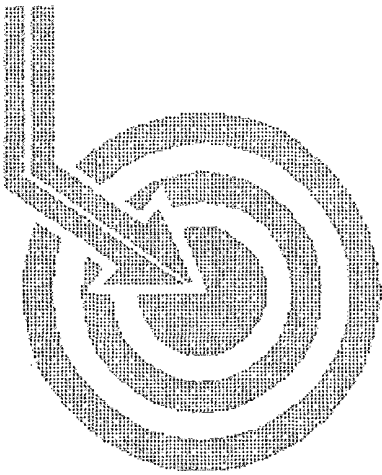
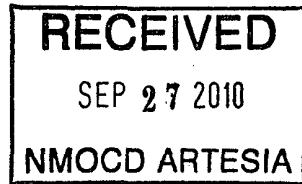




Scientific Drilling



30-015-37310

BOPCO

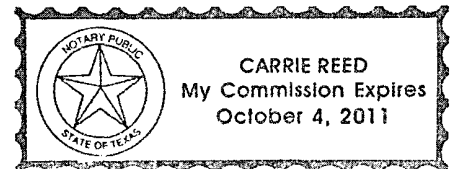
Field: Quahada Ridge
Site: Eddy County, NM
Well: Hudson 1 Federal #9H
Wellpath: VH - Job #32K0210110
Survey: 02/16/10

This survey is correct to the best of my knowledge and is supported by actual field data.

Richard
Company Representative

Notarized this date 11th of March, 2010.

Carrie Reed
Notary Signature
County of Midland
State of Texas





Scientific
Drilling

Scientific Drilling International, Inc.

Survey Report

Company: BOPCO Date: 2/19/2010 Time: 15:58:53 Page: 1
Field: Quahada Ridge Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North
Site: Eddy County, NM Vertical (TVD) Reference: SITE 0.0
Well: Hudson 1 Federal #9H Section (VS) Reference: Well (0.00N,0.00E,267.26Azi)
Wellpath: VH - Job #32K0210110 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 02/16/10 Start Date: 2/16/2010
Company: Scientific Drilling Internatio Engineer: Melendez w/Express
Tool: KSRG, Keeper Gyro Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.0	0.00	359.73	0.0	0.0	0.0	0.0	0.00	0.0	0.00
100.0	0.38	351.11	100.0	0.0	0.3	-0.1	0.38	0.3	351.11
200.0	0.66	1.83	200.0	0.0	1.2	-0.1	0.30	1.2	356.09
300.0	0.64	8.87	300.0	-0.1	2.4	0.0	0.08	2.4	0.50
400.0	0.67	359.50	400.0	-0.3	3.5	0.1	0.11	3.5	1.66
500.0	0.62	349.18	500.0	-0.2	4.6	0.0	0.13	4.6	359.93
600.0	0.13	223.45	600.0	-0.1	5.1	-0.2	0.70	5.1	357.91
700.0	0.24	223.79	700.0	0.2	4.8	-0.4	0.11	4.8	355.17
800.0	0.19	230.01	800.0	0.5	4.6	-0.7	0.06	4.6	351.54
900.0	0.08	284.56	900.0	0.7	4.5	-0.9	0.16	4.6	348.96
1000.0	0.12	275.21	1000.0	0.8	4.5	-1.0	0.04	4.6	346.93
1100.0	0.10	278.81	1100.0	1.0	4.5	-1.2	0.02	4.7	344.73
1200.0	0.14	270.53	1200.0	1.2	4.5	-1.4	0.04	4.8	342.36
1300.0	0.03	305.66	1300.0	1.4	4.6	-1.6	0.12	4.8	340.79
1400.0	0.04	221.84	1400.0	1.4	4.5	-1.6	0.05	4.8	340.25
1500.0	0.26	240.13	1500.0	1.6	4.4	-1.9	0.22	4.8	337.21
1600.0	0.05	23.80	1600.0	1.8	4.3	-2.0	0.30	4.8	334.90
1700.0	0.12	260.19	1700.0	1.9	4.4	-2.1	0.15	4.8	334.09
1800.0	0.01	302.63	1800.0	2.0	4.3	-2.2	0.11	4.9	332.86
1900.0	0.16	234.12	1900.0	2.1	4.3	-2.3	0.16	4.9	331.18
2000.0	0.22	186.33	2000.0	2.3	4.0	-2.5	0.16	4.7	328.15
2100.0	0.19	129.03	2100.0	2.2	3.7	-2.4	0.20	4.4	327.31
2200.0	0.21	173.39	2200.0	2.1	3.4	-2.2	0.15	4.1	326.91
2300.0	0.29	208.31	2300.0	2.2	3.0	-2.3	0.17	3.8	322.32
2400.0	0.17	157.65	2400.0	2.3	2.7	-2.4	0.22	3.6	317.98
2500.0	0.12	265.70	2500.0	2.3	2.5	-2.4	0.24	3.5	315.80
2600.0	0.21	266.74	2600.0	2.6	2.5	-2.7	0.09	3.7	312.40
2700.0	0.22	279.92	2700.0	3.0	2.5	-3.1	0.05	4.0	309.03
2800.0	0.36	293.25	2800.0	3.4	2.7	-3.6	0.15	4.5	306.73
2900.0	0.49	319.01	2900.0	4.0	3.1	-4.1	0.23	5.2	306.93
3000.0	0.48	313.58	3000.0	4.5	3.7	-4.7	0.05	6.0	308.24
3100.0	0.15	334.00	3100.0	4.9	4.1	-5.1	0.34	6.6	309.08
3200.0	0.17	0.73	3200.0	4.9	4.4	-5.1	0.08	6.8	310.53
3300.0	0.16	21.37	3300.0	4.9	4.7	-5.1	0.06	6.9	312.57
3400.0	0.41	79.52	3400.0	4.4	4.9	-4.7	0.35	6.8	316.10
3500.0	0.43	88.57	3500.0	3.7	4.9	-4.0	0.07	6.3	321.31
3600.0	0.49	145.82	3599.9	3.1	4.6	-3.3	0.44	5.7	323.98
3700.0	0.68	234.10	3699.9	3.4	3.9	-3.6	0.83	5.3	317.40
3800.0	0.12	20.29	3799.9	3.9	3.6	-4.0	0.78	5.4	312.16
3900.0	0.24	44.78	3899.9	3.7	3.9	-3.8	0.14	5.5	315.37
4000.0	0.31	40.13	3999.9	3.3	4.3	-3.5	0.07	5.5	320.35
4100.0	0.14	22.66	4099.9	3.1	4.6	-3.3	0.18	5.6	324.15
4200.0	0.11	1.83	4199.9	3.0	4.8	-3.3	0.05	5.8	325.77
4300.0	0.24	2.74	4299.9	3.0	5.1	-3.2	0.13	6.0	327.50
4400.0	0.21	351.52	4399.9	3.0	5.5	-3.3	0.05	6.4	329.26
4500.0	0.19	326.67	4499.9	3.1	5.8	-3.4	0.09	6.7	329.79
4600.0	0.27	324.66	4599.9	3.3	6.1	-3.6	0.08	7.1	329.55
4700.0	0.28	296.58	4699.9	3.6	6.4	-4.0	0.13	7.5	328.38
4800.0	0.28	298.81	4799.9	4.1	6.7	-4.4	0.01	8.0	326.59



Scientific
Drilling

Scientific Drilling International, Inc.

