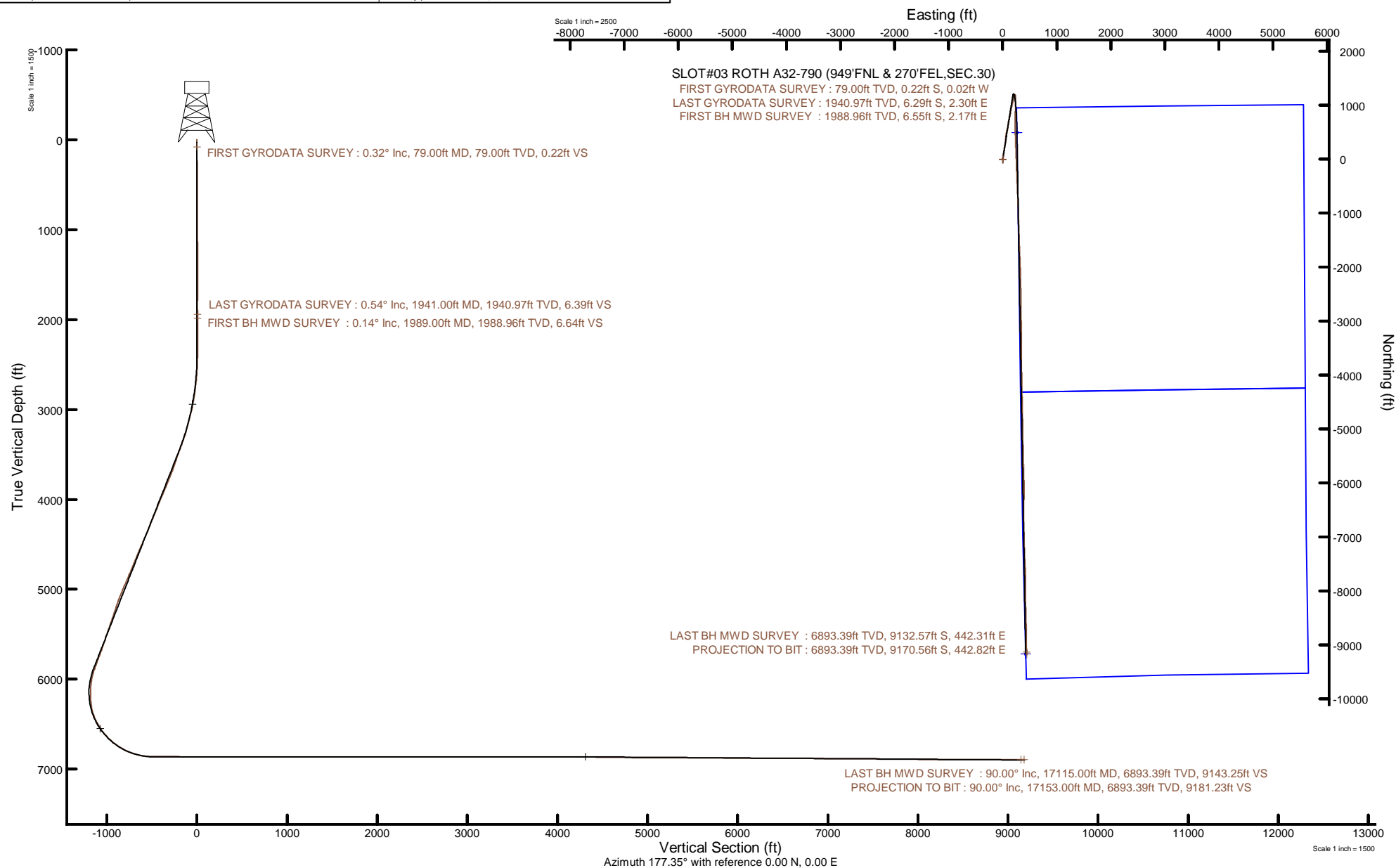


Location:	COLORADO	Slot:	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	ROTH A32-790
Facility:	SEC.30-T06N-R64W	Wellbore:	ROTH A32-790 PWB
Plot reference wellpath is ROTH A32-790 PWP Rev-B.0		Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	
True vertical depths are referenced to H&P 517 (30') (KB)		North Reference: Grid north	
Reference wellpath measured depths are referenced to H&P 517 (30') (KB)		Scale: True distance	
H&P 517 (30') (KB) to Mean Sea Level: 4728 feet		Coordinates are in feet referenced to Slot	
Mean Sea Level to Mud line (At Slot: SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30): 0 feet)		Depths are in feet	
Offset wellpath MDs are referenced to each path's default MD datum		Created by: painsert on 2021-10-27; Database: WellArchitectIDB	





