

Location:	COLORADO	Slot:	SLOT#02 HULLABALOO Y21-781(445'FNL&880'FWL,SEC.16)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	HULLABALOO Y21-781
Facility:	SEC.16-T02N-R64W	Wellbore:	HULLABALOO Y21-781 PWB

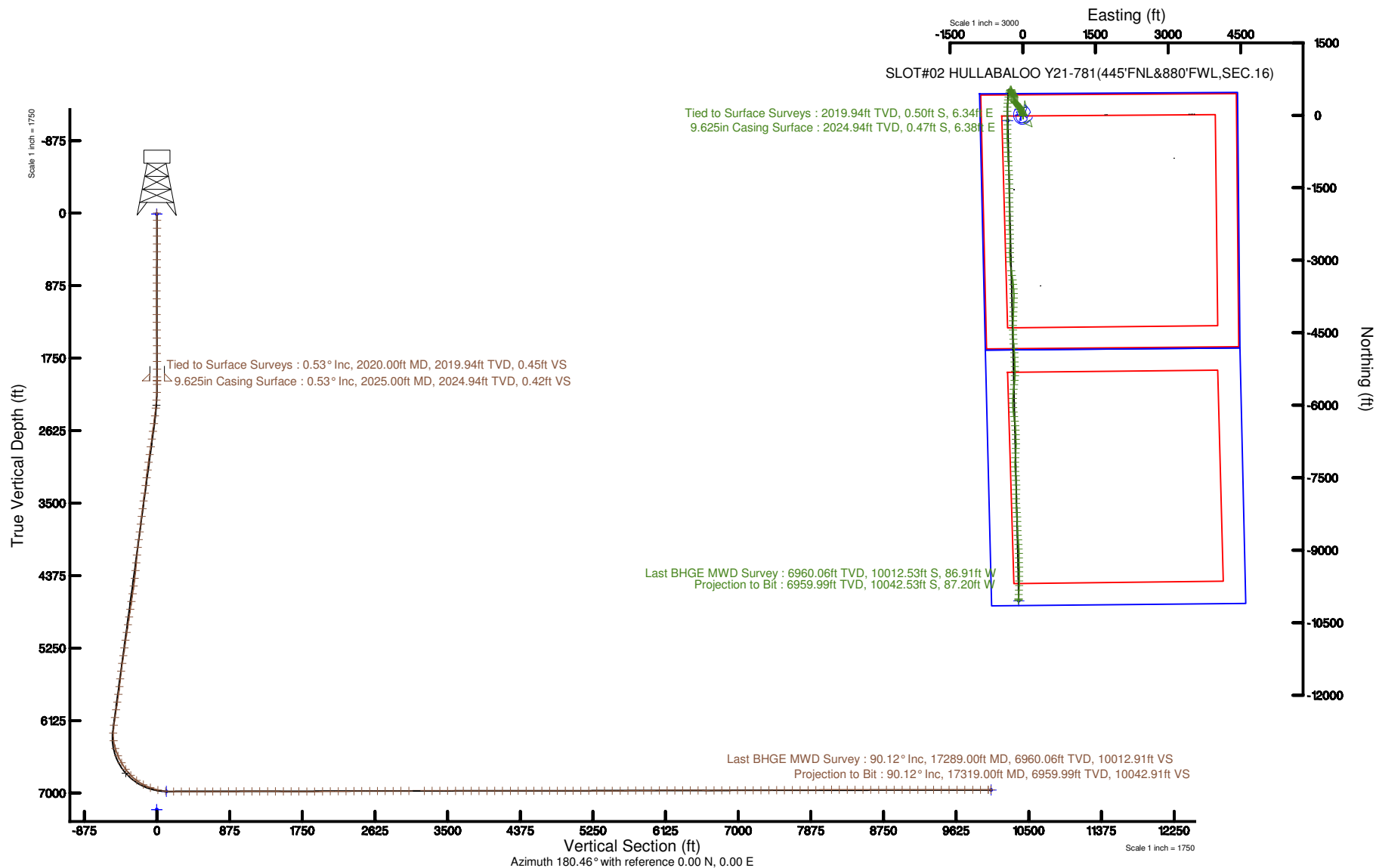
Location Information					
Facility Name		Grid East (U.S. Ft)	Grid North (U.S. Ft)	Latitude	Longitude
SEC. 16, T10N, R10W		308-040-541	1356004-275	41°18'41.432"N	104°12'34.800"W
Site	Local N (°S)	Local E (°S)	Grid East (U.S. Ft)	Grid North (U.S. Ft)	Latitude
SLICHOPE HALLAZALED (70-1014HSTN-A60PNN, SEC. 16)	2-23	38-19	308-040-170	1356001-046	41°18'41.414"N
GRID (EPSG: 31466) is Ground True for Site: SLICHOPE HALLAZALED (70-1014HSTN-A60PNN, SEC. 16)					41°18'
UTM Zone 18 South Ground True for Site: SLICHOPE HALLAZALED (70-1014HSTN-A60PNN, SEC. 16)					104°12'
UTM Zone 18 South is better than UTM Zone 18 North					41°18'