Survey Report

Company: BOPCO	Date: 2/19/2010	Time: 15:58:53	Page: 2
Field: Quahada Ridge	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Hudson 1 Federal #9H	Section (VS) Reference:	Well (0.00N,0.00E,267.26Azi)	
Wellpath: VH - Job #32K0210110	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.0	0.21	300.36	4899.9	4.4	6.9	-4.8	0.07	8.4	325.26
5000.0	0.21	303.30	4999.9	4.7	7.1	-5.1	0.01	8.7	324.30
5100.0	0.27	279.01	5099.9	5.1	7.2	-5.5	0.12	9.0	322.82
5200.0	0.31	266.38	5199.9	5.6	7.2	-6.0	0.08	9.4	320.44
5300.0	0.26	289.55	5299.9	6.1	7.3	-6.4	0.12	9.7	318.46
5400.0	0.27	264.46	5399.9	6.5	7.3	-6.9	0.12	10.1	316.75
5500.0	0.23	278.16	5499.9	7.0	7.3	-7.3	0.07	10.4	315.03
5600.0	0.19	280.02	5599.9	7.3	7.4	-7.7	0.04	10.7	313.87
5700.0	0.18	260.65	5699.9	7.6	7.4	-8.0	0.06	10.9	312.72
5800.0	0.04	312.35	5799.9	7.8	7.4	-8.2	0.16	11.0	312.08
5900.0	0.45	206.82	5899.9	8.0	7.1	-8.4	0.46	11.0	310.10
6000.0	0.47	193.19	5999.9	8.3	6.3	-8.7	0.11	10.7	306.10
6100.0	0.53	171.63	6099.9	8.4	5.5	-8.7	0.20	10.3	302.14
6200.0	0.54	200.13	6199.9	8.6	4.6	-8.8	0.26	9.9	297.43
6300.0	0.51	198.56	6299.9	8.9	3.7	-9.1	0.03	9.8	292.12
6400.0	0.35	227.10	6399.9	9.3	3.1	-9.5	0.26	9.9	287.96
6500.0	0.53	232.90	6499.9	9.9	2.6	-10.0	0.19	10.4	284.39
6600.0	0.73	211.39	6599.9	10.6	1.8	-10.7	0.31	10.9	279.27
6700.0	0.86	200.02	6699.9	11.3	0.5	-11.3	0.20	11.3	272.56
6774.0	0.83	181.30	6773.9	11.5	-0.6	-11.5	0.37	11.5	267.26



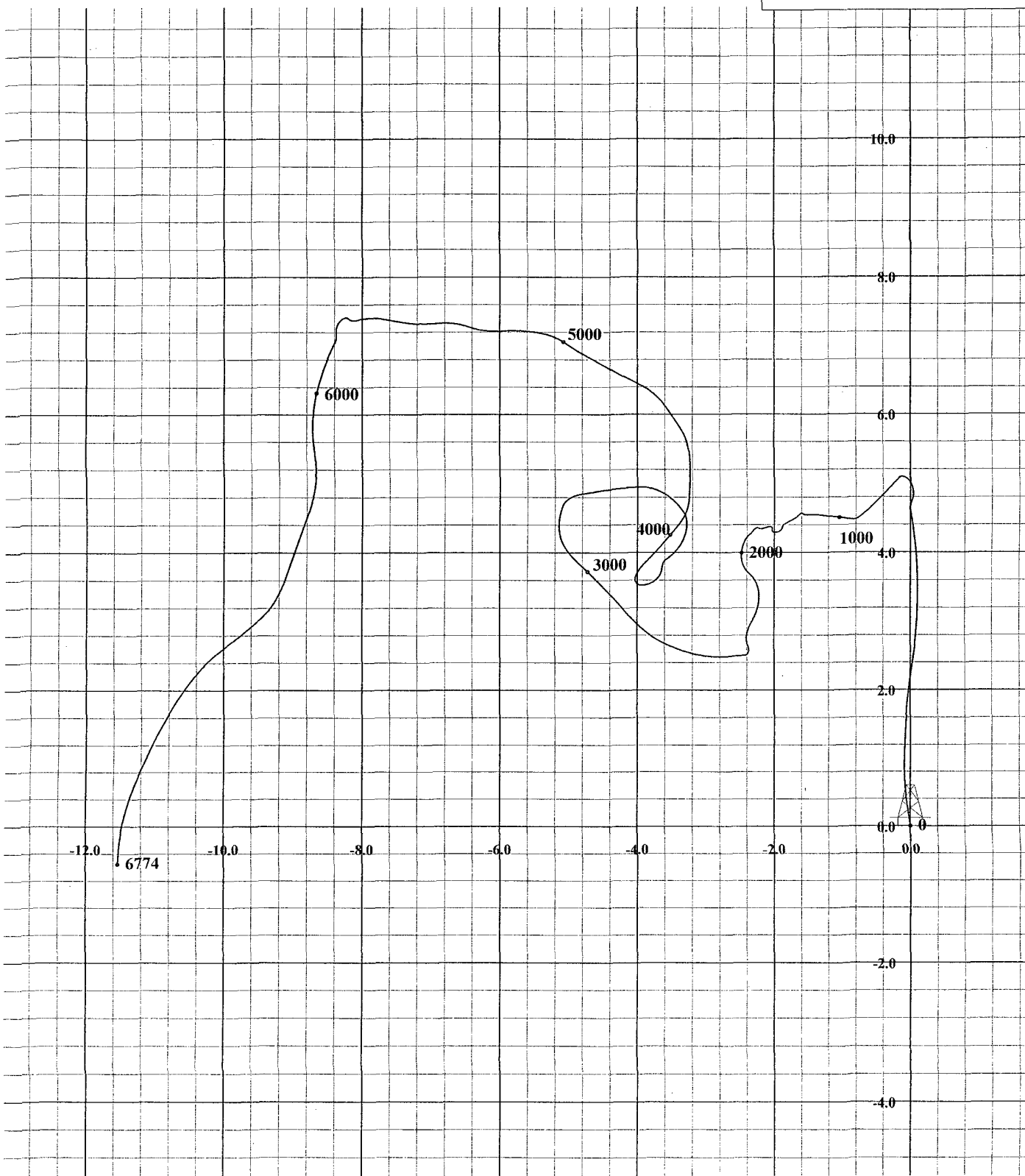
Scientific
Drilling

Field: Quahada Ridge
Site: Eddy County, NM
Well: Hudson 1 Federal #9H
Survey: 02/16/10



Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°
Magnetic Field
Dip Angle: 0.00°
Date: 2/19/2010
Model: igrf2000

South(-)/North(+) [2ft/in]



West(-)/East(+) [2ft/in]



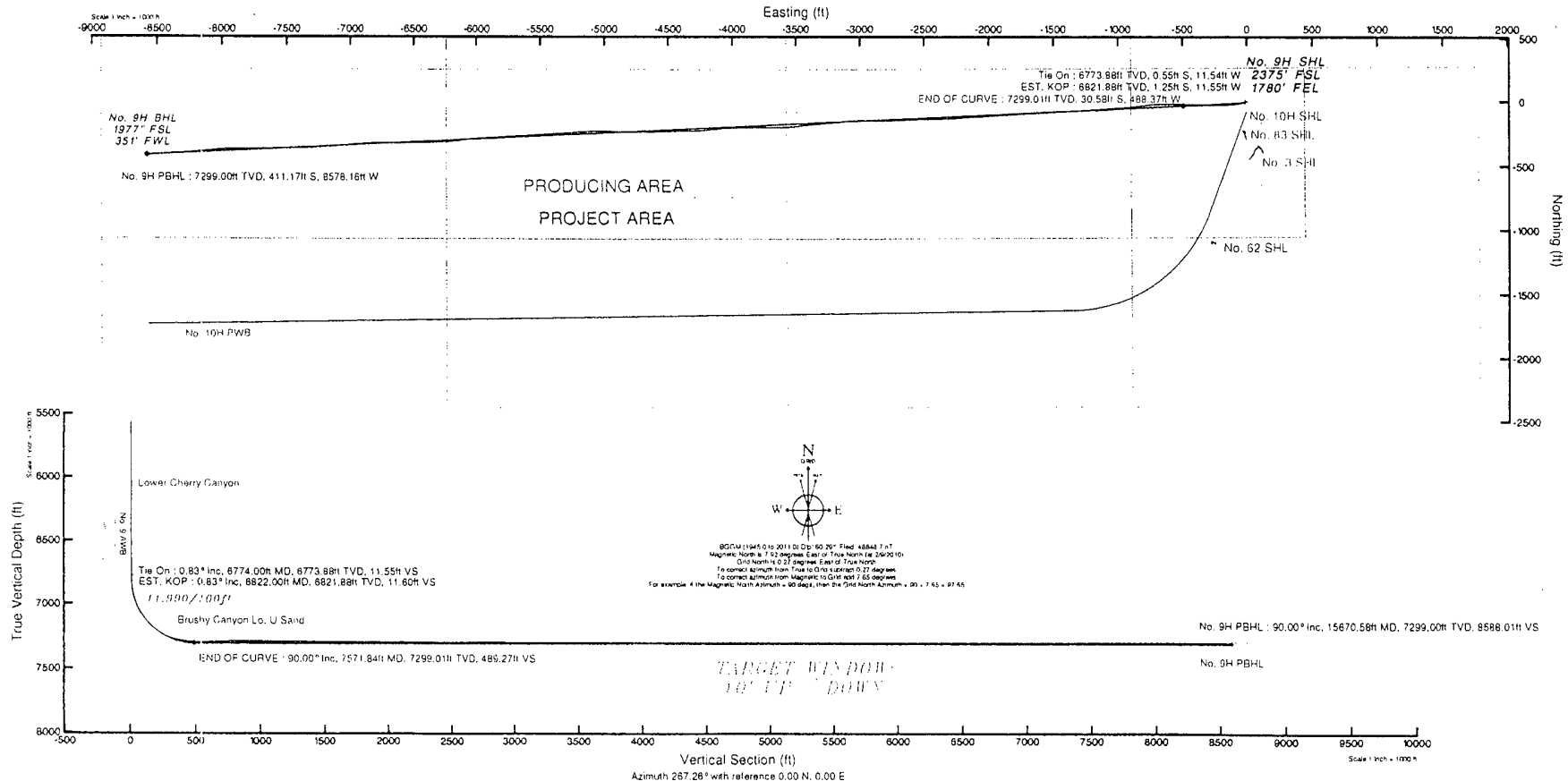
Slot: No. 9H SHL
Well: No. 9H
Wellbore: No. 9H PW8

Plot reference wellpath is Plot #14 True vertical depths are referenced to Rig on No. 94 SHL (RT) Measured depths are referenced to Rig on No. 94 SHL (RT) Rig on No. 94 SHL (RT) to Mean Sea Level: 3309 feet Mean Sea Level to Mud line (Facility Hudson 1-Fed No. 94) : 3290 feet Coordinates are in feet referenced to Surface Location		Grid System: NAD83 / TM New Mexico State Plane, Eastern Zone (3001), US feet North Reference: Grid north Scale: True distance Depths are in feet Created by: Victor Hernandez on 3/5/2010
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Well Profile Data

VERTICAL DATA								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6774.00	0.830	181.300	6773.88	-0.55	-11.54	0.37	11.55
EST. KOP	6822.00	0.830	181.300	6821.88	-1.25	-11.55	0.00	11.60
END OF CURVE	7571.84	90.000	267.306	7299.01	-30.58	-488.37	11.99	489.27
No. 9H PBHL	15670.58	90.000	267.306	7299.00	-411.17	-8578.16	0.00	8588.01





Actual Wellpath Report

No. 9H AWP

Page 1 of 8



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 9H SHL
Area	Eddy County, NM	Well	No. 9H
Field	Quahada Ridge, SE (Delaware)	Wellbore	No. 9H AWB
Facility	Hudson 1 Fed No. 9H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Victor Hernandez
Scale	0.999937	Report Generated	3/5/2010 at 10:14:19 AM
Convergence at slot	0.27° East	Database/Source file	WA_Midland/No._9H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	696371.30	485350.50	32°19'59.887"N	103°49'52.981"W
Facility Reference Pt			696371.30	485350.50	32°19'59.887"N	103°49'52.981"W
Field Reference Pt			696371.30	485350.50	32°19'59.887"N	103°49'52.981"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 9H SHL (RT) to GL	19.00ft
Horizontal Reference Pt	Surface Location	Rig on No. 9H SHL (RT) to Mean Sea Level	3309.00ft
Vertical Reference Pt	Rig on No. 9H SHL (RT)	GL to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 9H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	267.26°



