

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNMOCD
ArtesiaFORM 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
1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator BOPCO LP		7. If Unit or CA/Agreement, Name and/or No. 891000303X
3a. Address P O BOX 2760 MIDLAND, TX 79702		8. Well Name and No. POKER LAKE UNIT CVX JV PC 20H
3b. Phone No. (include area code) Ph: 432-683-2277		9. API Well No. 30-015-42668-00-X1
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 21 T24S R30E NWNE 65FNL 2410FEL 32.123662 N Lat, 103.530565 W Lon		10. Field and Pool, or Exploratory UNDESIGNATED
		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 Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ 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 to amend the 8 point drilling program for the Poker Lake Unit CVX PC 020H to change horizons from the 2nd Bone Spring Sand to the 3rd Bone Spring Sand. The BHL location will also be shortened. Due to the TVD depth change, BOPCO, L.P. will utilize a 5M BOPE system for this well. The appropriate diagram is attached, as well as an updated plat. Cement adjustments, casing safety factors and mud design changes are listed as follows:

7? 26# HCP110 BTC Set Depth: 10,051? 3.07 Tension 1.77 Burst 1.38 Collapse. DV tool set @ 5000?.

Stage 1- Lead: from 9,551? to 5,800? - 390 sks

Stage 1- Tail: from 10,051? to 9,551? - 60 sks

Stage 2- Primary: from 5,800? to 3,300? - 160 sks

4-1/2? 11.6# HCP110 BTC Cemented Liner ? 2.58 Tension 1.30 Burst 1.30 Collapse. Cemented liner will be tied back 100? into the 7? casing.

Accepted for record
NMOCD
NM OIL CONSERVATION
ARTESIA DISTRICT

NOV 19 2015

RECEIVED

Well drilled before we approve this

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #288941 verified by the BLM Well Information System For BOPCO LP, sent to the Carlsbad Committed to AFMSS for processing by MARISSA KLEIN on 06/24/2015 (15MGK0150SE)	
Name (Printed/Typed) DON WOOD	Title DRILLING ENGINEER FOR RECORD
Signature (Electronic Submission)	Date 01/22/2015
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By	Title
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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

Additional data for EC transaction #288941 that would not fit on the form

32. Additional remarks, continued

Primary: from 9,951? to 15,914? ? 700 sks. Weight 14.5 lb/gal. Yield 1.23 ft³/sack. 5.49 Gal/sack
H2O. 25 hour compressive strength to 500 psi.
All cement calculations are based on 50% excess.

BOPCO, L.P. respectfully requests to amend the 8 point drilling program for the Poker Lake Unit CVX PC 020H to change horizons from the 2nd Bone Spring Sand to the 3rd Bone Spring Sand. The BHL location will also be shortened. Due to the TVD depth change, BOPCO, L.P. will utilize a 5M BOPE system for this well. The appropriate diagram is attached, as well as an updated plat. Cement adjustments, casing safety factors and mud design changes are listed as follows:

7" 26# HCP110 BTC Set Depth: 10,051' – 3.07 Tension 1.77 Burst 1.38 Collapse. DV tool set @ 5000'.

Stage 1- Lead: from 9,551' to 5,800' - 390 sks

Stage 1- Tail: from 10,051' to 9,551' - 60 sks

Stage 2- Primary: from 5,800' to 3,300' – 160 sks

4-1/2" 11.6# HCP110 BTC Cemented Liner – 2.58 Tension 1.30 Burst 1.30 Collapse. Cemented liner will be tied back 100' into the 7" casing.

Primary: from 9,951' to 15,914' – 700 sks. Weight 14.5 lb/gal. Yield 1.23 ft³/sack. 5.49 Gal/sack H₂O. 25 hour compressive strength to 500 psi.

All cement calculations are based on 50% excess.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8 -9.2	38-70	N/C
Surf csg	Int shoe	Saturated Brine	9.8-10.2	28-30	N/C
Int. shoe	Prod. casing shoe	FW/Gel	8.7-9.0	28-36	N/C
Prod. casing shoe	TD	FW/Gel/Starch	8.7-9.2	28-36	<100

Directional plan is attached.

