



Actual Wellpath Report

No.144H AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 144H SHL
Area	Eddy County, NM	Well	No. 144H
Field	JRU NAD27	Wellbore	No.144H AWB
Facility	JRU No. 144H		30-015-41424

REPORT SETUP INFORMATION			
Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Gentbry
Scale	0.999936	Report Generated	09/03/2013 at 8:49:44 AM
Convergence at slot	0.27° East	Database/Source file	WA Midland/No.144H_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	654347.96	491168.54	32°20'57.652"N	103°50'00.696"W
Facility Reference Pt			654347.96	491168.54	32°20'57.652"N	103°50'00.696"W
Field Reference Pt			652495.44	494904.92	32°21'34.711"N	103°50'22.090"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on No. 144H SHL (KB) to Facility Vertical Datum	22.00ft
Horizontal Reference Pt	Slot	Rig on No. 144H SHL (KB) to Mean Sea Level	3333.00ft
Vertical Reference Pt	Rig on No. 144H SHL (KB)	Rig on No. 144H SHL (KB) to Mud Line at Slot (No. 144H SHL)	22.00ft
MD Reference Pt	Rig on No. 144H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	88.75°



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Area	Eddy County, NM	Well	No. 144H
Field	JRU NAD27	Wellbore	No.144H AWB
Facility	JRU No. 144H		

WELLPATH DATA (189 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	6.230	0.00	0.00	0.00	0.00	654347.96	491168.54	32°20'57.652"N	103°50'00.696"W	0.00	
100.00	0.280	6.230	100.00	0.03	0.24	0.03	654347.99	491168.79	32°20'57.654"N	103°50'00.695"W	0.28	
200.00	0.400	2.830	200.00	0.09	0.83	0.07	654348.03	491169.38	32°20'57.660"N	103°50'00.695"W	0.12	
300.00	0.490	5.840	299.99	0.17	1.61	0.13	654348.10	491170.15	32°20'57.668"N	103°50'00.694"W	0.09	
400.00	0.370	0.310	399.99	0.23	2.36	0.18	654348.14	491170.90	32°20'57.675"N	103°50'00.694"W	0.13	
500.00	0.230	351.900	499.99	0.21	2.88	0.15	654348.11	491171.42	32°20'57.680"N	103°50'00.694"W	0.15	
511.00	0.250	338.480	510.99	0.20	2.92	0.14	654348.10	491171.47	32°20'57.681"N	103°50'00.694"W	0.54	
640.00	0.200	320.500	639.99	-0.04	3.36	-0.11	654347.86	491171.90	32°20'57.685"N	103°50'00.697"W	0.07	
792.00	0.200	356.900	791.99	-0.21	3.83	-0.29	654347.67	491172.37	32°20'57.690"N	103°50'00.699"W	0.08	
981.00	0.100	244.700	980.99	-0.37	4.09	-0.46	654347.51	491172.63	32°20'57.692"N	103°50'00.701"W	0.14	
1171.00	0.300	243.900	1170.99	-0.97	3.80	-1.06	654346.91	491172.34	32°20'57.689"N	103°50'00.708"W	0.11	
1361.00	0.500	205.700	1360.98	-1.80	2.83	-1.86	654346.10	491171.37	32°20'57.680"N	103°50'00.717"W	0.17	
1551.00	0.800	212.700	1550.97	-2.92	0.97	-2.94	654345.03	491169.51	32°20'57.661"N	103°50'00.730"W	0.16	
1740.00	1.000	198.600	1739.95	-4.21	-1.71	-4.18	654343.79	491166.84	32°20'57.635"N	103°50'00.744"W	0.16	
1930.00	1.500	186.900	1929.90	-5.13	-5.75	-5.00	654342.96	491162.80	32°20'57.595"N	103°50'00.754"W	0.29	
2120.00	1.200	159.800	2119.85	-4.83	-10.08	-4.62	654343.35	491158.46	32°20'57.552"N	103°50'00.750"W	0.37	
2310.00	1.700	148.500	2309.79	-2.77	-14.35	-2.46	654345.51	491154.19	32°20'57.510"N	103°50'00.725"W	0.30	
