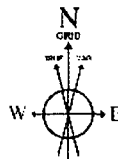
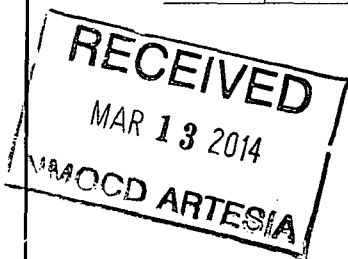
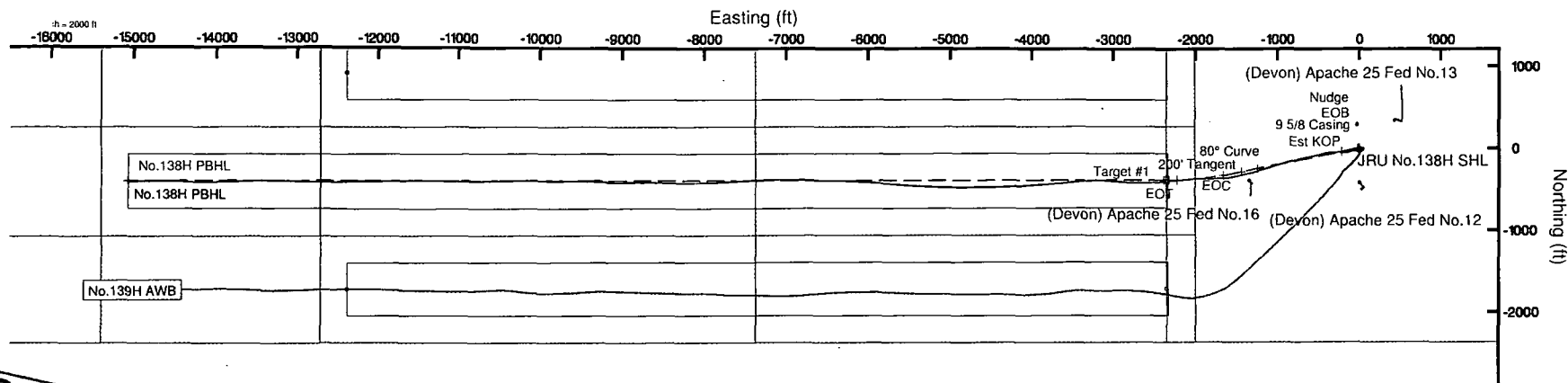




BOPCO, L.P.

Location: Eddy County, NM
Field: JRU NAD27
Facility: (JRJ) No.138 & No.139

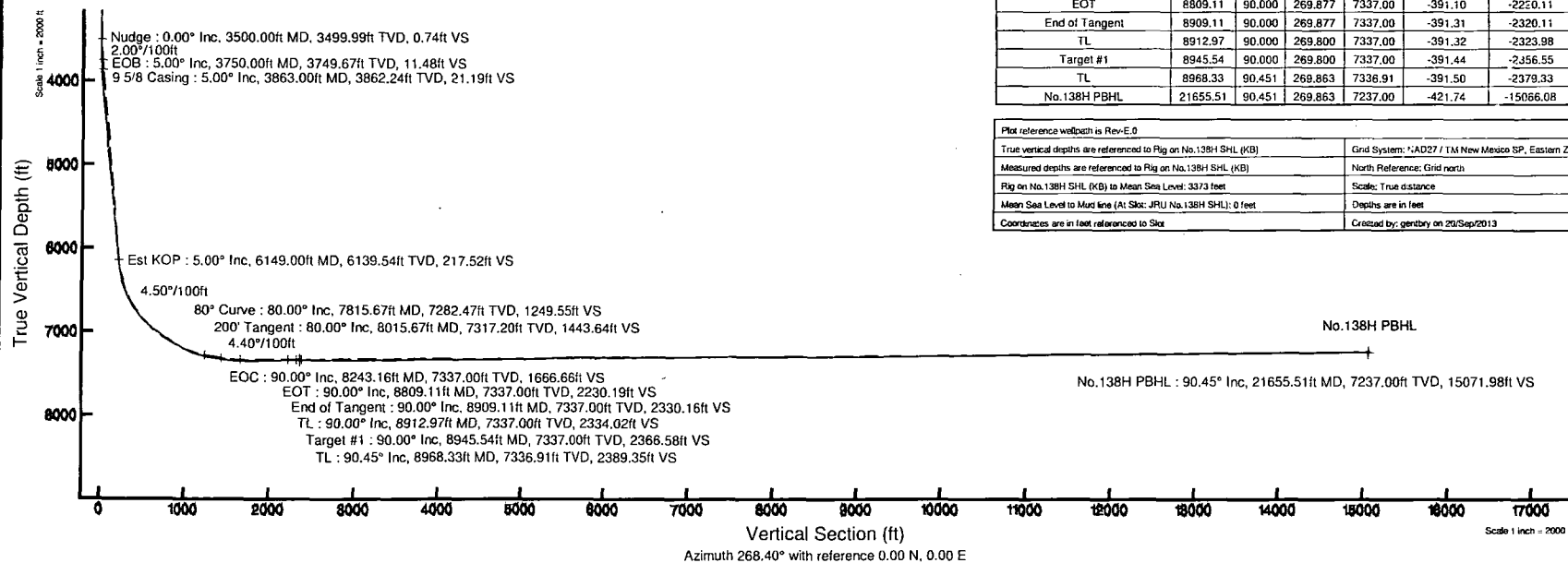
Slot: JRJ No.138H SHL
Well: JRJ No.138H
Wellbore: JRJ No.138H PWB



BGGM (1945.0 to 2015.0) Dip: 60.20° Field: 48434.7 nT
Magnetic North is 7.56 degrees East of True North (at 05/Sep/2015)
Grid North is 0.27 degrees East of True North
To correct azimuth from True to Grid subtract 0.27 degrees
To correct azimuth from Magnetic to Grid add 7.29 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.29 = 97.29

