

3001542428



Job Number: SVMO-141277
 Company: BOPCO, LP
 Lease/Well: PLU CVX JV BS 036
 Location: Eddy County, NM
 Rig Name: Latshaw #18
 RKB: 30'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.08°
 Grid: East To Grid North
 File name: Y:\WINSER-1\2014SU-1\BOPCO\MOIPLUCVX-1\UVBS1036.SVY
 Date/Time: 23-Sep-14 / 12:45
 Curve Name: Surface - 869' M.D. (Rate Gyro)

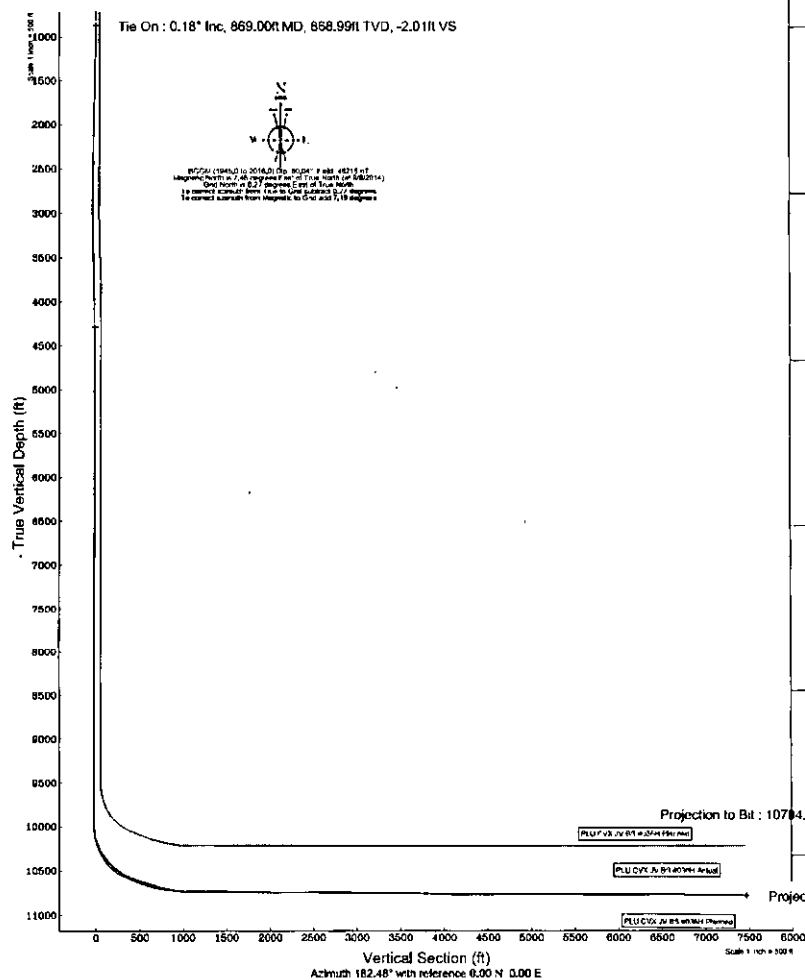
NM OIL CONSERVATION
 ARTESIA DISTRICT
 FEB 16 2016

We hereby certify that our survey data from
 Surface MD to 869' MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
 Daniel West 9/23/14
 Date
 MS Energy Services RECEIVED

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

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
81.00	.40	27.73	81.00	.25	.13	.25	.28	27.73	.49
174.00	.41	20.80	174.00	.85	.40	.85	.94	25.28	.05
267.00	.23	4.13	267.00	1.35	.53	1.35	1.45	21.58	.22
360.00	.16	341.67	360.00	1.66	.50	1.66	1.73	16.97	.11
453.00	.09	76.73	452.99	1.80	.54	1.80	1.87	16.60	.20
546.00	.09	87.20	545.99	1.82	.68	1.82	1.94	20.51	.02
639.00	.26	72.36	638.99	1.88	.95	1.88	2.11	26.85	.19
732.00	.17	83.16	731.99	1.96	1.29	1.96	2.35	33.33	.11
825.00	.21	82.83	824.99	2.00	1.60	2.00	2.56	36.60	.04

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
Last Survey Depth Recorded									
869.00	.18	74.20	868.99	2.03	1.74	2.03	2.68	40.66	.10





