



SWN PRODUCTION COMPANY, LLC



Location: Marshall County, WV
 Field: Marshall
 Facility: Betty Schafer MSH Pad

Slot: 205
 Well: Betty Schafer MSH 205H
 Wellbore: Betty Schafer MSH 205H AWB

Plot reference wellpath is Betty Schafer MSH 205H AWP Proj: 21965'	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to SDC 41 (KB)	North Reference: Grid north
Reference wellpath measured depths are referenced to SDC 41 (KB)	Scale: True distance
SDC 41 (KB) to Mean Sea Level: 874.7 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: 205): -848.7 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: tranlam on 2024-03-11; Database: WA_MPL_EASTERNUS_Defn

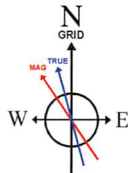
Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Betty Schafer MSH Pad			1742491.842	14523656.697	39°59'27.5194"N	80°38'8.0179"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
205	-20.77	7.02	1742498.860	14523635.940	39°59'27.3139"N	80°38'7.9287"W
SDC 41 (KB) to Ground level (At Slot: 205)					26ft	
Mean Sea Level to Ground level (At Slot: 205)					-848.7ft	
SDC 41 (KB) to Mean Sea Level					874.7ft	

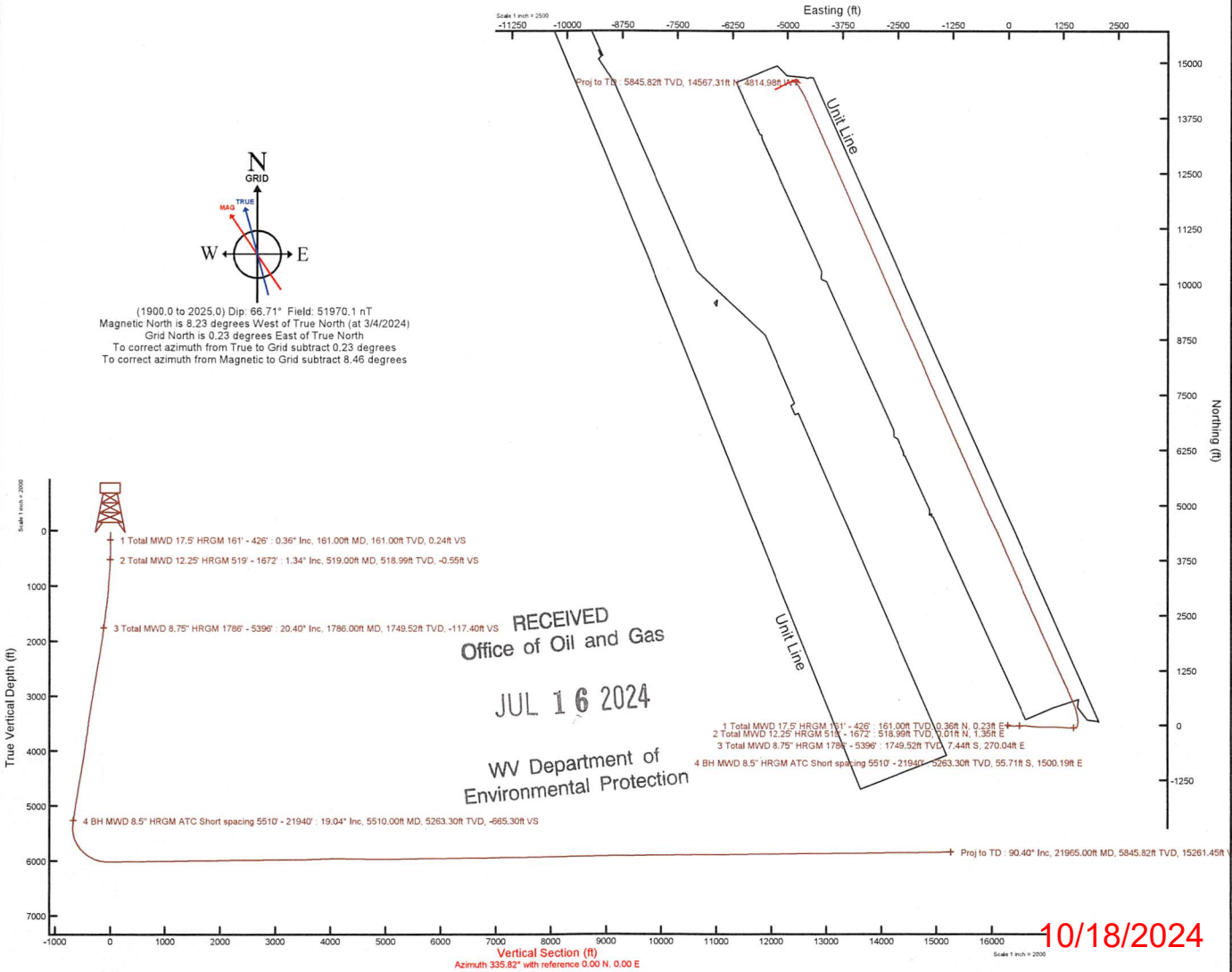
Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
21965.00	90.400	326.110	5845.82	14567.31	-4814.98	1737685.76	14538197.56	40°01'51.4615"N	80°39'9.0611"W