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-102

DISTRICT I

16100 N. French Dr., Hobbs, NM 88240
Phone (505) 893-8101 Fax: (505) 893-8700

DISTRICT II

511 S. First St., Artesia, NM 88210
Phone (505) 748-1285 Fax: (505) 748-9750

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 834-8178 Fax: (505) 834-8170

DISTRICT IV

1825 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 478-3430 Fax: (505) 478-3432

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1225 South St. Francis Dr.
Santa Fe, New Mexico 87505

NOV 19 2015

Revised August 1, 2011
Submit one copy to appropriate District Office

RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 96473	Pool Name PIERCE CROSSING; BS, EAST
Property Code 313369	Property Name POKER LAKE UNIT CVX JV PC	Well Number 020
OGRID No. 260737	Operator Name BOPCO, L.P.	Elevation 3351'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	FEET from the	North/SOUTH LINE	FEET from the	East/EAST LINE	County
B	21	24 S	30 E		65	NORTH	2410	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/EAST LINE	County
B	20	24 S	30 E		660	NORTH	2310	EAST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
------------------------	-----------------	--------------------	-----------

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

N: 440447.7
E: 630408.2
(NAD-27)

N: 440514.3
E: 635762.6
(NAD-27)

N: 440551.8
E: 641102.0
(NAD-27)

N: 435167.5
E: 630447.8
(NAD-27)

N: 435228.2
E: 635762.2
(NAD-27)

N: 435277.9
E: 641120.3
(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 undivided 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.

William McKee 1/22/15
Signature Date

William McKee
Printed Name

wmckee@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.

Date Surveyed
Signature of Professional Surveyor
7977

Certification Number: 7977

Scale: 1" = 2000'
WD Num.: 30147

PROPOSED BOTTOM HOLE LOCATION

Lat - N 32°12'30.48"
Long - W 103°54'06.71"
NMSPCE- N 439828.0
E 633449.9
(NAD-27)

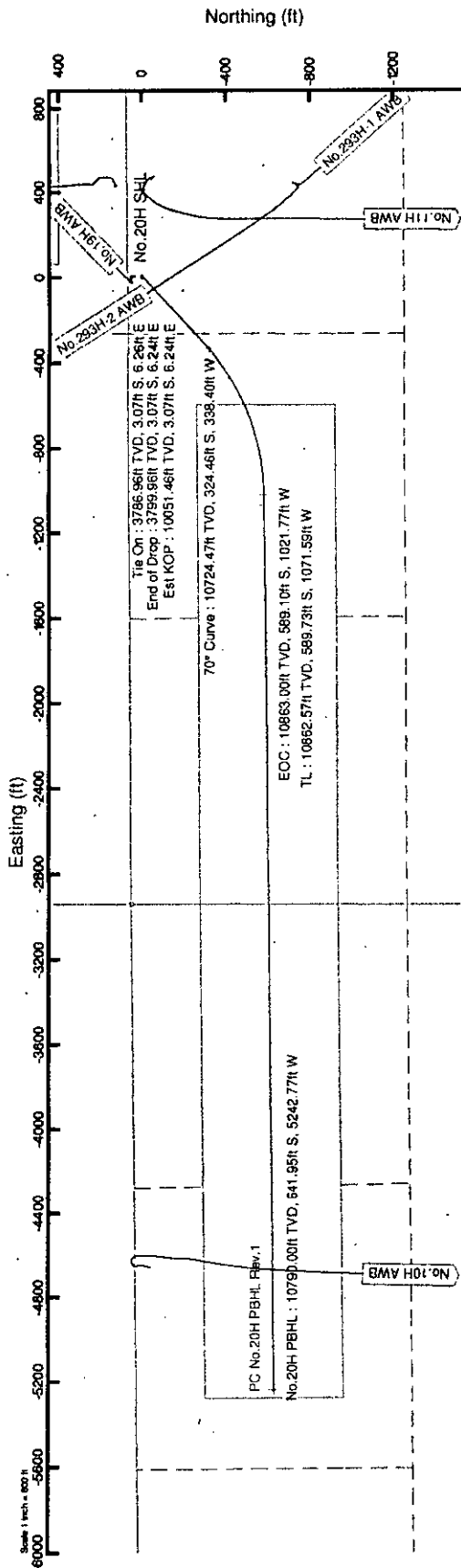
SURFACE LOCATION

Lat - N 32°12'37.07"
Long - W 103°53'07.41"
NMSPCE- N 440469.9
E 638692.3
(NAD-27)



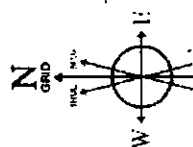
WTD - West Texas Division
Location: Eddy County, NM
Field: Poker Lake Unit
Facility: PLU CVX JV PC Pad (19.20)
Well: No. 20H
Wellbore: No. 20H PWB

BOPCO, L.P.