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	654.00	0.140	314.150	653.99	0.06	-0.73	0.00	0.73
End of Drop	661.00	0.000	258.600	660.99	0.07	-0.74	2.00	0.74
Nudge	3500.00	0.000	258.600	3499.99	0.07	-0.74	0.00	0.74
EOB	3750.00	5.000	258.600	3749.67	-2.08	-11.43	2.00	11.48
9 5/8 Casing	3863.00	5.000	258.600	3862.24	-4.03	-21.08	0.00	21.19
Est KOP	6149.00	5.000	258.600	6139.54	-43.41	-216.39	0.00	217.52
80° Curve	7815.67	80.000	258.600	7282.47	-250.42	-1243.03	4.50	1249.55
200' Tangent	8015.67	80.000	258.600	7317.20	-289.35	-1436.10	0.00	1443.64
EOC	8243.16	90.000	258.558	7337.00	-334.17	-1657.96	4.40	1656.66
EOT	8809.11	90.000	269.877	7337.00	-391.10	-2220.11	2.00	2230.19
End of Tangent	8909.11	90.000	269.877	7337.00	-391.31	-2320.11	0.00	2330.16
TL	8912.97	90.000	269.800	7337.00	-391.32	-2323.98	2.00	2334.02
Target #1	8945.54	90.000	269.800	7337.00	-391.44	-2356.55	0.00	2366.58
TL	8968.33	90.451	269.863	7336.91	-391.50	-2379.33	2.00	2389.35
No.138H PBHL	21655.51	90.451	269.863	7237.00	-421.74	-15066.08	0.00	15071.98

Plot reference wellpath is Rev-E.0	
True vertical depths are referenced to Rig on No.138H SHL (KB)	Grid System: NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No.138H SHL (KB)	North Reference: Grid north
Rig on No.138H SHL (KB) to Mean Sea Level: 3373 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: JRJ No.138H SHL): 0 feet	Depths are in feet
Coordinates are in feet, referenced to Slot	Created by: genbry on 20/Sep/2013



Rev-E.0

20 015 39766



Actual Wellpath Report

No.138H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	JRU No.138H SHL
Area	Eddy County, NM	Well	JRU No.138H
Field	JRU NAD27	Wellbore	No.138H AWB
Facility	(JRU) No.138 & No.139		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Gentbry
Scale	0.999936	Report Generated	12/2/2013 at 9:47:18 AM
Convergence at slot	0.27° East	Database/Source file	MidlandDB/No.138H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	953.15	1092.02	653587.39	495858.01	32°21'44.093"N	103°50'09.308"W
Facility Reference Pt			652495.44	494904.92	32°21'34.711"N	103°50'22.090"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.138H SHL (KB) to Facility Vertical Datum	3373.00ft
Horizontal Reference Pt	Slot	Rig on No.138H SHL (KB) to Mean Sea Level	3373.00ft
Vertical Reference Pt	Rig on No.138H SHL (KB)	Rig on No.138H SHL (KB) to Mud Line at Slot (JRU No.138H SHL)	3373.00ft
MD Reference Pt	Rig on No.138H SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	268.40°



Actual Wellpath Report

No.138H AWP

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	JRU No.138H SHL
Area	Eddy County, NM	Well	JRU No.138H
Field	JRU NAD27	Wellbore	No.138H AWB
Facility	(JRU) No.138 & No.139		