# Actual Wellpath Report

ROTH A32-790 AWP

Page 1 of 10



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Painsetr
Scale	0.999964	Report Generated	10/27/2021 at 9:04:33 PM
Convergence at slot	0.59° East	Database	WellArchitectDB

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	69.22	-0.72	3254695.46	1412319.43	40.4616100°	-104.5846600°
Facility Reference Pt			3254696.18	1412250.21	40.4614200°	-104.5846600°
Field Reference Pt			3000000.00	4454105.15	48.7761986°	-105.5000000°

## WELLPATH DATUM

Calculation method	Minimum curvature	H&P 517 (30') (KB) to Facility Vertical Datum	4728.00ft
Horizontal Reference Pt	Slot	H&P 517 (30') (KB) to Mean Sea Level	4728.00ft
Vertical Reference Pt	H&P 517 (30') (KB)	H&P 517 (30') (KB) to Mud Line at Slot (SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30))	4728.00ft
MD Reference Pt	H&P 517 (30') (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	177.35°

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

### WELLPATH DATA (181 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	184.730	0.00	0.00	0.00	0.00	3254695.46	1412319.43	40.4616100	-104.5846600	0.00	
79.00	0.320	184.730	79.00	0.22	-0.22	-0.02	3254695.45	1412319.21	40.4616094	-104.5846601	0.41	FIRST GYRODATA SURVEY
173.00	0.400	182.670	173.00	0.81	-0.81	-0.06	3254695.41	1412318.62	40.4616078	-104.5846602	0.09	
264.00	0.280	119.550	264.00	1.24	-1.24	0.12	3254695.59	1412318.19	40.4616066	-104.5846596	0.41	
358.00	0.140	100.030	358.00	1.39	-1.37	0.44	3254695.90	1412318.06	40.4616062	-104.5846585	0.17	
453.00	0.250	163.460	453.00	1.61	-1.59	0.61	3254696.07	1412317.84	40.4616056	-104.5846579	0.24	
547.00	0.520	127.200	546.99	2.09	-2.04	1.01	3254696.47	1412317.38	40.4616044	-104.5846565	0.37	
642.00	0.590	141.860	641.99	2.76	-2.69	1.65	3254697.12	1412316.74	40.4616026	-104.5846542	0.17	
737.00	0.490	162.260	736.98	3.55	-3.46	2.08	3254697.54	1412315.97	40.4616004	-104.5846527	0.23	
831.00	0.360	204.510	830.98	4.20	-4.11	2.08	3254697.54	1412315.32	40.4615987	-104.5846527	0.35	
926.00	0.150	183.460	925.98	4.59	-4.51	1.95	3254697.41	1412314.92	40.4615976	-104.5846532	0.24	
1020.00	0.580	137.410	1019.98	5.08	-4.98	2.26	3254697.73	1412314.45	40.4615963	-104.5846521	0.52	
1115.00	0.540	167.360	1114.97	5.89	-5.77	2.69	3254698.15	1412313.66	40.4615941	-104.5846506	0.31	
1209.00	0.270	174.560	1208.97	6.55	-6.42	2.80	3254698.27	1412313.00	40.4615923	-104.5846502	0.29	
1304.00	0.300	198.420	1303.97	7.00	-6.88	2.75	3254698.21	1412312.54	40.4615910	-104.5846504	0.13	
1398.00	0.110	250.530	1397.97	7.26	-7.15	2.58	3254698.05	1412312.28	40.4615903	-104.5846510	0.26	
1493.00	0.170	41.080	1492.97	7.18	-7.07	2.59	3254698.05	1412312.36	40.4615905	-104.5846510	0.29	
1587.00	0.110	333.790	1586.97	7.00	-6.88	2.64	3254698.11	1412312.54	40.4615910	-104.5846508	0.17	
1682.00	0.280	359.020	1681.97	6.68	-6.57	2.60	3254698.06	1412312.86	40.4615919	-104.5846509	0.20	
1777.00	0.430	3.830	1776.97	6.10	-5.98	2.62	3254698.08	1412313.44	40.4615935	-104.5846508	0.16	
1871.00	0.290	205.110	1870.97	5.96	-5.85	2.54	3254698.00	1412313.58	40.4615939	-104.5846511	0.75	
1941.00	0.540	209.000	1940.97	6.39	-6.29	2.30	3254697.77	1412313.13	40.4615927	-104.5846520	0.36	LAST GYRODATA SURVEY
1989.00	0.140	206.150	1988.96	6.64	-6.55	2.17	3254697.63	1412312.88	40.4615920	-104.5846524	0.83	FIRST BH MWD SURVEY
2084.00	0.070	185.770	2083.96	6.80	-6.71	2.11	3254697.58	1412312.72	40.4615915	-104.5846527	0.08	
2179.00	0.140	53.880	2178.96	6.79	-6.70	2.20	3254697.66	1412312.73	40.4615916	-104.5846523	0.20	
2273.00	0.120	63.680	2272.96	6.69	-6.59	2.38	3254697.85	1412312.84	40.4615919	-104.5846517	0.03	
2368.00	0.310	116.480	2367.96	6.77	-6.66	2.70	3254698.16	1412312.77	40.4615917	-104.5846505	0.27	
2462.00	2.020	11.950	2461.94	5.29	-5.15	3.27	3254698.74	1412314.28	40.4615958	-104.5846484	2.25	
2557.00	3.680	10.260	2556.82	0.70	-0.51	4.16	3254699.63	1412318.92	40.4616085	-104.5846451	1.75	
2651.00	4.970	10.450	2650.55	-6.21	6.46	5.44	3254700.90	1412325.89	40.4616276	-104.5846402	1.37	

## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

## WELLPATH DATA (181 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
2746.00	7.040	9.110	2745.03	-15.91	16.26	7.11	3254702.57	1412335.69	40.4616544	-104.5846339	2.18	
2840.00	9.060	6.480	2838.10	-28.86	29.30	8.85	3254704.32	1412348.73	40.4616902	-104.5846271	2.18	
2935.00	10.830	6.770	2931.67	-45.05	45.60	10.75	3254706.21	1412365.02	40.4617349	-104.5846197	1.86	
3030.00	13.020	7.120	3024.61	-64.41	65.08	13.13	3254708.59	1412384.51	40.4617883	-104.5846104	2.31	
3124.00	14.820	6.740	3115.85	-86.70	87.53	15.85	3254711.32	1412406.95	40.4618498	-104.5845998	1.92	
3218.00	14.670	7.410	3206.75	-110.28	111.27	18.80	3254714.26	1412430.69	40.4619149	-104.5845883	0.24	
3313.00	18.750	9.020	3297.72	-137.09	138.29	22.74	3254718.21	1412457.71	40.4619889	-104.5845731	4.32	
3407.00	20.760	10.050	3386.18	-168.14	169.62	28.02	3254723.48	1412489.04	40.4620748	-104.5845530	2.17	
3502.00	21.630	9.680	3474.76	-201.68	203.46	33.90	3254729.37	1412522.88	40.4621675	-104.5845306	0.93	
3596.00	17.560	13.110	3563.30	-232.26	234.36	40.04	3254735.50	1412553.78	40.4622521	-104.5845074	4.50	
3691.00	21.090	10.000	3652.93	-262.74	265.16	46.26	3254741.72	1412584.58	40.4623365	-104.5844839	3.87	
3785.00	21.610	9.100	3740.48	-296.19	298.91	51.93	3254747.39	1412618.32	40.4624290	-104.5844623	0.65	
3879.00	23.340	357.540	3827.38	-331.78	334.62	53.87	3254749.33	1412654.04	40.4625269	-104.5844540	5.04	
3974.00	22.390	7.930	3914.95	-368.40	371.36	55.56	3254751.02	1412690.78	40.4626277	-104.5844466	4.36	
4069.00	22.510	357.710	4002.79	-404.38	407.47	57.33	3254752.79	1412726.88	40.4627268	-104.5844389	4.11	
4163.00	22.010	8.780	4089.82	-439.66	442.87	59.30	3254754.76	1412762.28	40.4628239	-104.5844305	4.49	
4258.00	23.800	8.450	4177.32	-475.92	479.43	64.83	3254760.30	1412798.83	40.4629241	-104.5844092	1.89	
4352.00	23.450	19.810	4263.49	-511.83	515.80	73.96	3254769.43	1412835.21	40.4630236	-104.5843751	4.85	
4447.00	24.180	19.880	4350.40	-547.28	551.88	86.99	3254782.45	1412871.29	40.4631223	-104.5843269	0.77	
4541.00	23.630	8.230	4436.39	-583.58	588.65	96.24	3254791.70	1412908.06	40.4632230	-104.5842923	5.05	
4636.00	23.950	2.810	4523.32	-621.48	626.76	99.91	3254795.37	1412946.16	40.4633275	-104.5842777	2.33	
4731.00	22.660	5.310	4610.57	-658.80	664.24	102.55	3254798.01	1412983.65	40.4634303	-104.5842669	1.71	
4825.00	22.320	15.000	4697.46	-693.75	699.53	108.84	3254804.30	1413018.93	40.4635269	-104.5842429	3.96	
4920.00	24.130	14.080	4784.75	-729.54	735.79	118.24	3254813.70	1413055.19	40.4636262	-104.5842078	1.94	
5014.00	23.720	9.810	4870.68	-766.41	773.06	126.13	3254821.59	1413092.46	40.4637283	-104.5841781	1.89	
5109.00	24.250	15.520	4957.49	-803.61	810.69	134.61	3254830.07	1413130.09	40.4638313	-104.5841462	2.51	
5203.00	23.370	8.800	5043.51	-840.23	847.72	142.63	3254838.09	1413167.12	40.4639327	-104.5841160	3.03	
5298.00	20.090	7.680	5131.74	-874.76	882.52	147.69	3254843.15	1413201.92	40.4640281	-104.5840965	3.48	
5392.00	17.910	13.820	5220.63	-904.51	912.56	153.31	3254848.76	1413231.96	40.4641104	-104.5840752	3.14	
5487.00	19.770	11.670	5310.53	-934.08	942.49	160.05	3254855.50	1413261.88	40.4641923	-104.5840499	2.09	

