

30-015-38115



BOPCO, L.P.

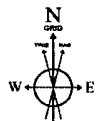
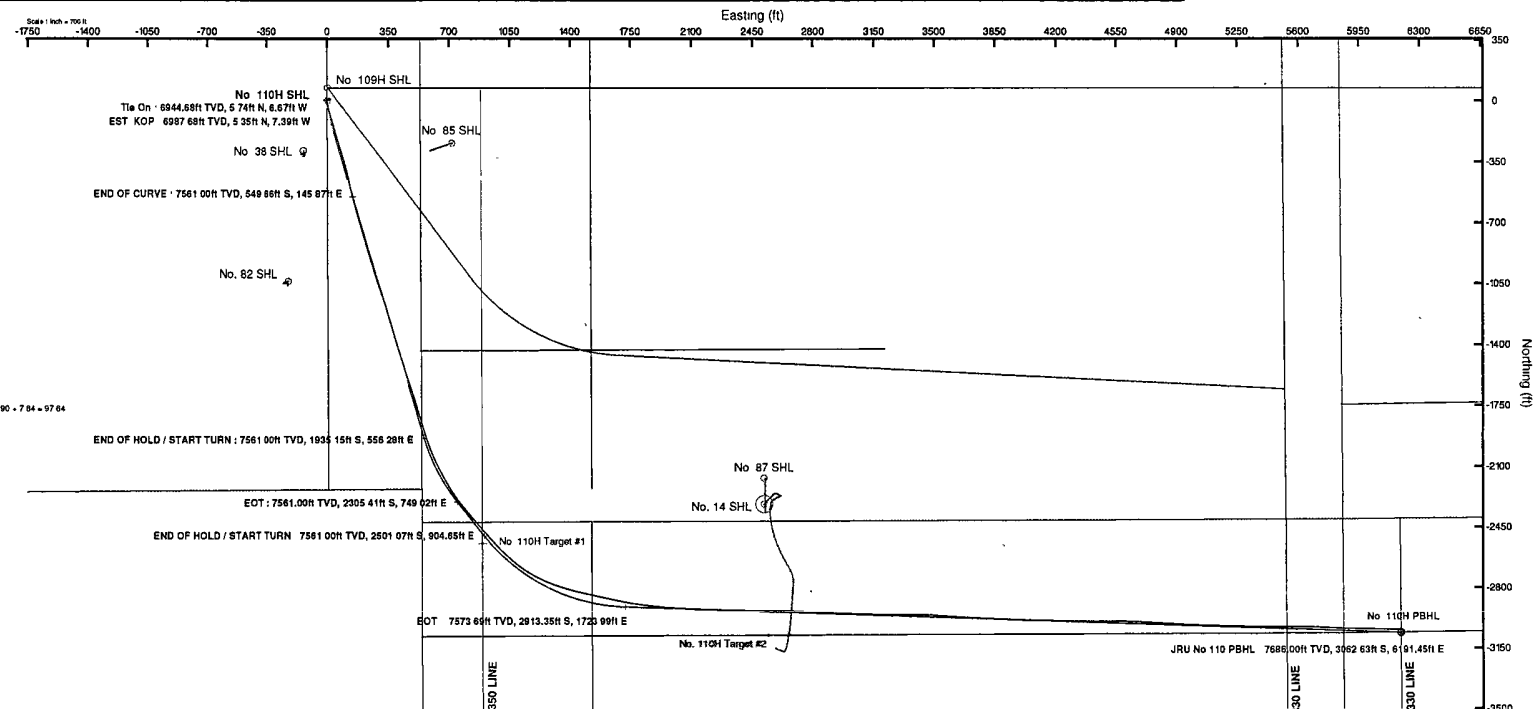
Location: Eddy County, NM
Field: JRU Project
Facility: JRU No. 110H

