

30-05-42427



Job Number: SVM0-141330
 Company: BOPCO, LP
 Lease/Well: Poker Lake Unit CVX JV BS035H
 Location: Eddy County, NM
 Rig Name: Latshaw #18
 RKB: 26'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.05°
 Grid: East To Grid North
 File name: S:\2014SU-11BOPCO\MO\POKERLAKEUN-11CVXJVB\BS035H.SVY
 Date/Time: 17-Nov-15 / 09:55
 Curve Name: Surface - 800' M.D. (Rate Gyro)

NM OIL CONSERVATION
 ARTESIA DISTRICT
 FEB 16 2016
 RECEIVED

MS Survey
 WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 800' MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
Curtis Bingenman 10/7/14
 MS Energy Services Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.27	85.19	100.00	.02	.23	.02	.24	85.19	.27
200.00	.17	13.72	200.00	.18	.50	.18	.54	70.01	.27
300.00	.10	240.28	300.00	.28	.46	.28	.54	58.50	.25
400.00	.08	74.98	400.00	.26	.46	.26	.52	60.36	.18
500.00	.20	315.18	500.00	.40	.40	.40	.57	44.93	.25
600.00	.14	203.39	600.00	.41	.23	.41	.47	28.98	.28
700.00	.17	26.24	700.00	.43	.25	.43	.50	29.53	.31
Last Survey Depth Recorded									
800.00	.08	274.50	800.00	.57	.24	.57	.62	22.90	.21

30-015-42427



BOPCO, LP

Location Eddy County, NM Slot: PLU CVX JV BS #035H (Latahew 18)
 Field Eddy County, NM (NAD 27 / Grid) Well SL 190 FNL, 2332 FWL
 Facility PLU CVX JV BS (35H, 38H) Sec 19-24S-31E Wellbore PLU CVX JV BS #035H Actual



Plot reference wellpath is No. 035H AWP

True vertical depths are referenced to Latahew 18 (RKB)
 Measured depths are referenced to Latahew 18 (RKB)
 Latahew 18 (RKB) to Mean Sea Level: 3527 feet
 Mean Sea Level to Mud line (At Slot PLU CVX JV BS #035H (Latahew 18)): -3496 feet
 Coordinates are in feet referenced to Slot
 Grid System: NAD27 / T11 New Mexico SP, Eastern Zone (NAD11 US feet)
 North Reference: Grid north
 Scale: True distance
 Depth: in feet
 Created by: jandho on 12/1/2014

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
PLU CVX JV BS (35H, 38H) Sec 19-24S-31E	650403.400	440290.600	32°12'33.917"N	103°49'03.566"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
PLU CVX JV BS #035H (Latahew 18)	0.00	0.00	650403.400	440290.600
Latahew 18 (RKB) to Mud line (At Slot PLU CVX JV BS #035H (Latahew 18))				29ft
Mean Sea Level to Mud line (At Slot PLU CVX JV BS #035H (Latahew 18))				-3496ft
Latahew 18 (RKB) to Mean Sea Level				3527ft