API: 47051025070000
 BH JOB: 112078030
 DURATION: 03.03.2024 to 03.09.2024
 RIG: SDC 41



(1900.0 to 2025.0) Dip: 66.71° Field: 51970.1 nT
 Magnetic North is 8.23 degrees West of True North (at 3/4/2024)
 Grid North is 0.23 degrees East of True North
 To correct azimuth from True to Grid subtract 0.23 degrees
 To correct azimuth from Magnetic to Grid subtract 8.46 degrees



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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Betty Schafer MSH 205H
Field	Marshall	API	47051025070000
Facility	Betty Schafer MSH Pad	Wellbore	Betty Schafer MSH 205H AWB
Slot	205		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Tranlam
Scale	0.999612	Report Generated	3/11/2024 at 12:42:16 AM
Convergence at slot	0.23° 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	-20.77	7.02	1742498.86	14523635.94	39°59'27.3139"N	80°38'7.9287"W
Facility Reference Pt			1742491.84	14523656.70	39°59'27.5194"N	80°38'8.0179"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 41 (KB) to Facility Vertical Datum	874.70ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	874.70ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Ground Level at Slot (205)	26.00ft
MD Reference Pt	SDC 41 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	335.82°

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Actual Wellpath Report

Betty Schafer MSH 205H AWP Proj: 21965'
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Field	Marshall	API	47051025070000
Facility	Betty Schafer MSH Pad	Wellbore	Betty Schafer MSH 205H AWB
Slot	205		

WELLPATH DATA (235 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	32.170	0.00	0.00	0.00	0.00	1742498.86	14523635.94	39°59'27.3139"N	80°38'7.9287"W	0.00	0.000	0.00
26.00	0.000	32.170	26.00	0.00	0.00	0.00	1742498.86	14523635.94	39°59'27.3139"N	80°38'7.9287"W	0.00	0.000	0.00
161.00	0.360	32.170	161.00	0.24	0.36	0.23	1742499.09	14523636.30	39°59'27.3175"N	80°38'7.9258"W	0.42	32.170	0.27
227.00	0.270	53.760	227.00	0.38	0.63	0.46	1742499.32	14523636.57	39°59'27.3201"N	80°38'7.9228"W	0.78	36.387	0.22
316.00	0.090	123.390	316.00	0.37	0.71	0.69	1742499.55	14523636.65	39°59'27.3210"N	80°38'7.9199"W	0.99	44.067	0.28
376.00	0.060	2.510	376.00	0.36	0.72	0.73	1742499.59	14523636.66	39°59'27.3210"N	80°38'7.9193"W	1.02	45.493	0.22
426.00	0.180	258.790	426.00	0.40	0.73	0.65	1742499.51	14523636.67	39°59'27.3211"N	80°38'7.9203"W	0.98	41.922	0.41
519.00	1.340	129.650	518.99	-0.55	0.01	1.35	1742500.21	14523635.95	39°59'27.3139"N	80°38'7.9114"W	1.35	89.746	1.57
605.00	3.070	118.410	604.92	-3.28	-1.73	4.15	1742503.01	14523634.21	39°59'27.2967"N	80°38'7.8755"W	4.49	112.657	2.06