File reference which is HALLADAY01-Y1-781 (REV A-Q) 7/9/97	Site Name: NG020 / Lambert Colorado SP, Northern Slope 01, US test
True vertical depths are referenced to REG (2016), (916)	<ul style="list-style-type: none"> - W depths are transformed from a different geoid datum
Measured depths are referenced to REG (2016), (916)	North Reference: GRT north
REG (2016) (916) to Mean Sea Level: 4024 feet	Depth: sea level
Mean Sea Level to Ground level (At Site): 5127676 HALLADAY01-Y1-78104676.6888769 (SEC 10) 4 feet	Scale: true distance
Coordinates are in feet referenced to Slat	Created by: camptec on 2017-11-01
	Database: Camptec

Survey Program				
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment
10.00	17335.59	CWSSG MWD rev2	CWSSG MWD rev2 + IFR1 + Multi-Station Correction	HILL ARM ON Y21.781 PWR

Comments	
SURFACE LOCATION: NWNW	
40.14456N	
104.56286W	
API: 05-123-45239	



REFERENCE WELLPATH IDENTIFICATION

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Area	COLORADO	Well	HULLABALOO Y21-781
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	HULLABALOO Y21-781 AWP
Facility	SEC.16-T02N-R64W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Cantryat
Scale	0.999959	Report Generated	11/1/2017 at 4:18:16 PM
Convergence at slot	0.61° East	Database/Source file	Denver/HULLABALOO_Y21-781_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-3.23	39.18	3261981.74	1296891.05	40°08'40.416"N	104°33'46.296"W
Facility Reference Pt			3261942.56	1296894.28	40°08'40.452"N	104°33'46.800"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.315"N	105°30'00.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	RIG (30'KB) (RKB) to Facility Vertical Datum	4924.00ft
Horizontal Reference Pt	Slot	RIG (30'KB) (RKB) to Mean Sea Level	4924.00ft
Vertical Reference Pt	RIG (30'KB) (RKB)	RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#02 HULLABALOO Y21-781 (445'FNL&880'FWL,SEC.16))	4924.00ft
MD Reference Pt	RIG (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.50°

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	HULLABALOO Y21-781 AWB
Facility	SEC.16-T02N-R64W		