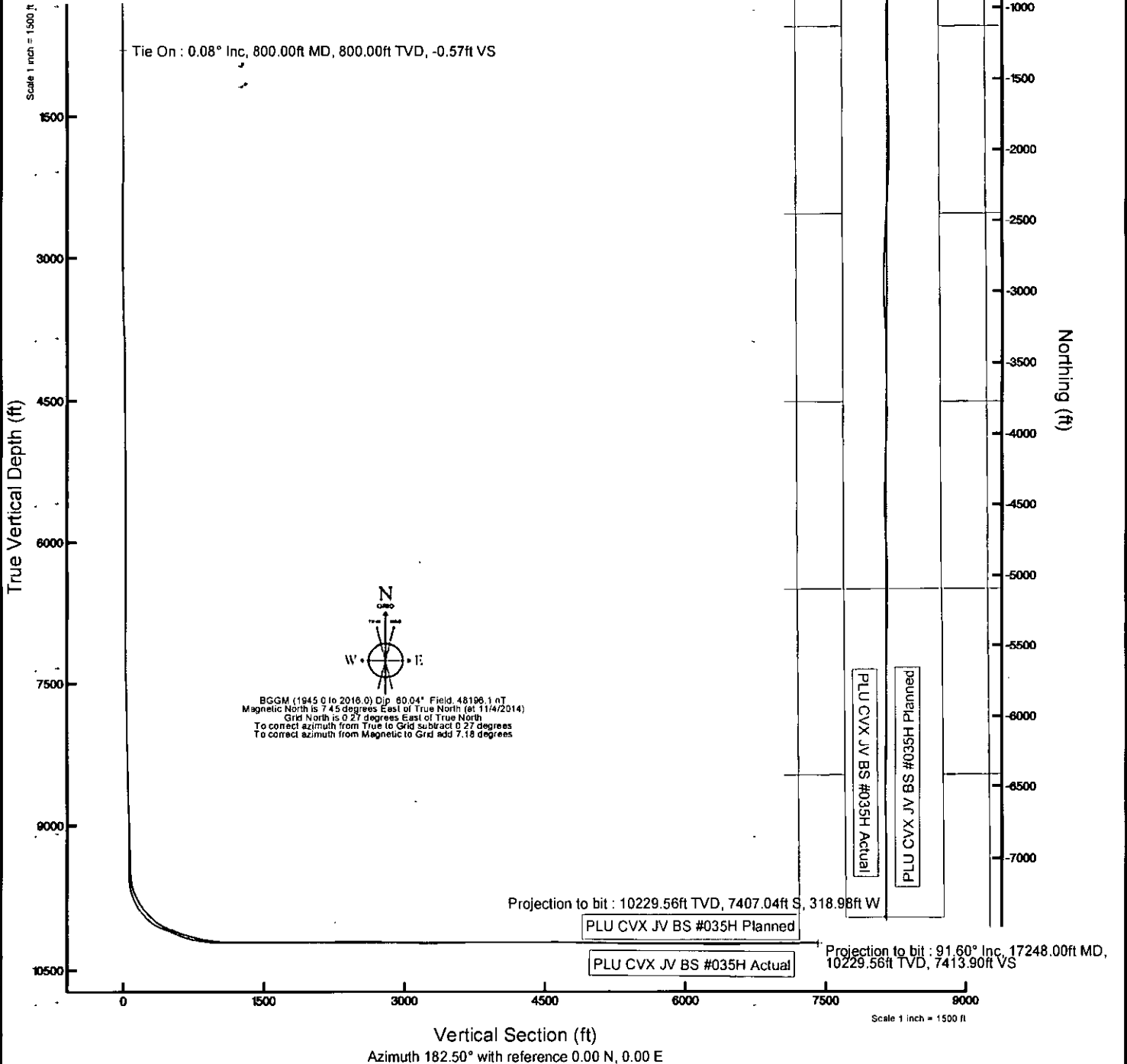
Wellpath Composition

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
29.80	800.00	Generic pipe - nonsteering	MS Survey Surface Curve (100' - 800')		PLU CVX JV BS #035H Actual
800.00	17195.00	NewTrak	NewTrak (Standard)	BH NewTrak <888 - 17195>	PLU CVX JV BS #035H Actual
17195.00	17248.00	Blind Drilling	Blind Drilling (act)	Projection to bit	PLU CVX JV BS #035H Actual

Targets								
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
No 35H PBHL	10227.00	-7407.47	-323.12	650170.30	432682.90	32°11'20.633"N	103°49'07.730"W	

Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
17248.00	91.600	178.360	10229.56	-7407.04	-318.98	650174.44	432683.03	32°11'20.637"N	103°49'07.691"W



N
 True
 Magnetic
 Grid
 W
 E

BGGM (1945.0 to 2016.0) Dip: 60.04° Field: 48196.1 nT
 Magnetic North is 7.45 degrees East of True North (at 11/4/2014)
 Grid North is 0.27 degrees East of True North
 To correct azimuth from True to Grid subtract 0.27 degrees
 To correct azimuth from Magnetic to Grid add 7.18 degrees



Actual Wellpath Report

No. 035H AWP

Page 1 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #035H (Latshaw 18)
Area	Eddy County, NM	Well	SL 190 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #035H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 4.0.0
North Reference	Grid	User	Janotho
Scale	0.999938	Report Generated	12/1/2014 at 7:52:04 AM
Convergence at slot	0.27° East	Database/Source file	WA_Midland/PLU_CVX_JV_BS_#035H_Actual.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	659493.40	440289.60	32°12'33.917"N	103°49'03.566"W
Facility Reference Pt			659493.40	440289.60	32°12'33.917"N	103°49'03.566"W
Field Reference Pt			510280.10	534700.83	32°28'12.000"N	104°18'00.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	Latshaw 18 (RKB) to Facility Vertical Datum	29.00ft
Horizontal Reference Pt	Slot	Latshaw 18 (RKB) to Mean Sea Level	3527.00ft
Vertical Reference Pt	Latshaw 18 (RKB)	Latshaw 18 (RKB) to Mud Line at Slot (PLU CVX JV BS #035H (Latshaw 18))	29.00ft
MD Reference Pt	Latshaw 18 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	182.50°



