

A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

BOPCO L.P

Lease: JAMES RANCH Well: 135H, 4 1/2" DRILLPIPE

Location: INDEPENDENCE DRILLING RIG 202, EDDY COUNTY, NEW MEXICO

Job Number: MD0614GDM614

Run Date: 14 Jun 2014

Report Generated: 19 Jun 2014 12:27

Azimuth Correction:

Gyro: -0.24000 deg to Grid North

Depth Reference: Rotary Table

Surveyor: Marlin Willeford

Air Gap (RKB to Ground / RKB to MSL): 26.00

Calculation Method: MINIMUM CURVATURE

Vertical Section Calculated from Well Head Location

Survey surface coordinates obtained from: Well Plan/Plot

Closure Calculated from Well Head Location

Survey Latitude: 32.380619 deg. N Longitude: 103.881219 deg. W

Horizontal Coordinates Calculated from Well Head Location

15-42376

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MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.00	0.0 0.0	0.00 N 0.00 E
0 - 5733FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4 1/2" DRILLPIPE						
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO INDEPENDENCE DRILLING RIG #202 R.K.B. HEIGHT OF 26 FT.						
100.00	0.89	151.45	0.89	100.00	0.8 151.4	0.68 S 0.37 E
200.00	0.91	153.08	0.03	199.98	2.3 152.0	2.07 S 1.10 E
300.00	0.90	153.11	0.00	299.97	3.9 152.4	3.47 S 1.81 E
400.00	0.56	195.21	0.62	399.96	5.1 156.3	4.65 S 2.04 E
500.00	0.47	163.27	0.30	499.96	5.9 159.8	5.52 S 2.03 E
600.00	0.32	176.44	0.18	599.96	6.6 160.7	6.19 S 2.17 E
700.00	0.33	141.05	0.20	699.96	7.1 160.5	6.70 S 2.37 E
800.00	0.29	149.53	0.07	799.95	7.6 159.4	7.14 S 2.68 E
900.00	0.12	155.20	0.16	899.95	8.0 159.1	7.46 S 2.85 E
1000.00	0.18	136.59	0.07	999.95	8.2 158.6	7.67 S 3.00 E
1100.00	0.33	160.69	0.19	1099.95	8.7 158.3	8.06 S 3.21 E
1200.00	0.43	156.07	0.10	1199.95	9.3 158.3	8.68 S 3.46 E
1300.00	0.07	220.24	0.41	1299.95	9.7 158.5	9.07 S 3.57 E
1400.00	0.16	273.82	0.13	1399.95	9.7 159.6	9.11 S 3.39 E
1500.00	0.08	344.61	0.15	1499.95	9.6 160.3	9.03 S 3.23 E
1600.00	0.71	187.83	0.78	1599.95	10.1 161.9	9.58 S 3.13 E
1700.00	2.92	174.34	2.24	1699.89	13.1 165.5	12.72 S 3.30 E
1800.00	3.64	170.88	0.75	1799.73	18.8 167.6	18.40 S 4.05 E
1900.00	3.86	173.79	0.29	1899.51	25.4 168.8	24.88 S 4.92 E

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MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
2000.00	2.68	171.41	1.18	1999.35	31.0 169.6	30.53 S 5.63 E
2100.00	2.38	169.50	0.32	2099.25	35.5 169.7	34.89 S 6.36 E
2200.00	2.43	169.48	0.05	2199.16	39.7 169.7	39.01 S 7.12 E
2300.00	2.19	175.10	0.32	2299.08	43.7 169.9	43.00 S 7.67 E
2400.00	2.31	172.83	0.14	2399.00	47.6 170.2	46.90 S 8.09 E
2500.00	2.68	168.19	0.43	2498.91	51.9 170.2	51.18 S 8.82 E
2600.00	3.34	170.40	0.67	2598.77	57.2 170.2	56.35 S 9.78 E
2700.00	3.72	171.82	0.38	2698.58	63.3 170.2	62.43 S 10.73 E
2800.00	4.26	171.03	0.55	2798.34	70.3 170.4	69.31 S 11.77 E
2895.40	2.87	171.54	1.46	2893.55	76.2 170.4	75.17 S 12.67 E
2990.00	2.59	169.39	0.32	2988.04	80.7 170.4	79.61 S 13.42 E
3084.60	2.98	167.42	0.42	3082.53	85.3 170.3	84.11 S 14.34 E
3179.20	3.96	166.16	1.04	3176.96	91.0 170.1	89.69 S 15.66 E
3273.80	4.03	165.39	0.09	3271.33	97.6 169.8	96.07 S 17.28 E
3368.40	2.07	181.45	2.24	3365.79	102.6 169.9	101.00 S 18.08 E
3463.00	1.80	189.37	0.40	3460.34	105.7 170.3	104.17 S 17.79 E
3557.60	3.17	178.28	1.53	3554.85	109.7 170.8	108.25 S 17.63 E
3652.20	3.57	181.34	0.46	3649.28	115.2 171.2	113.81 S 17.64 E
3746.80	3.59	176.21	0.34	3743.70	121.0 171.6	119.71 S 17.76 E
3841.40	3.52	175.39	0.09	3838.12	126.9 171.8	125.56 S 18.19 E
3936.00	3.49	173.80	0.11	3932.54	132.7 171.9	131.32 S 18.74 E

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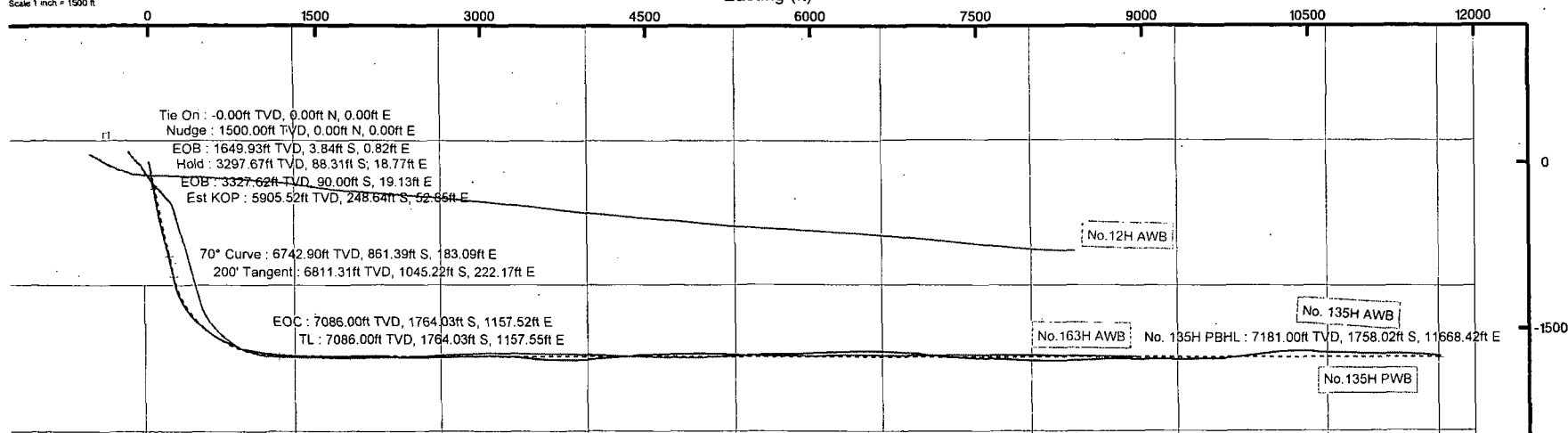
Job Number: MD0614GDM614

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
4030.60	3.46	172.62	0.08	4026.96	138.4 171.9	137.01 S 19.42 E
4125.20	3.53	171.04	0.13	4121.39	144.1 171.9	142.72 S 20.24 E
4219.80	3.51	170.51	0.04	4215.81	150.0 171.9	148.45 S 21.17 E
4314.40	3.60	172.47	0.16	4310.23	155.8 171.9	154.26 S 22.03 E
4409.00	4.48	168.30	0.98	4404.59	162.5 171.8	160.82 S 23.17 E
4503.60	4.41	169.39	0.12	4498.91	169.8 171.7	168.01 S 24.59 E
4598.20	4.35	168.25	0.11	4593.23	177.0 171.6	175.10 S 25.99 E
4692.80	4.45	168.96	0.12	4687.55	184.3 171.4	182.21 S 27.42 E
4787.40	4.38	168.58	0.08	4781.87	191.5 171.3	189.36 S 28.84 E
4882.00	4.43	169.05	0.07	4876.19	198.8 171.2	196.48 S 30.25 E
4976.60	4.46	168.19	0.08	4970.51	206.1 171.2	203.67 S 31.70 E
5071.20	4.38	166.67	0.15	5064.83	213.4 171.0	210.79 S 33.28 E
5165.80	4.22	166.92	0.17	5159.16	220.5 170.9	217.69 S 34.91 E
5260.40	3.43	164.17	0.86	5253.55	226.8 170.7	223.80 S 36.46 E
5355.00	3.45	162.59	0.10	5347.98	232.4 170.6	229.24 S 38.09 E
5449.60	3.52	162.43	0.07	5442.40	238.1 170.4	234.73 S 39.82 E
5544.20	3.52	161.08	0.09	5536.83	243.8 170.2	240.24 S 41.63 E
5638.80	3.48	160.43	0.06	5631.25	249.5 170.0	245.70 S 43.54 E
5733.40	3.49	160.69	0.02	5725.67	255.2 169.7	251.12 S 45.45 E

Final Station Closure: Distance: 255.20 ft Az: 169.74 deg.

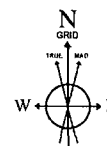
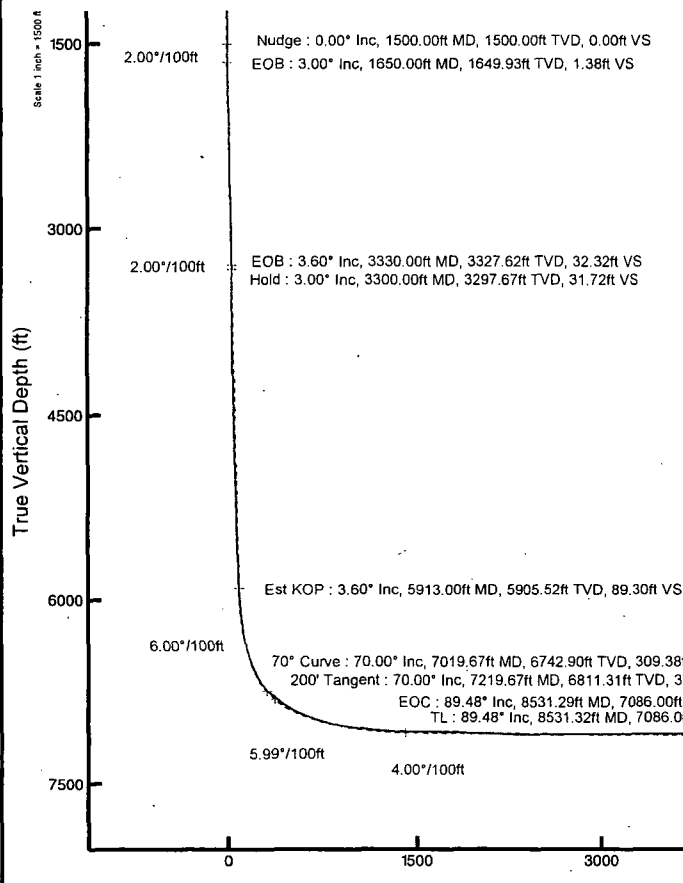
Scale 1 inch = 1500 ft

Easting (ft)



Northing (ft)

Scale 1 inch = 1500 ft



86GM (1945.0 to 2014.0) Dip: 60.17° Field: 46382.2 nT
 Magnetic North is 7.54 degrees East of True North (at 12/17/2013)
 Grid North is 0.24 degrees East of True North
 To correct azimuth from True to Grid subtract 0.24 degrees
 To correct azimuth from Magnetic to Grid add 7.30 degrees



BOPCO, LP

Location: Eddy County, NM
 Field: JRU NAD27
 Facility: JRU Drilling Island 1

Slot: JRU D11 No.135H
 Well: No.135H
 Wellbore: No.135H PWB

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
JRU Drilling Island 1	63920.080	50255.100	32°22'51.004"N	103°52'58.816"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
JRU D11 No.135H	45.90	529.26	639549.300	502489.200	32°22'50.330"N
Rig on No.39H SHL (RT) to Mud line (At Slot, JRU D11 No.135H)					3167ft
Mean Sea Level to Mud line (At Slot, JRU D11 No.135H)					0ft
Rig on No.39H SHL (RT) to Mean Sea Level					3167ft
Plot reference wellpath is Rev E: 1					
True vertical depths are referenced to Rig on No.39H SHL (RT)			Grid System: NAD27 / TM 86m Modco SP, Eastern Zone (2001) US feet		
Measured depths are referenced to Rig on No.39H SHL (RT)			North Reference: Grid north		
Rig on No.39H SHL (RT) to Mean Sea Level: 3167 feet			Scale: True distance		
Mean Sea Level to Mud line (At Slot, JRU D11 No.135H) 0 feet			Depths are in feet		
Coordinates are in feet referenced to Slot			Created by: jsmcbride on 10/16/2014		