WELLPATH DATA (185 stations)									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]
0.00	0.000	187.220	0.00	0.00	0.00	0.00	40°08'40.416"N	104°33'46.296"W	0.00
87.00	0.200	187.220	87.00	0.15	-0.15	-0.02	40°08'40.415"N	104°33'46.296"W	0.23
183.00	0.290	323.220	183.00	0.12	-0.12	-0.19	40°08'40.415"N	104°33'46.298"W	0.47
277.00	0.270	44.980	277.00	-0.22	0.22	-0.17	40°08'40.418"N	104°33'46.298"W	0.39
372.00	0.400	319.500	372.00	-0.63	0.64	-0.23	40°08'40.422"N	104°33'46.299"W	0.49
467.00	0.550	3.560	466.99	-1.34	1.34	-0.42	40°08'40.429"N	104°33'46.301"W	0.40
561.00	0.910	72.310	560.99	-2.02	2.02	0.32	40°08'40.436"N	104°33'46.292"W	0.93
656.00	0.990	66.310	655.98	-2.59	2.58	1.79	40°08'40.441"N	104°33'46.273"W	0.13
750.00	0.580	99.140	749.97	-2.86	2.83	3.01	40°08'40.444"N	104°33'46.257"W	0.63
845.00	0.450	54.960	844.96	-3.00	2.97	3.79	40°08'40.445"N	104°33'46.247"W	0.43
939.00	0.440	121.640	938.96	-3.03	2.99	4.40	40°08'40.445"N	104°33'46.239"W	0.52
1034.00	0.340	18.780	1033.96	-3.11	3.07	4.80	40°08'40.446"N	104°33'46.234"W	0.65
1128.00	0.140	99.350	1127.96	-3.35	3.31	5.00	40°08'40.448"N	104°33'46.231"W	0.37
1223.00	0.210	132.150	1222.96	-3.22	3.18	5.24	40°08'40.447"N	104°33'46.228"W	0.13
1317.00	0.410	104.710	1316.96	-3.02	2.97	5.70	40°08'40.445"N	104°33'46.222"W	0.26
1412.00	0.280	141.400	1411.96	-2.76	2.71	6.17	40°08'40.442"N	104°33'46.216"W	0.26
1506.00	0.320	182.790	1505.95	-2.32	2.26	6.30	40°08'40.438"N	104°33'46.215"W	0.23
1601.00	0.560	182.950	1600.95	-1.59	1.54	6.27	40°08'40.431"N	104°33'46.215"W	0.25
1695.00	0.560	196.420	1694.95	-0.69	0.64	6.11	40°08'40.422"N	104°33'46.217"W	0.14
1790.00	0.630	203.840	1789.94	0.24	-0.29	5.77	40°08'40.413"N	104°33'46.222"W	0.11
1884.00	0.120	126.050	1883.94	0.77	-0.82	5.64	40°08'40.407"N	104°33'46.223"W	0.66
1976.00	0.440	60.630	1975.94	0.65	-0.70	6.03	40°08'40.408"N	104°33'46.219"W	0.44
2020.00	0.530	55.100	2019.94	0.45	-0.50	6.34	40°08'40.410"N	104°33'46.214"W	0.23
2069.00	0.510	40.770	2068.94	0.15	-0.21	6.67	40°08'40.413"N	104°33'46.210"W	0.27
2164.00	2.150	23.970	2163.91	-1.81	1.74	7.67	40°08'40.432"N	104°33'46.197"W	1.76
2258.00	3.830	12.520	2257.78	-6.50	6.42	9.07	40°08'40.478"N	104°33'46.178"W	1.89
2353.00	5.680	343.900	2352.46	-14.11	14.03	8.45	40°08'40.554"N	104°33'46.185"W	3.11
2447.00	8.630	332.570	2445.72	-24.80	24.77	3.91	40°08'40.660"N	104°33'46.242"W	3.46
2542.00	8.380	329.240	2539.68	-37.01	37.04	-2.91	40°08'40.782"N	104°33'46.328"W	0.58
2636.00	8.160	337.060	2632.70	-48.99	49.07	-9.02	40°08'40.902"N	104°33'46.405"W	1.22

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	HULLABALOO Y21-781 AWB
Facility	SEC.16-T02N-R64W		

WELLPATH DATA (185 stations)									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]
2730.00	8.640	345.020	2725.70	-61.92	62.04	-13.44	40°08'41.030"N	104°33'46.461"W	1.34
2825.00	8.630	339.310	2819.62	-75.44	75.60	-17.81	40°08'41.165"N	104°33'46.515"W	0.90
2920.00	9.000	332.630	2913.50	-88.65	88.86	-23.74	40°08'41.297"N	104°33'46.590"W	1.14
3014.00	8.910	327.570	3006.36	-101.26	101.54	-31.03	40°08'41.423"N	104°33'46.682"W	0.84
3108.00	8.800	325.030	3099.24	-113.23	113.57	-39.05	40°08'41.542"N	104°33'46.783"W	0.43
3203.00	8.860	321.400	3193.11	-124.83	125.25	-47.78	40°08'41.659"N	104°33'46.894"W	0.59
3298.00	8.700	322.450	3287.00	-136.16	136.66	-56.72	40°08'41.772"N	104°33'47.008"W	0.24
3392.00	8.760	329.970	3379.91	-147.93	148.49	-64.64	40°08'41.890"N	104°33'47.108"W	1.22
3486.00	8.720	332.960	3472.82	-160.41	161.04	-71.46	40°08'42.015"N	104°33'47.194"W	0.49
3581.00	8.800	331.640	3566.71	-173.16	173.85	-78.18	40°08'42.142"N	104°33'47.279"W	0.23
3675.00	8.680	322.640	3659.63	-185.06	185.81	-85.90	40°08'42.261"N	104°33'47.377"W	1.46
3770.00	8.940	318.860	3753.51	-196.24	197.07	-95.11	40°08'42.373"N	104°33'47.494"W	0.67
3865.00	8.820	322.900	3847.37	-207.52	208.44	-104.36	40°08'42.487"N	104°33'47.611"W	0.67
3959.00	8.940	327.540	3940.24	-219.36	220.35	-112.63	40°08'42.605"N	104°33'47.716"W	0.77
4054.00	8.850	321.220	4034.10	-231.21	232.27	-121.17	40°08'42.724"N	104°33'47.825"W	1.03
4148.00	8.830	308.060	4126.99	-241.21	242.36	-131.38	40°08'42.825"N	104°33'47.955"W	2.15
4243.00	8.800	306.550	4220.87	-249.93	251.18	-142.96	40°08'42.913"N	104°33'48.103"W	0.25
4337.00	8.810	311.100	4313.77	-258.85	260.20	-154.16	40°08'43.003"N	104°33'48.246"W	0.74
4432.00	8.750	318.750	4407.66	-268.97	270.41	-164.40	40°08'43.105"N	104°33'48.376"W	1.23
4526.00	8.700	333.510	4500.58	-280.65	282.15	-172.29	40°08'43.222"N	104°33'48.476"W	2.38
4620.00	8.730	342.900	4593.50	-293.78	295.33	-177.56	40°08'43.353"N	104°33'48.542"W	1.51
4715.00	8.750	350.800	4687.40	-307.78	309.36	-180.83	40°08'43.492"N	104°33'48.582"W	1.26
4810.00	8.760	5.000	4781.30	-322.11	323.70	-181.36	40°08'43.634"N	104°33'48.587"W	2.27
4904.00	8.720	7.370	4874.21	-336.32	337.90	-179.82	40°08'43.774"N	104°33'48.565"W	0.39
4999.00	8.460	9.750	4968.15	-350.37	351.93	-177.71	40°08'43.912"N	104°33'48.536"W	0.46
5093.00	8.670	6.420	5061.10	-364.24	365.78	-175.75	40°08'44.049"N	104°33'48.509"W	0.57
5188.00	8.890	352.690	5155.00	-378.64	380.18	-175.88	40°08'44.191"N	104°33'48.509"W	2.21
5282.00	8.630	341.730	5247.91	-392.51	394.08	-179.02	40°08'44.329"N	104°33'48.547"W	1.79
5377.00	8.360	339.420	5341.86	-405.70	407.31	-183.68	40°08'44.460"N	104°33'48.606"W	0.46
5472.00	8.730	336.680	5435.81	-418.74	420.40	-188.96	40°08'44.590"N	104°33'48.672"W	0.58