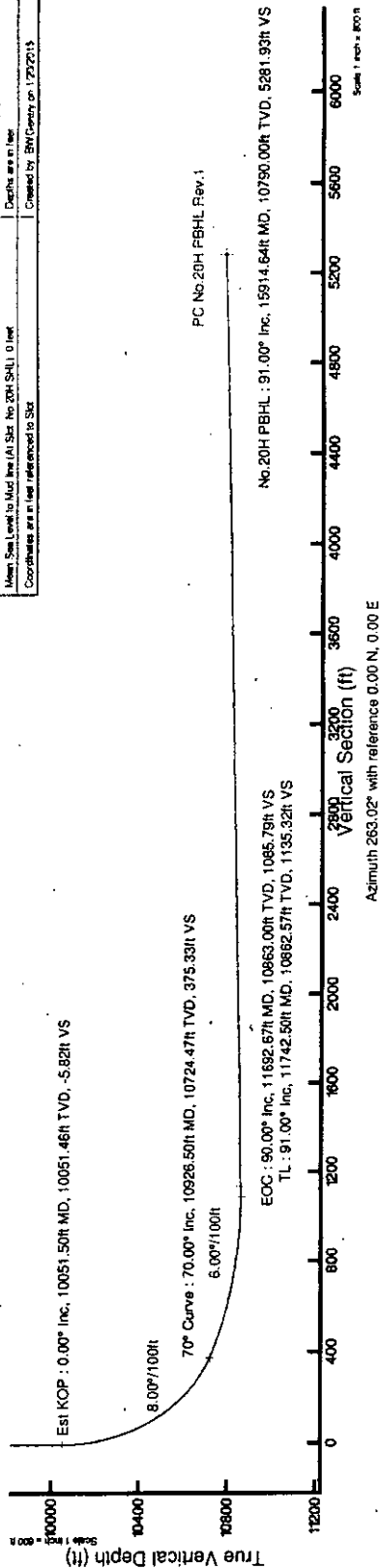


Well Profile Data									
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)	
Tie On	3787.00	0.130	245.370	3786.96	-3.07	6.26	0.00	-5.84	
End of Drop	3800.00	0.000	227.000	3799.96	-3.07	6.24	1.00	-5.82	
Est KOP	10051.50	0.000	227.000	10051.46	-3.07	6.24	0.00	-5.82	
70° Curve	10826.50	70.000	227.000	10724.47	-324.46	-338.40	8.00	375.33	
EOC	11692.67	90.000	259.283	10863.00	-589.10	-1021.77	6.00	1085.79	
TL	11742.50	90.997	269.283	10862.57	-589.73	-1071.99	2.00	1135.32	
No. 20H PBHL	15914.64	90.997	269.283	10790.00	-641.95	-5242.77	0.00	5281.93	

Grid System: NAD27 / TM New Mexico SP, Eastern Zone (800.1), US feet	
True vertical depths are referenced to Ellipsoid (No. 20H SHL, KOP)	
Measured depths are referenced to Ellipsoid (No. 20H SHL, KOP)	
Rig on No. 20H SHL (KOP) to Mean Sea Level (3380 feet)	
Mean Sea Level to Mud line (AI SHL No. 20H SHL) 0 feet	
Coordinates are in feet, referenced to Slot	
Created by: BOPCO, L.P. on 1/22/2013	



IGREF-11 (1993.0 thru 2014.0) Dip: 60.04° Field: 48222.1 AT
Magnetic North is 7.31 degrees East of True North (at 11/20/2014)
Grid North is 0.24 degrees East of True North
To correct azimuth from True to Grid subtract 0.24 degrees
To correct azimuth from Magnetic to Grid add 7.07 degrees



Azimuth 263.02° with reference 0.00 N, 0.00 E



Planned Wellpath Report

B-5

Page 1 of 5

BOPCO, L.P.

REFERENCE WELLPATH IDENTIFICATION

Operator	WTD - West Texas Division	Slot	No.20H SHL
Area	Eddy County, NM	Well	No.20H
Field	Poker Lake Unit	Wellbore	No.20H PWB
Facility	PLU CVX JV PC Pad (19,20)		

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	BWGentry
Scale	0.999931	Report Generated	1/20/2015 at 10:47:36 AM
Convergence at slot	0.24° East	Database/Source file	WellArchitectDB/No.20H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-40.00	0.00	638692.30	440469.90	32°12'36.625"N	103°53'05.666"W
Facility Reference Pt			638692.30	440509.90	32°12'37.021"N	103°53'05.664"W
Field Reference Pt			675156.40	424489.10	32°09'56.776"N	103°46'02.231"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No.20H SHL (KB) to Facility Vertical Datum	3380.00ft
Horizontal Reference Pt	Slot	Rig on No.20H SHL (KB) to Mean Sea Level	3380.00ft
Vertical Reference Pt	Rig on No.20H SHL (KB)	Rig on No.20H SHL (KB) to Mud Line at Slot (No.20H SHL)	3380.00ft
MD Reference Pt	Rig on No.20H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	263.02°



Planned Wellpath Report

B-5

Page 2 of 5

BOPCO, L.P.