692.00	5.100	117.420	691.70	-8.16	-4.62	9.63	1742508.49	14523631.32	39°59'27.2679"N	80°38'7.8053"W	10.68	115.634	2.33
780.00	6.310	106.650	779.26	-14.39	-7.81	17.74	1742516.59	14523628.14	39°59'27.2361"N	80°38'7.7013"W	19.38	113.761	1.83
867.00	7.300	99.070	865.65	-20.54	-10.05	27.77	1742526.62	14523625.89	39°59'27.2135"N	80°38'7.5724"W	29.54	109.891	1.53
958.00	8.690	93.190	955.77	-26.88	-11.34	40.35	1742539.19	14523624.60	39°59'27.2002"N	80°38'7.4109"W	41.91	105.702	1.77
1049.00	10.400	90.020	1045.50	-33.40	-11.73	55.43	1742554.27	14523624.22	39°59'27.1958"N	80°38'7.2172"W	56.65	101.948	1.97
1140.00	12.460	89.560	1134.69	-40.72	-11.66	73.46	1742572.29	14523624.29	39°59'27.1958"N	80°38'6.9856"W	74.38	99.016	2.27
1229.00	14.500	88.960	1221.24	-48.97	-11.38	94.20	1742593.03	14523624.56	39°59'27.1977"N	80°38'6.7190"W	94.89	96.888	2.30
1320.00	16.710	90.390	1308.88	-58.89	-11.26	118.68	1742617.49	14523624.68	39°59'27.1978"N	80°38'6.4046"W	119.21	95.421	2.46
1411.00	18.720	90.690	1395.56	-70.47	-11.53	146.37	1742645.17	14523624.42	39°59'27.1941"N	80°38'6.0489"W	146.82	94.503	2.21
1502.00	19.060	89.270	1481.66	-82.52	-11.51	175.83	1742674.62	14523624.43	39°59'27.1931"N	80°38'5.6704"W	176.20	93.747	0.63
1593.00	18.860	89.180	1567.72	-94.27	-11.11	205.39	1742704.17	14523624.83	39°59'27.1958"N	80°38'5.2905"W	205.69	93.097	0.22
1672.00	19.460	87.280	1642.34	-104.14	-10.31	231.30	1742730.07	14523625.64	39°59'27.2027"N	80°38'4.9576"W	231.53	92.551	1.10
1786.00	20.400	84.330	1749.52	-117.40	-7.44	270.04	1742768.80	14523628.50	39°59'27.2295"N	80°38'4.4597"W	270.15	91.579	1.21
1880.00	19.520	86.730	1837.87	-128.21	-4.93	302.03	1742800.77	14523631.01	39°59'27.2530"N	80°38'4.0486"W	302.07	90.935	1.28
1967.00	19.020	91.630	1920.00	-139.57	-4.50	330.71	1742829.44	14523631.44	39°59'27.2561"N	80°38'3.6801"W	330.74	90.780	1.94
2053.00	19.180	92.950	2001.27	-152.11	-5.63	358.83	1742857.55	14523630.31	39°59'27.2438"N	80°38'3.3189"W	358.87	90.899	0.54
2144.00	19.850	88.940	2087.05	-164.99	-6.11	389.20	1742887.91	14523629.83	39°59'27.2378"N	80°38'2.9286"W	389.25	90.900	1.65
2233.00	19.650	91.450	2170.81	-177.40	-6.21	419.27	1742917.97	14523629.73	39°59'27.2356"N	80°38'2.5423"W	419.32	90.849	0.98
2321.00	18.110	97.600	2254.08	-191.01	-8.39	447.62	1742946.31	14523627.55	39°59'27.2129"N	80°38'2.1782"W	447.70	91.074	2.86
2412.00	17.810	97.550	2340.65	-205.77	-12.09	475.44	1742974.11	14523623.85	39°59'27.1752"N	80°38'1.8210"W	475.59	91.457	0.33
2504.00	17.830	98.740	2428.23	-220.83	-16.08	503.31	1743001.97	14523619.86	39°59'27.1346"N	80°38'1.4632"W	503.57	91.830	0.40