Slot: No. 110H SHL
Well: No. 110H
Wellbore: No. 110H PWB

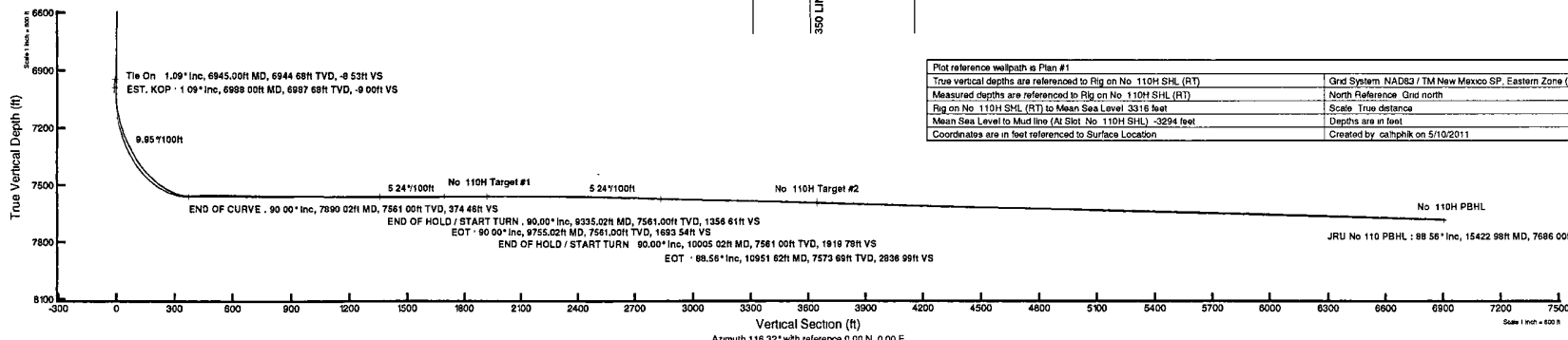


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Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	6945.00	1.090	241.580	6944.68	5.74	-6.67	0.00
EST. KOP	6988.00	1.090	241.580	6987.68	5.35	-7.39	-9.00
END OF CURVE	7890.02	90.000	163.500	7561.00	-549.66	145.87	374.46
END OF HOLD / START TURN	9335.02	90.000	163.500	7561.00	-1935.15	556.28	1356.61
EOT	9755.02	90.000	141.500	7561.00	-2305.41	749.02	1693.54
END OF HOLD / START TURN	10005.02	90.000	141.500	7561.00	-2501.07	904.65	1919.78
EOT	10951.62	88.561	91.914	7573.69	-2913.35	1723.99	2836.99
JRU No.110 PBHL	15422.98	88.561	91.914	7686.00	-3062.63	6191.45	6907.52



SGM (1945 to 2011) Dip: 80.29° Field: 48848 ft
Magnetic North is 7.81 degrees East of True North (at 5/18/2011)
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 7.84 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.84 = 97.84



Plot reference wellpath is Plan #1	
True vertical depths are referenced to Rig on No. 110H SHL (RT)	Grid System: NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 110H SHL (RT)	North Reference: Grid north
Rig on No. 110H SHL (RT) to Mean Sea Level: 3316 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: No. 110H SHL): -3294 feet	Depths are in feet
Coordinates are in feet referenced to Surface Location	Created by: cathphik on 5/10/2011



Actual Wellpath Report

No.110H AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 110H SHL
Area	Eddy County, NM	Well	No. 110H
Field	JRU Project	Wellbore	No.110H AWB
Facility	JRU No. 110H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Calhphik
Scale	0.999937	Report Generated	5/27/2011 at 7:59:45 AM
Convergence at slot	0.27° East	Database/Source file	WA Midland/No.110H_AWB.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	697621.65	485218.03	32°19'58.517"N	103°49'38.415"W
Facility Reference Pt			697621.65	485218.03	32°19'58.517"N	103°49'38.415"W
Field Reference Pt			697621.65	485218.03	32°19'58.517"N	103°49'38.415"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 110H SHL (RT) to GL	22.00ft
Horizontal Reference Pt	Slot	Rig on No. 110H SHL (RT) to Mean Sea Level	3316.00ft
Vertical Reference Pt	Rig on No. 110H SHL (RT)	Rig on No. 110H SHL (RT) to Mud Line at Slot (No. 110H SHL)	22.00ft
MD Reference Pt	Rig on No. 110H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	116.32°



Actual Wellpath Report

No.110H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 110H SHL
Area	Eddy County, NM	Well	No. 110H
Field	JRU Project	Wellbore	No.110H AWB
Facility	JRU No. 110H		