Actual Wellpath Report

No. 9H AWP

Page 2 of 8



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 9H SHL
Area	Eddy County, NM	Well	No. 9H
Field	Quahada Ridge, SE (Delaware)	Wellbore	No. 9H AWP
Facility	Hudson 1 Fed No. 9H		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]
0.00	0.000	351.110	0.00	0.00	0.00	0.00	696371.30	485350.50	32°19'59.887"N	103°49'52.981"W	0.00
100.00	0.380	351.110	100.00	0.04	0.33	-0.05	696371.25	485350.83	32°19'59.890"N	103°49'52.981"W	0.38
200.00	0.660	1.830	200.00	0.03	1.23	-0.08	696371.22	485351.73	32°19'59.899"N	103°49'52.982"W	0.30
300.00	0.640	8.870	299.99	-0.13	2.36	0.02	696371.32	485352.86	32°19'59.910"N	103°49'52.980"W	0.08
400.00	0.670	359.500	399.98	-0.27	3.49	-0.10	696371.40	485353.99	32°19'59.921"N	103°49'52.979"W	0.11
500.00	0.620	349.180	499.98	-0.22	4.61	-0.01	696371.29	485355.11	32°19'59.932"N	103°49'52.981"W	0.13
600.00	0.130	223.450	599.97	-0.06	5.06	-0.18	696371.12	485355.56	32°19'59.937"N	103°49'52.983"W	0.70
700.00	0.240	223.790	699.97	0.18	4.83	-0.41	696370.89	485355.33	32°19'59.934"N	103°49'52.985"W	0.11
800.00	0.190	230.010	799.97	0.46	4.57	-0.68	696370.62	485355.07	32°19'59.932"N	103°49'52.988"W	0.06
900.00	0.080	284.560	899.97	0.66	4.48	-0.87	696370.43	485354.98	32°19'59.931"N	103°49'52.991"W	0.16
1000.00	0.120	275.210	999.97	0.83	4.51	-1.05	696370.25	485355.01	32°19'59.931"N	103°49'52.993"W	0.04
1100.00	0.100	278.810	1099.97	1.02	4.53	-1.24	696370.06	485355.03	32°19'59.931"N	103°49'52.995"W	0.02
1200.00	0.140	270.530	1199.97	1.23	4.54	-1.45	696369.85	485355.04	32°19'59.932"N	103°49'52.997"W	0.04
1300.00	0.030	305.660	1299.97	1.37	4.56	-1.59	696369.71	485355.06	32°19'59.932"N	103°49'52.999"W	0.12
1400.00	0.040	221.840	1399.97	1.41	4.55	-1.64	696369.67	485355.05	32°19'59.932"N	103°49'52.999"W	0.05
1500.00	0.260	240.130	1499.97	1.64	4.41	-1.85	696369.45	485354.91	32°19'59.930"N	103°49'53.002"W	0.22
1600.00	0.050	23.800	1599.97	1.82	4.34	-2.03	696369.27	485354.84	32°19'59.930"N	103°49'53.004"W	0.30
1700.00	0.120	260.190	1699.97	1.91	4.36	-2.12	696369.18	485354.86	32°19'59.930"N	103°49'53.005"W	0.15
1800.00	0.010	302.630	1799.97	2.02	4.35	-2.23	696369.07	485354.85	32°19'59.930"N	103°49'53.006"W	0.11
1900.00	0.160	234.120	1899.97	2.14	4.27	-2.35	696368.95	485354.77	32°19'59.929"N	103°49'53.008"W	0.16
2000.00	0.220	186.330	1999.97	2.29	4.00	-2.48	696368.82	485354.50	32°19'59.926"N	103°49'53.009"W	0.16
2100.00	0.190	129.030	2099.97	2.20	3.70	-2.38	696368.92	485354.20	32°19'59.923"N	103°49'53.008"W	0.20
2200.00	0.210	173.390	2199.97	2.06	3.42	-2.23	696369.07	485353.91	32°19'59.920"N	103°49'53.008"W	0.15
2300.00	0.290	208.310	2299.97	2.18	3.01	-2.32	696368.98	485353.51	32°19'59.916"N	103°49'53.008"W	0.17
2400.00	0.170	157.650	2399.97	2.26	2.65	-2.39	696368.91	485353.15	32°19'59.913"N	103°49'53.008"W	0.22
2500.00	0.120	265.700	2499.97	2.31	2.51	-2.44	696368.86	485353.01	32°19'59.911"N	103°49'53.009"W	0.24
2600.00	0.210	266.740	2599.97	2.60	2.49	-2.72	696368.58	485352.99	32°19'59.911"N	103°49'53.012"W	0.09
2700.00	0.220	279.920	2699.97	2.97	2.51	-3.10	696368.20	485353.01	32°19'59.911"N	103°49'53.017"W	0.05
2800.00	0.360	293.250	2799.97	3.44	2.67	-3.57	696367.73	485353.17	32°19'59.913"N	103°49'53.022"W	0.15
2900.00	0.490	314.010	2899.96	3.99	2.11	-4.14	696367.16	485353.61	32°19'59.918"N	103°49'53.029"W	0.23