2500.00	0.300	161.700	2499.76	-1.20	-17.23	-0.83	654347.14	491151.32	32°20'57.481"N	103°50'00.706"W	0.74	
2690.00	0.700	225.000	2689.75	-1.89	-18.52	-1.49	654346.47	491150.02	32°20'57.468"N	103°50'00.714"W	0.33	
2880.00	0.400	231.500	2879.74	-3.26	-19.75	-2.83	654345.13	491148.79	32°20'57.456"N	103°50'00.730"W	0.16	
3071.00	1.600	149.100	3070.71	-2.47	-22.46	-1.98	654345.98	491146.09	32°20'57.430"N	103°50'00.720"W	0.84	
3262.00	1.200	165.100	3261.66	-0.68	-26.68	-0.10	654347.86	491141.87	32°20'57.388"N	103°50'00.698"W	0.29	
3450.00	1.300	157.400	3449.61	0.56	-30.55	1.23	654349.19	491138.00	32°20'57.349"N	103°50'00.683"W	0.10	
3638.00	1.200	149.100	3637.57	2.31	-34.21	3.06	654351.02	491134.34	32°20'57.313"N	103°50'00.662"W	0.11	
3786.00	0.800	142.900	3785.54	3.68	-36.36	4.47	654352.44	491132.19	32°20'57.292"N	103°50'00.646"W	0.28	
3827.00	0.500	199.300	3826.54	3.79	-36.76	4.59	654352.55	491131.79	32°20'57.288"N	103°50'00.644"W	1.63	
3921.00	0.600	144.700	3920.54	3.92	-37.55	4.74	654352.70	491131.00	32°20'57.280"N	103°50'00.643"W	0.54	
4015.00	0.400	129.900	4014.53	4.44	-38.16	5.27	654353.24	491130.39	32°20'57.274"N	103°50'00.636"W	0.25	
4110.00	0.400	128.400	4109.53	4.95	-38.58	5.79	654353.75	491129.97	32°20'57.270"N	103°50'00.630"W	0.01	
4204.00	0.500	134.100	4203.53	5.49	-39.07	6.34	654354.30	491129.48	32°20'57.265"N	103°50'00.624"W	0.12	
4299.00	0.800	157.600	4298.52	6.02	-39.97	6.89	654354.85	491128.58	32°20'57.256"N	103°50'00.618"W	0.42	
4394.00	0.700	147.000	4393.52	6.56	-41.07	7.46	654355.42	491127.48	32°20'57.245"N	103°50'00.611"W	0.18	
4488.00	0.500	149.100	4487.51	7.07	-41.90	7.98	654355.95	491126.64	32°20'57.237"N	103°50'00.605"W	0.21	
4583.00	0.900	29.500	4582.51	7.66	-41.61	8.56	654356.53	491126.94	32°20'57.240"N	103°50'00.598"W	1.29	
4678.00	1.100	174.100	4677.49	8.32	-40.09	9.20	654357.16	491128.46	32°20'57.255"N	103°50'00.591"W	0.31	
4772.00	0.900	25.200	4771.48	8.94	-38.56	9.78	654357.74	491129.99	32°20'57.270"N	103°50'00.584"W	0.26	
4868.00	0.700	17.700	4867.47	9.46	-37.32	10.28	654358.24	491131.23	32°20'57.282"N	103°50'00.578"W	0.23	
4963.00	1.100	347.600	4962.46	9.48	-35.87	10.26	654358.22	491132.67	32°20'57.296"N	103°50'00.578"W	0.64	
5058.00	1.100	343.600	5057.44	9.06	-34.11	9.80	654357.77	491134.44	32°20'57.314"N	103°50'00.583"W	0.08	
5153.00	1.400	349.900	5152.42	8.64	-32.09	9.34	654357.31	491136.46	32°20'57.334"N	103°50'00.589"W	0.35	
5248.00	0.400	306.600	5247.40	8.20	-30.75	8.87	654356.84	491137.80	32°20'57.347"N	103°50'00.594"W	1.20	
5344.00	0.600	302.300	5343.40	7.52	-30.28	8.18	654356.14	491138.26	32°20'57.352"N	103°50'00.602"W	0.21	
5439.00	0.500	289.900	5438.40	6.72	-29.87	7.37	654355.33	491138.67	32°20'57.356"N	103°50'00.611"W	0.16	
5534.00	0.400	265.700	5533.39	6.00	-29.76	6.65	654354.61	491138.79	32°20'57.357"N	103°50'00.620"W	0.22	
5629.00	0.400	276.700	5628.39	5.34	-29.74	5.99	654353.95	491138.80	32°20'57.357"N	103°50'00.628"W	0.08	