Actual Wellpath Report

No. 036H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #036H (Latshaw 18)
Area	Eddy County, NM	Well	SL 150 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #036H 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	11/4/2014 at 10:28:50 AM
Convergence at slot	0.27° East	Database/Source file	WA_Midland/PLU_CVX_JV_BS_#036H_Actual.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	-0.40	659493.00	440329.60	32°12'34.313"N	103°49'03.568"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 #036H (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	182.48°



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Area	Eddy County, NM	Well	SL 150 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #036H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

WELLPATH DATA (169 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
869.00	0.180	74.200	868.99	-2.01	1.94	1.70	659494.70	440331.54	32°12'34.332"N	103°49'03.548"W	0.10	Tie On
990.00	0.200	320.800	989.99	-2.23	2.16	1.75	659494.75	440331.76	32°12'34.335"N	103°49'03.548"W	0.26	
1181.00	0.770	321.520	1180.99	-3.45	3.42	0.74	659493.74	440333.02	32°12'34.347"N	103°49'03.560"W	0.30	
1370.00	1.350	324.570	1369.95	-6.16	6.23	-1.34	659491.66	440335.83	32°12'34.375"N	103°49'03.584"W	0.31	
1557.00	1.480	334.790	1556.90	-10.04	10.21	-3.65	659489.35	440339.81	32°12'34.414"N	103°49'03.610"W	0.15	
1744.00	1.420	330.730	1743.84	-14.15	14.41	-5.81	659487.19	440344.01	32°12'34.456"N	103°49'03.635"W	0.06	
1934.00	1.180	350.240	1933.79	-18.06	18.39	-7.29	659485.71	440347.99	32°12'34.496"N	103°49'03.652"W	0.26	
2124.00	1.310	314.00	2123.74	-22.15	22.49	-7.51	659485.49	440352.09	32°12'34.536"N	103°49'03.654"W	0.16	
2314.00	0.670	341.270	2313.71	-25.35	25.71	-7.74	659485.26	440355.31	32°12'34.568"N	103°49'03.657"W	0.39	
2504.00	0.990	353.850	2503.69	-28.01	28.40	-8.28	659484.72	440357.99	32°12'34.595"N	103°49'03.663"W	0.19	
2694.00	1.090	15.510	2693.66	-31.39	31.77	-7.97	659485.03	440361.37	32°12'34.628"N	103°49'03.659"W	0.21	
2882.00	1.980	75.960	2881.60	-34.06	34.28	-4.34	659488.66	440363.88	32°12'34.653"N	103°49'03.617"W	0.92	
3069.00	3.240	97.260	3068.41	-34.54	34.40	4.04	659497.04	440363.99	32°12'34.653"N	103°49'03.519"W	0.84	
3257.00	3.880	124.030	3256.06	-30.77	30.17	14.58	659507.58	440359.76	32°12'34.611"N	103°49'03.397"W	0.94	
3444.00	1.910	100.680	3442.82	-27.01	26.05	22.89	659515.88	440355.65	32°12'34.570"N	103°49'03.301"W	1.21	
3632.00	4.240	101.930	3630.53	-25.43	24.03	32.77	659525.76	440353.63	32°12'34.550"N	103°49'03.186"W	1.24	
3822.00	3.990	104.680	3820.04	-22.88	20.90	46.03	659539.03	440350.50	32°12'34.518"N	103°49'03.031"W	0.17	
4012.00	1.980	142.950	4009.79	-18.95	16.61	54.41	659547.40	440346.21	32°12'34.475"N	103°49'02.934"W	1.43	
