

A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

BOPCO, L.P

Lease: BIG EDDY UNIT DRILLING IISLAND 28 Well: 277H, 5" DRILLPIPE

Location: INDEPENDENCE DRILLING RIG 207, EDDY COUNTY, NEW MEXICO

Job Number: MD0814GDM847

Run Date: 28 Aug 2014

Report Generated: 02 Sep 2014 12:50

Azimuth Correction:

Gyro: -0.19000 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: 32.484653 deg. N Longitude: 103.977353 deg. W

Horizontal Coordinates Calculated from Well Head Location

15-42568

A Gyrodata Directional Survey

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Lease: BIG EDDY UNIT DRILLING ISLAND 28 Well: 277H, 5" DRILLPIPE

Location: INDEPENDENCE DRILLING RIG 207, EDDY COUNTY, NEW MEXICO

Job Number: MD0814GDM847

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 - 627.25 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 5" DRILLPIPE

ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO INDEPENDENCE DRILLING RIG #207 R.K.B. HEIGHT OF 26 FT.

87.27	0.84	353.82	0.96	87.27	0.6 353.8	0.64 N 0.07 W
184.06	0.56	352.81	0.29	184.05	1.8 353.6	1.81 N 0.20 W
277.34	0.09	1.53	0.51	277.33	2.4 353.7	2.34 N 0.26 W
370.52	0.05	287.98	0.10	370.51	2.4 353.0	2.42 N 0.30 W
463.82	0.04	279.57	0.01	463.81	2.5 351.5	2.44 N 0.37 W
557.08	0.08	267.65	0.04	557.07	2.5 349.3	2.44 N 0.46 W
627.25	0.07	239.81	0.05	627.24	2.5 347.2	2.42 N 0.55 W

Final Station Closure: Distance: 2.48 ft Az: 347.21 deg.



BOPCO, LP

Location: Eddy County, NM Slot: BEU DI28 No.277H
Field: Big Eddy Well: No.277H
Facility: Big Eddy Unit DI-28 Wellbore: No. 277H AWP



Plot reference wellpath is No. 277H AWP

True vertical depths are referenced to Rig on 27 (KB) Grid System: NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on 27 (KB) North Reference: Grid north
Rig on 27 (KB) to Mean Sea Level: 3466 feet Scale: True distance
Mean Sea Level to Mud line (At Slot: BEU DI28 No.277H): 0 feet Depths are in feet
Coordinates are in feet referenced to Slot Created by: jandho on 11/10/2014

Location Information

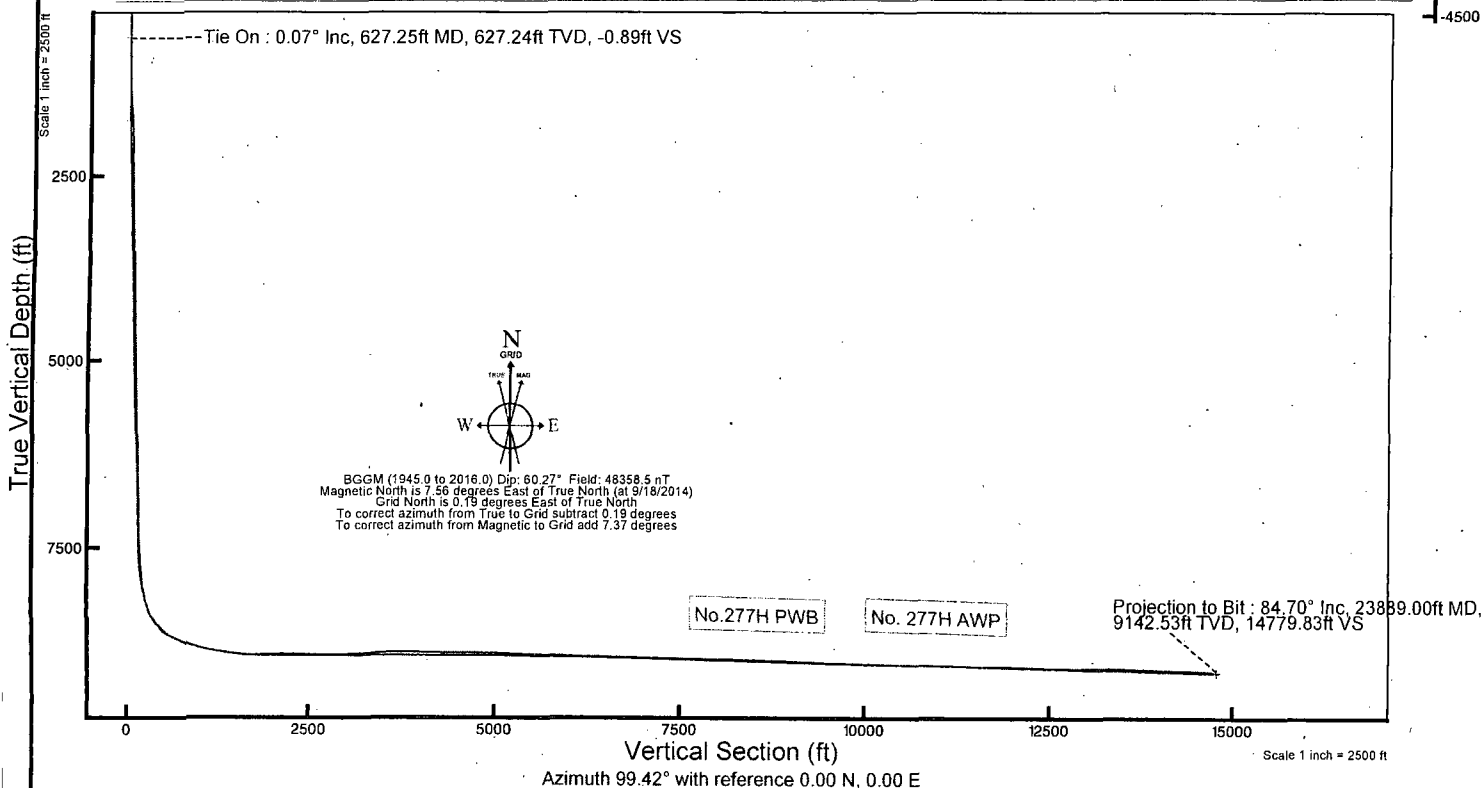
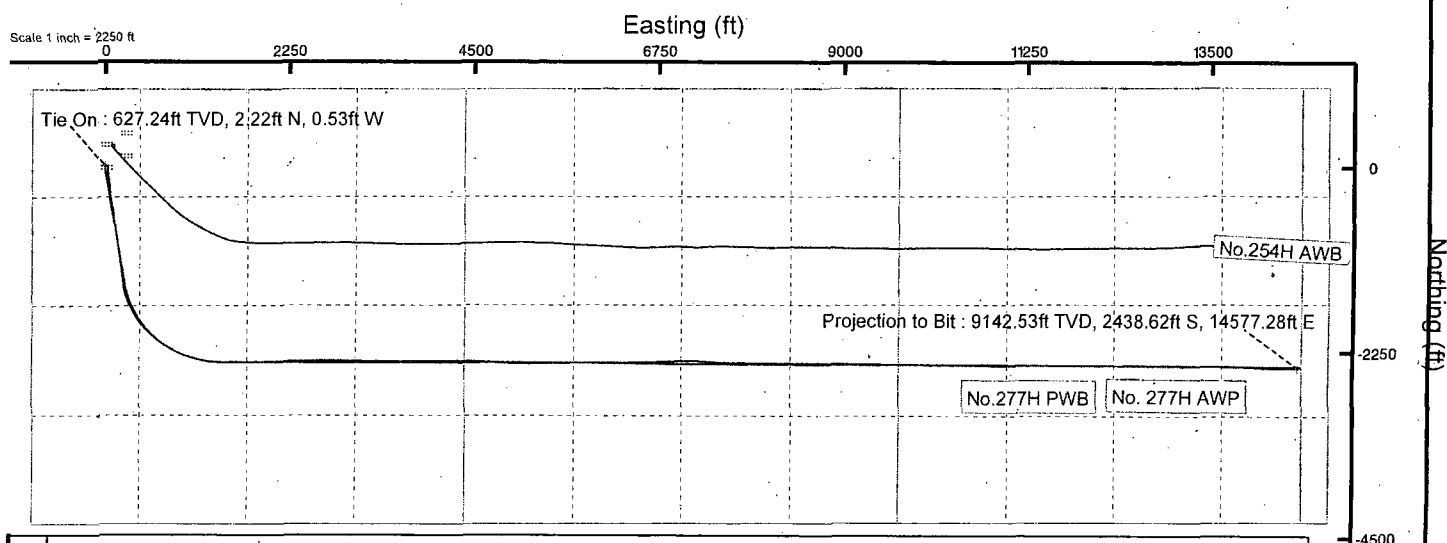
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Big Eddy Unit DI-28	609767.900	540212.800	32°29'04.750"N	103°58'38.471"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
BEU DI28 No 277H	-239.22	-79.61	609688.300	539973.600
Rig on 27 (KB) to Mud line (At Slot: BEU DI28 No.277H)				3466ft
Mean Sea Level to Mud line (At Slot: BEU DI28 No.277H)				0ft
Rig on 27 (KB) to Mean Sea Level				3466ft