Well Profile Data									
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)	
Tie On	0.00	0.000	168.000	0.00	0.00	0.00	0.00	0.00	
Nudge	1500.00	0.000	168.000	1500.00	0.00	0.00	0.00	0.00	
EOB	1650.00	3.000	168.000	1649.93	-3.84	0.82	2.00	1.38	
Hold	3300.00	3.000	168.000	3297.67	-88.31	18.77	0.00	31.72	
EOB	3330.00	3.600	168.000	3327.62	-90.00	19.13	2.00	32.32	
Est KOP	5913.00	3.600	168.000	5905.52	-248.64	52.66	0.00	89.30	
70° Curve	7019.67	70.000	168.000	6742.90	-861.39	183.09	6.00	309.38	
200' Tangent	7219.67	70.000	168.000	6811.31	-1045.22	222.17	0.00	375.41	
EOC	8531.29	89.483	88.956	7086.00	-1764.03	1157.52	5.99	1407.41	
TL	8531.32	89.482	89.967	7086.00	-1764.03	1157.55	4.00	1407.44	
No. 135H PBHL	19042.62	89.482	89.967	7181.00	-1758.02	11668.42	0.00	11800.12	

Targets							
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
No. 135H PBHL	19042.62	7181.00	-1758.02	11668.42	631216.90	500731.30	32°22'32.436"N

No. 135H PBHL : 89.48° Inc, 19042.62ft MD, 7181.00ft TVD, 11800.12ft VS

No. 135H AWB

No. 135H PWB

Azimuth 98.57° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500 ft



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU DII No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

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	0.999931	Report Generated	7/14/2014 at 10:14:41 AM
Convergence at slot	0.24° East	Database/Source file	WA_Midland/No._135H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-65.90	529.26	639549.30	502489.20	32°22'50.330"N	103°52'52.648"W
Facility Reference Pt			639020.08	502555.10	32°22'51.004"N	103°52'58.816"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.39H SHL (RT) to Facility Vertical Datum	3167.00ft
Horizontal Reference Pt	Slot	Rig on No.39H SHL (RT) to Mean Sea Level	3167.00ft
Vertical Reference Pt	Rig on No.39H SHL (RT)	Rig on No.39H SHL (RT) to Mud Line at Slot (JRU DII No.135H)	3167.00ft
MD Reference Pt	Rig on No.39H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	98.57°