Actual Wellpath Report

No. 035H AWP

Page 2 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #035H (Latshaw 18)
Area	Eddy County, NM	Well	SL 190 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #035H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

WELLPATH DATA (150 stations)

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
800.00	0.080	274.500	800.00	-0.57	0.57	0.17	659493.57	440290.17	32°12'33.923"N	103°49'03.564"W	0.21	Tie On
989.00	0.070	113.290	989.00	-0.54	0.53	0.15	659493.55	440290.13	32°12'33.923"N	103°49'03.564"W	0.08	
1084.00	0.330	181.210	1084.00	-0.24	0.23	0.20	659493.60	440289.83	32°12'33.920"N	103°49'03.564"W	0.33	
1179.00	0.470	188.260	1179.00	0.42	-0.42	0.13	659493.53	440289.18	32°12'33.913"N	103°49'03.564"W	0.16	
1274.00	0.580	172.360	1273.99	1.28	-1.29	0.14	659493.54	440288.31	32°12'33.905"N	103°49'03.564"W	0.19	
1368.00	0.780	186.600	1367.98	2.39	-2.39	0.13	659493.53	440287.21	32°12'33.894"N	103°49'03.565"W	0.28	
1462.00	1.270	191.830	1461.97	4.05	-4.05	-0.16	659493.24	440285.55	32°12'33.877"N	103°49'03.568"W	0.53	
1555.00	0.310	185.030	1554.96	5.32	-5.31	-0.39	659493.01	440284.29	32°12'33.865"N	103°49'03.571"W	1.04	
1648.00	0.150	40.970	1647.96	5.48	-5.47	-0.33	659493.07	440284.13	32°12'33.863"N	103°49'03.570"W	0.47	
1743.00	0.400	38.210	1742.96	5.11	-5.11	-0.04	659493.36	440284.49	32°12'33.867"N	103°49'03.567"W	0.26	
1838.00	0.400	34.910	1837.96	4.56	-4.58	0.35	659493.75	440285.02	32°12'33.872"N	103°49'03.562"W	0.02	
1933.00	0.660	36.120	1932.95	3.82	-3.87	0.86	659494.26	440285.73	32°12'33.879"N	103°49'03.556"W	0.27	
2027.00	1.160	43.920	2026.94	2.66	-2.74	1.84	659495.24	440286.86	32°12'33.890"N	103°49'03.545"W	0.55	
2123.00	0.600	37.840	2122.93	1.52	-1.65	2.82	659496.22	440287.95	32°12'33.901"N	103°49'03.533"W	0.59	
2217.00	0.370	38.560	2216.92	0.87	-1.02	3.32	659496.72	440288.58	32°12'33.907"N	103°49'03.527"W	0.24	
2313.00	0.570	21.540	2312.92	0.17	-0.33	3.68	659497.08	440289.27	32°12'33.914"N	103°49'03.523"W	0.25	
2408.00	0.460	20.150	2407.92	-0.64	0.46	3.99	659497.39	440290.06	32°12'33.922"N	103°49'03.519"W	0.12	
2503.00	0.640	38.010	2502.91	-1.43	1.24	4.45	659497.85	440290.84	32°12'33.930"N	103°49'03.514"W	0.26	
2597.00	0.880	50.520	2596.90	-2.34	2.11	5.33	659498.73	440291.71	32°12'33.938"N	103°49'03.504"W	0.31	
2692.00	1.210	107.880	2691.89	-2.56	2.27	6.85	659500.24	440291.87	32°12'33.940"N	103°49'03.486"W	1.10	
2787.00	1.180	119.220	2786.87	-1.86	1.48	8.65	659502.05	440291.08	32°12'33.932"N	103°49'03.465"W	0.25	
2881.00	0.940	149.380	2880.85	-0.78	0.35	9.89	659503.29	440289.95	32°12'33.920"N	103°49'03.451"W	0.64	
2975.00	0.510	214.640	2974.85	0.22	-0.66	10.05	659503.45	440288.94	32°12'33.910"N	103°49'03.449"W	0.92	
3068.00	0.350	165.840	3067.85	0.85	-1.28	9.88	659503.28	440288.32	32°12'33.904"N	103°49'03.451"W	0.41	
3162.00	0.600	152.200	3161.84	1.55	-1.99	10.18	659503.58	440287.61	32°12'33.897"N	103°49'03.448"W	0.29	
3256.00	0.840	133.710	3255.84	2.42	-2.90	10.91	659504.31	440286.70	32°12'33.888"N	103°49'03.439"W	0.35	
3349.00	1.160	134.940	3348.82	3.51	-4.04	12.07	659505.47	440285.56	32°12'33.877"N	103°49'03.426"W	0.34	
3443.00	1.460	111.610	3442.80	4.54	-5.15	13.85	659507.25	440284.45	32°12'33.866"N	103°49'03.405"W	0.64	
3537.00	2.960	113.630	3536.72	5.81	-6.57	17.19	659510.59	440283.04	32°12'33.852"N	103°49'03.366"W	1.60	
3631.00	3.630	127.520	3630.57	8.39	-9.35	21.77	659515.17	440280.25	32°12'33.824"N	103°49'03.313"W	1.10	
3725.00	2.450	180.610	3724.45	12.11	-13.17	24.11	659517.51	440276.43	32°12'33.786"N	103°49'03.286"W	3.10	
3821.00	2.620	211.660	3820.36	16.08	-17.09	22.94	659516.34	440272.51	32°12'33.747"N	103°49'03.300"W	1.42	
3915.00	0.960	261.130	3914.32	18.11	-19.04	21.03	659514.43	440270.56	32°12'33.728"N	103°49'03.322"W	2.26	
4011.00	0.770	285.470	4010.31	18.12	-18.99	19.62	659513.02	440270.61	32°12'33.729"N	103°49'03.339"W	0.43	
4107.00	0.750	289.700	4106.30	17.79	-18.61	18.40	659511.80	440270.99	32°12'33.732"N	103°49'03.353"W	0.06	
4201.00	0.870	279.620	4200.29	17.52	-18.28	17.12	659510.52	440271.32	32°12'33.736"N	103°49'03.368"W	0.20	
4270.00	0.900	271.120	4269.28	17.47	-18.19	16.06	659509.46	440271.42	32°12'33.737"N	103°49'03.380"W	0.19	
4381.00	0.900	219.610	4380.27	18.18	-18.84	14.64	659508.04	440270.76	32°12'33.730"N	103°49'03.397"W	0.70	
4570.00	0.720	219.510	4569.25	20.32	-20.90	12.93	659506.33	440268.70	32°12'33.710"N	103°49'03.417"W	0.10	
4758.00	0.870	188.450	4757.23	22.68	-23.22	11.97	659505.37	440266.38	32°12'33.687"N	103°49'03.428"W	0.24	
4946.00	0.680	202.190	4945.22	25.15	-25.67	11.34	659504.74	440263.93	32°12'33.663"N	103°49'03.435"W	0.14	
5136.00	0.430	202.780	5135.21	26.88	-27.37	10.64	659504.04	440262.23	32°12'33.646"N	103°49'03.444"W	0.13	
5323.00	0.350	158.000	5322.20	28.06	-28.55	10.58	659503.98	440261.06	32°12'33.634"N	103°49'03.444"W	0.16	
5509.00	0.130	238.620	5508.20	28.69	-29.18	10.61	659504.01	440260.42	32°12'33.628"N	103°49'03.444"W	0.19	
5698.00	0.130	278.000	5697.20	28.79	-29.26	10.22	659503.62	440260.34	32°12'33.627"N	103°49'03.449"W	0.05	



