



SWN PRODUCTION COMPANY, LLC



Location: Ohio County, WV
 Field: Ohio
 Facility: Roth OHI Pad

Slot: 206H
 Well: Roth OHI 206H
 Wellbore: Roth OHI 206H AWB

Plot reference wellpath is Roth OHI 206H awp 50' - 25449' Proj: 25474'	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 40 (KB)	North Reference: Grid north
Reference wellpath measured depths are referenced to SDC 40 (KB)	Scale: True distance
SDC 40 (KB) to Mean Sea Level: 1029.95 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: 206H): -1003.95 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: tranlam on 2023-02-17; Database: WA_MPL_EASTERNUS_Defn

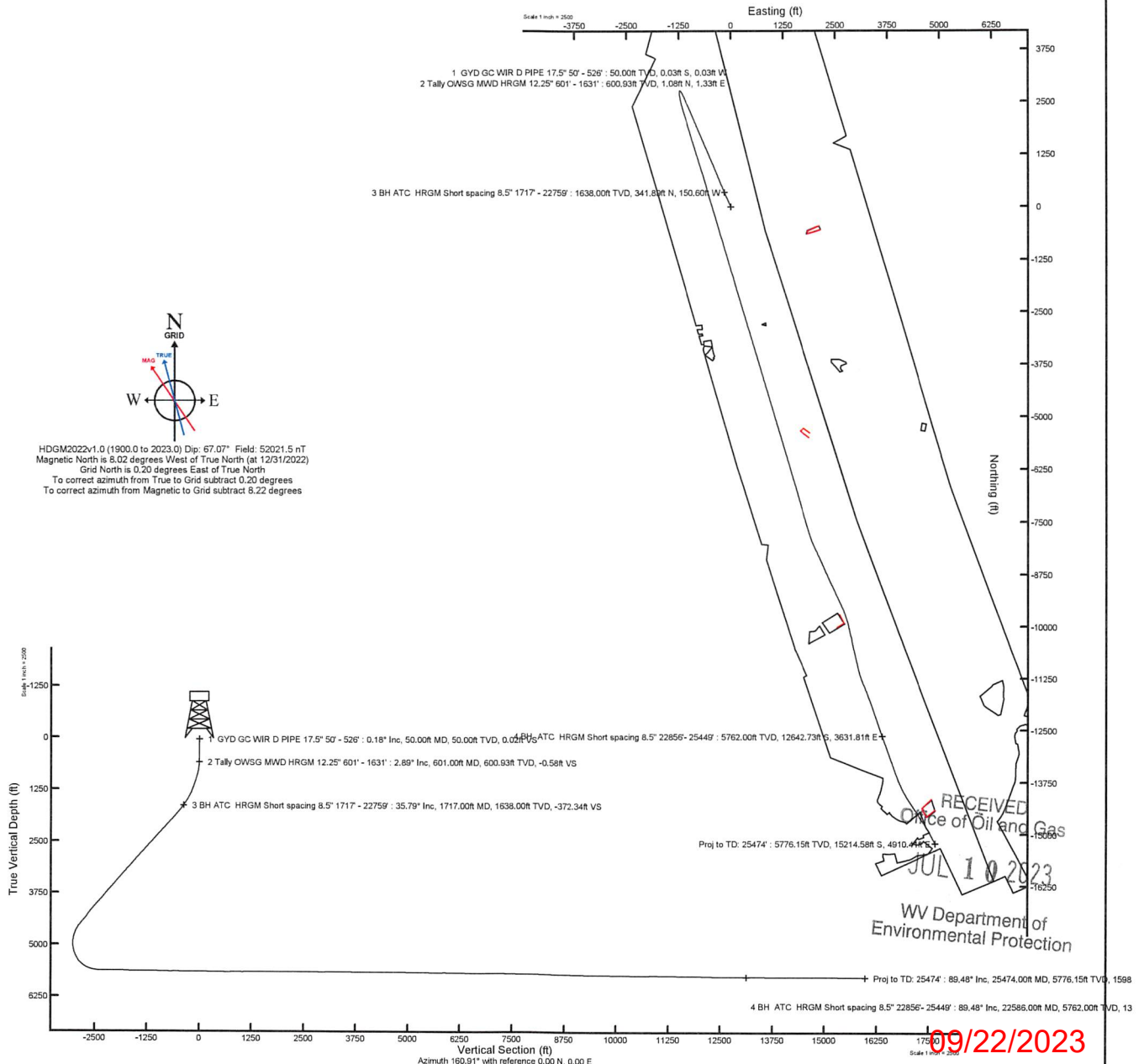
Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Roth OHI Pad			1727905.720	14581925.640	40°09'4.1151"N	80°41'12.8573"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
206H	1.09	-10.37	1727895.353	14581926.725	40°09'4.1262"N	80°41'12.9908"W
SDC 40 (KB) to Ground level (At Slot: 206H)					26ft	
Mean Sea Level to Ground level (At Slot: 206H)					-1003.95ft	
SDC 40 (KB) to Mean Sea Level					1029.95ft	

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
25474.00	89.480	151.940	5776.15	-15214.58	4910.41	1732803.83	14566718.13	40°06'33.5997"N	80°40'10.4830"W

API: 47069003500000
 BH JOB: 111588318
 DURATION: 02.05.2023 to 02.14.2023
 RIGL: SDC 40





Well Name: Roth OHI 206H 47069003500000

LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	0.00	0.00	423.00	423.00	
Top of Salt Water	1119.00	1119.00	NA	NA	
Pittsburgh Coal	179.00	179.00	184.00	184.00	
Pottsville (ss)	370.00	370.00	426.00	426.00	
Raven Cliff (ss)	692.00	692.00	940.00	934.00	
Maxton (ss)	1117.00	1104.00	1199.00	1182.00	
Big Injun (ss)	1364.00	1334.00	1539.00	1489.00	
Berea (siltstone)	1897.00	1780.00	2024.00	1877.00	
Rhinestreet (shale)	6141.00	5097.00	6407.00	5343.00	
Cashaqua (shale)	6407.00	5343.00	6466.00	5390.00	
Middlesex (shale)	6466.00	5390.00	5660.00	5460.00	
Burket (shale)	5660.00	5460.00	6580.00	5474.00	
Tully (ls)	6580.00	5474.00	6659.00	5522.00	
Mahantango (shale)	6659.00	5522.00	6804.00	5589.00	
Marcellus (shale)	6804.00	5589.00	NA	NA	GAS

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REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Roth OHI 206H
Field	Ohio	API/Legal	
Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Tranlam
Scale	0.999609	Report Generated	2/17/2023 at 1:51:47 AM
Convergence at slot	0.20° East	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	1.09	-10.37	1727895.35	14581926.73	40°09'4.1262"N	80°41'12.9908"W
Facility Reference Pt			1727905.72	14581925.64	40°09'4.1151"N	80°41'12.8573"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM

Calculation method	Minimum curvature	SDC 40 (KB) to Facility Vertical Datum	1029.95ft
Horizontal Reference Pt	Slot	SDC 40 (KB) to Mean Sea Level	1029.95ft
Vertical Reference Pt	SDC 40 (KB)	SDC 40 (KB) to Ground Level at Slot (206H)	26.00ft
MD Reference Pt	SDC 40 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	160.91°

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Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