4203.00	1.300	194.160	4200.72	-14.28	11.87	55.86	659548.86	440341.47	32°12'34.428"N	103°49'02.918"W	0.81	
4270.00	0.980	206.560	4267.71	-13.01	10.62	55.42	659548.42	440340.22	32°12'34.416"N	103°49'02.923"W	0.60	
4385.00	0.720	203.760	4382.70	-11.44	9.08	54.69	659547.69	440338.68	32°12'34.401"N	103°49'02.931"W	0.23	
4574.00	0.820	210.900	4571.68	-9.14	6.83	53.52	659546.51	440336.43	32°12'34.378"N	103°49'02.945"W	0.07	
4763.00	0.280	352.260	4760.67	-8.41	6.13	52.76	659545.76	440335.73	32°12'34.371"N	103°49'02.954"W	0.56	
4951.00	0.280	355.200	4948.67	-9.32	7.04	52.66	659545.66	440336.64	32°12'34.381"N	103°49'02.955"W	0.01	
5139.00	0.400	19.620	5136.67	-10.40	8.12	52.84	659545.84	440337.72	32°12'34.391"N	103°49'02.953"W	0.10	
5328.00	0.000	97.190	5325.67	-11.03	8.74	53.06	659546.06	440338.34	32°12'34.397"N	103°49'02.950"W	0.21	
5516.00	0.310	295.420	5513.67	-11.23	8.96	52.61	659545.60	440338.56	32°12'34.399"N	103°49'02.956"W	0.16	
5703.00	0.130	288.330	5700.67	-11.48	9.24	51.95	659544.94	440338.84	32°12'34.402"N	103°49'02.963"W	0.10	
5891.00	0.140	184.800	5888.67	-11.31	9.08	51.73	659544.72	440338.68	32°12'34.401"N	103°49'02.966"W	0.11	
6079.00	0.590	162.130	6076.66	-10.18	7.93	52.00	659545.00	440337.53	32°12'34.389"N	103°49'02.963"W	0.25	
6268.00	0.090	47.830	6265.66	-9.37	7.11	52.41	659545.41	440336.70	32°12'34.381"N	103°49'02.958"W	0.33	
6456.00	0.220	68.980	6453.66	-9.62	7.33	52.86	659545.85	440336.93	32°12'34.383"N	103°49'02.953"W	0.07	
6644.00	0.190	196.570	6641.66	-9.46	7.16	53.11	659546.10	440336.76	32°12'34.382"N	103°49'02.950"W	0.20	
6833.00	0.490	146.980	6830.65	-8.50	6.19	53.46	659546.45	440335.79	32°12'34.372"N	103°49'02.946"W	0.21	
7020.00	1.430	49.170	7017.63	-9.44	7.04	55.66	659548.65	440336.64	32°12'34.380"N	103°49'02.920"W	0.84	
7209.00	1.160	50.660	7206.58	-12.34	9.80	58.92	659551.92	440339.40	32°12'34.407"N	103°49'02.882"W	0.14	
7396.00	1.490	66.390	7393.53	-14.67	11.97	62.61	659555.61	440341.57	32°12'34.429"N	103°49'02.839"W	0.26	
7584.00	1.220	82.310	7581.48	-16.10	13.22	66.84	659559.83	440342.82	32°12'34.441"N	103°49'02.790"W	0.25	
7772.00	0.280	117.840	7769.46	-16.25	13.27	69.23	659562.22	440342.87	32°12'34.441"N	103°49'02.762"W	0.53	
7962.00	0.430	213.420	7959.46	-15.44	12.46	69.24	659562.24	440342.06	32°12'34.433"N	103°49'02.762"W	0.28	
8152.00	0.490	336.850	8149.46	-15.57	12.61	68.53	659561.53	440342.21	32°12'34.435"N	103°49'02.770"W	0.43	
8341.00	0.490	61.060	8338.45	-16.72	13.74	68.92	659561.92	440343.34	32°12'34.446"N	103°49'02.765"W	0.35	
8530.00	0.310	306.030	8527.45	-17.42	14.44	69.22	659562.21	440344.04	32°12'34.453"N	103°49'02.762"W	0.36	
8719.00	1.100	198.400	8716.44	-15.96	13.02	68.23	659561.23	440342.61	32°12'34.439"N	103°49'02.774"W	0.65	
8909.00	1.360	216.670	8906.40	-12.34	9.48	66.31	659559.30	440339.08	32°12'34.404"N	103°49'02.796"W	0.25	