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	HULLABALOO Y21-781 AWB
Facility	SEC.16-T02N-R64W		

WELLPATH DATA (185 stations)									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]
5566.00	8.570	329.320	5528.74	-431.26	432.98	-195.36	40°08'44.715"N	104°33'48.753"W	1.19
5661.00	8.360	318.690	5622.71	-442.47	444.25	-203.53	40°08'44.827"N	104°33'48.856"W	1.66
5755.00	8.560	324.760	5715.69	-453.24	455.10	-212.08	40°08'44.935"N	104°33'48.965"W	0.97
5849.00	8.700	337.850	5808.64	-465.48	467.40	-218.80	40°08'45.057"N	104°33'49.050"W	2.09
5944.00	8.710	341.970	5902.55	-478.93	480.89	-223.73	40°08'45.191"N	104°33'49.111"W	0.66
6038.00	8.730	343.310	5995.46	-492.49	494.49	-227.98	40°08'45.326"N	104°33'49.164"W	0.22
6133.00	8.610	341.840	6089.37	-506.12	508.16	-232.27	40°08'45.462"N	104°33'49.218"W	0.27
6227.00	8.540	342.070	6182.32	-519.41	521.48	-236.61	40°08'45.594"N	104°33'49.272"W	0.08
6322.00	8.780	286.290	6276.40	-528.09	530.24	-245.76	40°08'45.681"N	104°33'49.388"W	8.51
6416.00	11.170	220.250	6369.24	-523.02	525.29	-258.57	40°08'45.634"N	104°33'49.554"W	11.72
6511.00	17.600	193.940	6461.31	-501.94	504.28	-267.99	40°08'45.427"N	104°33'49.678"W	9.49
6606.00	23.760	190.220	6550.15	-469.07	471.48	-274.86	40°08'45.104"N	104°33'49.771"W	6.63
6700.00	30.000	189.700	6633.95	-427.17	429.63	-282.18	40°08'44.691"N	104°33'49.871"W	6.64
6795.00	36.560	189.140	6713.33	-375.69	378.23	-290.69	40°08'44.184"N	104°33'49.988"W	6.91
6890.00	43.820	189.810	6785.85	-315.19	317.81	-300.80	40°08'43.588"N	104°33'50.126"W	7.66
6984.00	53.460	186.720	6847.90	-245.36	248.07	-310.79	40°08'42.900"N	104°33'50.264"W	10.55
7079.00	62.540	183.110	6898.20	-165.13	167.89	-317.56	40°08'42.108"N	104°33'50.362"W	10.08
7173.00	70.080	180.710	6935.95	-79.14	81.93	-320.37	40°08'41.259"N	104°33'50.410"W	8.35
7268.00	76.830	179.870	6962.98	11.87	-9.08	-320.82	40°08'40.360"N	104°33'50.428"W	7.16
7362.00	85.350	179.880	6977.53	104.64	-101.86	-320.62	40°08'39.443"N	104°33'50.438"W	9.06
7457.00	90.150	179.260	6981.26	199.53	-196.76	-319.90	40°08'38.505"N	104°33'50.442"W	5.09
7551.00	90.180	179.050	6980.99	293.50	-290.75	-318.52	40°08'37.576"N	104°33'50.437"W	0.23
7646.00	90.030	179.790	6980.81	388.48	-385.74	-317.56	40°08'36.637"N	104°33'50.437"W	0.79
7741.00	89.910	179.300	6980.86	483.47	-480.74	-316.80	40°08'35.699"N	104°33'50.441"W	0.53
7835.00	90.120	177.400	6980.84	577.40	-574.70	-314.10	40°08'34.770"N	104°33'50.418"W	2.03
7930.00	90.220	178.170	6980.56	672.29	-669.62	-310.42	40°08'33.832"N	104°33'50.384"W	0.82
8024.00	90.060	178.350	6980.33	766.22	-763.58	-307.57	40°08'32.903"N	104°33'50.360"W	0.26
8118.00	90.090	176.290	6980.20	860.07	-857.47	-303.17	40°08'31.975"N	104°33'50.316"W	2.19
8213.00	90.250	176.790	6979.92	954.84	-952.30	-297.44	40°08'31.037"N	104°33'50.255"W	0.55
8307.00	90.120	176.990	6979.62	1048.66	-1046.16	-292.34	40°08'30.109"N	104°33'50.202"W	0.25