Targets

Targets								
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
BEU DI28 No.277H PBL (Rev D 0)		9150.00	-2287.67	14473.67	624160.82	537686.11	32°28'39.240"N	103°59'50.565"W
BEU DI28 No.277H PBL		10251.00	-2287.67	14473.67	624160.82	537686.11	32°28'39.240"N	103°59'50.565"W

Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
23889.00	84.700	90.100	9142.53	-2438.62	14577.28	524264.42	537535.18	32°28'37.742"N	103°55'49.347"W





Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU DI28 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit DI-28		

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	0.999923	Report Generated	11/10/2014 at 1:29:05 PM
Convergence at slot	0.19° East	Database/Source file	WA_Midland/No. 277H_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-239.22	-79.61	609688.30	539973.60	32°29'02.385"N	103°58'39.410"W
Facility Reference Pt			609767.90	540212.80	32°29'04.750"N	103°58'38.471"W
Field Reference Pt			610823.03	524402.80	32°26'28.262"N	103°58'26.774"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on 27 (KB) to Facility Vertical Datum	3466.00ft
Horizontal Reference Pt	Slot	Rig on 27 (KB) to Mean Sea Level	3466.00ft
Vertical Reference Pt	Rig on 27 (KB)	Rig on 27 (KB) to Mud Line at Slot (BEU DI28 No.277H)	3466.00ft
MD Reference Pt	Rig on 27 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	99.42°



Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU DI28 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit DI-28		

WELLPATH DATA (323 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
627.25	0.070	239.810	627.24	-0.89	2.22	-0.53	609687.77	539975.82	32°29'02.407"N	103°58'39.416"W	0.05	Tie On
720.00	0.090	108.010	719.99	-0.86	2.17	-0.51	609687.79	539975.77	32°29'02.407"N	103°58'39.416"W	0.16	
813.00	0.280	168.890	812.99	-0.71	1.93	-0.40	609687.90	539975.53	32°29'02.404"N	103°58'39.414"W	0.27	
906.00	0.620	116.500	905.99	-0.14	1.48	0.10	609688.40	539975.08	32°29'02.400"N	103°58'39.409"W	0.54	
1003.00	0.800	92.200	1002.98	-1.03	1.22	1.25	609689.54	539974.82	32°29'02.397"N	103°58'39.395"W	0.36	
1096.00	1.200	91.100	1095.96	2.64	1.17	2.87	609691.17	539974.77	32°29'02.397"N	103°58'39.376"W	0.43	
1191.00	1.400	71.400	1190.94	4.65	1.53	4.96	609693.26	539975.13	32°29'02.400"N	103°58'39.352"W	0.51	
1286.00	1.500	87.800	1285.91	6.89	1.94	7.30	609695.60	539975.54	32°29'02.404"N	103°58'39.324"W	0.45	
1381.00	2.100	96.000	1380.86	9.84	1.81	10.28	609698.58	539975.41	32°29'02.403"N	103°58'39.290"W	0.69	
1476.00	2.900	106.800	1475.77	13.96	0.93	14.31	609702.61	539974.53	32°29'02.394"N	103°58'39.243"W	0.97	
1508.00	3.600	112.300	1507.72	15.75	0.32	16.01	609704.31	539973.92	32°29'02.388"N	103°58'39.223"W	2.39	
1540.00	4.200	116.400	1539.65	17.85	-0.58	17.99	609706.29	539973.02	32°29'02.379"N	103°58'39.200"W	2.07	
1571.00	4.900	116.100	1570.55	20.20	-1.67	20.20	609708.50	539971.93	32°29'02.368"N	103°58'39.174"W	2.26	
1603.00	5.410	118.030	1602.42	22.94	-2.98	22.76	609711.06	539970.62	32°29'02.355"N	103°58'39.144"W	1.68	
1635.00	4.600	119.300	1634.30	25.58	4.32	25.21	609713.51	539969.28	32°29'02.342"N	103°58'39.116"W	2.55	
1666.00	4.000	117.200	1665.21	27.77	-5.42	27.25	609715.55	539968.18	32°29'02.331"N	103°58'39.092"W	2.00	
1698.00	3.700	118.500	1697.14	29.81	-6.42	29.15	609717.45	539967.18	32°29'02.321"N	103°58'39.070"W	0.98	
1730.00	3.300	117.200	1729.08	31.67	-7.34	30.88	609719.18	539966.26	32°29'02.312"N	103°58'39.050"W	1.27	
1762.00	3.190	115.550	1761.03	33.40	-8.14	32.50	609720.80	539965.46	32°29'02.304"N	103°58'39.031"W	0.45	
1794.00	3.060	122.220	1792.98	35.04	-8.98	34.03	609722.33	539964.62	32°29'02.295"N	103°58'39.013"W	1.21	
1826.00	3.700	141.700	1824.92	36.59	-10.25	35.39	609723.69	539963.35	32°29'02.283"N	103°58'38.997"W	4.08	
1857.00	4.700	160.100	1855.84	37.95	-12.23	36.44	609724.74	539961.37	32°29'02.263"N	103°58'38.985"W	5.37	
1889.00	5.600	168.100	1887.71	39.16	-14.99	37.21	609725.51	539958.61	32°29'02.236"N	103°58'38.976"W	3.59	
1921.00	5.900	172.100	1919.55	40.22	-18.15	37.76	609726.06	539955.46	32°29'02.205"N	103°58'38.970"W	1.56	
1953.00	6.100	172.200	1951.38	41.21	-21.46	38.22	609726.51	539952.14	32°29'02.172"N	103°58'38.964"W	0.63	
1984.00	6.200	171.200	1982.20	42.22	-24.74	38.70	609726.99	539948.86	32°29'02.139"N	103°58'38.959"W	0.47	
2048.00	5.500	174.800	2045.86	44.08	-31.21	39.50	609727.80	539942.39	32°29'02.075"N	103°58'38.950"W	1.23	
2143.00	4.900	176.000	2140.47	46.17	-39.80	40.20	609728.50	539933.81	32°29'01.990"N	103°58'38.942"W	0.64	
2238.00	4.900	174.900	2235.13	48.13	-47.88	40.84	609729.14	539925.72	32°29'01.910"N	103°58'38.935"W	0.10	
2333.00	4.600	176.000	2329.80	50.03	-55.73	41.47	609729.77	539917.88	32°29'01.833"N	103°58'38.928"W	0.33	
2428.00	5.800	178.000	2424.41	51.86	-64.32	41.90	609730.20	539909.28	32°29'01.748"N	103°58'38.923"W	1.28	
2523.00	6.100	177.100	2518.89	53.89	-74.16	42.33	609730.62	539899.44	32°29'01.650"N	103°58'38.919"W	0.33	
2618.00	6.000	175.800	2613.37	56.14	-84.16	42.94	609731.24	539889.45	32°29'01.551"N	103°58'38.912"W	0.18	
2713.00	6.100	175.400	2707.84	58.53	-94.14	43.71	609732.01	539879.47	32°29'01.452"N	103°58'38.903"W	0.11	
2808.00	4.600	180.100	2802.42	60.37	-102.98	44.11	609732.41	539870.63	32°29'01.365"N	103°58'38.899"W	1.64	
2903.00	5.600	176.700	2897.04	62.00	-111.42	44.37	609732.67	539862.19	32°29'01.281"N	103°58'38.896"W	1.10	
2998.00	5.600	172.300	2991.59	64.39	-120.64	45.26	609733.56	539852.97	32°29'01.190"N	103°58'38.886"W	0.45	
3093.00	5.500	173.800	3086.14	66.98	-129.76	46.37	609734.67	539843.85	32°29'01.100"N	103°58'38.873"W	0.19	
3188.00	5.100	173.100	3180.74	69.39	-138.48	47.37	609735.67	539835.14	32°29'01.014"N	103°58'38.862"W	0.43	
3237.00	6.200	173.200	3229.50	70.74	-143.26	47.95	609736.24	539830.35	32°29'00.966"N	103°58'38.856"W	2.24	
3296.00	6.000	172.800	3288.17	72.51	-149.49	48.71	609737.01	539824.12	32°29'00.905"N	103°58'38.847"W	0.35	
3391.00	5.200	171.500	3382.71	75.26	-158.67	49.97	609738.26	539814.94	32°29'00.814"N	103°58'38.833"W	0.85	
3486.00	5.100	172.100	3477.33	77.84	-167.11	51.18	609739.48	539806.50	32°29'00.730"N	103°58'38.819"W	0.12	
3581.00	5.100	172.900	3571.95	80.30	-175.48	52.29	609740.58	539798.13	32°29'00.647"N	103°58'38.806"W	0.07	
3676.00	5.200	172.300	3666.57	82.77	-183.94	53.39	609741.68	539789.67	32°29'00.564"N	103°58'38.794"W	0.12	



Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU D128 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit D1-28		

WELLPATH DATA (323 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
3772.00	5.200	174.500	3762.17	85.17	-192.58	54.39	609742.68	539781.03	32°29'00.478"N	103°58'38.782"W	0.21	
3867.00	5.200	173.000	3856.78	87.49	-201.14	55.32	609743.62	539772.48	32°29'00.393"N	103°58'38.772"W	0.14	
3962.00	5.200	170.100	3951.39	90.13	-209.65	56.59	609744.88	539763.96	32°29'00.309"N	103°58'38.757"W	0.28	
4057.00	5.100	170.400	4046.01	92.93	-218.06	58.03	609746.33	539755.56	32°29'00.226"N	103°58'38.741"W	0.11	
4152.00	4.900	173.400	4140.65	95.43	-226.25	59.20	609747.50	539747.37	32°29'00.145"N	103°58'38.727"W	0.35	
4247.00	5.200	174.100	4235.28	97.68	-234.56	60.11	609748.41	539739.05	32°29'00.062"N	103°58'38.717"W	0.32	
4342.00	5.100	174.400	4329.89	99.92	-243.05	60.97	609749.26	539730.57	32°28'59.978"N	103°58'38.708"W	0.11	
4437.00	5.200	170.600	4424.51	102.40	-251.50	62.08	609750.38	539722.12	32°28'59.895"N	103°58'38.695"W	0.37	
4531.00	5.000	172.800	4518.14	104.94	-259.77	63.29	609751.59	539713.86	32°28'59.813"N	103°58'38.681"W	0.30	
4626.00	5.300	172.700	4612.76	107.39	-268.22	64.37	609752.66	539705.40	32°28'59.729"N	103°58'38.669"W	0.32	
4721.00	5.200	173.800	4707.36	109.81	-276.86	65.39	609753.68	539696.77	32°28'59.644"N	103°58'38.657"W	0.15	
4816.00	5.300	169.900	4801.96	112.44	-285.46	66.62	609754.92	539688.17	32°28'59.559"N	103°58'38.643"W	0.39	
4912.00	5.100	168.400	4897.56	115.45	-294.00	68.26	609756.55	539679.62	32°28'59.474"N	103°58'38.624"W	0.25	
5007.00	5.100	169.800	4992.19	118.38	-302.29	69.86	609758.15	539671.33	32°28'59.392"N	103°58'38.606"W	0.13	
5102.00	5.000	170.400	5086.82	121.15	-310.53	71.29	609759.59	539663.09	32°28'59.310"N	103°58'38.590"W	0.12	
5197.00	5.400	172.100	5181.43	123.83	-319.04	72.60	609760.89	539654.58	32°28'59.226"N	103°58'38.575"W	0.45	
5292.00	5.600	175.500	5275.99	126.27	-328.09	73.58	609761.87	539645.54	32°28'59.137"N	103°58'38.564"W	0.40	
5387.00	5.100	176.000	5370.58	128.37	-336.92	74.24	609762.53	539636.70	32°28'59.049"N	103°58'38.556"W	0.53	
5482.00	4.900	169.500	5465.22	130.73	-345.12	75.27	609763.56	539628.50	32°28'58.968"N	103°58'38.545"W	0.63	
5577.00	4.600	169.000	5559.89	133.44	-352.85	76.74	609765.03	539620.78	32°28'58.891"N	103°58'38.528"W	0.32	
5673.00	4.800	170.300	5655.57	136.10	-360.59	78.15	609766.44	539613.04	32°28'58.815"N	103°58'38.512"W	0.24	
5768.00	4.500	172.100	5750.25	138.51	-368.20	79.33	609767.62	539605.43	32°28'58.739"N	103°58'38.498"W	0.35	
5863.00	4.800	171.300	5844.94	140.85	-375.82	80.44	609768.74	539597.81	32°28'58.664"N	103°58'38.485"W	0.32	
5958.00	4.600	174.800	5939.62	143.05	-383.54	81.39	609769.68	539590.09	32°28'58.588"N	103°58'38.475"W	0.37	
6053.00	4.900	177.200	6034.30	144.87	-391.39	81.93	609770.23	539582.24	32°28'58.510"N	103°58'38.469"W	0.38	
6148.00	4.600	168.400	6128.97	147.10	-399.17	82.90	609771.19	539574.46	32°28'58.433"N	103°58'38.458"W	0.83	
6243.00	4.400	175.600	6223.68	149.33	-406.54	83.94	609772.24	539567.09	32°28'58.360"N	103°58'38.446"W	0.63	
6338.00	4.800	174.400	6318.37	151.23	-414.13	84.61	609772.90	539559.50	32°28'58.285"N	103°58'38.438"W	0.43	
6433.00	4.600	167.300	6413.05	153.70	-421.80	85.83	609774.13	539551.83	32°28'58.209"N	103°58'38.424"W	0.65	
6528.00	4.500	168.300	6507.75	156.48	-429.17	87.43	609775.72	539544.47	32°28'58.136"N	103°58'38.406"W	0.13	
6623.00	4.800	170.900	6602.44	159.08	-436.74	88.81	609777.11	539536.89	32°28'58.061"N	103°58'38.390"W	0.39	
6718.00	5.000	164.100	6697.09	162.11	-444.65	90.57	609778.87	539528.99	32°28'57.983"N	103°58'38.370"W	0.65	
6813.00	4.400	169.000	6791.78	165.16	-452.20	92.40	609780.70	539521.43	32°28'57.908"N	103°58'38.349"W	0.76	
6908.00	4.400	180.200	6886.50	167.01	-459.43	93.09	609781.38	539514.21	32°28'57.836"N	103°58'38.341"W	0.90	
7004.00	5.200	178.300	6982.16	168.44	-467.46	93.20	609781.50	539506.18	32°28'57.757"N	103°58'38.340"W	0.85	
7099.00	4.800	186.100	7076.80	169.50	-475.71	92.91	609781.20	539497.92	32°28'57.675"N	103°58'38.344"W	0.83	
7194.00	5.200	174.500	7171.44	170.84	-483.95	92.90	609781.19	539489.69	32°28'57.594"N	103°58'38.344"W	1.14	
7289.00	4.600	167.700	7266.09	173.36	-491.96	94.12	609782.42	539481.68	32°28'57.514"N	103°58'38.330"W	0.88	
7384.00	4.700	151.300	7360.78	177.17	-499.09	96.80	609785.10	539474.55	32°28'57.444"N	103°58'38.299"W	1.40	
7479.00	4.900	146.900	7455.45	182.31	-505.91	100.89	609789.18	539467.73	32°28'57.376"N	103°58'38.252"W	0.44	
7510.00	6.600	144.100	7486.29	184.47	-508.46	102.66	609790.95	539465.18	32°28'57.351"N	103°58'38.231"W	5.56	
7542.00	6.500	148.100	7518.09	186.98	-511.49	104.69	609792.98	539462.15	32°28'57.321"N	103°58'38.208"W	1.46	
7574.00	7.600	151.500	7549.84	189.47	-514.88	106.66	609794.95	539458.76	32°28'57.287"N	103°58'38.185"W	3.68	
7606.00	9.000	162.800	7581.51	191.90	-519.14	108.41	609796.70	539454.51	32°28'57.245"N	103°58'38.164"W	6.70	
7637.00	11.200	169.500	7612.03	194.01	-524.41	109.67	609797.97	539449.23	32°28'57.193"N	103°58'38.150"W	8.03	



Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU DI28 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit DI-28		

WELLPATH DATA (323 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
7669.00	13.200	172.100	7643.30	196.15	-531.09	110.74	609799.03	539442.55	32°28'57.127"N	103°58'38.138"W	6.48	
7701.00	15.200	171.100	7674.33	198.56	-538.85	111.89	609800.19	539434.79	32°28'57.050"N	103°58'38.125"W	6.30	
7732.00	17.500	175.400	7704.07	200.97	-547.51	112.90	609801.19	539426.13	32°28'56.964"N	103°58'38.113"W	8.38	
7764.00	19.400	175.400	7734.42	203.42	-557.61	113.71	609802.00	539416.04	32°28'56.864"N	103°58'38.104"W	5.94	
7796.00	21.000	175.100	7764.46	206.13	-568.62	114.63	609802.92	539405.02	32°28'56.755"N	103°58'38.094"W	5.01	
7828.00	22.100	174.400	7794.22	209.10	-580.32	115.70	609803.99	539393.32	32°28'56.639"N	103°58'38.082"W	3.53	
7859.00	22.100	176.200	7822.94	211.95	-591.95	116.66	609804.95	539381.70	32°28'56.524"N	103°58'38.071"W	2.18	
7891.00	21.900	175.600	7852.61	214.75	-603.90	117.52	609805.81	539369.74	32°28'56.406"N	103°58'38.061"W	0.94	
7923.00	22.400	174.300	7882.25	217.77	-615.92	118.58	609806.87	539357.73	32°28'56.287"N	103°58'38.050"W	2.19	
7955.00	24.300	174.600	7911.63	221.04	-628.54	119.80	609808.09	539345.11	32°28'56.162"N	103°58'38.036"W	5.95	
7986.00	26.600	176.000	7939.62	224.28	-641.82	120.89	609809.18	539331.83	32°28'56.031"N	103°58'38.024"W	7.67	
8018.00	28.700	172.100	7967.96	228.23	-656.58	122.44	609810.73	539317.07	32°28'55.885"N	103°58'38.006"W	8.66	
8050.00	31.000	171.000	7995.72	233.12	-672.33	124.79	609813.08	539301.32	32°28'55.729"N	103°58'37.979"W	7.39	
8082.00	32.800	171.400	8022.88	238.41	-689.04	127.38	609815.67	539284.61	32°28'55.563"N	103°58'37.950"W	5.66	
8113.00	34.300	173.100	8048.72	243.46	-706.02	129.68	609817.97	539267.64	32°28'55.395"N	103°58'37.923"W	5.71	
8145.00	35.700	173.000	8074.93	248.63	-724.24	131.90	609820.19	539249.42	32°28'55.215"N	103°58'37.898"W	4.38	
8177.00	37.100	173.400	8100.69	253.94	-743.09	134.15	609822.44	539230.57	32°28'55.028"N	103°58'37.873"W	4.44	
8208.00	38.100	172.700	8125.25	259.27	-761.87	136.44	609824.73	539211.79	32°28'54.842"N	103°58'37.847"W	3.51	
8240.00	38.300	171.600	8150.39	265.14	-781.47	139.14	609827.43	539192.19	32°28'54.648"N	103°58'37.816"W	2.22	
8272.00	39.400	172.000	8175.32	271.22	-801.34	142.00	609830.29	539172.33	32°28'54.451"N	103°58'37.783"W	3.53	
8300.00	39.600	170.900	8196.92	276.71	-818.95	144.65	609832.94	539154.72	32°28'54.277"N	103°58'37.753"W	2.60	
8331.00	40.600	169.900	8220.63	283.22	-838.64	147.98	609836.27	539135.03	32°28'54.082"N	103°58'37.715"W	3.84	
8363.00	41.700	169.200	8244.73	290.38	-859.34	151.80	609840.09	539114.33	32°28'53.877"N	103°58'37.671"W	3.73	
8395.00	42.000	169.200	8268.57	297.75	-880.31	155.81	609844.09	539093.36	32°28'53.670"N	103°58'37.625"W	0.94	
8427.00	43.700	170.700	8292.03	305.00	-901.74	159.60	609847.89	539071.93	32°28'53.457"N	103°58'37.582"W	6.20	
8458.00	45.900	171.300	8314.02	311.90	-923.31	163.01	609851.30	539050.36	32°28'53.244"N	103°58'37.543"W	7.23	
8490.00	48.500	170.800	8335.76	319.30	-946.51	166.67	609854.95	539027.17	32°28'53.014"N	103°58'37.501"W	8.21	
8522.00	50.700	171.000	8356.50	327.04	-970.57	170.52	609858.81	539003.11	32°28'52.776"N	103°58'37.457"W	6.89	
8554.00	53.000	170.800	8376.27	335.03	-995.41	174.50	609862.79	538978.27	32°28'52.530"N	103°58'37.412"W	7.20	
8585.00	55.600	170.800	8394.35	343.07	-1020.26	178.53	609866.81	538953.42	32°28'52.284"N	103°58'37.363"W	8.39	
8617.00	58.600	171.200	8411.73	351.55	-1046.80	182.73	609871.01	538926.89	32°28'52.021"N	103°58'37.317"W	9.43	
8649.00	62.100	171.200	8427.56	360.25	-1074.27	186.98	609875.27	538899.41	32°28'51.749"N	103°58'37.269"W	10.94	
8680.00	65.100	171.300	8441.34	368.90	-1101.72	191.20	609879.49	538871.97	32°28'51.478"N	103°58'37.221"W	9.68	
8712.00	66.600	171.200	8454.44	378.01	-1130.57	195.65	609883.93	538843.12	32°28'51.192"N	103°58'37.170"W	4.70	
8744.00	67.200	171.200	8466.99	387.21	-1159.66	200.15	609888.43	538814.03	32°28'50.904"N	103°58'37.119"W	1.87	
8775.00	69.100	172.100	8478.53	395.99	-1188.13	204.33	609892.61	538785.57	32°28'50.622"N	103°58'37.071"W	6.70	
8807.00	71.200	171.600	8489.39	405.07	-1217.92	208.59	609896.88	538755.78	32°28'50.327"N	103°58'37.022"W	6.73	
8838.00	71.200	171.900	8499.38	413.98	-1246.96	212.80	609901.09	538726.74	32°28'50.040"N	103°58'36.974"W	0.92	
8902.00	71.300	172.400	8519.96	431.97	-1307.00	221.08	609909.36	538666.70	32°28'49.445"N	103°58'36.880"W	0.76	
8997.00	69.900	172.600	8551.51	458.05	-1395.84	232.78	609921.06	538577.87	32°28'48.566"N	103°58'36.747"W	1.49	
9033.00	69.600	172.500	8563.97	467.85	-1429.33	237.16	609925.44	538544.39	32°28'48.234"N	103°58'36.697"W	0.87	
9089.00	69.100	171.700	8583.72	483.44	-1481.23	244.36	609932.64	538492.49	32°28'47.721"N	103°58'36.615"W	1.61	
9121.00	70.100	168.300	8594.88	493.42	-1510.76	249.57	609937.85	538462.96	32°28'47.428"N	103°58'36.555"W	10.44	
9153.00	70.800	165.600	8605.59	504.94	-1540.13	256.38	609944.66	538433.59	32°28'47.137"N	103°58'36.477"W	8.25	
9185.00	71.300	163.000	8615.98	517.79	-1569.27	264.57	609952.85	538404.46	32°28'46.849"N	103°58'36.383"W	7.84	



Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU DI28 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit DI-28		