Actual Wellpath Report

No. 035H AWP

Page 3 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #035H (Latshaw 18)
Area	Eddy County, NM	Well	SL 190 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #035H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

WELLPATH DATA (150 stations)

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
5886.00	0.250	18.760	5885.20	28.38	-28.85	10.14	659503.54	440260.76	32°12'33.632"N	103°49'03.450"W	0.16	
6075.00	0.230	90.780	6074.20	27.97	-28.46	10.65	659504.05	440261.14	32°12'33.635"N	103°49'03.444"W	0.15	
6265.00	0.330	138.940	6264.20	28.35	-28.88	11.39	659504.79	440260.72	32°12'33.631"N	103°49'03.435"W	0.13	
6454.00	0.580	122.570	6453.19	29.23	-29.80	12.56	659505.96	440259.80	32°12'33.622"N	103°49'03.421"W	0.15	
6642.00	0.470	117.770	6641.18	30.03	-30.68	14.04	659507.44	440258.93	32°12'33.613"N	103°49'03.404"W	0.06	
6831.00	0.640	118.400	6830.18	30.83	-31.54	15.66	659509.05	440258.06	32°12'33.605"N	103°49'03.385"W	0.09	
7020.00	0.620	154.620	7019.16	32.19	-32.96	17.02	659510.42	440256.64	32°12'33.590"N	103°49'03.370"W	0.21	
7208.00	0.800	153.810	7207.15	34.24	-35.06	18.04	659511.44	440254.54	32°12'33.570"N	103°49'03.358"W	0.10	
7395.00	1.070	153.910	7394.12	36.92	-37.80	19.38	659512.78	440251.80	32°12'33.542"N	103°49'03.342"W	0.14	
7585.00	1.230	143.590	7584.09	40.07	-41.04	21.37	659514.77	440248.57	32°12'33.510"N	103°49'03.319"W	0.14	
7773.00	1.160	135.720	7772.05	42.94	-44.02	23.90	659517.30	440245.58	32°12'33.481"N	103°49'03.290"W	0.09	
7961.00	0.680	151.090	7960.02	45.19	-46.36	25.77	659519.16	440243.24	32°12'33.457"N	103°49'03.269"W	0.28	
8148.00	0.820	178.980	8147.01	47.48	-48.67	26.33	659519.72	440240.93	32°12'33.435"N	103°49'03.262"W	0.21	
8340.00	1.210	141.320	8338.98	50.37	-51.63	27.62	659521.02	440237.98	32°12'33.405"N	103°49'03.247"W	0.39	
8527.00	2.140	238.100	8525.92	53.83	-55.01	25.89	659519.29	440234.59	32°12'33.372"N	103°49'03.268"W	1.38	
8714.00	2.000	189.540	8712.81	59.04	-60.08	22.38	659515.78	440229.53	32°12'33.322"N	103°49'03.309"W	0.91	
8903.00	1.070	182.200	8901.74	64.08	-65.09	21.77	659515.17	440224.51	32°12'33.272"N	103°49'03.316"W	0.50	
9091.00	1.620	198.200	9089.69	68.40	-69.37	20.87	659514.27	440220.23	32°12'33.230"N	103°49'03.327"W	0.35	
9257.00	1.720	193.670	9255.62	73.10	-74.02	19.55	659512.95	440215.58	32°12'33.184"N	103°49'03.343"W	0.10	
9445.00	1.930	188.380	9443.53	79.02	-79.89	18.42	659511.82	440209.71	32°12'33.126"N	103°49'03.356"W	0.14	
9476.00	2.340	185.990	9474.51	80.17	-81.04	18.28	659511.68	440208.57	32°12'33.115"N	103°49'03.358"W	1.35	