WELLPATH DATA (185 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
0.00	0.000	44.180	0.00	0.00	0.00	0.00	697621.65	485218.03	32°19'58.517"N	103°49'38.415"W	0.00	
100.00	0.480	44.180	100.00	0.13	0.30	0.29	697621.94	485218.33	32°19'58.520"N	103°49'38.411"W	0.48	
200.00	0.590	54.080	199.99	0.50	0.90	1.00	697622.65	485218.93	32°19'58.526"N	103°49'38.403"W	0.14	
300.00	0.850	49.970	299.99	1.03	1.68	1.99	697623.64	485219.71	32°19'58.534"N	103°49'38.392"W	0.26	
400.00	1.110	49.320	399.97	1.71	2.79	3.29	697624.94	485220.82	32°19'58.545"N	103°49'38.376"W	0.26	
500.00	1.260	46.560	499.95	2.47	4.18	4.82	697626.47	485222.21	32°19'58.559"N	103°49'38.358"W	0.16	
600.00	0.990	52.020	599.93	3.22	5.47	6.30	697627.95	485223.50	32°19'58.571"N	103°49'38.341"W	0.29	
700.00	0.770	61.480	699.92	3.99	6.32	7.57	697629.22	485224.35	32°19'58.580"N	103°49'38.326"W	0.26	
800.00	0.450	59.280	799.91	4.59	6.84	8.50	697630.15	485224.87	32°19'58.585"N	103°49'38.315"W	0.32	
928.90	0.290	25.610	928.81	4.86	7.39	9.08	697630.73	485225.42	32°19'58.590"N	103°49'38.309"W	0.20	
1023.40	0.230	343.310	1023.31	4.73	7.79	9.12	697630.77	485225.82	32°19'58.594"N	103°49'38.308"W	0.21	
1117.90	0.240	303.600	1117.81	4.40	8.08	8.91	697630.55	485226.11	32°19'58.597"N	103°49'38.311"W	0.17	
1212.40	0.180	275.170	1212.31	4.06	8.20	8.59	697630.24	485226.23	32°19'58.598"N	103°49'38.314"W	0.13	
1306.90	0.130	237.930	1306.81	3.87	8.16	8.35	697630.00	485226.19	32°19'58.598"N	103°49'38.317"W	0.12	
1401.40	0.200	178.060	1401.31	3.89	7.94	8.27	697629.92	485225.97	32°19'58.596"N	103°49'38.318"W	0.19	
1495.90	0.280	156.330	1495.81	4.15	7.56	8.37	697630.02	485225.59	32°19'58.592"N	103°49'38.317"W	0.13	
1590.40	0.370	137.090	1590.31	4.61	7.13	8.67	697630.32	485225.16	32°19'58.588"N	103°49'38.313"W	0.15	
1685.00	0.270	125.850	1684.90	5.11	6.77	9.06	697630.71	485224.80	32°19'58.584"N	103°49'38.309"W	0.12	
1779.50	0.140	92.880	1779.40	5.44	6.64	9.35	697631.00	485224.67	32°19'58.583"N	103°49'38.305"W	0.18	
1874.00	0.100	25.740	1873.90	5.55	6.70	9.50	697631.15	485224.73	32°19'58.583"N	103°49'38.304"W	0.14	
1968.50	0.060	325.890	1968.40	5.50	6.82	9.51	697631.16	485224.85	32°19'58.584"N	103°49'38.304"W	0.09	
2063.00	0.140	224.290	2062.90	5.42	6.78	9.40	697631.05	485224.81	32°19'58.584"N	103°49'38.305"W	0.17	
2157.50	0.140	201.150	2157.40	5.40	6.59	9.28	697630.93	485224.62	32°19'58.582"N	103°49'38.306"W	0.06	
2252.00	0.140	189.940	2251.90	5.44	6.37	9.22	697630.87	485224.40	32°19'58.580"N	103°49'38.307"W	0.03	
2346.50	0.100	181.950	2346.40	5.55	6.20	9.26	697630.91	485224.23	32°19'58.578"N	103°49'38.307"W	0.13	
2441.00	0.090	65.210	2440.90	5.68	6.17	9.39	697631.04	485224.20	32°19'58.578"N	103°49'38.305"W	0.11	
2535.50	0.110	354.870	2535.40	5.68	6.30	9.45	697631.10	485224.32	32°19'58.579"N	103°49'38.304"W	0.12	
2630.10	0.150	283.280	2630.00	5.51	6.41	9.32	697630.97	485224.44	32°19'58.580"N	103°49'38.306"W	0.16	
2724.60	0.170	249.710	2724.50	5.29	6.39	9.07	697630.72	485224.42	32°19'58.580"N	103°49'38.309"W	0.10	
2819.10	0.150	232.100	2819.00	5.14	6.27	8.84	697630.49	485224.30	32°19'58.579"N	103°49'38.312"W	0.06	
2913.60	0.070	232.060	2913.50	5.06	6.16	8.70	697630.34	485224.19	32°19'58.578"N	103°49'38.313"W	0.08	
3008.10	0.060	156.610	3008.00	5.08	6.08	8.67	697630.32	485224.11	32°19'58.577"N	103°49'38.313"W	0.08	
3102.60	0.270	121.130	3102.50	5.34	5.92	8.88	697630.53	485223.95	32°19'58.576"N	103°49'38.311"W	0.24	
3197.10	0.610	127.050	3197.00	6.05	5.50	9.47	697631.12	485223.53	32°19'58.571"N	103°49'38.304"W	0.36	
3291.60	0.640	133.940	3291.49	7.05	4.83	10.25	697631.90	485222.86	32°19'58.565"N	103°49'38.295"W	0.09	
3386.10	0.620	134.290	3385.99	8.04	4.11	11.00	697632.65	485222.14	32°19'58.558"N	103°49'38.286"W	0.02	
3480.60	0.650	142.340	3480.48	9.01	3.32	11.69	697633.34	485221.35	32°19'58.550"N	103°49'38.278"W	0.10	
3575.20	0.350	126.700	3575.08	9.77	2.73	12.25	697633.90	485220.76	32°19'58.544"N	103°49'38.272"W	0.35	
3669.70	0.600	336.890	3669.58	9.68	3.01	12.29	697633.94	485221.04	32°19'58.547"N	103°49'38.271"W	0.97	
3764.20	0.390	337.780	3764.07	9.06	3.76	11.97	697633.62	485221.79	32°19'58.554"N	103°49'38.275"W	0.22	
3858.70	0.120	4.550	3858.57	8.79	4.16	11.86	697633.51	485222.19	32°19'58.558"N	103°49'38.276"W	0.30	
3953.20	0.060	300.280	3953.07	8.70	4.28	11.83	697633.47	485222.31	32°19'58.559"N	103°49'38.277"W	0.11	
4047.70	0.050	294.600	4047.57	8.61	4.32	11.74	697633.39	485222.35	32°19'58.560"N	103°49'38.278"W	0.01	
4142.20	0.180	27.080	4142.07	8.57	4.47	11.78	697633.42	485222.50	32°19'58.561"N	103°49'38.277"W	0.20	
4236.70	0.350	40.980	4236.57	8.65	4.82	12.03	697633.68	485222.85	32°19'58.565"N	103°49'38.274"W	0.19	