WELLPATH DATA (323 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
9216.00	72.500	159.500	8625.61	531.70	-1597.16	274.04	609962.32	538376.56	32°28'46.572"N	103°58'36.273"W	11.41	
9248.00	73.800	158.100	8634.89	547.30	-1625.71	285.12	609973.39	538348.02	32°28'46.290"N	103°58'36.145"W	-5.83	
9280.00	75.700	156.700	8643.31	563.66	-1654.21	296.98	609985.26	538319.52	32°28'46.007"N	103°58'36.007"W	7.28	
9311.00	75.800	154.800	8650.94	580.32	-1681.61	309.32	609997.60	538292.13	32°28'45.736"N	103°58'35.864"W	5.95	
9343.00	75.900	152.800	8658.76	598.39	-1709.45	323.02	610011.29	538264.29	32°28'45.460"N	103°58'35.706"W	-6.07	
9375.00	74.500	151.100	8666.94	617.21	-1736.75	337.57	610025.84	538236.99	32°28'45.189"N	103°58'35.537"W	6.75	
9407.00	74.300	150.400	8675.54	636.46	-1763.64	352.63	610040.90	538210.10	32°28'44.923"N	103°58'35.362"W	2.20	
9438.00	74.100	149.800	8683.98	655.36	-1789.50	367.50	610055.77	538184.24	32°28'44.666"N	103°58'35.190"W	1.97	
9470.00	74.300	148.200	8692.70	675.33	-1815.89	383.35	610071.62	538157.85	32°28'44.404"N	103°58'35.006"W	4.85	
9501.00	74.200	147.700	8701.11	695.09	-1841.18	399.19	610087.45	538132.57	32°28'44.154"N	103°58'34.822"W	-1.59	
9533.00	73.600	146.100	8709.98	715.86	-1866.93	415.97	610104.24	538106.81	32°28'43.898"N	103°58'34.627"W	5.16	
9564.00	73.500	144.300	8718.76	736.59	-1891.35	432.94	610121.21	538082.40	32°28'43.656"N	103°58'34.430"W	5.58	
9596.00	73.400	141.800	8727.88	758.79	-1915.86	451.38	610139.64	538057.89	32°28'43.413"N	103°58'34.215"W	7.50	
9627.00	72.900	139.600	8736.87	781.09	-1938.82	470.17	610158.43	538034.94	32°28'43.185"N	103°58'33.997"W	6.98	
9659.00	72.900	138.000	8746.28	804.73	-1961.83	490.31	610178.58	538011.93	32°28'42.957"N	103°58'33.763"W	-4.78	
9691.00	73.100	136.100	8755.63	828.96	-1984.23	511.16	610199.42	537989.53	32°28'42.735"N	103°58'33.520"W	5.71	
9722.00	72.700	134.300	8764.75	853.00	-2005.25	532.04	610220.30	537968.51	32°28'42.526"N	103°58'33.277"W	5.70	
9754.00	73.200	132.700	8774.13	878.33	-2026.31	554.23	610242.49	537947.45	32°28'42.317"N	103°58'33.019"W	5.03	
9786.00	73.800	131.000	8783.22	904.23	-2046.78	577.09	610265.34	537926.99	32°28'42.113"N	103°58'32.753"W	5.43	
9817.00	74.600	130.100	8791.66	929.76	-2066.17	599.75	610288.00	537907.60	32°28'41.921"N	103°58'32.489"W	-3.80	
9849.00	75.000	128.900	8800.05	956.48	-2085.81	623.58	610311.83	537887.96	32°28'41.726"N	103°58'32.212"W	3.83	
9880.00	75.700	127.800	8807.89	982.73	-2104.42	647.10	610335.35	537869.35	32°28'41.541"N	103°58'31.938"W	4.11	
9912.00	76.300	126.600	8815.63	1010.20	-2123.19	671.83	610360.08	537850.58	32°28'41.354"N	103°58'31.650"W	4.09	
9943.00	77.500	125.200	8822.66	1037.23	-2140.89	696.29	610384.53	537832.88	32°28'41.178"N	103°58'31.365"W	5.86	
9975.00	77.600	124.400	8829.56	1065.46	-2158.73	721.95	610410.19	537815.05	32°28'41.001"N	103°58'31.067"W	-2.46	
10006.00	78.400	123.000	8836.01	1093.10	-2175.55	747.17	610435.41	537798.22	32°28'40.834"N	103°58'30.773"W	5.12	
10038.00	78.200	121.300	8842.50	1122.00	-2192.22	773.70	610461.94	537781.55	32°28'40.668"N	103°58'30.464"W	5.24	
10070.00	79.200	120.000	8848.77	1151.24	-2208.22	800.70	610488.93	537765.56	32°28'40.509"N	103°58'30.149"W	5.06	
10101.00	79.900	118.500	8854.39	1179.92	-2223.11	827.30	610515.53	537750.66	32°28'40.360"N	103°58'29.839"W	5.27	
10134.00	81.200	116.700	8859.81	1210.85	-2238.19	856.14	610544.37	537735.58	32°28'40.210"N	103°58'29.503"W	-6.67	
10166.00	82.200	115.300	8864.43	1241.19	-2252.07	884.60	610572.83	537721.70	32°28'40.072"N	103°58'29.172"W	5.34	
10197.00	84.000	114.500	8868.15	1270.85	-2265.03	912.51	610600.74	537708.75	32°28'39.943"N	103°58'28.846"W	6.35	
10229.00	83.900	113.500	8871.52	1301.65	-2277.97	941.58	610629.81	537695.81	32°28'39.814"N	103°58'28.507"W	3.12	
10260.00	82.600	111.100	8875.17	1331.65	-2289.65	970.06	610658.29	537684.13	32°28'39.697"N	103°58'28.175"W	8.76	
10291.00	80.800	109.000	8879.64	1361.80	-2300.17	998.88	610687.10	537673.61	32°28'39.592"N	103°58'27.840"W	-8.87	
10323.00	80.400	107.200	8884.87	1393.01	-2309.98	1028.88	610717.10	537663.80	32°28'39.494"N	103°58'27.490"W	5.69	
10355.00	80.800	106.500	8890.10	1424.31	-2319.13	1059.10	610747.31	537654.65	32°28'39.403"N	103°58'27.137"W	2.49	
10387.00	81.800	106.600	8894.94	1455.70	-2328.14	1089.42	610777.63	537645.64	32°28'39.312"N	103°58'26.784"W	3.14	
10419.00	83.300	106.300	8899.09	1487.19	-2337.13	1119.85	610808.06	537636.66	32°28'39.222"N	103°58'26.429"W	4.78	
10450.00	83.900	105.400	8902.54	1517.80	-2345.54	1149.48	610837.69	537628.25	32°28'39.138"N	103°58'26.083"W	-3.47	
10482.00	84.700	103.000	8905.72	1549.53	-2353.35	1180.35	610868.56	537620.44	32°28'39.060"N	103°58'25.723"W	7.87	
10513.00	85.400	101.300	8908.40	1580.38	-2359.85	1210.54	610898.75	537613.94	32°28'38.995"N	103°58'25.371"W	5.91	
10545.00	87.000	99.400	8910.52	1612.30	-2365.58	1241.95	610930.15	537608.20	32°28'38.937"N	103°58'25.005"W	7.75	
10577.00	87.500	97.800	8912.05	1644.26	-2370.36	1273.55	610961.75	537603.42	32°28'38.888"N	103°58'24.636"W	5.23	
10608.00	89.000	96.400	8913.00	1675.22	-2374.19	1304.30	610992.50	537599.60	32°28'38.849"N	103°58'24.277"W	-6.62	



Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU DI28 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit DI-28		