Actual Wellpath Report

No. 036H AWP
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Operator	BOPCO, LP	Slot	PLU CVX JV BS #036H (Latshaw 18)
Area	Eddy County, NM	Well	SL 150 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #036H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

WELLPATH DATA (169 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
9099.00	0.970	310.890	9096.37	-11.47	8.72	63.74	659556.74	440338.32	32°12'34.397"N	103°49'02.826"W	0.91	
9287.00	1.060	294.520	9284.34	-13.11	10.48	60.96	659553.96	440340.08	32°12'34.414"N	103°49'02.858"W	0.16	
9475.00	0.170	45.410	9472.33	-13.97	11.40	59.58	659552.57	440341.00	32°12'34.423"N	103°49'02.874"W	0.60	
9662.00	0.450	92.070	9659.33	-14.18	11.57	60.51	659553.50	440341.17	32°12'34.425"N	103°49'02.863"W	0.19	
9850.00	1.260	84.080	9847.31	-14.49	11.76	63.30	659556.30	440341.36	32°12'34.427"N	103°49'02.831"W	0.43	
9944.00	0.810	207.210	9941.30	-14.03	11.27	64.03	659557.02	440340.87	32°12'34.422"N	103°49'02.823"W	1.95	
9977.00	0.730	197.740	9974.30	-13.62	10.86	63.86	659556.85	440340.46	32°12'34.418"N	103°49'02.825"W	0.45	
10009.00	2.290	225.080	10006.28	-12.95	10.22	63.34	659556.34	440339.82	32°12'34.411"N	103°49'02.831"W	5.24	
10040.00	4.050	202.540	10037.24	-11.47	8.77	62.48	659555.48	440338.37	32°12'34.397"N	103°49'02.841"W	6.85	
10071.00	7.160	203.840	10068.08	-8.64	5.99	61.28	659554.28	440335.59	32°12'34.370"N	103°49'02.855"W	10.04	
10103.00	10.490	204.620	10099.70	-4.08	1.52	59.26	659552.26	440331.12	32°12'34.326"N	103°49'02.879"W	10.41	
10134.00	13.900	206.300	10130.00	1.94	-4.39	56.43	659549.43	440325.21	32°12'34.267"N	103°49'02.912"W	11.06	
10166.00	16.330	204.610	10160.89	9.63	-11.92	52.86	659545.85	440317.68	32°12'34.193"N	103°49'02.954"W	7.72	
10197.00	19.280	204.770	10190.40	18.40	-20.54	48.90	659541.89	440309.07	32°12'34.108"N	103°49'03.000"W	9.52	
10229.00	22.280	204.910	10220.31	28.90	-30.84	44.13	659537.13	440298.76	32°12'34.006"N	103°49'03.056"W	9.38	
10260.00	25.550	205.680	10248.65	40.48	-42.19	38.75	659531.75	440287.41	32°12'33.894"N	103°49'03.120"W	10.60	
10290.00	28.330	206.960	10275.39	52.90	-54.37	32.72	659525.72	440275.23	32°12'33.774"N	103°49'03.191"W	9.47	
10322.00	31.770	207.510	10303.09	67.45	-68.62	25.39	659518.39	440260.99	32°12'33.633"N	103°49'03.277"W	10.78	
10353.00	35.010	207.630	10328.97	82.90	-83.74	17.49	659510.49	440245.87	32°12'33.484"N	103°49'03.369"W	10.45	
10385.00	37.840	207.550	10354.71	100.10	-100.58	8.69	659501.69	440229.03	32°12'33.318"N	103°49'03.473"W	8.84	
10416.00	40.350	208.060	10378.77	117.77	-117.86	-0.43	659492.57	440211.74	32°12'33.147"N	103°49'03.580"W	8.16	
10448.00	43.400	207.790	10402.59	137.06	-136.74	-10.43	659482.57	440192.87	32°12'32.961"N	103°49'03.697"W	9.55	
10479.00	46.770	207.340	10424.48	156.94	-156.19	-20.58	659472.42	440173.41	32°12'32.769"N	103°49'03.817"W	10.92	
10510.00	49.700	206.770	10445.12	177.97	-176.79	-31.10	659461.90	440152.83	32°12'32.565"N	103°49'03.940"W	9.55	
10541.00	52.640	207.380	10464.56	199.92	-198.28	-42.09	659450.91	440131.33	32°12'32.353"N	103°49'04.069"W	9.61	
10573.00	53.160	206.830	10483.86	223.12	-221.00	-53.72	659439.29	440108.61	32°12'32.129"N	103°49'04.206"W	2.13	
10604.00	55.210	206.910	10502.00	246.02	-243.43	-65.08	659427.92	440086.19	32°12'31.908"N	103°49'04.339"W	6.62	
10635.00	58.200	206.780	10519.02	269.62	-266.54	-76.78	659416.23	440063.07	32°12'31.679"N	103°49'04.477"W	9.65	
10667.00	61.650	206.990	10535.05	294.83	-291.24	-89.30	659403.71	440038.38	32°12'31.436"N	103°49'04.624"W	10.80	
10698.00	64.000	207.000	10549.21	319.92	-315.81	-101.82	659391.19	440013.81	32°12'31.193"N	103°49'04.771"W	7.58	
10730.00	66.940	206.160	10562.49	346.49	-341.84	-114.84	659378.17	439987.78	32°12'30.936"N	103°49'04.924"W	9.49	
10761.00	69.170	206.450	10574.08	372.80	-367.62	-127.58	659365.43	439962.01	32°12'30.682"N	103°49'05.074"W	7.25	
10793.00	70.190	206.260	10585.19	400.24	-394.51	-140.90	659352.11	439935.12	32°12'30.416"N	103°49'05.230"W	3.24	
10825.00	70.810	205.880	10595.87	427.88	-421.60	-154.16	659338.85	439908.02	32°12'30.149"N	103°49'05.386"W	2.24	
10856.00	71.450	205.890	10605.90	454.80	-447.99	-166.96	659326.05	439881.64	32°12'29.888"N	103°49'05.537"W	2.06	
10887.00	72.040	205.930	10615.61	481.81	-474.47	-179.83	659313.18	439855.16	32°12'29.627"N	103°49'05.688"W	1.91	
10918.00	72.520	205.920	10625.04	508.91	-501.03	-192.74	659300.27	439828.60	32°12'29.365"N	103°49'05.839"W	1.55	
10950.00	73.010	205.780	10634.52	536.96	-528.54	-206.06	659286.95	439801.10	32°12'29.093"N	103°49'05.996"W	1.59	
10983.00	74.110	204.990	10643.86	566.12	-557.13	-219.63	659273.38	439772.51	32°12'28.811"N	103°49'06.156"W	4.05	
11014.00	74.150	203.340	10652.34	593.82	-584.33	-231.84	659261.18	439745.30	32°12'28.542"N	103°49'06.299"W	5.12	
11045.00	74.050	202.100	10660.83	621.80	-611.83	-243.35	659249.66	439717.80	32°12'28.271"N	103°49'06.435"W	3.86	
11077.00	73.750	201.990	10669.71	650.77	-640.33	-254.89	659238.12	439689.31	32°12'27.989"N	103°49'06.571"W	0.99	
11108.00	73.820	198.860	10678.37	679.08	-668.22	-265.28	659227.74	439661.42	32°12'27.714"N	103°49'06.693"W	9.70	
11140.00	74.380	196.170	10687.13	708.80	-697.57	-274.54	659218.48	439632.08	32°12'27.424"N	103°49'06.802"W	8.27	
11171.00	75.100	194.170	10695.29	737.98	-726.43	-282.36	659210.65	439603.21	32°12'27.138"N	103°49'06.895"W	6.64	