WELLPATH DATA (234 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	269.260	0.00	0.00	0.00	0.00	653587.39	495858.01	32°21'44.093"N	103°50'09.308"W	0.00	
84.84	0.580	269.260	84.84	0.43	-0.01	-0.43	653586.96	495858.00	32°21'44.093"N	103°50'09.313"W	0.68	
179.70	0.640	273.090	179.69	1.44	0.02	-1.44	653585.95	495858.03	32°21'44.093"N	103°50'09.325"W	0.08	
274.56	0.150	27.740	274.55	1.90	0.16	-1.91	653585.88	495858.17	32°21'44.094"N	103°50'09.330"W	0.75	
369.42	0.210	116.540	369.41	1.69	0.19	-1.70	653585.69	495858.20	32°21'44.095"N	103°50'09.328"W	0.27	
464.28	0.390	73.150	464.27	1.23	0.20	-1.23	653586.16	495858.21	32°21'44.095"N	103°50'09.322"W	0.29	
559.14	0.250	139.090	559.13	0.78	0.14	-0.79	653586.60	495858.15	32°21'44.094"N	103°50'09.317"W	0.39	
654.00	0.140	314.150	653.99	0.73	0.06	-0.73	653586.66	495858.07	32°21'44.093"N	103°50'09.316"W	0.41	
877.00	0.400	332.400	876.99	1.26	0.94	-1.29	653586.10	495858.95	32°21'44.102"N	103°50'09.323"W	0.12	
1034.00	0.400	334.100	1033.98	1.73	1.92	-1.78	653585.61	495859.93	32°21'44.112"N	103°50'09.328"W	0.01	
1192.00	0.200	3.500	1191.98	1.93	2.69	-2.01	653585.38	495860.70	32°21'44.119"N	103°50'09.331"W	0.16	
1381.00	0.100	345.900	1380.98	1.94	3.18	-2.03	653585.36	495861.19	32°21'44.124"N	103°50'09.331"W	0.06	
1571.00	0.100	105.600	1570.98	1.82	3.30	-1.91	653585.48	495861.31	32°21'44.125"N	103°50'09.330"W	0.09	
1760.00	0.200	105.700	1759.98	1.34	3.17	-1.43	653585.96	495861.18	32°21'44.124"N	103°50'09.324"W	0.05	
1949.00	0.200	139.000	1948.98	0.82	2.83	-0.90	653586.49	495860.84	32°21'44.121"N	103°50'09.318"W	0.06	
2139.00	0.400	145.900	2138.97	0.25	2.03	-0.31	653587.08	495860.04	32°21'44.113"N	103°50'09.311"W	0.11	
2329.00	0.300	124.900	2328.97	-0.50	1.19	0.47	653587.86	495859.20	32°21'44.105"N	103°50'09.302"W	0.08	
2516.00	0.300	121.900	2515.97	-1.31	0.66	1.29	653588.68	495858.67	32°21'44.099"N	103°50'09.293"W	0.01	
2704.00	0.100	151.700	2703.97	-1.79	0.25	1.78	653589.17	495858.26	32°21'44.095"N	103°50'09.287"W	0.12	
2894.00	0.200	31.600	2893.97	-2.05	0.39	-2.04	653589.43	495858.40	32°21'44.096"N	103°50'09.284"W	0.14	
3083.00	0.800	119.300	3082.96	-3.36	0.02	3.36	653590.75	495858.03	32°21'44.093"N	103°50'09.269"W	0.43	
3271.00	1.100	129.700	3270.93	-5.84	-1.77	5.89	653593.28	495856.24	32°21'44.075"N	103°50'09.239"W	0.18	
3461.00	1.500	132.500	3460.88	-9.00	-4.62	9.13	653596.52	495853.39	32°21'44.047"N	103°50'09.202"W	0.21	
3650.00	1.600	171.500	3649.82	-11.09	-8.90	11.34	653598.73	495849.11	32°21'44.004"N	103°50'09.176"W	0.55	
3846.00	4.600	246.300	3845.57	-4.13	-14.77	4.55	653591.94	495843.24	32°21'43.946"N	103°50'09.256"W	2.27	
3952.00	5.300	252.400	3951.17	4.51	-17.95	-4.01	653583.38	495840.06	32°21'43.915"N	103°50'09.356"W	0.83	
4045.00	5.500	249.800	4043.76	12.87	-20.79	-12.29	653575.10	495837.22	32°21'43.888"N	103°50'09.452"W	0.34	
4139.00	5.600	250.700	4137.32	21.50	-23.86	-20.85	653566.55	495834.15	32°21'43.858"N	103°50'09.552"W	0.14	
4234.00	5.400	258.700	4231.88	30.33	-26.27	-29.60	653557.79	495831.74	32°21'43.834"N	103°50'09.654"W	0.83	
4328.00	5.400	266.200	4325.47	39.11	-27.43	-38.35	653549.04	495830.58	32°21'43.823"N	103°50'09.756"W	0.75	
4423.00	5.700	267.000	4420.02	48.29	-27.97	-47.53	653539.87	495830.04	32°21'43.818"N	103°50'09.863"W	0.33	
4518.00	5.300	267.800	4514.58	57.39	-28.39	-56.62	653530.77	495829.62	32°21'43.814"N	103°50'09.969"W	0.43	
4612.00	5.200	268.300	4608.19	65.99	-28.68	-65.22	653522.18	495829.33	32°21'43.812"N	103°50'10.070"W	0.12	
4708.00	5.400	264.200	4703.78	74.85	-29.27	-74.06	653513.33	495828.74	32°21'43.807"N	103°50'10.173"W	0.45	
4804.00	5.200	267.900	4799.37	83.71	-29.88	-82.90	653504.49	495828.13	32°21'43.801"N	103°50'10.276"W	0.41	
4899.00	5.200	265.900	4893.98	92.31	-30.35	-91.50	653495.90	495827.66	32°21'43.797"N	103°50'10.376"W	0.19	
4995.00	5.300	261.400	4989.57	101.06	-31.32	-100.22	653487.18	495826.69	32°21'43.787"N	103°50'10.478"W	0.44	
5090.00	5.400	263.800	5084.16	109.87	-32.46	-109.00	653478.39	495825.55	32°21'43.777"N	103°50'10.580"W	0.26	
5185.00	5.700	252.800	5178.72	118.87	-34.34	-117.95	653469.44	495823.67	32°21'43.758"N	103°50'10.685"W	1.16	
5280.00	6.000	246.700	5273.22	128.03	-37.70	-127.02	653460.38	495820.31	32°21'43.726"N	103°50'10.791"W	0.73	
5375.00	6.100	239.000	5367.70	137.04	-42.26	-135.91	653451.49	495815.75	32°21'43.681"N	103°50'10.894"W	0.86	
5470.00	5.900	248.400	5462.18	146.02	-46.66	-144.77	653442.62	495811.35	32°21'43.638"N	103°50'10.998"W	1.05	
5564.00	6.100	260.300	5555.67	155.51	-49.28	-154.19	653433.21	495808.73	32°21'43.612"N	103°50'11.108"W	1.34	
5664.00	5.900	270.700	5655.12	165.90	-50.11	-164.57	653422.83	495807.90	32°21'43.604"N	103°50'11.229"W	1.10	
5754.00	5.500	271.100	5744.68	174.83	-49.97	-173.50	653413.90	495808.04	32°21'43.606"N	103°50'11.333"W	0.45	



Actual Wellpath Report

No.138H AWP

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	JRU No.138H SHL
Area	Eddy County, NM	Well	JRU No.138H
Field	JRU NAD27	Wellbore	No.138H AWB
Facility	(JRU) No.138 & No.139		