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WELLPATH DATA (185 stations)									
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8402.00	89.970	177.170	6979.54	1143.49	-1141.04	-287.50	40°08'29.171"N	104°33'50.153"W	0.25
8496.00	89.940	176.290	6979.62	1237.28	-1234.88	-282.14	40°08'28.243"N	104°33'50.097"W	0.94
8591.00	90.030	179.920	6979.64	1332.19	-1329.81	-279.00	40°08'27.305"N	104°33'50.069"W	3.82
8686.00	89.970	180.520	6979.64	1427.18	-1424.81	-279.36	40°08'26.366"N	104°33'50.087"W	0.63
8780.00	89.660	179.690	6979.95	1521.18	-1518.81	-279.54	40°08'25.437"N	104°33'50.102"W	0.94
8875.00	90.310	179.850	6979.97	1616.17	-1613.81	-279.15	40°08'24.498"N	104°33'50.110"W	0.70
8969.00	89.750	179.110	6979.92	1710.16	-1707.80	-278.30	40°08'23.569"N	104°33'50.112"W	0.99
9064.00	89.850	179.180	6980.25	1805.13	-1802.79	-276.88	40°08'22.631"N	104°33'50.106"W	0.13
9158.00	90.150	179.180	6980.25	1899.10	-1896.78	-275.54	40°08'21.702"N	104°33'50.102"W	0.32
9253.00	90.490	179.830	6979.72	1994.09	-1991.78	-274.72	40°08'20.763"N	104°33'50.104"W	0.77
9347.00	90.460	179.860	6978.94	2088.08	-2085.77	-274.46	40°08'19.834"N	104°33'50.114"W	0.05
9442.00	90.490	178.990	6978.16	2183.06	-2180.77	-273.51	40°08'18.895"N	104°33'50.114"W	0.92
9537.00	90.520	178.250	6977.32	2278.00	-2275.73	-271.22	40°08'17.957"N	104°33'50.098"W	0.78
9631.00	90.180	178.180	6976.74	2371.93	-2369.69	-268.29	40°08'17.028"N	104°33'50.073"W	0.37
9726.00	90.340	178.020	6976.31	2466.84	-2464.63	-265.14	40°08'16.089"N	104°33'50.045"W	0.24
9820.00	90.180	179.180	6975.89	2560.79	-2558.60	-262.85	40°08'15.161"N	104°33'50.028"W	1.25
9915.00	90.310	179.560	6975.48	2655.77	-2653.59	-261.80	40°08'14.222"N	104°33'50.028"W	0.42
10009.00	90.280	183.080	6975.00	2749.74	-2747.55	-263.97	40°08'13.294"N	104°33'50.068"W	3.74
10104.00	90.060	180.000	6974.71	2844.71	-2842.51	-266.52	40°08'12.355"N	104°33'50.114"W	3.25
10198.00	90.340	177.990	6974.39	2938.68	-2936.49	-264.87	40°08'11.427"N	104°33'50.106"W	2.16
10293.00	90.090	174.520	6974.03	3033.40	-3031.27	-258.67	40°08'10.489"N	104°33'50.039"W	3.66
10482.00	90.090	172.710	6973.73	3221.03	-3219.09	-237.65	40°08'08.631"N	104°33'49.794"W	0.96
10576.00	90.060	171.510	6973.61	3314.02	-3312.20	-224.75	40°08'07.710"N	104°33'49.640"W	1.28
10671.00	90.030	172.420	6973.53	3407.97	-3406.26	-211.47	40°08'06.779"N	104°33'49.482"W	0.96
10765.00	89.940	173.180	6973.56	3501.12	-3499.52	-199.69	40°08'05.856"N	104°33'49.343"W	0.81
10860.00	89.850	175.790	6973.73	3595.59	-3594.07	-190.56	40°08'04.921"N	104°33'49.238"W	2.75
10955.00	90.000	178.680	6973.86	3690.43	-3688.95	-185.98	40°08'03.983"N	104°33'49.192"W	3.05
11049.00	90.000	181.000	6973.86	3784.42	-3782.95	-185.71	40°08'03.054"N	104°33'49.202"W	2.47
11144.00	90.000	180.760	6973.86	3879.41	-3877.94	-187.17	40°08'02.116"N	104°33'49.233"W	0.25
11238.00	89.970	181.370	6973.88	3973.41	-3971.92	-188.92	40°08'01.187"N	104°33'49.269"W	0.65