9508.00	3.990	186.050	9506.46	81.93	-82.80	18.09	659511.49	440206.81	32°12'33.097"N	103°49'03.360"W	5.16	
9538.00	5.850	195.120	9536.34	84.46	-85.31	17.58	659510.98	440204.29	32°12'33.072"N	103°49'03.366"W	6.70	
9569.00	7.370	196.630	9567.14	87.93	-88.74	16.60	659510.00	440200.86	32°12'33.039"N	103°49'03.378"W	4.93	
9600.00	10.340	200.310	9597.76	92.51	-93.26	15.07	659508.47	440196.35	32°12'32.994"N	103°49'03.396"W	9.75	
9631.00	12.910	199.130	9628.13	98.48	-99.14	12.97	659506.37	440190.47	32°12'32.936"N	103°49'03.421"W	8.33	
9663.00	16.280	196.140	9659.09	106.27	-106.83	10.55	659503.95	440182.78	32°12'32.860"N	103°49'03.449"W	10.79	
9694.00	19.970	196.480	9688.55	115.63	-116.08	7.84	659501.24	440173.53	32°12'32.768"N	103°49'03.481"W	11.91	
9726.00	23.220	201.470	9718.30	126.90	-127.19	3.98	659497.38	440162.41	32°12'32.659"N	103°49'03.527"W	11.66	
9757.00	26.820	201.630	9746.39	139.29	-139.39	-0.84	659492.56	440150.22	32°12'32.538"N	103°49'03.583"W	11.61	
9789.00	30.220	203.490	9774.50	153.63	-153.49	-6.71	659486.69	440136.12	32°12'32.399"N	103°49'03.653"W	10.98	
9821.00	32.710	203.710	9801.79	169.22	-168.79	-13.40	659480.00	440120.82	32°12'32.248"N	103°49'03.731"W	7.79	
9852.00	35.330	204.880	9827.48	185.32	-184.60	-20.54	659472.86	440105.02	32°12'32.092"N	103°49'03.815"W	8.71	
9884.00	37.750	204.550	9853.19	202.95	-201.90	-28.50	659464.90	440087.71	32°12'31.921"N	103°49'03.909"W	7.59	
9914.00	40.830	204.360	9876.41	220.57	-219.19	-36.37	659457.04	440070.42	32°12'31.750"N	103°49'04.001"W	10.27	
9946.00	43.790	205.120	9900.07	240.50	-238.75	-45.38	659448.02	440050.86	32°12'31.557"N	103°49'04.107"W	9.39	
9977.00	46.120	206.010	9922.01	260.65	-258.51	-54.84	659438.57	440031.11	32°12'31.362"N	103°49'04.219"W	7.78	
10008.00	47.770	206.220	9943.17	281.41	-278.85	-64.81	659428.60	440010.77	32°12'31.161"N	103°49'04.336"W	5.35	
10040.00	49.650	207.090	9964.28	303.34	-300.33	-75.60	659417.81	439989.29	32°12'30.949"N	103°49'04.463"W	6.22	
10071.00	52.390	206.880	9983.78	325.27	-321.81	-86.53	659406.88	439967.82	32°12'30.737"N	103°49'04.591"W	8.85	
10102.00	55.030	207.080	10002.13	348.01	-344.07	-97.87	659395.54	439945.55	32°12'30.517"N	103°49'04.724"W	8.53	
10133.00	57.800	206.980	10019.28	371.50	-367.07	-109.60	659383.81	439922.55	32°12'30.290"N	103°49'04.862"W	8.94	
10164.00	61.150	206.810	10035.02	395.82	-390.88	-121.68	659371.73	439898.74	32°12'30.055"N	103°49'05.004"W	10.82	
10196.00	64.560	207.220	10049.62	421.72	-416.25	-134.61	659358.80	439873.38	32°12'29.805"N	103°49'05.156"W	10.72	
10228.00	68.460	206.750	10062.37	448.42	-442.40	-147.92	659345.49	439847.23	32°12'29.547"N	103°49'05.312"W	12.26	