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Field	Marshall		API	47051025070000
Facility	Betty Schafer MSH Pad		Wellbore	Betty Schafer MSH 205H AWB
Slot	205			

WELLPATH DATA (235 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]
2594.00	18.090	98.480	2513.85	-235.86	-20.24	530.75	1743029.40	14523615.71	39°59'27.0925"N	80°38'1.1109"W	531.13	92.184	0.30
2685.00	18.430	94.950	2600.27	-250.48	-23.56	559.05	1743057.70	14523612.39	39°59'27.0585"N	80°38'0.7474"W	559.55	92.413	1.27
2776.00	18.670	96.110	2686.54	-264.83	-26.35	587.87	1743086.50	14523609.60	39°59'27.0297"N	80°38'0.3773"W	588.46	92.567	0.48
2867.00	18.750	94.410	2772.73	-279.18	-29.03	616.93	1743115.55	14523606.92	39°59'27.0021"N	80°38'0.0040"W	617.61	92.694	0.61
2958.00	19.800	92.920	2858.63	-293.20	-30.94	646.91	1743145.52	14523605.01	39°59'26.9820"N	80°37'59.6190"W	647.65	92.738	1.27
3048.00	20.640	91.330	2943.09	-306.98	-32.08	677.99	1743176.59	14523603.87	39°59'26.9694"N	80°37'59.2197"W	678.75	92.709	1.12
3139.00	20.490	92.310	3028.29	-320.99	-33.10	709.94	1743208.52	14523602.86	39°59'26.9581"N	80°37'58.8093"W	710.71	92.669	0.41
3229.00	20.650	91.360	3112.55	-334.85	-34.11	741.54	1743240.11	14523601.85	39°59'26.9468"N	80°37'58.4033"W	742.33	92.634	0.41
3322.00	19.850	91.560	3199.80	-348.78	-34.93	773.72	1743272.28	14523601.03	39°59'26.9374"N	80°37'57.9900"W	774.51	92.585	0.86
3413.00	19.760	90.060	3285.42	-361.81	-35.36	804.55	1743303.09	14523600.59	39°59'26.9318"N	80°37'57.5939"W	805.32	92.517	0.57
3503.00	19.120	92.070	3370.29	-374.57	-35.91	834.49	1743333.03	14523600.04	39°59'26.9252"N	80°37'57.2092"W	835.26	92.464	1.03
3687.00	18.280	87.640	3544.58	-398.63	-35.81	893.44	1743391.95	14523600.14	39°59'26.9238"N	80°37'56.4518"W	894.16	92.295	0.90
3777.00	18.020	90.450	3630.10	-409.68	-35.34	921.47	1743419.97	14523600.61	39°59'26.9273"N	80°37'56.0918"W	922.14	92.196	1.01
3866.00	18.550	92.680	3714.61	-421.81	-36.11	949.37	1743447.86	14523599.84	39°59'26.9186"N	80°37'55.7333"W	950.06	92.178	0.99
4047.00	19.180	90.300	3885.89	-447.14	-37.61	1007.87	1743506.33	14523598.34	39°59'26.9013"N	80°37'54.9818"W	1008.57	92.137	0.55
4138.00	19.660	90.700	3971.71	-459.77	-37.88	1038.12	1743536.58	14523598.08	39°59'26.8975"N	80°37'54.5931"W	1038.81	92.090	0.55
4230.00	19.580	89.510	4058.37	-472.48	-37.93	1069.01	1743567.46	14523598.02	39°59'26.8956"N	80°37'54.1963"W	1069.69	92.032	0.44
4325.00	19.480	90.270	4147.91	-485.43	-37.87	1100.77	1743599.20	14523598.08	39°59'26.8950"N	80°37'53.7882"W	1101.42	91.971	0.29
4417.00	19.340	94.350	4234.68	-499.06	-39.10	1131.30	1743629.72	14523596.85	39°59'26.8816"N	80°37'53.3961"W	1131.98	91.980	1.48
4509.00	20.080	95.290	4321.29	-514.10	-41.71	1162.22	1743660.63	14523594.24	39°59'26.8545"N	80°37'52.9990"W	1162.97	92.056	0.88
4600.00	19.370	91.750	4406.95	-528.39	-43.61	1192.86	1743691.25	14523592.34	39°59'26.8345"N	80°37'52.6054"W	1193.66	92.094	1.53
4689.00	19.310	92.770	4490.93	-541.51	-44.78	1222.31	1743720.69	14523591.18	39°59'26.8218"N	80°37'52.2271"W	1223.13	92.098	0.39
4781.00	20.550	95.760	4577.42	-556.46	-47.13	1253.57	1743751.94	14523588.83	39°59'26.7972"N	80°37'51.8256"W	1254.46	92.153	1.74
4872.00	20.350	93.900	4662.69	-571.88	-49.81	1285.25	1743783.61	14523586.15	39°59'26.7695"N	80°37'51.4188"W	1286.21	92.219	0.75
4962.00	20.060	91.670	4747.15	-585.98	-51.33	1316.29	1743814.64	14523584.63	39°59'26.7532"N	80°37'51.0200"W	1317.29	92.233	0.91
5054.00	20.280	93.890	4833.51	-600.36	-52.87	1347.97	1743846.30	14523583.09	39°59'26.7367"N	80°37'50.6131"W	1349.01	92.246	0.87
5145.00	19.770	93.090	4919.01	-614.84	-54.77	1379.07	1743877.39	14523581.20	39°59'26.7166"N	80°37'50.2136"W	1380.16	92.274	0.64
5236.00	20.080	91.110	5004.56	-628.56	-55.90	1410.06	1743908.37	14523580.06	39°59'26.7042"N	80°37'49.8155"W	1411.17	92.270	0.82
5328.00	19.410	89.800	5091.15	-641.52	-56.15	1441.14	1743939.43	14523579.81	39°59'26.7004"N	80°37'49.4163"W	1442.23	92.231	0.87
5396.00	18.710	87.720	5155.43	-650.18	-55.68	1463.33	1743961.62	14523580.28	39°59'26.7042"N	80°37'49.1311"W	1464.39	92.179	1.43

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Facility	Betty Schafer MSH Pad	Wellbore	Betty Schafer MSH 205H AWB
Slot	205		