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 HULLABALOO Y21-781(445'FNL&880'FWL,SEC.16)
Area	COLORADO	Well	HULLABALOO Y21-781
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	HULLABALOO Y21-781 AWB
Facility	SEC.16-T02N-R64W		

WELLPATH DATA (185 stations)									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]
11333.00	89.940	183.310	6973.96	4068.36	-4066.83	-192.80	40°08'00.250"N	104°33'49.331"W	2.04
11427.00	90.090	182.510	6973.93	4162.27	-4160.71	-197.57	40°07'59.322"N	104°33'49.406"W	0.87
11522.00	90.280	181.530	6973.63	4257.24	-4255.65	-200.92	40°07'58.385"N	104°33'49.462"W	1.05
11616.00	90.250	179.600	6973.19	4351.23	-4349.64	-201.85	40°07'57.456"N	104°33'49.486"W	2.05
11711.00	90.030	178.590	6972.96	4446.20	-4444.63	-200.35	40°07'56.517"N	104°33'49.480"W	1.09
11805.00	90.150	178.680	6972.81	4540.15	-4538.60	-198.11	40°07'55.588"N	104°33'49.464"W	0.16
11900.00	90.180	177.470	6972.54	4635.06	-4633.55	-194.92	40°07'54.650"N	104°33'49.436"W	1.27
11994.00	90.120	174.930	6972.29	4728.79	-4727.33	-188.69	40°07'53.722"N	104°33'49.368"W	2.70
12089.00	90.120	174.960	6972.09	4823.35	-4821.96	-180.32	40°07'52.786"N	104°33'49.273"W	0.03
12183.00	90.150	177.350	6971.87	4917.07	-4915.74	-174.01	40°07'51.859"N	104°33'49.205"W	2.54
12278.00	90.060	178.610	6971.70	5011.97	-5010.68	-170.66	40°07'50.921"N	104°33'49.175"W	1.33
12372.00	90.120	178.170	6971.55	5105.91	-5104.64	-168.02	40°07'49.992"N	104°33'49.154"W	0.47
12467.00	90.000	177.130	6971.45	5200.79	-5199.56	-164.13	40°07'49.053"N	104°33'49.116"W	1.10
12562.00	89.940	178.280	6971.50	5295.68	-5294.49	-160.32	40°07'48.115"N	104°33'49.080"W	1.21
12656.00	90.090	182.360	6971.47	5389.66	-5388.46	-160.85	40°07'47.187"N	104°33'49.100"W	4.34
12751.00	89.850	185.290	6971.52	5484.49	-5483.24	-167.19	40°07'46.251"N	104°33'49.194"W	3.09
12845.00	90.000	187.130	6971.65	5578.02	-5576.69	-177.35	40°07'45.328"N	104°33'49.338"W	1.96
12940.00	90.980	186.870	6970.84	5672.40	-5670.97	-188.93	40°07'44.398"N	104°33'49.500"W	1.07
13034.00	90.280	183.470	6969.80	5766.07	-5764.57	-197.40	40°07'43.474"N	104°33'49.621"W	3.69
13129.00	90.370	182.400	6969.26	5860.98	-5859.44	-202.26	40°07'42.537"N	104°33'49.697"W	1.13
13223.00	90.310	180.330	6968.70	5954.96	-5953.41	-204.50	40°07'41.609"N	104°33'49.739"W	2.20
13318.00	90.430	175.750	6968.09	6049.85	-6048.33	-201.25	40°07'40.670"N	104°33'49.710"W	4.82
13412.00	90.000	172.180	6967.74	6143.22	-6141.79	-191.37	40°07'39.746"N	104°33'49.595"W	3.83
13506.00	89.970	171.480	6967.76	6236.15	-6234.84	-178.01	40°07'38.825"N	104°33'49.436"W	0.75
13601.00	90.000	173.190	6967.79	6330.18	-6328.98	-165.34	40°07'37.893"N	104°33'49.285"W	1.80
13696.00	89.940	174.890	6967.84	6424.57	-6423.47	-155.48	40°07'36.959"N	104°33'49.171"W	1.79
13790.00	89.940	176.910	6967.94	6518.27	-6517.22	-148.76	40°07'36.031"N	104°33'49.098"W	2.15
13885.00	89.780	178.530	6968.17	6613.15	-6612.14	-144.98	40°07'35.093"N	104°33'49.062"W	1.71
13980.00	90.370	178.240	6968.04	6708.09	-6707.10	-142.30	40°07'34.154"N	104°33'49.040"W	0.69
14074.00	90.340	179.270	6967.46	6802.04	-6801.08	-140.26	40°07'33.226"N	104°33'49.027"W	1.10