Actual Wellpath Report

No. 036H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #036H (Latshaw 18)
Area	Eddy County, NM	Well	SL 150 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #036H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

WELLPATH DATA (169 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
11202.00	76.160	192.430	10702.99	767.47	-755.66	-289.27	659203.75	439573.99	32°12'26.850"N	103°49'06.977"W	6.42	
11234.00	77.090	190.340	10710.39	798.23	-786.17	-295.42	659197.60	439543.48	32°12'26.548"N	103°49'07.050"W	6.99	
11265.00	78.450	188.830	10716.96	828.29	-816.05	-300.46	659192.56	439513.61	32°12'26.252"N	103°49'07.111"W	6.47	
11296.00	79.860	187.730	10722.79	858.58	-846.17	-304.84	659188.18	439483.48	32°12'25.955"N	103°49'07.163"W	5.73	
11326.00	80.510	186.450	10727.91	888.04	-875.51	-308.49	659184.53	439454.15	32°12'25.664"N	103°49'07.207"W	4.73	
11358.00	81.990	185.170	10732.77	919.61	-906.97	-311.69	659181.33	439422.69	32°12'25.353"N	103°49'07.246"W	6.08	
11389.00	83.360	183.940	10736.73	950.34	-937.62	-314.13	659178.89	439392.04	32°12'25.050"N	103°49'07.277"W	5.92	
11421.00	85.250	183.500	10739.90	982.17	-969.39	-316.20	659176.82	439360.27	32°12'24.736"N	103°49'07.302"W	6.06	
11452.00	86.730	183.060	10742.07	1013.09	-1000.27	-317.97	659175.05	439329.40	32°12'24.430"N	103°49'07.325"W	4.98	
11484.00	88.520	182.750	10743.40	1045.06	-1032.20	-319.59	659173.43	439297.47	32°12'24.115"N	103°49'07.345"W	5.68	
11515.00	88.770	181.940	10744.13	1076.05	-1063.16	-320.86	659172.16	439266.51	32°12'23.808"N	103°49'07.362"W	2.73	
11546.00	89.110	181.820	10744.70	1107.05	-1094.14	-321.87	659171.15	439235.53	32°12'23.502"N	103°49'07.375"W	1.16	
11577.00	90.400	181.310	10744.83	1138.04	-1125.13	-322.72	659170.30	439204.55	32°12'23.195"N	103°49'07.387"W	4.47	
11609.00	91.260	180.890	10744.37	1170.03	-1157.12	-323.33	659169.69	439172.56	32°12'22.879"N	103°49'07.396"W	2.99	
11640.00	91.790	180.840	10743.55	1201.01	-1188.10	-323.80	659169.22	439141.57	32°12'22.572"N	103°49'07.403"W	1.72	
11734.00	90.800	179.970	10741.42	1294.92	-1282.07	-324.47	659168.56	439047.61	32°12'21.642"N	103°49'07.416"W	1.40	
11829.00	89.070	180.990	10741.53	1389.85	-1377.06	-325.26	659167.76	438952.62	32°12'20.702"N	103°49'07.431"W	2.11	
11923.00	89.510	181.680	10742.69	1483.83	-1471.03	-327.45	659165.57	438858.66	32°12'19.772"N	103°49'07.461"W	0.87	
12017.00	88.430	179.350	10744.38	1577.75	-1565.00	-328.30	659164.72	438764.70	32°12'18.843"N	103°49'07.476"W	2.73	
12112.00	88.640	179.250	10746.81	1672.57	-1659.97	-327.14	659165.89	438669.74	32°12'17.903"N	103°49'07.468"W	0.24	
12205.00	89.420	179.490	10748.39	1765.42	-1752.95	-326.11	659166.91	438576.77	32°12'16.983"N	103°49'07.461"W	0.88	