WELLPATH DATA (281 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	226.890	0.00	0.00	0.00	0.00	1727895.35	14581926.72	40°09'4.1262"N	80°41'12.9908"W	0.00	0.000	0.00
26.00	0.000	226.890	26.00	0.00	0.00	0.00	1727895.35	14581926.72	40°09'4.1262"N	80°41'12.9908"W	0.00	0.000	0.00
50.00	0.180	226.890	50.00	0.02	-0.03	-0.03	1727895.33	14581926.70	40°09'4.1260"N	80°41'12.9912"W	0.04	226.890	0.75
100.00	0.200	228.310	100.00	0.08	-0.14	-0.15	1727895.20	14581926.59	40°09'4.1249"N	80°41'12.9927"W	0.20	227.499	0.04
150.00	0.410	220.440	150.00	0.21	-0.33	-0.33	1727895.02	14581926.39	40°09'4.1230"N	80°41'12.9951"W	0.47	224.962	0.43
200.00	0.400	147.320	200.00	0.47	-0.61	-0.35	1727895.00	14581926.11	40°09'4.1202"N	80°41'12.9954"W	0.71	209.868	0.97
250.00	0.560	126.730	250.00	0.84	-0.91	-0.06	1727895.29	14581925.82	40°09'4.1173"N	80°41'12.9917"W	0.91	183.968	0.47
300.00	0.700	114.320	299.99	1.25	-1.18	0.41	1727895.76	14581925.55	40°09'4.1145"N	80°41'12.9856"W	1.25	160.784	0.39
350.00	0.660	115.180	349.99	1.66	-1.43	0.95	1727896.30	14581925.30	40°09'4.1121"N	80°41'12.9786"W	1.72	146.362	0.08
398.00	0.590	100.880	397.99	1.98	-1.59	1.44	1727896.80	14581925.13	40°09'4.1104"N	80°41'12.9723"W	2.15	137.815	0.35
400.00	0.590	100.940	399.99	1.99	-1.60	1.46	1727896.82	14581925.13	40°09'4.1104"N	80°41'12.9720"W	2.17	137.488	0.03
450.00	0.780	111.600	449.98	2.34	-1.77	2.03	1727897.38	14581924.96	40°09'4.1087"N	80°41'12.9647"W	2.70	131.057	0.46
500.00	0.740	0.830	499.98	2.26	-1.57	2.35	1727897.71	14581925.15	40°09'4.1106"N	80°41'12.9606"W	2.83	123.753	2.50
526.00	0.980	357.080	525.98	1.88	-1.18	2.34	1727897.70	14581925.54	40°09'4.1144"N	80°41'12.9607"W	2.63	116.769	0.95
601.00	2.890	328.800	600.93	-0.58	1.08	1.33	1727896.68	14581927.80	40°09'4.1368"N	80°41'12.9736"W	1.71	51.097	2.77
691.00	5.700	341.120	690.67	-7.27	7.25	-1.29	1727894.06	14581933.97	40°09'4.1979"N	80°41'13.0071"W	7.36	349.908	3.27
782.00	9.430	342.010	780.86	-19.25	18.62	-5.06	1727890.30	14581945.33	40°09'4.3104"N	80°41'13.0551"W	19.29	344.806	4.10
873.00	13.660	338.360	870.00	-37.44	35.70	-11.32	1727884.03	14581962.41	40°09'4.4794"N	80°41'13.1350"W	37.46	342.403	4.71
963.00	16.300	335.300	956.94	-60.63	57.06	-20.52	1727874.84	14581983.76	40°09'4.6908"N	80°41'13.2525"W	60.64	340.218	3.06
1054.00	16.890	335.690	1044.15	-86.51	80.71	-31.30	1727864.06	14582007.40	40°09'4.9249"N	80°41'13.3902"W	86.57	338.803	0.66
1145.00	19.470	336.090	1130.60	-114.79	106.62	-42.89	1727852.48	14582033.31	40°09'5.1814"N	80°41'13.5383"W	114.93	338.087	2.84
1235.00	20.310	335.660	1215.23	-145.29	134.57	-55.41	1727839.97	14582061.24	40°09'5.4580"N	80°41'13.6983"W	145.53	337.621	0.95
1326.00	22.980	334.670	1299.81	-178.68	165.02	-69.52	1727825.86	14582091.68	40°09'5.7594"N	80°41'13.8786"W	179.07	337.155	2.96
1417.00	26.780	332.900	1382.35	-216.65	199.34	-86.47	1727808.92	14582125.98	40°09'6.0991"N	80°41'14.0953"W	217.28	336.551	4.25
1508.00	29.620	336.180	1462.54	-259.38	238.17	-104.89	1727790.50	14582164.80	40°09'6.4835"N	80°41'14.3308"W	260.25	336.231	3.55
1599.00	32.300	336.110	1540.57	-306.03	280.98	-123.82	1727771.58	14582207.60	40°09'6.9072"N	80°41'14.5727"W	307.05	336.218	2.95
1631.00	33.810	335.980	1567.39	-323.42	296.93	-130.91	1727764.49	14582223.54	40°09'7.0651"N	80°41'14.6632"W	324.51	336.208	4.72
1717.00	35.790	336.700	1638.00	-372.34	341.89	-150.60	1727744.81	14582268.48	40°09'7.5100"N	80°41'14.9147"W	373.59	336.227	2.35
1808.00	36.900	336.180	1711.30	-426.10	391.32	-172.16	1727723.26	14582317.89	40°09'7.9992"N	80°41'15.1901"W	427.52	336.253	1.27
1900.00	40.240	336.770	1783.22	-483.28	443.91	-195.04	1727700.39	14582370.46	40°09'8.5197"N	80°41'15.4824"W	484.87	336.281	3.65

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Actual Wellpath Report

Roth OHI 206H awp 50' - 25449' Proj: 25474'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Roth OHI 206H
Field	Ohio	API/Legal	
Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

WELLPATH DATA (281 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]
1991.00	41.650	336.630	1851.96	-542.76	498.68	-218.63	1727676.81	14582425.21	40°09'9.0618"N	80°41'15.7837"W	544.50	336.327	1.55
2081.00	41.740	337.810	1919.16	-602.50	553.87	-241.81	1727653.64	14582480.38	40°09'9.6080"N	80°41'16.0797"W	604.35	336.415	0.88
2172.00	41.790	337.740	1987.03	-663.02	609.98	-264.73	1727630.72	14582536.47	40°09'10.1633"N	80°41'16.3724"W	664.95	336.539	0.08
2263.00	41.790	337.730	2054.88	-723.57	666.10	-287.71	1727607.76	14582592.57	40°09'10.7186"N	80°41'16.6658"W	725.58	336.639	0.01
2354.00	41.780	337.750	2122.74	-784.11	722.22	-310.68	1727584.80	14582648.66	40°09'11.2740"N	80°41'16.9591"W	786.21	336.724	0.02
2444.00	41.760	337.780	2189.86	-843.97	777.72	-333.37	1727562.12	14582704.13	40°09'11.8232"N	80°41'17.2487"W	846.15	336.798	0.03
2534.00	41.960	337.940	2256.89	-903.95	833.35	-356.00	1727539.49	14582759.74	40°09'12.3737"N	80°41'17.5377"W	906.20	336.868	0.25
2625.00	41.710	337.610	2324.69	-964.55	889.53	-378.96	1727516.54	14582815.91	40°09'12.9297"N	80°41'17.8308"W	966.89	336.925	0.37
2716.00	41.830	337.650	2392.56	-1025.07	945.59	-402.03	1727493.48	14582871.94	40°09'13.4845"N	80°41'18.1254"W	1027.50	336.967	0.14
2806.00	41.810	336.780	2459.64	-1084.96	1000.92	-425.27	1727470.25	14582927.25	40°09'14.0320"N	80°41'18.4222"W	1087.51	336.980	0.64
2898.00	41.630	336.760	2528.30	-1146.02	1057.18	-449.42	1727446.11	14582983.49	40°09'14.5889"N	80°41'18.7307"W	1148.74	336.969	0.20
2987.00	41.620	336.730	2594.83	-1204.98	1111.49	-472.76	1727422.78	14583037.78	40°09'15.1264"N	80°41'19.0288"W	1207.86	336.958	0.03
3078.00	41.530	336.710	2662.91	-1265.21	1166.96	-496.62	1727398.92	14583093.23	40°09'15.6754"N	80°41'19.3337"W	1268.24	336.947	0.10
3168.00	41.590	336.780	2730.25	-1324.76	1221.82	-520.20	1727375.36	14583148.06	40°09'16.2183"N	80°41'19.6348"W	1327.95	336.938	0.08
3259.00	41.400	336.670	2798.41	-1384.89	1277.21	-544.02	1727351.54	14583203.43	40°09'16.7664"N	80°41'19.9391"W	1388.24	336.929	0.22
3351.00	41.320	336.760	2867.47	-1445.52	1333.05	-568.05	1727327.52	14583259.25	40°09'17.3191"N	80°41'20.2461"W	1449.03	336.920	0.11
3441.00	41.310	336.960	2935.06	-1504.79	1387.68	-591.40	1727304.18	14583313.86	40°09'17.8598"N	80°41'20.5444"W	1508.45	336.917	0.15
3532.00	41.330	336.750	3003.41	-1564.72	1442.93	-615.02	1727280.57	14583369.09	40°09'18.4066"N	80°41'20.8460"W	1568.54	336.915	0.15
3622.00	41.080	336.930	3071.12	-1623.86	1497.44	-638.34	1727257.27	14583423.58	40°09'18.9461"N	80°41'21.1439"W	1627.82	336.912	0.31
3713.00	41.470	336.880	3139.51	-1683.75	1552.66	-661.89	1727233.73	14583478.78	40°09'19.4926"N	80°41'21.4447"W	1687.85	336.912	0.43
3804.00	41.410	336.840	3207.73	-1743.82	1608.04	-685.55	1727210.07	14583534.13	40°09'20.0407"N	80°41'21.7470"W	1748.08	336.910	0.07
3894.00	41.350	336.810	3275.26	-1803.17	1662.74	-708.97	1727186.66	14583588.81	40°09'20.5820"N	80°41'22.0461"W	1807.57	336.907	0.07
3985.00	41.170	336.800	3343.67	-1863.02	1717.90	-732.60	1727163.04	14583643.95	40°09'21.1279"N	80°41'22.3480"W	1867.59	336.904	0.20
4075.00	41.220	336.840	3411.39	-1922.15	1772.39	-755.94	1727139.71	14583698.42	40°09'21.6672"N	80°41'22.6460"W	1926.86	336.901	0.06
4166.00	40.090	336.940	3480.42	-1981.29	1826.92	-779.21	1727116.45	14583752.92	40°09'22.2068"N	80°41'22.9433"W	1986.15	336.901	1.24
4257.00	41.160	336.800	3549.49	-2040.39	1881.40	-802.48	1727093.19	14583807.39	40°09'22.7461"N	80°41'23.2406"W	2045.40	336.900	1.18
4347.00	40.560	337.090	3617.56	-2099.13	1935.58	-825.54	1727070.14	14583861.54	40°09'23.2822"N	80°41'23.5351"W	2104.28	336.901	0.70
4438.00	40.120	336.670	3686.92	-2157.89	1989.75	-848.67	1727047.02	14583915.70	40°09'23.8184"N	80°41'23.8306"W	2163.18	336.901	0.57
4528.00	39.960	336.910	3755.82	-2215.64	2042.97	-871.49	1727024.21	14583968.89	40°09'24.3450"N	80°41'24.1220"W	2221.08	336.898	0.25
4620.00	41.520	336.930	3825.53	-2275.53	2098.20	-895.02	1727000.68	14584024.10	40°09'24.8916"N	80°41'24.4227"W	2281.12	336.898	1.70