WELLPATH DATA (234 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
5848.00	5.400	270.600	5838.25	183.75	-49.84	-182.43	653404.97	495808.17	32°21'43.608"N	103°50'11.437"W	0.12	
5942.00	5.300	270.000	5931.84	192.51	-49.80	-191.20	653396.21	495808.22	32°21'43.609"N	103°50'11.539"W	0.12	
6037.00	5.500	266.500	6026.42	201.45	-50.07	-200.13	653387.28	495807.94	32°21'43.606"N	103°50'11.644"W	0.41	
6135.00	5.300	274.200	6123.99	210.65	-50.03	-209.33	653378.07	495807.99	32°21'43.607"N	103°50'11.751"W	0.77	
6166.00	6.400	279.600	6154.83	213.77	-49.64	-212.46	653374.94	495808.38	32°21'43.611"N	103°50'11.787"W	3.96	
6197.00	6.900	275.900	6185.62	217.31	-49.16	-216.02	653371.39	495808.86	32°21'43.616"N	103°50'11.829"W	2.12	
6229.00	8.700	278.800	6217.32	221.59	-48.59	-220.32	653367.08	495809.43	32°21'43.622"N	103°50'11.879"W	5.76	
6261.00	9.700	273.800	6248.91	226.66	-48.04	-225.40	653362.00	495809.97	32°21'43.628"N	103°50'11.938"W	4.00	
6292.00	10.600	277.700	6279.42	232.07	-47.48	-230.83	653356.57	495810.53	32°21'43.633"N	103°50'12.001"W	3.65	
6324.00	11.600	278.000	6310.82	238.15	-46.64	-236.94	653350.47	495811.37	32°21'43.642"N	103°50'12.073"W	3.13	
6356.00	12.700	276.000	6342.11	244.81	-45.83	-243.62	653343.78	495812.19	32°21'43.650"N	103°50'12.150"W	3.68	
6388.00	13.900	275.700	6373.25	252.11	-45.08	-250.94	653336.46	495812.94	32°21'43.658"N	103°50'12.236"W	3.76	
6420.00	15.300	273.900	6404.21	260.12	-44.41	-258.98	653328.43	495813.61	32°21'43.665"N	103°50'12.329"W	4.60	
6452.00	16.900	272.400	6434.96	268.97	-43.93	-267.84	653319.57	495814.09	32°21'43.670"N	103°50'12.433"W	5.17	
6484.00	18.300	271.200	6465.46	278.62	-43.63	-277.51	653309.90	495814.39	32°21'43.674"N	103°50'12.545"W	4.52	
6515.00	19.800	271.100	6494.76	288.73	-43.42	-287.63	653299.78	495814.59	32°21'43.676"N	103°50'12.663"W	4.84	
6545.00	21.600	268.900	6522.82	299.33	-43.43	-298.23	653289.18	495814.58	32°21'43.677"N	103°50'12.787"W	6.54	
6577.00	23.600	268.000	6552.37	311.63	-43.77	-310.52	653276.89	495814.24	32°21'43.674"N	103°50'12.930"W	6.34	
6609.00	25.300	266.600	6581.49	324.87	-44.40	-323.75	653263.66	495813.62	32°21'43.668"N	103°50'13.084"W	5.61	
6640.00	27.400	264.200	6609.27	338.60	-45.51	-337.46	653249.95	495812.50	32°21'43.658"N	103°50'13.244"W	7.59	
6671.00	29.100	264.000	6636.58	353.23	-47.02	-352.06	653235.36	495810.99	32°21'43.644"N	103°50'13.415"W	5.49	
6703.00	30.700	261.000	6664.32	369.09	-49.11	-367.86	653219.55	495808.90	32°21'43.624"N	103°50'13.599"W	6.84	
6734.00	32.600	259.800	6690.71	385.20	-51.83	-383.90	653203.51	495806.18	32°21'43.598"N	103°50'13.786"W	6.46	
6766.00	34.000	256.800	6717.46	402.49	-55.40	-401.10	653186.32	495802.62	32°21'43.563"N	103°50'13.987"W	6.75	
6798.00	35.500	255.500	6743.75	420.31	-59.77	-418.81	653168.61	495798.25	32°21'43.521"N	103°50'14.193"W	5.23	
6830.00	37.000	255.000	6769.55	438.74	-64.59	-437.10	653150.32	495793.43	32°21'43.474"N	103°50'14.407"W	4.78	
6860.00	38.000	255.700	6793.35	456.53	-69.20	-454.77	653132.65	495788.81	32°21'43.429"N	103°50'14.613"W	3.62	
6892.00	39.800	256.100	6818.26	476.15	-74.10	-474.26	653113.16	495783.92	32°21'43.381"N	103°50'14.841"W	5.68	
6923.00	41.500	256.400	6841.78	495.89	-78.90	-493.88	653093.55	495779.12	32°21'43.335"N	103°50'15.070"W	5.52	
6957.00	43.500	257.500	6866.84	518.40	-84.08	-516.25	653071.17	495773.94	32°21'43.284"N	103°50'15.331"W	6.28	
6986.00	45.400	258.600	6887.54	538.38	-88.28	-536.12	653051.31	495769.73	32°21'43.244"N	103°50'15.563"W	7.07	
7018.00	47.500	259.000	6909.59	561.25	-92.78	-558.87	653028.56	495765.23	32°21'43.200"N	103°50'15.828"W	6.62	
7081.00	51.000	258.500	6950.71	608.29	-102.10	-605.67	652981.76	495755.92	32°21'43.110"N	103°50'16.374"W	5.59	
7176.00	53.600	257.600	7008.80	682.22	-117.67	-679.20	652908.24	495740.35	32°21'42.960"N	103°50'17.232"W	2.84	
7272.00	56.100	256.100	7064.07	759.12	-135.54	-755.62	652831.82	495722.48	32°21'42.786"N	103°50'18.124"W	2.90	
7367.00	58.700	255.400	7115.25	837.20	-155.25	-833.18	652754.26	495702.77	32°21'42.595"N	103°50'19.029"W	2.81	
7461.00	60.900	254.000	7162.53	916.12	-176.69	-911.53	652675.92	495681.33	32°21'42.386"N	103°50'19.944"W	2.67	
7556.00	63.400	253.000	7206.91	997.28	-200.56	-992.06	652595.40	495657.47	32°21'42.154"N	103°50'20.884"W	2.79	
7651.00	67.800	253.000	7246.14	1080.67	-225.84	-1074.77	652512.69	495632.18	32°21'41.907"N	103°50'21.850"W	4.63	
7746.00	73.600	252.400	7277.53	1166.95	-252.50	-1160.34	652427.13	495605.52	32°21'41.647"N	103°50'22.849"W	6.13	
7839.00	78.700	254.700	7299.78	1254.20	-278.04	-1246.91	652340.56	495579.98	32°21'41.399"N	103°50'23.859"W	5.99	
7934.00	81.100	256.300	7316.44	1345.36	-301.45	-1337.45	652250.03	495556.58	32°21'41.171"N	103°50'24.916"W	3.02	
8030.00	81.200	257.400	7331.21	1438.30	-323.03	-1429.82	652157.67	495535.00	32°21'40.962"N	103°50'25.994"W	1.14	
8124.00	83.400	259.900	7343.81	1530.09	-341.36	-1521.14	652066.35	495516.67	32°21'40.785"N	103°50'27.059"W	3.52	
8219.00	87.700	261.900	7351.18	1623.97	-356.33	-1614.63	651972.86	495501.70	32°21'40.641"N	103°50'28.150"W	4.99	



Actual Wellpath Report

No.138H AWP

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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	JRU No.138H SHL
Area	Eddy County, NM	Well	JRU No.138H
Field	JRU NAD27	Wellbore	No.138H AWB
Facility	(JRU) No.138 & No.139		