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Field	JRU NAD27	Wellbore	No.144H AWB
Facility	JRU No. 144H		

WELLPATH DATA (189 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
5724.00	0.700	313.300	5723.39	4.60	-29.31	5.24	654353.20	491139.24	32°20'57.361"N	103°50'00.636"W	0.47	
5819.00	0.700	302.300	5818.38	3.70	-28.60	4.32	654352.29	491139.95	32°20'57.368"N	103°50'00.647"W	0.14	
5914.00	0.900	294.500	5913.37	2.55	-27.98	3.15	654351.12	491140.57	32°20'57.375"N	103°50'00.660"W	0.24	
6009.00	0.800	299.500	6008.36	1.30	-27.34	1.90	654349.86	491141.20	32°20'57.381"N	103°50'00.675"W	0.13	
6104.00	1.200	345.200	6103.35	0.50	-26.06	1.07	654349.03	491142.49	32°20'57.394"N	103°50'00.685"W	0.90	
6199.00	1.000	349.400	6198.33	0.13	-24.28	0.66	654348.62	491144.27	32°20'57.411"N	103°50'00.689"W	0.23	
6295.00	1.200	355.700	6294.31	-0.06	-22.45	0.43	654348.40	491146.09	32°20'57.429"N	103°50'00.692"W	0.24	
6390.00	1.400	335.500	6389.29	-0.57	-20.41	-0.12	654347.84	491148.14	32°20'57.450"N	103°50'00.698"W	0.52	
6485.00	0.700	329.300	6484.27	-1.31	-18.85	-0.90	654347.06	491149.69	32°20'57.465"N	103°50'00.707"W	0.75	
6579.00	0.900	331.500	6578.26	-1.93	-17.71	-1.55	654346.42	491150.84	32°20'57.477"N	103°50'00.715"W	0.22	
6675.00	0.800	305.300	6674.25	-2.82	-16.66	-2.45	654345.51	491151.89	32°20'57.487"N	103°50'00.725"W	0.41	
6770.00	0.600	302.500	6769.24	-3.76	-16.01	-3.42	654344.55	491152.54	32°20'57.493"N	103°50'00.736"W	0.21	
6865.00	0.800	315.800	6864.24	-4.63	-15.26	-4.30	654343.67	491153.28	32°20'57.501"N	103°50'00.747"W	0.27	
6960.00	0.600	295.000	6959.23	-5.53	-14.58	-5.21	654342.75	491153.97	32°20'57.508"N	103°50'00.757"W	0.34	
7055.00	0.800	261.400	7054.22	-6.63	-14.47	-6.32	654341.65	491154.08	32°20'57.509"N	103°50'00.770"W	0.47	
7150.00	0.800	258.000	7149.21	-7.94	-14.71	-7.62	654340.34	491153.84	32°20'57.507"N	103°50'00.785"W	0.05	
7245.00	0.600	258.300	7244.21	-9.08	-14.94	-8.76	654339.21	491153.60	32°20'57.504"N	103°50'00.799"W	0.21	
7340.00	0.800	250.100	7339.20	-10.20	-15.27	-9.87	654338.10	491153.27	32°20'57.501"N	103°50'00.812"W	0.23	
7461.00	0.800	82.800	7460.20	-10.16	-15.45	-9.82	654338.14	491153.09	32°20'57.499"N	103°50'00.811"W	1.31	
7556.00	0.600	335.700	7555.19	-9.69	-14.92	-9.37	654338.59	491153.63	32°20'57.504"N	103°50'00.806"W	1.19	
7651.00	0.800	353.400	7650.18	-9.95	-13.80	-9.65	654338.31	491154.74	32°20'57.516"N	103°50'00.809"W	0.31	
7746.00	0.500	171.400	7745.18	-9.96	-13.55	-9.67	654338.30	491154.99	32°20'57.518"N	103°50'00.809"W	1.37	
7840.00	1.900	359.900	7839.17	-9.87	-12.40	-9.61	654338.36	491156.14	32°20'57.529"N	103°50'00.808"W	2.55	
7936.00	1.400	186.200	7935.15	-9.99	-11.98	-9.74	654338.23	491156.57	32°20'57.534"N	103°50'00.810"W	3.43	
8031.00	0.800	204.700	8030.14	-10.44	-13.73	-10.14	654337.83	491154.81	32°20'57.516"N	103°50'00.815"W	0.73	
8126.00	0.500	183.900	8125.13	-10.76	-14.75	-10.44	654337.52	491153.80	32°20'57.506"N	103°50'00.818"W	0.40	
8221.00	0.600	250.500	8220.13	-11.27	-15.33	-10.94	654337.02	491153.22	32°20'57.500"N	103°50'00.824"W	0.64	
8316.00	0.300	153.600	8315.13	-11.64	-15.72	-11.30	654336.67	491152.83	32°20'57.497"N	103°50'00.828"W	0.74	
8411.00	0.100	139.100	8410.12	-11.48	-16.00	-11.13	654336.83	491152.54	32°20'57.494"N	103°50'00.826"W	0.22	
8475.00	2.000	101.100	8474.11	-10.35	-16.26	-10.00	654337.96	491152.29	32°20'57.491"N	103°50'00.813"W	3.00	
8506.00	5.900	98.600	8505.03	-8.25	-16.60	-7.90	654340.07	491151.94	32°20'57.488"N	103°50'00.789"W	12.59	
8538.00	10.500	95.500	8536.70	-3.74	-17.13	-3.36	654344.60	491151.42	32°20'57.482"N	103°50'00.736"W	14.44	
8570.00	13.500	99.600	8567.99	2.83	-18.03	3.22	654351.19	491150.51	32°20'57.473"N	103°50'00.659"W	9.74	
8601.00	16.100	100.800	8597.96	10.59	-19.44	11.01	654358.98	491149.11	32°20'57.459"N	103°50'00.568"W	8.44	
8633.00	18.400	101.000	8628.52	19.86	-21.23	20.33	654368.29	491147.31	32°20'57.441"N	103°50'00.460"W	7.19	
8665.00	20.400	97.900	8658.70	30.31	-22.97	30.81	654378.78	491145.58	32°20'57.423"N	103°50'00.338"W	7.03	
8696.00	21.400	95.300	8687.66	41.26	-24.23	41.80	654389.76	491144.32	32°20'57.410"N	103°50'00.210"W	4.40	
8728.00	23.100	94.900	8717.28	53.30	-25.31	53.87	654401.83	491143.24	32°20'57.399"N	103°50'00.069"W	5.33	
8759.00	25.100	95.700	8745.58	65.88	-26.48	66.47	654414.43	491142.07	32°20'57.387"N	103°49'59.922"W	6.54	
8791.00	28.400	95.200	8774.15	80.18	-27.84	80.81	654428.76	491140.70	32°20'57.372"N	103°49'59.755"W	10.34	
8823.00	30.600	96.300	8802.00	95.82	-29.43	96.48	654444.44	491139.12	32°20'57.356"N	103°49'59.573"W	7.08	
8855.00	31.300	98.100	8829.44	112.10	-31.49	112.81	654460.76	491137.05	32°20'57.335"N	103°49'59.383"W	3.63	
8886.00	34.700	93.900	8855.44	128.84	-33.23	129.59	654477.55	491135.32	32°20'57.317"N	103°49'59.187"W	13.21	
8918.00	36.700	91.500	8881.43	147.46	-34.10	148.24	654496.19	491134.45	32°20'57.307"N	103°49'58.970"W	7.63	
8950.00	36.500	91.400	8907.12	166.52	-34.58	167.31	654515.26	491133.97	32°20'57.302"N	103°49'58.747"W	0.65	