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5510.00	19.040	92.330	5263.30	-665.30	-55.71	1500.19	1743998.46	14523580.26	39°59'26.7024"N	80°37'48.6576"W	1501.22	92.127	1.34
5609.00	19.670	80.650	5356.74	-676.78	-53.65	1532.77	1744031.04	14523582.31	39°59'26.7213"N	80°37'48.2388"W	1533.71	92.005	3.96
5704.00	19.750	54.120	5446.35	-677.62	-41.63	1561.61	1744059.86	14523594.33	39°59'26.8390"N	80°37'47.8676"W	1562.17	91.527	9.34
5799.00	21.680	27.520	5535.41	-663.45	-16.60	1582.77	1744081.02	14523619.35	39°59'27.0855"N	80°37'47.5944"W	1582.86	90.601	10.02
5895.00	26.730	10.340	5623.05	-634.62	20.44	1594.87	1744093.10	14523656.37	39°59'27.4510"N	80°37'47.4371"W	1595.00	89.266	8.98
5990.00	33.910	359.220	5705.06	-592.61	68.05	1598.35	1744096.58	14523703.96	39°59'27.9214"N	80°37'47.3898"W	1599.80	87.562	9.57
6085.00	41.090	352.990	5780.41	-538.37	125.63	1594.17	1744092.41	14523761.52	39°59'28.4905"N	80°37'47.4404"W	1599.11	85.494	8.54
6180.00	48.720	350.480	5847.65	-473.91	191.92	1584.44	1744082.68	14523827.79	39°59'29.1461"N	80°37'47.5619"W	1596.02	83.093	8.24
6276.00	57.880	347.870	5904.97	-399.09	267.41	1569.90	1744068.15	14523903.25	39°59'29.8927"N	80°37'47.7447"W	1592.51	80.333	9.79
6371.00	63.810	344.520	5951.24	-317.52	347.91	1550.05	1744048.30	14523983.72	39°59'30.6890"N	80°37'47.9955"W	1588.61	77.350	6.96
6466.00	73.080	340.820	5986.11	-229.90	432.12	1523.68	1744021.94	14524067.89	39°59'31.5222"N	80°37'48.3298"W	1583.77	74.167	10.41
6561.00	82.660	336.750	6006.06	-137.27	518.56	1490.06	1743988.34	14524154.30	39°59'32.3779"N	80°37'48.7571"W	1577.71	70.811	10.92
6656.00	90.250	335.880	6011.93	-42.53	605.33	1451.99	1743950.29	14524241.03	39°59'33.2369"N	80°37'49.2415"W	1573.12	67.369	8.04
6752.00	90.150	335.490	6011.60	53.47	692.81	1412.47	1743910.77	14524328.48	39°59'34.1030"N	80°37'49.7447"W	1573.23	63.872	0.42
6847.00	90.710	336.220	6010.88	148.47	779.50	1373.61	1743871.93	14524415.13	39°59'34.9613"N	80°37'50.2394"W	1579.37	60.426	0.97
6942.00	90.550	335.930	6009.84	243.46	866.33	1335.08	1743833.42	14524501.93	39°59'35.8209"N	80°37'50.7297"W	1591.53	57.021	0.35
7037.00	90.490	335.680	6008.98	338.46	952.98	1296.15	1743794.50	14524588.55	39°59'36.6788"N	80°37'51.2253"W	1608.78	53.675	0.27
7132.00	90.220	335.330	6008.39	433.46	1039.43	1256.76	1743755.13	14524674.96	39°59'37.5347"N	80°37'51.7268"W	1630.91	50.407	0.47
7228.00	90.310	335.720	6007.94	529.45	1126.80	1216.99	1743715.38	14524762.30	39°59'38.3998"N	80°37'52.2332"W	1658.54	47.204	0.42
7323.00	90.680	335.300	6007.12	624.45	1213.25	1177.61	1743676.01	14524848.72	39°59'39.2557"N	80°37'52.7345"W	1690.78	44.146	0.59
7418.00	90.740	335.840	6005.95	719.44	1299.74	1138.32	1743636.74	14524935.17	39°59'40.1120"N	80°37'53.2347"W	1727.74	41.212	0.57
7513.00	90.740	335.730	6004.72	814.43	1386.37	1099.36	1743597.79	14525021.77	39°59'40.9697"N	80°37'53.7307"W	1769.36	38.414	0.12
7609.00	90.650	335.630	6003.56	910.42	1473.84	1059.83	1743558.28	14525109.21	39°59'41.8358"N	80°37'54.2340"W	1815.34	35.720	0.14
7704.00	90.830	335.770	6002.33	1005.42	1560.42	1020.74	1743519.20	14525195.75	39°59'42.6930"N	80°37'54.7317"W	1864.62	33.190	0.24
7799.00	90.710	335.990	6001.05	1100.41	1647.12	981.92	1743480.40	14525282.42	39°59'43.5513"N	80°37'55.2258"W	1917.59	30.801	0.26
7894.00	90.680	335.960	5999.90	1195.40	1733.88	943.25	1743441.74	14525369.15	39°59'44.4103"N	80°37'55.7182"W	1973.84	28.547	0.04
7990.00	90.800	336.020	5998.66	1291.39	1821.57	904.19	1743402.69	14525456.80	39°59'45.2784"N	80°37'56.2154"W	2033.63	26.399	0.14
8085.00	90.830	335.770	5997.31	1386.38	1908.28	865.39	1743363.91	14525543.47	39°59'46.1369"N	80°37'56.7092"W	2095.33	24.394	0.27
8180.00	90.620	335.340	5996.11	1481.37	1994.75	826.08	1743324.62	14525629.91	39°59'46.9931"N	80°37'57.2097"W	2159.04	22.496	0.50
8275.00	90.770	335.770	5994.95	1576.36	2081.23	786.77	1743285.33	14525716.36	39°59'47.8493"N	80°37'57.7103"W	2224.98	20.708	0.48



WV Department of Environmental Protection

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Actual Wellpath Report

Betty Schafer MSH 205H AWP Proj: 21965'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Betty Schafer MSH 205H
Field	Marshall	API	47051025070000
Facility	Betty Schafer MSH Pad	Wellbore	Betty Schafer MSH 205H AWB
Slot	205		