Actual Wellpath Report

No. 035H AWP

Page 4 of 5



BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #035H (Latshaw 18)
Area	Eddy County, NM	Well	SL 190 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #035H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

WELLPATH DATA (150 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	D1.S [°/100ft]	Comments
10259.00	70.690	206.390	10073.19	474.95	-468.38	-160.92	659332.49	439821.25	32°12'29.290"N	103°49'05.465"W	7.28	
10290.00	71.170	206.080	10083.31	501.77	-494.66	-173.87	659319.54	439794.97	32°12'29.031"N	103°49'05.617"W	1.81	
10323.00	71.570	206.000	10093.86	530.43	-522.76	-187.60	659305.82	439766.88	32°12'28.753"N	103°49'05.778"W	1.23	
10354.00	71.920	205.980	10103.57	557.43	-549.22	-200.50	659292.92	439740.42	32°12'28.492"N	103°49'05.930"W	1.13	
10385.00	72.120	205.850	10113.14	584.49	-575.74	-213.38	659280.03	439713.90	32°12'28.230"N	103°49'06.081"W	0.76	
10417.00	72.290	205.970	10122.92	612.45	-603.15	-226.70	659266.72	439686.49	32°12'27.960"N	103°49'06.238"W	0.64	
10448.00	72.670	204.720	10132.25	639.69	-629.86	-239.35	659254.06	439659.78	32°12'27.696"N	103°49'06.387"W	4.04	
10480.00	73.220	201.950	10141.64	668.28	-657.95	-251.47	659241.95	439631.69	32°12'27.419"N	103°49'06.529"W	8.45	
10510.00	74.400	198.640	10150.00	695.71	-684.97	-261.46	659231.96	439604.68	32°12'27.152"N	103°49'06.647"W	11.30	
10541.00	74.770	196.280	10158.24	724.58	-713.47	-270.42	659223.00	439576.17	32°12'26.870"N	103°49'06.753"W	7.44	
10573.00	75.530	194.500	10166.45	754.73	-743.29	-278.63	659214.79	439546.35	32°12'26.575"N	103°49'06.850"W	5.88	
10605.00	76.920	192.680	10174.07	785.23	-773.50	-285.93	659207.49	439516.15	32°12'26.277"N	103°49'06.937"W	7.03	
10636.00	77.700	191.280	10180.88	815.06	-803.08	-292.21	659201.21	439486.57	32°12'25.984"N	103°49'07.012"W	5.07	
10668.00	78.910	190.480	10187.36	846.06	-833.86	-298.12	659195.30	439455.80	32°12'25.680"N	103°49'07.082"W	4.50	
10698.00	80.650	189.360	10192.68	875.33	-862.94	-303.21	659190.21	439426.72	32°12'25.393"N	103°49'07.143"W	6.87	
10734.00	82.920	188.370	10197.83	910.74	-898.14	-308.70	659184.72	439391.52	32°12'25.045"N	103°49'07.209"W	6.87	
10765.00	83.580	187.100	10201.47	941.39	-928.64	-312.84	659180.58	439361.02	32°12'24.743"N	103°49'07.259"W	4.59	
10796.00	83.950	185.330	10204.84	972.15	-959.28	-316.17	659177.25	439330.38	32°12'24.440"N	103°49'07.299"W	5.80	
10828.00	84.850	183.840	10207.96	1003.97	-991.02	-318.72	659174.70	439298.64	32°12'24.126"N	103°49'07.331"W	5.42	
10859.00	85.310	182.750	10210.62	1034.85	-1021.86	-320.49	659172.93	439267.81	32°12'23.821"N	103°49'07.353"W	3.80	
10891.00	86.600	181.180	10212.88	1066.77	-1053.76	-321.59	659171.83	439235.91	32°12'23.505"N	103°49'07.367"W	6.34	