WELLPATH DATA (234 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
8314.00	91.100	265.900	7352.17	1718.64	-366.42	-1709.06	651878.45	495491.62	32°21'40.545"N	103°50'29.252"W	5.53	
8407.00	91.200	269.000	7350.31	1811.60	-370.56	-1801.93	651785.57	495487.48	32°21'40.508"N	103°50'30.335"W	3.33	
8502.00	91.100	270.600	7348.40	1906.55	-370.89	-1896.91	651690.60	495487.15	32°21'40.509"N	103°50'31.442"W	1.69	
8596.00	90.700	268.300	7346.92	2000.51	-371.79	-1990.89	651596.63	495486.25	32°21'40.505"N	103°50'32.537"W	2.48	
8690.00	90.600	264.800	7345.86	2094.44	-377.44	-2084.70	651502.83	495480.59	32°21'40.453"N	103°50'33.631"W	3.72	
8784.00	90.600	265.100	7344.87	2188.27	-385.72	-2178.33	651409.21	495472.32	32°21'40.375"N	103°50'34.723"W	0.32	
8879.00	90.500	264.500	7343.96	2283.08	-394.33	-2272.93	651314.61	495463.71	32°21'40.295"N	103°50'35.827"W	0.64	
8929.00	90.600	265.300	7343.48	2332.98	-398.77	-2322.73	651264.81	495459.26	32°21'40.253"N	103°50'36.407"W	1.61	
8959.00	90.600	264.900	7343.17	2362.93	-401.34	-2352.62	651234.92	495456.70	32°21'40.229"N	103°50'36.756"W	1.33	
9019.00	90.400	264.800	7342.64	2422.81	-406.72	-2412.38	651175.17	495451.32	32°21'40.178"N	103°50'37.453"W	0.37	
9082.00	89.800	266.100	7342.53	2485.73	-411.72	-2475.18	651112.38	495446.32	32°21'40.132"N	103°50'38.185"W	2.27	
9177.00	90.700	267.800	7342.12	2580.69	-416.77	-2570.04	651017.52	495441.26	32°21'40.086"N	103°50'39.291"W	2.02	
9272.00	90.400	271.400	7341.21	2675.65	-417.44	-2665.01	650922.55	495440.60	32°21'40.084"N	103°50'40.399"W	3.80	
9367.00	88.300	270.200	7342.28	2770.55	-416.11	-2759.99	650827.58	495441.93	32°21'40.101"N	103°50'41.506"W	2.55	
9462.00	90.600	273.600	7343.20	2865.35	-412.96	-2854.91	650732.66	495445.08	32°21'40.136"N	103°50'42.612"W	4.32	
9557.00	90.000	274.400	7342.70	2959.90	-406.33	-2949.68	650637.90	495451.70	32°21'40.206"N	103°50'43.717"W	1.05	
9652.00	89.500	275.700	7343.11	3054.25	-397.97	-3044.31	650543.28	495460.07	32°21'40.293"N	103°50'44.819"W	1.47	
9748.00	90.600	274.200	7343.03	3149.62	-389.69	-3139.95	650447.65	495468.35	32°21'40.380"N	103°50'45.934"W	1.94	
9843.00	90.500	266.900	7342.12	3244.48	-388.78	-3234.87	650352.73	495469.26	32°21'40.393"N	103°50'47.040"W	7.68	
9938.00	91.500	265.300	7340.46	3339.39	-395.24	-3329.63	650257.98	495462.80	32°21'40.333"N	103°50'48.146"W	1.99	
10034.00	90.000	264.400	7339.20	3435.19	-403.85	-3425.23	650162.38	495454.18	32°21'40.252"N	103°50'49.260"W	1.82	
10129.00	91.400	264.600	7338.04	3529.96	-412.96	-3519.79	650067.83	495445.08	32°21'40.166"N	103°50'50.363"W	1.49	
10225.00	91.700	265.000	7335.44	3625.74	-421.65	-3615.36	649972.27	495436.38	32°21'40.085"N	103°50'51.478"W	0.52	
10320.00	92.200	265.500	7332.21	3720.54	-429.52	-3709.98	649877.66	495428.52	32°21'40.011"N	103°50'52.581"W	0.74	
10415.00	90.600	265.100	7329.89	3815.37	-437.30	-3804.62	649783.02	495420.74	32°21'39.938"N	103°50'53.685"W	1.74	
10511.00	90.600	266.200	7328.89	3911.25	-444.58	-3900.34	649687.31	495413.46	32°21'39.871"N	103°50'54.801"W	1.15	
10606.00	90.700	265.700	7327.81	4006.16	-451.29	-3995.10	649592.56	495406.75	32°21'39.808"N	103°50'55.906"W	0.54	
10702.00	90.300	266.400	7326.97	4102.08	-457.90	-4090.87	649496.79	495400.14	32°21'39.747"N	103°50'57.023"W	0.84	
10798.00	90.900	267.400	7325.97	4198.04	-463.09	-4186.72	649400.95	495394.95	32°21'39.700"N	103°50'58.141"W	1.21	
10893.00	90.500	267.200	7324.80	4293.01	-467.57	-4281.61	649306.07	495390.47	32°21'39.660"N	103°50'59.247"W	0.47	
10989.00	90.900	268.200	7323.63	4389.00	-471.42	-4377.52	649210.16	495386.62	32°21'39.626"N	103°51'00.366"W	1.12	
11084.00	89.800	268.100	7323.05	4483.99	-474.49	-4472.47	649115.22	495383.55	32°21'39.600"N	103°51'01.473"W	1.16	
11180.00	91.000	269.600	7322.38	4579.98	-476.41	-4568.44	649019.25	495381.63	32°21'39.585"N	103°51'02.592"W	2.00	
11276.00	91.100	270.500	7320.62	4675.93	-476.33	-4664.42	648923.27	495381.71	32°21'39.591"N	103°51'03.711"W	0.94	
11371.00	90.900	269.300	7318.96	4770.88	-476.50	-4759.41	648828.30	495381.55	32°21'39.593"N	103°51'04.818"W	1.28	
11467.00	91.000	270.100	7317.37	4866.84	-477.00	-4855.39	648732.32	495381.04	32°21'39.592"N	103°51'05.937"W	0.84	
11563.00	91.200	270.600	7315.53	4962.76	-476.41	-4951.37	648636.34	495381.63	32°21'39.603"N	103°51'07.056"W	0.56	
11658.00	90.800	270.600	7313.87	5057.68	-475.42	-5046.35	648541.37	495382.62	32°21'39.617"N	103°51'08.163"W	0.42	
11754.00	91.300	271.500	7312.11	5153.56	-473.66	-5142.32	648445.41	495384.38	32°21'39.638"N	103°51'09.282"W	1.07	
11847.00	91.700	272.400	7309.68	5246.35	-470.50	-5235.23	648352.50	495387.55	32°21'39.674"N	103°51'10.365"W	1.06	
11943.00	91.700	273.000	7306.83	5342.03	-465.97	-5331.08	648256.66	495392.07	32°21'39.723"N	103°51'11.482"W	0.62	
12039.00	91.300	273.700	7304.32	5437.64	-460.37	-5426.88	648160.86	495397.67	32°21'39.782"N	103°51'12.598"W	0.84	
12134.00	91.100	274.100	7302.33	5532.18	-453.91	-5521.64	648066.11	495404.13	32°21'39.851"N	103°51'13.703"W	0.47	
12230.00	91.100	274.400	7300.48	5627.66	-446.79	-5617.36	647970.40	495411.25	32°21'39.925"N	103°51'14.818"W	0.31	
12326.00	91.100	274.900	7298.64	5723.08	-439.01	-5713.03	647874.74	495419.03	32°21'40.006"N	103°51'15.933"W	0.52	