Actual Wellpath Report

Roth OHI 206H awp 50' - 25449' Proj: 25474'
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Field	Ohio	API/Legal	
Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

WELLPATH DATA (281 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]
4711.00	41.490	337.040	3893.68	-2335.70	2153.71	-918.60	1726977.11	14584079.58	40°09'25.4410"N	80°41'24.7238"W	2341.43	336.901	0.09
4802.00	41.340	336.620	3961.92	-2395.74	2209.05	-942.29	1726953.44	14584134.90	40°09'25.9887"N	80°41'25.0264"W	2401.62	336.899	0.35
4892.00	41.410	336.760	4029.46	-2455.07	2263.68	-965.83	1726929.91	14584189.51	40°09'26.5293"N	80°41'25.3271"W	2461.11	336.894	0.13
4983.00	41.490	336.740	4097.67	-2515.15	2319.03	-989.60	1726906.14	14584244.84	40°09'27.0771"N	80°41'25.6309"W	2521.35	336.890	0.09
5073.00	41.440	335.650	4165.11	-2574.54	2373.55	-1013.66	1726882.09	14584299.34	40°09'27.6167"N	80°41'25.9382"W	2580.94	336.874	0.80
5163.00	34.140	329.970	4236.21	-2629.08	2422.63	-1038.62	1726857.14	14584348.40	40°09'28.1026"N	80°41'26.2575"W	2635.88	336.794	8.98
5256.00	35.260	333.090	4312.67	-2681.30	2469.17	-1063.83	1726831.94	14584394.92	40°09'28.5633"N	80°41'26.5801"W	2688.59	336.691	2.26
5346.00	40.560	336.880	4383.66	-2736.28	2519.28	-1087.10	1726808.68	14584445.02	40°09'29.0594"N	80°41'26.8775"W	2743.82	336.659	6.43
5437.00	41.370	337.100	4452.38	-2795.80	2574.20	-1110.42	1726785.37	14584499.91	40°09'29.6028"N	80°41'27.1754"W	2803.48	336.666	0.90
5527.00	38.340	336.040	4521.46	-2853.30	2627.12	-1133.33	1726762.47	14584552.81	40°09'30.1266"N	80°41'27.4682"W	2861.15	336.665	3.45
5619.00	31.720	332.360	4596.76	-2905.71	2674.68	-1156.17	1726739.64	14584600.35	40°09'30.5973"N	80°41'27.7601"W	2913.87	336.623	7.55
5709.00	24.140	331.640	4676.22	-2947.33	2711.88	-1175.91	1726719.90	14584637.54	40°09'30.9657"N	80°41'28.0128"W	2955.86	336.558	8.43
5800.00	18.250	324.580	4761.04	-2979.41	2739.90	-1193.03	1726702.79	14584665.55	40°09'31.2432"N	80°41'28.2320"W	2988.37	336.470	7.04
5890.00	11.050	314.500	4848.07	-3000.69	2757.46	-1207.37	1726688.46	14584683.10	40°09'31.4171"N	80°41'28.4159"W	3010.20	336.353	8.46
5981.00	8.250	282.830	4937.84	-3011.96	2765.02	-1219.97	1726675.87	14584690.66	40°09'31.4924"N	80°41'28.5778"W	3022.20	336.192	6.48
6072.00	7.460	212.410	5028.17	-3011.73	2761.48	-1229.52	1726666.32	14584687.12	40°09'31.4577"N	80°41'28.7010"W	3022.83	336.000	9.96
6162.00	11.820	190.140	5116.91	-3000.04	2747.46	-1234.28	1726661.56	14584673.11	40°09'31.3193"N	80°41'28.7629"W	3011.97	335.808	6.29
6255.00	19.510	179.470	5206.40	-2976.97	2722.51	-1235.81	1726660.03	14584648.17	40°09'31.0728"N	80°41'28.7838"W	2989.87	335.586	8.80
6345.00	26.630	174.460	5289.16	-2943.07	2687.36	-1233.72	1726662.12	14584613.03	40°09'30.7254"N	80°41'28.7585"W	2957.02	335.341	8.20
6436.00	34.570	171.320	5367.43	-2897.77	2641.46	-1227.85	1726667.99	14584567.15	40°09'30.2716"N	80°41'28.6848"W	2912.89	335.069	8.90
6526.00	43.110	169.480	5437.47	-2842.14	2585.88	-1218.36	1726677.47	14584511.59	40°09'29.7220"N	80°41'28.5652"W	2858.53	334.772	9.57
6617.00	51.930	167.200	5498.87	-2775.66	2520.25	-1204.72	1726691.11	14584445.98	40°09'29.0729"N	80°41'28.3924"W	2793.38	334.451	9.87
6707.00	60.710	166.060	5548.73	-2701.21	2447.46	-1187.38	1726708.44	14584373.23	40°09'28.3531"N	80°41'28.1724"W	2720.29	334.120	9.81
6798.00	69.310	164.750	5587.14	-2619.06	2367.73	-1166.59	1726729.22	14584293.52	40°09'27.5645"N	80°41'27.9081"W	2639.52	333.770	9.54
6888.00	77.160	162.530	5613.08	-2533.05	2285.13	-1142.30	1726753.50	14584210.95	40°09'26.7473"N	80°41'27.5990"W	2554.73	333.440	9.04
6979.00	85.130	162.210	5627.08	-2443.24	2199.50	-1115.09	1726780.70	14584125.36	40°09'25.9003"N	80°41'27.2524"W	2466.02	333.116	8.77
7069.00	89.290	162.660	5631.46	-2353.40	2113.82	-1087.97	1726807.81	14584039.71	40°09'25.0526"N	80°41'26.9069"W	2377.37	332.765	4.65
7161.00	89.720	162.580	5632.25	-2261.44	2026.02	-1060.49	1726835.28	14583951.95	40°09'24.1841"N	80°41'26.5569"W	2286.79	332.371	0.48
7251.00	90.430	162.460	5632.14	-2171.48	1940.18	-1033.45	1726862.31	14583866.14	40°09'23.3349"N	80°41'26.2126"W	2198.26	331.958	0.80
7342.00	89.380	162.960	5632.29	-2080.52	1853.29	-1006.41	1726889.34	14583779.29	40°09'22.4753"N	80°41'25.8682"W	2108.92	331.496	1.28



MW Department
 Environmental Protection
 JUL 10 2014
 Office of Oil & Gas

Actual Wellpath Report

Roth OHI 206H awp 50' - 25449' Proj: 25474'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Roth OHI 206H
Field	Ohio	API/Legal	
Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