Actual Wellpath Report

No.110H AWP

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 110H SHL
Area	Eddy County, NM	Well	No. 110H
Field	JRU Project	Wellbore	No.110H AWP
Facility	JRU No. 110H		

WELLPATH DATA (185 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
4331.20	0.530	38.240	4331.07	8.81	5.39	12.49	697634.14	485223.41	32°19'58.570"N	103°49'38.269"W	0.19	
4425.70	0.410	39.180	4425.56	8.97	5.99	12.98	697634.62	485224.02	32°19'58.576"N	103°49'38.263"W	0.13	
4520.30	0.420	23.510	4520.16	9.03	6.57	13.33	697634.98	485224.60	32°19'58.582"N	103°49'38.259"W	0.12	
4614.80	0.280	17.480	4614.66	8.98	7.11	13.54	697635.18	485225.14	32°19'58.587"N	103°49'38.257"W	0.15	
4709.30	0.340	11.330	4709.16	8.87	7.60	13.66	697635.31	485225.63	32°19'58.592"N	103°49'38.255"W	0.07	
4803.80	0.190	330.060	4803.66	8.67	8.01	13.64	697635.29	485226.04	32°19'58.596"N	103°49'38.255"W	0.25	
4898.30	0.210	314.970	4898.16	8.38	8.27	13.44	697635.09	485226.30	32°19'58.599"N	103°49'38.258"W	0.06	
4992.80	0.260	317.130	4992.66	8.01	8.55	13.17	697634.82	485226.58	32°19'58.601"N	103°49'38.261"W	0.05	
5087.30	0.350	315.580	5087.15	7.54	8.92	12.82	697634.47	485226.94	32°19'58.605"N	103°49'38.265"W	0.10	
5181.80	0.400	319.890	5181.65	6.96	9.37	12.41	697634.05	485227.40	32°19'58.610"N	103°49'38.270"W	0.06	
5276.30	0.380	314.110	5276.15	6.36	9.84	11.97	697633.62	485227.87	32°19'58.614"N	103°49'38.275"W	0.05	
5370.80	0.330	304.170	5370.65	5.79	10.22	11.52	697633.17	485228.24	32°19'58.618"N	103°49'38.280"W	0.08	
5465.40	0.360	302.710	5465.25	5.23	10.53	11.04	697632.69	485228.56	32°19'58.621"N	103°49'38.286"W	0.03	
5559.90	0.360	294.750	5559.74	4.64	10.81	10.52	697632.17	485228.84	32°19'58.624"N	103°49'38.292"W	0.05	
5654.40	0.320	290.000	5654.24	4.08	11.03	10.01	697631.65	485229.06	32°19'58.626"N	103°49'38.298"W	0.05	
5748.90	0.230	283.710	5748.74	3.63	11.16	9.57	697631.22	485229.19	32°19'58.627"N	103°49'38.303"W	0.10	
5843.40	0.230	276.880	5843.24	3.27	11.23	9.20	697630.85	485229.26	32°19'58.628"N	103°49'38.307"W	0.03	
5937.90	0.200	249.710	5937.74	2.97	11.20	8.86	697630.51	485229.23	32°19'58.628"N	103°49'38.311"W	0.11	
6032.40	0.240	228.180	6032.24	2.79	11.01	8.56	697630.20	485229.04	32°19'58.626"N	103°49'38.315"W	0.10	
6126.90	0.400	233.670	6126.74	2.56	10.68	8.14	697629.79	485228.71	32°19'58.623"N	103°49'38.319"W	0.17	
6221.40	0.800	249.830	6221.23	1.96	10.26	7.26	697628.91	485228.29	32°19'58.619"N	103°49'38.330"W	0.46	
6315.90	1.160	247.570	6315.72	0.87	9.66	5.75	697627.40	485227.69	32°19'58.613"N	103°49'38.347"W	0.38	
6410.40	1.260	251.820	6410.20	-0.50	8.98	3.88	697625.53	485227.00	32°19'58.606"N	103°49'38.369"W	0.14	
6505.00	1.290	257.660	6504.77	-2.07	8.42	1.85	697623.50	485226.45	32°19'58.601"N	103°49'38.393"W	0.14	
6599.50	1.210	256.530	6599.25	-3.67	7.96	-0.16	697621.49	485225.99	32°19'58.596"N	103°49'38.416"W	0.09	
6694.00	1.120	254.630	6693.73	-5.13	7.49	-2.02	697619.63	485225.52	32°19'58.592"N	103°49'38.438"W	0.10	
6788.50	1.120	250.300	6788.21	-6.46	6.93	-3.78	697617.87	485224.96	32°19'58.586"N	103°49'38.458"W	0.09	
6883.00	1.190	248.270	6882.70	-7.76	6.26	-5.56	697616.09	485224.29	32°19'58.580"N	103°49'38.479"W	0.09	
6945.00	1.090	241.580	6944.68	-8.53	5.74	-6.67	697614.98	485223.77	32°19'58.575"N	103°49'38.492"W	0.27	
6998.00	1.400	207.300	6997.67	-8.83	4.92	-7.41	697614.24	485222.95	32°19'58.566"N	103°49'38.501"W	1.49	
7030.00	3.300	180.900	7029.64	-8.44	3.65	-7.61	697614.04	485221.68	32°19'58.554"N	103°49'38.503"W	6.68	
7062.00	7.200	172.400	7061.50	-6.92	0.74	-7.36	697614.29	485218.77	32°19'58.525"N	103°49'38.501"W	12.39	
7093.00	11.700	169.500	7092.08	-3.96	-4.28	-6.53	697615.12	485213.75	32°19'58.475"N	103°49'38.491"W	14.59	
7124.00	16.400	167.900	7122.14	0.65	-11.65	-5.04	697616.61	485206.38	32°19'58.402"N	103°49'38.474"W	15.21	
7156.00	21.200	167.300	7152.42	7.10	-21.72	-2.82	697618.83	485196.31	32°19'58.303"N	103°49'38.449"W	15.01	
7187.00	25.100	165.900	7180.92	14.90	-33.57	0.02	697621.67	485184.47	32°19'58.185"N	103°49'38.416"W	12.70	
7219.00	28.100	165.600	7209.53	24.22	-47.45	3.55	697625.20	485170.58	32°19'58.048"N	103°49'38.376"W	9.38	
7250.00	29.900	165.500	7236.64	34.03	-62.00	7.30	697628.95	485156.03	32°19'57.904"N	103°49'38.333"W	5.81	
7281.00	32.100	164.600	7263.21	44.57	-77.43	11.42	697633.07	485140.61	32°19'57.751"N	103°49'38.286"W	7.25	
7312.00	34.800	163.200	7289.08	56.10	-93.84	16.17	697637.81	485124.20	32°19'57.588"N	103°49'38.232"W	9.06	
7344.00	38.000	163.600	7314.83	69.02	-112.04	21.59	697643.24	485106.00	32°19'57.408"N	103°49'38.169"W	10.03	
7375.00	39.900	164.200	7338.94	82.17	-130.76	26.99	697648.64	485087.28	32°19'57.222"N	103°49'38.108"W	6.25	
7406.00	42.400	163.500	7362.28	95.94	-150.35	32.67	697654.31	485067.69	32°19'57.028"N	103°49'38.042"W	8.20	
7438.00	45.200	163.400	7385.37	111.01	-171.58	38.97	697660.62	485046.46	32°19'56.818"N	103°49'37.970"W	8.75	
7469.00	48.600	163.400	7406.55	126.42	-193.27	45.44	697667.09	485024.77	32°19'56.603"N	103°49'37.896"W	10.97	