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

### WELLPATH DATA (181 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
5582.00	19.600	10.380	5399.98	-965.18	973.89	166.17	3254861.62	1413293.28	40.4642784	-104.5840267	0.49	
5676.00	19.030	13.880	5488.69	-995.23	1004.28	172.68	3254868.14	1413323.67	40.4643616	-104.5840022	1.37	
5770.00	19.720	13.900	5577.37	-1025.12	1034.55	180.17	3254875.63	1413353.94	40.4644445	-104.5839742	0.73	
5865.00	20.250	15.380	5666.65	-1056.12	1065.96	188.38	3254883.84	1413385.35	40.4645304	-104.5839435	0.77	
5959.00	21.520	14.080	5754.47	-1088.10	1098.37	196.89	3254892.35	1413417.76	40.4646191	-104.5839117	1.44	
6054.00	21.240	9.890	5842.94	-1121.59	1132.23	204.08	3254899.54	1413451.61	40.4647119	-104.5838846	1.63	
6148.00	16.940	8.610	5931.75	-1151.66	1162.56	209.06	3254904.52	1413481.94	40.4647950	-104.5838656	4.60	
6243.00	9.330	23.500	6024.22	-1172.18	1183.34	214.21	3254909.67	1413502.72	40.4648519	-104.5838463	8.70	
6336.00	5.580	60.230	6116.47	-1181.01	1192.50	221.15	3254916.61	1413511.89	40.4648768	-104.5838210	6.33	
6432.00	5.960	118.980	6212.06	-1180.53	1192.41	229.57	3254925.02	1413511.79	40.4648763	-104.5837908	5.90	
6527.00	10.190	171.510	6306.21	-1169.56	1181.69	235.13	3254930.59	1413501.07	40.4648467	-104.5837712	8.50	
6610.00	17.930	177.320	6386.66	-1149.45	1161.63	236.82	3254932.27	1413481.02	40.4647916	-104.5837659	9.47	
6705.00	26.710	178.980	6474.46	-1113.42	1125.61	237.88	3254933.34	1413444.99	40.4646927	-104.5837634	9.27	
6800.00	34.900	181.460	6555.99	-1064.88	1077.01	237.57	3254933.02	1413396.40	40.4645594	-104.5837663	8.72	
6895.00	42.830	181.600	6629.90	-1005.48	1017.47	235.97	3254931.43	1413336.86	40.4643960	-104.5837743	8.35	
6989.00	49.300	180.710	6695.09	-937.97	949.83	234.64	3254930.09	1413269.22	40.4642104	-104.5837816	6.92	
7083.00	57.620	181.220	6751.01	-862.66	874.38	233.35	3254928.80	1413193.77	40.4640033	-104.5837890	8.86	
7178.00	64.280	180.870	6797.11	-779.83	791.39	231.84	3254927.30	1413110.79	40.4637756	-104.5837975	7.02	
7272.00	73.520	179.820	6830.91	-692.35	703.79	231.34	3254926.80	1413023.19	40.4635352	-104.5838026	9.88	
7367.00	80.790	180.060	6852.02	-599.89	611.23	231.43	3254926.89	1412930.64	40.4632811	-104.5838057	7.66	
7461.00	89.850	179.150	6859.68	-506.37	517.65	232.08	3254927.54	1412837.05	40.4630242	-104.5838068	9.69	
7556.00	89.820	178.000	6859.95	-411.39	422.68	234.45	3254929.90	1412742.09	40.4627635	-104.5838018	1.21	
7651.00	89.600	177.810	6860.44	-316.40	327.74	237.92	3254933.38	1412647.16	40.4625028	-104.5837929	0.31	
7745.00	89.690	178.030	6861.02	-222.41	233.81	241.33	3254936.79	1412553.22	40.4622449	-104.5837841	0.25	
7840.00	89.880	177.650	6861.37	-127.41	138.87	244.91	3254940.37	1412458.30	40.4619842	-104.5837748	0.45	
7934.00	89.750	177.830	6861.68	-33.41	44.95	248.62	3254944.07	1412364.37	40.4617263	-104.5837649	0.24	
8029.00	89.720	178.010	6862.12	61.58	-49.99	252.07	3254947.52	1412269.44	40.4614657	-104.5837561	0.19	
8124.00	89.780	177.820	6862.53	156.58	-144.92	255.52	3254950.98	1412174.51	40.4612050	-104.5837472	0.21	
8219.00	89.750	177.700	6862.92	251.57	-239.85	259.24	3254954.69	1412079.59	40.4609443	-104.5837373	0.13	
8313.00	90.030	178.020	6863.10	345.57	-333.78	262.75	3254958.20	1411985.66	40.4606864	-104.5837282	0.45	

