°13'15.385"N	103°55'08.340"W	0.00	
12422.00†	90.000	357.904	9912.00	2743.68	2744.01	139.27	628134.20	444444.13	32°13'16.374"N	103°55'08.378"W	0.00	
12522.00†	90.000	357.904	9912.00	2843.62	2843.95	135.61	628130.54	444544.05	32°13'17.363"N	103°55'08.416"W	0.00	
12622.00†	90.000	357.904	9912.00	2943.56	2943.88	131.96	628126.89	444643.98	32°13'18.352"N	103°55'08.454"W	0.00	
12722.00†	90.000	357.904	9912.00	3043.50	3043.81	128.30	628123.23	444743.91	32°13'19.341"N	103°55'08.492"W	0.00	
12822.00†	90.000	357.904	9912.00	3143.45	3143.74	124.64	628119.57	444843.83	32°13'20.330"N	103°55'08.530"W	0.00	
12922.00†	90.000	357.904	9912.00	3243.39	3243.68	120.99	628115.92	444943.76	32°13'21.319"N	103°55'08.568"W	0.00	
13022.00†	90.000	357.904	9912.00	3343.33	3343.61	117.33	628112.26	445043.68	32°13'22.308"N	103°55'08.606"W	0.00	
13122.00†	90.000	357.904	9912.00	3443.27	3443.54	113.67	628108.61	445143.61	32°13'23.297"N	103°55'08.644"W	0.00	
13222.00†	90.000	357.904	9912.00	3543.21	3543.48	110.02	628104.95	445243.53	32°13'24.286"N	103°55'08.682"W	0.00	
13322.00†	90.000	357.904	9912.00	3643.15	3643.41	106.36	628101.29	445343.46	32°13'25.275"N	103°55'08.721"W	0.00	
13422.00†	90.000	357.904	9912.00	3743.09	3743.34	102.70	628097.64	445443.39	32°13'26.264"N	103°55'08.759"W	0.00	
13522.00†	90.000	357.904	9912.00	3843.03	3843.28	99.05	628093.98	445543.31	32°13'27.253"N	103°55'08.797"W	0.00	
13622.00†	90.000	357.904	9912.00	3942.98	3943.21	95.39	628090.32	445643.24	32°13'28.242"N	103°55'08.835"W	0.00	
13722.00†	90.000	357.904	9912.00	4042.92	4043.14	91.73	628086.67	445743.16	32°13'29.231"N	103°55'08.873"W	0.00	
13822.00†	90.000	357.904	9912.00	4142.86	4143.08	88.08	628083.01	445843.09	32°13'30.220"N	103°55'08.911"W	0.00	
13922.00†	90.000	357.904	9912.00	4242.80	4243.01	84.42	628079.35	445943.01	32°13'31.209"N	103°55'08.949"W	0.00	
14022.00†	90.000	357.904	9912.00	4342.74	4342.94	80.76	628075.70	446042.94	32°13'32.198"N	103°55'08.987"W	0.00	
14122.00†	90.000	357.904	9912.00	4442.68	4442.88	77.11	628072.04	446142.87	32°13'33.187"N	103°55'09.025"W	0.00	
14222.00†	90.000	357.904	9912.00	4542.62	4542.81	73.45	628068.38	446242.79	32°13'34.176"N	103°55'09.063"W	0.00	
14322.00†	90.000	357.904	9912.00	4642.57	4642.74	69.79	628064.73	446342.72	32°13'35.165"N	103°55'09.101"W	0.00	
14422.00†	90.000	357.904	9912.00	4742.51	4742.67	66.14	628061.07	446442.64	32°13'36.154"N	103°55'09.139"W	0.00	
14522.00†	90.000	357.904	9912.00	4842.45	4842.61	62.48	628057.41	446542.57	32°13'37.143"N	103°55'09.178"W	0.00	
14622.00†	90.000	357.904	9912.00	4942.39	4942.54	58.82	628053.76	446642.49	32°13'38.132"N	103°55'09.216"W	0.00	
14722.00†	90.000	357.904	9912.00	5042.33	5042.47	55.17	628050.10	446742.42	32°13'39.121"N	103°55'09.254"W	0.00	
14822.00†	90.000	357.904	9912.00	5142.27	5142.41	51.51	628046.44	446842.35	32°13'40.110"N	103°55'09.292"W	0.00	
14922.00†	90.000	357.904	9912.00	5242.21	5242.34	47.85	628042.79	446942.27	32°13'41.099"N	103°55'09.330"W	0.00	
15022.00†	90.000	357.904	9912.00	5342.16	5342.27	44.19	628039.13	447042.20	32°13'42.088"N	103°55'09.368"W	0.00	
15122.00†	90.000	357.904	9912.00	5442.10	5442.21	40.54	628035.48	447142.12	32°13'43.077"N	103°55'09.406"W	0.00	
15222.00†	90.000	357.904	9912.00	5542.04	5542.14	36.88	628031.82	447242.05	32°13'44.066"N	103°55'09.444"W	0.00	
15322.00†	90.000	357.904	9912.00	5641.98	5642.07	33.22	628028.16	447341.97	32°13'45.055"N	103°55'09.482"W	0.00	
15422.00†	90.000	357.904	9912.00	5741.92	5742.01	29.57	628024.51	447441.90	32°13'46.044"N	103°55'09.520"W	0.00	
15522.00†	90.000	357.904	9912.00	5841.86	5841.94	25.91	628020.85	447541.83	32°13'47.033"N	103°55'09.558"W	0.00	
15622.00†	90.000	357.904	9912.00	5941.80	5941.87	22.25	628017.19	447641.75	32°13'48.022"N	103°55'09.596"W	0.00	
15722.00†	90.000	357.904	9912.00	6041.75	6041.81	18.60	628013.54	447741.68	32°13'49.011"N	103°55'09.635"W	0.00	
15822.00†	90.000	357.904	9912.00	6141.69	6141.74	14.94	628009.88	447841.60	32°13'50.000"N	103°55'09.673"W	0.00	
15922.00†	90.000	357.904	9912.00	6241.63	6241.67	11.28	628006.22	447941.53	32°13'50.989"N	103°55'09.711"W	0.00	
16022.00†	90.000	357.904	9912.00	6341.57	6341.60	7.63	628002.57	448041.45	32°13'51.978"N	103°55'09.749"W	0.00	