Actual Wellpath Report

No.110H AWP

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 110H SHL
Area	Eddy County, NM	Well	No. 110H
Field	JRU Project	Wellbore	No.110H AWB
Facility	JRU No. 110H		

WELLPATH DATA (185 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
7501.00	51.200	163.800	7427.16	143.02	-216.75	52.35	697674.00	485001.30	32°19'56.370"N	103°49'37.817"W	8.18	
7533.00	54.300	163.500	7446.53	160.29	-241.19	59.52	697681.17	484976.86	32°19'56.128"N	103°49'37.734"W	9.72	
7565.00	57.000	163.100	7464.58	178.31	-266.49	67.11	697688.76	484951.56	32°19'55.877"N	103°49'37.647"W	8.50	
7597.00	59.800	163.200	7481.35	196.96	-292.57	75.01	697696.66	484925.48	32°19'55.619"N	103°49'37.557"W	8.75	
7629.00	62.700	163.300	7496.74	216.11	-319.43	83.10	697704.74	484898.62	32°19'55.353"N	103°49'37.464"W	9.07	
7659.00	65.500	163.800	7509.84	234.43	-345.31	90.74	697712.38	484872.74	32°19'55.096"N	103°49'37.376"W	9.45	
7691.00	68.400	164.300	7522.37	254.24	-373.62	98.83	697720.47	484844.43	32°19'54.816"N	103°49'37.284"W	9.18	
7722.00	71.500	165.300	7533.00	273.54	-401.72	106.46	697728.10	484816.33	32°19'54.537"N	103°49'37.196"W	10.45	
7753.00	74.800	166.500	7541.98	292.77	-430.49	113.68	697735.32	484787.56	32°19'54.252"N	103°49'37.114"W	11.27	
7785.00	78.600	167.100	7549.34	312.58	-460.81	120.79	697742.43	484757.25	32°19'53.952"N	103°49'37.033"W	12.01	
7817.00	82.100	166.500	7554.71	332.65	-491.52	127.99	697749.63	484726.55	32°19'53.648"N	103°49'36.950"W	11.09	
7848.00	86.400	166.000	7557.81	352.50	-521.47	135.32	697756.96	484696.60	32°19'53.351"N	103°49'36.866"W	13.96	
7879.00	90.100	165.900	7558.76	372.57	-551.52	142.84	697764.48	484666.54	32°19'53.054"N	103°49'36.780"W	11.94	
7909.00	91.600	166.000	7558.31	392.00	-580.62	150.13	697771.77	484637.45	32°19'52.765"N	103°49'36.697"W	5.01	
7940.00	92.600	165.700	7557.18	412.10	-610.66	157.70	697779.34	484607.41	32°19'52.468"N	103°49'36.611"W	3.37	
7996.00	91.200	163.700	7555.32	449.27	-664.64	172.47	697794.11	484553.43	32°19'51.933"N	103°49'36.441"W	4.36	
8089.00	89.400	164.300	7554.83	511.88	-754.03	198.10	697819.74	484464.05	32°19'51.047"N	103°49'36.148"W	2.04	
8184.00	89.300	163.000	7555.91	576.27	-845.18	224.84	697846.48	484372.90	32°19'50.144"N	103°49'35.841"W	1.37	
8279.00	89.400	163.300	7556.99	641.26	-936.10	252.38	697874.01	484281.99	32°19'49.243"N	103°49'35.525"W	0.33	
8373.00	89.400	162.800	7557.97	705.68	-1026.01	279.78	697901.41	484192.09	32°19'48.352"N	103°49'35.211"W	0.53	
8468.00	89.500	161.100	7558.88	772.11	-1116.33	309.21	697930.84	484101.78	32°19'47.457"N	103°49'34.873"W	1.79	
8562.00	89.500	163.600	7559.70	837.36	-1205.89	337.71	697959.34	484012.22	32°19'46.570"N	103°49'34.546"W	2.66	
8655.00	89.500	163.400	7560.52	900.57	-1295.06	364.12	697985.75	483923.06	32°19'45.686"N	103°49'34.243"W	0.22	
8749.00	89.500	162.900	7561.34	964.88	-1385.02	391.37	698012.99	483833.10	32°19'44.795"N	103°49'33.930"W	0.53	
8844.00	89.500	163.400	7562.17	1029.87	-1475.94	418.90	698040.53	483742.19	32°19'43.894"N	103°49'33.614"W	0.53	
8939.00	89.400	162.000	7563.08	1095.41	-1566.63	447.15	698068.77	483651.50	32°19'42.995"N	103°49'33.290"W	1.48	
9033.00	89.300	161.400	7564.14	1161.43	-1655.87	476.67	698098.29	483562.27	32°19'42.111"N	103°49'32.951"W	0.65	
9128.00	89.900	162.800	7564.81	1227.68	-1746.27	505.86	698127.48	483471.87	32°19'41.215"N	103°49'32.616"W	1.60	
9222.00	90.000	162.600	7564.89	1292.53	-1836.02	533.82	698155.43	483382.13	32°19'40.325"N	103°49'32.295"W	0.24	
9317.00	89.900	162.100	7564.97	1358.48	-1926.54	562.62	698184.23	483291.61	32°19'39.428"N	103°49'31.964"W	0.54	
9411.00	89.100	157.600	7565.79	1426.61	-2014.76	594.99	698216.60	483203.40	32°19'38.554"N	103°49'31.592"W	4.86	
9505.00	90.700	153.800	7565.96	1499.25	-2100.42	633.67	698255.28	483117.75	32°19'37.704"N	103°49'31.146"W	4.39	
9599.00	90.700	151.000	7564.81	1575.21	-2183.71	677.21	698298.81	483034.47	32°19'36.878"N	103°49'30.643"W	2.98	
9695.00	90.600	146.200	7563.72	1656.34	-2265.62	727.21	698348.81	482952.56	32°19'36.065"N	103°49'30.065"W	5.00	
9789.00	90.700	140.800	7562.65	1739.93	-2341.15	783.10	698404.70	482877.04	32°19'35.315"N	103°49'29.418"W	5.75	
9883.00	90.200	138.400	7561.91	1826.26	-2412.72	844.01	698465.61	482805.46	32°19'34.604"N	103°49'28.712"W	2.61	
9977.00	90.100	138.700	7561.67	1913.28	-2483.18	906.24	698527.83	482735.01	32°19'33.904"N	103°49'27.991"W	0.34	
9994.00	90.200	138.700	7561.62	1929.00	-2495.95	917.46	698539.05	482722.24	32°19'33.777"N	103°49'27.861"W	0.59	
10054.00	90.000	138.300	7561.52	1984.56	-2540.89	957.21	698578.80	482677.31	32°19'33.331"N	103°49'27.400"W	0.75	
10151.00	90.100	133.500	7561.43	2075.92	-2610.53	1024.70	698646.28	482607.67	32°19'32.639"N	103°49'26.617"W	4.95	
10245.00	90.200	128.200	7561.19	2166.88	-2671.99	1095.78	698717.36	482546.22	32°19'32.027"N	103°49'25.792"W	5.64	
10341.00	89.600	120.100	7561.35	2261.90	-2725.83	1175.16	698796.73	482492.37	32°19'31.491"N	103°49'24.870"W	8.46	
10436.00	89.700	113.000	7561.94	2356.84	-2768.27	1260.08	698881.65	482449.94	32°19'31.067"N	103°49'23.883"W	7.47	
10532.00	89.100	107.200	7562.94	2452.23	-2801.24	1350.19	698971.75	482416.97	32°19'30.736"N	103°49'22.835"W	6.07	
10628.00	88.600	103.300	7564.87	2546.41	-2826.48	1442.77	699064.33	482391.73	32°19'30.482"N	103°49'21.757"W	4.09	



