



EXPAND ENERGY



Location: Ohio County, WV
Field: Ohio (NAD 27 SP)
Facility: Roth OHI Pad

Slot: 406H
Well: Roth OHI 406H
Wellbore: Roth OHI 406H AWB

Plot reference wellpath is Roth OHI 406H awp Proj: 26068'

Grid System: NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet

True vertical depths are referenced to EDC 501 (KB)

* = Wellpath was transformed from a different geodetic datum

Reference wellpath measured depths are referenced to EDC 501 (KB)

North Reference: Grid north

EDC 501 (KB) to Mean Sea Level: 1030.04 feet

Scale: True distance

Mean Sea Level to Ground level (At Slot: 406H): -1004.04 feet

Coordinates are in feet referenced to Slot

Offset wellpath MDs are referenced to each path's default MD datum

Depths are in feet

Created by: tranlam on 2025-04-10; Database: WA_MPL_EASTERNUS_Defn

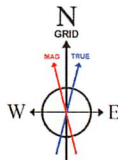
Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Roth OHI Pad			1668142.420	603595.100	40°09'4.1355"N	80°41'13.7812"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
406H	2.04	-13.66	1668128.760	603597.140	40°09'4.1539"N	80°41'13.9575"W
EDC 501 (KB) to Ground level (At Slot: 406H)					26ft	
Mean Sea Level to Ground level (At Slot: 406H)					-1004.04ft	
EDC 501 (KB) to Mean Sea Level					1030.04ft	

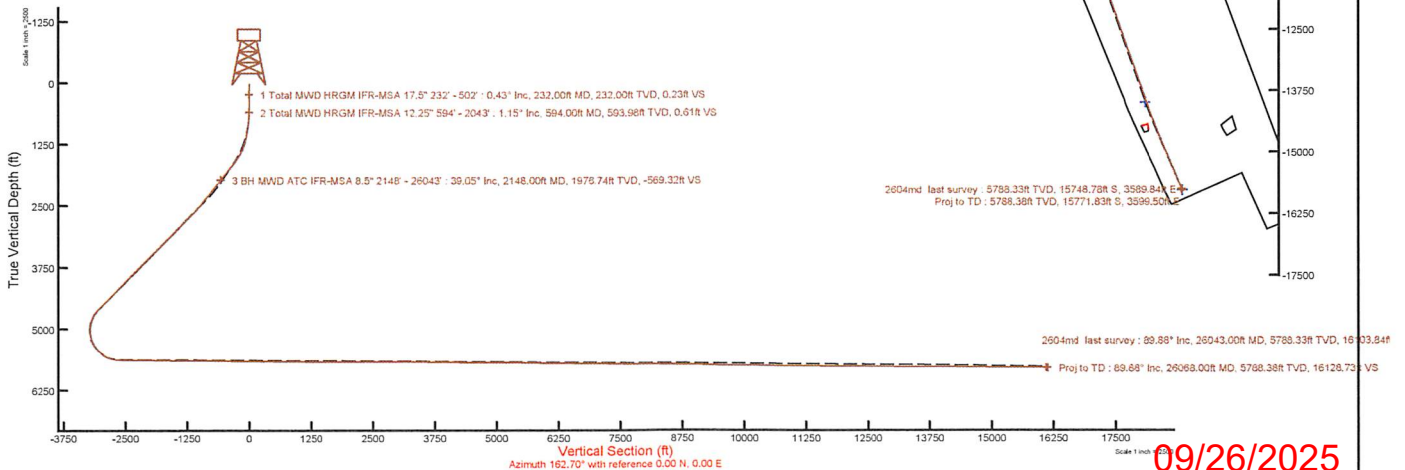
Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
26068.00	89.880	157.250	5788.38	-15771.83	3599.50	1671728.20	587825.61	40°06'28.7727"N	80°40'24.9547"W

API: 47069003730000
BH JOB: 112621589
DURATION: 3/29/2025 - 4/3/2025
RIG: EDC 501
Marcellus



User specified Dip: 67.07° Field: 51599 nT
Magnetic North is 7.50 degrees West of True North (at 3/25/2025)
Grid North is 0.76 degrees West of True North
To correct azimuth from True to Grid add 0.76 degrees
To correct azimuth from Magnetic to Grid subtract 6.74 degrees





Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
Field	Ohio (NAD 27 SP)	API	47-069-00373-0000
Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Tranlam
Scale	0.999983	Report Generated	4/10/2025 at 1:57:05 AM
Convergence at slot	0.76° West	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2.04	-13.66	1668128.76	603597.14	40°09'4.1539"N	80°41'13.9575"W
Facility Reference Pt			1668142.42	603595.10	40°09'4.1355"N	80°41'13.7812"W
Field Reference Pt			609601.22	0.00	38°23'48.7532"N	84°21'9.7646"W

WELLPATH DATUM

Calculation method	Minimum curvature	EDC 501 (KB) to Facility Vertical Datum	1030.04ft
Horizontal Reference Pt	Slot	EDC 501 (KB) to Mean Sea Level	1030.04ft
Vertical Reference Pt	EDC 501 (KB)	EDC 501 (KB) to Ground Level at Slot (406H)	26.00ft
MD Reference Pt	EDC 501 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	162.70°

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Office Of Oil and Gas
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Environmental Protection



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Slot	406H		

WELLPATH DATA (285 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	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
0.00†	0.000	235.670	0.00	0.00	0.00	0.00	1668128.76	603597.14	40°09'4.1539"N	80°41'13.9575"W	0.00	0.000	0.00
26.00	0.000	235.670	26.00	0.00	0.00	0.00	1668128.76	603597.14	40°09'4.1539"N	80°41'13.9575"W	0.00	0.000	0.00
232.00	0.430	235.670	232.00	0.23	-0.44	-0.64	1668128.12	603596.70	40°09'4.1495"N	80°41'13.9656"W	0.77	235.670	0.21
412.00	0.450	220.610	411.99	0.80	-1.35	-1.66	1668127.10	603595.79	40°09'4.1403"N	80°41'13.9786"W	2.14	230.744	0.07
455.00	0.720	238.590	454.99	0.96	-1.62	-2.00	1668126.76	603595.52	40°09'4.1376"N	80°41'13.9829"W	2.57	230.904	0.75
502.00	0.460	236.590	501.99	1.08	-1.88	-2.41	1668126.35	603595.26	40°09'4.1350"N	80°41'13.9881"W	3.05	231.996	0.55
594.00	1.150	291.190	593.98	0.61	-1.75	-3.58	1668125.18	603595.39	40°09'4.1362"N	80°41'14.0032"W	3.98	243.921	1.04
686.00	3.480	303.590	685.90	-2.13	0.13	-6.76	1668122.00	603597.27	40°09'4.1543"N	80°41'14.0446"W	6.76	271.092	2.58
777.00	6.240	304.920	776.56	-8.19	4.49	-13.12	1668115.64	603601.63	40°09'4.1966"N	80°41'14.1272"W	13.87	288.888	3.04
869.00	9.210	302.960	867.72	-17.80	11.36	-23.40	1668105.36	603608.50	40°09'4.2631"N	80°41'14.2607"W	26.01	295.892	3.24
960.00	11.990	302.540	957.16	-30.63	20.41	-37.48	1668091.28	603617.55	40°09'4.3507"N	80°41'14.4436"W	42.68	298.566	3.06
1052.00	13.060	306.850	1046.97	-46.36	31.78	-53.86	1668074.91	603628.92	40°09'4.4609"N	80°41'14.6563"W	62.53	300.545	1.54
1144.00	13.990	314.640	1136.42	-64.60	45.83	-70.09	1668058.67	603642.97	40°09'4.5976"N	80°41'14.8678"W	83.74	303.180	2.22
1235.00	15.140	326.090	1224.51	-85.70	63.43	-84.55	1668044.21	603660.56	40°09'4.7696"N	80°41'15.0569"W	105.69	306.876	3.40
1285.00	17.090	330.160	1272.55	-99.13	75.22	-91.85	1668036.91	603672.36	40°09'4.8852"N	80°41'15.1529"W	118.72	309.316	4.50
1331.00	19.930	333.130	1316.17	-113.46	88.08	-98.75	1668030.01	603685.22	40°09'5.0114"N	80°41'15.2441"W	132.33	311.729	6.50
1423.00	26.270	334.370	1400.75	-149.10	120.46	-114.66	1668014.10	603717.59	40°09'5.3292"N	80°41'15.4545"W	166.31	316.411	6.91
1515.00	32.330	332.740	1480.94	-193.52	160.72	-134.76	1667994.00	603757.85	40°09'5.7244"N	80°41'15.7201"W	209.74	320.021	6.64
1607.00	35.060	328.990	1557.49	-243.44	205.25	-159.65	1667969.12	603802.38	40°09'6.1612"N	80°41'16.0481"W	260.03	322.123	3.73
1698.00	37.670	325.570	1630.77	-295.42	250.60	-188.84	1667939.92	603847.73	40°09'6.6055"N	80°41'16.4318"W	313.78	322.999	3.63
1790.00	39.710	323.790	1702.57	-350.09	297.50	-222.10	1667906.66	603894.64	40°09'7.0646"N	80°41'16.8680"W	371.26	323.257	2.53
1882.00	39.800	324.360	1773.30	-405.84	345.14	-256.62	1667872.14	603942.28	40°09'7.5309"N	80°41'17.3207"W	430.09	323.369	0.41
2043.00	40.720	326.070	1896.17	-505.08	430.60	-315.96	1667812.80	604027.73	40°09'8.3675"N	80°41'18.0993"W	534.09	323.730	0.89
2148.00	39.050	324.490	1976.74	-569.32	485.95	-354.29	1667774.47	604083.08	40°09'8.9094"N	80°41'18.6024"W	601.39	323.905	1.86
2239.00	39.750	324.940	2047.06	-624.26	533.09	-387.66	1667741.11	604130.22	40°09'9.3710"N	80°41'19.0400"W	659.14	323.976	0.83
2331.00	39.800	325.380	2117.76	-680.38	581.40	-421.28	1667707.48	604178.53	40°09'9.8439"N	80°41'19.4812"W	717.99	324.073	0.31
2423.00	39.840	327.090	2188.43	-736.87	630.38	-454.02	1667674.74	604227.50	40°09'10.3236"N	80°41'19.9112"W	776.86	324.237	1.19
2514.00	39.810	327.260	2258.32	-793.03	679.35	-485.62	1667643.15	604276.48	40°09'10.8034"N	80°41'20.3263"W	835.07	324.442	0.12
2606.00	39.800	327.380	2328.99	-849.82	728.92	-517.42	1667611.35	604326.05	40°09'11.2891"N	80°41'20.7443"W	893.90	324.631	0.08
2697.00	39.800	326.400	2398.91	-905.86	777.71	-549.24	1667579.53	604374.84	40°09'11.7670"N	80°41'21.1623"W	952.10	324.770	0.69



Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

WELLPATH DATA (285 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
2789.00	39.810	326.640	2469.58	-962.42	826.84	-581.73	1667547.05	604423.96	40°09'12.2482"N	80°41'21.5891"W	1010.97	324.872	0.17
2881.00	42.100	326.060	2539.06	-1020.28	877.03	-615.14	1667513.63	604474.15	40°09'12.7398"N	80°41'22.0280"W	1071.25	324.954	2.52
2972.00	44.830	326.170	2605.10	-1080.27	928.99	-650.04	1667478.73	604526.12	40°09'13.2487"N	80°41'22.4862"W	1133.83	325.019	3.00
3064.00	45.790	326.140	2669.80	-1142.97	983.31	-686.47	1667442.31	604580.44	40°09'13.7807"N	80°41'22.9645"W	1199.23	325.080	1.04
3155.00	45.750	326.310	2733.28	-1205.50	1037.52	-722.72	1667406.06	604634.64	40°09'14.3115"N	80°41'23.4406"W	1264.42	325.140	0.14
3247.00	45.740	326.360	2797.48	-1268.72	1092.36	-759.24	1667369.53	604689.48	40°09'14.8486"N	80°41'23.9203"W	1330.30	325.199	0.04
3339.00	45.780	326.200	2861.67	-1331.94	1147.18	-795.83	1667332.94	604744.30	40°09'15.3856"N	80°41'24.4008"W	1396.20	325.250	0.13
3430.00	45.960	324.610	2925.03	-1394.30	1200.94	-832.92	1667295.86	604798.06	40°09'15.9120"N	80°41'24.8875"W	1461.51	325.257	1.27
3522.00	46.260	326.400	2988.81	-1457.64	1255.59	-870.46	1667258.32	604852.70	40°09'16.4470"N	80°41'25.3803"W	1527.81	325.268	1.44
3613.00	46.170	327.300	3051.78	-1520.83	1310.59	-906.39	1667222.39	604907.70	40°09'16.9858"N	80°41'25.8523"W	1593.48	325.333	0.72
3705.00	46.180	327.420	3115.49	-1584.84	1366.48	-942.19	1667186.59	604963.59	40°09'17.5334"N	80°41'26.3228"W	1659.81	325.414	0.09
3796.00	46.170	327.180	3178.50	-1648.14	1421.73	-977.65	1667151.12	605018.84	40°09'18.0747"N	80°41'26.7890"W	1725.43	325.486	0.19
3888.00	46.180	327.350	3242.21	-1712.12	1477.56	-1013.55	1667115.23	605074.67	40°09'18.6217"N	80°41'27.2607"W	1791.78	325.551	0.13
3979.00	46.140	326.660	3305.24	-1775.31	1532.61	-1049.29	1667079.49	605129.72	40°09'19.1609"N	80°41'27.7304"W	1857.39	325.603	0.55
4071.00	46.090	327.450	3369.02	-1839.16	1588.25	-1085.35	1667043.43	605185.36	40°09'19.7061"N	80°41'28.2043"W	1923.68	325.653	0.62
4163.00	46.140	327.620	3432.79	-1903.16	1644.20	-1120.94	1667007.84	605241.31	40°09'20.2542"N	80°41'28.6721"W	1989.95	325.716	0.14
4254.00	46.220	327.210	3495.80	-1966.49	1699.52	-1156.30	1666972.48	605296.63	40°09'20.7962"N	80°41'29.1369"W	2055.58	325.770	0.34
4346.00	46.180	327.490	3559.48	-2030.52	1755.43	-1192.13	1666936.66	605352.54	40°09'21.3440"N	80°41'29.6078"W	2121.96	325.819	0.22
4437.00	46.040	327.430	3622.56	-2093.80	1810.72	-1227.40	1666901.38	605407.82	40°09'21.8857"N	80°41'30.0715"W	2187.51	325.868	0.16
4529.00	46.080	327.350	3686.40	-2157.69	1866.52	-1263.10	1666865.68	605463.62	40°09'22.4324"N	80°41'30.5408"W	2253.73	325.913	0.08
4621.00	45.270	327.400	3750.69	-2221.17	1921.95	-1298.59	1666830.20	605519.05	40°09'22.9755"N	80°41'31.0072"W	2319.53	325.955	0.88
4712.00	45.590	327.530	3814.55	-2283.72	1976.60	-1333.45	1666795.33	605573.71	40°09'23.5110"N	80°41'31.4655"W	2384.33	325.996	0.37
4804.00	46.270	327.420	3878.54	-2347.50	2032.34	-1368.99	1666759.79	605629.44	40°09'24.0570"N	80°41'31.9327"W	2450.41	326.036	0.74
4895.00	44.530	327.230	3942.43	-2409.97	2086.88	-1403.97	1666724.82	605683.98	40°09'24.5913"N	80°41'32.3925"W	2515.19	326.069	1.92
4987.00	44.710	327.440	4007.91	-2472.28	2141.28	-1438.85	1666689.94	605738.37	40°09'25.1243"N	80°41'32.8509"W	2579.80	326.101	0.25
5079.00	44.610	327.510	4073.35	-2534.68	2195.80	-1473.62	1666655.17	605792.90	40°09'25.6585"N	80°41'33.3080"W	2644.44	326.134	0.12
5170.00	44.600	327.540	4138.14	-2596.35	2249.71	-1507.93	1666620.86	605846.81	40°09'26.1867"N	80°41'33.7591"W	2708.33	326.167	0.03
5262.00	44.220	327.430	4203.86	-2658.48	2304.00	-1542.53	1666586.26	605901.09	40°09'26.7186"N	80°41'34.2140"W	2772.69	326.198	0.42
5354.00	45.800	327.470	4268.90	-2721.25	2358.84	-1577.54	1666551.25	605955.94	40°09'27.2560"N	80°41'34.6742"W	2837.74	326.226	1.72
5446.00	45.660	326.470	4333.12	-2784.66	2414.07	-1613.45	1666515.35	606011.16	40°09'27.7970"N	80°41'35.1460"W	2903.61	326.243	0.79