REFERENCE WELLPATH IDENTIFICATION

Operator	WTD - West Texas Division	Slot	No.20H SHL
Area	Eddy County, NM	Well	No.20H
Field	Poker Lake Unit	Wellbore	No.20H PWB
Facility	PLU CVX JV PC Pad (19,20)		

WELLPATH DATA (177 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	234.390	0.00	0.00	0.00	0.00	638692.30	440469.90	32°12'36.625"N	103°53'05.666"W	0.00	
84.00	0.080	234.390	84.00	0.05	-0.03	-0.05	638692.25	440469.87	32°12'36.625"N	103°53'05.667"W	0.10	
176.00	0.270	217.620	176.00	0.26	-0.24	-0.23	638692.07	440469.66	32°12'36.622"N	103°53'05.669"W	0.21	
267.00	0.500	212.330	267.00	0.66	-0.75	-0.58	638691.72	440469.15	32°12'36.617"N	103°53'05.673"W	0.26	
359.00	0.420	210.090	358.99	1.12	-1.38	-0.96	638691.34	440468.52	32°12'36.611"N	103°53'05.677"W	0.09	
453.00	0.140	122.090	452.99	1.24	-1.74	-1.03	638691.27	440468.16	32°12'36.608"N	103°53'05.678"W	0.47	
547.00	0.270	69.720	546.99	0.93	-1.72	-0.73	638691.57	440468.18	32°12'36.608"N	103°53'05.675"W	0.23	
617.01*	0.261	58.344	617.00	0.63	-1.58	-0.44	638691.86	440468.32	32°12'36.609"N	103°53'05.671"W	0.08	Rustler
642.00	0.260	54.150	641.99	0.53	-1.52	-0.34	638691.96	440468.38	32°12'36.610"N	103°53'05.670"W	0.08	
736.00	0.280	49.020	735.99	0.15	-1.24	0.00	638692.30	440468.66	32°12'36.613"N	103°53'05.666"W	0.03	
830.00	0.330	42.340	829.99	-0.25	-0.89	0.36	638692.66	440469.01	32°12'36.616"N	103°53'05.662"W	0.07	
924.00	0.310	37.580	923.99	-0.63	-0.49	0.69	638692.99	440469.41	32°12'36.620"N	103°53'05.658"W	0.04	
992.01*	0.289	37.017	992.00	-0.88	-0.21	0.91	638693.21	440469.69	32°12'36.623"N	103°53'05.656"W	0.03	Salado
1019.00	0.280	36.770	1018.99	-0.97	-0.10	0.99	638693.29	440469.80	32°12'36.624"N	103°53'05.655"W	0.03	
1113.00	0.330	38.850	1112.99	-1.32	0.29	1.30	638693.60	440470.19	32°12'36.628"N	103°53'05.651"W	0.05	
1144.00	0.340	31.770	1143.98	-1.45	0.44	1.40	638693.70	440470.34	32°12'36.629"N	103°53'05.650"W	0.14	
1208.00	0.350	201.520	1207.98	-1.47	0.42	1.43	638693.73	440470.32	32°12'36.629"N	103°53'05.649"W	1.07	
1302.00	0.320	190.290	1301.98	-1.26	-0.10	1.28	638693.58	440469.80	32°12'36.624"N	103°53'05.651"W	0.08	
1397.00	0.290	140.170	1396.98	-1.31	-0.55	1.38	638693.68	440469.35	32°12'36.619"N	103°53'05.650"W	0.27	
1491.00	0.200	157.370	1490.98	-1.48	-0.88	1.60	638693.90	440469.02	32°12'36.616"N	103°53'05.648"W	0.12	
1585.00	0.170	174.950	1584.98	-1.52	-1.17	1.68	638693.98	440468.73	32°12'36.613"N	103°53'05.647"W	0.07	
1680.00	0.180	192.390	1679.98	-1.47	-1.46	1.66	638693.96	440468.44	32°12'36.610"N	103°53'05.647"W	0.06	
1774.00	0.210	200.860	1773.98	-1.34	-1.77	1.56	638693.86	440468.13	32°12'36.607"N	103°53'05.648"W	0.04	
1869.00	0.170	173.670	1868.98	-1.25	-2.07	1.52	638693.82	440467.83	32°12'36.604"N	103°53'05.649"W	0.10	
1963.00	0.160	180.410	1962.98	-1.24	-2.34	1.53	638693.83	440467.56	32°12'36.602"N	103°53'05.648"W	0.02	
2057.00	0.150	176.240	2056.98	-1.21	-2.59	1.54	638693.84	440467.31	32°12'36.599"N	103°53'05.648"W	0.02	
2152.00	0.070	203.010	2151.98	-1.18	-2.77	1.52	638693.82	440467.13	32°12'36.597"N	103°53'05.649"W	0.10	
2246.00	0.200	163.370	2245.98	-1.17	-2.98	1.55	638693.85	440466.92	32°12'36.595"N	103°53'05.648"W	0.16	
2340.00	0.250	147.190	2339.98	-1.29	-3.31	1.71	638694.01	440466.59	32°12'36.592"N	103°53'05.646"W	0.09	
2435.00	0.270	136.790	2434.98	-1.51	-3.65	1.97	638694.27	440466.25	32°12'36.589"N	103°53'05.643"W	0.05	
2529.00	0.230	125.650	2528.98	-1.78	-3.92	2.28	638694.58	440465.98	32°12'36.586"N	103°53'05.640"W	0.07	
2623.00	0.200	120.510	2622.97	-2.05	-4.11	2.57	638694.87	440465.79	32°12'36.584"N	103°53'05.636"W	0.04	
2718.00	0.280	124.970	2717.97	-2.36	-4.33	2.90	638695.20	440465.57	32°12'36.582"N	103°53'05.633"W	0.09	
2812.00	0.300	115.450	2811.97	-2.74	-4.57	3.31	638695.61	440465.33	32°12'36.580"N	103°53'05.628"W	0.06	
2907.00	0.250	97.450	2906.97	-3.15	-4.70	3.74	638696.04	440465.20	32°12'36.578"N	103°53'05.623"W	0.10	
3001.00	0.250	92.380	3000.97	-3.55	-4.74	4.15	638696.45	440465.16	32°12'36.578"N	103°53'05.618"W	0.02	
3095.00	0.260	87.430	3094.97	-3.96	-4.73	4.57	638696.87	440465.17	32°12'36.578"N	103°53'05.613"W	0.03	
3190.00	0.250	80.090	3189.97	-4.38	-4.69	4.99	638697.29	440465.21	32°12'36.578"N	103°53'05.608"W	0.04	
3284.00	0.200	54.560	3283.97	-4.73	-4.56	5.33	638697.63	440465.34	32°12'36.580"N	103°53'05.604"W	0.12	
3378.00	0.230	50.460	3377.97	-5.04	-4.34	5.61	638697.90	440465.56	32°12'36.582"N	103°53'05.601"W	0.04	
3473.00	0.320	31.370	3472.97	-5.36	-4.00	5.89	638698.19	440465.90	32°12'36.585"N	103°53'05.598"W	0.13	
3567.00	0.330	4.890	3566.96	-5.58	-3.50	6.05	638698.35	440466.40	32°12'36.590"N	103°53'05.596"W	0.16	
3633.04*	0.167	14.422	3633.00	-5.65	-3.22	6.09	638698.39	440466.68	32°12'36.593"N	103°53'05.595"W	0.25	Base/Salt
3662.00	0.100	28.290	3661.96	-5.68	-3.16	6.11	638698.41	440466.74	32°12'36.593"N	103°53'05.595"W	0.25	
3756.00	0.130	78.020	3755.96	-5.84	-3.06	6.26	638698.56	440466.84	32°12'36.594"N	103°53'05.593"W	0.11	