Planned Wellpath Report

Rev-E.0

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 441H SHL
Area	Eddy County, NM	Well	No. 441H
Field	Poker Lake Unit	Wellbore	No. 441H PWB
Facility	Poker Lake Unit No. 440H and No. 441H		

WELLPATH DATA (187 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16122.00†	90.000	357.904	9912.00	6441.51	6441.54	3.97	627998.91	448141.38	32°13'52.967"N	103°55'09.787"W	0.00	
16222.00†	90.000	357.904	9912.00	6541.45	6541.47	0.31	627995.25	448241.31	32°13'53.956"N	103°55'09.825"W	0.00	
16322.00†	90.000	357.904	9912.00	6641.39	6641.40	-3.34	627991.60	448341.23	32°13'54.945"N	103°55'09.863"W	0.00	
16422.00†	90.000	357.904	9912.00	6741.34	6741.34	-7.00	627987.94	448441.16	32°13'55.934"N	103°55'09.901"W	0.00	
16522.00†	90.000	357.904	9912.00	6841.28	6841.27	-10.66	627984.28	448541.08	32°13'56.923"N	103°55'09.939"W	0.00	
16622.00†	90.000	357.904	9912.00	6941.22	6941.20	-14.31	627980.63	448641.01	32°13'57.912"N	103°55'09.977"W	0.00	
16677.43	90.000	357.904	9912.00	6996.62	6996.60	-16.34	627978.60	448696.40	32°13'58.461"N	103°55'09.998"W	0.00	No.441H PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) Poker Lake Unit No. 441H PBHL	16677.43	9912.00	6996.60	-16.34	627978.60	448696.40	32°13'58.461"N	103°55'09.998"W	point

SURVEY PROGRAM - Ref Wellbore: No. 441H PWB Ref Wellpath: Rev-E.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
22.00	16677.43	NaviTrak (Standard)		No. 441H PWB

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L. P.
LEASE NO.:	NMLC-002860
WELL NAME & NO.:	POKER LAKE UNIT 441H
SURFACE HOLE FOOTAGE:	1281' FSL & 2401' FEL
BOTTOM HOLE FOOTAGE	2975' FSL & 2401' FEL Sec. 7, T. 24S., R 30 E.
LOCATION:	Section 18, T. 24S., R 30 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. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values 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 (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.

Possible water and brine flows in the Salado, Castile, Delaware, and Bone Spring formations.
Possible lost circulation in the Delaware and Bone Spring.
Medium Cave/Karst
Secretary's Potash

1. The **13 3/8** inch surface casing shall be set at approximately **457** feet (at the base of the Rustler formation) 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 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. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst and Secretary's Potash.**

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 has proposed DV tool at depth of 5000', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

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 to surface. If cement does not circulate, contact the appropriate BLM office.

4. 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**. 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 test 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 potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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.

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 111213