WELLPATH DATA (281 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]
7433.00	89.820	162.920	5632.92	-1989.58	1766.30	-979.71	1726916.03	14583692.33	40°09'21.6147"N	80°41'25.5283"W	2019.82	330.984	0.49
7524.00	89.320	164.490	5633.60	-1898.70	1678.96	-954.18	1726941.55	14583605.03	40°09'20.7508"N	80°41'25.2034"W	1931.16	330.390	1.81
7615.00	87.940	162.600	5635.78	-1807.83	1591.72	-928.41	1726967.31	14583517.82	40°09'19.8878"N	80°41'24.8754"W	1842.69	329.746	2.57
7707.00	87.880	162.310	5639.14	-1715.92	1504.06	-900.70	1726995.01	14583430.19	40°09'19.0205"N	80°41'24.5224"W	1753.12	329.085	0.32
7795.00	87.910	163.000	5642.37	-1628.02	1420.12	-874.48	1727021.22	14583346.28	40°09'18.1901"N	80°41'24.1886"W	1667.77	328.376	0.78
7886.00	89.720	162.810	5644.25	-1537.10	1333.16	-847.74	1727047.95	14583259.36	40°09'17.3299"N	80°41'23.8481"W	1579.86	327.548	2.00
7977.00	89.420	162.900	5644.93	-1446.15	1246.21	-820.91	1727074.76	14583172.44	40°09'16.4697"N	80°41'23.5065"W	1492.29	326.626	0.34
8069.00	89.450	162.380	5645.84	-1354.20	1158.40	-793.46	1727102.20	14583084.67	40°09'15.6010"N	80°41'23.1569"W	1404.09	325.590	0.57
8160.00	89.570	162.440	5646.62	-1263.24	1071.66	-765.96	1727129.69	14582997.96	40°09'14.7429"N	80°41'22.8067"W	1317.25	324.445	0.15
8250.00	89.910	162.940	5647.03	-1173.28	985.74	-739.18	1727156.46	14582912.07	40°09'13.8929"N	80°41'22.4657"W	1232.10	323.134	0.67
8341.00	89.350	163.450	5647.61	-1082.36	898.63	-712.88	1727182.76	14582825.00	40°09'13.0312"N	80°41'22.1308"W	1147.05	321.575	0.83
8432.00	89.020	160.510	5648.91	-991.39	812.11	-684.73	1727210.89	14582738.51	40°09'12.1752"N	80°41'21.7722"W	1062.25	319.864	3.25
8524.00	89.630	163.340	5649.99	-899.42	724.66	-656.19	1727239.42	14582651.10	40°09'11.3101"N	80°41'21.4086"W	977.61	317.839	3.15
8615.00	89.080	164.020	5651.02	-808.53	637.34	-630.62	1727264.98	14582563.81	40°09'10.4463"N	80°41'21.0833"W	896.60	315.303	0.96
8705.00	88.490	164.330	5652.93	-718.70	550.77	-606.09	1727289.51	14582477.28	40°09'9.5899"N	80°41'20.7712"W	818.95	312.262	0.74
8796.00	91.820	164.480	5652.68	-627.88	463.13	-581.63	1727313.96	14582389.67	40°09'8.7231"N	80°41'20.4601"W	743.49	308.529	3.66
8888.00	89.200	163.770	5651.86	-536.04	374.65	-556.46	1727339.11	14582301.23	40°09'7.8478"N	80°41'20.1400"W	670.83	303.951	2.95
8979.00	88.340	163.700	5653.81	-445.17	287.31	-530.98	1727364.58	14582213.93	40°09'6.9839"N	80°41'19.8158"W	603.73	298.418	0.95
9070.00	90.550	163.790	5654.70	-354.29	199.96	-505.51	1727390.04	14582126.61	40°09'6.1198"N	80°41'19.4918"W	543.62	291.582	2.43
9161.00	88.520	163.630	5655.43	-263.41	112.62	-479.99	1727415.55	14582039.30	40°09'5.2558"N	80°41'19.1670"W	493.02	283.205	2.24
9252.00	89.080	161.730	5657.34	-172.48	25.77	-452.91	1727442.63	14581952.49	40°09'4.3966"N	80°41'18.8222"W	453.64	273.257	2.18
9343.00	89.970	164.570	5658.09	-81.56	-61.31	-426.53	1727468.99	14581865.44	40°09'3.5352"N	80°41'18.4864"W	430.91	261.820	3.27
9434.00	89.420	161.320	5658.58	9.37	-148.29	-399.85	1727495.66	14581778.49	40°09'2.6747"N	80°41'18.1467"W	426.46	249.651	3.62
9524.00	89.110	163.590	5659.73	99.32	-234.09	-372.72	1727522.78	14581692.72	40°09'1.8258"N	80°41'17.8013"W	440.14	237.868	2.55
9615.00	88.920	163.550	5661.30	190.21	-321.37	-346.98	1727548.51	14581605.49	40°09'0.9625"N	80°41'17.4738"W	472.94	227.195	0.21
9706.00	89.480	163.860	5662.57	281.09	-408.70	-321.45	1727574.03	14581518.18	40°09'0.0986"N	80°41'17.1490"W	519.97	218.186	0.70
9797.00	89.480	163.890	5663.39	371.97	-496.12	-296.18	1727599.29	14581430.80	40°08'59.2339"N	80°41'16.8275"W	577.80	210.837	0.03
9887.00	90.400	164.130	5663.49	461.83	-582.63	-271.39	1727624.07	14581344.32	40°08'58.3781"N	80°41'16.5121"W	642.74	204.976	1.06
9978.00	88.430	163.480	5664.42	552.71	-670.01	-246.01	1727649.44	14581256.97	40°08'57.5137"N	80°41'16.1893"W	713.75	200.162	2.28
10068.00	88.980	159.520	5666.45	642.66	-755.32	-217.47	1727677.97	14581171.70	40°08'56.6697"N	80°41'15.8255"W	786.01	196.062	4.44

REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	Roth OHI 206H
Field	Ohio		API/Legal	
Facility	Roth OHI Pad		Wellbore	Roth OHI 206H AWB
Slot	206H			