WELLPATH DATA (323 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
10640.00	90.400	94.900	8913.17	1707.15	-2377.34	1336.14	611024.34	537596.45	32°28'38.817"N	103°58'23.906"W	6.41	
10671.00	91.500	94.100	8912.65	1738.03	-2379.77	1367.04	611055.23	537594.01	32°28'38.792"N	103°58'23.545"W	4.39	
10703.00	91.500	92.000	8911.81	1769.82	-2381.48	1398.98	611087.17	537592.31	32°28'38.774"N	103°58'23.172"W	6.56	
10735.00	91.900	90.900	8910.86	1801.49	-2382.29	1430.96	611119.15	537591.50	32°28'38.765"N	103°58'22.799"W	3.66	
10829.00	90.700	89.900	8908.73	1894.31	-2382.94	1524.93	611213.11	537590.85	32°28'38.756"N	103°58'21.702"W	1.66	
10924.00	91.200	89.700	8907.16	1987.96	-2382.61	1619.91	611308.09	537591.18	32°28'38.756"N	103°58'20.593"W	0.57	
11019.00	90.900	89.500	8905.42	2081.55	-2381.95	1714.90	611403.06	537591.84	32°28'38.759"N	103°58'19.485"W	0.38	
11114.00	90.200	89.400	8904.50	2175.11	-2381.04	1809.89	611498.04	537592.75	32°28'38.765"N	103°58'18.376"W	0.74	
11209.00	89.600	88.500	8904.67	2268.53	-2379.29	1904.87	611593.02	537594.49	32°28'38.779"N	103°58'17.267"W	1.14	
11304.00	90.200	88.400	8904.84	2361.79	-2376.73	1999.83	611687.98	537597.06	32°28'38.801"N	103°58'16.159"W	0.64	
11399.00	89.200	88.400	8905.33	2455.04	-2374.07	2094.79	611782.93	537599.72	32°28'38.824"N	103°58'15.050"W	1.05	
11493.00	89.400	88.400	8906.48	2547.30	-2371.45	2188.75	611876.88	537602.34	32°28'38.847"N	103°58'13.953"W	0.21	
11588.00	90.000	89.100	8906.98	2640.65	-2369.38	2283.73	611971.85	537604.41	32°28'38.864"N	103°58'12.844"W	0.97	
11685.00	89.800	88.800	8907.15	2736.04	-2367.60	2380.71	612068.82	537606.19	32°28'38.879"N	103°58'11.712"W	0.37	
11780.00	90.300	88.200	8907.07	2829.32	-2365.11	2475.68	612163.78	537608.68	32°28'38.900"N	103°58'10.604"W	0.82	
11875.00	90.500	89.200	8906.40	2922.66	-2362.96	2570.65	612258.74	537610.83	32°28'38.918"N	103°58'09.495"W	1.07	
11971.00	90.500	89.100	8905.56	3017.12	-2361.53	2666.63	612354.72	537612.25	32°28'38.929"N	103°58'08.374"W	0.10	
12066.00	91.600	90.300	8903.82	3110.74	-2361.03	2761.61	612449.69	537612.75	32°28'38.931"N	103°58'07.266"W	1.71	
12160.00	92.600	90.700	8900.38	3203.54	-2361.85	2855.55	612543.62	537611.93	32°28'38.919"N	103°58'06.169"W	1.15	
12256.00	92.900	90.600	8895.77	3298.30	-2362.94	2951.43	612639.50	537610.84	32°28'38.905"N	103°58'05.050"W	0.33	
12350.00	93.900	90.700	8890.20	3391.04	-2364.01	3045.26	612733.31	537609.78	32°28'38.892"N	103°58'03.955"W	1.07	
12453.00	93.400	91.600	8883.64	3492.76	-2366.07	3148.02	612836.08	537607.72	32°28'38.868"N	103°58'02.755"W	1.00	
12548.00	91.900	91.400	8879.25	3586.75	-2368.55	3242.89	612930.93	537605.23	32°28'38.840"N	103°58'01.648"W	1.59	
12642.00	90.600	90.100	8877.20	3679.65	-2369.78	3336.85	613024.89	537604.00	32°28'38.825"N	103°58'00.551"W	1.96	
12737.00	89.200	90.100	8877.36	3773.40	-2369.95	3431.85	613119.88	537603.84	32°28'38.820"N	103°57'59.443"W	1.47	
12832.00	89.800	90.000	8878.19	3867.13	-2370.03	3526.85	613214.87	537603.76	32°28'38.816"N	103°57'58.334"W	0.64	
12927.00	88.900	89.900	8879.27	3960.83	-2369.95	3621.84	613309.85	537603.84	32°28'38.813"N	103°57'57.225"W	0.95	
13022.00	89.200	89.300	8880.85	4054.42	-2369.29	3716.82	613404.83	537604.50	32°28'38.817"N	103°57'56.116"W	0.71	
13118.00	89.200	89.500	8882.19	4148.95	-2368.28	3812.81	613500.81	537605.51	32°28'38.823"N	103°57'54.996"W	0.21	
13213.00	88.900	89.800	8883.76	4242.56	-2367.70	3907.79	613595.78	537606.09	32°28'38.826"N	103°57'53.887"W	0.45	
13307.00	89.700	89.900	8884.91	4335.24	-2367.45	4001.79	613689.77	537606.33	32°28'38.825"N	103°57'52.790"W	0.86	
13403.00	90.400	89.900	8884.83	4429.92	-2367.29	4097.79	613785.76	537606.50	32°28'38.823"N	103°57'51.669"W	0.73	
13498.00	89.800	89.400	8884.66	4523.54	-2366.71	4192.78	613880.75	537607.08	32°28'38.826"N	103°57'50.560"W	0.82	
13592.00	89.200	89.800	8885.48	4616.16	-2366.05	4286.78	613974.74	537607.74	32°28'38.829"N	103°57'49.463"W	0.77	
13687.00	89.400	90.700	8886.64	4709.94	-2366.47	4381.77	614069.72	537607.32	32°28'38.822"N	103°57'48.354"W	0.97	
13782.00	89.300	91.600	8887.72	4803.95	-2368.37	4476.74	614164.69	537605.42	32°28'38.800"N	103°57'47.246"W	0.95	
13878.00	88.800	92.200	8889.31	4899.11	-2371.55	4572.67	614260.61	537602.23	32°28'38.765"N	103°57'46.126"W	0.81	
13972.00	88.800	92.700	8891.28	4992.39	-2375.57	4666.57	614354.50	537598.22	32°28'38.722"N	103°57'45.030"W	0.53	
14067.00	88.600	93.400	8893.43	5086.78	-2380.62	4761.41	614449.33	537593.16	32°28'38.669"N	103°57'43.923"W	0.77	
14163.00	88.400	93.500	8895.95	5182.23	-2386.40	4857.20	614545.12	537587.39	32°28'38.608"N	103°57'42.805"W	0.23	
14257.00	88.300	93.000	8898.65	5275.64	-2391.73	4951.01	614638.92	537582.06	32°28'38.552"N	103°57'41.711"W	0.54	
14352.00	88.200	90.500	8901.56	5369.74	-2394.63	5045.91	614733.81	537579.16	32°28'38.520"N	103°57'40.603"W	2.63	
14448.00	88.500	88.600	8904.32	5464.28	-2393.87	5141.87	614829.76	537579.92	32°28'38.524"N	103°57'39.483"W	2.00	
14544.00	88.500	88.900	8906.83	5558.59	-2391.78	5237.81	614925.70	537582.01	32°28'38.542"N	103°57'38.363"W	0.31	
14639.00	88.500	89.300	8909.32	5652.02	-2390.29	5332.77	615020.64	537583.50	32°28'38.553"N	103°57'37.254"W	0.42	



Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU DI28 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit DI-28		