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Operator	BOPCO, L.P.	Slot	No. 144H SHL
Area	Eddy County, NM	Well	No. 144H
Field	JRU NAD27	Wellbore	No.144H AWP
Facility	JRU No. 144H		

WELLPATH DATA (189 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
8981.00	36.700	89.300	8932.01	184.99	-34.69	185.79	654533.74	491133.85	32°20'57.300"N	103°49'58.532"W	4.09	
9013.00	39.100	88.700	8957.25	204.65	-34.35	205.44	654553.40	491134.20	32°20'57.302"N	103°49'58.303"W	7.59	
9045.00	41.100	88.400	8981.73	225.26	-33.82	226.05	654574.00	491134.72	32°20'57.307"N	103°49'58.063"W	6.28	
9077.00	42.900	87.800	9005.51	246.67	-33.11	247.45	654595.40	491135.43	32°20'57.313"N	103°49'57.813"W	5.76	
9109.00	44.600	87.900	9028.63	268.79	-32.28	269.56	654617.51	491136.26	32°20'57.320"N	103°49'57.555"W	5.32	
9140.00	46.800	88.200	9050.28	290.98	-31.53	291.73	654639.68	491137.02	32°20'57.326"N	103°49'57.297"W	7.13	
9172.00	49.300	88.900	9071.67	314.77	-30.93	315.52	654663.47	491137.62	32°20'57.331"N	103°49'57.020"W	7.98	
9204.00	51.400	89.600	9092.08	339.41	-30.61	340.16	654688.10	491137.94	32°20'57.333"N	103°49'56.732"W	6.78	
9235.00	54.000	91.200	9110.87	364.06	-30.79	364.81	654712.75	491137.76	32°20'57.330"N	103°49'56.445"W	9.34	
9267.00	56.700	92.000	9129.06	390.35	-31.52	391.12	654739.06	491137.02	32°20'57.322"N	103°49'56.138"W	8.68	
9299.00	59.600	93.400	9145.95	417.46	-32.81	418.27	654766.21	491135.74	32°20'57.308"N	103°49'55.822"W	9.79	
9331.00	62.600	92.000	9161.41	445.40	-34.12	446.25	654794.19	491134.42	32°20'57.293"N	103°49'55.496"W	10.13	
9362.00	66.200	91.000	9174.80	473.32	-34.85	474.19	654822.13	491133.69	32°20'57.285"N	103°49'55.170"W	11.97	
9394.00	69.900	90.300	9186.76	502.98	-35.19	503.87	654851.80	491133.36	32°20'57.280"N	103°49'54.824"W	11.74	
9426.00	73.100	88.000	9196.92	533.32	-34.73	534.20	654882.13	491133.82	32°20'57.283"N	103°49'54.471"W	12.10	
9457.00	77.200	86.600	9204.86	563.27	-33.32	564.13	654912.05	491135.23	32°20'57.296"N	103°49'54.122"W	13.93	
9489.00	82.000	86.900	9210.63	594.71	-31.53	595.54	654943.47	491137.01	32°20'57.312"N	103°49'53.756"W	15.03	
9521.00	86.000	87.100	9213.98	626.52	-29.87	627.32	654975.24	491138.68	32°20'57.327"N	103°49'53.385"W	12.52	
9552.00	86.800	86.800	9215.92	657.44	-28.22	658.21	655006.13	491140.32	32°20'57.342"N	103°49'53.025"W	2.76	
9584.00	86.400	83.900	9217.82	689.33	-25.63	690.05	655037.96	491142.91	32°20'57.366"N	103°49'52.654"W	9.13	
9616.00	86.100	83.500	9219.92	721.13	-22.13	721.78	655069.70	491146.42	32°20'57.399"N	103°49'52.284"W	1.56	
9648.00	86.800	83.400	9221.90	752.93	-18.49	753.51	655101.43	491150.06	32°20'57.434"N	103°49'51.914"W	2.21	
9679.00	86.900	83.600	9223.60	783.76	-14.98	784.27	655132.18	491153.56	32°20'57.467"N	103°49'51.555"W	0.72	
9711.00	87.400	84.300	9225.19	815.61	-11.61	816.05	655163.96	491156.93	32°20'57.499"N	103°49'51.184"W	2.69	
9743.00	87.800	84.800	9226.53	847.49	-8.58	847.88	655195.79	491159.97	32°20'57.528"N	103°49'50.813"W	2.00	
9774.00	88.200	85.600	9227.61	878.41	-5.98	878.75	655226.66	491162.56	32°20'57.552"N	103°49'50.453"W	2.88	
9806.00	88.300	86.700	9228.59	910.36	-3.84	910.66	655258.57	491164.71	32°20'57.572"N	103°49'50.081"W	3.45	
9838.00	88.500	87.800	9229.48	942.34	-2.30	942.61	655290.51	491166.24	32°20'57.585"N	103°49'49.708"W	3.49	
9869.00	88.300	88.600	9230.35	973.33	-1.33	973.58	655321.48	491167.22	32°20'57.593"N	103°49'49.347"W	2.66	
9933.00	88.900	89.800	9231.91	1037.30	-0.43	1037.56	655385.45	491168.11	32°20'57.599"N	103°49'48.602"W	2.10	
10028.00	90.000	89.700	9232.83	1132.28	-0.02	1132.55	655480.44	491168.52	32°20'57.599"N	103°49'47.494"W	1.16	
10123.00	90.300	88.700	9232.58	1227.28	1.31	1227.54	655575.42	491169.85	32°20'57.608"N	103°49'46.387"W	1.10	
10216.00	90.900	88.000	9231.60	1320.27	3.98	1320.50	655668.37	491172.53	32°20'57.630"N	103°49'45.303"W	0.99	
10311.00	90.800	87.900	9230.19	1415.25	7.38	1415.42	655763.30	491175.92	32°20'57.659"N	103°49'44.197"W	0.15	
10406.00	90.600	87.100	9229.03	1510.22	11.52	1510.33	655858.19	491180.07	32°20'57.696"N	103°49'43.090"W	0.87	
10501.00	90.500	88.000	9228.12	1605.19	15.59	1605.23	655953.09	491184.13	32°20'57.731"N	103°49'41.984"W	0.95	
10596.00	90.900	87.800	9226.96	1700.18	19.07	1700.16	656048.02	491187.61	32°20'57.761"N	103°49'40.877"W	0.47	
10691.00	91.100	87.600	9225.30	1795.14	22.88	1795.07	656142.92	491191.42	32°20'57.795"N	103°49'39.771"W	0.30	
10786.00	90.900	88.800	9223.64	1890.12	25.86	1890.01	656237.85	491194.40	32°20'57.820"N	103°49'38.664"W	1.28	
10881.00	89.900	88.800	9222.98	1985.12	27.85	1984.98	656332.82	491196.39	32°20'57.835"N	103°49'37.557"W	1.05	
10976.00	89.700	88.700	9223.31	2080.12	29.92	2079.96	656427.79	491198.47	32°20'57.851"N	103°49'36.449"W	0.24	
11071.00	89.400	88.500	9224.06	2175.12	32.24	2174.93	656522.75	491200.79	32°20'57.870"N	103°49'35.342"W	0.38	
11167.00	89.300	88.300	9225.15	2271.11	34.93	2270.89	656618.70	491203.47	32°20'57.892"N	103°49'34.224"W	0.23	
11261.00	89.200	88.100	9226.38	2365.10	37.88	2364.83	656712.64	491206.42	32°20'57.916"N	103°49'33.128"W	0.24	
11357.00	89.100	88.100	9227.80	2461.08	41.06	2460.77	656808.57	491209.60	32°20'57.943"N	103°49'32.010"W	0.10	