WELLPATH DATA (281 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]
10160.00	91.750	164.850	5665.87	734.60	-842.87	-189.33	1727706.10	14581084.19	40°08'55.8036"N	80°41'15.4672"W	863.87	192.660	6.53
10251.00	89.880	163.910	5664.57	825.41	-930.50	-164.83	1727730.58	14580996.60	40°08'54.9368"N	80°41'15.1557"W	944.98	190.046	2.30
10342.00	89.750	163.850	5664.87	916.29	-1017.92	-139.57	1727755.84	14580909.21	40°08'54.0720"N	80°41'14.8343"W	1027.44	187.807	0.16
10434.00	89.480	162.440	5665.48	1008.22	-1105.96	-112.89	1727782.50	14580821.20	40°08'53.2010"N	80°41'14.4948"W	1111.71	185.828	1.56
10525.00	90.950	162.990	5665.14	1099.17	-1192.85	-85.86	1727809.53	14580734.35	40°08'52.3415"N	80°41'14.1505"W	1195.93	184.117	1.72
10616.00	90.620	164.410	5663.90	1190.05	-1280.18	-60.32	1727835.06	14580647.05	40°08'51.4776"N	80°41'13.8256"W	1281.60	182.698	1.60
10706.00	89.720	163.610	5663.63	1279.92	-1366.70	-35.53	1727859.84	14580560.57	40°08'50.6218"N	80°41'13.5103"W	1367.16	181.489	1.34
10798.00	89.380	163.400	5664.35	1371.82	-1454.91	-9.41	1727885.95	14580472.39	40°08'49.7492"N	80°41'13.1779"W	1454.94	180.370	0.43
10889.00	89.780	162.470	5665.02	1462.76	-1541.90	17.30	1727912.64	14580385.44	40°08'48.8886"N	80°41'12.8380"W	1541.99	179.357	1.11
10979.00	91.050	162.890	5664.37	1552.71	-1627.81	44.09	1727939.43	14580299.55	40°08'48.0386"N	80°41'12.4969"W	1628.41	178.449	1.49
11072.00	90.150	164.040	5663.39	1645.61	-1716.96	70.56	1727965.88	14580210.44	40°08'47.1568"N	80°41'12.1601"W	1718.41	177.647	1.57
11172.00	90.250	164.840	5663.04	1745.42	-1813.29	97.38	1727992.69	14580114.15	40°08'46.2039"N	80°41'11.8191"W	1815.90	176.926	0.81
11269.00	89.850	163.590	5662.96	1842.26	-1906.63	123.77	1728019.07	14580020.84	40°08'45.2806"N	80°41'11.4836"W	1910.64	176.286	1.35
11365.00	89.570	163.430	5663.44	1938.16	-1998.68	151.01	1728046.31	14579928.83	40°08'44.3700"N	80°41'11.1369"W	2004.38	175.679	0.34
11461.00	89.820	163.240	5663.96	2034.07	-2090.65	178.54	1728073.83	14579836.90	40°08'43.4602"N	80°41'10.7865"W	2098.26	175.119	0.33
11558.00	89.910	163.120	5664.18	2130.99	-2183.50	206.61	1728101.89	14579744.09	40°08'42.5417"N	80°41'10.4293"W	2193.25	174.594	0.15
11654.00	90.710	163.170	5663.66	2226.92	-2275.37	234.45	1728129.71	14579652.25	40°08'41.6328"N	80°41'10.0751"W	2287.42	174.117	0.83
11751.00	91.110	163.930	5662.12	2323.80	-2368.39	261.91	1728157.16	14579559.27	40°08'40.7127"N	80°41'9.7257"W	2382.83	173.689	0.89
11848.00	88.950	161.410	5662.07	2420.74	-2460.97	290.80	1728186.04	14579466.72	40°08'39.7967"N	80°41'9.3579"W	2478.09	173.261	3.42
11944.00	89.480	162.490	5663.39	2516.72	-2552.24	320.54	1728215.77	14579375.49	40°08'38.8938"N	80°41'8.9790"W	2572.29	172.842	1.25
12041.00	90.430	164.850	5663.46	2613.59	-2645.32	347.82	1728243.03	14579282.45	40°08'37.9730"N	80°41'8.6321"W	2668.09	172.510	2.62
12138.00	89.230	163.440	5663.75	2710.44	-2738.62	374.32	1728269.52	14579189.18	40°08'37.0501"N	80°41'8.2951"W	2764.08	172.217	1.91
12234.00	89.720	163.740	5664.63	2806.33	-2830.71	401.43	1728296.63	14579097.13	40°08'36.1391"N	80°41'7.9501"W	2859.03	171.928	0.60
12331.00	88.250	160.620	5666.35	2903.27	-2923.03	431.11	1728326.29	14579004.85	40°08'35.2258"N	80°41'7.5722"W	2954.65	171.610	3.56
12428.00	92.220	164.040	5665.95	3000.21	-3015.42	460.54	1728355.71	14578912.49	40°08'34.3118"N	80°41'7.1975"W	3050.38	171.316	5.40
12525.00	90.710	163.440	5663.47	3097.05	-3108.50	487.69	1728382.85	14578819.44	40°08'33.3909"N	80°41'6.8521"W	3146.53	171.084	1.68
12621.00	89.570	163.190	5663.24	3192.97	-3200.46	515.25	1728410.40	14578727.52	40°08'32.4813"N	80°41'6.5014"W	3241.67	170.854	1.22
12718.00	89.750	163.320	5663.81	3289.89	-3293.34	543.20	1728438.34	14578634.68	40°08'31.5624"N	80°41'6.1458"W	3337.84	170.634	0.23
12814.00	89.600	163.210	5664.36	3385.80	-3385.28	570.84	1728465.97	14578542.78	40°08'30.6529"N	80°41'5.7941"W	3433.07	170.429	0.19
12911.00	89.820	163.380	5664.85	3482.72	-3478.18	598.72	1728493.84	14578449.91	40°08'29.7339"N	80°41'5.4393"W	3529.34	170.233	0.29

REFERENCE WELLPATH IDENTIFICATION				
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Slot	206H			

WELLPATH DATA (281 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]
13008.00	89.750	163.130	5665.21	3579.64	-3571.07	626.67	1728521.78	14578357.06	40°08'28.8150"N	80°41'5.0837"W	3625.64	170.047	0.27
13104.00	89.660	163.600	5665.71	3675.55	-3663.05	654.15	1728549.25	14578265.12	40°08'27.9051"N	80°41'4.7340"W	3721.00	169.875	0.50
13201.00	89.750	163.490	5666.21	3772.44	-3756.07	681.63	1728576.71	14578172.13	40°08'26.9848"N	80°41'4.3845"W	3817.42	169.714	0.15
13298.00	89.630	163.150	5666.73	3869.35	-3848.99	709.47	1728604.54	14578079.25	40°08'26.0657"N	80°41'4.0303"W	3913.83	169.556	0.37
13395.00	89.690	163.710	5667.31	3966.26	-3941.96	737.13	1728632.20	14577986.31	40°08'25.1460"N	80°41'3.6783"W	4010.29	169.408	0.58
13491.00	89.820	163.350	5667.72	4062.16	-4034.02	764.35	1728659.40	14577894.29	40°08'24.2353"N	80°41'3.3321"W	4105.80	169.271	0.40
13588.00	89.600	163.050	5668.21	4159.08	-4126.88	792.39	1728687.43	14577801.47	40°08'23.3166"N	80°41'2.9754"W	4202.26	169.131	0.38
13685.00	89.780	163.190	5668.73	4256.00	-4219.70	820.55	1728715.58	14577708.69	40°08'22.3984"N	80°41'2.6170"W	4298.74	168.996	0.24
13781.00	90.000	163.470	5668.92	4351.92	-4311.66	848.09	1728743.11	14577616.76	40°08'21.4886"N	80°41'2.2666"W	4394.28	168.872	0.37
13878.00	89.660	163.070	5669.21	4448.84	-4404.56	876.01	1728771.02	14577523.90	40°08'20.5697"N	80°41'1.9113"W	4490.83	168.751	0.54
13975.00	89.820	163.530	5669.65	4545.75	-4497.46	903.89	1728798.88	14577431.03	40°08'19.6506"N	80°41'1.5567"W	4587.40	168.636	0.50
14072.00	89.630	163.010	5670.11	4642.67	-4590.36	931.81	1728826.79	14577338.17	40°08'18.7316"N	80°41'1.2014"W	4683.98	168.525	0.57
14168.00	89.290	162.920	5671.02	4738.60	-4682.14	959.93	1728854.91	14577246.42	40°08'17.8236"N	80°41'0.8435"W	4779.53	168.414	0.37
14265.00	89.110	163.160	5672.37	4835.52	-4774.91	988.22	1728883.19	14577153.69	40°08'16.9059"N	80°41'0.4835"W	4876.10	168.307	0.31
14362.00	89.450	163.360	5673.59	4932.43	-4867.80	1016.16	1728911.11	14577060.84	40°08'15.9870"N	80°41'0.1281"W	4972.73	168.209	0.41
14458.00	89.480	163.590	5674.49	5028.33	-4959.83	1043.46	1728938.41	14576968.85	40°08'15.0766"N	80°40'59.7807"W	5068.40	168.119	0.24
14555.00	89.200	163.070	5675.60	5125.24	-5052.74	1071.29	1728966.22	14576875.97	40°08'14.1574"N	80°40'59.4268"W	5165.06	168.029	0.61
14652.00	89.050	163.250	5677.08	5222.15	-5145.57	1099.38	1728994.30	14576783.18	40°08'13.2391"N	80°40'59.0693"W	5261.71	167.940	0.24
14748.00	89.540	163.280	5678.27	5318.07	-5237.50	1127.02	1729021.93	14576691.29	40°08'12.3297"N	80°40'58.7176"W	5357.39	167.856	0.51
14845.00	88.490	163.820	5679.93	5414.95	-5330.51	1154.49	1729049.39	14576598.31	40°08'11.4096"N	80°40'58.3683"W	5454.10	167.780	1.22
14942.00	89.110	163.280	5681.96	5511.82	-5423.52	1181.95	1729076.84	14576505.34	40°08'10.4895"N	80°40'58.0190"W	5550.82	167.706	0.85
15038.00	89.750	161.560	5682.92	5607.78	-5515.03	1210.94	1729105.82	14576413.86	40°08'9.5842"N	80°40'57.6499"W	5646.41	167.616	1.91
15135.00	88.710	164.490	5684.22	5704.69	-5607.78	1239.26	1729134.12	14576321.15	40°08'8.6666"N	80°40'57.2896"W	5743.08	167.539	3.20
15231.00	92.430	164.790	5683.27	5800.47	-5700.33	1264.68	1729159.54	14576228.63	40°08'7.7511"N	80°40'56.9665"W	5838.94	167.491	3.89
15328.00	89.170	162.370	5681.91	5897.33	-5793.35	1292.09	1729186.94	14576135.65	40°08'6.8310"N	80°40'56.6179"W	5935.69	167.427	4.19
15424.00	89.480	162.810	5683.05	5993.28	-5884.94	1320.81	1729215.65	14576044.09	40°08'5.9248"N	80°40'56.2523"W	6031.34	167.350	0.56
15520.00	89.540	163.540	5683.87	6089.20	-5976.83	1348.60	1729243.42	14575952.24	40°08'5.0158"N	80°40'55.8988"W	6127.09	167.285	0.76
15617.00	89.380	163.370	5684.78	6186.10	-6069.81	1376.22	1729271.03	14575859.30	40°08'4.0960"N	80°40'55.5474"W	6223.87	167.225	0.24
15713.00	89.570	163.930	5685.66	6281.99	-6161.92	1403.24	1729298.05	14575767.22	40°08'3.1848"N	80°40'55.2038"W	6319.68	167.171	0.62
15810.00	89.510	163.620	5686.44	6378.87	-6255.06	1430.35	1729325.14	14575674.13	40°08'2.2635"N	80°40'54.8591"W	6416.51	167.120	0.33