Planned Wellpath Report

B-5

Page 3 of 5

BOPCO, L.P.

REFERENCE WELLPATH IDENTIFICATION			
Operator	WTD - West Texas Division	Slot	No.20H SHL
Area	Eddy County, NM	Well	No.20H
Field	Poker Lake Unit	Wellbore	No.20H PWB
Facility	PLU CVX JV PC Pad (19,20)		

WELLPATH DATA (177 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
3787.00†	0.130	249.370	3786.96	-5.84	-3.07	6.26	638698.56	440466.83	32°12'36.594"N	103°53'05.593"W	0.00	Tie On
3800.00	0.000	227.000	3799.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	1.00	End of Drop
3847.04†	0.000	227.000	3847.00	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	Lamar
3887.00†	0.000	227.000	3886.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
3987.00†	0.000	227.000	3986.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4087.00†	0.000	227.000	4086.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4187.00†	0.000	227.000	4186.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4287.00†	0.000	227.000	4286.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4387.00†	0.000	227.000	4386.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4487.00†	0.000	227.000	4486.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4587.00†	0.000	227.000	4586.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4687.00†	0.000	227.000	4686.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4787.00†	0.000	227.000	4786.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4887.00†	0.000	227.000	4886.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
4987.00†	0.000	227.000	4986.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5087.00†	0.000	227.000	5086.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5187.00†	0.000	227.000	5186.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5287.00†	0.000	227.000	5286.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5387.00†	0.000	227.000	5386.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5487.00†	0.000	227.000	5486.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5587.00†	0.000	227.000	5586.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5687.00†	0.000	227.000	5686.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5787.00†	0.000	227.000	5786.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5887.00†	0.000	227.000	5886.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
5987.00†	0.000	227.000	5986.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6087.00†	0.000	227.000	6086.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6187.00†	0.000	227.000	6186.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6287.00†	0.000	227.000	6286.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6387.00†	0.000	227.000	6386.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6487.00†	0.000	227.000	6486.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6587.00†	0.000	227.000	6586.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6687.00†	0.000	227.000	6686.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6787.00†	0.000	227.000	6786.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6887.00†	0.000	227.000	6886.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
6987.00†	0.000	227.000	6986.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7087.00†	0.000	227.000	7086.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7187.00†	0.000	227.000	7186.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7287.00†	0.000	227.000	7286.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7387.00†	0.000	227.000	7386.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7487.00†	0.000	227.000	7486.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7587.00†	0.000	227.000	7586.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7684.04†	0.000	227.000	7684.00	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	Bone Spring Lime
7687.00†	0.000	227.000	7686.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7787.00†	0.000	227.000	7786.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
7887.00†	0.000	227.000	7886.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	



Planned Wellpath Report

B-5

Page 4 of 5

BOPCO, L.P.