12300.00	90.520	179.910	10748.44	1860.31	-1847.94	-325.62	659167.40	438481.77	32°12'16.043"N	103°49'07.461"W	1.24	
12395.00	88.710	179.210	10749.08	1955.18	-1942.93	-324.89	659168.13	438386.79	32°12'15.103"N	103°49'07.458"W	2.04	
12489.00	88.740	179.440	10751.17	2049.01	-2036.90	-323.78	659169.24	438292.83	32°12'14.173"N	103°49'07.450"W	0.25	
12583.00	89.320	179.680	10752.76	2142.88	-2130.89	-323.06	659169.96	438198.85	32°12'13.243"N	103°49'07.447"W	0.67	
12677.00	89.350	179.420	10753.85	2236.75	-2224.88	-322.32	659170.70	438104.86	32°12'12.313"N	103°49'07.444"W	0.28	
12772.00	89.540	179.080	10754.77	2331.59	-2319.87	-321.08	659171.94	438009.88	32°12'11.373"N	103°49'07.434"W	0.41	
12866.00	90.340	178.590	10754.87	2425.40	-2413.84	-319.16	659173.86	437915.91	32°12'10.443"N	103°49'07.417"W	1.00	
12961.00	90.060	181.460	10754.54	2520.30	-2508.83	-319.21	659173.81	437820.93	32°12'09.503"N	103°49'07.423"W	3.04	
13055.00	90.370	181.220	10754.18	2614.28	-2602.81	-321.40	659171.62	437726.96	32°12'08.573"N	103°49'07.454"W	0.42	
13149.00	88.730	181.020	10754.92	2708.25	-2696.78	-323.24	659169.78	437632.99	32°12'07.643"N	103°49'07.481"W	1.76	
13244.00	89.080	181.470	10756.74	2803.21	-2791.74	-325.31	659167.72	437538.03	32°12'06.703"N	103°49'07.510"W	0.60	
13432.00	88.680	179.680	10760.41	2991.06	-2979.69	-327.19	659165.83	437350.10	32°12'04.844"N	103°49'07.542"W	0.98	
13621.00	90.340	178.820	10762.03	3179.75	-3168.66	-324.72	659168.30	437161.14	32°12'02.974"N	103°49'07.524"W	0.99	
13809.00	91.390	179.610	10759.19	3367.41	-3356.62	-322.14	659170.88	436973.20	32°12'01.114"N	103°49'07.505"W	0.70	
13904.00	88.710	179.550	10759.11	3462.28	-3451.60	-321.45	659171.57	436878.22	32°12'00.174"N	103°49'07.502"W	2.82	
13998.00	88.460	179.570	10761.43	3556.13	-3545.57	-320.72	659172.30	436784.25	32°11'59.244"N	103°49'07.499"W	0.27	
14092.00	88.240	179.580	10764.14	3649.97	-3639.53	-320.03	659172.99	436690.30	32°11'58.314"N	103°49'07.496"W	0.23	
14184.00	87.650	179.550	10767.43	3741.79	-3731.47	-319.33	659173.69	436598.37	32°11'57.404"N	103°49'07.493"W	0.64	
14278.00	88.180	178.930	10770.85	3835.58	-3825.40	-318.08	659174.94	436504.45	32°11'56.475"N	103°49'07.483"W	0.87	
14373.00	87.600	179.040	10774.35	3930.34	-3920.32	-316.40	659176.62	436409.53	32°11'55.535"N	103°49'07.469"W	0.62	
14466.00	88.580	180.090	10777.45	4023.17	-4013.26	-315.70	659177.32	436316.60	32°11'54.616"N	103°49'07.466"W	1.54	
14560.00	88.130	179.650	10780.15	4117.03	-4107.22	-315.48	659177.54	436222.64	32°11'53.686"N	103°49'07.469"W	0.67	
14654.00	89.410	180.550	10782.17	4210.92	-4201.20	-315.65	659177.37	436128.67	32°11'52.756"N	103°49'07.476"W	1.66	
14749.00	90.260	181.900	10782.44	4305.90	-4296.17	-317.68	659175.34	436033.70	32°11'51.816"N	103°49'07.505"W	1.68	