WELLPATH DATA (235 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]
8371.00	90.580	335.440	5993.82	1672.36	2168.65	747.13	1743245.69	14525803.75	39°59'48.7148"N	80°37'58.2151"W	2293.74	19.009	0.40
8466.00	90.890	336.130	5992.60	1767.35	2255.29	708.16	1743206.75	14525890.35	39°59'49.5725"N	80°37'58.7111"W	2363.86	17.432	0.80
8561.00	90.710	335.930	5991.28	1862.34	2342.08	669.57	1743168.17	14525977.11	39°59'50.4319"N	80°37'59.2024"W	2435.92	15.955	0.28
8656.00	90.710	335.550	5990.10	1957.33	2428.69	630.54	1743129.16	14526063.68	39°59'51.2893"N	80°37'59.6993"W	2509.21	14.554	0.40
8752.00	90.710	335.460	5988.91	2053.32	2516.04	590.74	1743089.37	14526151.00	39°59'52.1542"N	80°38'0.2061"W	2584.46	13.213	0.09
8847.00	91.080	336.210	5987.43	2148.31	2602.71	551.86	1743050.50	14526237.63	39°59'53.0122"N	80°38'0.7011"W	2660.57	11.971	0.88
8942.00	90.710	335.730	5985.94	2243.30	2689.46	513.18	1743011.84	14526324.35	39°59'53.8711"N	80°38'1.1935"W	2737.98	10.803	0.64
9037.00	90.800	335.800	5984.69	2338.29	2776.08	474.18	1742972.86	14526410.94	39°59'54.7287"N	80°38'1.6900"W	2816.29	9.693	0.12
9133.00	90.680	336.190	5983.45	2434.28	2863.77	435.13	1742933.82	14526498.59	39°59'55.5968"N	80°38'2.1871"W	2896.64	8.640	0.43
9228.00	90.490	335.930	5982.48	2529.27	2950.59	396.59	1742895.29	14526585.38	39°59'56.4564"N	80°38'2.6779"W	2977.13	7.655	0.34
9323.00	90.490	336.030	5981.67	2624.27	3037.36	357.92	1742856.64	14526672.12	39°59'57.3154"N	80°38'3.1702"W	3058.38	6.721	0.11
9418.00	90.580	335.820	5980.78	2719.27	3124.10	319.17	1742817.90	14526758.82	39°59'58.1741"N	80°38'3.6635"W	3140.36	5.833	0.24
9514.00	90.520	336.080	5979.86	2815.26	3211.76	280.04	1742778.80	14526846.44	39°59'59.0420"N	80°38'4.1616"W	3223.94	4.983	0.28
9609.00	90.490	336.100	5979.02	2910.26	3298.60	241.54	1742740.31	14526933.26	39°59'59.9018"N	80°38'4.6517"W	3307.43	4.188	0.04
9704.00	90.400	335.890	5978.29	3005.25	3385.38	202.90	1742701.68	14527020.00	40°00'0.7609"N	80°38'5.1438"W	3391.46	3.430	0.24
9799.00	90.520	335.770	5977.52	3100.25	3472.05	164.00	1742662.80	14527106.64	40°00'1.6190"N	80°38'5.6390"W	3475.92	2.704	0.18
9894.00	90.580	336.070	5976.61	3195.24	3558.78	125.24	1742624.05	14527193.33	40°00'2.4776"N	80°38'6.1325"W	3560.98	2.016	0.32
9989.00	90.490	336.190	5975.72	3290.24	3645.65	86.80	1742585.63	14527280.17	40°00'3.3377"N	80°38'6.6219"W	3646.68	1.364	0.16
10085.00	90.400	335.630	5974.98	3386.24	3733.29	47.62	1742546.46	14527367.77	40°00'4.2053"N	80°38'7.1208"W	3733.59	0.731	0.59
10180.00	90.490	335.890	5974.24	3481.23	3819.91	8.61	1742507.47	14527454.36	40°00'5.0629"N	80°38'7.6174"W	3819.92	0.129	0.29
10275.00	90.460	335.840	5973.45	3576.23	3906.60	-30.23	1742468.64	14527541.02	40°00'5.9212"N	80°38'8.1119"W	3906.72	359.557	0.06
10370.00	92.890	337.390	5970.68	3671.17	3993.75	-67.92	1742430.97	14527628.13	40°00'6.7839"N	80°38'8.5916"W	3994.33	359.026	3.03
10466.00	92.590	336.070	5966.09	3767.05	4081.84	-105.80	1742393.10	14527716.19	40°00'7.6559"N	80°38'9.0738"W	4083.21	358.515	1.41
10561.00	91.290	335.910	5962.87	3861.99	4168.57	-144.43	1742354.49	14527802.88	40°00'8.5146"N	80°38'9.5657"W	4171.07	358.016	1.38
10656.00	91.080	335.620	5960.91	3956.97	4255.18	-183.42	1742315.51	14527889.46	40°00'9.3720"N	80°38'10.0621"W	4259.13	357.532	0.38
10751.00	91.230	336.040	5958.99	4051.95	4341.83	-222.31	1742276.64	14527976.08	40°00'10.2299"N	80°38'10.5573"W	4347.52	357.069	0.47
10846.00	89.320	334.100	5958.53	4146.93	4427.97	-262.35	1742236.62	14528062.18	40°00'11.0828"N	80°38'11.0673"W	4435.73	356.609	2.87
10942.00	89.290	334.920	5959.70	4242.90	4514.62	-303.66	1742195.32	14528148.80	40°00'11.9407"N	80°38'11.5936"W	4524.82	356.152	0.85
11036.00	89.290	334.340	5960.86	4336.87	4599.54	-343.93	1742155.07	14528233.69	40°00'12.7816"N	80°38'12.1066"W	4612.39	355.724	0.62
11132.00	89.570	335.960	5961.82	4432.86	4686.65	-384.27	1742114.74	14528320.76	40°00'13.6441"N	80°38'12.6204"W	4702.38	355.313	1.71