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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	151.450	0.00	0.00	0.00	0.00	639549.30	502489.20	32°22'50.330"N	103°52'52.648"W	0.00	
100.00	0.890	151.450	100.00	0.47	-0.68	0.37	639549.67	502488.52	32°22'50.323"N	103°52'52.644"W	0.89	
200.00	0.910	153.080	199.98	1.40	-2.07	1.10	639550.40	502487.13	32°22'50.309"N	103°52'52.635"W	0.03	
300.00	0.900	153.110	299.97	2.31	-3.48	1.82	639551.12	502485.72	32°22'50.295"N	103°52'52.627"W	0.01	
400.00	0.560	195.210	399.96	2.71	-4.65	2.04	639551.34	502484.55	32°22'50.284"N	103°52'52.625"W	0.61	
500.00	0.470	163.270	499.96	2.83	-5.52	2.03	639551.33	502483.68	32°22'50.275"N	103°52'52.625"W	0.30	
600.00	0.320	176.440	599.96	3.07	-6.19	2.17	639551.47	502483.01	32°22'50.269"N	103°52'52.623"W	0.17	
700.00	0.330	141.050	699.96	3.34	-6.69	2.37	639551.67	502482.51	32°22'50.264"N	103°52'52.621"W	0.20	
800.00	0.290	149.530	799.95	3.71	-7.13	2.68	639551.98	502482.07	32°22'50.259"N	103°52'52.617"W	0.06	
900.00	0.120	155.200	899.95	3.93	-7.45	2.85	639552.15	502481.75	32°22'50.256"N	103°52'52.615"W	0.17	
1000.00	0.180	136.590	999.95	4.11	-7.66	3.00	639552.30	502481.54	32°22'50.254"N	103°52'52.614"W	0.08	
1100.00	0.330	160.690	1099.95	4.37	-8.04	3.20	639552.50	502481.16	32°22'50.250"N	103°52'52.611"W	0.18	
1200.00	0.430	156.070	1199.95	4.70	-8.66	3.45	639552.75	502480.54	32°22'50.244"N	103°52'52.608"W	0.10	
1300.00	0.070	220.240	1299.95	4.87	-9.05	3.56	639552.86	502480.15	32°22'50.240"N	103°52'52.607"W	0.40	
1400.00	0.160	273.820	1399.95	4.70	-9.08	3.39	639552.69	502480.12	32°22'50.240"N	103°52'52.609"W	0.13	
1500.00	0.080	344.610	1499.95	4.53	-9.01	3.23	639552.53	502480.19	32°22'50.241"N	103°52'52.611"W	0.15	
1600.00	0.710	187.830	1599.95	4.51	-9.55	3.12	639552.42	502479.65	32°22'50.235"N	103°52'52.612"W	0.78	
1700.00	2.920	174.340	1699.89	5.15	-12.70	3.29	639552.59	502476.50	32°22'50.204"N	103°52'52.610"W	2.24	
1800.00	3.640	170.880	1799.73	6.74	-18.37	4.05	639553.35	502470.83	32°22'50.148"N	103°52'52.602"W	0.75	
1900.00	3.860	173.790	1899.51	8.56	-24.85	4.91	639554.21	502464.35	32°22'50.084"N	103°52'52.592"W	0.29	
2000.00	2.680	171.410	1999.35	10.11	-30.51	5.63	639554.93	502458.69	32°22'50.028"N	103°52'52.584"W	1.19	
2100.00	2.380	169.500	2099.25	11.48	-34.86	6.35	639555.65	502454.34	32°22'49.985"N	103°52'52.576"W	0.31	
2200.00	2.430	169.480	2199.16	12.85	-38.99	7.12	639556.42	502450.21	32°22'49.944"N	103°52'52.567"W	0.05	
2300.00	2.190	175.100	2299.08	13.99	-42.98	7.67	639556.97	502446.23	32°22'49.904"N	103°52'52.561"W	0.33	
2400.00	2.310	172.830	2399.00	14.98	-46.88	8.08	639557.38	502442.32	32°22'49.866"N	103°52'52.556"W	0.15	
2500.00	2.680	168.190	2498.91	16.34	-51.17	8.81	639558.11	502438.04	32°22'49.823"N	103°52'52.548"W	0.42	
2600.00	3.340	170.400	2598.77	18.06	-56.33	9.78	639559.08	502432.88	32°22'49.772"N	103°52'52.537"W	0.67	
2700.00	3.720	171.820	2698.58	19.90	-62.41	10.73	639560.03	502426.79	32°22'49.712"N	103°52'52.526"W	0.39	
2800.00	4.260	171.030	2798.34	21.96	-69.29	11.77	639561.07	502419.91	32°22'49.644"N	103°52'52.514"W	0.54	
2895.40	2.870	171.540	2893.55	23.73	-75.15	12.67	639561.97	502414.05	32°22'49.586"N	103°52'52.504"W	1.46	
2990.00	2.590	169.390	2988.04	25.12	-79.60	13.41	639562.71	502409.61	32°22'49.542"N	103°52'52.496"W	0.32	
3084.60	2.980	167.420	3082.53	26.71	-84.10	14.34	639563.64	502405.11	32°22'49.497"N	103°52'52.485"W	0.42	
3179.20	3.960	166.160	3176.96	28.84	-89.67	15.66	639564.96	502399.54	32°22'49.442"N	103°52'52.470"W	1.04	
3273.80	4.030	165.390	3271.33	31.40	-96.06	17.28	639566.58	502393.15	32°22'49.379"N	103°52'52.451"W	0.09	
3368.40	2.070	181.450	3365.79	32.92	-100.98	18.07	639567.37	502388.22	32°22'49.330"N	103°52'52.442"W	2.24	
3463.00	1.800	189.370	3460.34	33.11	-104.16	17.79	639567.09	502385.05	32°22'49.299"N	103°52'52.446"W	0.40	
3557.60	3.170	178.280	3554.85	33.55	-108.24	17.63	639566.92	502380.97	32°22'49.258"N	103°52'52.448"W	1.53	
3652.20	3.570	181.340	3649.28	34.39	-113.80	17.64	639566.93	502375.41	32°22'49.203"N	103°52'52.448"W	0.46	
3746.80	3.590	176.210	3743.70	35.40	-119.70	17.76	639567.06	502369.51	32°22'49.145"N	103°52'52.447"W	0.34	
3841.40	3.520	175.390	3838.11	36.69	-125.55	18.19	639567.49	502363.66	32°22'49.087"N	103°52'52.442"W	0.09	
3936.00	3.490	173.800	3932.54	38.09	-131.30	18.74	639568.03	502357.90	32°22'49.030"N	103°52'52.436"W	0.11	
4030.60	3.460	172.620	4026.96	39.61	-137.00	19.41	639568.71	502352.21	32°22'48.974"N	103°52'52.429"W	0.08	
4125.20	3.530	171.040	4121.39	41.27	-142.71	20.23	639569.53	502346.50	32°22'48.917"N	103°52'52.419"W	0.13	
4219.80	3.510	170.510	4215.81	43.04	-148.44	21.16	639570.46	502340.77	32°22'48.860"N	103°52'52.409"W	0.04	
4314.40	3.600	172.470	4310.23	44.76	-154.24	22.03	639571.33	502334.97	32°22'48.803"N	103°52'52.399"W	0.16	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
4409.00	4.480	168.300	4404.59	46.87	-160.80	23.17	639572.47	502328.41	32°22'48.738"N	103°52'52.386"W	0.98	
4503.60	4.410	169.390	4498.91	49.34	-167.99	24.59	639573.89	502321.22	32°22'48.667"N	103°52'52.370"W	0.12	
4598.20	4.350	168.250	4593.23	51.78	-175.08	25.99	639575.29	502314.13	32°22'48.596"N	103°52'52.354"W	0.11	
4692.80	4.450	168.960	4687.55	54.26	-182.20	27.42	639576.72	502307.02	32°22'48.526"N	103°52'52.337"W	0.12	
4787.40	4.380	168.580	4781.87	56.73	-189.34	28.84	639578.14	502299.87	32°22'48.455"N	103°52'52.321"W	0.08	
4882.00	4.430	169.050	4876.19	59.18	-196.47	30.25	639579.55	502292.75	32°22'48.385"N	103°52'52.305"W	0.07	
4976.60	4.460	168.190	4970.51	61.68	-203.65	31.70	639580.99	502285.56	32°22'48.313"N	103°52'52.289"W	0.08	
5071.20	4.380	166.670	5064.83	64.31	-210.77	33.28	639582.58	502278.45	32°22'48.243"N	103°52'52.271"W	0.15	
5165.80	4.220	166.920	5159.16	66.94	-217.68	34.90	639584.20	502271.54	32°22'48.175"N	103°52'52.252"W	0.17	
5260.40	3.430	164.170	5253.55	69.40	-223.79	36.46	639585.76	502265.43	32°22'48.114"N	103°52'52.234"W	0.86	
5355.00	3.450	162.590	5347.98	71.81	-229.23	38.09	639587.38	502259.99	32°22'48.060"N	103°52'52.215"W	0.10	
5449.60	3.520	162.430	5442.40	74.34	-234.71	39.81	639589.11	502254.51	32°22'48.006"N	103°52'52.196"W	0.07	
5544.20	3.520	161.080	5536.82	76.96	-240.23	41.63	639590.93	502248.99	32°22'47.951"N	103°52'52.175"W	0.09	
5638.80	3.480	160.430	5631.25	79.65	-245.68	43.54	639592.83	502243.54	32°22'47.897"N	103°52'52.153"W	0.06	
5733.40	3.490	160.690	5725.67	82.35	-251.10	45.45	639594.75	502238.12	32°22'47.843"N	103°52'52.131"W	0.02	Tie to Gyro
5804.00	3.400	160.250	5796.15	84.35	-255.10	46.87	639596.16	502234.12	32°22'47.804"N	103°52'52.114"W	0.13	
5810.00	3.480	160.570	5802.13	84.52	-255.44	46.99	639596.28	502233.78	32°22'47.800"N	103°52'52.113"W	1.37	
5835.00	3.370	160.430	5827.09	85.22	-256.85	47.49	639596.78	502232.37	32°22'47.786"N	103°52'52.107"W	0.44	
5866.00	4.380	168.150	5858.02	86.07	-258.86	48.03	639597.33	502230.35	32°22'47.766"N	103°52'52.101"W	3.66	
5898.00	7.470	170.200	5889.84	87.15	-262.11	48.64	639597.94	502227.11	32°22'47.734"N	103°52'52.094"W	9.68	
5929.00	10.820	172.090	5920.45	88.61	-266.98	49.38	639598.68	502222.24	32°22'47.686"N	103°52'52.086"W	10.85	
5961.00	13.500	173.050	5951.73	90.46	-273.66	50.25	639599.55	502215.56	32°22'47.620"N	103°52'52.076"W	8.40	
5992.00	14.750	172.900	5981.79	92.49	-281.17	51.17	639600.47	502208.05	32°22'47.546"N	103°52'52.065"W	4.03	
6024.00	14.910	172.440	6012.72	94.74	-289.30	52.22	639601.52	502199.92	32°22'47.465"N	103°52'52.054"W	0.62	
6055.00	16.800	170.050	6042.54	97.27	-297.66	53.52	639602.82	502191.56	32°22'47.382"N	103°52'52.039"W	6.45	
6087.00	18.410	174.000	6073.04	100.01	-307.24	54.85	639604.14	502181.98	32°22'47.287"N	103°52'52.024"W	6.26	
6118.00	19.450	169.390	6102.37	102.94	-317.19	56.31	639605.60	502172.04	32°22'47.189"N	103°52'52.007"W	5.87	
6150.00	20.030	169.530	6132.49	106.47	-327.81	58.29	639607.58	502161.41	32°22'47.084"N	103°52'51.985"W	1.82	
6181.00	20.400	168.880	6161.58	110.03	-338.33	60.29	639609.59	502150.89	32°22'46.980"N	103°52'51.962"W	1.40	
6213.00	21.950	169.590	6191.42	113.85	-349.69	62.45	639611.74	502139.54	32°22'46.867"N	103°52'51.937"W	4.91	
6244.00	23.920	170.420	6219.96	117.69	-361.59	64.54	639613.84	502127.64	32°22'46.749"N	103°52'51.913"W	6.44	
6276.00	25.890	170.160	6248.99	121.92	-374.87	66.82	639616.11	502114.36	32°22'46.618"N	103°52'51.888"W	6.17	
6308.00	28.480	170.750	6277.45	126.46	-389.28	69.24	639618.53	502099.94	32°22'46.475"N	103°52'51.860"W	8.14	
6339.00	30.750	170.240	6304.40	131.21	-404.39	71.77	639621.06	502084.84	32°22'46.325"N	103°52'51.831"W	7.37	
6371.00	33.000	170.040	6331.57	136.56	-421.04	74.66	639623.96	502068.19	32°22'46.161"N	103°52'51.798"W	7.04	
6402.00	34.810	169.690	6357.30	142.10	-438.06	77.71	639627.00	502051.17	32°22'45.992"N	103°52'51.764"W	5.87	
6434.00	35.080	169.670	6383.53	148.04	-456.09	80.99	639630.28	502033.14	32°22'45.813"N	103°52'51.726"W	0.84	
6465.00	35.690	169.150	6408.80	153.93	-473.74	84.29	639633.58	502015.50	32°22'45.639"N	103°52'51.689"W	2.19	
6497.00	37.020	168.040	6434.57	160.41	-492.33	88.04	639637.34	501996.90	32°22'45.455"N	103°52'51.646"W	4.64	
6528.00	38.790	166.620	6459.03	167.31	-510.91	92.22	639641.52	501978.33	32°22'45.271"N	103°52'51.598"W	6.37	
6560.00	40.590	166.230	6483.66	175.02	-530.77	97.02	639646.32	501958.46	32°22'45.074"N	103°52'51.543"W	5.68	
6591.00	42.540	166.160	6506.85	182.84	-550.75	101.93	639651.22	501938.49	32°22'44.876"N	103°52'51.487"W	6.29	
6623.00	44.620	165.980	6530.03	191.29	-572.16	107.24	639656.53	501917.08	32°22'44.664"N	103°52'51.426"W	6.51	
6654.00	46.900	166.280	6551.66	199.76	-593.72	112.56	639661.86	501895.53	32°22'44.450"N	103°52'51.365"W	7.39	
6686.00	49.180	166.620	6573.05	208.72	-616.85	118.14	639667.43	501872.40	32°22'44.221"N	103°52'51.301"W	7.17	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU DII No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
6718.00	51.480	166.780	6593.48	217.89	-640.82	123.80	639673.09	501848.43	32°22'43.984"N	103°52'51.236"W	7.20	
6749.00	53.570	167.650	6612.34	226.85	-664.81	129.24	639678.53	501824.44	32°22'43.746"N	103°52'51.174"W	7.10	
6781.00	55.150	166.940	6630.98	236.28	-690.18	134.96	639684.26	501799.07	32°22'43.495"N	103°52'51.109"W	5.26	
6813.00	57.030	167.230	6648.83	246.01	-716.06	140.90	639690.19	501773.19	32°22'43.239"N	103°52'51.041"W	5.92	
6844.00	58.870	167.650	6665.28	255.48	-741.71	146.61	639695.90	501747.55	32°22'42.985"N	103°52'50.975"W	6.05	
6876.00	60.960	165.670	6681.32	265.81	-768.64	153.01	639702.29	501720.61	32°22'42.718"N	103°52'50.902"W	8.44	
6907.00	63.130	167.280	6695.86	276.11	-795.27	159.40	639708.69	501693.99	32°22'42.454"N	103°52'50.829"W	8.37	
6939.00	64.940	167.080	6709.87	286.60	-823.32	165.79	639715.08	501665.94	32°22'42.176"N	103°52'50.756"W	5.68	
6970.00	66.650	167.140	6722.58	296.94	-850.88	172.10	639721.38	501638.38	32°22'41.903"N	103°52'50.684"W	5.52	
7002.00	68.570	166.610	6734.76	307.88	-879.69	178.81	639728.10	501609.57	32°22'41.618"N	103°52'50.607"W	6.19	
7033.00	69.330	166.530	6745.90	318.72	-907.83	185.53	639734.82	501581.43	32°22'41.339"N	103°52'50.530"W	2.46	
7065.00	70.840	167.170	6756.80	329.85	-937.13	192.38	639741.66	501552.14	32°22'41.049"N	103°52'50.451"W	5.08	
7097.00	71.420	167.300	6767.15	340.86	-966.66	199.07	639748.35	501522.61	32°22'40.756"N	103°52'50.375"W	1.85	
7128.00	71.860	166.610	6776.91	351.70	-995.32	205.71	639755.00	501493.95	32°22'40.473"N	103°52'50.299"W	2.55	
7160.00	71.880	166.840	6786.87	363.02	-1024.92	212.69	639761.98	501464.35	32°22'40.179"N	103°52'50.219"W	0.69	
7191.00	71.990	166.640	6796.48	373.97	-1053.61	219.45	639768.74	501435.67	32°22'39.895"N	103°52'50.141"W	0.71	
7212.00	72.260	166.340	6802.93	381.49	-1073.04	224.12	639773.41	501416.24	32°22'39.703"N	103°52'50.088"W	1.87	
7246.00	72.290	166.230	6813.28	393.77	-1104.50	231.80	639781.08	501384.78	32°22'39.391"N	103°52'50.000"W	0.32	
7278.00	72.810	166.020	6822.88	405.42	-1134.14	239.12	639788.40	501355.14	32°22'39.098"N	103°52'49.916"W	1.74	
7310.00	72.190	163.550	6832.50	417.73	-1163.58	247.13	639796.41	501325.70	32°22'38.806"N	103°52'49.824"W	7.61	
7341.00	70.880	159.750	6842.32	431.03	-1191.49	256.38	639805.66	501297.80	32°22'38.529"N	103°52'49.718"W	12.37	
7373.00	69.740	156.480	6853.11	446.30	-1219.44	267.61	639816.89	501269.84	32°22'38.252"N	103°52'49.588"W	10.26	
7405.00	69.050	153.870	6864.37	462.78	-1246.62	280.18	639829.46	501242.66	32°22'37.983"N	103°52'49.443"W	7.93	
7436.00	68.680	152.280	6875.55	479.56	-1272.40	293.27	639842.55	501216.89	32°22'37.727"N	103°52'49.291"W	4.93	
7468.00	69.360	150.230	6887.01	497.68	-1298.60	307.64	639856.92	501190.69	32°22'37.467"N	103°52'49.125"W	6.35	
7500.00	69.170	148.230	6898.34	516.65	-1324.31	322.95	639872.23	501164.98	32°22'37.212"N	103°52'48.948"W	5.88	
7532.00	69.960	145.980	6909.51	536.50	-1349.49	339.23	639888.51	501139.81	32°22'36.962"N	103°52'48.759"W	7.04	
7563.00	70.370	143.510	6920.03	556.69	-1373.30	356.07	639905.34	501116.00	32°22'36.726"N	103°52'48.564"W	7.61	
7595.00	70.730	141.980	6930.69	578.33	-1397.31	374.33	639923.60	501091.99	32°22'36.488"N	103°52'48.352"W	4.65	
7627.00	71.290	139.070	6941.10	600.83	-1420.66	393.57	639942.84	501068.64	32°22'36.256"N	103°52'48.129"W	8.77	
7658.00	71.810	137.410	6950.91	623.46	-1442.60	413.15	639962.42	501046.70	32°22'36.038"N	103°52'47.902"W	5.35	
7690.00	72.500	134.630	6960.72	647.64	-1464.51	434.30	639983.57	501024.79	32°22'35.820"N	103°52'47.657"W	8.55	
7722.00	73.380	133.020	6970.11	672.62	-1485.70	456.37	640005.64	501003.61	32°22'35.610"N	103°52'47.400"W	5.54	
7753.00	73.820	130.890	6978.86	697.45	-1505.58	478.49	640027.75	500983.73	32°22'35.412"N	103°52'47.143"W	6.74	
7785.00	74.470	128.770	6987.61	723.76	-1525.29	502.12	640051.39	500964.02	32°22'35.216"N	103°52'46.869"W	6.69	
7817.00	74.940	126.870	6996.05	750.69	-1544.22	526.51	640075.77	500945.09	32°22'35.028"N	103°52'46.585"W	5.91	
7848.00	75.880	125.310	7003.86	777.30	-1561.89	550.75	640100.01	500927.42	32°22'34.852"N	103°52'46.304"W	5.74	
7880.00	76.870	123.670	7011.40	805.27	-1579.49	576.38	640125.64	500909.82	32°22'34.677"N	103°52'46.006"W	5.86	
7912.00	78.160	121.070	7018.31	833.85	-1596.22	602.77	640152.02	500893.09	32°22'34.510"N	103°52'45.699"W	8.90	
7943.00	78.930	118.240	7024.47	862.20	-1611.25	629.17	640178.42	500878.07	32°22'34.360"N	103°52'45.392"W	9.29	
7975.00	79.880	116.860	7030.36	891.94	-1625.80	657.05	640206.31	500863.52	32°22'34.215"N	103°52'45.067"W	5.18	
8007.00	81.380	115.110	7035.57	922.06	-1639.63	685.43	640234.69	500849.69	32°22'34.077"N	103°52'44.737"W	7.15	
8039.00	81.950	112.780	7040.21	952.59	-1652.48	714.37	640263.62	500836.84	32°22'33.949"N	103°52'44.400"W	7.42	
8070.00	82.460	111.150	7044.41	982.47	-1663.96	742.85	640292.10	500825.35	32°22'33.834"N	103°52'44.069"W	5.46	