Actual Wellpath Report

No.144H AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 144H SHL
Area	Eddy County, NM	Well	No. 144H
Field	JRU NAD27	Wellbore	No.144H AWB
Facility	JRU No. 144H		

WELLPATH DATA (189 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
11452.00	89.100	87.800	9229.29	2556.06	44.46	2555.70	656903.49	491213.00	32°20'57.973"N	103°49'30.903"W	0.32	
11547.00	89.000	87.600	9230.87	2651.03	48.27	2650.61	656998.40	491216.81	32°20'58.006"N	103°49'29.797"W	0.24	
11641.00	89.500	87.500	9232.10	2745.00	52.29	2744.51	657092.30	491220.83	32°20'58.041"N	103°49'28.702"W	0.54	
11736.00	91.300	88.000	9231.44	2839.98	56.02	2839.43	657187.21	491224.56	32°20'58.074"N	103°49'27.595"W	1.97	
11830.00	91.500	88.000	9229.14	2933.94	59.30	2933.35	657281.12	491227.84	32°20'58.102"N	103°49'26.500"W	0.21	
11924.00	90.500	88.900	9227.50	3027.92	61.84	3027.30	657375.06	491230.38	32°20'58.122"N	103°49'25.405"W	1.43	
12018.00	90.400	88.500	9226.76	3121.92	63.97	3121.27	657469.03	491232.51	32°20'58.139"N	103°49'24.310"W	0.44	
12112.00	90.900	88.500	9225.70	3215.91	66.43	3215.23	657562.98	491234.97	32°20'58.159"N	103°49'23.214"W	0.53	
12206.00	90.900	88.700	9224.22	3309.90	68.73	3309.19	657656.94	491237.27	32°20'58.177"N	103°49'22.119"W	0.21	
12300.00	90.400	88.400	9223.15	3403.89	71.11	3403.15	657750.89	491239.65	32°20'58.196"N	103°49'21.024"W	0.62	
12394.00	91.400	88.200	9221.68	3497.88	73.90	3497.10	657844.83	491242.43	32°20'58.220"N	103°49'19.928"W	1.08	
12488.00	92.300	88.400	9218.64	3591.83	76.68	3591.01	657938.74	491245.22	32°20'58.243"N	103°49'18.834"W	0.98	
12580.00	89.600	87.400	9217.12	3683.79	80.05	3682.92	658030.65	491248.59	32°20'58.272"N	103°49'17.762"W	3.13	
12675.00	89.000	87.000	9218.28	3778.75	84.69	3777.80	658125.52	491253.23	32°20'58.313"N	103°49'16.656"W	0.76	
12769.00	88.600	88.500	9220.25	3872.71	88.38	3871.71	658219.42	491256.92	32°20'58.345"N	103°49'15.561"W	1.65	
12863.00	90.200	89.500	9221.23	3966.70	90.02	3965.68	658313.39	491258.56	32°20'58.357"N	103°49'14.466"W	2.01	
12958.00	90.200	89.400	9220.90	4061.70	90.93	4060.68	658408.38	491259.47	32°20'58.361"N	103°49'13.358"W	0.11	
13033.00	88.200	88.200	9221.95	4136.68	92.51	4135.65	658483.34	491261.04	32°20'58.373"N	103°49'12.484"W	3.11	
13127.00	89.400	89.100	9223.91	4230.66	94.72	4229.60	658577.29	491263.26	32°20'58.391"N	103°49'11.389"W	1.60	
13221.00	89.800	88.700	9224.57	4324.66	96.52	4323.58	658671.26	491265.06	32°20'58.404"N	103°49'10.293"W	0.60	
13315.00	90.700	88.500	9224.16	4418.65	98.82	4417.55	658765.22	491267.36	32°20'58.423"N	103°49'09.198"W	0.98	