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Actual Wellpath Report

Betty Schafer MSH 205H AWP Proj: 21965'

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REFERENCE WELLPATH IDENTIFICATION			
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Field	Marshall	API	47051025070000
Facility	Betty Schafer MSH Pad	Wellbore	Betty Schafer MSH 205H AWB
Slot	205		

WELLPATH DATA (235 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]
11227.00	89.480	336.060	5962.61	4527.85	4773.44	-422.89	1742076.13	14528407.52	40°00'14.5033"N	80°38'13.1122"W	4792.14	354.937	0.14
11322.00	89.480	336.240	5963.47	4622.85	4860.32	-461.30	1742037.74	14528494.37	40°00'15.3634"N	80°38'13.6013"W	4882.17	354.578	0.19
11417.00	89.510	336.420	5964.31	4717.84	4947.33	-499.44	1741999.61	14528581.34	40°00'16.2248"N	80°38'14.0868"W	4972.47	354.235	0.19
11512.00	89.380	336.050	5965.23	4812.83	5034.27	-537.72	1741961.35	14528668.24	40°00'17.0855"N	80°38'14.5742"W	5062.90	353.903	0.41
11608.00	89.540	336.120	5966.13	4908.83	5122.02	-576.64	1741922.45	14528755.96	40°00'17.9543"N	80°38'15.0697"W	5154.38	353.577	0.18
11703.00	90.520	335.990	5966.08	5003.82	5208.85	-615.19	1741883.91	14528842.75	40°00'18.8138"N	80°38'15.5606"W	5245.05	353.264	1.04
11798.00	90.580	335.980	5965.17	5098.82	5295.62	-653.85	1741845.26	14528929.49	40°00'19.6729"N	80°38'16.0529"W	5335.83	352.961	0.06
11893.00	90.550	336.020	5964.23	5193.81	5382.40	-692.49	1741806.64	14529016.24	40°00'20.5320"N	80°38'16.5449"W	5426.77	352.669	0.05
11989.00	90.460	336.140	5963.39	5289.81	5470.15	-731.42	1741767.73	14529103.96	40°00'21.4008"N	80°38'17.0405"W	5518.83	352.384	0.16
12084.00	90.460	336.010	5962.62	5384.81	5556.99	-769.94	1741729.22	14529190.76	40°00'22.2604"N	80°38'17.5310"W	5610.07	352.112	0.14
12179.00	90.770	335.870	5961.60	5479.80	5643.73	-808.67	1741690.51	14529277.47	40°00'23.1192"N	80°38'18.0242"W	5701.37	351.846	0.36
12274.00	90.680	336.010	5960.40	5574.79	5730.47	-847.40	1741651.79	14529364.17	40°00'23.9779"N	80°38'18.5174"W	5792.78	351.588	0.18
12369.00	90.770	335.840	5959.20	5669.78	5817.20	-886.15	1741613.06	14529450.87	40°00'24.8365"N	80°38'19.0108"W	5884.30	351.339	0.20
12465.00	90.770	336.170	5957.91	5765.77	5904.89	-925.18	1741574.04	14529538.53	40°00'25.7047"N	80°38'19.5079"W	5976.93	351.095	0.34
12560.00	90.650	336.390	5956.73	5860.76	5991.86	-963.40	1741535.84	14529625.46	40°00'26.5657"N	80°38'19.9944"W	6068.81	350.866	0.26
12655.00	90.650	335.920	5955.66	5955.76	6078.74	-1001.80	1741497.45	14529712.31	40°00'27.4259"N	80°38'20.4834"W	6160.74	350.642	0.49
12751.00	90.770	335.970	5954.47	6051.75	6166.40	-1040.93	1741458.34	14529799.94	40°00'28.2937"N	80°38'20.9817"W	6253.64	350.418	0.14
12846.00	90.680	335.790	5953.26	6146.74	6253.10	-1079.74	1741419.54	14529886.60	40°00'29.1520"N	80°38'21.4760"W	6345.64	350.203	0.21
12941.00	90.680	335.930	5952.14	6241.73	6339.79	-1118.59	1741380.70	14529973.25	40°00'30.0102"N	80°38'21.9708"W	6437.71	349.994	0.15
13036.00	90.680	335.970	5951.01	6336.73	6426.53	-1157.31	1741342.01	14530059.97	40°00'30.8690"N	80°38'22.4638"W	6529.91	349.791	0.04
13132.00	90.920	335.980	5949.67	6432.72	6514.21	-1196.39	1741302.94	14530147.61	40°00'31.7370"N	80°38'22.9614"W	6623.16	349.593	0.25
13227.00	90.830	336.230	5948.22	6527.70	6601.05	-1234.86	1741264.48	14530234.42	40°00'32.5968"N	80°38'23.4514"W	6715.56	349.404	0.28
13322.00	90.830	336.130	5946.84	6622.69	6687.95	-1273.23	1741226.13	14530321.28	40°00'33.4571"N	80°38'23.9399"W	6808.07	349.221	0.11
13417.00	90.830	335.960	5945.47	6717.68	6774.76	-1311.79	1741187.58	14530408.06	40°00'34.3164"N	80°38'24.4310"W	6900.59	349.041	0.18
13513.00	90.860	336.120	5944.05	6813.67	6862.48	-1350.78	1741148.61	14530495.74	40°00'35.1849"N	80°38'24.9274"W	6994.16	348.865	0.17
13608.00	90.920	336.610	5942.57	6908.66	6949.50	-1388.86	1741110.54	14530582.73	40°00'36.0463"N	80°38'25.4123"W	7086.92	348.698	0.52
13703.00	90.830	335.940	5941.12	7003.64	7036.46	-1427.08	1741072.34	14530669.66	40°00'36.9072"N	80°38'25.8990"W	7179.72	348.535	0.71
13798.00	90.770	335.670	5939.80	7098.63	7123.11	-1466.01	1741033.42	14530756.27	40°00'37.7650"N	80°38'26.3948"W	7272.40	348.370	0.29
13893.00	90.830	336.290	5938.47	7193.62	7209.87	-1504.67	1740994.77	14530843.00	40°00'38.6240"N	80°38'26.8872"W	7365.21	348.212	0.66
13989.00	90.980	336.500	5936.95	7289.60	7297.83	-1543.11	1740956.35	14530930.92	40°00'39.4947"N	80°38'27.3767"W	7459.19	348.061	0.27