8102.00	82.530	110.110	7048.59	1013.49	-1675.14	772.54	640321.79	500814.18	32°22'33.722"N	103°52'43.723"W	3.23	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU DII No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
8133.00	82.280	110.070	7052.69	1043.60	-1685.70	801.40	640350.65	500803.62	32°22'33.616"N	103°52'43.387"W	0.82	
8165.00	82.930	107.700	7056.81	1074.82	-1695.97	831.43	640380.67	500793.35	32°22'33.513"N	103°52'43.038"W	7.62	
8197.00	83.530	105.640	7060.58	1106.28	-1705.08	861.87	640411.10	500784.24	32°22'33.422"N	103°52'42.683"W	6.66	
8228.00	84.240	103.300	7063.88	1136.93	-1712.78	891.71	640440.95	500776.54	32°22'33.344"N	103°52'42.336"W	7.85	
8260.00	84.730	100.730	7066.96	1168.72	-1719.41	922.86	640472.10	500769.91	32°22'33.277"N	103°52'41.973"W	8.14	
8292.00	85.810	99.250	7069.60	1200.60	-1724.94	954.27	640503.50	500764.38	32°22'33.221"N	103°52'41.607"W	5.71	
8323.00	86.150	99.840	7071.77	1231.52	-1730.07	984.76	640533.99	500759.25	32°22'33.169"N	103°52'41.251"W	2.19	
8355.00	85.350	98.830	7074.14	1263.43	-1735.25	1016.25	640565.48	500754.08	32°22'33.117"N	103°52'40.885"W	4.02	
8387.00	86.480	100.040	7076.42	1295.35	-1740.48	1047.74	640596.96	500748.84	32°22'33.064"N	103°52'40.518"W	5.17	
8418.00	86.650	98.400	7078.28	1326.29	-1745.44	1078.28	640627.50	500743.89	32°22'33.013"N	103°52'40.162"W	5.31	
8450.00	88.950	98.050	7079.51	1358.26	-1750.01	1109.93	640659.15	500739.31	32°22'32.967"N	103°52'39.793"W	7.27	
8482.00	90.520	95.500	7079.66	1390.24	-1753.79	1141.70	640690.92	500735.54	32°22'32.928"N	103°52'39.423"W	9.36	
8513.00	90.950	92.700	7079.26	1421.14	-1756.00	1172.61	640721.83	500733.32	32°22'32.905"N	103°52'39.062"W	9.14	
8545.00	90.220	92.450	7078.93	1452.96	-1757.44	1204.58	640753.79	500731.88	32°22'32.889"N	103°52'38.690"W	2.41	
8576.00	90.370	92.040	7078.77	1483.78	-1758.65	1235.55	640784.77	500730.67	32°22'32.876"N	103°52'38.329"W	1.41	
8640.00	90.680	92.720	7078.18	1547.40	-1761.31	1299.50	640848.70	500728.01	32°22'32.847"N	103°52'37.583"W	1.17	
8734.00	90.460	91.970	7077.25	1640.84	-1765.16	1393.41	640942.61	500724.17	32°22'32.805"N	103°52'36.488"W	0.83	
8827.00	87.310	89.680	7079.06	1732.96	-1766.50	1486.37	641035.56	500722.83	32°22'32.788"N	103°52'35.405"W	4.19	
8921.00	86.830	90.010	7083.86	1825.75	-1766.24	1580.24	641129.43	500723.08	32°22'32.786"N	103°52'34.310"W	0.62	
9015.00	88.000	89.180	7088.10	1918.50	-1765.58	1674.14	641223.32	500723.75	32°22'32.789"N	103°52'33.215"W	1.53	
9108.00	88.360	89.730	7091.06	2010.28	-1764.69	1767.09	641316.27	500724.63	32°22'32.794"N	103°52'32.131"W	0.71	
9203.00	88.340	89.750	7093.79	2104.12	-1764.26	1862.05	641411.22	500725.06	32°22'32.794"N	103°52'31.024"W	0.03	
9297.00	86.820	87.940	7097.76	2196.68	-1762.37	1955.94	641505.10	500726.95	32°22'32.809"N	103°52'29.929"W	2.51	
9392.00	89.110	90.230	7101.14	2290.31	-1760.86	2050.86	641600.01	500728.47	32°22'32.820"N	103°52'28.823"W	3.41	
9486.00	90.430	94.370	7101.51	2383.72	-1764.63	2144.76	641693.91	500724.70	32°22'32.778"N	103°52'27.728"W	4.62	
9582.00	90.280	93.420	7100.92	2479.40	-1771.15	2240.53	641789.67	500718.18	32°22'32.710"N	103°52'26.612"W	1.00	
9677.00	90.340	90.160	7100.40	2573.72	-1774.12	2335.47	641884.61	500715.21	32°22'32.676"N	103°52'25.505"W	3.43	
9772.00	90.280	90.240	7099.89	2667.71	-1774.45	2430.47	641979.60	500714.88	32°22'32.669"N	103°52'24.397"W	0.11	
9867.00	90.310	88.930	7099.40	2761.54	-1773.76	2525.46	642074.59	500715.56	32°22'32.672"N	103°52'23.289"W	1.38	
9962.00	90.340	88.480	7098.86	2855.13	-1771.61	2620.44	642169.55	500717.71	32°22'32.689"N	103°52'22.182"W	0.47	
10057.00	90.310	88.720	7098.32	2948.70	-1769.29	2715.41	642264.52	500720.03	32°22'32.708"N	103°52'21.075"W	0.25	
10152.00	90.400	88.150	7097.73	3042.21	-1766.70	2810.37	642359.47	500722.63	32°22'32.730"N	103°52'19.967"W	0.61	
10247.00	90.310	88.900	7097.15	3135.76	-1764.25	2905.34	642454.43	500725.07	32°22'32.750"N	103°52'18.860"W	0.80	
10341.00	88.950	87.500	7097.75	3228.22	-1761.30	2999.28	642548.37	500728.02	32°22'32.775"N	103°52'17.764"W	2.08	
10436.00	89.690	88.550	7098.88	3321.60	-1758.03	3094.22	642643.30	500731.30	32°22'32.803"N	103°52'16.657"W	1.35	
10531.00	89.880	93.500	7099.24	3415.75	-1759.73	3189.17	642738.25	500729.60	32°22'32.782"N	103°52'15.550"W	5.21	
10626.00	89.820	93.670	7099.49	3510.39	-1765.67	3283.99	642833.05	500723.66	32°22'32.720"N	103°52'14.445"W	0.19	
10721.00	90.250	96.120	7099.43	3605.19	-1773.77	3378.63	642927.69	500715.55	32°22'32.635"N	103°52'13.342"W	2.62	
10814.00	89.720	95.410	7099.45	3698.08	-1783.11	3471.16	643020.22	500706.21	32°22'32.539"N	103°52'12.263"W	0.95	
10909.00	89.880	93.240	7099.78	3792.81	-1790.28	3565.88	643114.93	500699.05	32°22'32.464"N	103°52'11.159"W	2.29	
11003.00	88.740	92.030	7100.92	3886.30	-1794.60	3659.78	643208.82	500694.73	32°22'32.417"N	103°52'10.065"W	1.77	
11096.00	88.740	89.630	7102.96	3978.42	-1795.94	3752.74	643301.77	500693.38	32°22'32.400"N	103°52'08.981"W	2.58	
11191.00	89.600	88.330	7104.34	4072.08	-1794.25	3847.71	643396.74	500695.07	32°22'32.413"N	103°52'07.874"W	1.64	
11286.00	89.780	87.090	7104.85	4165.38	-1790.46	3942.63	643491.65	500698.87	32°22'32.446"N	103°52'06.767"W	1.32	
11380.00	87.870	84.310	7106.78	4256.98	-1783.41	4036.33	643585.35	500705.91	32°22'32.512"N	103°52'05.674"W	3.59	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU DII No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
11475.00	89.350	85.770	7109.08	4349.32	-1775.20	4130.94	643679.95	500714.12	32°22'32.589"N	103°52'04.570"W	2.19	
11569.00	89.690	83.760	7109.87	4440.59	-1766.63	4224.54	643773.54	500722.70	32°22'32.670"N	103°52'03.478"W	2.17	
11661.00	90.090	85.680	7110.05	4529.91	-1758.16	4316.15	643865.14	500731.16	32°22'32.750"N	103°52'02.410"W	2.13	
11755.00	89.660	86.130	7110.25	4621.63	-1751.45	4409.91	643958.90	500737.87	32°22'32.812"N	103°52'01.316"W	0.66	
11847.00	90.650	87.990	7110.00	4711.77	-1746.73	4501.78	644050.76	500742.59	32°22'32.855"N	103°52'00.245"W	2.29	
11941.00	90.220	88.530	7109.29	4804.25	-1743.88	4595.73	644144.71	500745.45	32°22'32.879"N	103°51'59.149"W	0.73	
12036.00	89.820	88.750	7109.26	4897.83	-1741.62	4690.71	644239.68	500747.70	32°22'32.897"N	103°51'58.042"W	0.48	
12131.00	90.250	89.150	7109.20	4991.49	-1739.88	4785.69	644334.65	500749.44	32°22'32.910"N	103°51'56.934"W	0.62	
12227.00	88.920	88.830	7109.89	5086.15	-1738.19	4881.67	644430.63	500751.13	32°22'32.923"N	103°51'55.815"W	1.42	
12322.00	89.910	89.830	7110.86	5179.91	-1737.08	4976.66	644525.61	500752.24	32°22'32.930"N	103°51'54.707"W	1.48	
12416.00	90.550	91.300	7110.49	5272.99	-1738.00	5070.65	644619.59	500751.32	32°22'32.916"N	103°51'53.612"W	1.71	
12511.00	89.720	90.430	7110.26	5367.13	-1739.44	5165.64	644714.57	500749.88	32°22'32.898"N	103°51'52.504"W	1.27	
12606.00	90.520	91.360	7110.06	5461.28	-1740.92	5260.62	644809.55	500748.40	32°22'32.879"N	103°51'51.397"W	1.29	
12701.00	91.080	91.890	7108.74	5555.57	-1743.62	5355.57	644904.50	500745.71	32°22'32.849"N	103°51'50.290"W	0.81	
12795.00	89.780	89.580	7108.03	5648.69	-1744.82	5449.55	644998.47	500744.50	32°22'32.832"N	103°51'49.194"W	2.82	
12891.00	88.740	87.760	7109.27	5743.24	-1742.59	5545.52	645094.42	500746.73	32°22'32.850"N	103°51'48.075"W	2.18	
12984.00	90.150	88.880	7110.17	5834.75	-1739.87	5638.47	645187.37	500749.45	32°22'32.873"N	103°51'46.991"W	1.94	
13077.00	89.630	90.120	7110.35	5926.59	-1739.06	5731.46	645280.36	500750.27	32°22'32.877"N	103°51'45.907"W	1.45	
13171.00	89.080	89.170	7111.41	6019.44	-1738.47	5825.45	645374.34	500750.85	32°22'32.879"N	103°51'44.811"W	1.17	
13266.00	86.980	86.560	7114.68	6112.72	-1734.94	5920.32	645469.20	500754.38	32°22'32.910"N	103°51'43.705"W	3.52	
13359.00	89.010	86.500	7117.93	6203.62	-1729.31	6013.08	645561.96	500760.01	32°22'32.961"N	103°51'42.623"W	2.18	
13454.00	90.120	87.620	7118.65	6296.70	-1724.44	6107.95	645656.82	500764.88	32°22'33.005"N	103°51'41.516"W	1.66	
13549.00	89.600	87.770	7118.88	6389.99	-1720.62	6202.88	645751.74	500768.70	32°22'33.039"N	103°51'40.409"W	0.57	
13643.00	88.490	87.960	7120.45	6482.34	-1717.12	6296.80	645845.65	500772.20	32°22'33.070"N	103°51'39.314"W	1.20	
13739.00	88.770	87.760	7122.75	6576.65	-1713.54	6392.70	645941.55	500775.79	32°22'33.101"N	103°51'38.196"W	0.36	
13834.00	89.230	89.110	7124.40	6670.15	-1710.94	6487.65	646036.49	500778.38	32°22'33.122"N	103°51'37.088"W	1.50	
13928.00	89.170	90.400	7125.72	6763.03	-1710.54	6581.64	646130.47	500778.78	32°22'33.122"N	103°51'35.992"W	1.37	
14023.00	90.370	92.370	7126.10	6857.27	-1712.84	6676.60	646225.43	500776.49	32°22'33.095"N	103°51'34.885"W	2.43	
14118.00	90.520	93.810	7125.36	6951.83	-1717.96	6771.46	646320.28	500771.36	32°22'33.041"N	103°51'33.780"W	1.52	
14213.00	91.510	94.660	7123.68	7046.55	-1724.97	6866.18	646415.00	500764.35	32°22'32.967"N	103°51'32.675"W	1.37	
14308.00	92.060	95.040	7120.72	7141.30	-1733.00	6960.80	646509.60	500756.32	32°22'32.884"N	103°51'31.573"W	0.70	
14403.00	92.960	96.010	7116.56	7236.07	-1742.14	7055.26	646604.06	500747.19	32°22'32.789"N	103°51'30.472"W	1.39	
14499.00	91.850	95.630	7112.53	7331.88	-1751.86	7150.68	646699.48	500737.46	32°22'32.689"N	103°51'29.360"W	1.22	
14594.00	90.520	94.210	7110.56	7426.66	-1760.01	7245.31	646794.10	500729.32	32°22'32.604"N	103°51'28.257"W	2.05	
14688.00	88.640	92.600	7111.25	7520.27	-1765.59	7339.13	646887.91	500723.74	32°22'32.544"N	103°51'27.163"W	2.63	
14783.00	90.030	93.700	7112.36	7614.83	-1770.81	7433.98	646982.75	500718.52	32°22'32.489"N	103°51'26.058"W	1.87	
14878.00	88.460	91.290	7113.61	7709.28	-1774.94	7528.87	647077.64	500714.38	32°22'32.443"N	103°51'24.951"W	3.03	
14973.00	88.090	91.270	7116.47	7803.47	-1777.07	7623.80	647172.56	500712.26	32°22'32.418"N	103°51'23.845"W	0.39	
15068.00	88.920	91.500	7118.95	7897.69	-1779.36	7718.74	647267.50	500709.96	32°22'32.391"N	103°51'22.738"W	0.91	
15163.00	89.260	94.040	7120.45	7992.19	-1783.95	7813.61	647362.36	500705.37	32°22'32.342"N	103°51'21.632"W	2.70	
15258.00	87.840	91.970	7122.86	8086.70	-1788.93	7908.44	647457.18	500700.40	32°22'32.288"N	103°51'20.526"W	2.64	
15351.00	88.580	90.250	7125.76	8178.87	-1790.73	8001.37	647550.11	500698.60	32°22'32.266"N	103°51'19.443"W	2.01	
15447.00	89.910	90.310	7127.03	8273.85	-1791.20	8097.36	647646.09	500698.13	32°22'32.258"N	103°51'18.324"W	1.39	
15542.00	88.240	90.230	7128.56	8367.84	-1791.65	8192.35	647741.07	500697.68	32°22'32.249"N	103°51'17.216"W	1.76	
15637.00	88.490	89.040	7131.27	8461.65	-1791.04	8287.30	647836.02	500698.28	32°22'32.251"N	103°51'16.109"W	1.28	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
15732.00	88.830	88.740	7133.49	8555.27	-1789.20	8382.26	647930.97	500700.12	32°22'32.265"N	103°51'15.002"W	0.48	
15826.00	88.090	87.570	7136.02	8647.69	-1786.18	8476.17	648024.88	500703.15	32°22'32.290"N	103°51'13.907"W	1.47	
15921.00	87.810	85.860	7139.42	8740.60	-1780.74	8570.95	648119.65	500708.59	32°22'32.340"N	103°51'12.801"W	1.82	
16016.00	88.430	87.120	7142.54	8833.44	-1774.92	8665.72	648214.41	500714.40	32°22'32.393"N	103°51'11.696"W	1.48	
16111.00	89.320	89.120	7144.40	8926.85	-1771.81	8760.65	648309.33	500717.52	32°22'32.420"N	103°51'10.589"W	2.30	
16206.00	89.780	93.270	7145.15	9021.04	-1773.79	8855.60	648404.28	500715.54	32°22'32.396"N	103°51'09.482"W	4.40	
16302.00	89.380	91.990	7145.85	9116.52	-1778.19	8951.50	648500.16	500711.13	32°22'32.348"N	103°51'08.364"W	1.40	
16397.00	88.830	87.950	7147.34	9210.42	-1778.15	9046.47	648595.13	500711.18	32°22'32.345"N	103°51'07.257"W	4.29	
16492.00	88.890	89.420	7149.23	9303.99	-1775.97	9141.42	648690.07	500713.36	32°22'32.362"N	103°51'06.150"W	1.55	
16587.00	89.450	91.800	7150.60	9398.06	-1776.98	9236.40	648785.04	500712.35	32°22'32.348"N	103°51'05.042"W	2.57	
16682.00	89.410	90.080	7151.55	9492.21	-1778.54	9331.38	648880.02	500710.79	32°22'32.328"N	103°51'03.935"W	1.81	
16777.00	89.910	88.540	7152.11	9585.96	-1777.39	9426.36	648975.00	500711.93	32°22'32.335"N	103°51'02.827"W	1.70	
16872.00	89.380	88.630	7152.70	9679.52	-1775.05	9521.33	649069.96	500714.28	32°22'32.354"N	103°51'01.720"W	0.57	
16967.00	89.260	90.180	7153.83	9773.30	-1774.06	9616.32	649164.94	500715.27	32°22'32.360"N	103°51'00.612"W	1.64	
17061.00	88.120	87.050	7155.98	9865.85	-1771.79	9710.25	649258.87	500717.54	32°22'32.378"N	103°50'59.517"W	3.54	
17155.00	88.150	83.480	7159.04	9957.26	-1764.03	9803.87	649352.47	500725.29	32°22'32.450"N	103°50'58.425"W	3.80	
17250.00	90.370	83.240	7160.26	10048.92	-1753.05	9898.22	649446.82	500736.27	32°22'32.555"N	103°50'57.324"W	2.35	
17344.00	89.970	82.140	7159.99	10139.34	-1741.09	9991.45	649540.04	500748.23	32°22'32.669"N	103°50'56.237"W	1.25	
17438.00	90.280	82.230	7159.78	10229.52	-1728.31	10084.58	649633.16	500761.01	32°22'32.791"N	103°50'55.150"W	0.34	
17532.00	89.320	83.600	7160.11	10320.03	-1716.72	10177.85	649726.44	500772.61	32°22'32.902"N	103°50'54.062"W	1.78	
17626.00	89.480	85.630	7161.09	10411.25	-1707.89	10271.43	649820.00	500781.43	32°22'32.985"N	103°50'52.970"W	2.17	
17721.00	88.270	88.050	7162.96	10504.24	-1702.66	10366.26	649914.83	500786.66	32°22'33.033"N	103°50'51.865"W	2.85	
17815.00	89.690	93.620	7164.63	10597.33	-1704.03	10460.19	650008.76	500785.29	32°22'33.015"N	103°50'50.769"W	6.11	
17910.00	89.880	95.200	7164.99	10692.07	-1711.33	10554.91	650103.46	500777.99	32°22'32.938"N	103°50'49.665"W	1.68	
18005.00	89.690	92.140	7165.35	10786.71	-1717.41	10649.70	650198.25	500771.91	32°22'32.874"N	103°50'48.560"W	3.23	
18099.00	89.970	89.240	7165.63	10879.82	-1718.55	10743.68	650292.23	500770.78	32°22'32.858"N	103°50'47.465"W	3.10	
18193.00	90.520	91.060	7165.22	10972.80	-1718.79	10837.68	650386.21	500770.53	32°22'32.852"N	103°50'46.369"W	2.02	
18288.00	89.970	94.230	7164.82	11067.28	-1723.18	10932.56	650481.09	500766.15	32°22'32.804"N	103°50'45.263"W	3.39	
18383.00	89.880	91.310	7164.94	11161.78	-1727.77	11027.44	650575.96	500761.56	32°22'32.754"N	103°50'44.157"W	3.08	
18477.00	89.880	89.960	7165.14	11254.88	-1728.81	11121.44	650669.95	500760.51	32°22'32.740"N	103°50'43.061"W	1.44	
18571.00	89.970	89.540	7165.26	11347.77	-1728.40	11215.43	650763.94	500760.92	32°22'32.740"N	103°50'41.965"W	0.46	
18666.00	89.940	90.130	7165.34	11441.67	-1728.12	11310.43	650858.93	500761.20	32°22'32.738"N	103°50'40.857"W	0.62	
18760.00	89.780	93.600	7165.57	11535.01	-1731.18	11404.37	650952.86	500758.14	32°22'32.703"N	103°50'39.762"W	3.70	
18854.00	89.320	91.880	7166.30	11628.52	-1735.68	11498.25	651046.74	500753.65	32°22'32.655"N	103°50'38.668"W	1.89	
18949.00	89.910	94.000	7166.94	11723.05	-1740.55	11593.12	651141.60	500748.77	32°22'32.602"N	103°50'37.562"W	2.32	
18967.00	89.910	93.660	7166.97	11740.99	-1741.75	11611.08	651159.56	500747.57	32°22'32.590"N	103°50'37.352"W	1.89	
19043.00	89.910	93.660	7167.09	11816.71	-1746.60	11686.93	651235.40	500742.72	32°22'32.538"N	103°50'36.468"W	0.00	Proj. to bit