13441.00	90.300	87.500	9223.06	4544.64	103.22	4543.47	658891.13	491271.75	32°20'58.460"N	103°49'07.730"W	0.85	
13504.00	90.100	88.100	9222.84	4607.63	105.64	4606.42	658954.08	491274.17	32°20'58.481"N	103°49'06.996"W	1.00	
13599.00	89.500	89.900	9223.17	4702.62	107.29	4701.40	659049.06	491275.83	32°20'58.493"N	103°49'05.889"W	2.00	
13694.00	89.500	89.800	9224.00	4797.60	107.54	4796.40	659144.04	491276.08	32°20'58.491"N	103°49'04.782"W	0.11	
13788.00	89.900	89.500	9224.49	4891.59	108.12	4890.39	659238.04	491276.65	32°20'58.492"N	103°49'03.686"W	0.53	
13883.00	89.100	89.300	9225.32	4986.58	109.11	4985.38	659333.02	491277.65	32°20'58.497"N	103°49'02.579"W	0.87	
13978.00	89.000	89.100	9226.90	5081.56	110.44	5080.36	659427.99	491278.97	32°20'58.506"N	103°49'01.471"W	0.24	
14072.00	89.100	88.500	9228.46	5175.55	112.41	5174.33	659521.95	491280.94	32°20'58.521"N	103°49'00.376"W	0.65	
14166.00	88.800	88.500	9230.18	5269.53	114.87	5268.28	659615.90	491283.40	32°20'58.541"N	103°48'59.281"W	0.32	
14261.00	89.000	88.300	9232.00	5364.51	117.52	5363.22	659710.84	491286.05	32°20'58.562"N	103°48'58.174"W	0.30	
14355.00	88.200	87.900	9234.30	5458.48	120.63	5457.14	659804.75	491289.17	32°20'58.589"N	103°48'57.079"W	0.95	
14450.00	88.800	88.300	9236.79	5553.44	123.78	5552.06	659899.66	491292.32	32°20'58.615"N	103°48'55.972"W	0.76	
14544.00	89.400	89.100	9238.26	5647.42	125.91	5646.02	659993.61	491294.45	32°20'58.632"N	103°48'54.877"W	1.06	
14639.00	89.800	89.000	9238.93	5742.42	127.49	5741.00	660088.59	491296.03	32°20'58.643"N	103°48'53.770"W	0.43	
14734.00	90.100	90.200	9239.01	5837.41	128.15	5836.00	660183.58	491296.69	32°20'58.645"N	103°48'52.662"W	1.30	
14829.00	90.500	90.300	9238.51	5932.37	127.74	5931.00	660278.57	491296.27	32°20'58.636"N	103°48'51.555"W	0.43	
14924.00	90.700	90.100	9237.52	6027.34	127.41	6025.99	660373.56	491295.94	32°20'58.629"N	103°48'50.448"W	0.30	
15019.00	91.300	89.700	9235.86	6122.30	127.57	6120.98	660468.54	491296.11	32°20'58.626"N	103°48'49.341"W	0.76	
15113.00	90.000	89.100	9234.79	6216.29	128.56	6214.96	660562.52	491297.09	32°20'58.631"N	103°48'48.245"W	1.52	
15208.00	90.500	89.100	9234.38	6311.29	130.05	6309.95	660657.50	491298.58	32°20'58.641"N	103°48'47.138"W	0.53	
15303.00	90.000	88.800	9233.96	6406.28	131.79	6404.93	660752.48	491300.33	32°20'58.654"N	103°48'46.031"W	0.61	
15398.00	89.100	88.600	9234.71	6501.28	133.95	6499.90	660847.44	491302.48	32°20'58.671"N	103°48'44.923"W	0.97	
15492.00	89.100	88.200	9236.19	6595.27	136.57	6593.86	660941.39	491305.10	32°20'58.692"N	103°48'43.828"W	0.43	
15587.00	88.400	88.100	9238.26	6690.24	139.64	6688.78	661036.31	491308.17	32°20'58.718"N	103°48'42.721"W	0.74	