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REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	Roth OHI 206H
Field	Ohio		API/Legal	
Facility	Roth OHI Pad		Wellbore	Roth OHI 206H AWB
Slot	206H			

WELLPATH DATA (281 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]
15906.00	89.570	163.490	5687.21	6474.76	-6347.13	1457.52	1729352.30	14575582.09	40°08'1.3527"N	80°40'54.5135"W	6512.33	167.067	0.15
16003.00	89.600	162.850	5687.91	6571.68	-6439.97	1485.61	1729380.38	14575489.29	40°08'0.4342"N	80°40'54.1562"W	6609.10	167.010	0.66
16099.00	89.660	163.040	5688.53	6667.62	-6531.75	1513.76	1729408.52	14575397.55	40°07'59.5263"N	80°40'53.7979"W	6704.86	166.952	0.21
16196.00	89.420	163.280	5689.31	6764.54	-6624.58	1541.86	1729436.61	14575304.75	40°07'58.6078"N	80°40'53.4404"W	6801.65	166.898	0.35
16292.00	89.540	163.410	5690.18	6860.45	-6716.55	1569.38	1729464.11	14575212.81	40°07'57.6980"N	80°40'53.0905"W	6897.46	166.848	0.18
16389.00	89.540	163.680	5690.96	6957.35	-6809.58	1596.85	1729491.58	14575119.83	40°07'56.7778"N	80°40'52.7410"W	6994.30	166.803	0.28
16485.00	89.380	163.850	5691.87	7053.22	-6901.74	1623.69	1729518.40	14575027.70	40°07'55.8660"N	80°40'52.3998"W	7090.16	166.761	0.24
16581.00	89.320	163.320	5692.95	7149.11	-6993.82	1650.82	1729545.52	14574935.65	40°07'54.9551"N	80°40'52.0548"W	7186.01	166.719	0.56
16678.00	89.510	163.490	5693.95	7246.01	-7086.78	1678.52	1729573.21	14574842.73	40°07'54.0356"N	80°40'51.7024"W	7282.85	166.675	0.26
16775.00	89.420	163.410	5694.85	7342.91	-7179.76	1706.15	1729600.83	14574749.79	40°07'53.1158"N	80°40'51.3510"W	7379.69	166.633	0.12
16871.00	88.920	163.320	5696.24	7438.82	-7271.73	1733.63	1729628.30	14574657.86	40°07'52.2059"N	80°40'51.0015"W	7475.53	166.591	0.53
16968.00	89.200	163.400	5697.83	7535.71	-7364.65	1761.40	1729656.06	14574564.97	40°07'51.2867"N	80°40'50.6482"W	7572.36	166.549	0.30
17065.00	88.980	163.520	5699.37	7632.61	-7457.63	1789.01	1729683.66	14574472.03	40°07'50.3669"N	80°40'50.2971"W	7669.21	166.510	0.26
17161.00	89.720	163.100	5700.46	7728.51	-7549.58	1816.58	1729711.22	14574380.12	40°07'49.4573"N	80°40'49.9464"W	7765.06	166.471	0.89
17258.00	89.290	163.540	5701.30	7825.42	-7642.49	1844.42	1729739.05	14574287.24	40°07'48.5381"N	80°40'49.5923"W	7861.91	166.432	0.63
17355.00	88.980	163.550	5702.76	7922.31	-7735.51	1871.89	1729766.51	14574194.26	40°07'47.6179"N	80°40'49.2429"W	7958.77	166.397	0.32
17451.00	88.830	161.140	5704.60	8018.26	-7826.96	1901.00	1729795.61	14574102.84	40°07'46.7131"N	80°40'48.8724"W	8054.51	166.348	2.51
17548.00	89.020	158.940	5706.42	8115.22	-7918.12	1934.11	1729828.70	14574011.72	40°07'45.8112"N	80°40'48.4504"W	8150.91	166.274	2.28
17644.00	89.080	157.000	5708.01	8211.08	-8007.09	1970.11	1729864.69	14573922.78	40°07'44.9307"N	80°40'47.9911"W	8245.90	166.177	2.02
17741.00	89.320	154.840	5709.37	8307.69	-8095.63	2009.68	1729904.24	14573834.27	40°07'44.0543"N	80°40'47.4857"W	8341.35	166.059	2.24
17837.00	89.260	154.380	5710.56	8403.11	-8182.35	2050.84	1729945.38	14573747.59	40°07'43.1958"N	80°40'46.9599"W	8435.45	165.929	0.48
17933.00	88.980	155.420	5712.03	8498.57	-8269.28	2091.56	1729986.09	14573660.70	40°07'42.3354"N	80°40'46.4397"W	8529.69	165.806	1.12
18030.00	89.080	155.140	5713.67	8595.08	-8357.38	2132.11	1730026.63	14573572.64	40°07'41.4634"N	80°40'45.9217"W	8625.06	165.688	0.31
18127.00	88.950	154.460	5715.34	8691.52	-8445.13	2173.41	1730067.91	14573484.91	40°07'40.5947"N	80°40'45.3941"W	8720.32	165.568	0.71
18223.00	88.980	157.250	5717.07	8787.12	-8532.71	2212.67	1730107.15	14573397.37	40°07'39.7278"N	80°40'44.8928"W	8814.93	165.463	2.91
18320.00	88.890	155.150	5718.88	8883.77	-8621.44	2251.80	1730146.27	14573308.68	40°07'38.8496"N	80°40'44.3931"W	8910.66	165.362	2.17
18416.00	88.430	154.920	5721.12	8979.24	-8708.45	2292.31	1730186.76	14573221.70	40°07'37.9884"N	80°40'43.8757"W	9005.09	165.253	0.54
18513.00	88.170	155.860	5721.46	9075.78	-8796.63	2332.70	1730227.13	14573133.56	40°07'37.1155"N	80°40'43.3599"W	9100.66	165.148	2.99
18610.00	88.030	156.046	5722.14	9172.40	-8885.19	2372.22	1730266.64	14573045.03	40°07'36.2389"N	80°40'42.8552"W	9196.42	165.051	3.24
18706.00	88.480	154.916	5724.22	9267.87	-8972.22	2412.67	1730307.07	14572958.03	40°07'35.3774"N	80°40'42.3385"W	9290.95	164.949	2.51