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5538.00	45.700	326.140	4397.40	-2847.80	2468.83	-1649.96	1666478.83	606065.93	40°09'28.3333"N	80°41'35.6256"W	2969.43	326.245	0.26
5629.00	45.790	326.500	4460.91	-2910.34	2523.07	-1686.11	1666442.69	606120.16	40°09'28.8645"N	80°41'36.1004"W	3034.61	326.246	0.30
5721.00	45.700	326.450	4525.11	-2973.61	2578.00	-1722.50	1666406.29	606175.09	40°09'29.4026"N	80°41'36.5784"W	3100.50	326.251	0.11
5813.00	46.040	326.370	4589.17	-3036.99	2633.01	-1759.03	1666369.76	606230.10	40°09'29.9413"N	80°41'37.0583"W	3166.54	326.254	0.37
5904.00	38.480	321.510	4656.48	-3094.92	2682.53	-1794.85	1666333.94	606279.62	40°09'30.4259"N	80°41'37.5281"W	3227.61	326.214	9.05
5995.00	31.770	312.320	4730.92	-3142.07	2720.89	-1830.25	1666298.54	606317.98	40°09'30.8003"N	80°41'37.9905"W	3279.19	326.073	9.37
6087.00	24.470	303.330	4812.05	-3177.76	2747.71	-1864.14	1666264.65	606344.80	40°09'31.0609"N	80°41'38.4315"W	3320.38	325.846	9.15
6179.00	20.850	285.360	4897.03	-3201.36	2762.54	-1895.90	1666232.90	606359.63	40°09'31.2033"N	80°41'38.8430"W	3350.53	325.539	8.45
6270.00	18.270	263.800	4982.88	-3212.86	2765.29	-1925.74	1666203.06	606362.38	40°09'31.2265"N	80°41'39.2278"W	3369.77	325.147	8.37
6362.00	18.460	240.150	5070.32	-3212.47	2756.47	-1952.75	1666176.05	606353.56	40°09'31.1358"N	80°41'39.5741"W	3378.07	324.685	8.05
6454.00	22.810	218.360	5156.52	-3199.22	2735.20	-1976.49	1666152.31	606332.29	40°09'30.9225"N	80°41'39.8763"W	3374.59	324.148	9.52
6545.00	27.700	203.420	5238.89	-3173.20	2701.91	-1995.88	1666132.92	606298.99	40°09'30.5910"N	80°41'40.1202"W	3359.14	323.547	8.79
6637.00	33.120	192.940	5318.26	-3135.22	2657.73	-2010.03	1666118.77	606254.81	40°09'30.1525"N	80°41'40.2948"W	3332.22	322.900	8.22
6741.00	43.220	184.430	5399.97	-3077.41	2594.32	-2019.17	1666109.63	606191.41	40°09'29.5248"N	80°41'40.4017"W	3287.48	322.106	10.93
6820.00	49.170	182.010	5454.63	-3024.02	2537.43	-2022.31	1666106.49	606134.52	40°09'28.9622"N	80°41'40.4324"W	3244.73	321.445	7.85
6912.00	56.400	179.690	5510.24	-2954.43	2464.23	-2023.32	1666105.48	606061.32	40°09'28.2388"N	80°41'40.4329"W	3188.46	320.611	8.11
7004.00	64.200	175.830	5555.80	-2877.32	2384.46	-2020.10	1666108.70	605981.56	40°09'27.4510"N	80°41'40.3778"W	3125.13	319.729	9.23
7095.00	71.550	171.990	5590.06	-2794.69	2300.72	-2011.09	1666117.71	605897.82	40°09'26.6248"N	80°41'40.2474"W	3055.78	318.843	8.97
7187.00	78.820	168.620	5613.58	-2706.60	2213.13	-1996.08	1666132.72	605810.23	40°09'25.7612"N	80°41'40.0391"W	2980.32	317.952	8.66
7278.00	86.030	165.570	5625.57	-2616.73	2125.28	-1975.93	1666152.87	605722.38	40°09'24.8957"N	80°41'39.7646"W	2901.92	317.086	8.59
7370.00	89.350	165.520	5629.28	-2524.93	2036.28	-1952.99	1666175.81	605633.38	40°09'24.0193"N	80°41'39.4539"W	2821.45	316.196	3.61
7461.00	89.320	165.450	5630.33	-2434.04	1948.19	-1930.18	1666198.61	605545.29	40°09'23.1518"N	80°41'39.1451"W	2742.45	315.266	0.08
7553.00	89.450	165.440	5634.32	-2342.15	1859.14	-1907.06	1666221.73	605456.25	40°09'22.2750"N	80°41'38.8322"W	2663.33	314.271	0.14
7644.00	89.410	165.130	5632.23	-2251.25	1771.13	-1883.95	1666244.85	605368.24	40°09'21.4084"N	80°41'38.5195"W	2585.77	313.232	0.34
7736.00	89.260	165.090	5633.29	-2159.34	1682.23	-1860.31	1666268.49	605279.34	40°09'20.5330"N	80°41'38.1998"W	2508.12	312.122	0.17
7828.00	89.260	165.410	5634.48	-2067.43	1593.27	-1836.89	1666291.91	605190.38	40°09'19.6570"N	80°41'37.8830"W	2431.60	310.937	0.35
7919.00	89.320	165.020	5635.61	-1976.53	1505.29	-1813.67	1666315.13	605102.40	40°09'18.7907"N	80°41'37.5689"W	2356.97	309.692	0.43
8011.00	89.420	165.230	5636.62	-1884.62	1416.38	-1790.05	1666338.74	605013.49	40°09'17.9152"N	80°41'37.2496"W	2282.63	308.353	0.25
8103.00	89.380	165.380	5637.58	-1792.72	1327.39	-1766.72	1666362.08	604924.51	40°09'17.0390"N	80°41'36.9339"W	2209.81	306.919	0.17
8194.00	89.260	165.030	5638.66	-1701.81	1239.41	-1743.48	1666385.31	604836.53	40°09'16.1727"N	80°41'36.6196"W	2139.13	305.408	0.41



Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
Field	Ohio (NAD 27 SP)	API	47-069-00373-0000
Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