Actual Wellpath Report

No.144H AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 144H SHL
Area	Eddy County, NM	Well	No. 144H
Field	JRU NAD27	Wellbore	No.144H AWB
Facility	JRU No. 144H		

WELLPATH DATA (189 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
15682.00	89.600	88.400	9239.92	6785.22	142.54	6783.72	661131.24	491311.07	32°20'58.742"N	103°48'41.615"W	1.30	
15778.00	89.900	87.800	9240.33	6881.21	145.72	6879.67	661227.18	491314.25	32°20'58.769"N	103°48'40.496"W	0.70	
15938.00	89.700	89.600	9240.89	7041.20	149.35	7039.62	661387.12	491317.88	32°20'58.797"N	103°48'38.631"W	1.13	
16032.00	89.200	89.300	9241.80	7135.19	150.25	7133.61	661481.11	491318.79	32°20'58.801"N	103°48'37.536"W	0.62	
16127.00	88.700	89.000	9243.54	7230.17	151.66	7228.58	661576.07	491320.19	32°20'58.811"N	103°48'36.429"W	0.61	
16222.00	87.900	88.700	9246.35	7325.13	153.57	7323.52	661671.01	491322.10	32°20'58.825"N	103°48'35.322"W	0.90	
16317.00	87.200	88.400	9250.42	7420.04	155.97	7418.40	661765.88	491324.50	32°20'58.844"N	103°48'34.216"W	0.80	
16412.00	86.100	88.300	9255.97	7514.88	158.70	7513.20	661860.67	491327.23	32°20'58.867"N	103°48'33.111"W	1.16	
16478.00	86.100	88.300	9260.46	7580.72	160.65	7579.02	661926.49	491329.19	32°20'58.883"N	103°48'32.343"W	0.00	Proj to Bit

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
JRU No.144H PBHL (Rev-1)		9265.00	164.37	7559.23	661906.70	491332.90	32°20'58.920"N	103°48'32.574"W	point
JRU No. 144H PBHL		9305.00	-95.79	7500.58	661848.05	491072.76	32°20'56.349"N	103°48'33.272"W	point

WELLPATH COMPOSITION - Ref Wellbore: No.144H AWB Ref Wellpath: No.144H AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	511.00	Generic gyro - northseeking (Standard)	GyroData Gyros <100-511>	No.144H AWB
511.00	16412.00	NaviTrak (Standard)	BHI MWD NaviTrak <640-XXXX>	No.144H AWB
16412.00	16478.00	Blind Drilling (std)	Projection to bit	No.144H AWB

CASEDHOLE SOLUTIONS

A C&J ENERGY SERVICES COMPANY

Compensated Neutron Gamma Ray CCL Log

Company Bopco L.P. Well James Ranch Unit #144H Field Los Medanos (Bone Spring) County Eddy State New Mexico	Company Bopco L.P.			
	Well James Ranch Unit #144H			
	Field Los Medanos (Bone Spring)			
	County Eddy State New Mexico			
	Location: API #: 30-015-41424			
	2315' FNL & 2594' FEL, Sec 36, T22S-R30E			Other Services None
	Permanent Datum	Ground Level	Elevation 3311'	Elevation
	Log Measured From	Kelly Bushing	22' APD	K.B. 3333'
	Drilling Measured From	Kelly Bushing		D.F. 3332'
				G.L. 3311'
Date	12-September-2013			
Run Number	One			
Depth Driller	16470'			
Depth Logger	8680'			
Bottom Logged Interval	8680'			
Top Log Interval	Surface			
Open Hole Size	7.875			
Type Fluid	Water			
Density / Viscosity	N/A			
Max. Recorded Temp.	N/A			
Estimated Cement Top	Not Rec			
Time Well Ready	4:00			
Time Logger on Bottom	4:30			
Equipment Number	100139			
Location	Hobbs			
Recorded By	H.Ramos		A.Armendarez	A.Borunda
Witnessed By	Jose Perez			
Borehole Record				Tubing Record
Run Number	Bit	From	To	Size
				Weight
				From
				To
Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String				
Liner				

Fold Here



BOPCO, L.P.