Actual Wellpath Report

No.138H AWP

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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	JRU No.138H SHL
Area	Eddy County, NM	Well	JRU No.138H
Field	JRU NAD27	Wellbore	No.138H AWB
Facility	(JRU) No.138 & No.139		

WELLPATH DATA (234 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
12421.00	90.600	275.100	7297.23	5817.43	-430.73	-5807.66	647780.12	495427.30	32°21'40.093"N	103°51'17.036"W	0.57	
12517.00	90.300	274.700	7296.48	5912.81	-422.53	-5903.30	647684.48	495435.50	32°21'40.178"N	103°51'18.150"W	0.52	
12613.00	89.900	274.200	7296.31	6008.28	-415.09	-5999.01	647588.77	495442.95	32°21'40.256"N	103°51'19.266"W	0.67	
12708.00	89.700	273.400	7296.64	6102.85	-408.79	-6093.80	647493.99	495449.25	32°21'40.322"N	103°51'20.371"W	0.87	
12804.00	89.500	272.500	7297.31	6198.55	-403.85	-6189.67	647398.13	495454.19	32°21'40.375"N	103°51'21.488"W	0.96	
12900.00	89.300	271.600	7298.32	6294.35	-400.42	-6285.60	647302.20	495457.62	32°21'40.414"N	103°51'22.606"W	0.96	
12995.00	90.000	270.600	7298.90	6389.24	-398.59	-6380.58	647207.23	495459.44	32°21'40.436"N	103°51'23.713"W	1.28	
13091.00	89.900	269.600	7298.98	6485.19	-398.42	-6476.58	647111.24	495459.61	32°21'40.442"N	103°51'24.832"W	1.05	
13187.00	89.900	271.000	7299.15	6581.14	-397.92	-6572.58	647015.25	495460.11	32°21'40.451"N	103°51'25.951"W	1.46	
13282.00	90.700	272.300	7298.65	6675.98	-395.19	-6667.53	646920.30	495462.85	32°21'40.482"N	103°51'27.058"W	1.61	
13378.00	91.100	272.900	7297.14	6771.71	-390.83	-6763.42	646824.41	495467.20	32°21'40.530"N	103°51'28.176"W	0.75	
13474.00	90.000	270.400	7296.22	6867.54	-388.07	-6859.37	646728.47	495469.97	32°21'40.561"N	103°51'29.294"W	2.84	
13569.00	90.200	270.600	7296.06	6962.48	-387.24	-6954.36	646633.48	495470.80	32°21'40.573"N	103°51'30.402"W	0.30	
13665.00	90.600	270.400	7295.39	7058.41	-386.40	-7050.36	646537.50	495471.63	32°21'40.586"N	103°51'31.521"W	0.47	
13761.00	90.500	269.000	7294.46	7154.38	-386.90	-7146.35	646441.51	495471.13	32°21'40.585"N	103°51'32.640"W	1.46	
13856.00	91.200	268.600	7293.06	7249.36	-388.89	-7241.32	646346.55	495469.14	32°21'40.570"N	103°51'33.747"W	0.85	
13951.00	90.600	267.200	7291.56	7344.35	-392.37	-7336.24	646251.63	495465.66	32°21'40.539"N	103°51'34.854"W	1.60	
14047.00	89.800	266.400	7291.23	7440.31	-397.73	-7432.09	646155.79	495460.30	32°21'40.491"N	103°51'35.972"W	1.18	
14143.00	89.300	266.900	7291.98	7536.26	-403.34	-7527.92	646059.97	495454.69	32°21'40.439"N	103°51'37.089"W	0.74	
14238.00	89.700	266.300	7292.81	7631.21	-408.98	-7622.75	645965.14	495449.06	32°21'40.388"N	103°51'38.195"W	0.76	
14334.00	89.700	267.200	7293.31	7727.17	-414.42	-7718.59	645869.31	495443.62	32°21'40.338"N	103°51'39.312"W	0.94	
14430.00	89.500	267.600	7293.98	7823.15	-418.77	-7814.49	645773.41	495439.26	32°21'40.299"N	103°51'40.431"W	0.47	
14525.00	89.500	267.500	7294.81	7918.14	-422.83	-7909.40	645678.51	495435.20	32°21'40.263"N	103°51'41.537"W	0.11	
14621.00	89.700	267.900	7295.48	8014.13	-426.69	-8005.32	645582.60	495431.35	32°21'40.229"N	103°51'42.656"W	0.47	
14716.00	90.300	269.800	7295.48	8109.12	-428.59	-8100.30	645487.63	495429.44	32°21'40.214"N	103°51'43.763"W	2.10	
14812.00	90.200	269.400	7295.06	8205.10	-429.26	-8196.29	645391.64	495428.77	32°21'40.212"N	103°51'44.882"W	0.43	
14908.00	91.100	269.900	7293.97	8301.06	-429.85	-8292.28	645295.65	495428.19	32°21'40.210"N	103°51'46.001"W	1.07	
15003.00	90.200	270.400	7292.90	8396.01	-429.60	-8387.28	645200.67	495428.44	32°21'40.217"N	103°51'47.109"W	1.08	
15099.00	90.100	271.600	7292.65	8491.91	-427.93	-8483.26	645104.69	495430.11	32°21'40.238"N	103°51'48.227"W	1.25	
15195.00	90.600	272.600	7292.06	8587.71	-424.41	-8579.19	645008.76	495433.63	32°21'40.277"N	103°51'49.346"W	1.46	
15290.00	90.200	270.700	7291.40	8682.55	-421.67	-8674.15	644913.82	495436.36	32°21'40.308"N	103°51'50.452"W	2.04	
15386.00	90.000	269.800	7291.23	8778.50	-421.25	-8770.14	644817.82	495436.78	32°21'40.316"N	103°51'51.572"W	0.96	
15482.00	90.300	269.100	7290.98	8874.48	-422.18	-8866.14	644721.84	495435.86	32°21'40.311"N	103°51'52.691"W	0.79	
15577.00	90.900	269.600	7289.98	8969.46	-423.25	-8961.13	644626.85	495434.78	32°21'40.305"N	103°51'53.798"W	0.82	
15673.00	90.300	269.700	7288.98	9065.43	-423.84	-9057.12	644530.87	495434.20	32°21'40.303"N	103°51'54.917"W	0.63	
15769.00	90.900	272.000	7287.97	9161.33	-422.42	-9153.10	644434.90	495435.62	32°21'40.321"N	103°51'56.036"W	2.48	
15865.00	91.000	273.100	7286.38	9257.06	-418.15	-9248.99	644339.01	495439.89	32°21'40.368"N	103°51'57.154"W	1.15	
15960.00	91.000	272.600	7284.72	9351.76	-413.42	-9343.85	644244.15	495444.61	32°21'40.418"N	103°51'58.259"W	0.53	
16056.00	90.600	271.100	7283.38	9447.58	-410.32	-9439.79	644148.22	495447.71	32°21'40.453"N	103°51'59.378"W	1.62	
16151.00	91.200	270.300	7281.89	9542.49	-409.16	-9534.77	644053.25	495448.87	32°21'40.469"N	103°52'00.485"W	1.05	
16247.00	90.800	269.800	7280.21	9638.43	-409.08	-9630.76	643957.27	495448.96	32°21'40.474"N	103°52'01.604"W	0.67	
16342.00	90.900	269.000	7278.80	9733.41	-410.07	-9725.74	643862.29	495447.96	32°21'40.468"N	103°52'02.711"W	0.85	
16437.00	90.800	269.800	7277.40	9828.38	-411.07	-9820.72	643767.31	495446.97	32°21'40.462"N	103°52'03.819"W	0.85	
16533.00	91.000	270.900	7275.89	9924.31	-410.48	-9916.71	643671.34	495447.55	32°21'40.472"N	103°52'04.938"W	1.16	
16628.00	91.500	272.100	7273.81	10019.15	-408.00	-10011.65	643576.40	495450.04	32°21'40.501"N	103°52'06.044"W	1.37	