10922.00	87.840	179.890	10214.38	1097.71	-1084.72	-321.88	659171.54	439204.95	32°12'23.199"N	103°49'07.373"W	5.77	
10954.00	88.180	179.510	10215.49	1129.66	-1116.70	-321.71	659171.71	439172.97	32°12'22.883"N	103°49'07.372"W	1.59	
10985.00	88.300	179.650	10216.44	1160.60	-1147.68	-321.48	659171.94	439141.99	32°12'22.576"N	103°49'07.371"W	0.59	
11017.00	88.490	179.680	10217.34	1192.55	-1179.67	-321.30	659172.12	439110.01	32°12'22.259"N	103°49'07.371"W	0.60	
11080.00	89.080	179.310	10218.68	1255.45	-1242.65	-320.74	659172.68	439047.03	32°12'21.636"N	103°49'07.368"W	1.11	
11175.00	89.350	178.650	10219.98	1350.26	-1337.63	-319.05	659174.37	438952.06	32°12'20.696"N	103°49'07.354"W	0.75	
11364.00	90.180	177.620	10220.75	1538.71	-1526.52	-312.90	659180.52	438763.18	32°12'18.827"N	103°49'07.293"W	0.70	
11552.00	89.350	177.670	10221.52	1726.03	-1714.36	-305.17	659188.25	438575.35	32°12'16.968"N	103°49'07.213"W	0.44	
11741.00	90.890	180.290	10221.13	1914.65	-1903.31	-301.81	659191.61	438386.41	32°12'15.098"N	103°49'07.185"W	1.61	
11930.00	91.760	180.660	10216.76	2103.48	-2092.25	-303.38	659190.04	438197.49	32°12'13.228"N	103°49'07.213"W	0.50	
12118.00	91.110	182.560	10212.05	2291.39	-2280.10	-308.66	659184.76	438009.64	32°12'11.370"N	103°49'07.285"W	1.07	
12305.00	90.310	183.140	10209.73	2478.37	-2466.86	-317.95	659175.47	437822.90	32°12'09.522"N	103°49'07.404"W	0.53	
12495.00	87.410	183.560	10213.51	2668.29	-2656.47	-329.05	659164.37	437633.30	32°12'07.646"N	103°49'07.544"W	1.54	
12683.00	87.540	180.910	10221.80	2856.09	-2844.13	-336.38	659157.04	437445.65	32°12'05.790"N	103°49'07.639"W	1.41	
12871.00	88.390	178.380	10228.47	3043.72	-3031.99	-335.21	659158.21	437257.80	32°12'03.931"N	103°49'07.636"W	1.42	
13059.00	89.010	175.490	10232.74	3230.77	-3219.65	-325.16	659168.26	437070.15	32°12'02.073"N	103°49'07.530"W	1.57	
13250.00	91.850	179.740	10231.31	3421.00	-3410.42	-317.22	659176.20	436879.40	32°12'00.185"N	103°49'07.448"W	2.68	
13438.00	91.450	179.760	10225.89	3608.71	-3598.34	-316.40	659177.02	436691.49	32°11'58.326"N	103°49'07.449"W	0.21	
13624.00	90.830	178.530	10222.19	3794.35	-3784.28	-313.62	659179.80	436505.56	32°11'56.485"N	103°49'07.427"W	0.74	
13813.00	89.750	181.990	10221.23	3983.17	-3973.24	-314.48	659178.94	436316.61	32°11'54.616"N	103°49'07.447"W	1.92	
14001.00	89.780	181.910	10222.01	4171.16	-4161.13	-320.88	659172.54	436128.73	32°11'52.757"N	103°49'07.532"W	0.05	
14188.00	90.150	180.730	10222.12	4358.12	-4348.08	-325.18	659168.24	435941.80	32°11'50.907"N	103°49'07.593"W	0.66	
14378.00	91.050	179.270	10220.13	4547.92	-4538.06	-325.18	659168.24	435751.83	32°11'49.027"N	103°49'07.603"W	0.90	
14565.00	88.030	176.820	10221.63	4734.31	-4724.91	-318.81	659174.61	435564.99	32°11'47.178"N	103°49'07.540"W	2.08	