WELLPATH DATA (323 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
14735.00	88.700	89.200	8911.67	5746.48	-2389.03	5428.73	615116.60	537584.76	32°28'38.562"N	103°57'36.134"W	0.23	
14830.00	88.200	89.000	8914.24	5839.91	-2387.54	5523.68	615211.55	537586.25	32°28'38.574"N	103°57'35.026"W	0.57	
14925.00	87.800	88.900	8917.55	5933.27	-2385.80	5618.61	615306.46	537587.99	32°28'38.588"N	103°57'33.918"W	0.43	
15021.00	88.000	89.700	8921.07	6027.72	-2384.63	5714.54	615402.38	537589.16	32°28'38.596"N	103°57'32.798"W	0.86	
15115.00	88.100	89.900	8924.27	6120.34	-2384.30	5808.48	615496.32	537589.49	32°28'38.596"N	103°57'31.701"W	0.24	
15210.00	88.200	89.800	8927.33	6213.97	-2384.05	5903.43	615591.26	537589.74	32°28'38.595"N	103°57'30.593"W	0.15	
15306.00	88.200	89.800	8930.35	6308.58	-2383.72	5999.38	615687.21	537590.07	32°28'38.595"N	103°57'29.473"W	0.00	
15401.00	88.100	89.700	8933.42	6402.18	-2383.30	6094.33	615782.15	537590.49	32°28'38.596"N	103°57'28.364"W	0.15	
15496.00	88.200	89.600	8936.48	6495.75	-2382.72	6189.28	615877.09	537591.07	32°28'38.598"N	103°57'27.256"W	0.15	
15591.00	88.400	89.900	8939.30	6589.36	-2382.31	6284.24	615972.04	537591.48	32°28'38.599"N	103°57'26.148"W	0.38	
15685.00	89.100	89.500	8941.35	6681.99	-2381.82	6378.21	616066.01	537591.97	32°28'38.601"N	103°57'25.051"W	0.86	
15780.00	88.900	89.100	8943.01	6775.50	-2380.66	6473.19	616160.98	537593.13	32°28'38.609"N	103°57'23.942"W	0.47	
15875.00	88.800	88.500	8944.92	6868.85	-2378.67	6568.15	616255.93	537595.12	32°28'38.625"N	103°57'22.833"W	0.64	
15970.00	88.800	88.300	8946.91	6962.08	-2376.01	6663.09	616350.87	537597.77	32°28'38.648"N	103°57'21.725"W	0.21	
16064.00	88.300	88.200	8949.28	7054.27	-2373.14	6757.02	616444.79	537600.64	32°28'38.673"N	103°57'20.629"W	0.54	
16159.00	88.400	88.000	8952.02	7147.38	-2370.00	6851.93	616539.69	537603.79	32°28'38.701"N	103°57'19.521"W	0.24	
16254.00	88.000	88.000	8955.00	7240.46	-2366.68	6946.82	616634.57	537607.11	32°28'38.731"N	103°57'18.413"W	0.42	
16349.00	89.100	89.500	8957.41	7333.78	-2364.61	7041.77	616729.51	537609.18	32°28'38.748"N	103°57'17.304"W	1.96	
16443.00	89.200	89.800	8958.80	7426.41	-2364.04	7135.75	616823.49	537609.75	32°28'38.750"N	103°57'16.207"W	0.34	
16538.00	88.100	91.300	8961.04	7520.24	-2364.95	7230.72	616918.45	537608.84	32°28'38.738"N	103°57'15.099"W	1.96	
16633.00	88.400	93.400	8963.94	7614.47	-2368.84	7325.59	617013.31	537604.95	32°28'38.696"N	103°57'13.992"W	2.23	
16728.00	89.500	93.300	8965.68	7708.92	-2374.39	7420.41	617108.12	537599.40	32°28'38.638"N	103°57'12.885"W	1.16	
16823.00	88.000	92.200	8967.76	7803.25	-2378.95	7515.27	617202.98	537594.84	32°28'38.589"N	103°57'11.778"W	1.96	
16917.00	88.400	90.900	8970.71	7896.32	-2381.49	7609.19	617296.89	537592.30	32°28'38.561"N	103°57'10.682"W	1.45	
17012.00	88.300	90.700	8973.44	7990.21	-2382.82	7704.14	617391.83	537590.97	32°28'38.544"N	103°57'09.573"W	0.24	
17107.00	89.700	91.200	8975.10	8084.16	-2384.39	7799.11	617486.79	537589.40	32°28'38.525"N	103°57'08.465"W	1.56	
17202.00	89.900	90.800	8975.43	8178.13	-2386.05	7894.10	617581.77	537587.74	32°28'38.506"N	103°57'07.356"W	0.47	
17297.00	88.300	89.400	8976.93	8271.86	-2386.21	7989.08	617676.75	537587.57	32°28'38.501"N	103°57'06.248"W	2.24	
17391.00	88.400	89.700	8979.63	8364.43	-2385.48	8083.04	617770.70	537588.31	32°28'38.505"N	103°57'05.151"W	0.34	
17486.00	88.400	90.200	8982.29	8458.10	-2385.39	8178.00	617865.65	537588.39	32°28'38.502"N	103°57'04.042"W	0.53	
17581.00	88.300	90.600	8985.02	8551.89	-2386.06	8272.96	617960.60	537587.73	32°28'38.492"N	103°57'02.934"W	0.43	
17676.00	88.300	90.700	8987.84	8645.74	-2387.13	8367.91	618055.55	537586.65	32°28'38.478"N	103°57'01.826"W	0.11	
17766.00	88.600	89.600	8990.27	8734.53	-2387.37	8457.88	618145.51	537586.42	32°28'38.473"N	103°57'00.775"W	1.27	
17861.00	88.600	89.900	8992.59	8828.15	-2386.96	8552.85	618240.47	537586.83	32°28'38.473"N	103°56'59.667"W	0.32	
17956.00	88.100	90.400	8995.33	8921.87	-2387.20	8647.81	618335.42	537586.59	32°28'38.468"N	103°56'58.558"W	0.74	
18051.00	88.400	90.700	8998.23	9015.69	-2388.12	8742.76	618430.36	537585.67	32°28'38.455"N	103°56'57.450"W	0.45	
18146.00	87.900	90.900	9001.30	9109.57	-2389.44	8837.70	618525.30	537584.35	32°28'38.439"N	103°56'56.342"W	0.57	
18240.00	88.200	90.700	9004.50	9202.45	-2390.75	8931.63	618619.23	537583.04	32°28'38.422"N	103°56'55.245"W	0.38	
18336.00	88.100	90.600	9007.60	9297.28	-2391.84	9027.58	618715.16	537581.95	32°28'38.408"N	103°56'54.126"W	0.15	
18431.00	88.000	90.400	9010.83	9391.08	-2392.67	9122.52	618810.10	537581.12	32°28'38.397"N	103°56'53.017"W	0.24	
18526.00	88.000	90.600	9014.14	9484.87	-2393.50	9217.46	618905.03	537580.29	32°28'38.385"N	103°56'51.909"W	0.21	
18621.00	88.500	90.600	9017.04	9578.71	-2394.49	9312.41	618999.97	537579.30	32°28'38.372"N	103°56'50.801"W	0.53	
18715.00	88.500	90.600	9019.51	9671.56	-2395.48	9406.37	619093.93	537578.31	32°28'38.359"N	103°56'49.704"W	0.00	
18811.00	88.600	90.400	9021.93	9766.37	-2396.31	9502.34	619189.88	537577.48	32°28'38.347"N	103°56'48.584"W	0.23	
18905.00	88.600	90.900	9024.23	9859.25	-2397.38	9596.30	619283.84	537576.41	32°28'38.333"N	103°56'47.487"W	0.53	



Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU DI28 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit DI-28		