Actual Wellpath Report

No.138H AWP

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	JRU No.138H SHL
Area	Eddy County, NM	Well	JRU No.138H
Field	JRU NAD27	Wellbore	No.138H AWB
Facility	(JRU) No.138 & No.139		

WELLPATH DATA (234 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
16724.00	90.200	270.000	7272.39	10115.03	-406.24	-10107.62	643480.44	495451.80	32°21'40.522"N	103°52'07.163"W	2.57	
16820.00	90.100	269.900	7272.14	10210.99	-406.32	-10203.62	643384.45	495451.71	32°21'40.526"N	103°52'08.282"W	0.15	
16915.00	90.200	269.800	7271.89	10305.96	-406.57	-10298.62	643289.45	495451.47	32°21'40.527"N	103°52'09.390"W	0.15	
17011.00	90.200	269.700	7271.56	10401.93	-406.99	-10394.61	643193.46	495451.05	32°21'40.527"N	103°52'10.509"W	0.10	
17106.00	90.300	269.100	7271.14	10496.92	-407.98	-10489.61	643098.47	495450.05	32°21'40.522"N	103°52'11.616"W	0.64	
17201.00	90.000	268.600	7270.89	10591.91	-409.89	-10584.59	643003.50	495448.15	32°21'40.507"N	103°52'12.724"W	0.61	
17297.00	90.200	267.800	7270.72	10687.91	-412.91	-10680.54	642907.55	495445.13	32°21'40.481"N	103°52'13.842"W	0.86	
17392.00	91.500	269.000	7269.32	10782.90	-415.56	-10775.49	642812.61	495442.48	32°21'40.459"N	103°52'14.949"W	1.86	
17488.00	91.000	270.400	7267.22	10878.85	-416.06	-10871.46	642716.64	495441.98	32°21'40.458"N	103°52'16.068"W	1.55	
17584.00	90.700	271.400	7265.80	10974.74	-414.55	-10967.44	642620.67	495443.48	32°21'40.477"N	103°52'17.187"W	1.09	
17679.00	91.200	271.200	7264.22	11069.61	-412.40	-11062.40	642525.72	495445.64	32°21'40.502"N	103°52'18.294"W	0.57	
17775.00	91.000	271.000	7262.38	11165.48	-410.56	-11158.36	642429.76	495447.48	32°21'40.525"N	103°52'19.413"W	0.29	
17871.00	90.300	270.500	7261.29	11261.40	-409.30	-11254.35	642333.78	495448.74	32°21'40.541"N	103°52'20.532"W	0.90	
17966.00	89.900	270.400	7261.12	11356.33	-408.55	-11349.35	642238.79	495449.48	32°21'40.553"N	103°52'21.639"W	0.43	
18062.00	90.800	271.400	7260.54	11452.24	-407.05	-11445.33	642142.81	495450.99	32°21'40.572"N	103°52'22.758"W	1.40	
18157.00	90.000	270.000	7259.87	11547.16	-405.88	-11540.32	642047.83	495452.15	32°21'40.587"N	103°52'23.865"W	1.70	
18253.00	90.100	269.200	7259.79	11643.13	-406.56	-11636.31	641951.84	495451.48	32°21'40.585"N	103°52'24.984"W	0.84	
18348.00	90.100	269.000	7259.62	11738.13	-408.05	-11731.30	641856.86	495449.99	32°21'40.574"N	103°52'26.092"W	0.21	
18444.00	89.900	268.700	7259.62	11834.12	-409.97	-11827.28	641760.89	495448.06	32°21'40.559"N	103°52'27.211"W	0.38	
18539.00	89.900	268.400	7259.79	11929.12	-412.38	-11922.25	641665.92	495445.66	32°21'40.539"N	103°52'28.318"W	0.32	
18635.00	89.900	268.600	7259.96	12025.12	-414.89	-12018.22	641569.96	495443.15	32°21'40.518"N	103°52'29.437"W	0.21	
18730.00	89.800	269.700	7260.21	12120.11	-416.30	-12113.21	641474.98	495441.74	32°21'40.508"N	103°52'30.544"W	1.16	
18826.00	90.200	270.300	7260.21	12216.07	-416.30	-12209.21	641378.99	495441.74	32°21'40.512"N	103°52'31.664"W	0.75	
18922.00	90.500	269.800	7259.62	12312.03	-416.22	-12305.20	641283.00	495441.82	32°21'40.517"N	103°52'32.783"W	0.61	
19017.00	90.200	268.900	7259.04	12407.02	-417.29	-12400.19	641188.01	495440.74	32°21'40.511"N	103°52'33.890"W	1.00	
19113.00	90.200	268.000	7258.70	12503.01	-419.89	-12496.16	641092.06	495438.15	32°21'40.489"N	103°52'35.009"W	0.94	
19208.00	90.200	267.900	7258.37	12598.01	-423.29	-12591.10	640997.12	495434.75	32°21'40.459"N	103°52'36.116"W	0.11	
19302.00	90.500	269.700	7257.80	12692.00	-425.26	-12685.07	640903.16	495432.78	32°21'40.444"N	103°52'37.212"W	1.94	
19398.00	90.100	270.600	7257.30	12787.96	-425.01	-12781.07	640807.16	495433.03	32°21'40.450"N	103°52'38.331"W	1.03	
19493.00	90.400	272.000	7256.88	12882.83	-422.85	-12876.04	640712.20	495435.19	32°21'40.476"N	103°52'39.438"W	1.51	
19588.00	90.700	272.600	7255.97	12977.60	-419.04	-12970.96	640617.29	495439.00	32°21'40.518"N	103°52'40.544"W	0.71	
19683.00	90.500	272.100	7254.98	13072.37	-415.14	-13065.87	640522.38	495442.89	32°21'40.560"N	103°52'41.650"W	0.57	
19778.00	90.600	272.400	7254.06	13167.15	-411.41	-13160.80	640427.46	495446.62	32°21'40.601"N	103°52'42.757"W	0.33	
19874.00	91.100	271.000	7252.64	13262.98	-408.57	-13256.74	640331.52	495449.47	32°21'40.633"N	103°52'43.875"W	1.55	
19969.00	90.800	269.300	7251.06	13357.92	-408.32	-13351.72	640236.55	495449.72	32°21'40.640"N	103°52'44.983"W	1.82	
20064.00	90.900	268.100	7249.65	13452.91	-410.47	-13446.69	640141.59	495447.56	32°21'40.622"N	103°52'46.090"W	1.27	
20160.00	90.800	268.200	7248.23	13548.90	-413.57	-13542.63	640045.66	495444.47	32°21'40.596"N	103°52'47.208"W	0.15	
20255.00	90.500	267.800	7247.15	13643.89	-416.89	-13637.56	639950.73	495441.15	32°21'40.567"N	103°52'48.315"W	0.53	
20349.00	90.600	267.400	7246.25	13737.87	-420.82	-13731.47	639856.82	495437.21	32°21'40.532"N	103°52'49.410"W	0.44	
20444.00	90.200	267.200	7245.59	13832.85	-425.30	-13826.37	639761.93	495432.74	32°21'40.491"N	103°52'50.517"W	0.47	
20539.00	90.200	268.600	7245.26	13927.85	-428.78	-13921.30	639667.01	495429.26	32°21'40.461"N	103°52'51.624"W	1.47	
20635.00	90.200	269.600	7244.92	14023.84	-430.29	-14017.29	639571.03	495427.75	32°21'40.450"N	103°52'52.743"W	1.04	
20730.00	90.300	269.400	7244.51	14118.82	-431.12	-14112.28	639476.04	495426.92	32°21'40.446"N	103°52'53.850"W	0.24	
20825.00	90.200	269.900	7244.09	14213.79	-431.70	-14207.28	639381.05	495426.34	32°21'40.444"N	103°52'54.958"W	0.54	
20921.00	90.400	271.700	7243.59	14309.70	-430.36	-14303.26	639285.07	495427.68	32°21'40.461"N	103°52'56.077"W	1.89	