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 HULLABALOO Y21-781(445'FNL&880'FWL,SEC.16)
Area	COLORADO	Well	HULLABALOO Y21-781
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	HULLABALOO Y21-781 AWB
Facility	SEC.16-T02N-R64W		

WELLPATH DATA (185 stations)									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]
14169.00	90.090	182.710	6967.10	6897.02	-6896.05	-141.90	40°07'32.287"N	104°33'49.061"W	3.63
14263.00	90.220	184.230	6966.85	6990.89	-6989.87	-147.59	40°07'31.361"N	104°33'49.147"W	1.62
14358.00	90.120	183.150	6966.57	7085.74	-7084.68	-153.70	40°07'30.425"N	104°33'49.238"W	1.14
14453.00	90.180	181.130	6966.32	7180.70	-7179.60	-157.25	40°07'29.487"N	104°33'49.297"W	2.13
14547.00	90.280	179.210	6965.94	7274.69	-7273.60	-157.53	40°07'28.558"N	104°33'49.313"W	2.05
14642.00	90.370	175.860	6965.40	7369.55	-7368.50	-153.45	40°07'27.620"N	104°33'49.274"W	3.53
14736.00	90.150	175.420	6964.98	7463.21	-7462.22	-146.30	40°07'26.693"N	104°33'49.194"W	0.52
14831.00	89.970	176.720	6964.88	7557.93	-7557.00	-139.79	40°07'25.756"N	104°33'49.123"W	1.38
14926.00	90.120	179.390	6964.80	7652.83	-7651.93	-136.56	40°07'24.817"N	104°33'49.095"W	2.81
15020.00	90.180	180.790	6964.56	7746.83	-7745.93	-136.71	40°07'23.889"N	104°33'49.110"W	1.49
15115.00	90.280	182.040	6964.18	7841.81	-7840.90	-139.06	40°07'22.950"N	104°33'49.153"W	1.32
15209.00	90.830	179.480	6963.26	7935.80	-7934.88	-140.30	40°07'22.022"N	104°33'49.181"W	2.79
15304.00	91.790	176.580	6961.09	8030.67	-8029.79	-137.04	40°07'21.084"N	104°33'49.152"W	3.21
15398.00	90.150	175.760	6959.50	8124.39	-8123.56	-130.76	40°07'20.156"N	104°33'49.084"W	1.95
15493.00	89.780	174.660	6959.56	8218.98	-8218.22	-122.83	40°07'19.220"N	104°33'48.995"W	1.22
15588.00	89.690	177.760	6960.00	8313.70	-8313.00	-116.55	40°07'18.283"N	104°33'48.927"W	3.26
15682.00	89.850	178.550	6960.38	8407.62	-8406.95	-113.52	40°07'17.354"N	104°33'48.901"W	0.86
15777.00	89.780	178.600	6960.68	8502.57	-8501.92	-111.16	40°07'16.416"N	104°33'48.883"W	0.09
15871.00	89.720	177.410	6961.09	8596.48	-8595.86	-107.89	40°07'15.487"N	104°33'48.854"W	1.27
15966.00	89.910	177.120	6961.40	8691.33	-8690.76	-103.36	40°07'14.549"N	104°33'48.809"W	0.36
16061.00	89.880	174.690	6961.57	8786.01	-8785.51	-96.57	40°07'13.612"N	104°33'48.734"W	2.56
16155.00	90.180	175.620	6961.52	8879.60	-8879.17	-88.63	40°07'12.685"N	104°33'48.645"W	1.04
16250.00	90.120	176.390	6961.28	8974.31	-8973.94	-82.02	40°07'11.748"N	104°33'48.572"W	0.81
16344.00	89.970	180.010	6961.20	9068.22	-9067.87	-79.06	40°07'10.820"N	104°33'48.547"W	3.85
16439.00	89.940	180.240	6961.28	9163.22	-9162.87	-79.27	40°07'09.881"N	104°33'48.563"W	0.24
16533.00	90.000	178.880	6961.33	9257.20	-9256.87	-78.55	40°07'08.952"N	104°33'48.566"W	1.45
16628.00	89.940	178.320	6961.38	9352.15	-9351.84	-76.23	40°07'08.013"N	104°33'48.549"W	0.59
16722.00	90.120	179.020	6961.33	9446.10	-9445.81	-74.05	40°07'07.085"N	104°33'48.534"W	0.77
16816.00	90.220	179.870	6961.05	9540.08	-9539.81	-73.14	40°07'06.156"N	104°33'48.535"W	0.91
16911.00	90.000	180.690	6960.86	9635.08	-9634.81	-73.60	40°07'05.217"N	104°33'48.554"W	0.89