Actual Wellpath Report

No. 9H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 9H SHL
Area	Eddy County, NM	Well	No. 9H
Field	Quahada Ridge, SE (Delaware)	Wellbore	No. 9H AWP
Facility	Hudson 1 Fed No. 9H		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]
3000.00	0.480	313.580	2999.96	4.54	3.73	-4.73	696366.57	485354.22	32°19'59.924"N	103°49'53.036"W	0.05
3100.00	0.150	334.000	3099.96	4.88	4.13	-5.09	696366.21	485354.63	32°19'59.928"N	103°49'53.040"W	0.34
3200.00	0.170	0.730	3199.96	4.93	4.40	-5.14	696366.16	485354.90	32°19'59.930"N	103°49'53.040"W	0.08
3300.00	0.160	21.370	3299.96	4.86	4.68	-5.09	696366.21	485355.18	32°19'59.933"N	103°49'53.040"W	0.06
3400.00	0.410	79.520	3399.96	4.45	4.87	-4.69	696366.61	485355.37	32°19'59.935"N	103°49'53.035"W	0.35
3500.00	0.430	88.570	3499.95	3.72	4.95	-3.96	696367.34	485355.45	32°19'59.936"N	103°49'53.027"W	0.07
3600.00	0.490	145.820	3599.95	3.12	4.60	-3.35	696367.96	485355.10	32°19'59.932"N	103°49'53.019"W	0.44
3700.00	0.680	234.100	3699.95	3.39	3.90	-3.59	696367.71	485354.40	32°19'59.925"N	103°49'53.022"W	0.83
3800.00	0.120	20.290	3799.94	3.85	3.65	-4.03	696367.27	485354.15	32°19'59.923"N	103°49'53.027"W	0.78
3900.00	0.240	44.780	3899.94	3.66	3.90	-3.85	696367.45	485354.40	32°19'59.924"N	103°49'53.025"W	0.14
4000.00	0.310	40.130	3999.94	3.32	4.25	-3.52	696367.78	485354.75	32°19'59.929"N	103°49'53.022"W	0.07
4100.00	0.140	22.660	4099.94	3.08	4.57	-3.30	696368.00	485355.07	32°19'59.932"N	103°49'53.019"W	0.18
4200.00	0.110	1.830	4199.94	3.02	4.78	-3.25	696368.05	485355.28	32°19'59.934"N	103°49'53.018"W	0.05
4300.00	0.240	2.740	4299.94	2.99	5.09	-3.24	696368.06	485355.58	32°19'59.937"N	103°49'53.018"W	0.13
4400.00	0.210	251.520	4399.94	2.99	5.48	-3.26	696368.04	485355.98	32°19'59.941"N	103°49'53.018"W	0.05
4500.00	0.190	326.670	4499.94	3.09	5.80	-3.37	696367.93	485356.30	32°19'59.944"N	103°49'53.020"W	0.09
4600.00	0.270	324.660	4599.94	3.30	6.13	-3.60	696367.70	485356.63	32°19'59.947"N	103°49'53.022"W	0.08
4700.00	0.280	296.580	4699.94	3.64	6.43	-3.96	696367.34	485356.93	32°19'59.950"N	103°49'53.026"W	0.13
4800.00	0.280	298.810	4799.94	4.07	6.65	-4.39	696366.91	485357.15	32°19'59.953"N	103°49'53.032"W	0.01
4900.00	0.210	300.360	4899.94	4.43	6.84	-4.76	696366.54	485357.66	32°19'59.954"N	103°49'53.036"W	0.07
5000.00	0.210	303.300	4999.93	4.73	7.06	-5.07	696366.23	485357.56	32°19'59.957"N	103°49'53.039"W	0.01
5100.00	0.270	279.010	5099.93	5.11	7.20	-5.46	696365.84	485357.70	32°19'59.958"N	103°49'53.044"W	0.12
5200.00	0.310	266.380	5199.93	5.61	7.22	-5.96	696365.34	485357.72	32°19'59.958"N	103°49'53.050"W	0.08
5300.00	0.260	289.550	5299.93	6.09	7.27	-6.45	696364.86	485357.77	32°19'59.959"N	103°49'53.055"W	0.12
5400.00	0.270	264.460	5399.93	6.53	7.31	-6.89	696364.41	485357.89	32°19'59.959"N	103°49'53.061"W	0.12
5500.00	0.230	278.160	5499.93	6.97	7.33	-7.33	696363.97	485357.83	32°19'59.959"N	103°49'53.066"W	0.07
5600.00	0.190	280.020	5599.93	7.33	7.39	-7.69	696363.61	485357.89	32°19'59.960"N	103°49'53.070"W	0.04
5700.00	0.180	260.650	5699.93	7.64	7.39	-8.01	696363.29	485357.89	32°19'59.960"N	103°49'53.074"W	0.06
5800.00	0.040	312.350	5799.93	7.82	7.39	-8.19	696363.11	485357.89	32°19'59.960"N	103°49'53.076"W	0.16
5900.00	0.450	206.820	5899.93	8.04	7.07	-8.39	696362.91	485357.56	32°19'59.957"N	103°49'53.078"W	0.46



Actual Wellpath Report

No. 9H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 9H SHL
Area	Eddy County, NM	Well	No. 9H
Field	Quahada Ridge, SE (Delaware)	Wellbore	No. 9H AWP
Facility	Hudson 1 Fed No. 9H		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]
6000.00	0.470	193.190	5999.92	8.35	6.32	-8.66	696362.64	485356.82	32°19'59.949"N	103°49'53.081"W	0.11
6100.00	0.530	171.630	6099.92	8.42	5.46	-8.69	696362.61	485355.96	32°19'59.941"N	103°49'53.082"W	0.20
6200.00	0.540	200.130	6199.92	8.55	4.56	-8.78	696362.52	485355.06	32°19'59.932"N	103°49'53.083"W	0.26
6300.00	0.510	198.560	6299.91	8.90	3.69	-9.09	696362.21	485354.19	32°19'59.923"N	103°49'53.086"W	0.03
6400.00	0.350	227.100	6399.91	9.29	3.06	-9.45	696361.85	485353.56	32°19'59.917"N	103°49'53.091"W	0.26
6500.00	0.530	232.900	6499.91	9.91	2.58	-10.04	696361.26	485353.08	32°19'59.912"N	103°49'53.098"W	0.19
6600.00	0.730	211.390	6599.90	10.65	1.75	-10.75	696360.56	485352.25	32°19'59.904"N	103°49'53.106"W	0.31
6700.00	0.860	200.020	6699.89	11.30	0.51	-11.33	696359.97	485351.01	32°19'59.892"N	103°49'53.113"W	0.20
6774.00	0.830	181.300	6773.88	11.55	-0.55	-11.54	696359.76	485349.95	32°19'59.882"N	103°49'53.115"W	0.37
6806.00	0.700	194.300	6805.88	11.62	-0.97	-11.59	696359.71	485349.53	32°19'59.872"N	103°49'53.116"W	0.68
6837.00	1.600	227.700	6836.87	12.01	-1.45	-11.96	696359.34	485349.05	32°19'59.873"N	103°49'53.120"W	3.50
6868.00	3.800	245.600	6867.84	13.30	-2.16	-13.21	696358.09	485348.34	32°19'59.866"N	103°49'53.135"W	7.52
6899.00	7.100	254.500	6898.69	16.13	-3.10	-15.99	696355.31	485347.40	32°19'59.857"N	103°49'53.167"W	10.96
6931.00	11.300	256.900	6930.28	21.14	-4.34	-20.96	696350.34	485346.16	32°19'59.845"N	103°49'53.225"W	13.18
6962.00	15.300	258.000	6960.44	28.17	-5.88	-27.92	696349.38	485344.62	32°19'59.830"N	103°49'53.306"W	12.93
6994.00	20.100	258.600	6990.91	37.78	-7.84	-37.44	696333.86	485342.66	32°19'59.811"N	103°49'53.418"W	15.01
7025.00	25.100	259.500	7019.52	49.56	-10.10	-49.14	696322.17	485340.40	32°19'59.789"N	103°49'53.554"W	16.17
7057.00	29.700	260.900	7047.93	64.18	-12.59	-63.65	696307.66	485337.91	32°19'59.765"N	103°49'53.723"W	14.51
7088.00	34.500	262.900	7074.18	80.57	-14.89	-79.95	696291.35	485335.61	32°19'59.743"N	103°49'53.913"W	15.86
7120.00	38.600	269.400	7099.89	99.56	-17.31	-98.85	696272.46	485334.09	32°19'59.700"N	103°49'54.184"W	17.45
7152.00	41.800	265.600	7124.32	120.18	-19.44	-119.39	696251.92	485331.06	32°19'59.700"N	103°49'54.373"W	11.79
7183.00	43.300	266.200	7147.16	141.14	-20.93	-140.30	696231.01	485329.57	32°19'59.686"N	103°49'54.617"W	5.01
7214.00	46.900	266.900	7169.04	163.09	-22.25	-162.21	696209.10	485328.25	32°19'59.674"N	103°49'54.872"W	11.72
7245.00	51.300	267.600	7189.33	186.52	-23.37	-185.61	696185.70	485327.13	32°19'59.664"N	103°49'55.145"W	14.30
7277.00	55.100	268.500	7208.50	212.13	-24.24	-211.21	696160.10	485326.27	32°19'59.656"N	103°49'55.444"W	12.00
7307.00	59.200	270.000	7224.77	237.31	-24.56	-236.41	696134.91	485325.94	32°19'59.654"N	103°49'55.737"W	14.30
7338.00	63.100	271.200	7239.72	264.41	-24.27	-263.55	696107.77	485326.23	32°19'59.659"N	103°49'56.054"W	13.03
7368.00	67.700	272.000	7252.21	291.60	-23.50	-290.81	696080.51	485327.00	32°19'59.667"N	103°49'56.371"W	15.52
7400.00	72.500	272.300	7263.10	321.57	-22.37	-320.87	696050.45	485328.13	32°19'59.680"N	103°49'56.722"W	15.03
7431.00	76.400	272.400	7271.41	351.31	-21.15	-350.70	696020.62	485329.35	32°19'59.693"N	103°49'57.069"W	12.58