WELLPATH DATA (285 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
8285.00	89.200	165.090	5639.89	-1610.90	1151.50	-1720.02	1666408.77	604748.62	40°09'15.3071"N	80°41'36.3025"W	2069.88	303.801	0.09
8377.00	89.350	165.310	5641.05	-1518.99	1062.56	-1696.52	1666432.27	604659.68	40°09'14.4313"N	80°41'35.9847"W	2001.80	302.060	0.29
8469.00	89.510	165.460	5641.97	-1427.10	973.54	-1673.31	1666455.48	604570.66	40°09'13.5547"N	80°41'35.6705"W	1935.91	300.191	0.24
8561.00	89.540	165.590	5642.73	-1335.21	884.46	-1650.31	1666478.48	604481.59	40°09'12.6776"N	80°41'35.3592"W	1872.38	298.188	0.15
8652.00	89.320	165.430	5643.63	-1244.33	796.36	-1627.55	1666501.25	604393.49	40°09'11.8100"N	80°41'35.0509"W	1811.93	296.073	0.30
8744.00	89.480	165.390	5644.60	-1152.43	707.33	-1604.37	1666524.42	604304.46	40°09'10.9333"N	80°41'34.7373"W	1753.38	293.792	0.18
8835.00	89.600	165.450	5645.33	-1061.54	619.27	-1581.47	1666547.32	604216.39	40°09'10.0661"N	80°41'34.4273"W	1698.39	291.384	0.15
8927.00	89.410	165.620	5646.12	-969.66	530.19	-1558.49	1666570.30	604127.32	40°09'9.1889"N	80°41'34.1161"W	1646.20	288.788	0.28
9018.00	89.510	165.660	5646.98	-878.78	442.03	-1535.92	1666592.87	604039.17	40°09'8.3208"N	80°41'33.8104"W	1598.26	286.056	0.12
9110.00	89.350	165.280	5647.90	-786.89	352.98	-1512.84	1666615.95	603950.11	40°09'7.4438"N	80°41'33.4980"W	1553.47	283.133	0.45
9202.00	89.570	165.370	5648.76	-694.99	263.99	-1489.53	1666639.26	603861.12	40°09'6.5675"N	80°41'33.1827"W	1512.74	280.050	0.26
9293.00	89.510	165.350	5649.49	-604.09	175.94	-1466.53	1666662.26	603773.08	40°09'5.7005"N	80°41'32.8715"W	1477.05	276.841	0.07
9385.00	89.350	165.430	5650.41	-512.20	86.92	-1443.33	1666685.46	603684.06	40°09'4.8239"N	80°41'32.5575"W	1445.94	273.446	0.19
9477.00	89.110	165.350	5651.65	-420.31	-2.09	-1420.12	1666708.66	603595.05	40°09'3.9474"N	80°41'32.2435"W	1420.13	269.915	0.27
9568.00	89.200	165.470	5652.99	-329.42	-90.15	-1397.20	1666731.58	603506.99	40°09'3.0803"N	80°41'31.9333"W	1400.11	266.308	0.16
9660.00	88.830	165.180	5654.57	-237.53	-179.14	-1373.90	1666754.89	603418.01	40°09'2.2040"N	80°41'31.6180"W	1385.53	262.571	0.51
9751.00	89.260	166.030	5656.09	-146.66	-267.27	-1351.28	1666777.51	603329.88	40°09'1.3361"N	80°41'31.3117"W	1377.46	258.812	1.05
9843.00	89.170	165.370	5657.35	-54.80	-356.41	-1328.56	1666800.23	603240.74	40°09'0.4583"N	80°41'31.0039"W	1375.53	254.983	0.72
9934.00	89.110	165.570	5658.71	36.09	-444.49	-1305.73	1666823.05	603152.66	40°08'59.5909"N	80°41'30.6949"W	1379.31	251.201	0.23
10026.00	89.350	165.500	5659.95	127.97	-533.56	-1282.75	1666846.03	603063.59	40°08'58.7138"N	80°41'30.3838"W	1389.30	247.415	0.27
10118.00	89.380	165.620	5660.97	219.84	-622.65	-1259.81	1666868.97	602974.50	40°08'57.8365"N	80°41'30.0732"W	1405.28	243.700	0.13
10210.00	90.340	165.490	5661.19	311.73	-711.74	-1236.86	1666891.92	602885.41	40°08'56.9591"N	80°41'29.7625"W	1427.03	240.082	1.05
10302.00	90.090	165.340	5660.85	403.58	-800.97	-1214.47	1666914.31	602796.18	40°08'56.0803"N	80°41'29.4590"W	1454.82	236.594	0.96
10393.00	89.350	165.680	5661.29	494.43	-889.27	-1192.48	1666936.31	602707.89	40°08'55.2107"N	80°41'29.1606"W	1487.55	233.287	1.09
10485.00	90.000	165.740	5661.81	586.30	-978.42	-1169.77	1666959.02	602618.74	40°08'54.3327"N	80°41'28.8530"W	1525.01	230.090	0.71
10577.00	89.690	165.570	5662.06	678.18	-1067.55	-1146.97	1666981.81	602529.61	40°08'53.4550"N	80°41'28.5443"W	1566.91	227.054	0.38
10668.00	89.600	165.360	5662.63	769.07	-1155.64	-1124.14	1667004.65	602441.52	40°08'52.5876"N	80°41'28.2352"W	1612.20	224.208	0.25
10760.00	89.540	165.880	5663.32	860.95	-1244.75	-1101.29	1667027.49	602352.41	40°08'51.7100"N	80°41'27.9258"W	1662.00	221.501	0.57
10851.00	89.570	164.920	5664.02	951.84	-1332.81	-1078.35	1667050.43	602264.35	40°08'50.8429"N	80°41'27.6154"W	1714.42	218.976	1.06
10943.00	89.570	165.070	5664.71	1043.77	-1421.67	-1054.53	1667074.25	602175.49	40°08'49.9679"N	80°41'27.2936"W	1770.08	216.566	0.16



Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
Field	Ohio (NAD 27 SP)	API	47-069-00373-0000
Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

WELLPATH DATA (285 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
11035.00	89.510	164.820	5665.45	1135.69	-1510.51	-1030.64	1667098.14	602086.66	40°08'49.0932"N	80°41'26.9707"W	1828.62	214.306	0.28
11126.00	89.600	165.300	5666.16	1226.61	-1598.43	-1007.18	1667121.60	601998.74	40°08'48.2275"N	80°41'26.6537"W	1889.28	212.215	0.54
11218.00	89.660	167.190	5666.75	1318.43	-1687.79	-985.30	1667143.48	601909.38	40°08'47.3474"N	80°41'26.3568"W	1954.34	210.276	2.06
11310.00	89.600	167.520	5667.35	1410.12	-1777.56	-965.16	1667163.61	601819.62	40°08'46.4630"N	80°41'26.0821"W	2022.68	208.501	0.36
11401.00	89.660	167.330	5667.94	1500.81	-1866.37	-945.35	1667183.43	601730.81	40°08'45.5880"N	80°41'25.8119"W	2092.13	206.863	0.22
11493.00	90.370	167.370	5667.91	1592.51	-1956.14	-925.20	1667203.57	601641.04	40°08'44.7036"N	80°41'25.5372"W	2163.90	205.313	0.77
11585.00	90.060	169.120	5667.57	1684.07	-2046.20	-906.46	1667222.31	601550.98	40°08'43.8161"N	80°41'25.2805"W	2237.99	203.893	1.93
11676.00	89.970	169.370	5667.54	1774.48	-2135.60	-889.48	1667239.30	601461.58	40°08'42.9349"N	80°41'25.0466"W	2313.44	202.612	0.29
11768.00	90.000	169.460	5667.57	1865.85	-2226.04	-872.58	1667256.20	601371.14	40°08'42.0435"N	80°41'24.8136"W	2390.95	201.405	0.10
11860.00	90.000	171.280	5667.57	1957.02	-2316.74	-857.19	1667271.58	601280.45	40°08'41.1493"N	80°41'24.6000"W	2470.23	200.304	1.98
11951.00	90.090	173.950	5667.50	2046.66	-2406.98	-845.50	1667283.28	601190.21	40°08'40.2591"N	80°41'24.4340"W	2551.16	199.355	2.94
12043.00	89.940	174.820	5667.47	2136.75	-2498.53	-836.49	1667292.28	601098.66	40°08'39.3556"N	80°41'24.3025"W	2634.84	198.510	0.96
12135.00	90.220	175.030	5667.34	2226.66	-2590.17	-828.36	1667300.42	601007.02	40°08'38.4511"N	80°41'24.1820"W	2719.41	197.735	0.38
12226.00	89.630	174.430	5667.46	2315.66	-2680.79	-820.00	1667308.78	600916.41	40°08'37.5568"N	80°41'24.0590"W	2803.39	197.008	0.92
12318.00	89.780	175.010	5667.94	2405.64	-2772.39	-811.53	1667317.24	600824.80	40°08'36.6527"N	80°41'23.9343"W	2888.73	196.316	0.65
12409.00	89.600	174.770	5668.43	2494.59	-2863.03	-803.43	1667325.35	600734.16	40°08'35.7582"N	80°41'23.8145"W	2973.62	195.675	0.33
12501.00	89.780	175.160	5668.93	2584.49	-2954.67	-795.35	1667333.42	600642.52	40°08'34.8537"N	80°41'23.6950"W	3059.85	195.066	0.47
12593.00	89.850	175.080	5669.22	2674.34	-3046.34	-787.53	1667341.25	600550.86	40°08'33.9489"N	80°41'23.5786"W	3146.49	194.495	0.12
12684.00	89.970	172.500	5669.37	2763.63	-3136.80	-777.68	1667351.09	600460.40	40°08'33.0563"N	80°41'23.4364"W	3231.76	193.924	2.84
12776.00	89.750	170.490	5669.59	2854.54	-3227.78	-764.08	1667364.70	600369.42	40°08'32.1591"N	80°41'23.2457"W	3316.99	193.318	2.20
12868.00	89.820	170.380	5669.94	2945.70	-3318.50	-748.79	1667379.98	600278.70	40°08'31.2646"N	80°41'23.0334"W	3401.93	192.715	0.14
12959.00	89.820	168.260	5670.22	3036.09	-3407.92	-731.93	1667396.85	600189.28	40°08'30.3833"N	80°41'22.8011"W	3485.63	192.121	2.33
13051.00	89.480	166.040	5670.78	3127.81	-3497.61	-711.47	1667417.31	600099.60	40°08'29.4997"N	80°41'22.5224"W	3569.24	191.498	2.44
13143.00	89.720	163.680	5671.43	3219.73	-3586.41	-687.44	1667441.33	600010.80	40°08'28.6254"N	80°41'22.1979"W	3651.70	190.851	2.58
13234.00	90.030	162.370	5671.62	3310.73	-3673.44	-660.87	1667467.90	599923.77	40°08'27.7688"N	80°41'21.8410"W	3732.42	190.199	1.48
13326.00	89.450	158.510	5672.04	3402.64	-3760.11	-630.08	1667498.69	599837.10	40°08'26.9164"N	80°41'21.4298"W	3812.54	189.513	4.24
13418.00	89.480	157.980	5672.90	3494.36	-3845.56	-595.98	1667532.79	599751.66	40°08'26.0766"N	80°41'20.9762"W	3891.47	188.810	0.58
13509.00	89.660	155.650	5673.58	3584.87	-3929.20	-560.16	1667568.61	599668.02	40°08'25.2548"N	80°41'20.5007"W	3968.93	188.114	2.57
13601.00	89.720	155.840	5674.08	3676.19	-4013.08	-522.37	1667606.40	599584.14	40°08'24.4309"N	80°41'19.9999"W	4046.93	187.416	0.22
13693.00	89.780	155.610	5674.48	3767.51	-4096.94	-484.54	1667644.22	599500.28	40°08'23.6071"N	80°41'19.4987"W	4125.50	186.745	0.26



Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
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WELLPATH DATA (285 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
13784.00	89.540	155.640	5675.02	3857.81	-4179.83	-446.99	1667681.78	599417.39	40°08'22.7930"N	80°41'19.0010"W	4203.66	186.104	0.27
13876.00	89.420	155.000	5675.86	3949.05	-4263.42	-408.58	1667720.19	599333.80	40°08'21.9720"N	80°41'18.4922"W	4282.95	185.474	0.71
13968.00	89.510	155.420	5676.72	4040.26	-4346.94	-370.00	1667758.76	599250.28	40°08'21.1518"N	80°41'17.9814"W	4362.66	184.865	0.47
14059.00	89.720	158.030	5677.33	4130.75	-4430.53	-334.05	1667794.72	599166.70	40°08'20.3305"N	80°41'17.5043"W	4443.10	184.312	2.88
14151.00	89.720	159.890	5677.78	4222.55	-4516.39	-301.02	1667827.75	599080.84	40°08'19.4864"N	80°41'17.0645"W	4526.41	183.813	2.02
14242.00	89.630	162.140	5678.30	4313.51	-4602.43	-271.42	1667857.35	598994.80	40°08'18.6400"N	80°41'16.6687"W	4610.43	183.375	2.47
14334.00	89.820	161.980	5678.74	4405.50	-4689.96	-243.08	1667885.68	598907.27	40°08'17.7789"N	80°41'16.2890"W	4696.25	182.967	0.27
14426.00	89.660	161.900	5679.15	4497.49	-4777.42	-214.56	1667914.20	598819.81	40°08'16.9183"N	80°41'15.9069"W	4782.24	182.572	0.19
14517.00	89.600	162.330	5679.74	4588.48	-4864.02	-186.61	1667942.15	598733.21	40°08'16.0662"N	80°41'15.5324"W	4867.60	182.197	0.48
14609.00	89.720	161.880	5680.29	4680.48	-4951.57	-158.35	1667970.42	598645.67	40°08'15.2048"N	80°41'15.1535"W	4954.10	181.832	0.51
14701.00	89.850	161.930	5680.63	4772.47	-5039.02	-129.77	1667998.99	598558.22	40°08'14.3444"N	80°41'14.7708"W	5040.69	181.475	0.15
14792.00	89.690	161.870	5681.00	4863.46	-5125.52	-101.50	1668027.26	598471.72	40°08'13.4934"N	80°41'14.3921"W	5126.52	181.134	0.19
14884.00	89.720	162.130	5681.47	4955.45	-5213.01	-73.07	1668055.69	598384.23	40°08'12.6325"N	80°41'14.0112"W	5213.52	180.803	0.28
14975.00	89.820	162.190	5681.84	5046.44	-5299.63	-45.19	1668083.57	598297.61	40°08'11.7802"N	80°41'13.6376"W	5299.83	180.489	0.13
15067.00	89.450	161.790	5682.42	5138.44	-5387.13	-16.75	1668112.01	598210.12	40°08'10.9194"N	80°41'13.2565"W	5387.15	180.178	0.59
15158.00	89.260	161.440	5683.45	5229.41	-5473.47	11.95	1668140.71	598123.77	40°08'10.0699"N	80°41'12.8724"W	5473.49	179.875	0.44
15250.00	89.840	161.900	5684.41	5321.39	-5560.80	40.88	1668169.64	598036.45	40°08'9.2108"N	80°41'12.4850"W	5560.95	179.579	0.59
15341.00	89.420	161.780	5685.24	5412.38	-5647.27	69.24	1668198.00	597949.98	40°08'8.3601"N	80°41'12.1052"W	5647.69	179.298	0.19
15433.00	89.420	161.600	5686.17	5504.36	-5734.60	98.14	1668226.90	597862.65	40°08'7.5008"N	80°41'11.7183"W	5735.44	179.020	0.20
15524.00	89.290	161.810	5687.19	5595.34	-5821.00	126.71	1668255.47	597776.25	40°08'6.6509"N	80°41'11.3359"W	5822.38	178.753	0.27
15616.00	89.480	162.790	5688.18	5687.33	-5908.64	154.68	1668283.43	597688.62	40°08'5.7885"N	80°41'10.9609"W	5910.66	178.500	1.08
15707.00	89.450	162.650	5689.03	5778.33	-5995.53	181.71	1668310.46	597601.73	40°08'4.9335"N	80°41'10.5982"W	5998.28	178.264	0.16
15799.00	89.230	162.900	5690.09	5870.32	-6083.39	208.95	1668337.70	597513.86	40°08'4.0687"N	80°41'10.2326"W	6086.98	178.033	0.36
15890.00	89.480	162.660	5691.11	5961.32	-6170.31	235.89	1668364.64	597426.95	40°08'3.2134"N	80°41'9.8710"W	6174.82	177.811	0.38
15982.00	89.420	162.720	5692.00	6053.31	-6258.14	263.26	1668392.01	597339.12	40°08'2.3491"N	80°41'9.5037"W	6263.67	177.591	0.09
16074.00	89.290	162.780	5693.03	6145.31	-6345.99	290.54	1668419.29	597251.27	40°08'1.4845"N	80°41'9.1376"W	6352.64	177.379	0.16
16165.00	89.140	162.540	5694.28	6236.30	-6432.85	317.66	1668446.41	597164.41	40°08'0.6298"N	80°41'8.7737"W	6440.69	177.173	0.31
16257.00	89.140	162.810	5695.66	6328.29	-6520.67	345.05	1668473.81	597076.60	40°07'59.7656"N	80°41'8.4061"W	6529.79	176.971	0.29
16349.00	89.140	162.900	5697.04	6420.28	-6608.57	372.17	1668500.92	596988.70	40°07'58.9006"N	80°41'8.0421"W	6619.04	176.777	0.10
16440.00	89.380	162.800	5698.22	6511.27	-6695.51	399.00	1668527.75	596901.76	40°07'58.0449"N	80°41'7.6819"W	6707.39	176.590	0.29



Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
Field	Ohio (NAD 27 SP)	API	47-069-00373-0000
Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

WELLPATH DATA (285 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
16532.00	89.200	162.620	5699.36	6603.26	-6783.35	426.34	1668555.09	596813.92	40°07'57.1805"N	80°41'7.3150"W	6796.73	176.404	0.28
16623.00	89.420	163.110	5700.45	6694.25	-6870.30	453.15	1668581.90	596726.97	40°07'56.3248"N	80°41'6.9552"W	6885.23	176.226	0.59
16715.00	89.660	162.950	5701.19	6786.25	-6958.30	480.00	1668608.75	596638.98	40°07'55.4588"N	80°41'6.5946"W	6974.83	176.054	0.31
16807.00	89.350	163.190	5701.99	6878.24	-7046.30	506.79	1668635.54	596550.97	40°07'54.5926"N	80°41'6.2348"W	7064.51	175.886	0.43
16990.00	89.350	163.270	5704.06	7061.22	-7221.51	559.59	1668688.34	596375.77	40°07'52.8682"N	80°41'5.5253"W	7243.16	175.569	0.04
17082.00	89.140	163.070	5705.27	7153.21	-7309.56	586.22	1668714.97	596287.72	40°07'52.0016"N	80°41'5.1675"W	7333.03	175.415	0.32
17173.00	89.140	163.010	5706.64	7244.20	-7396.59	612.77	1668741.51	596200.69	40°07'51.1451"N	80°41'4.8111"W	7421.93	175.264	0.07
17265.00	89.350	163.090	5707.85	7336.19	-7484.59	639.59	1668768.33	596112.69	40°07'50.2791"N	80°41'4.4509"W	7511.87	175.116	0.24
17357.00	89.230	162.850	5708.99	7428.18	-7572.55	666.53	1668795.28	596024.74	40°07'49.4134"N	80°41'4.0892"W	7601.83	174.970	0.29
17448.00	89.290	162.840	5710.17	7519.17	-7659.49	693.37	1668822.11	595937.79	40°07'48.5578"N	80°41'3.7289"W	7690.81	174.827	0.07
17540.00	89.080	163.050	5711.48	7611.16	-7747.44	720.35	1668849.09	595849.85	40°07'47.6923"N	80°41'3.3667"W	7780.86	174.688	0.32
17631.00	89.320	163.170	5712.75	7702.15	-7834.50	746.78	1668875.53	595762.79	40°07'46.8354"N	80°41'3.0116"W	7870.02	174.555	0.29
17723.00	89.570	161.880	5713.64	7794.15	-7922.25	774.41	1668903.15	595675.04	40°07'45.9719"N	80°41'2.6411"W	7960.01	174.417	1.43
17815.00	89.420	160.900	5714.45	7886.12	-8009.44	803.77	1668932.51	595587.86	40°07'45.1142"N	80°41'2.2484"W	8049.67	174.269	1.08
17907.00	89.260	160.980	5715.51	7978.07	-8096.39	833.81	1668962.55	595500.91	40°07'44.2589"N	80°41'1.8469"W	8139.21	174.120	0.19
17998.00	89.320	160.690	5716.64	8069.01	-8182.34	863.68	1668992.42	595414.96	40°07'43.4135"N	80°41'1.4478"W	8227.79	173.975	0.33
18090.00	89.290	160.880	5717.75	8160.95	-8269.21	893.96	1669022.70	595328.09	40°07'42.5590"N	80°41'1.0434"W	8317.39	173.830	0.21
18181.00	89.320	160.930	5718.86	8251.90	-8355.19	923.72	1669052.46	595242.11	40°07'41.7132"N	80°41'0.6456"W	8406.10	173.691	0.06
18273.00	89.350	160.810	5719.92	8343.85	-8442.11	953.87	1669082.61	595155.20	40°07'40.8583"N	80°41'0.2428"W	8495.82	173.554	0.13
18365.00	89.200	160.640	5721.09	8435.79	-8528.94	984.24	1669112.98	595068.36	40°07'40.0042"N	80°40'59.8372"W	8585.55	173.417	0.25
18456.00	89.170	160.180	5722.38	8526.71	-8614.67	1014.74	1669143.49	594982.64	40°07'39.1611"N	80°40'59.4300"W	8674.23	173.282	0.51
18548.00	89.050	160.170	5723.81	8618.60	-8701.20	1045.94	1669174.68	594896.10	40°07'38.3101"N	80°40'59.0137"W	8763.84	173.146	0.13
18640.00	89.230	160.890	5725.19	8710.58	-8787.93	1076.60	1669205.34	594809.38	40°07'37.4570"N	80°40'58.6043"W	8853.63	173.016	0.81
18731.00	89.200	160.660	5726.44	8801.47	-8873.85	1106.57	1669235.30	594723.46	40°07'36.6120"N	80°40'58.2041"W	8942.58	172.892	0.25
18823.00	89.200	160.940	5727.72	8893.41	-8960.72	1136.82	1669265.56	594636.59	40°07'35.7575"N	80°40'57.8000"W	9032.55	172.770	0.30
18914.00	89.010	160.690	5729.14	8984.35	-9046.66	1166.72	1669295.46	594550.66	40°07'34.9122"N	80°40'57.4005"W	9121.58	172.651	0.35
19006.00	89.230	161.050	5730.56	9076.29	-9133.57	1196.86	1669325.60	594463.75	40°07'34.0573"N	80°40'56.9977"W	9211.65	172.534	0.46
19097.00	89.050	160.880	5731.92	9167.24	-9219.58	1226.54	1669355.28	594377.74	40°07'33.2112"N	80°40'56.6012"W	9300.81	172.422	0.27
19189.00	89.080	160.570	5733.42	9259.17	-9306.41	1256.91	1669385.64	594290.91	40°07'32.3572"N	80°40'56.1956"W	9390.91	172.308	0.34
19281.00	89.350	160.790	5734.69	9351.11	-9393.22	1287.34	1669416.08	594204.10	40°07'31.5033"N	80°40'55.7892"W	9481.03	172.196	0.38



Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
Field	Ohio (NAD 27 SP)	API	47-069-00373-0000
Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