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 HULLABALOO Y21-781(445'FNL&880'FWL,SEC.16)
Area	COLORADO	Well	HULLABALOO Y21-781
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	HULLABALOO Y21-781 AWB
Facility	SEC.16-T02N-R64W		

WELLPATH DATA (185 stations)									
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]
17005.00	90.180	181.450	6960.72	9729.08	-9728.79	-75.36	40°07'04.288"N	104°33'48.589"W	0.83
17100.00	89.970	183.120	6960.59	9824.03	-9823.71	-79.14	40°07'03.351"N	104°33'48.651"W	1.77
17194.00	90.280	182.870	6960.39	9917.94	-9917.58	-84.05	40°07'02.424"N	104°33'48.727"W	0.42
17289.00	90.120	180.570	6960.06	10012.91	-10012.53	-86.91	40°07'01.486"N	104°33'48.777"W	2.43
17319.00	90.120	180.570	6959.99	10042.91	-10042.53	-87.20	40°07'01.189"N	104°33'48.784"W	0.00

HOLE & CASING SECTIONS - Ref Wellbore: HULLABALOO Y21-781 AWB Ref Wellpath: HULLABALOO Y21-781 AWP									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
9.625in Casing Surface	30.00	2025.00	1995.00	30.00	2024.94	-0.02	0.00	-0.47	6.38
8.5in Open Hole	30.00	17319.00	17289.00	30.00	6959.99	-0.02	0.00	-10042.53	-87.20

WELLPATH COMPOSITION - Ref Wellbore: HULLABALOO Y21-781 AWB Ref Wellpath: HULLABALOO Y21-781 AWP									
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment			Wellbore		
0.00	2020.00	Gyrodatta standard - Drop gyro or Multi-shot		Gyrodatta Surface Surveys <87'-2020'>			HULLABALOO Y21-781 AWP		
2020.00	17289.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction		BHI 8 1/2" ATCurve OWSG MWD rev2+IFR1+MSA <2069'-17289'>			HULLABALOO Y21-781 AWP		
17289.00	17319.00	Blind Drilling (std)		Projection to bit			HULLABALOO Y21-781 AWP		

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 HULLABALOO Y21-781(445'FNL&880'FWL,SEC.16)
Area	COLORADO	Well	HULLABALOO Y21-781
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	HULLABALOO Y21-781 AWB
Facility	SEC.16-T02N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
2020.00	0.530	55.100	2019.94	Tied to Surface Surveys
17289.00	90.120	180.570	6960.06	Last BHGE MWD Survey
17319.00	90.120	180.570	6959.99	Projection to Bit

COMMENTS	
Wellpath general comments SURFACE LOCATION: NWNW 40.14456N 104.56286W API: 05-123-45239	