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

### WELLPATH DATA (181 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
8408.00	90.180	177.700	6862.93	440.56	-428.72	266.29	3254961.75	1411890.73	40.4604257	-104.5837190	0.37	
8503.00	89.880	177.850	6862.88	535.56	-523.65	269.98	3254965.44	1411795.80	40.4601651	-104.5837093	0.35	
8597.00	90.030	177.650	6862.95	629.56	-617.57	273.67	3254969.13	1411701.88	40.4599072	-104.5836995	0.27	
8691.00	89.910	177.840	6863.00	723.56	-711.50	277.37	3254972.82	1411607.95	40.4596493	-104.5836897	0.24	
8786.00	90.150	177.620	6862.95	818.55	-806.43	281.13	3254976.59	1411513.03	40.4593886	-104.5836797	0.34	
8880.00	90.000	177.890	6862.83	912.55	-900.35	284.82	3254980.27	1411419.11	40.4591307	-104.5836700	0.33	
8975.00	89.850	177.940	6862.95	1007.55	-995.29	288.27	3254983.73	1411324.17	40.4588700	-104.5836611	0.17	
9069.00	89.910	178.200	6863.15	1101.54	-1089.24	291.44	3254986.89	1411230.23	40.4586121	-104.5836532	0.28	
9164.00	89.720	178.630	6863.46	1196.52	-1184.20	294.07	3254989.52	1411135.27	40.4583514	-104.5836473	0.49	
9353.00	90.060	177.860	6863.82	1385.50	-1373.11	299.85	3254995.31	1410946.37	40.4578327	-104.5836335	0.45	
9447.00	90.060	177.650	6863.72	1479.50	-1467.04	303.54	3254998.99	1410852.45	40.4575748	-104.5836237	0.22	
9541.00	89.970	178.130	6863.70	1573.49	-1560.97	307.00	3255002.45	1410758.51	40.4573169	-104.5836148	0.52	
9636.00	89.940	177.590	6863.77	1668.49	-1655.91	310.54	3255006.00	1410663.58	40.4570562	-104.5836056	0.57	
9731.00	89.940	177.740	6863.87	1763.49	-1750.83	314.42	3255009.87	1410568.67	40.4567955	-104.5835952	0.16	
9825.00	90.030	177.770	6863.89	1857.48	-1844.76	318.10	3255013.55	1410474.74	40.4565376	-104.5835854	0.10	
9919.00	89.880	177.520	6863.97	1951.48	-1938.68	321.96	3255017.41	1410380.83	40.4562797	-104.5835750	0.31	
10014.00	89.750	177.540	6864.28	2046.48	-2033.59	326.05	3255021.51	1410285.92	40.4560191	-104.5835639	0.14	
10109.00	89.820	179.070	6864.63	2141.46	-2128.54	328.86	3255024.32	1410190.97	40.4557584	-104.5835573	1.61	
10203.00	89.660	178.970	6865.06	2235.42	-2222.53	330.47	3255025.92	1410096.99	40.4555004	-104.5835550	0.20	
10298.00	89.570	178.990	6865.70	2330.38	-2317.51	332.16	3255027.61	1410002.01	40.4552397	-104.5835525	0.10	
10393.00	89.940	178.990	6866.10	2425.34	-2412.49	333.84	3255029.29	1409907.03	40.4549789	-104.5835500	0.39	
10487.00	90.060	178.990	6866.10	2519.30	-2506.48	335.49	3255030.95	1409813.04	40.4547209	-104.5835475	0.13	
10582.00	90.220	178.930	6865.87	2614.27	-2601.46	337.22	3255032.67	1409718.06	40.4544601	-104.5835448	0.18	
10677.00	90.150	179.380	6865.56	2709.22	-2696.45	338.62	3255034.07	1409623.08	40.4541994	-104.5835433	0.48	
10771.00	90.220	179.420	6865.26	2803.16	-2790.45	339.60	3255035.06	1409529.09	40.4539414	-104.5835433	0.09	
10866.00	90.060	179.450	6865.03	2898.09	-2885.44	340.54	3255035.99	1409434.10	40.4536806	-104.5835434	0.17	
10960.00	90.090	179.220	6864.91	2992.04	-2979.44	341.63	3255037.08	1409340.11	40.4534226	-104.5835430	0.25	
11055.00	89.850	179.520	6864.96	3086.98	-3074.43	342.68	3255038.13	1409245.12	40.4531618	-104.5835428	0.40	
11149.00	90.490	179.990	6864.68	3180.90	-3168.43	343.08	3255038.53	1409151.12	40.4529038	-104.5835448	0.84	
11244.00	90.150	179.380	6864.15	3275.81	-3263.42	343.60	3255039.05	1409056.13	40.4526431	-104.5835465	0.74	