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Facility	Roth OHI Pad		Wellbore	Roth OHI 206H AWB
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WELLPATH DATA (281 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]
18803.00	89.380	154.870	5725.19	9364.26	-9059.76	2454.44	1730348.83	14572870.53	40°07'34.5109"N	80°40'41.8049"W	9386.35	164.841	0.79
18899.00	89.350	155.380	5726.25	9459.77	-9146.85	2494.82	1730389.19	14572783.47	40°07'33.6488"N	80°40'41.2891"W	9480.98	164.744	0.53
18995.00	89.170	155.030	5727.49	9555.28	-9233.99	2535.08	1730429.43	14572696.36	40°07'32.7862"N	80°40'40.7750"W	9575.66	164.648	0.41
19092.00	89.200	154.840	5728.87	9651.75	-9321.85	2576.17	1730470.51	14572608.54	40°07'31.9166"N	80°40'40.2501"W	9671.27	164.551	0.20
19188.00	89.170	154.960	5730.24	9747.21	-9408.77	2616.88	1730511.21	14572521.65	40°07'31.0561"N	80°40'39.7300"W	9765.92	164.457	0.13
19285.00	89.080	154.860	5731.72	9843.67	-9496.61	2658.01	1730552.32	14572433.85	40°07'30.1866"N	80°40'39.2046"W	9861.57	164.364	0.14
19381.00	89.230	157.030	5733.14	9939.29	-9584.26	2697.14	1730591.43	14572346.23	40°07'29.3191"N	80°40'38.7051"W	9956.53	164.283	2.27
19478.00	88.890	159.110	5734.73	10036.15	-9674.22	2733.36	1730627.63	14572256.31	40°07'28.4287"N	80°40'38.2430"W	10052.95	164.223	2.17
19575.00	89.260	161.640	5736.29	10133.13	-9765.57	2765.93	1730660.19	14572165.00	40°07'27.5249"N	80°40'37.8280"W	10149.71	164.186	2.64
19671.00	89.420	163.310	5737.40	10229.08	-9857.10	2794.83	1730689.09	14572073.50	40°07'26.6193"N	80°40'37.4602"W	10245.66	164.170	1.75
19768.00	87.910	166.190	5739.66	10325.82	-9950.65	2820.34	1730714.58	14571979.99	40°07'25.6940"N	80°40'37.1363"W	10342.62	164.176	3.35
19864.00	89.600	167.270	5741.74	10421.30	-10044.06	2842.37	1730736.60	14571886.61	40°07'24.7701"N	80°40'36.8571"W	10438.50	164.199	2.09
19961.00	91.290	167.120	5740.99	10517.71	-10138.64	2863.86	1730758.09	14571792.07	40°07'23.8347"N	80°40'36.5848"W	10535.36	164.227	1.75
20057.00	88.430	165.160	5741.23	10613.30	-10231.83	2886.86	1730781.07	14571698.92	40°07'22.9129"N	80°40'36.2931"W	10631.29	164.244	3.61
20154.00	89.420	171.320	5743.05	10709.44	-10326.73	2906.61	1730800.82	14571604.05	40°07'21.9744"N	80°40'36.0433"W	10727.99	164.280	6.43
20250.00	93.910	168.300	5740.26	10804.21	-10421.14	2923.58	1730817.78	14571509.68	40°07'21.0408"N	80°40'35.8293"W	10823.47	164.329	5.64
20347.00	88.430	165.890	5738.28	10900.58	-10515.63	2945.23	1730839.42	14571415.23	40°07'20.1063"N	80°40'35.5550"W	10920.30	164.353	6.17
20443.00	89.260	167.330	5740.21	10996.08	-10609.00	2967.46	1730861.64	14571321.90	40°07'19.1828"N	80°40'35.2733"W	11016.20	164.373	1.73
20540.00	89.880	167.200	5740.94	11092.48	-10703.61	2988.84	1730883.02	14571227.32	40°07'18.2471"N	80°40'35.0024"W	11113.07	164.398	0.65
20636.00	89.630	167.320	5741.35	11187.89	-10797.25	3010.01	1730904.18	14571133.73	40°07'17.3211"N	80°40'34.7343"W	11208.95	164.423	0.29
20732.00	89.290	167.290	5742.26	11283.29	-10890.89	3031.10	1730925.27	14571040.11	40°07'16.3949"N	80°40'34.4672"W	11304.83	164.447	0.36
20829.00	89.110	167.250	5743.61	11379.69	-10985.50	3052.48	1730946.63	14570945.54	40°07'15.4592"N	80°40'34.1965"W	11401.70	164.471	0.19
20926.00	89.230	165.340	5745.02	11476.24	-11079.72	3075.46	1730969.60	14570851.36	40°07'14.5272"N	80°40'33.9051"W	11498.64	164.487	1.97
21022.00	89.140	163.180	5746.38	11572.06	-11172.11	3101.49	1730995.63	14570759.01	40°07'13.6133"N	80°40'33.5743"W	11594.62	164.485	2.25
21118.00	89.200	159.570	5747.77	11668.03	-11263.06	3132.14	1731026.27	14570668.10	40°07'12.7135"N	80°40'33.1840"W	11690.46	164.459	3.76
21215.00	89.260	158.780	5749.08	11764.98	-11353.71	3166.63	1731060.73	14570577.48	40°07'11.8164"N	80°40'32.7444"W	11787.04	164.416	0.82
21311.00	89.050	156.340	5750.49	11860.80	-11442.42	3203.29	1731097.38	14570488.81	40°07'10.9385"N	80°40'32.2767"W	11882.34	164.360	2.58
21408.00	89.420	156.670	5751.79	11957.50	-11531.36	3241.98	1731136.06	14570399.90	40°07'10.0582"N	80°40'31.7828"W	11978.42	164.297	0.53
21504.00	89.170	160.510	5752.97	12053.40	-11620.71	3277.01	1731171.08	14570310.59	40°07'9.1739"N	80°40'31.3360"W	12073.93	164.252	4.01
21601.00	88.830	160.300	5754.86	12150.38	-11712.08	3309.54	1731203.59	14570219.25	40°07'8.2699"N	80°40'30.9217"W	12170.69	164.221	0.41

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WELLPATH DATA (281 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]
21697.00	89.110	159.330	5756.39	12246.34	-11802.16	3342.66	1731236.70	14570129.20	40°07'7.3784"N	80°40'30.4996"W	12266.40	164.187	1.05
21794.00	89.780	159.850	5757.33	12343.31	-11893.07	3376.48	1731270.51	14570038.33	40°07'6.4789"N	80°40'30.0685"W	12363.08	164.151	0.87
21891.00	89.850	161.330	5757.64	12440.31	-11984.55	3408.72	1731302.73	14569946.88	40°07'5.5736"N	80°40'29.6579"W	12459.89	164.123	1.53
21987.00	89.720	161.280	5758.00	12536.30	-12075.49	3439.49	1731333.49	14569855.99	40°07'4.6739"N	80°40'29.2661"W	12555.78	164.101	0.15
22084.00	88.920	160.930	5759.15	12633.30	-12167.25	3470.90	1731364.89	14569764.26	40°07'3.7659"N	80°40'28.8661"W	12652.64	164.078	0.90
22180.00	90.000	161.910	5760.06	12729.28	-12258.24	3501.48	1731395.46	14569673.30	40°07'2.8657"N	80°40'28.4767"W	12748.53	164.058	1.52
22277.00	89.880	162.050	5760.16	12826.27	-12350.49	3531.49	1731425.45	14569581.10	40°07'1.9530"N	80°40'28.0948"W	12845.46	164.043	0.19
22373.00	89.820	161.040	5760.41	12922.26	-12441.55	3561.88	1731455.83	14569490.07	40°07'1.0521"N	80°40'27.7079"W	12941.37	164.024	1.05
22470.00	89.510	161.070	5760.98	13019.26	-12533.29	3593.37	1731487.31	14569398.36	40°07'0.1443"N	80°40'27.3069"W	13038.24	164.002	0.32
22567.00	89.480	160.350	5761.83	13116.25	-12624.84	3625.41	1731519.34	14569306.85	40°06'59.2385"N	80°40'26.8988"W	13135.08	163.978	0.74
22663.00	89.480	159.960	5762.70	13212.24	-12715.14	3658.00	1731551.92	14569216.59	40°06'58.3450"N	80°40'26.4836"W	13230.86	163.950	0.41
22759.00	89.690	159.700	5763.40	13308.22	-12805.25	3691.10	1731585.00	14569126.51	40°06'57.4533"N	80°40'26.0618"W	13326.61	163.920	0.35
22856.00	89.350	160.200	5764.21	13405.20	-12896.36	3724.36	1731618.25	14569035.43	40°06'56.5517"N	80°40'25.6381"W	13423.38	163.892	0.62
22952.00	89.540	160.560	5765.14	13501.19	-12986.79	3756.59	1731650.47	14568945.05	40°06'55.6569"N	80°40'25.2275"W	13519.19	163.867	0.42
23049.00	89.880	160.430	5765.63	13598.19	-13078.22	3788.98	1731682.84	14568853.65	40°06'54.7522"N	80°40'24.8149"W	13616.02	163.843	0.38
23145.00	90.090	160.200	5765.66	13694.19	-13168.61	3821.31	1731715.16	14568763.30	40°06'53.8578"N	80°40'24.4030"W	13711.84	163.818	0.32
23242.00	89.630	160.150	5765.89	13791.18	-13259.86	3854.21	1731748.05	14568672.08	40°06'52.9549"N	80°40'23.9839"W	13808.65	163.793	0.48
23338.00	89.820	159.970	5766.35	13887.17	-13350.10	3886.95	1731780.78	14568581.87	40°06'52.0619"N	80°40'23.5668"W	13904.45	163.767	0.27
23435.00	89.970	160.470	5766.53	13984.16	-13441.38	3919.78	1731813.59	14568490.63	40°06'51.1587"N	80°40'23.1486"W	14001.26	163.742	0.54
23531.00	89.970	159.970	5766.58	14080.15	-13531.71	3952.26	1731846.06	14568400.33	40°06'50.2648"N	80°40'22.7347"W	14097.08	163.718	0.52
23627.00	90.280	160.000	5766.37	14176.14	-13621.92	3985.12	1731878.91	14568310.17	40°06'49.3723"N	80°40'22.3161"W	14192.88	163.693	0.32
23724.00	89.720	157.730	5766.37	14273.07	-13712.38	4020.09	1731913.87	14568219.73	40°06'48.4770"N	80°40'21.8702"W	14289.53	163.660	2.41
23820.00	89.940	156.440	5766.66	14368.85	-13800.81	4057.47	1731951.23	14568131.35	40°06'47.6018"N	80°40'21.3933"W	14384.90	163.617	1.36
23917.00	89.880	154.340	5766.81	14465.40	-13888.99	4097.86	1731991.61	14568043.20	40°06'46.7289"N	80°40'20.8776"W	14480.90	163.562	2.17
24013.00	89.850	151.720	5767.04	14560.48	-13974.54	4141.40	1732035.12	14567957.68	40°06'45.8819"N	80°40'20.3214"W	14575.29	163.493	2.73
24110.00	89.820	149.980	5767.32	14655.99	-14059.25	4188.64	1732082.35	14567873.00	40°06'45.0431"N	80°40'19.7173"W	14669.95	163.410	1.79
24207.00	89.510	147.990	5767.88	14750.89	-14142.38	4238.62	1732132.31	14567789.91	40°06'44.2198"N	80°40'19.0780"W	14763.90	163.316	2.08
24303.00	89.530	146.020	5768.60	14844.07	-14222.89	4290.90	1732184.56	14567709.43	40°06'43.4223"N	80°40'18.4090"W	14856.06	163.212	2.06
24398.00	89.910	146.450	5768.99	14935.97	-14301.86	4343.70	1732237.34	14567630.48	40°06'42.6399"N	80°40'17.7332"W	14946.94	163.106	0.54
24495.00	89.910	146.020	5769.14	15029.80	-14382.50	4397.61	1732291.23	14567549.88	40°06'41.8411"N	80°40'17.0432"W	15039.79	162.998	0.44