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU DII No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No.135H PBHL		7181.00	-1758.02	11668.42	651216.90	500731.30	32°22'32.426"N	103°50'36.685"W	point

WELLPATH COMPOSITION - Ref Wellbore: No. 135H AWB - Ref Wellpath: No. 135H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	5733.40	Generic gyro - northseeking (Standard)	Gyrodata Gyros <100 - 5733.4>	No. 135H AWB
5733.40	18967.00	NaviTrak (Standard)	BHI Navitrak <5804-18967>	No. 135H AWB
18967.00	19043.00	Blind Drilling (std)	Projection to bit	No. 135H AWB



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

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	0.999931	Report Generated	7/14/2014 at 10:14:41 AM
Convergence at slot	0.24° East	Database/Source file	WA_Midland/No._135H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-65.90	529.26	639549.30	502489.20	32°22'50.330"N	103°52'52.648"W
Facility Reference Pt			639020.08	502555.10	32°22'51.004"N	103°52'58.816"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.39H SHL (RT) to Facility Vertical Datum	3167.00ft
Horizontal Reference Pt	Slot	Rig on No.39H SHL (RT) to Mean Sea Level	3167.00ft
Vertical Reference Pt	Rig on No.39H SHL (RT)	Rig on No.39H SHL (RT) to Mud Line at Slot (JRU D11 No.135H)	3167.00ft
MD Reference Pt	Rig on No.39H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	98.57°