Actual Wellpath Report

No. 9H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 9H SHL
Area	Eddy County, NM	Well	No. 9H
Field	Quahada Ridge, SE (Delaware)	Wellbore	No. 9H AWP
Facility	Hudson 1 Fed No. 9H		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]
7463.00	79.600	272.400	7278.06	382.49	-19.84	-381.97	695989.35	485330.66	32°19'59.708"N	103°49'57.434"W	10.00
7494.00	80.900	272.100	7283.31	412.92	-18.64	-412.50	695958.83	485331.86	32°19'59.721"N	103°49'57.789"W	4.30
7525.00	83.000	271.900	7287.65	443.51	-17.57	-443.18	695928.15	485332.93	32°19'59.733"N	103°49'58.147"W	6.80
7557.00	86.200	271.700	7290.66	475.26	-16.57	-475.01	695896.32	485333.93	32°19'59.745"N	103°49'58.518"W	10.02
7588.00	88.200	271.300	7292.17	506.14	-15.76	-505.96	695865.37	485334.74	32°19'59.754"N	103°49'58.878"W	6.58
7619.00	91.000	270.900	7292.39	537.06	-15.16	-536.95	695834.38	485335.34	32°19'59.761"N	103°49'59.239"W	9.12
7651.00	92.700	270.600	7291.36	568.99	-14.74	-568.93	695802.40	485335.76	32°19'59.767"N	103°49'59.612"W	5.39
7681.00	93.700	270.600	7289.68	598.89	-14.43	-598.89	695772.45	485336.07	32°19'59.771"N	103°49'59.961"W	3.33
7712.00	92.700	269.100	7287.95	629.81	-14.51	-629.84	695741.51	485335.99	32°19'59.772"N	103°50'00.322"W	5.81
7744.00	91.700	267.700	7286.72	661.78	-15.41	-661.80	695709.54	485335.10	32°19'59.765"N	103°50'00.694"W	5.87
7775.00	92.200	267.200	7285.67	692.76	-16.78	-692.75	695678.60	485333.72	32°19'59.752"N	103°50'01.055"W	2.28
7805.00	91.400	265.600	7284.73	722.74	-18.67	-722.67	695648.67	485331.84	32°19'59.735"N	103°50'01.404"W	5.96
7815.00	90.900	265.600	7284.53	732.73	-19.43	-732.64	695638.71	485331.07	32°19'59.728"N	103°50'01.520"W	5.00
7907.00	91.800	261.900	7282.36	824.52	-29.44	-824.05	695547.30	485321.06	32°19'59.633"N	103°50'02.586"W	4.14
7939.00	90.600	262.000	7281.69	856.40	-33.65	-855.74	695516.59	485316.85	32°19'59.599"N	103°50'02.956"W	5.09
8036.00	89.600	266.200	7281.52	953.28	-42.77	-952.32	695419.04	485307.73	32°19'59.507"N	103°50'04.082"W	3.46
8133.00	89.600	265.400	7282.19	1050.25	-49.88	-1049.06	695322.31	485300.63	32°19'59.441"N	103°50'05.210"W	0.82
8230.00	89.700	265.000	7282.79	1147.18	-57.99	-1145.72	695225.66	485292.51	32°19'59.366"N	103°50'06.337"W	0.43
8326.00	89.500	267.000	7283.46	1243.15	-64.69	-1241.48	695129.90	485285.81	32°19'59.304"N	103°50'07.453"W	2.09
8421.00	89.600	267.100	7284.20	1338.15	-69.58	-1336.35	695035.04	485280.92	32°19'59.260"N	103°50'08.559"W	0.15
8518.00	89.500	266.500	7284.97	1435.14	-74.99	-1433.19	694938.20	485275.51	32°19'59.211"N	103°50'09.688"W	0.63
8615.00	89.600	266.300	7285.73	1532.13	-81.08	-1530.00	694841.40	485269.42	32°19'59.155"N	103°50'10.816"W	0.23
8710.00	89.600	267.600	7286.39	1627.12	-86.14	-1624.86	694746.55	485264.37	32°19'59.109"N	103°50'11.922"W	1.37
8806.00	89.200	266.600	7287.40	1723.11	-91.00	-1720.73	694650.68	485259.51	32°19'59.065"N	103°50'13.040"W	1.12
8901.00	89.600	266.100	7288.39	1818.10	-97.04	-1815.59	694555.89	485254.46	32°19'59.010"N	103°50'14.145"W	0.67
8998.00	89.500	266.100	7289.15	1915.07	-103.64	-1912.30	694459.12	485246.87	32°19'58.949"N	103°50'15.273"W	0.10
9094.00	89.500	266.300	7289.99	2011.05	-110.00	-2008.09	694363.34	485240.50	32°19'58.891"N	103°50'16.390"W	0.21
9189.00	89.600	265.900	7290.74	2106.03	-116.46	-2102.87	694268.57	485234.04	32°19'58.831"N	103°50'17.495"W	0.43
9285.00	89.100	264.800	7291.83	2201.97	-124.25	-2198.54	694172.90	485226.26	32°19'58.758"N	103°50'18.610"W	1.26
9379.00	89.400	267.500	7293.06	2295.94	-130.56	-2292.81	694079.14	485219.95	32°19'58.700"N	103°50'19.704"W	2.89