Actual Wellpath Report

No. 035H AWP

Page 5 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #035H (Latshaw 18)
Area	Eddy County, NM	Well	SL 190 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #035H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

WELLPATH DATA (150 stations)

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
14752.00	88.620	177.630	10227.10	4920.44	-4911.61	-309.76	659183.66	435378.30	32°11'45.330"N	103°49'07.445"W	0.54	
14940.00	89.500	181.330	10230.18	5108.12	-5099.54	-308.05	659185.37	435190.38	32°11'43.470"N	103°49'07.435"W	2.02	
15129.00	88.710	181.350	10233.14	5297.06	-5288.46	-312.47	659180.95	435001.47	32°11'41.601"N	103°49'07.497"W	0.42	
15317.00	89.810	180.660	10235.56	5484.97	-5476.42	-315.77	659177.65	434813.53	32°11'39.741"N	103°49'07.546"W	0.69	
15505.00	90.460	181.070	10235.12	5672.90	-5664.39	-318.61	659174.81	434625.57	32°11'37.881"N	103°49'07.590"W	0.41	
15693.00	88.490	180.000	10236.84	5860.77	-5852.36	-320.36	659173.06	434437.61	32°11'36.021"N	103°49'07.620"W	1.19	
15881.00	88.610	180.260	10241.60	6048.55	-6040.30	-320.79	659172.63	434249.68	32°11'34.162"N	103°49'07.636"W	0.15	
16069.00	89.140	181.070	10245.29	6236.41	-6228.25	-322.97	659170.45	434061.74	32°11'32.302"N	103°49'07.672"W	0.51	
16259.00	90.460	179.980	10245.95	6426.29	-6418.24	-324.71	659168.71	433871.77	32°11'30.422"N	103°49'07.703"W	0.90	
16447.00	90.650	179.020	10244.13	6614.02	-6606.22	-323.07	659170.35	433683.80	32°11'28.562"N	103°49'07.694"W	0.52	
16635.00	90.770	179.440	10241.80	6801.70	-6794.19	-320.54	659172.88	433495.85	32°11'26.702"N	103°49'07.675"W	0.23	
16824.00	90.740	179.690	10239.31	6990.44	-6983.16	-319.11	659174.31	433306.88	32°11'24.831"N	103°49'07.669"W	0.13	
17011.00	91.390	180.600	10235.84	7177.24	-7170.13	-319.58	659173.84	433119.93	32°11'22.981"N	103°49'07.685"W	0.60	
17195.00	91.600	179.380	10231.04	7361.00	-7354.06	-319.55	659173.87	432936.01	32°11'21.161"N	103°49'07.695"W	0.67	
17248.00	91.600	179.380	10229.56	7413.90	-7407.04	-318.98	659174.44	432883.03	32°11'20.637"N	103°49'07.691"W	0.00	Projection to bit

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No. 35H PBHL		10227.00	-7407.47	-323.12	659170.30	432882.60	32°11'20.633"N	103°49'07.739"W	point

WELLPATH COMPOSITION - Ref Wellbore: PLU CVX JV BS #035H Actual Ref Wellpath: No. 035H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
29.00	800.00	Generic gyro - northseeking (Standard)	MS Survey Surface Gyros <100 - 800>	PLU CVX JV BS #035H Actual
800.00	17195.00	NaviTrak (Standard)	BH1 NaviTrak <989 - XXXX>	PLU CVX JV BS #035H Actual
17195.00	17248.00	Blind Drilling (std)	Projection to bit	PLU CVX JV BS #035H Actual