REFERENCE WELLPATH IDENTIFICATION			
Operator	WTD - West Texas Division	Slot	No.20H SHL
Area	Eddy County, NM	Well	No.20H
Field	Poker Lake Unit	Wellbore	No.20H PWB
Facility	PLU CVX JV PC Pad (19,20)		

WELLPATH DATA (177 stations) * = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Secd [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7987.00†	0.000	227.000	7986.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8087.00†	0.000	227.000	8086.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8187.00†	0.000	227.000	8186.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8287.00†	0.000	227.000	8286.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8387.00†	0.000	227.000	8386.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8487.00†	0.000	227.000	8486.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8587.00†	0.000	227.000	8586.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8603.04†	0.000	227.000	8603.00	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	Bone Spring 1 Sand
8687.00†	0.000	227.000	8686.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8787.00†	0.000	227.000	8786.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8887.00†	0.000	227.000	8886.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
8987.00†	0.000	227.000	8986.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9087.00†	0.000	227.000	9086.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9187.00†	0.000	227.000	9186.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9287.00†	0.000	227.000	9286.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9387.00†	0.000	227.000	9386.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9438.04†	0.000	227.000	9438.00	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	Bone Spring 2 Sand
9487.00†	0.000	227.000	9486.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9587.00†	0.000	227.000	9586.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9687.00†	0.000	227.000	9686.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9787.00†	0.000	227.000	9786.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9887.00†	0.000	227.000	9886.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
9987.00†	0.000	227.000	9986.96	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	
10051.50	0.000	227.000	10051.46	-5.82	-3.07	6.24	638698.54	440466.83	32°12'36.594"N	103°53'05.594"W	0.00	Est KOP
10087.00†	2.840	227.000	10086.95	-5.11	-3.67	5.60	638697.90	440466.23	32°12'36.588"N	103°53'05.601"W	8.00	
10187.00†	10.840	227.000	10186.16	4.51	-11.79	-3.10	638689.20	440458.11	32°12'36.508"N	103°53'05.703"W	8.00	
10287.00†	18.840	227.000	10282.74	25.21	-29.24	-21.82	638670.48	440440.66	32°12'36.336"N	103°53'05.921"W	8.00	
10387.00†	26.840	227.000	10374.83	56.58	-55.69	-50.18	638642.12	440414.21	32°12'36.076"N	103°53'06.253"W	8.00	
10487.00†	34.840	227.000	10460.62	98.01	-90.63	-87.65	638604.66	440379.28	32°12'35.732"N	103°53'06.691"W	8.00	
10587.00†	42.840	227.000	10538.44	148.69	-133.36	-133.48	638558.83	440336.55	32°12'35.311"N	103°53'07.226"W	8.00	
10687.00†	50.840	227.000	10606.79	207.65	-183.07	-186.78	638505.53	440286.84	32°12'34.821"N	103°53'07.849"W	8.00	
10787.00†	58.840	227.000	10664.33	273.72	-238.78	-246.52	638445.79	440231.14	32°12'34.272"N	103°53'08.547"W	8.00	
10887.00†	66.840	227.000	10709.94	345.62	-299.41	-311.54	638380.78	440170.51	32°12'33.675"N	103°53'09.307"W	8.00	
10926.50	70.000	227.000	10724.47	375.33	-324.46	-338.40	638353.92	440145.46	32°12'33.428"N	103°53'09.620"W	8.00	70° Curve
10987.00†	71.313	230.586	10744.51	422.52	-362.05	-381.34	638310.98	440107.87	32°12'33.058"N	103°53'10.122"W	6.00	
11087.00†	73.627	236.389	10774.66	505.45	-418.73	-457.96	638234.37	440051.20	32°12'32.500"N	103°53'11.016"W	6.00	
11187.00†	76.097	242.053	10800.79	593.74	-468.08	-540.86	638151.48	440001.86	32°12'32.015"N	103°53'11.984"W	6.00	
11287.00†	78.694	247.594	10822.62	686.41	-509.55	-629.15	638063.20	439960.39	32°12'31.609"N	103°53'13.013"W	6.00	
11387.00†	81.392	253.033	10839.93	782.45	-542.70	-721.84	637970.51	439927.24	32°12'31.284"N	103°53'14.094"W	6.00	
11487.00†	84.165	258.395	10852.51	880.81	-567.15	-817.94	637874.42	439902.79	32°12'31.046"N	103°53'15.213"W	6.00	
11587.00†	86.989	263.703	10860.22	980.40	-582.65	-916.38	637775.98	439887.29	32°12'30.897"N	103°53'16.360"W	6.00	
11687.00†	89.838	268.984	10862.99	1080.15	-589.02	-1016.10	637676.28	439880.92	32°12'30.838"N	103°53'17.520"W	6.00	
11692.67	90.000	269.283	10863.00	1085.79	-589.10	-1021.77	637670.60	439880.84	32°12'30.837"N	103°53'17.586"W	6.00	EOC
11742.50	90.997	269.283	10862.57	1135.32	-589.73	-1071.59	637620.78	439880.21	32°12'30.833"N	103°53'18.166"W	2.00	TL
11787.00†	90.997	269.283	10861.79	1179.55	-590.28	-1116.08	637576.30	439879.66	32°12'30.830"N	103°53'18.684"W	0.00	