WELLPATH DATA (323 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
19000.00	88.700	90.700	9026.47	9953.15	-2398.71	9691.27	619378.80	537575.08	32°28'38.316"N	103°56'46.379"W	0.24	
19094.00	88.400	90.700	9028.85	10046.03	-2399.85	9785.23	619472.75	537573.94	32°28'38.302"N	103°56'45.282"W	0.32	
19189.00	88.700	90.500	9031.25	10139.88	-2400.85	9880.19	619567.71	537572.94	32°28'38.288"N	103°56'44.174"W	0.38	
19284.00	88.700	90.100	9033.41	10233.65	-2401.35	9975.17	619662.68	537572.44	32°28'38.280"N	103°56'43.065"W	0.42	
19378.00	88.700	90.000	9035.54	10326.38	-2401.43	10069.14	619756.65	537572.36	32°28'38.276"N	103°56'41.968"W	0.41	
19473.00	88.300	90.000	9038.03	10420.06	-2401.43	10164.11	619851.61	537572.36	32°28'38.272"N	103°56'40.859"W	0.42	
19568.00	88.500	90.000	9040.68	10513.75	-2401.43	10259.07	619946.56	537572.36	32°28'38.269"N	103°56'39.751"W	0.21	
19663.00	88.500	89.900	9043.17	10607.42	-2401.34	10354.04	620041.52	537572.45	32°28'38.266"N	103°56'38.642"W	0.11	
19758.00	88.500	89.800	9045.65	10701.07	-2401.10	10449.01	620136.48	537572.69	32°28'38.265"N	103°56'37.534"W	0.11	
19853.00	88.700	89.800	9047.97	10794.70	-2400.76	10543.98	620231.44	537573.03	32°28'38.265"N	103°56'36.425"W	0.21	
19948.00	88.400	89.500	9050.38	10888.30	-2400.18	10638.95	620326.40	537573.61	32°28'38.268"N	103°56'35.317"W	0.45	
20041.00	88.500	89.700	9052.89	10979.90	-2399.54	10731.91	620419.36	537574.25	32°28'38.271"N	103°56'34.232"W	0.24	
20136.00	88.500	90.400	9055.38	11073.60	-2399.62	10826.88	620514.32	537574.17	32°28'38.266"N	103°56'33.123"W	0.74	
20230.00	88.400	91.200	9057.92	11166.50	-2400.93	10920.83	620608.27	537572.86	32°28'38.250"N	103°56'32.026"W	0.86	
20325.00	88.400	91.700	9060.58	11260.55	-2403.33	11015.76	620703.19	537570.46	32°28'38.223"N	103°56'30.918"W	0.53	
20420.00	88.400	91.500	9063.23	11354.63	-2405.98	11110.69	620798.11	537567.81	32°28'38.193"N	103°56'29.810"W	0.21	
20515.00	88.400	91.600	9065.88	11448.70	-2408.55	11205.62	620893.03	537565.24	32°28'38.164"N	103°56'28.702"W	0.11	
20610.00	89.000	91.600	9068.04	11542.79	-2411.21	11300.56	620987.96	537562.59	32°28'38.135"N	103°56'27.594"W	0.63	
20704.00	89.100	91.100	9069.59	11635.85	-2413.42	11394.52	621081.92	537560.37	32°28'38.109"N	103°56'26.498"W	0.54	
20799.00	89.200	90.300	9071.00	11729.74	-2414.58	11489.50	621176.89	537559.21	32°28'38.094"N	103°56'25.389"W	0.85	
20893.00	91.000	90.500	9070.84	11822.57	-2415.24	11583.49	621270.88	537558.55	32°28'38.084"N	103°56'24.292"W	1.93	
20988.00	89.700	90.300	9070.26	11916.40	-2415.90	11678.49	621365.86	537557.89	32°28'38.074"N	103°56'23.183"W	1.38	
21082.00	88.600	90.400	9071.65	12009.21	-2416.47	11772.47	621459.84	537557.32	32°28'38.065"N	103°56'22.086"W	1.18	
21177.00	88.500	90.300	9074.06	12102.99	-2417.05	11867.44	621554.80	537556.74	32°28'38.056"N	103°56'20.978"W	0.15	
21271.00	88.100	90.100	9076.85	12195.74	-2417.38	11961.40	621648.75	537556.41	32°28'38.049"N	103°56'19.881"W	0.48	
21366.00	88.400	89.900	9079.75	12289.41	-2417.38	12056.35	621743.70	537556.41	32°28'38.046"N	103°56'18.772"W	0.38	
21461.00	87.800	90.100	9082.90	12383.08	-2417.38	12151.30	621838.64	537556.41	32°28'38.042"N	103°56'17.664"W	0.67	
21555.00	87.900	89.500	9086.42	12475.69	-2417.05	12245.23	621932.56	537556.74	32°28'38.042"N	103°56'16.568"W	0.65	
21650.00	89.400	89.300	9088.66	12569.22	-2416.06	12340.20	622027.52	537557.73	32°28'38.049"N	103°56'15.459"W	1.59	
21745.00	90.100	88.700	9089.08	12662.65	-2414.40	12435.18	622122.50	537559.39	32°28'38.061"N	103°56'14.350"W	0.97	
21839.00	89.400	88.500	9089.49	12754.98	-2412.10	12529.15	622216.46	537561.69	32°28'38.081"N	103°56'13.253"W	0.77	
21934.00	90.500	88.600	9089.57	12848.27	-2409.70	12624.12	622311.42	537564.09	32°28'38.101"N	103°56'12.145"W	1.16	
22029.00	91.100	89.400	9088.24	12941.70	-2408.04	12719.10	622406.39	537565.75	32°28'38.114"N	103°56'11.036"W	1.05	
22124.00	91.500	90.700	9086.09	13035.40	-2408.13	12814.07	622501.36	537565.66	32°28'38.110"N	103°56'09.927"W	1.43	
22219.00	89.800	91.300	9085.01	13129.37	-2409.78	12909.05	622596.32	537564.01	32°28'38.090"N	103°56'08.819"W	1.90	
22313.00	87.800	90.500	9086.98	13222.31	-2411.26	13003.01	622690.28	537562.53	32°28'38.072"N	103°56'07.722"W	2.29	
22408.00	88.400	91.200	9090.13	13316.19	-2412.67	13097.94	622785.21	537561.12	32°28'38.054"N	103°56'06.614"W	0.97	
22503.00	88.500	91.900	9092.70	13410.26	-2415.24	13192.87	622880.13	537558.55	32°28'38.025"N	103°56'05.506"W	0.74	
22598.00	88.400	91.000	9095.27	13504.31	-2417.64	13287.81	622975.06	537556.15	32°28'37.998"N	103°56'04.398"W	0.95	
22693.00	88.500	90.500	9097.84	13598.19	-2418.88	13382.76	623070.01	537554.91	32°28'37.982"N	103°56'03.290"W	0.54	
22788.00	87.900	90.600	9100.82	13692.01	-2419.80	13477.71	623164.95	537554.00	32°28'37.970"N	103°56'02.181"W	0.64	
22883.00	88.000	91.100	9104.22	13785.89	-2421.20	13572.64	623259.87	537552.59	32°28'37.952"N	103°56'01.073"W	0.54	
22978.00	88.100	91.100	9107.45	13879.83	-2423.03	13667.57	623354.79	537550.77	32°28'37.931"N	103°55'59.965"W	0.11	
23073.00	88.100	91.500	9110.60	13973.83	-2425.18	13762.49	623449.70	537548.61	32°28'37.906"N	103°55'58.857"W	0.42	
23168.00	88.400	91.700	9113.50	14067.90	-2427.83	13857.41	623544.61	537545.96	32°28'37.876"N	103°55'57.750"W	0.38	



Actual Wellpath Report

No. 277H AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, LP	Slot	BEU DI28 No.277H
Area	Eddy County, NM	Well	No.277H
Field	Big Eddy	Wellbore	No. 277H AWP
Facility	Big Eddy Unit DI-28		

WELLPATH DATA (323 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
23263.00	88.700	91.600	9115.91	14162.00	-2430.57	13952.34	623639.54	537543.23	32°28'37.845"N	103°55'56.642"W	0.33	
23358.00	88.900	91.800	9117.90	14256.12	-2433.38	14047.28	623734.47	537540.41	32°28'37.814"N	103°55'55.534"W	0.30	
23453.00	89.500	92.600	9119.22	14350.36	-2437.03	14142.20	623829.38	537536.76	32°28'37.774"N	103°55'54.426"W	1.05	
23548.00	87.400	92.000	9121.79	14444.58	-2440.84	14237.08	623924.25	537532.95	32°28'37.733"N	103°55'53.318"W	2.30	
23642.00	87.900	90.300	9125.65	14537.53	-2442.73	14330.98	624018.14	537531.07	32°28'37.711"N	103°55'52.222"W	1.88	
23737.00	86.800	87.100	9130.04	14630.76	-2440.57	14425.84	624113.00	537533.22	32°28'37.729"N	103°55'51.115"W	3.56	
23822.00	84.700	90.100	9136.34	14714.00	-2438.50	14510.56	624197.72	537535.29	32°28'37.746"N	103°55'50.126"W	4.30	
23889.00	84.700	90.100	9142.53	14779.83	-2438.62	14577.28	624264.42	537535.18	32°28'37.742"N	103°55'49.347"W	0.00	Projection to Bit

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
BEU DI28 No.277H PBHL (Rev-D.0)		9150.00	-2287.67	14473.67	624160.82	537686.11	32°28'39.240"N	103°55'50.550"W	point
BEU DI28 No.277H PBHL		10251.00	-2287.67	14473.67	624160.82	537686.11	32°28'39.240"N	103°55'50.550"W	point

WELLPATH COMPOSITION Ref Wellbore: No. 277H AWP Ref Wellpath: No. 277H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
27.00	627.25	Generic gyro - northseeking (Standard)	GyroData Surface Gyros <87 - 627>	No. 277H AWP
627.25	23822.00	NaviTrak (Standard)	BHI NaviTrak	No. 277H AWP
23822.00	23889.00	Blind Drilling (std)	Projection to bit	No. 277H AWP