Actual Wellpath Report

No. 036H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #036H (Latshaw 18)
Area	Eddy County, NM	Well	SL 150 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #036H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

WELLPATH DATA (169 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
14844.00	90.770	181.220	10781.59	4400.88	-4391.13	-320.26	659172.76	435938.75	32°11'50.877"N	103°49'07.540"W	0.89	
14938.00	90.430	180.590	10780.60	4494.84	-4485.11	-321.75	659171.27	435844.77	32°11'49.947"N	103°49'07.563"W	0.76	
15033.00	90.990	181.070	10779.43	4589.79	-4580.10	-323.13	659169.90	435749.80	32°11'49.007"N	103°49'07.584"W	0.78	
15127.00	91.790	181.480	10777.15	4683.74	-4674.04	-325.22	659167.80	435655.85	32°11'48.077"N	103°49'07.614"W	0.96	
15222.00	91.020	180.980	10774.82	4778.69	-4768.99	-327.25	659165.77	435560.91	32°11'47.138"N	103°49'07.643"W	0.97	
15315.00	89.510	179.580	10774.39	4871.61	-4861.99	-327.71	659165.31	435467.92	32°11'46.218"N	103°49'07.653"W	2.21	
15410.00	89.290	179.540	10775.38	4966.49	-4956.98	-326.98	659166.04	435372.94	32°11'45.278"N	103°49'07.650"W	0.24	
15505.00	89.660	179.570	10776.25	5061.36	-5051.97	-326.24	659166.78	435277.95	32°11'44.338"N	103°49'07.647"W	0.39	
15599.00	90.090	178.590	10776.46	5155.19	-5145.96	-324.73	659168.29	435183.97	32°11'43.407"N	103°49'07.634"W	1.14	
15694.00	89.600	177.290	10776.71	5249.89	-5240.89	-321.32	659171.70	435089.04	32°11'42.468"N	103°49'07.600"W	1.46	
15788.00	90.180	177.960	10776.89	5343.55	-5334.81	-317.42	659175.60	434995.13	32°11'41.538"N	103°49'07.560"W	0.94	
15883.00	91.290	179.580	10775.68	5438.34	-5429.78	-315.38	659177.64	434900.17	32°11'40.599"N	103°49'07.541"W	2.07	
15976.00	90.180	179.040	10774.48	5531.19	-5522.76	-314.26	659178.76	434807.19	32°11'39.678"N	103°49'07.534"W	1.33	
16071.00	89.540	179.500	10774.71	5626.04	-5617.75	-313.05	659179.97	434712.21	32°11'38.738"N	103°49'07.525"W	0.83	
16163.00	89.450	182.150	10775.53	5717.99	-5709.73	-314.38	659178.64	434620.23	32°11'37.828"N	103°49'07.545"W	2.88	
16256.00	89.910	183.130	10776.05	5810.98	-5802.63	-318.66	659174.36	434527.34	32°11'36.909"N	103°49'07.600"W	1.16	
16353.00	89.700	182.290	10776.38	5907.98	-5899.52	-323.25	659169.77	434430.46	32°11'35.951"N	103°49'07.659"W	0.89	
16447.00	90.340	181.590	10776.34	6001.98	-5993.46	-326.43	659166.59	434336.52	32°11'35.021"N	103°49'07.701"W	1.01	
16541.00	90.460	181.330	10775.69	6095.96	-6087.43	-328.82	659164.20	434242.56	32°11'34.091"N	103°49'07.734"W	0.30	
16635.00	88.580	180.780	10776.47	6189.92	-6181.41	-330.55	659162.47	434148.59	32°11'33.162"N	103°49'07.760"W	2.08	
16729.00	89.410	180.280	10778.12	6283.85	-6275.39	-331.42	659161.60	434054.61	32°11'32.232"N	103°49'07.775"W	1.03	
16823.00	89.750	179.640	10778.81	6377.76	-6369.38	-331.36	659161.66	433960.62	32°11'31.301"N	103°49'07.780"W	0.77	
16917.00	89.720	178.950	10779.25	6471.61	-6463.38	-330.20	659162.82	433866.64	32°11'30.371"N	103°49'07.771"W	0.73	
17010.00	91.080	178.650	10778.60	6564.41	-6556.35	-328.25	659164.77	433773.67	32°11'29.451"N	103°49'07.754"W	1.50	
17108.00	88.800	178.510	10778.70	6662.18	-6654.31	-325.83	659167.19	433675.71	32°11'28.482"N	103°49'07.731"W	2.33	
17201.00	89.350	178.680	10780.20	6754.95	-6747.27	-323.55	659169.47	433582.76	32°11'27.562"N	103°49'07.710"W	0.62	
17296.00	87.750	179.330	10782.60	6849.75	-6842.23	-321.90	659171.12	433487.81	32°11'26.622"N	103°49'07.696"W	1.82	
17389.00	87.590	179.970	10786.39	6942.56	-6935.15	-321.33	659171.69	433394.90	32°11'25.703"N	103°49'07.694"W	0.71	
17482.00	88.430	179.250	10789.62	7035.38	-7028.09	-320.70	659172.32	433301.96	32°11'24.783"N	103°49'07.692"W	1.19	
17576.00	90.650	178.900	10790.37	7129.21	-7122.07	-319.18	659173.84	433207.99	32°11'23.853"N	103°49'07.680"W	2.39	
17671.00	91.080	180.090	10788.94	7224.06	-7217.05	-318.34	659174.68	433113.01	32°11'22.913"N	103°49'07.675"W	1.33	
17765.00	92.220	180.210	10786.23	7317.95	-7311.01	-318.59	659174.43	433019.06	32°11'21.983"N	103°49'07.683"W	1.22	
17859.00	89.940	178.910	10784.46	7411.80	-7404.98	-317.87	659175.15	432925.09	32°11'21.053"N	103°49'07.680"W	2.79	
17915.00	89.940	178.910	10784.52	7467.69	-7460.97	-316.80	659176.22	432869.11	32°11'20.499"N	103°49'07.671"W	0.00	Projection to Bit