Actual Wellpath Report

No.138H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	JRU No.138H SHL
Area	Eddy County, NM	Well	JRU No.138H
Field	JRU NAD27	Wellbore	No.138H AWB
Facility	(JRU) No.138 & No.139		

WELLPATH DATA (234 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
21016.00	90.400	272.400	7242.93	14404.51	-426.96	-14398.20	639190.14	495431.08	32°21'40.499"N	103°52'57.183"W	0.74	
21111.00	90.300	272.400	7242.34	14499.28	-422.98	-14493.11	639095.23	495435.06	32°21'40.542"N	103°52'58.290"W	0.11	
21207.00	90.400	271.200	7241.76	14595.10	-419.96	-14589.06	638999.29	495438.07	32°21'40.576"N	103°52'59.408"W	1.25	
21302.00	90.400	269.600	7241.10	14690.04	-419.30	-14684.06	638904.30	495438.74	32°21'40.587"N	103°53'00.515"W	1.68	
21398.00	90.400	268.500	7240.43	14786.03	-420.89	-14780.04	638808.32	495437.14	32°21'40.575"N	103°53'01.634"W	1.15	
21493.00	90.300	267.600	7239.84	14881.02	-424.13	-14874.98	638713.39	495433.91	32°21'40.547"N	103°53'02.741"W	0.95	
21589.00	90.400	268.700	7239.26	14977.02	-427.22	-14970.93	638617.45	495430.81	32°21'40.520"N	103°53'03.860"W	1.15	
21617.00	90.400	269.600	7239.06	15005.02	-427.64	-14998.92	638589.45	495430.40	32°21'40.517"N	103°53'04.186"W	3.21	
21684.00	90.400	269.600	7238.60	15072.00	-428.11	-15065.92	638522.46	495429.93	32°21'40.515"N	103°53'04.967"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
No.138H PBHL		7237.00	-421.74	-15066.08	638522.30	495436.30	32°21'40.578"N	103°53'04.969"W	point
Target #2		7293.00	-396.84	-4970.12	648617.60	495461.20	32°21'40.391"N	103°51'07.270"W	point
Target #3		7306.00	-405.34	-8990.38	644597.60	495452.70	32°21'40.483"N	103°51'54.138"W	point
No.138H Target #1		7337.00	-391.44	-2356.55	651231.00	495466.60	32°21'40.327"N	103°50'36.801"W	point

WELLPATH COMPOSITION - Ref Wellbore: No.138H AWB - Ref Wellpath: No.138H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	654.00	Generic gyro - northseeking (Standard)	VES Gyro <84.84-654>	No.138H AWB
654.00	21617.00	NaviTrak (Standard)	BHI MWD NaviTrak <877-XXXX>	No.138H AWB
21617.00	21684.00	Blind Drilling (std)	Projection to bit	No.138H AWB