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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	151.450	0.00	0.00	0.00	0.00	639549.30	502489.20	32°22'50.330"N	103°52'52.648"W	0.00	
100.00	0.890	151.450	100.00	0.47	-0.68	0.37	639549.67	502488.52	32°22'50.323"N	103°52'52.644"W	0.89	
200.00	0.910	153.080	199.98	1.40	-2.07	1.10	639550.40	502487.13	32°22'50.309"N	103°52'52.635"W	0.03	
300.00	0.900	153.110	299.97	2.31	-3.48	1.82	639551.12	502485.72	32°22'50.295"N	103°52'52.627"W	0.01	
400.00	0.560	195.210	399.96	2.71	-4.65	2.04	639551.34	502484.55	32°22'50.284"N	103°52'52.625"W	0.61	
500.00	0.470	163.270	499.96	2.83	-5.52	2.03	639551.33	502483.68	32°22'50.275"N	103°52'52.625"W	0.30	
600.00	0.320	176.440	599.96	3.07	-6.19	2.17	639551.47	502483.01	32°22'50.269"N	103°52'52.623"W	0.17	
700.00	0.330	141.050	699.96	3.34	-6.69	2.37	639551.67	502482.51	32°22'50.264"N	103°52'52.621"W	0.20	
800.00	0.290	149.530	799.95	3.71	-7.13	2.68	639551.98	502482.07	32°22'50.259"N	103°52'52.617"W	0.06	
900.00	0.120	155.200	899.95	3.93	-7.45	2.85	639552.15	502481.75	32°22'50.256"N	103°52'52.615"W	0.17	
1000.00	0.180	136.590	999.95	4.11	-7.66	3.00	639552.30	502481.54	32°22'50.254"N	103°52'52.614"W	0.08	
1100.00	0.330	160.690	1099.95	4.37	-8.04	3.20	639552.50	502481.16	32°22'50.250"N	103°52'52.611"W	0.18	
1200.00	0.430	156.070	1199.95	4.70	-8.66	3.45	639552.75	502480.54	32°22'50.244"N	103°52'52.608"W	0.10	
1300.00	0.070	220.240	1299.95	4.87	-9.05	3.56	639552.86	502480.15	32°22'50.240"N	103°52'52.607"W	0.40	
1400.00	0.160	273.820	1399.95	4.70	-9.08	3.39	639552.69	502480.12	32°22'50.240"N	103°52'52.609"W	0.13	
1500.00	0.080	344.610	1499.95	4.53	-9.01	3.23	639552.53	502480.19	32°22'50.241"N	103°52'52.611"W	0.15	
1600.00	0.710	187.830	1599.95	4.51	-9.55	3.12	639552.42	502479.65	32°22'50.235"N	103°52'52.612"W	0.78	
1700.00	2.920	174.340	1699.89	5.15	-12.70	3.29	639552.59	502476.50	32°22'50.204"N	103°52'52.610"W	2.24	
1800.00	3.640	170.880	1799.73	6.74	-18.37	4.05	639553.35	502470.83	32°22'50.148"N	103°52'52.602"W	0.75	
1900.00	3.860	173.790	1899.51	8.56	-24.85	4.91	639554.21	502464.35	32°22'50.084"N	103°52'52.592"W	0.29	
2000.00	2.680	171.410	1999.35	10.11	-30.51	5.63	639554.93	502458.69	32°22'50.028"N	103°52'52.584"W	1.19	
2100.00	2.380	169.500	2099.25	11.48	-34.86	6.35	639555.65	502454.34	32°22'49.985"N	103°52'52.576"W	0.31	
2200.00	2.430	169.480	2199.16	12.85	-38.99	7.12	639556.42	502450.21	32°22'49.944"N	103°52'52.567"W	0.05	
2300.00	2.190	175.100	2299.08	13.99	-42.98	7.67	639556.97	502446.23	32°22'49.904"N	103°52'52.561"W	0.33	
2400.00	2.310	172.830	2399.00	14.98	-46.88	8.08	639557.38	502442.32	32°22'49.866"N	103°52'52.556"W	0.15	
2500.00	2.680	168.190	2498.91	16.34	-51.17	8.81	639558.11	502438.04	32°22'49.823"N	103°52'52.548"W	0.42	
2600.00	3.340	170.400	2598.77	18.06	-56.33	9.78	639559.08	502432.88	32°22'49.772"N	103°52'52.537"W	0.67	
2700.00	3.720	171.820	2698.58	19.90	-62.41	10.73	639560.03	502426.79	32°22'49.712"N	103°52'52.526"W	0.39	
2800.00	4.260	171.030	2798.34	21.96	-69.29	11.77	639561.07	502419.91	32°22'49.644"N	103°52'52.514"W	0.54	
2895.40	2.870	171.540	2893.55	23.73	-75.15	12.67	639561.97	502414.05	32°22'49.586"N	103°52'52.504"W	1.46	
2990.00	2.590	169.390	2988.04	25.12	-79.60	13.41	639562.71	502409.61	32°22'49.542"N	103°52'52.496"W	0.32	
3084.60	2.980	167.420	3082.53	26.71	-84.10	14.34	639563.64	502405.11	32°22'49.497"N	103°52'52.485"W	0.42	
3179.20	3.960	166.160	3176.96	28.84	-89.67	15.66	639564.96	502399.54	32°22'49.442"N	103°52'52.470"W	1.04	
3273.80	4.030	165.390	3271.33	31.40	-96.06	17.28	639566.58	502393.15	32°22'49.379"N	103°52'52.451"W	0.09	
3368.40	2.070	181.450	3365.79	32.92	-100.98	18.07	639567.37	502388.22	32°22'49.330"N	103°52'52.442"W	2.24	
3463.00	1.800	189.370	3460.34	33.11	-104.16	17.79	639567.09	502385.05	32°22'49.299"N	103°52'52.446"W	0.40	
3557.60	3.170	178.280	3554.85	33.55	-108.24	17.63	639566.92	502380.97	32°22'49.258"N	103°52'52.448"W	1.53	
3652.20	3.570	181.340	3649.28	34.39	-113.80	17.64	639566.93	502375.41	32°22'49.203"N	103°52'52.448"W	0.46	
3746.80	3.590	176.210	3743.70	35.40	-119.70	17.76	639567.06	502369.51	32°22'49.145"N	103°52'52.447"W	0.34	
3841.40	3.520	175.390	3838.11	36.69	-125.55	18.19	639567.49	502363.66	32°22'49.087"N	103°52'52.442"W	0.09	
3936.00	3.490	173.800	3932.54	38.09	-131.30	18.74	639568.03	502357.90	32°22'49.030"N	103°52'52.436"W	0.11	
4030.60	3.460	172.620	4026.96	39.61	-137.00	19.41	639568.71	502352.21	32°22'48.974"N	103°52'52.429"W	0.08	
4125.20	3.530	171.040	4121.39	41.27	-142.71	20.23	639569.53	502346.50	32°22'48.917"N	103°52'52.419"W	0.13	
4219.80	3.510	170.510	4215.81	43.04	-148.44	21.16	639570.46	502340.77	32°22'48.860"N	103°52'52.409"W	0.04	
4314.40	3.600	172.470	4310.23	44.76	-154.24	22.03	639571.33	502334.97	32°22'48.803"N	103°52'52.399"W	0.16	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
4409.00	4.480	168.300	4404.59	46.87	-160.80	23.17	639572.47	502328.41	32°22'48.738"N	103°52'52.386"W	0.98	
4503.60	4.410	169.390	4498.91	49.34	-167.99	24.59	639573.89	502321.22	32°22'48.667"N	103°52'52.370"W	0.12	
4598.20	4.350	168.250	4593.23	51.78	-175.08	25.99	639575.29	502314.13	32°22'48.596"N	103°52'52.354"W	0.11	
4692.80	4.450	168.960	4687.55	54.26	-182.20	27.42	639576.72	502307.02	32°22'48.526"N	103°52'52.337"W	0.12	
4787.40	4.380	168.580	4781.87	56.73	-189.34	28.84	639578.14	502299.87	32°22'48.455"N	103°52'52.321"W	0.08	
4882.00	4.430	169.050	4876.19	59.18	-196.47	30.25	639579.55	502292.75	32°22'48.385"N	103°52'52.305"W	0.07	
4976.60	4.460	168.190	4970.51	61.68	-203.65	31.70	639580.99	502285.56	32°22'48.313"N	103°52'52.289"W	0.08	
5071.20	4.380	166.670	5064.83	64.31	-210.77	33.28	639582.58	502278.45	32°22'48.243"N	103°52'52.271"W	0.15	
5165.80	4.220	166.920	5159.16	66.94	-217.68	34.90	639584.20	502271.54	32°22'48.175"N	103°52'52.252"W	0.17	
5260.40	3.430	164.170	5253.55	69.40	-223.79	36.46	639585.76	502265.43	32°22'48.114"N	103°52'52.234"W	0.86	
5355.00	3.450	162.590	5347.98	71.81	-229.23	38.09	639587.38	502259.99	32°22'48.060"N	103°52'52.215"W	0.10	
5449.60	3.520	162.430	5442.40	74.34	-234.71	39.81	639589.11	502254.51	32°22'48.006"N	103°52'52.196"W	0.07	
5544.20	3.520	161.080	5536.82	76.96	-240.23	41.63	639590.93	502248.99	32°22'47.951"N	103°52'52.175"W	0.09	
5638.80	3.480	160.430	5631.25	79.65	-245.68	43.54	639592.83	502243.54	32°22'47.897"N	103°52'52.153"W	0.06	
5733.40	3.490	160.690	5725.67	82.35	-251.10	45.45	639594.75	502238.12	32°22'47.843"N	103°52'52.131"W	0.02	Tie to Gyrol
5804.00	3.400	160.250	5796.15	84.35	-255.10	46.87	639596.16	502234.12	32°22'47.804"N	103°52'52.114"W	0.13	
5810.00	3.480	160.570	5802.13	84.52	-255.44	46.99	639596.28	502233.78	32°22'47.800"N	103°52'52.113"W	1.37	
5835.00	3.370	160.430	5827.09	85.22	-256.85	47.49	639596.78	502232.37	32°22'47.786"N	103°52'52.107"W	0.44	
5866.00	4.380	168.150	5858.02	86.07	-258.86	48.03	639597.33	502230.35	32°22'47.766"N	103°52'52.101"W	3.66	
5898.00	7.470	170.200	5889.84	87.15	-262.11	48.64	639597.94	502227.11	32°22'47.734"N	103°52'52.094"W	9.68	
5929.00	10.820	172.090	5920.45	88.61	-266.98	49.38	639598.68	502222.24	32°22'47.686"N	103°52'52.086"W	10.85	
5961.00	13.500	173.050	5951.73	90.46	-273.66	50.25	639599.55	502215.56	32°22'47.620"N	103°52'52.076"W	8.40	
5992.00	14.750	172.900	5981.79	92.49	-281.17	51.17	639600.47	502208.05	32°22'47.546"N	103°52'52.065"W	4.03	
6024.00	14.910	172.440	6012.72	94.74	-289.30	52.22	639601.52	502199.92	32°22'47.465"N	103°52'52.054"W	0.62	
6055.00	16.800	170.050	6042.54	97.27	-297.66	53.52	639602.82	502191.56	32°22'47.382"N	103°52'52.039"W	16.45	
6087.00	18.410	174.000	6073.04	100.01	-307.24	54.85	639604.14	502181.98	32°22'47.287"N	103°52'52.024"W	6.26	
6118.00	19.450	169.390	6102.37	102.94	-317.19	56.31	639605.60	502172.04	32°22'47.189"N	103°52'52.007"W	5.87	
6150.00	20.030	169.530	6132.49	106.47	-327.81	58.29	639607.58	502161.41	32°22'47.084"N	103°52'51.985"W	1.82	
6181.00	20.400	168.880	6161.58	110.03	-338.33	60.29	639609.59	502150.89	32°22'46.980"N	103°52'51.962"W	1.40	
6213.00	21.950	169.590	6191.42	113.85	-349.69	62.45	639611.74	502139.54	32°22'46.867"N	103°52'51.937"W	4.91	
6244.00	23.920	170.420	6219.96	117.69	-361.59	64.54	639613.84	502127.64	32°22'46.749"N	103°52'51.913"W	6.44	
6276.00	25.890	170.160	6248.99	121.92	-374.87	66.82	639616.11	502114.36	32°22'46.618"N	103°52'51.888"W	6.17	
6308.00	28.480	170.750	6277.45	126.46	-389.28	69.24	639618.53	502099.94	32°22'46.475"N	103°52'51.860"W	8.14	
6339.00	30.750	170.240	6304.40	131.21	-404.39	71.77	639621.06	502084.84	32°22'46.325"N	103°52'51.831"W	7.37	
6371.00	33.000	170.040	6331.57	136.56	-421.04	74.66	639623.96	502068.19	32°22'46.161"N	103°52'51.798"W	7.04	
6402.00	34.810	169.690	6357.30	142.10	-438.06	77.71	639627.00	502051.17	32°22'45.992"N	103°52'51.764"W	5.87	
6434.00	35.080	169.670	6383.53	148.04	-456.09	80.99	639630.28	502033.14	32°22'45.813"N	103°52'51.726"W	0.84	
6465.00	35.690	169.150	6408.80	153.93	-473.74	84.29	639633.58	502015.50	32°22'45.639"N	103°52'51.689"W	2.19	
6497.00	37.020	168.040	6434.57	160.41	-492.33	88.04	639637.34	501996.90	32°22'45.455"N	103°52'51.646"W	4.64	
6528.00	38.790	166.620	6459.03	167.31	-510.91	92.22	639641.52	501978.33	32°22'45.271"N	103°52'51.598"W	6.37	
6560.00	40.590	166.230	6483.66	175.02	-530.77	97.02	639646.32	501958.46	32°22'45.074"N	103°52'51.543"W	5.68	
6591.00	42.540	166.160	6506.85	182.84	-550.75	101.93	639651.22	501938.49	32°22'44.876"N	103°52'51.487"W	6.29	
6623.00	44.620	165.980	6530.03	191.29	-572.16	107.24	639656.53	501917.08	32°22'44.664"N	103°52'51.426"W	6.51	
6654.00	46.900	166.280	6551.66	199.76	-593.72	112.56	639661.86	501895.53	32°22'44.450"N	103°52'51.365"W	7.39	
6686.00	49.180	166.620	6573.05	208.72	-616.85	118.14	639667.43	501872.40	32°22'44.221"N	103°52'51.301"W	7.17	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
6718.00	51.480	166.780	6593.48	217.89	-640.82	123.80	639673.09	501848.43	32°22'43.984"N	103°52'51.236"W	7.20	
6749.00	53.570	167.650	6612.34	226.85	-664.81	129.24	639678.53	501824.44	32°22'43.746"N	103°52'51.174"W	7.10	
6781.00	55.150	166.940	6630.98	236.28	-690.18	134.96	639684.26	501799.07	32°22'43.495"N	103°52'51.109"W	5.26	
6813.00	57.030	167.230	6648.83	246.01	-716.06	140.90	639690.19	501773.19	32°22'43.239"N	103°52'51.041"W	5.92	
6844.00	58.870	167.650	6665.28	255.48	-741.71	146.61	639695.90	501747.55	32°22'42.985"N	103°52'50.975"W	6.05	
6876.00	60.960	165.670	6681.32	265.81	-768.64	153.01	639702.29	501720.61	32°22'42.718"N	103°52'50.902"W	8.44	
6907.00	63.130	167.280	6695.86	276.11	-795.27	159.40	639708.69	501693.99	32°22'42.454"N	103°52'50.829"W	8.37	
6939.00	64.940	167.080	6709.87	286.60	-823.32	165.79	639715.08	501665.94	32°22'42.176"N	103°52'50.756"W	5.68	
6970.00	66.650	167.140	6722.58	296.94	-850.88	172.10	639721.38	501638.38	32°22'41.903"N	103°52'50.684"W	5.52	
7002.00	68.570	166.610	6734.76	307.88	-879.69	178.81	639728.10	501609.57	32°22'41.618"N	103°52'50.607"W	6.19	
7033.00	69.330	166.530	6745.90	318.72	-907.83	185.53	639734.82	501581.43	32°22'41.339"N	103°52'50.530"W	2.46	
7065.00	70.840	167.170	6756.80	329.85	-937.13	192.38	639741.66	501552.14	32°22'41.049"N	103°52'50.451"W	5.08	
7097.00	71.420	167.300	6767.15	340.86	-966.66	199.07	639748.35	501522.61	32°22'40.756"N	103°52'50.375"W	1.85	
7128.00	71.860	166.610	6776.91	351.70	-995.32	205.71	639755.00	501493.95	32°22'40.473"N	103°52'50.299"W	2.55	
7160.00	71.880	166.840	6786.87	363.02	-1024.92	212.69	639761.98	501464.35	32°22'40.179"N	103°52'50.219"W	0.69	
7191.00	71.990	166.640	6796.48	373.97	-1053.61	219.45	639768.74	501435.67	32°22'39.895"N	103°52'50.141"W	0.71	
7212.00	72.260	166.340	6802.93	381.49	-1073.04	224.12	639773.41	501416.24	32°22'39.703"N	103°52'50.088"W	1.87	
7246.00	72.290	166.230	6813.28	393.77	-1104.50	231.80	639781.08	501384.78	32°22'39.391"N	103°52'50.000"W	0.32	
7278.00	72.810	166.020	6822.88	405.42	-1134.14	239.12	639788.40	501355.14	32°22'39.098"N	103°52'49.916"W	1.74	
7310.00	72.190	163.550	6832.50	417.73	-1163.58	247.13	639796.41	501325.70	32°22'38.806"N	103°52'49.824"W	7.61	
7341.00	70.880	159.750	6842.32	431.03	-1191.49	256.38	639805.66	501297.80	32°22'38.529"N	103°52'49.718"W	12.37	
7373.00	69.740	156.480	6853.11	446.30	-1219.44	267.61	639816.89	501269.84	32°22'38.252"N	103°52'49.588"W	10.26	
7405.00	69.050	153.870	6864.37	462.78	-1246.62	280.18	639829.46	501242.66	32°22'37.983"N	103°52'49.443"W	7.93	
7436.00	68.680	152.280	6875.55	479.56	-1272.40	293.27	639842.55	501216.89	32°22'37.727"N	103°52'49.291"W	4.93	
7468.00	69.360	150.230	6887.01	497.68	-1298.60	307.64	639856.92	501190.69	32°22'37.467"N	103°52'49.125"W	6.35	