Actual Wellpath Report

No. 036H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	PLU CVX JV BS #036H (Latshaw 18)
Area	Eddy County, NM	Well	SL 150 FNL, 2332 FWL
Field	Eddy County, NM (NAD 27 / Grid)	Wellbore	PLU CVX JV BS #036H Actual
Facility	PLU CVX JV BS {35H, 36H} Sec. 19-24S-31E		

HOLE & CASING SECTIONS - Ref Wellbore: PLU CVX JV BS #036H Actual Ref Wellpath: No. 036H AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
9.625in Casing Intermediate	29.00	4290.00	4261.00	29.00	4287.71	0.00	0.00	10.32	55.27
8.75in Open Hole	29.00	17915.00	17886.00	29.00	10784.52	0.00	0.00	-7460.97	-316.80

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No. 36H PBHL		10795.00	-7447.47	-322.72	659170.30	432882.60	32°11'20.633"N	103°49'07.739"W	point

WELLPATH COMPOSITION - Ref Wellbore: PLU CVX JV BS #036H Actual Ref Wellpath: No. 036H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
29.00	869.00	Generic gyro - northseeking (Standard)	MS Survey Surface Gyros <81 - 869>	PLU CVX JV BS #036H Actual
869.00	17859.00	NaviTrak (MagCorr)	BHI NaviTrak <990-XXX>	PLU CVX JV BS #036H Actual
17859.00	17915.00	Blind Drilling (std)	Projection to bit	PLU CVX JV BS #036H Actual