Actual Wellpath Report

No.110H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 110H SHL
Area	Eddy County, NM	Well	No. 110H
Field	JRU Project	Wellbore	No.110H AWB
Facility	JRU No. 110H		

WELLPATH DATA (185 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
10723.00	88.600	102.500	7567.19	2638.78	-2847.69	1535.35	699156.90	482370.53	32°19'30.268"N	103°49'20.679"W	0.84	
10818.00	88.600	102.400	7569.51	2730.99	-2868.16	1628.09	699249.63	482350.05	32°19'30.061"N	103°49'19.600"W	0.11	
10913.00	88.200	100.800	7572.16	2822.83	-2887.26	1721.11	699342.65	482330.96	32°19'29.868"N	103°49'18.517"W	1.74	
11007.00	88.100	97.800	7575.20	2912.66	-2902.44	1813.81	699435.34	482315.78	32°19'29.713"N	103°49'17.437"W	3.19	
11102.00	88.200	95.800	7578.27	3002.15	-2913.68	1908.09	699529.62	482304.54	32°19'29.597"N	103°49'16.339"W	2.11	
11197.00	89.700	93.300	7580.01	3090.35	-2921.21	2002.76	699624.28	482297.01	32°19'29.518"N	103°49'15.237"W	3.07	
11293.00	88.100	92.600	7581.85	3178.45	-2926.15	2098.62	699720.13	482292.07	32°19'29.465"N	103°49'14.120"W	1.82	
11388.00	88.100	92.100	7585.00	3265.21	-2930.05	2193.48	699814.99	482288.17	32°19'29.422"N	103°49'13.015"W	0.53	
11483.00	88.200	91.800	7588.07	3351.70	-2933.28	2288.38	699909.88	482284.94	32°19'29.385"N	103°49'11.909"W	0.33	
11578.00	88.100	91.100	7591.13	3437.85	-2935.68	2383.30	700004.79	482282.54	32°19'29.357"N	103°49'10.803"W	0.74	
11674.00	88.100	90.600	7594.32	3524.47	-2937.10	2479.23	700100.72	482281.12	32°19'29.338"N	103°49'09.685"W	0.52	
11770.00	88.100	90.200	7597.50	3610.76	-2937.77	2575.18	700196.66	482280.45	32°19'29.327"N	103°49'08.567"W	0.42	
11865.00	88.600	91.100	7600.24	3696.35	-2938.85	2670.13	700291.61	482279.37	32°19'29.312"N	103°49'07.460"W	1.08	
11961.00	88.500	93.400	7602.67	3783.97	-2942.62	2766.02	700387.49	482275.60	32°19'29.270"N	103°49'06.343"W	2.40	
12057.00	88.600	92.700	7605.09	3872.13	-2947.72	2861.85	700483.32	482270.50	32°19'29.215"N	103°49'05.227"W	0.74	
12153.00	88.500	92.300	7607.52	3959.93	-2951.91	2957.73	700579.19	482266.31	32°19'29.169"N	103°49'04.110"W	0.43	
12247.00	88.600	91.500	7609.90	4045.49	-2955.03	3051.65	700673.10	482263.20	32°19'29.134"N	103°49'03.015"W	0.86	
12342.00	88.600	91.400	7612.22	4131.66	-2957.43	3146.59	700768.04	482260.79	32°19'29.106"N	103°49'01.909"W	0.11	
12436.00	88.500	90.800	7614.60	4216.67	-2959.23	3240.54	700861.98	482258.99	32°19'29.083"N	103°49'00.814"W	0.65	
12531.00	88.500	89.600	7617.09	4301.94	-2959.56	3335.51	700956.94	482258.66	32°19'29.075"N	103°48'59.708"W	1.26	
12626.00	89.000	91.600	7619.16	4387.50	-2960.56	3430.48	701051.90	482257.66	32°19'29.061"N	103°48'58.601"W	2.17	