Planned Wellpath Report

B-5
Page 5 of 5

BOPCO, L.P.

REFERENCE WELLPATH IDENTIFICATION

Operator	WTD - West Texas Division	Slot	No.20H SHL
Area	Eddy County, NM	Well	No.20H
Field	Poker Lake Unit	Wellbore	No.20H PWB
Facility	PLU CVX JV PC Pad (19,20)		

WELEPATH DATA (177 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
11887.00†	90.997	269.283	10860.05	1278.93	-591.54	-1216.06	637476.33	439878.41	32°12'30.821"N	103°53'19.848"W	0.00	
11987.00†	90.997	269.283	10858.31	1378.32	-592.79	-1316.03	637376.36	439877.15	32°12'30.813"N	103°53'21.011"W	0.00	
12087.00†	90.997	269.283	10856.57	1477.71	-594.04	-1416.01	637276.39	439875.90	32°12'30.805"N	103°53'22.175"W	0.00	
12187.00†	90.997	269.283	10854.84	1577.10	-595.29	-1515.99	637176.42	439874.65	32°12'30.796"N	103°53'23.339"W	0.00	
12287.00†	90.997	269.283	10853.10	1676.49	-596.54	-1615.96	637076.45	439873.40	32°12'30.788"N	103°53'24.502"W	0.00	
12387.00†	90.997	269.283	10851.36	1775.87	-597.79	-1715.94	636976.48	439872.15	32°12'30.780"N	103°53'25.666"W	0.00	
12487.00†	90.997	269.283	10849.62	1875.26	-599.05	-1815.92	636876.51	439870.90	32°12'30.772"N	103°53'26.829"W	0.00	
12587.00†	90.997	269.283	10847.88	1974.65	-600.30	-1915.90	636776.54	439869.65	32°12'30.763"N	103°53'27.993"W	0.00	
12687.00†	90.997	269.283	10846.14	2074.04	-601.55	-2015.87	636676.57	439868.39	32°12'30.755"N	103°53'29.157"W	0.00	
12787.00†	90.997	269.283	10844.40	2173.43	-602.80	-2115.85	636576.60	439867.14	32°12'30.747"N	103°53'30.320"W	0.00	
12887.00†	90.997	269.283	10842.66	2272.81	-604.05	-2215.83	636476.63	439865.89	32°12'30.738"N	103°53'31.484"W	0.00	
12987.00†	90.997	269.283	10840.92	2372.20	-605.30	-2315.80	636376.66	439864.64	32°12'30.730"N	103°53'32.648"W	0.00	
13087.00†	90.997	269.283	10839.18	2471.59	-606.55	-2415.78	636276.69	439863.39	32°12'30.722"N	103°53'33.811"W	0.00	
13187.00†	90.997	269.283	10837.44	2570.98	-607.81	-2515.76	636176.72	439862.14	32°12'30.713"N	103°53'34.975"W	0.00	
13287.00†	90.997	269.283	10835.70	2670.37	-609.06	-2615.73	636076.75	439860.89	32°12'30.705"N	103°53'36.139"W	0.00	
13387.00†	90.997	269.283	10833.96	2769.75	-610.31	-2715.71	635976.78	439859.63	32°12'30.697"N	103°53'37.302"W	0.00	
13487.00†	90.997	269.283	10832.22	2869.14	-611.56	-2815.69	635876.81	439858.38	32°12'30.688"N	103°53'38.466"W	0.00	
13587.00†	90.997	269.283	10830.49	2968.53	-612.81	-2915.67	635776.84	439857.13	32°12'30.680"N	103°53'39.629"W	0.00	
13687.00†	90.997	269.283	10828.75	3067.92	-614.06	-3015.64	635676.87	439855.88	32°12'30.672"N	103°53'40.793"W	0.00	
13787.00†	90.997	269.283	10827.01	3167.31	-615.32	-3115.62	635576.90	439854.63	32°12'30.663"N	103°53'41.957"W	0.00	
13887.00†	90.997	269.283	10825.27	3266.69	-616.57	-3215.60	635476.93	439853.38	32°12'30.655"N	103°53'43.120"W	0.00	
13987.00†	90.997	269.283	10823.53	3366.08	-617.82	-3315.57	635376.96	439852.12	32°12'30.647"N	103°53'44.284"W	0.00	