Actual Wellpath Report

No. 9H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No. 9H SHL
Area	Eddy County, NM	Well	No. 9H
Field	Quahada Ridge, SE (Delaware)	Wellbore	No. 9H AWP
Facility	Hudson 1 Fed No. 9H		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]
9476.00	89.700	268.800	7293.82	2392.92	-133.69	-2389.26	693982.20	485216.82	32°19'58.674"N	103°50'20.834"W	1.38
9573.00	89.600	268.800	7294.41	2489.88	-135.72	-2486.23	693885.23	485214.79	32°19'58.658"N	103°50'21.964"W	0.10
9668.00	89.500	268.200	7295.16	2584.86	-138.21	-2581.20	693790.27	485212.30	32°19'58.638"N	103°50'23.071"W	0.64
9764.00	89.600	266.900	7295.91	2680.85	-142.31	-2677.11	693694.37	485208.20	32°19'58.601"N	103°50'24.189"W	1.36
9859.00	90.300	267.800	7295.99	2775.85	-146.70	-2772.00	693599.48	485202.81	32°19'58.562"N	103°50'25.295"W	1.20
9956.00	90.300	270.800	7295.49	2872.77	-147.89	-2868.98	693502.50	485202.62	32°19'58.555"N	103°50'26.425"W	3.09
10052.00	89.500	271.800	7295.65	2968.53	-145.71	-2964.96	693406.54	485204.80	32°19'58.581"N	103°50'27.544"W	1.33
10148.00	89.600	265.800	7296.41	3064.45	-147.72	-3060.89	693310.61	485202.79	32°19'58.565"N	103°50'28.662"W	6.25
10244.00	89.600	263.700	7297.08	3160.35	-156.50	-3156.48	693215.03	485194.01	32°19'58.483"N	103°50'29.776"W	2.19
10340.00	90.000	264.100	7297.41	3256.19	-166.70	-3251.92	693119.58	485183.21	32°19'58.386"N	103°50'30.889"W	0.59
10434.00	90.100	265.300	7297.33	3350.09	-175.39	-3345.53	693025.99	485175.13	32°19'58.305"N	103°50'31.981"W	1.28
10529.00	90.000	262.800	7297.25	3444.93	-185.23	-3440.01	692931.51	485165.28	32°19'58.211"N	103°50'33.082"W	2.63
10625.00	90.100	265.300	7297.16	3540.78	-195.18	-3535.49	692836.05	485155.33	32°19'58.117"N	103°50'34.195"W	2.61
10721.00	90.100	268.800	7297.00	3636.76	-200.12	-3631.34	692740.19	485150.39	32°19'58.073"N	103°50'35.313"W	3.65
10817.00	90.100	270.600	7296.82	3732.67	-200.71	-3727.84	692644.21	485140.80	32°19'58.071"N	103°50'36.432"W	1.77
10911.00	89.600	269.400	7297.08	3826.57	-200.79	-3821.34	692550.21	485149.72	32°19'58.075"N	103°50'37.527"W	1.29
11007.00	89.600	269.300	7297.75	3922.50	-201.88	-3917.33	692454.23	485148.63	32°19'58.068"N	103°50'38.646"W	0.10
11104.00	89.700	268.100	7298.34	4019.47	-204.08	-4014.30	692357.26	485146.43	32°19'58.051"N	103°50'39.776"W	1.24
11200.00	89.500	263.400	7299.01	4115.40	-211.19	-4110.01	692261.56	485139.32	32°19'57.985"N	103°50'40.892"W	4.90
11297.00	89.500	264.800	7299.86	4212.25	-221.16	-4206.49	692165.09	485129.35	32°19'57.901"N	103°50'42.017"W	1.14
11393.00	89.500	268.200	7300.69	4308.22	-227.02	-4302.29	692069.29	485123.49	32°19'57.837"N	103°50'43.134"W	3.54
11488.00	89.600	269.500	7301.44	4403.18	-228.93	-4397.27	691974.32	485121.59	32°19'57.822"N	103°50'44.241"W	1.37
11584.00	89.500	268.700	7302.19	4499.13	-230.44	-4493.25	691878.34	485120.08	32°19'57.812"N	103°50'45.360"W	0.84
11682.00	89.600	268.400	7302.96	4597.10	-232.92	-4591.21	691780.39	485117.60	32°19'57.792"N	103°50'46.501"W	0.32
11778.00	90.300	269.100	7303.05	4692.07	-235.01	-4687.19	691684.42	485115.50	32°19'57.775"N	103°50'47.620"W	1.03
11874.00	90.200	269.100	7302.63	4789.02	-236.52	-4783.18	691588.43	485114.00	32°19'57.765"N	103°50'48.739"W	0.10
11971.00	90.200	274.300	7302.29	4885.69	-233.64	-4880.10	691491.52	485116.87	32°19'57.797"N	103°50'49.868"W	5.36
12067.00	90.000	271.900	7302.12	4981.19	-228.45	-4975.95	691395.67	485122.06	32°19'57.853"N	103°50'50.985"W	2.51
12162.00	90.100	268.200	7302.04	5076.06	-228.37	-5070.94	691300.69	485122.15	32°19'57.858"N	103°50'52.092"W	3.90
12256.00	90.000	266.200	7301.96	5170.05	-232.88	-5164.82	691206.81	485117.64	32°19'57.818"N	103°50'53.187"W	2.02