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

### WELLPATH DATA (181 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
11339.00	90.060	179.580	6863.97	3370.75	-3358.42	344.46	3255039.91	1408961.14	40.4523823	-104.5835469	0.23	
11433.00	90.220	179.440	6863.74	3464.68	-3452.42	345.27	3255040.72	1408867.14	40.4521243	-104.5835475	0.23	
11528.00	90.280	179.710	6863.33	3559.61	-3547.41	345.97	3255041.42	1408772.15	40.4518635	-104.5835485	0.29	
11622.00	90.310	179.710	6862.84	3653.53	-3641.41	346.45	3255041.90	1408678.16	40.4516055	-104.5835503	0.03	
11811.00	90.180	179.170	6862.04	3842.40	-3830.40	348.29	3255043.75	1408489.18	40.4510867	-104.5835507	0.29	
11906.00	90.250	179.120	6861.68	3937.35	-3925.39	349.71	3255045.16	1408394.19	40.4508260	-104.5835491	0.09	
12000.00	90.120	178.810	6861.38	4031.32	-4019.37	351.41	3255046.86	1408300.21	40.4505680	-104.5835465	0.36	
12095.00	89.170	178.900	6861.96	4126.28	-4114.35	353.31	3255048.76	1408205.24	40.4503072	-104.5835432	1.00	
12189.00	89.110	179.180	6863.37	4220.23	-4208.33	354.88	3255050.33	1408111.26	40.4500492	-104.5835410	0.30	
12284.00	89.260	178.970	6864.73	4315.18	-4303.30	356.42	3255051.87	1408016.29	40.4497885	-104.5835391	0.27	
12378.00	89.050	178.560	6866.11	4409.14	-4397.27	358.44	3255053.89	1407922.32	40.4495305	-104.5835353	0.49	
12473.00	89.350	179.050	6867.44	4504.10	-4492.24	360.42	3255055.87	1407827.36	40.4492698	-104.5835317	0.60	
12567.00	89.140	179.130	6868.68	4598.05	-4586.22	361.92	3255057.37	1407733.38	40.4490118	-104.5835298	0.24	
12662.00	89.660	178.510	6869.67	4693.01	-4681.19	363.87	3255059.32	1407638.41	40.4487511	-104.5835263	0.85	
12756.00	89.170	178.920	6870.63	4786.98	-4775.17	365.98	3255061.43	1407544.44	40.4484931	-104.5835222	0.68	
12851.00	89.510	179.440	6871.73	4881.92	-4870.15	367.34	3255062.79	1407449.46	40.4482324	-104.5835209	0.65	
12945.00	89.570	178.680	6872.48	4975.88	-4964.13	368.88	3255064.33	1407355.48	40.4479743	-104.5835188	0.81	
13040.00	89.850	179.030	6872.96	5070.84	-5059.11	370.78	3255066.23	1407260.51	40.4477136	-104.5835155	0.47	
13134.00	89.660	178.600	6873.36	5164.81	-5153.09	372.72	3255068.17	1407166.53	40.4474556	-104.5835120	0.50	
13228.00	89.780	179.260	6873.82	5258.77	-5247.07	374.48	3255069.93	1407072.56	40.4471976	-104.5835092	0.71	
13323.00	89.850	178.690	6874.13	5353.73	-5342.06	376.18	3255071.63	1406977.58	40.4469368	-104.5835066	0.60	
13417.00	90.120	178.940	6874.15	5447.70	-5436.04	378.12	3255073.57	1406883.60	40.4466788	-104.5835031	0.39	
13512.00	89.690	178.340	6874.31	5542.68	-5531.01	380.38	3255075.83	1406788.63	40.4464181	-104.5834986	0.78	
13606.00	89.570	178.590	6874.92	5636.66	-5624.97	382.90	3255078.34	1406694.67	40.4461601	-104.5834930	0.30	
13701.00	89.630	178.330	6875.58	5731.64	-5719.94	385.45	3255080.90	1406599.71	40.4458994	-104.5834874	0.28	
13795.00	89.720	178.440	6876.12	5825.62	-5813.90	388.10	3255083.55	1406505.75	40.4456414	-104.5834813	0.15	
13890.00	89.600	178.430	6876.68	5920.60	-5908.86	390.69	3255086.14	1406410.79	40.4453807	-104.5834755	0.13	
13984.00	89.820	179.020	6877.15	6014.57	-6002.84	392.78	3255088.23	1406316.82	40.4451227	-104.5834715	0.67	
14079.00	89.420	179.300	6877.78	6109.52	-6097.82	394.18	3255089.63	1406221.84	40.4448620	-104.5834700	0.51	
14184.00	90.860	180.010	6877.53	6214.43	-6202.82	394.81	3255090.26	1406116.85	40.4445738	-104.5834717	1.53	