14087.00†	90.997	269.283	10821.79	3465.47	-619.07	-3415.55	635276.99	439850.87	32°12'30.638"N	103°53'45.448"W	0.00	
14187.00†	90.997	269.283	10820.05	3564.86	-620.32	-3515.53	635177.02	439849.62	32°12'30.630"N	103°53'46.611"W	0.00	
14287.00†	90.997	269.283	10818.31	3664.25	-621.57	-3615.50	635077.05	439848.37	32°12'30.621"N	103°53'47.775"W	0.00	
14387.00†	90.997	269.283	10816.57	3763.63	-622.83	-3715.48	634977.08	439847.12	32°12'30.613"N	103°53'48.938"W	0.00	
14487.00†	90.997	269.283	10814.83	3863.02	-624.08	-3815.46	634877.11	439845.87	32°12'30.605"N	103°53'50.102"W	0.00	
14587.00†	90.997	269.283	10813.09	3962.41	-625.33	-3915.44	634777.14	439844.62	32°12'30.596"N	103°53'51.266"W	0.00	
14687.00†	90.997	269.283	10811.35	4061.80	-626.58	-4015.41	634677.17	439843.36	32°12'30.588"N	103°53'52.429"W	0.00	
14787.00†	90.997	269.283	10809.61	4161.19	-627.83	-4115.39	634577.20	439842.11	32°12'30.580"N	103°53'53.593"W	0.00	
14887.00†	90.997	269.283	10807.87	4260.58	-629.08	-4215.37	634477.23	439840.86	32°12'30.571"N	103°53'54.757"W	0.00	
14987.00†	90.997	269.283	10806.13	4359.96	-630.34	-4315.34	634377.26	439839.61	32°12'30.563"N	103°53'55.920"W	0.00	
15087.00†	90.997	269.283	10804.40	4459.35	-631.59	-4415.32	634277.29	439838.36	32°12'30.554"N	103°53'57.084"W	0.00	
15187.00†	90.997	269.283	10802.66	4558.74	-632.84	-4515.30	634177.32	439837.11	32°12'30.546"N	103°53'58.247"W	0.00	
15287.00†	90.997	269.283	10800.92	4658.13	-634.09	-4615.28	634077.35	439835.85	32°12'30.538"N	103°53'59.411"W	0.00	
15387.00†	90.997	269.283	10799.18	4757.52	-635.34	-4715.25	633977.38	439834.60	32°12'30.529"N	103°54'00.575"W	0.00	
15487.00†	90.997	269.283	10797.44	4856.90	-636.59	-4815.23	633877.41	439833.35	32°12'30.521"N	103°54'01.738"W	0.00	
15587.00†	90.997	269.283	10795.70	4956.29	-637.84	-4915.21	633777.44	439832.10	32°12'30.512"N	103°54'02.902"W	0.00	
15687.00†	90.997	269.283	10793.96	5055.68	-639.10	-5015.18	633677.47	439830.85	32°12'30.504"N	103°54'04.066"W	0.00	
15787.00†	90.997	269.283	10792.22	5155.07	-640.35	-5115.16	633577.50	439829.60	32°12'30.496"N	103°54'05.229"W	0.00	
15887.00†	90.997	269.283	10790.48	5254.46	-641.60	-5215.14	633477.53	439828.35	32°12'30.487"N	103°54'06.393"W	0.00	
15914.64	90.997	269.283	10790.00	5281.93	-641.95	-5242.77	633449.90	439828.00	32°12'30.485"N	103°54'06.714"W	0.00	No.20H PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
PC No.20H PBHL		10710.00	-675.65	-7947.16	630745.70	439794.30	32°12'30.258"N	103°54'38.191"W	point
1) PC No.20H PBHL Rev.1	15914.64	10790.00	-641.95	-5242.77	633449.90	439828.00	32°12'30.485"N	103°54'06.714"W	point

SURVEY PROGRAM - Ref Wellbore: No.20H PWB - Ref Wellpath: B-5				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
29.00	1144.00	Generic gyro - northseeking (Standard)		No.20H AWB
1144.00	3787.00	Generic gyro - northseeking (Standard)		No.20H AWB
3787.00	15914.64	NaviTrak (Standard)		No.20H PWB