7500.00	69.170	148.230	6898.34	516.65	-1324.31	322.95	639872.23	501164.98	32°22'37.212"N	103°52'48.948"W	5.88	
7532.00	69.960	145.980	6909.51	536.50	-1349.49	339.23	639888.51	501139.81	32°22'36.962"N	103°52'48.759"W	7.04	
7563.00	70.370	143.510	6920.03	556.69	-1373.30	356.07	639905.34	501116.00	32°22'36.726"N	103°52'48.564"W	7.61	
7595.00	70.730	141.980	6930.69	578.33	-1397.31	374.33	639923.60	501091.99	32°22'36.488"N	103°52'48.352"W	4.65	
7627.00	71.290	139.070	6941.10	600.83	-1420.66	393.57	639942.84	501068.64	32°22'36.256"N	103°52'48.129"W	8.77	
7658.00	71.810	137.410	6950.91	623.46	-1442.60	413.15	639962.42	501046.70	32°22'36.038"N	103°52'47.902"W	5.35	
7690.00	72.500	134.630	6960.72	647.64	-1464.51	434.30	639983.57	501024.79	32°22'35.820"N	103°52'47.657"W	8.55	
7722.00	73.380	133.020	6970.11	672.62	-1485.70	456.37	640005.64	501003.61	32°22'35.610"N	103°52'47.400"W	5.54	
7753.00	73.820	130.890	6978.86	697.45	-1505.58	478.49	640027.75	500983.73	32°22'35.412"N	103°52'47.143"W	6.74	
7785.00	74.470	128.770	6987.61	723.76	-1525.29	502.12	640051.39	500964.02	32°22'35.216"N	103°52'46.869"W	6.69	
7817.00	74.940	126.870	6996.05	750.69	-1544.22	526.51	640075.77	500945.09	32°22'35.028"N	103°52'46.585"W	5.91	
7848.00	75.880	125.310	7003.86	777.30	-1561.89	550.75	640100.01	500927.42	32°22'34.852"N	103°52'46.304"W	5.74	
7880.00	76.870	123.670	7011.40	805.27	-1579.49	576.38	640125.64	500909.82	32°22'34.677"N	103°52'46.006"W	5.86	
7912.00	78.160	121.070	7018.31	833.85	-1596.22	602.77	640152.02	500893.09	32°22'34.510"N	103°52'45.699"W	8.90	
7943.00	78.930	118.240	7024.47	862.20	-1611.25	629.17	640178.42	500878.07	32°22'34.360"N	103°52'45.392"W	9.29	
7975.00	79.880	116.860	7030.36	891.94	-1625.80	657.05	640206.31	500863.52	32°22'34.215"N	103°52'45.067"W	5.18	
8007.00	81.380	115.110	7035.57	922.06	-1639.63	685.43	640234.69	500849.69	32°22'34.077"N	103°52'44.737"W	7.15	
8039.00	81.950	112.780	7040.21	952.59	-1652.48	714.37	640263.62	500836.84	32°22'33.949"N	103°52'44.400"W	7.42	
8070.00	82.460	111.150	7044.41	982.47	-1663.96	742.85	640292.10	500825.35	32°22'33.834"N	103°52'44.069"W	5.46	
8102.00	82.530	110.110	7048.59	1013.49	-1675.14	772.54	640321.79	500814.18	32°22'33.722"N	103°52'43.723"W	3.23	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
8133.00	82.280	110.070	7052.69	1043.60	-1685.70	801.40	640350.65	500803.62	32°22'33.616"N	103°52'43.387"W	0.82	
8165.00	82.930	107.700	7056.81	1074.82	-1695.97	831.43	640380.67	500793.35	32°22'33.513"N	103°52'43.038"W	7.62	
8197.00	83.530	105.640	7060.58	1106.28	-1705.08	861.87	640411.10	500784.24	32°22'33.422"N	103°52'42.683"W	6.66	
8228.00	84.240	103.300	7063.88	1136.93	-1712.78	891.71	640440.95	500776.54	32°22'33.344"N	103°52'42.336"W	7.85	
8260.00	84.730	100.730	7066.96	1168.72	-1719.41	922.86	640472.10	500769.91	32°22'33.277"N	103°52'41.973"W	8.14	
8292.00	85.810	99.250	7069.60	1200.60	-1724.94	954.27	640503.50	500764.38	32°22'33.221"N	103°52'41.607"W	5.71	
8323.00	86.150	99.840	7071.77	1231.52	-1730.07	984.76	640533.99	500759.25	32°22'33.169"N	103°52'41.251"W	2.19	
8355.00	85.350	98.830	7074.14	1263.43	-1735.25	1016.25	640565.48	500754.08	32°22'33.117"N	103°52'40.885"W	4.02	
8387.00	86.480	100.040	7076.42	1295.35	-1740.48	1047.74	640596.96	500748.84	32°22'33.064"N	103°52'40.518"W	5.17	
8418.00	86.650	98.400	7078.28	1326.29	-1745.44	1078.28	640627.50	500743.89	32°22'33.013"N	103°52'40.162"W	5.31	
8450.00	88.950	98.050	7079.51	1358.26	-1750.01	1109.93	640659.15	500739.31	32°22'32.967"N	103°52'39.793"W	7.27	
8482.00	90.520	95.500	7079.66	1390.24	-1753.79	1141.70	640690.92	500735.54	32°22'32.928"N	103°52'39.423"W	9.36	
8513.00	90.950	92.700	7079.26	1421.14	-1756.00	1172.61	640721.83	500733.32	32°22'32.905"N	103°52'39.062"W	9.14	
8545.00	90.220	92.450	7078.93	1452.96	-1757.44	1204.58	640753.79	500731.88	32°22'32.889"N	103°52'38.690"W	2.41	
8576.00	90.370	92.040	7078.77	1483.78	-1758.65	1235.55	640784.77	500730.67	32°22'32.876"N	103°52'38.329"W	1.41	
8640.00	90.680	92.720	7078.18	1547.40	-1761.31	1299.50	640848.70	500728.01	32°22'32.847"N	103°52'37.583"W	1.17	
8734.00	90.460	91.970	7077.25	1640.84	-1765.16	1393.41	640942.61	500724.17	32°22'32.805"N	103°52'36.488"W	0.83	
8827.00	87.310	89.680	7079.06	1732.96	-1766.50	1486.37	641035.56	500722.83	32°22'32.788"N	103°52'35.405"W	4.19	
8921.00	86.830	90.010	7083.86	1825.75	-1766.24	1580.24	641129.43	500723.08	32°22'32.786"N	103°52'34.310"W	0.62	
9015.00	88.000	89.180	7088.10	1918.50	-1765.58	1674.14	641223.32	500723.75	32°22'32.789"N	103°52'33.215"W	1.53	
9108.00	88.360	89.730	7091.06	2010.28	-1764.69	1767.09	641316.27	500724.63	32°22'32.794"N	103°52'32.131"W	0.71	
9203.00	88.340	89.750	7093.79	2104.12	-1764.26	1862.05	641411.22	500725.06	32°22'32.794"N	103°52'31.024"W	0.03	
9297.00	86.820	87.940	7097.76	2196.68	-1762.37	1955.94	641505.10	500726.95	32°22'32.809"N	103°52'29.929"W	2.51	
9392.00	89.110	90.230	7101.14	2290.31	-1760.86	2050.86	641600.01	500728.47	32°22'32.820"N	103°52'28.823"W	3.41	
9486.00	90.430	94.370	7101.51	2383.72	-1764.63	2144.76	641693.91	500724.70	32°22'32.778"N	103°52'27.728"W	4.62	
9582.00	90.280	93.420	7100.92	2479.40	-1771.15	2240.53	641789.67	500718.18	32°22'32.710"N	103°52'26.612"W	1.00	
9677.00	90.340	90.160	7100.40	2573.72	-1774.12	2335.47	641884.61	500715.21	32°22'32.676"N	103°52'25.505"W	3.43	
9772.00	90.280	90.240	7099.89	2667.71	-1774.45	2430.47	641979.60	500714.88	32°22'32.669"N	103°52'24.397"W	0.11	
9867.00	90.310	88.930	7099.40	2761.54	-1773.76	2525.46	642074.59	500715.56	32°22'32.672"N	103°52'23.289"W	1.38	
9962.00	90.340	88.480	7098.86	2855.13	-1771.61	2620.44	642169.55	500717.71	32°22'32.689"N	103°52'22.182"W	0.47	
10057.00	90.310	88.720	7098.32	2948.70	-1769.29	2715.41	642264.52	500720.03	32°22'32.708"N	103°52'21.075"W	0.25	
10152.00	90.400	88.150	7097.73	3042.21	-1766.70	2810.37	642359.47	500722.63	32°22'32.730"N	103°52'19.967"W	0.61	
10247.00	90.310	88.900	7097.15	3135.76	-1764.25	2905.34	642454.43	500725.07	32°22'32.750"N	103°52'18.860"W	0.80	
10341.00	88.950	87.500	7097.75	3228.22	-1761.30	2999.28	642548.37	500728.02	32°22'32.775"N	103°52'17.764"W	2.08	
10436.00	89.690	88.550	7098.88	3321.60	-1758.03	3094.22	642643.30	500731.30	32°22'32.803"N	103°52'16.657"W	1.35	
10531.00	89.880	93.500	7099.24	3415.75	-1759.73	3189.17	642738.25	500729.60	32°22'32.782"N	103°52'15.550"W	5.21	
10626.00	89.820	93.670	7099.49	3510.39	-1765.67	3283.99	642833.05	500723.66	32°22'32.720"N	103°52'14.445"W	0.19	
10721.00	90.250	96.120	7099.43	3605.19	-1773.77	3378.63	642927.69	500715.55	32°22'32.635"N	103°52'13.342"W	2.62	
10814.00	89.720	95.410	7099.45	3698.08	-1783.11	3471.16	643020.22	500706.21	32°22'32.539"N	103°52'12.263"W	0.95	
10909.00	89.880	93.240	7099.78	3792.81	-1790.28	3565.88	643114.93	500699.05	32°22'32.464"N	103°52'11.159"W	2.29	
11003.00	88.740	92.030	7100.92	3886.30	-1794.60	3659.78	643208.82	500694.73	32°22'32.417"N	103°52'10.065"W	1.77	
11096.00	88.740	89.630	7102.96	3978.42	-1795.94	3752.74	643301.77	500693.38	32°22'32.400"N	103°52'08.981"W	2.58	
11191.00	89.600	88.330	7104.34	4072.08	-1794.25	3847.71	643396.74	500695.07	32°22'32.413"N	103°52'07.874"W	1.64	
11286.00	89.780	87.090	7104.85	4165.38	-1790.46	3942.63	643491.65	500698.87	32°22'32.446"N	103°52'06.767"W	1.32	
11380.00	87.870	84.310	7106.78	4256.98	-1783.41	4036.33	643585.35	500705.91	32°22'32.512"N	103°52'05.674"W	3.59	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
11475.00	89.350	85.770	7109.08	4349.32	-1775.20	4130.94	643679.95	500714.12	32°22'32.589"N	103°52'04.570"W	2.19	
11569.00	89.690	83.760	7109.87	4440.59	-1766.63	4224.54	643773.54	500722.70	32°22'32.670"N	103°52'03.478"W	2.17	
11661.00	90.090	85.680	7110.05	4529.91	-1758.16	4316.15	643865.14	500731.16	32°22'32.750"N	103°52'02.410"W	2.13	
11755.00	89.660	86.130	7110.25	4621.63	-1751.45	4409.91	643958.90	500737.87	32°22'32.812"N	103°52'01.316"W	0.66	
11847.00	90.650	87.990	7110.00	4711.77	-1746.73	4501.78	644050.76	500742.59	32°22'32.855"N	103°52'00.245"W	2.29	
11941.00	90.220	88.530	7109.29	4804.25	-1743.88	4595.73	644144.71	500745.45	32°22'32.879"N	103°51'59.149"W	0.73	
12036.00	89.820	88.750	7109.26	4897.83	-1741.62	4690.71	644239.68	500747.70	32°22'32.897"N	103°51'58.042"W	0.48	
12131.00	90.250	89.150	7109.20	4991.49	-1739.88	4785.69	644334.65	500749.44	32°22'32.910"N	103°51'56.934"W	0.62	
12227.00	88.920	88.830	7109.89	5086.15	-1738.19	4881.67	644430.63	500751.13	32°22'32.923"N	103°51'55.815"W	1.42	
12322.00	89.910	89.830	7110.86	5179.91	-1737.08	4976.66	644525.61	500752.24	32°22'32.930"N	103°51'54.707"W	1.48	
12416.00	90.550	91.300	7110.49	5272.99	-1738.00	5070.65	644619.59	500751.32	32°22'32.916"N	103°51'53.612"W	1.71	
12511.00	89.720	90.430	7110.26	5367.13	-1739.44	5165.64	644714.57	500749.88	32°22'32.898"N	103°51'52.504"W	1.27	
12606.00	90.520	91.360	7110.06	5461.28	-1740.92	5260.62	644809.55	500748.40	32°22'32.879"N	103°51'51.397"W	1.29	
12701.00	91.080	91.890	7108.74	5555.57	-1743.62	5355.57	644904.50	500745.71	32°22'32.849"N	103°51'50.290"W	0.81	
12795.00	89.780	89.580	7108.03	5648.69	-1744.82	5449.55	644998.47	500744.50	32°22'32.832"N	103°51'49.194"W	2.82	
12891.00	88.740	87.760	7109.27	5743.24	-1742.59	5545.52	645094.42	500746.73	32°22'32.850"N	103°51'48.075"W	2.18	
12984.00	90.150	88.880	7110.17	5834.75	-1739.87	5638.47	645187.37	500749.45	32°22'32.873"N	103°51'46.991"W	1.94	
13077.00	89.630	90.120	7110.35	5926.59	-1739.06	5731.46	645280.36	500750.27	32°22'32.877"N	103°51'45.907"W	1.45	
13171.00	89.080	89.170	7111.41	6019.44	-1738.47	5825.45	645374.34	500750.85	32°22'32.879"N	103°51'44.811"W	1.17	
13266.00	86.980	86.560	7114.68	6112.72	-1734.94	5920.32	645469.20	500754.38	32°22'32.910"N	103°51'43.705"W	3.52	
13359.00	89.010	86.500	7117.93	6203.62	-1729.31	6013.08	645561.96	500760.01	32°22'32.961"N	103°51'42.623"W	2.18	
13454.00	90.120	87.620	7118.65	6296.70	-1724.44	6107.95	645656.82	500764.88	32°22'33.005"N	103°51'41.516"W	1.66	
13549.00	89.600	87.770	7118.88	6389.99	-1720.62	6202.88	645751.74	500768.70	32°22'33.039"N	103°51'40.409"W	0.57	
13643.00	88.490	87.960	7120.45	6482.34	-1717.12	6296.80	645845.65	500772.20	32°22'33.070"N	103°51'39.314"W	1.20	
13739.00	88.770	87.760	7122.75	6576.65	-1713.54	6392.70	645941.55	500775.79	32°22'33.101"N	103°51'38.196"W	0.36	
13834.00	89.230	89.110	7124.40	6670.15	-1710.94	6487.65	646036.49	500778.38	32°22'33.122"N	103°51'37.088"W	1.50	
13928.00	89.170	90.400	7125.72	6763.03	-1710.54	6581.64	646130.47	500778.78	32°22'33.122"N	103°51'35.992"W	1.37	
14023.00	90.370	92.370	7126.10	6857.27	-1712.84	6676.60	646225.43	500776.49	32°22'33.095"N	103°51'34.885"W	2.43	
14118.00	90.520	93.810	7125.36	6951.83	-1717.96	6771.46	646320.28	500771.36	32°22'33.041"N	103°51'33.780"W	1.52	
14213.00	91.510	94.660	7123.68	7046.55	-1724.97	6866.18	646415.00	500764.35	32°22'32.967"N	103°51'32.675"W	1.37	
14308.00	92.060	95.040	7120.72	7141.30	-1733.00	6960.80	646509.60	500756.32	32°22'32.884"N	103°51'31.573"W	0.70	
14403.00	92.960	96.010	7116.56	7236.07	-1742.14	7055.26	646604.06	500747.19	32°22'32.789"N	103°51'30.472"W	1.39	
14499.00	91.850	95.630	7112.53	7331.88	-1751.86	7150.68	646699.48	500737.46	32°22'32.689"N	103°51'29.360"W	1.22	
14594.00	90.520	94.210	7110.56	7426.66	-1760.01	7245.31	646794.10	500729.32	32°22'32.604"N	103°51'28.257"W	2.05	
14688.00	88.640	92.600	7111.25	7520.27	-1765.59	7339.13	646887.91	500723.74	32°22'32.544"N	103°51'27.163"W	2.63	
14783.00	90.030	93.700	7112.36	7614.83	-1770.81	7433.98	646982.75	500718.52	32°22'32.489"N	103°51'26.058"W	1.87	
14878.00	88.460	91.290	7113.61	7709.28	-1774.94	7528.87	647077.64	500714.38	32°22'32.443"N	103°51'24.951"W	3.03	
14973.00	88.090	91.270	7116.47	7803.47	-1777.07	7623.80	647172.56	500712.26	32°22'32.418"N	103°51'23.845"W	0.39	
15068.00	88.920	91.500	7118.95	7897.69	-1779.36	7718.74	647267.50	500709.96	32°22'32.391"N	103°51'22.738"W	0.91	
15163.00	89.260	94.040	7120.45	7992.19	-1783.95	7813.61	647362.36	500705.37	32°22'32.342"N	103°51'21.632"W	2.70	
15258.00	87.840	91.970	7122.86	8086.70	-1788.93	7908.44	647457.18	500700.40	32°22'32.288"N	103°51'20.526"W	2.64	
15351.00	88.580	90.250	7125.76	8178.87	-1790.73	8001.37	647550.11	500698.60	32°22'32.266"N	103°51'19.443"W	2.01	
15447.00	89.910	90.310	7127.03	8273.85	-1791.20	8097.36	647646.09	500698.13	32°22'32.258"N	103°51'18.324"W	1.39	
15542.00	88.240	90.230	7128.56	8367.84	-1791.65	8192.35	647741.07	500697.68	32°22'32.249"N	103°51'17.216"W	1.76	
15637.00	88.490	89.040	7131.27	8461.65	-1791.04	8287.30	647836.02	500698.28	32°22'32.251"N	103°51'16.109"W	1.28	