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

WELLPATH DATA (181 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
14279.00	89.750	183.310	6877.02	6309.15	-6297.76	392.06	3255087.51	1406021.91	40.4443132	-104.5834851	3.66	
14374.00	90.120	180.390	6877.13	6403.85	-6392.70	388.99	3255084.44	1405926.97	40.4440527	-104.5834996	3.10	
14468.00	90.220	181.700	6876.85	6497.65	-6486.68	387.28	3255082.73	1405832.99	40.4437948	-104.5835093	1.40	
14563.00	90.340	181.190	6876.39	6592.41	-6581.65	384.88	3255080.33	1405738.03	40.4435342	-104.5835214	0.55	
14657.00	89.110	178.120	6876.84	6686.32	-6675.64	385.45	3255080.90	1405644.05	40.4432763	-104.5835229	3.52	
14752.00	89.380	179.280	6878.09	6781.28	-6770.60	387.60	3255083.05	1405549.09	40.4430155	-104.5835186	1.25	
14847.00	88.770	177.540	6879.62	6876.25	-6865.55	390.24	3255085.69	1405454.14	40.4427549	-104.5835127	1.94	
14941.00	89.260	178.270	6881.24	6970.23	-6959.47	393.67	3255089.12	1405360.22	40.4424970	-104.5835038	0.94	
15036.00	89.350	178.740	6882.39	7065.20	-7054.43	396.15	3255091.60	1405265.27	40.4422363	-104.5834985	0.50	
15131.00	89.410	177.970	6883.42	7160.18	-7149.39	398.88	3255094.33	1405170.32	40.4419756	-104.5834922	0.81	
15225.00	89.720	178.280	6884.13	7254.17	-7243.33	401.95	3255097.40	1405076.37	40.4417176	-104.5834846	0.47	
15319.00	89.480	177.760	6884.79	7348.16	-7337.27	405.20	3255100.65	1404982.43	40.4414597	-104.5834765	0.61	
15414.00	89.850	177.350	6885.35	7443.16	-7432.19	409.25	3255104.70	1404887.53	40.4411991	-104.5834654	0.58	
15509.00	89.600	176.920	6885.80	7538.16	-7527.07	414.00	3255109.45	1404792.65	40.4409385	-104.5834519	0.52	
15603.00	89.170	177.220	6886.81	7632.15	-7620.94	418.81	3255114.25	1404698.78	40.4406807	-104.5834381	0.56	
15697.00	89.290	179.310	6888.07	7726.12	-7714.88	421.65	3255117.10	1404604.84	40.4404228	-104.5834314	2.23	
15792.00	89.230	179.900	6889.30	7821.04	-7809.87	422.31	3255117.75	1404509.86	40.4401620	-104.5834325	0.62	
15887.00	89.720	179.860	6890.17	7915.94	-7904.86	422.51	3255117.95	1404414.87	40.4399013	-104.5834354	0.52	
15981.00	88.740	179.610	6891.43	8009.85	-7998.85	422.94	3255118.39	1404320.88	40.4396433	-104.5834373	1.08	
16075.00	88.120	180.070	6894.01	8103.73	-8092.82	423.20	3255118.65	1404226.92	40.4393854	-104.5834398	0.82	
16170.00	90.400	179.560	6895.24	8198.63	-8187.80	423.51	3255118.96	1404131.94	40.4391247	-104.5834423	2.46	
16265.00	90.340	179.290	6894.62	8293.56	-8282.80	424.46	3255119.91	1404036.95	40.4388639	-104.5834424	0.29	
16359.00	90.490	178.660	6893.94	8387.52	-8376.78	426.14	3255121.59	1403942.97	40.4386059	-104.5834398	0.69	
16454.00	90.220	177.680	6893.35	8482.51	-8471.73	429.18	3255124.63	1403848.03	40.4383452	-104.5834324	1.07	
16643.00	90.490	179.190	6892.18	8671.47	-8660.65	434.34	3255129.79	1403659.11	40.4378265	-104.5834209	0.81	
16738.00	89.940	178.720	6891.83	8766.43	-8755.63	436.07	3255131.52	1403564.13	40.4375658	-104.5834182	0.76	
16832.00	90.370	179.030	6891.57	8860.39	-8849.61	437.92	3255133.37	1403470.16	40.4373078	-104.5834151	0.56	
16927.00	89.230	179.000	6891.90	8955.35	-8944.59	439.55	3255135.00	1403375.18	40.4370470	-104.5834127	1.20	
17021.00	89.480	179.210	6892.96	9049.30	-9038.58	441.02	3255136.47	1403281.20	40.4367890	-104.5834110	0.35	
17115.00	90.000	179.220	6893.39	9143.25	-9132.57	442.31	3255137.75	1403187.21	40.4365310	-104.5834098	0.55	LAST BH MWD SURVEY