WELLPATH DATA (285 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
19373.00	89.050	160.350	5735.97	9443.03	-9479.98	1317.94	1669446.68	594117.35	40°07'30.6500"N	80°40'55.3806"W	9571.15	172.085	0.58
19464.00	89.010	162.010	5737.51	9533.98	-9566.10	1347.29	1669476.03	594031.23	40°07'29.8029"N	80°40'54.9882"W	9660.51	171.983	1.82
19556.00	89.290	161.170	5738.88	9625.96	-9653.38	1376.34	1669505.08	593943.95	40°07'28.9442"N	80°40'54.5995"W	9751.00	171.886	0.96
19648.00	89.350	161.320	5739.97	9717.92	-9740.49	1405.92	1669534.66	593856.84	40°07'28.0873"N	80°40'54.2040"W	9841.43	171.787	0.18
19739.00	89.630	161.450	5740.78	9808.89	-9826.72	1434.97	1669563.70	593770.61	40°07'27.2389"N	80°40'53.8155"W	9930.94	171.692	0.34
19831.00	89.510	162.310	5741.47	9900.88	-9914.16	1463.58	1669592.31	593683.18	40°07'26.3786"N	80°40'53.4324"W	10021.60	171.602	0.94
19922.00	89.510	161.540	5742.25	9991.87	-10000.66	1491.81	1669620.54	593596.67	40°07'25.5275"N	80°40'53.0544"W	10111.32	171.516	0.85
20014.00	89.880	160.750	5742.74	10083.83	-10087.72	1521.54	1669650.28	593509.61	40°07'24.6711"N	80°40'52.6570"W	10201.82	171.423	0.95
20106.00	89.510	160.960	5743.23	10175.78	-10174.63	1551.72	1669680.45	593422.70	40°07'23.8162"N	80°40'52.2539"W	10292.28	171.329	0.46
20198.00	89.410	160.650	5744.09	10267.73	-10261.51	1581.96	1669710.69	593335.82	40°07'22.9616"N	80°40'51.8499"W	10382.74	171.236	0.35
20289.00	89.200	160.750	5745.20	10358.66	-10347.39	1612.04	1669740.77	593249.95	40°07'22.1169"N	80°40'51.4483"W	10472.21	171.145	0.26
20381.00	89.420	160.660	5746.30	10450.60	-10434.22	1642.44	1669771.16	593163.12	40°07'21.2629"N	80°40'51.0423"W	10562.69	171.055	0.26
20473.00	89.050	160.440	5747.53	10542.53	-10520.96	1673.07	1669801.79	593076.38	40°07'20.4097"N	80°40'50.6334"W	10653.16	170.964	0.47
20564.00	89.260	160.490	5748.87	10633.45	-10606.71	1703.49	1669832.22	592990.63	40°07'19.5663"N	80°40'50.2272"W	10742.64	170.876	0.24
20656.00	89.420	161.300	5749.93	10725.40	-10693.64	1733.60	1669862.33	592903.71	40°07'18.7113"N	80°40'49.8250"W	10833.25	170.792	0.90
20747.00	89.750	161.270	5750.59	10816.37	-10779.83	1762.80	1669891.53	592817.52	40°07'17.8634"N	80°40'49.4346"W	10923.01	170.713	0.36
20839.00	89.600	161.080	5751.12	10908.33	-10866.90	1792.49	1669921.21	592730.45	40°07'17.0068"N	80°40'49.0378"W	11013.74	170.633	0.26
20931.00	89.630	161.060	5751.73	11000.29	-10953.92	1822.33	1669951.06	592643.43	40°07'16.1508"N	80°40'48.6389"W	11104.47	170.555	0.04
21022.00	89.540	160.970	5752.39	11091.25	-11039.97	1851.93	1669980.66	592557.38	40°07'15.3043"N	80°40'48.2434"W	11194.22	170.477	0.14
21114.00	89.570	159.470	5753.11	11183.16	-11126.54	1883.07	1670011.79	592470.82	40°07'14.4530"N	80°40'47.8280"W	11284.76	170.394	1.63
21206.00	89.540	160.870	5753.82	11275.07	-11213.08	1914.27	1670043.00	592384.28	40°07'13.6019"N	80°40'47.4117"W	11375.31	170.312	1.52
21298.00	89.260	160.880	5754.78	11367.01	-11300.00	1944.41	1670073.14	592297.36	40°07'12.7469"N	80°40'47.0091"W	11466.07	170.237	0.30
21390.00	89.350	160.930	5755.90	11458.96	-11386.93	1974.51	1670103.23	592210.43	40°07'11.8918"N	80°40'46.6071"W	11556.85	170.163	0.11
21481.00	89.200	160.750	5757.05	11549.91	-11472.88	2004.37	1670133.09	592124.48	40°07'11.0464"N	80°40'46.2082"W	11646.65	170.090	0.26
21573.00	89.720	160.830	5757.92	11641.85	-11559.75	2034.64	1670163.36	592037.61	40°07'10.1918"N	80°40'45.8039"W	11737.45	170.018	0.57
21665.00	89.480	160.820	5758.56	11733.80	-11646.65	2064.86	1670193.58	591950.72	40°07'9.3371"N	80°40'45.4003"W	11828.27	169.946	0.26
21756.00	89.380	160.810	5759.47	11824.75	-11732.59	2094.76	1670223.48	591864.78	40°07'8.4918"N	80°40'45.0009"W	11918.12	169.877	0.11
21848.00	89.480	160.770	5760.38	11916.69	-11819.46	2125.03	1670253.75	591777.91	40°07'7.6373"N	80°40'44.5967"W	12008.97	169.808	0.12
21940.00	89.480	160.680	5761.22	12008.63	-11906.30	2155.40	1670284.12	591691.07	40°07'6.7831"N	80°40'44.1911"W	12099.82	169.739	0.10
22031.00	89.320	160.940	5762.17	12099.58	-11992.24	2185.31	1670314.03	591605.13	40°07'5.9378"N	80°40'43.7917"W	12189.73	169.672	0.34



Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
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WELLPATH DATA (285 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
22123.00	89.570	160.850	5763.06	12191.53	-12079.17	2215.42	1670344.14	591518.20	40°07'5.0827"N	80°40'43.3894"W	12280.65	169.607	0.29
22215.00	89.660	160.690	5763.68	12283.47	-12166.03	2245.72	1670374.44	591431.34	40°07'4.2283"N	80°40'42.9848"W	12371.57	169.542	0.20
22307.00	89.420	160.780	5764.42	12375.42	-12252.88	2276.07	1670404.79	591344.50	40°07'3.3740"N	80°40'42.5795"W	12462.49	169.477	0.28
22398.00	89.350	160.960	5765.39	12466.36	-12338.85	2305.89	1670434.61	591258.53	40°07'2.5284"N	80°40'42.1812"W	12552.46	169.415	0.21
22490.00	89.540	161.070	5766.29	12558.32	-12425.84	2335.82	1670464.54	591171.54	40°07'1.6727"N	80°40'41.7813"W	12643.48	169.354	0.24
22581.00	89.570	160.920	5766.99	12649.28	-12511.88	2365.45	1670494.17	591085.50	40°07'0.8263"N	80°40'41.3854"W	12733.52	169.294	0.17
22673.00	89.510	160.930	5767.73	12741.23	-12598.82	2395.52	1670524.23	590998.56	40°06'59.9711"N	80°40'40.9838"W	12824.54	169.234	0.07
22765.00	89.690	161.340	5768.37	12833.19	-12685.88	2425.27	1670553.98	590911.51	40°06'59.1147"N	80°40'40.5862"W	12915.63	169.177	0.49
22856.00	89.690	160.630	5768.87	12924.15	-12771.91	2454.91	1670583.63	590825.48	40°06'58.2684"N	80°40'40.1901"W	13005.70	169.120	0.78
22948.00	89.570	160.570	5769.46	13016.09	-12858.69	2485.47	1670614.19	590738.70	40°06'57.4149"N	80°40'39.7822"W	13096.69	169.060	0.15
23040.00	89.660	160.550	5770.08	13108.02	-12945.44	2516.09	1670644.80	590651.95	40°06'56.5616"N	80°40'39.3735"W	13187.69	169.001	0.10
23132.00	89.780	160.900	5770.53	13199.96	-13032.28	2546.46	1670675.17	590565.11	40°06'55.7074"N	80°40'38.9680"W	13278.73	168.944	0.40
23223.00	89.510	161.110	5771.09	13290.92	-13118.32	2576.08	1670704.79	590479.07	40°06'54.8610"N	80°40'38.5723"W	13368.87	168.890	0.38
23315.00	90.090	160.270	5771.41	13382.86	-13205.15	2606.50	1670735.21	590392.25	40°06'54.0070"N	80°40'38.1661"W	13459.93	168.834	1.11
23407.00	89.380	160.710	5771.84	13474.79	-13291.86	2637.23	1670765.94	590305.53	40°06'53.1541"N	80°40'37.7561"W	13550.96	168.778	0.91
23499.00	89.880	161.430	5772.43	13566.75	-13378.88	2667.07	1670795.78	590218.51	40°06'52.2981"N	80°40'37.3573"W	13642.13	168.726	0.95
23590.00	89.480	160.260	5772.94	13657.70	-13464.84	2696.93	1670825.64	590132.56	40°06'51.4525"N	80°40'36.9585"W	13732.28	168.674	1.36
23682.00	89.570	159.990	5773.70	13749.61	-13551.36	2728.21	1670856.91	590046.04	40°06'50.6017"N	80°40'36.5414"W	13823.26	168.617	0.31
23774.00	89.540	160.960	5774.42	13841.53	-13638.07	2758.95	1670887.66	589959.34	40°06'49.7489"N	80°40'36.1311"W	13914.33	168.564	1.05
23865.00	89.910	160.900	5774.85	13932.49	-13724.07	2788.68	1670917.39	589873.33	40°06'48.9029"N	80°40'35.7340"W	14004.53	168.514	0.41
23957.00	89.380	160.920	5775.42	14024.44	-13811.01	2818.77	1670947.48	589786.40	40°06'48.0477"N	80°40'35.3321"W	14095.72	168.465	0.58
24049.00	89.600	161.160	5776.24	14116.40	-13898.01	2848.66	1670977.37	589699.39	40°06'47.1918"N	80°40'34.9328"W	14186.95	168.417	0.35
24141.00	89.540	160.580	5776.93	14208.35	-13984.93	2878.81	1671007.52	589612.48	40°06'46.3368"N	80°40'34.5301"W	14278.16	168.368	0.63
24232.00	89.420	159.640	5777.76	14299.25	-14070.50	2909.77	1671038.47	589526.91	40°06'45.4953"N	80°40'34.1173"W	14368.22	168.316	1.04
24324.00	89.420	158.280	5778.69	14391.05	-14156.36	2942.80	1671071.50	589441.06	40°06'44.6511"N	80°40'33.6778"W	14458.99	168.257	1.48
24416.00	89.420	158.730	5779.62	14482.80	-14241.95	2976.50	1671105.21	589355.46	40°06'43.8097"N	80°40'33.2296"W	14549.67	168.195	0.49
24507.00	89.780	158.380	5780.26	14573.56	-14326.65	3009.77	1671138.48	589270.76	40°06'42.9770"N	80°40'32.7871"W	14639.39	168.136	0.55
24599.00	89.630	158.870	5780.73	14665.32	-14412.32	3043.31	1671172.01	589185.10	40°06'42.1348"N	80°40'32.3412"W	14730.13	168.077	0.56
24690.00	89.630	159.150	5781.32	14756.13	-14497.28	3075.90	1671204.60	589100.14	40°06'41.2995"N	80°40'31.9074"W	14820.00	168.021	0.31
24782.00	89.780	159.600	5781.79	14847.98	-14583.38	3108.31	1671237.01	589014.04	40°06'40.4529"N	80°40'31.4759"W	14910.96	167.968	0.52



Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
Field	Ohio (NAD 27 SP)	API	47-069-00373-0000
Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

WELLPATH DATA (285 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	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
24874.00	89.480	157.390	5782.39	14939.72	-14668.97	3142.03	1671270.73	588928.45	40°06'39.6115"N	80°40'31.0275"W	15001.70	167.910	2.42
24965.00	89.510	157.620	5783.19	15030.34	-14753.04	3176.85	1671305.54	588844.38	40°06'38.7852"N	80°40'30.5653"W	15091.21	167.848	0.25
25057.00	89.510	157.100	5783.98	15121.94	-14837.95	3212.26	1671340.96	588759.47	40°06'37.9508"N	80°40'30.0952"W	15181.68	167.785	0.57
25149.00	89.480	157.450	5784.79	15213.52	-14922.81	3247.80	1671376.50	588674.62	40°06'37.1169"N	80°40'29.6236"W	15272.14	167.722	0.38
25241.00	89.850	157.210	5785.32	15305.12	-15007.70	3283.26	1671411.95	588589.73	40°06'36.2826"N	80°40'29.1530"W	15362.64	167.660	0.48
25332.00	89.780	157.520	5785.62	15395.72	-15091.69	3318.28	1671446.97	588505.74	40°06'35.4572"N	80°40'28.6882"W	15452.18	167.599	0.35
25424.00	89.850	157.500	5785.92	15487.35	-15176.69	3353.47	1671482.17	588420.74	40°06'34.6218"N	80°40'28.2210"W	15542.77	167.540	0.08
25515.00	89.780	157.450	5786.21	15577.97	-15260.75	3388.33	1671517.03	588336.69	40°06'33.7957"N	80°40'27.7582"W	15632.38	167.482	0.09
25607.00	89.570	157.850	5786.73	15669.61	-15345.83	3423.31	1671552.01	588251.60	40°06'32.9594"N	80°40'27.2937"W	15723.03	167.424	0.49
25699.00	89.750	157.530	5787.28	15761.26	-15430.95	3458.24	1671586.93	588166.49	40°06'32.1229"N	80°40'26.8300"W	15813.71	167.368	0.40
25790.00	89.630	157.500	5787.77	15851.88	-15515.03	3493.04	1671621.73	588082.41	40°06'31.2965"N	80°40'26.3680"W	15903.38	167.312	0.14
25881.00	89.880	157.610	5788.16	15942.51	-15599.13	3527.78	1671656.47	587998.31	40°06'30.4699"N	80°40'25.9067"W	15993.07	167.257	0.30
25973.00	90.000	157.500	5788.26	16034.14	-15684.16	3562.91	1671691.60	587913.28	40°06'29.6342"N	80°40'25.4404"W	16083.76	167.202	0.18
26043.00	89.880	157.250	5788.33	16103.84	-15748.78	3589.84	1671718.53	587848.67	40°06'28.9992"N	80°40'25.0830"W	16152.74	167.159	0.40
26068.00‡	89.880	157.250	5788.38	16128.73	-15771.83	3599.50	1671728.20	587825.61	40°06'28.7727"N	80°40'24.9547"W	16177.36	167.144	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Roth OHI 406H AWB Ref Wellpath: Roth OHI 406H awp Proj: 26068'

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]
13.375in Casing	26.00	511.00	485.00	26.00	510.99	0.00	0.00	-1.91	-2.47
9.625in Casing	26.00	2123.00	2097.00	26.00	1957.38	0.00	0.00	473.04	-345.15

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Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
Field	Ohio (NAD 27 SP)	API	47-069-00373-0000
Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Roth OHI 406H LP rev2	5617.00	2110.16	-1968.89	1666159.91	605707.26	40°09'24.7473"N	80°41'39.6714"W	point
Roth OHI 406H p7	5669.74	-4921.13	-158.42	1667970.34	598676.11	40°08'15.5056"N	80°41'15.1597"W	point
Roth OHI 406H p1	5736.00	-2005.94	-910.99	1667217.79	601591.23	40°08'44.2133"N	80°41'25.3457"W	point
Roth OHI 406H p11	5736.00	-8311.64	911.26	1669040.00	595285.66	40°07'42.1420"N	80°41'0.8134"W	point
Roth OHI 406H p13	5736.00	-8799.61	1060.99	1669189.73	594797.70	40°07'37.3397"N	80°40'58.8033"W	point
Roth OHI 406H p15	5736.00	-13986.58	2852.64	1670981.34	589610.83	40°06'46.3172"N	80°40'34.8667"W	point
Roth OHI 406H p9	5736.00	-7972.62	789.12	1668917.86	595624.67	40°07'45.4761"N	80°41'2.4432"W	point
Roth OHI 406H BHL rev 1	5769.00	-15772.60	3600.09	1671728.78	587824.84	40°06'28.7651"N	80°40'24.9471"W	point

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Actual Wellpath Report

Roth OHI 406H awp Proj: 26068'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EXPAND ENERGY	Well	Roth OHI 406H
Field	Ohio (NAD 27 SP)	API	47-069-00373-0000
Facility	Roth OHI Pad	Wellbore	Roth OHI 406H AWB
Slot	406H		

WELLPATH COMPOSITION - Ref Wellbore: Roth OHI 406H AWB Ref Wellpath: Roth OHI 406H awp Proj: 26068'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	502.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	1 Total MWD HRGM IFR-MSA 17.5" 232' - 502'	Roth OHI 406H AWB	3/29/2025
502.00	2043.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	2 Total MWD HRGM IFR-MSA 12.25" 594' - 2043'	Roth OHI 406H AWB	3/29/2025
2043.00	26068.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	3 BH MWD ATC IFR-MSA 8.5" 2148' - 26043'	Roth OHI 406H AWB	3/29/2025

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