12722.00	89.100	94.500	7620.75	4475.67	-2965.67	3526.32	701147.74	482252.56	32°19'29.006"N	103°48'57.485"W	3.02	
12818.00	89.000	94.100	7622.35	4564.65	-2972.86	3622.03	701243.45	482245.36	32°19'28.930"N	103°48'56.370"W	0.43	
12914.00	89.100	92.700	7623.94	4653.06	-2978.55	3717.85	701339.26	482239.67	32°19'28.869"N	103°48'55.253"W	1.46	
13011.00	89.000	92.900	7625.55	4741.99	-2983.29	3814.72	701436.12	482234.93	32°19'28.818"N	103°48'54.125"W	0.23	
13106.00	89.000	92.500	7627.20	4829.02	-2987.77	3909.60	701530.99	482230.46	32°19'28.769"N	103°48'53.019"W	0.42	
13202.00	88.900	92.100	7628.96	4916.69	-2991.62	4005.50	701626.89	482226.61	32°19'28.726"N	103°48'51.902"W	0.43	
13298.00	89.100	91.100	7630.64	5003.88	-2994.30	4101.45	701722.84	482223.93	32°19'28.695"N	103°48'50.784"W	1.06	
13395.00	88.500	90.600	7632.67	5091.43	-2995.74	4198.42	701819.80	482222.49	32°19'28.676"N	103°48'49.654"W	0.81	
13490.00	88.600	90.700	7635.07	5177.03	-2996.82	4293.38	701914.75	482221.41	32°19'28.661"N	103°48'48.547"W	0.15	
13585.00	88.500	90.400	7637.48	5262.55	-2997.73	4388.35	702009.71	482220.50	32°19'28.647"N	103°48'47.441"W	0.33	
13681.00	88.600	89.900	7639.91	5348.68	-2997.98	4484.32	702105.67	482220.25	32°19'28.640"N	103°48'46.322"W	0.53	
13777.00	88.600	90.700	7642.25	5434.93	-2998.48	4580.28	702201.64	482219.74	32°19'28.631"N	103°48'45.204"W	0.83	
13874.00	88.400	93.500	7644.79	5523.35	-3002.03	4677.18	702298.52	482216.19	32°19'28.591"N	103°48'44.075"W	2.89	
13971.00	88.500	93.300	7647.42	5612.66	-3007.78	4773.97	702395.31	482210.44	32°19'28.529"N	103°48'42.948"W	0.23	
14067.00	88.500	93.000	7649.93	5700.89	-3013.06	4869.79	702491.13	482205.17	32°19'28.473"N	103°48'41.831"W	0.31	
14162.00	88.600	92.800	7652.33	5788.03	-3017.86	4964.64	702585.97	482200.36	32°19'28.420"N	103°48'40.726"W	0.24	
14258.00	88.600	92.000	7654.68	5875.76	-3021.88	5060.53	702681.85	482196.35	32°19'28.376"N	103°48'39.609"W	0.83	
14353.00	88.400	91.600	7657.16	5962.16	-3024.86	5155.45	702776.76	482193.36	32°19'28.342"N	103°48'38.503"W	0.47	
14448.00	88.500	91.500	7659.73	6048.39	-3027.43	5250.38	702871.69	482190.79	32°19'28.312"N	103°48'37.397"W	0.15	
14544.00	88.500	91.400	7662.25	6135.46	-3029.86	5346.31	702967.62	482188.37	32°19'28.283"N	103°48'36.279"W	0.10	
14639.00	88.600	90.200	7664.65	6221.16	-3031.19	5441.27	703062.57	482187.04	32°19'28.266"N	103°48'35.173"W	1.27	
14734.00	88.500	89.800	7667.06	6306.29	-3031.19	5536.24	703157.53	482187.04	32°19'28.261"N	103°48'34.066"W	0.43	
14830.00	88.600	90.200	7669.48	6392.31	-3031.19	5632.21	703253.50	482187.04	32°19'28.256"N	103°48'32.947"W	0.43	
14926.00	88.500	93.200	7671.91	6479.54	-3034.03	5728.13	703349.41	482184.19	32°19'28.224"N	103°48'31.830"W	3.13	