Actual Wellpath Report

No. 9H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 9H SHL
Area	Eddy County, NM	Well	No. 9H
Field	Quahada Ridge, SE (Delaware)	Wellbore	No. 9H AWB
Facility	Hudson 1 Fed No. 9H		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]
12353.00	90.100	266.200	7301.87	5267.04	-239.22	-5261.62	691110.03	485111.29	32°19'57.759"N	103°50'54.315"W	0.15
12450.00	90.100	266.400	7301.70	5364.02	-245.48	-5358.41	691013.24	485105.03	32°19'57.702"N	103°50'55.443"W	0.21
12545.00	90.100	266.200	7301.54	5459.01	-251.61	-5453.22	690918.44	485098.90	32°19'57.645"N	103°50'56.549"W	0.21
12642.00	90.200	266.600	7301.28	5556.00	-257.70	-5550.02	690821.64	485092.81	32°19'57.589"N	103°50'57.677"W	0.43
12738.00	90.000	266.700	7301.12	5653.99	-263.31	-5645.86	690724.30	485087.20	32°19'57.538"N	103°50'58.794"W	0.23
12833.00	90.100	265.800	7301.03	5746.98	-269.53	-5740.66	690631.02	485080.99	32°19'57.481"N	103°50'59.899"W	0.95
12929.00	90.100	265.900	7300.86	5842.95	-276.47	-5836.40	690535.28	485074.04	32°19'57.416"N	103°51'01.016"W	0.10
13025.00	90.200	266.800	7300.61	5938.93	-282.58	-5932.21	690439.48	485067.93	32°19'57.360"N	103°51'02.133"W	0.94
13120.00	89.800	265.500	7300.61	6033.91	-288.96	-6026.99	690344.70	485061.56	32°19'57.301"N	103°51'03.238"W	1.43
13216.00	89.908	266.000	7300.37	6129.77	-299.50	-6122.40	690249.10	485051.02	32°19'57.201"N	103°51'04.350"W	1.75
13311.00	89.900	264.600	7301.03	6224.47	-310.66	-6216.73	690154.98	485039.86	32°19'57.095"N	103°51'05.450"W	2.84
13407.00	90.000	268.100	7301.11	6320.45	-316.77	-6312.52	690059.19	485033.75	32°19'57.039"N	103°51'06.567"W	3.65
13502.00	90.200	269.400	7300.95	6415.41	-318.84	-6407.49	689964.23	485031.68	32°19'57.023"N	103°51'07.674"W	1.38
13598.00	90.000	269.000	7300.78	6511.36	-320.18	-6503.48	689868.24	485030.34	32°19'57.014"N	103°51'08.792"W	0.47
13695.00	90.000	268.800	7300.78	6608.32	-322.05	-6600.47	689771.27	485028.47	32°19'56.999"N	103°51'09.923"W	0.20
13792.00	89.900	271.000	7300.87	6705.21	-322.22	-6697.46	689674.28	485028.31	32°19'57.002"N	103°51'11.053"W	2.27
13888.00	89.900	269.400	7301.03	6801.08	-321.88	-6793.46	689578.29	485028.64	32°19'57.010"N	103°51'12.172"W	1.67
13985.00	90.100	266.300	7301.03	6898.06	-325.52	-6890.38	689481.37	485025.00	32°19'56.978"N	103°51'13.302"W	3.20
14080.00	90.000	264.900	7300.95	6993.02	-332.81	-6985.09	689386.66	485017.71	32°19'56.910"N	103°51'14.406"W	1.48
14176.00	90.200	264.600	7300.38	7088.92	-341.59	-7080.69	689291.07	485008.93	32°19'56.827"N	103°51'15.521"W	0.18
14272.00	90.100	266.800	7300.53	7184.88	-348.79	-7176.41	689195.36	485001.73	32°19'56.760"N	103°51'16.637"W	2.29
14370.00	90.100	266.100	7300.36	7282.87	-354.86	-7274.22	689097.55	484995.67	32°19'56.705"N	103°51'17.777"W	0.71
14465.00	90.000	269.300	7300.28	7377.86	-358.67	-7369.14	689002.65	484991.85	32°19'56.671"N	103°51'18.883"W	3.37
14561.00	90.000	269.500	7300.28	7473.79	-359.67	-7465.13	688906.66	484990.85	32°19'56.665"N	103°51'20.002"W	0.21
14658.00	90.000	268.400	7300.28	7570.75	-361.45	-7562.11	688809.68	484989.07	32°19'56.652"N	103°51'21.132"W	1.13
14753.00	89.900	269.000	7300.36	7665.72	-363.61	-7657.09	688714.71	484986.92	32°19'56.635"N	103°51'22.239"W	0.64
14849.00	90.000	268.500	7300.44	7761.68	-365.70	-7753.06	688618.74	484984.82	32°19'56.618"N	103°51'23.358"W	0.53
14944.00	90.100	272.000	7300.36	7856.54	-365.29	-7848.05	688523.76	484985.24	32°19'56.627"N	103°51'24.465"W	3.69
15040.00	89.900	268.500	7300.36	7952.39	-364.87	-7944.03	688427.79	484985.66	32°19'56.635"N	103°51'25.584"W	3.65
15135.00	89.900	264.500	7300.53	8047.36	-370.67	-8038.84	688332.99	484979.86	32°19'56.582"N	103°51'26.689"W	4.21



Actual Wellpath Report

No. 9H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	BOPCO, L.P.	Slot	No. 9H SHL
Area	Eddy County, NM	Well	No. 9H
Field	Quahada Ridge, SE (Delaware)	Wellbore	No. 9H AWB
Facility	Hudson 1 Fed No. 9H		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]
15230.00	89.900	264.500	7300.69	8142.25	-379.77	-8133.40	688238.43	484970.75	32°19'56.496"N	103°51'27.791"W	0.00
15323.00	90.000	264.200	7300.77	8235.13	-388.93	-8225.95	688145.89	484961.60	32°19'56.409"N	103°51'28.870"W	0.34
15419.00	90.000	267.200	7300.77	8331.09	-396.12	-8321.67	688050.18	484954.40	32°19'56.342"N	103°51'29.986"W	3.12
15516.00	90.000	266.100	7300.77	8428.08	-401.79	-8418.50	687953.35	484948.73	32°19'56.291"N	103°51'31.115"W	1.13
15612.00	90.200	265.100	7300.61	8524.04	-409.16	-8514.23	687857.64	484941.89	32°19'56.222"N	103°51'32.231"W	1.06
15675.00	90.200	265.100	7300.39	8586.99	-414.54	-8576.98	687794.88	484935.99	32°19'56.171"N	103°51'32.963"W	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 9H PBHL		7299.00	-411.17	-8578.16	687793.70	484939.36	32°19'56.205"N	103°51'32.976"W	point

WELLPATH COMPOSITION Ref Wellbore: No. 9H AWB Ref Wellpath: No. 9H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	6774.00	Generic gyro - continuous (Standard)	GYRO <100 - 6774>	No. 9H AWB
6774.00	15612.00	NaviTrak (Standard)	MWD <6806 - 15612>	No. 9H AWB
15612.00	15675.00	Blind Drilling (std)	Projection to bit	No. 9H AWB