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REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Roth OHI 206H
Field	Ohio	API/Legal	
Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

WELLPATH DATA (281 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]
24591.00	89.940	145.960	5769.26	15122.57	-14462.08	4451.30	1732344.91	14567470.33	40°06'41.0527"N	80°40'16.3559"W	15131.62	162.892	0.07
24688.00	90.000	146.670	5769.31	15216.43	-14542.79	4505.10	1732398.68	14567389.65	40°06'40.2531"N	80°40'15.6673"W	15224.61	162.788	0.73
24784.00	89.630	144.690	5769.62	15309.06	-14622.08	4559.22	1732452.78	14567310.40	40°06'39.4677"N	80°40'14.9745"W	15316.38	162.682	2.10
24881.00	89.170	143.070	5770.64	15401.80	-14700.42	4616.40	1732509.94	14567232.08	40°06'38.6914"N	80°40'14.2424"W	15408.23	162.566	1.74
24978.00	89.350	146.430	5771.89	15494.94	-14779.62	4672.37	1732565.88	14567152.92	40°06'37.9067"N	80°40'13.5258"W	15500.59	162.456	3.47
25074.00	89.690	151.140	5772.70	15588.77	-14861.70	4722.10	1732615.60	14567070.87	40°06'37.0938"N	80°40'12.8896"W	15593.85	162.373	4.92
25171.00	89.450	151.880	5773.43	15684.46	-14946.95	4768.37	1732661.85	14566985.66	40°06'36.2496"N	80°40'12.2982"W	15689.12	162.306	0.80
25267.00	89.540	152.300	5774.27	15779.33	-15031.78	4813.31	1732706.77	14566900.86	40°06'35.4097"N	80°40'11.7239"W	15783.61	162.244	0.45
25364.00	89.450	151.940	5775.13	15875.18	-15117.51	4858.66	1732752.11	14566815.16	40°06'34.5608"N	80°40'11.1443"W	15879.10	162.183	0.38
25449.00	89.480	151.940	5775.92	15959.14	-15192.52	4898.65	1732792.07	14566740.18	40°06'33.8181"N	80°40'10.6333"W	15962.75	162.129	0.04
25474.00‡	89.480	151.940	5776.15	15983.83	-15214.58	4910.41	1732803.83	14566718.13	40°06'33.5997"N	80°40'10.4830"W	15987.36	162.113	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Roth OHI 206H AWB Ref Wellpath: Roth OHI 206H awp 50' - 25449' Proj: 25474'

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	545.00	519.00	26.00	544.97	0.00	0.00	-0.80	2.27
9.625in Casing	26.00	1631.00	1605.00	26.00	1567.39	0.00	0.00	296.93	-130.91

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REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Roth OHI 206H
Field	Ohio	API/Legal	
Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Roth OHI 206H wp1	5623.95	-7656.64	1847.24	1729741.87	14574273.10	40°07'48.3982"N	80°40'49.5566"W	point
Roth OHI 206H wp2	5623.95	-8923.32	2315.11	1730209.55	14573006.91	40°07'35.8641"N	80°40'43.5922"W	point
Roth OHI 206H wp3	5623.95	-9670.29	2689.23	1730583.53	14572260.24	40°07'28.4692"N	80°40'38.8108"W	point
Roth OHI 206H wp4	5623.95	-9879.58	2788.28	1730682.53	14572051.03	40°07'26.3974"N	80°40'37.5456"W	point
Roth OHI 206H wp5	5623.95	-10757.00	2987.21	1730881.39	14571173.96	40°07'17.7196"N	80°40'35.0259"W	point
Roth OHI 206H wp6 dl to td	5623.95	-13937.11	4159.74	1732053.46	14567995.10	40°06'46.2512"N	80°40'20.0835"W	point
Roth OHI 206H wp7	5623.95	-14843.37	4689.80	1732583.31	14567089.19	40°06'37.2760"N	80°40'13.3045"W	point
Roth OHI 206H wp8 stay east of point	5623.95	-14887.53	4711.76	1732605.26	14567045.05	40°06'36.8389"N	80°40'13.0240"W	point

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Roth OHI 206H
Field	Ohio	API/Legal	
Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Roth OHI 206H LP rev3	5624.00	2195.75	-1119.10	1726776.69	14584121.61	40°09'25.8633"N	80°41'27.3042"W	point
Roth OHI 206H BHL rev 1	5789.00	-15216.17	4908.24	1732801.66	14566716.53	40°06'33.5840"N	80°40'10.5110"W	point

WELLPATH COMPOSITION - Ref Wellbore: Roth OHI 206H AWB Ref Wellpath: Roth OHI 206H awp 50' - 25449' Proj: 25474'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	526.00	Gyrodata 2015 - GC+WIR+DPIPE	1 GYD GC WIR D PIPE 17.5" 50' - 526'	Roth OHI 206H AWB	2/5/2023
526.00	1631.00	OWSG MWD rev2 + HRGM	2 Tally OWSG MWD HRGM 12.25" 601' - 1631'	Roth OHI 206H AWB	2/5/2023
1631.00	22759.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	3 BH ATC HRGM Short spacing 8.5" 1717' - 22759'	Roth OHI 206H AWB	2/5/2023
22759.00	25474.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	4 BH ATC HRGM Short spacing 8.5" 22856' - 25449'	Roth OHI 206H AWB	2/14/2023

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Operator	SWN PRODUCTION COMPANY, LLC	Well	Roth OHI 206H
Field	Ohio	API/Legal	
Facility	Roth OHI Pad	Wellbore	Roth OHI 206H AWB
Slot	206H		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
50.00	0.180	226.890	50.00	1 GYD GC WIR D PIPE 17.5" 50' - 526'
601.00	2.890	328.800	600.93	2 Tally OWSG MWD HRGM 12.25" 601' - 1631'
1717.00	35.790	336.700	1638.00	3 BH ATC HRGM Short spacing 8.5" 1717' - 22759'
22586.00	89.480	160.273	5762.00	4 BH ATC HRGM Short spacing 8.5" 22856'- 25449'
25474.00	89.480	151.940	5776.15	Proj to TD: 25474'

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