Actual Wellpath Report

No.110H AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 110H SHL
Area	Eddy County, NM	Well	No. 110H
Field	JRU Project	Wellbore	No.110H AWB
Facility	JRU No. 110H		

WELLPATH DATA (185 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
15022.00	88.300	92.500	7674.60	6567.57	-3038.81	5823.97	703445.24	482179.42	32°19'28.172"N	103°48'30.713"W	0.76	
15117.00	88.500	91.600	7677.25	6654.14	-3042.20	5918.87	703540.14	482176.03	32°19'28.133"N	103°48'29.608"W	0.97	
15212.00	88.500	90.900	7679.73	6740.16	-3044.27	6013.82	703635.08	482173.95	32°19'28.108"N	103°48'28.501"W	0.74	
15316.00	88.500	90.600	7682.46	6833.94	-3045.63	6117.77	703739.02	482172.59	32°19'28.090"N	103°48'27.290"W	0.29	
15389.00	88.500	90.390	7684.37	6899.63	-3046.26	6190.74	703811.99	482171.96	32°19'28.080"N	103°48'26.440"W	0.29	Project to Bit

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No. 110H Target #1		7561.00	-2546.60	890.11	698511.70	482671.60	32°19'33.278"N	103°49'28.182"W	point
No. 110H Target #2		7596.00	-3077.03	2542.22	700163.70	482141.20	32°19'27.951"N	103°49'08.959"W	point
No. 110H PBHL		7686.00	-3062.63	6191.45	703812.70	482155.60	32°19'27.918"N	103°48'26.432"W	point

WELLPATH COMPOSITION - Ref Wellbore: No.110H AWB - Ref Wellpath: No.110H AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	6945.00	Generic gyro - northseeking (Standard)	Gyro	No.110H AWB
6945.00	15389.00	NaviTrak (Standard)	MWD	No.110H AWB