# Actual Wellpath Report

ROTH A32-790 AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

## WELLPATH DATA (181 stations) † = interpolated, ‡ = extrapolated station

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
17153.00†	90.000	179.220	6893.39	9181.23	-9170.56	442.82	3255138.27	1403149.22	40.4364267	-104.5834094	0.00	PROJECTION TO BIT

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.29-T06N-R64W	-8.00	1420.86	4150.64	3258845.94	1413740.23	40.4653913	-104.5696913	polygon
	2D Polygon: dimensions not calculated							
SEC.32-T06N-R64W	-8.00	1420.86	4150.64	3258845.94	1413740.23	40.4653913	-104.5696913	polygon
	2D Polygon: dimensions not calculated							
ROTH A32-790 TPZ REV-1 (460'FNL & 0'FWL,SEC.29)	6848.00	493.59	263.50	3254958.95	1412813.00	40.4629573	-104.5836948	point
ROTH A32-790 TPZ REV-2 (460'FNL & 0'FWL,SEC.29)	6863.00	493.59	263.50	3254958.95	1412813.00	40.4629573	-104.5836948	point
ROTH A32-790 BHL REV-1 (460'FSL & 0'FWL,SEC.32)	6883.00	-9172.47	424.27	3255119.72	1403147.31	40.4364220	-104.5834761	point
ROTH A32-790 BHL REV-2 (460'FSL & 0'FWL,SEC.32)	6898.00	-9172.47	424.26	3255119.71	1403147.31	40.4364220	-104.5834761	point



# Actual Wellpath Report

ROTH A32-790 AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

## WELLPATH COMPOSITION - Ref Wellbore: ROTH A32-790 AWB Ref Wellpath: ROTH A32-790 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
0.00	1941.00	Gyrodata 2015 - GC+DROP+COND	Gyrodata 2015 - GC+DROP+COND 13-1/2" <79 - 1941>	ROTH A32-790 AWB	10/5/2021
1941.00	17153.00	OWSG MWD rev2 (MS+IFR1)	OWSG MWD rev2 (MS+IFR1) 8-1/2" <1989 - 17115>	ROTH A32-790 AWB	10/18/2021



# Actual Wellpath Report

ROTH A32-790 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	ROTH A32-790
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	0512351332
Facility	SEC.30-T06N-R64W	Wellbore	ROTH A32-790 AWB
Slot	SLOT#03 ROTH A32-790 (949'FNL & 270'FEL,SEC.30)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
79.00	0.320	184.730	79.00	FIRST GYRODATA SURVEY
1941.00	0.540	209.000	1940.97	LAST GYRODATA SURVEY
1989.00	0.140	206.150	1988.96	FIRST BH MWD SURVEY
17115.00	90.000	179.220	6893.39	LAST BH MWD SURVEY
17153.00	90.000	179.220	6893.39	PROJECTION TO BIT