Location: Eddy County, NM
Field: JRU NAD27
Facility: JRU No. 144H

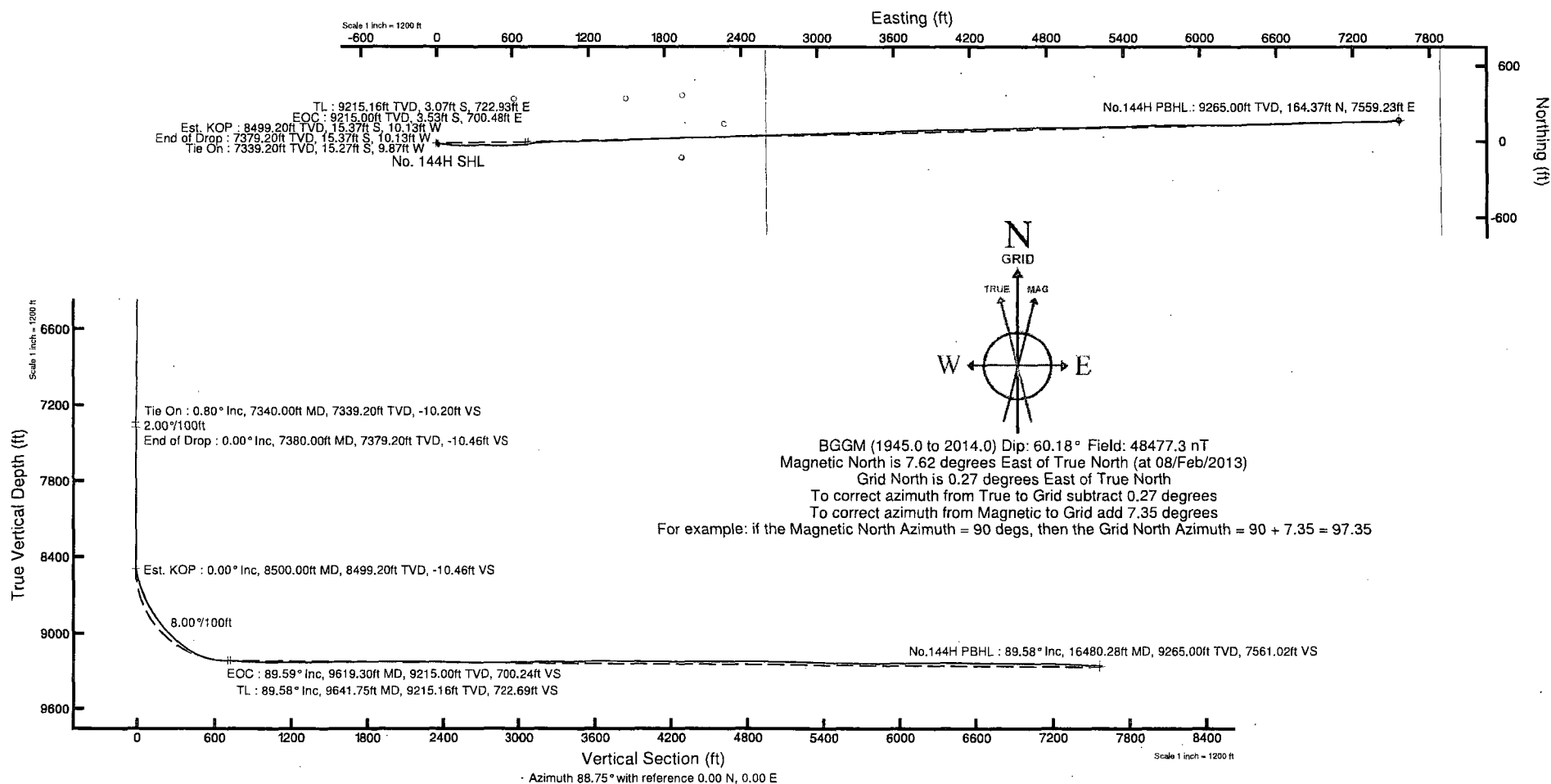
Slot: No. 144H SHL
Well: No. 144H
Wellbore: No. 144H PWB



Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	7340.00	0.800	250.100	7339.20	-15.27	-9.87	-10.20
End of Drop	7380.00	0.000	89.048	7379.20	-15.37	-10.13	-10.46
Est. KOP	8500.00	0.000	89.046	8499.20	-15.37	-10.13	-10.46
EOC	9619.30	89.591	89.046	9215.00	-3.53	700.48	700.24
TL	9641.75	89.582	88.597	9215.16	-3.07	722.93	722.69
No. 144H PBHL	16480.28	89.582	88.597	9265.00	164.37	7559.23	7561.02

Plot reference wellbore in Rev-F.0

True vertical depths are referenced to Rig on No. 144H SHL (92)	Grid System: NAD27 / TM New Mexico SP, Eastern Zone (2011), US feet
Measured depths are referenced to Rig on No. 144H SHL (92)	North Reference: Grid north
Rig on No. 144H SHL (92) to Mean Sea Level: 3335 feet	Scale: True distance
Mean Sea Level to Mud line (No. 144H SHL): -3211 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: gbls on 07/Aug/2013



Rev-F.0