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, LP	Slot	JRU DII No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

WELLPATH DATA (262 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
15732.00	88.830	88.740	7133.49	8555.27	-1789.20	8382.26	647930.97	500700.12	32°22'32.265"N	103°51'15.002"W	0.48	
15826.00	88.090	87.570	7136.02	8647.69	-1786.18	8476.17	648024.88	500703.15	32°22'32.290"N	103°51'13.907"W	1.47	
15921.00	87.810	85.860	7139.42	8740.60	-1780.74	8570.95	648119.65	500708.59	32°22'32.340"N	103°51'12.801"W	1.82	
16016.00	88.430	87.120	7142.54	8833.44	-1774.92	8665.72	648214.41	500714.40	32°22'32.393"N	103°51'11.696"W	1.48	
16111.00	89.320	89.120	7144.40	8926.85	-1771.81	8760.65	648309.33	500717.52	32°22'32.420"N	103°51'10.589"W	2.50	
16206.00	89.780	93.270	7145.15	9021.04	-1773.79	8855.60	648404.28	500715.54	32°22'32.396"N	103°51'09.482"W	4.40	
16302.00	89.380	91.990	7145.85	9116.52	-1778.19	8951.50	648500.16	500711.13	32°22'32.348"N	103°51'08.364"W	1.40	
16397.00	88.830	87.950	7147.34	9210.42	-1778.15	9046.47	648595.13	500711.18	32°22'32.345"N	103°51'07.257"W	4.29	
16492.00	88.890	89.420	7149.23	9303.99	-1775.97	9141.42	648690.07	500713.36	32°22'32.362"N	103°51'06.150"W	1.55	
16587.00	89.450	91.800	7150.60	9398.06	-1776.98	9236.40	648785.04	500712.35	32°22'32.348"N	103°51'05.042"W	2.57	
16682.00	89.410	90.080	7151.55	9492.21	-1778.54	9331.38	648880.02	500710.79	32°22'32.328"N	103°51'03.935"W	1.81	
16777.00	89.910	88.540	7152.11	9585.96	-1777.39	9426.36	648975.00	500711.93	32°22'32.335"N	103°51'02.827"W	1.70	
16872.00	89.380	88.630	7152.70	9679.52	-1775.05	9521.33	649069.96	500714.28	32°22'32.354"N	103°51'01.720"W	0.57	
16967.00	89.260	90.180	7153.83	9773.30	-1774.06	9616.32	649164.94	500715.27	32°22'32.360"N	103°51'00.612"W	1.64	
17061.00	88.120	87.050	7155.98	9865.85	-1771.79	9710.25	649258.87	500717.54	32°22'32.378"N	103°50'59.517"W	3.54	
17155.00	88.150	83.480	7159.04	9957.26	-1764.03	9803.87	649352.47	500725.29	32°22'32.450"N	103°50'58.425"W	3.80	
17250.00	90.370	83.240	7160.26	10048.92	-1753.05	9898.22	649446.82	500736.27	32°22'32.555"N	103°50'57.324"W	2.35	
17344.00	89.970	82.140	7159.99	10139.34	-1741.09	9991.45	649540.04	500748.23	32°22'32.669"N	103°50'56.237"W	1.25	
17438.00	90.280	82.230	7159.78	10229.52	-1728.31	10084.58	649633.16	500761.01	32°22'32.791"N	103°50'55.150"W	0.34	
17532.00	89.320	83.600	7160.11	10320.03	-1716.72	10177.85	649726.44	500772.61	32°22'32.902"N	103°50'54.062"W	1.78	
17626.00	89.480	85.630	7161.09	10411.25	-1707.89	10271.43	649820.00	500781.43	32°22'32.985"N	103°50'52.970"W	2.17	
17721.00	88.270	88.050	7162.96	10504.24	-1702.66	10366.26	649914.83	500786.66	32°22'33.033"N	103°50'51.865"W	2.85	
17815.00	89.690	93.620	7164.63	10597.33	-1704.03	10460.19	650008.76	500785.29	32°22'33.015"N	103°50'50.769"W	6.11	
17910.00	89.880	95.200	7164.99	10692.07	-1711.33	10554.91	650103.46	500777.99	32°22'32.938"N	103°50'49.665"W	1.68	
18005.00	89.690	92.140	7165.35	10786.71	-1717.41	10649.70	650198.25	500771.91	32°22'32.874"N	103°50'48.560"W	3.23	
18099.00	89.970	89.240	7165.63	10879.82	-1718.55	10743.68	650292.23	500770.78	32°22'32.858"N	103°50'47.465"W	3.10	
18193.00	90.520	91.060	7165.22	10972.80	-1718.79	10837.68	650386.21	500770.53	32°22'32.852"N	103°50'46.369"W	2.02	
18288.00	89.970	94.230	7164.82	11067.28	-1723.18	10932.56	650481.09	500766.15	32°22'32.804"N	103°50'45.263"W	3.39	
18383.00	89.880	91.310	7164.94	11161.78	-1727.77	11027.44	650575.96	500761.56	32°22'32.754"N	103°50'44.157"W	3.08	
18477.00	89.880	89.960	7165.14	11254.88	-1728.81	11121.44	650669.95	500760.51	32°22'32.740"N	103°50'43.061"W	1.44	
18571.00	89.970	89.540	7165.26	11347.77	-1728.40	11215.43	650763.94	500760.92	32°22'32.740"N	103°50'41.965"W	0.46	
18666.00	89.940	90.130	7165.34	11441.67	-1728.12	11310.43	650858.93	500761.20	32°22'32.738"N	103°50'40.857"W	0.62	
18760.00	89.780	93.600	7165.57	11535.01	-1731.18	11404.37	650952.86	500758.14	32°22'32.703"N	103°50'39.762"W	3.70	
18854.00	89.320	91.880	7166.30	11628.52	-1735.68	11498.25	651046.74	500753.65	32°22'32.655"N	103°50'38.668"W	1.89	
18949.00	89.910	94.000	7166.94	11723.05	-1740.55	11593.12	651141.60	500748.77	32°22'32.602"N	103°50'37.562"W	2.32	
18967.00	89.910	93.660	7166.97	11740.99	-1741.75	11611.08	651159.56	500747.57	32°22'32.590"N	103°50'37.352"W	1.89	
19043.00	89.910	93.660	7167.09	11816.71	-1746.60	11686.93	651235.40	500742.72	32°22'32.538"N	103°50'36.468"W	0.00	Proj. to bit



Actual Wellpath Report

No. 135H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	JRU D11 No.135H
Area	Eddy County, NM	Well	No.135H
Field	JRU NAD27	Wellbore	No. 135H AWB
Facility	JRU Drilling Island 1		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
No.135H PBHL		7181.00	-1758.02	11668.42	651216.90	500731.30	32°22'32.426"N	103°50'36.685"W	point

WELLPATH COMPOSITION - Ref Wellbore: No. 135H AWB - Ref Wellpath: No. 135H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	5733.40	Generic gyro - northseeking (Standard)	Gyrodata Gyros <100 - 5733.4>	No. 135H AWB
5733.40	18967.00	NaviTrak (Standard)	BHI Navitrak <5804-18967>	No. 135H AWB
18967.00	19043.00	Blind Drilling (std)	Projection to bit	No. 135H AWB