Actual Wellpath Report

Betty Schafer MSH 205H AWP Proj: 21965'
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14084.00	90.770	336.440	5935.50	7384.59	7384.92	-1581.03	1740918.44	14531017.98	40°00'40.3569"N	80°38'27.8595"W	7552.26	347.916	0.23
14179.00	90.550	336.210	5934.41	7479.58	7471.92	-1619.18	1740880.32	14531104.94	40°00'41.2181"N	80°38'28.3452"W	7645.34	347.773	0.34
14275.00	90.490	335.570	5933.54	7575.57	7559.54	-1658.39	1740841.12	14531192.53	40°00'42.0856"N	80°38'28.8447"W	7739.31	347.627	0.67
14370.00	90.680	335.630	5932.57	7670.57	7646.05	-1697.63	1740801.89	14531279.01	40°00'42.9421"N	80°38'29.3445"W	7832.24	347.482	0.21
14465.00	90.800	337.660	5931.34	7765.54	7733.25	-1735.29	1740764.25	14531366.18	40°00'43.8053"N	80°38'29.8239"W	7925.56	347.353	2.14
14560.00	90.550	335.620	5930.22	7860.52	7820.46	-1772.95	1740726.60	14531453.34	40°00'44.6686"N	80°38'30.3035"W	8018.91	347.227	2.16
14655.00	90.620	336.270	5929.25	7955.52	7907.20	-1811.67	1740687.89	14531540.06	40°00'45.5274"N	80°38'30.7966"W	8112.09	347.095	0.69
14751.00	90.980	337.290	5927.91	8051.49	7995.41	-1849.52	1740650.06	14531628.23	40°00'46.4006"N	80°38'31.2785"W	8206.54	346.975	1.13
14846.00	90.980	338.290	5926.29	8146.42	8083.35	-1885.42	1740614.17	14531716.14	40°00'47.2711"N	80°38'31.7354"W	8300.32	346.871	1.05
14941.00	90.890	338.320	5924.74	8241.32	8171.61	-1920.54	1740579.07	14531804.36	40°00'48.1446"N	80°38'32.1821"W	8394.26	346.774	0.10
15036.00	90.770	334.670	5923.36	8336.29	8258.70	-1958.41	1740541.21	14531891.42	40°00'49.0068"N	80°38'32.6644"W	8487.73	346.660	3.84
15132.00	90.800	335.200	5922.04	8432.27	8345.65	-1999.08	1740500.56	14531978.34	40°00'49.8677"N	80°38'33.1826"W	8581.74	346.529	0.55
15227.00	90.860	336.060	5920.67	8527.25	8432.18	-2038.28	1740461.38	14532064.83	40°00'50.7243"N	80°38'33.6819"W	8675.03	346.411	0.91
15322.00	90.740	335.290	5919.34	8622.24	8518.74	-2077.40	1740422.27	14532151.35	40°00'51.5813"N	80°38'34.1803"W	8768.38	346.295	0.82
15418.00	90.770	335.630	5918.08	8718.23	8606.06	-2117.27	1740382.42	14532238.64	40°00'52.4458"N	80°38'34.6882"W	8862.68	346.179	0.36
15513.00	90.890	336.220	5916.70	8813.22	8692.78	-2156.02	1740343.68	14532325.33	40°00'53.3043"N	80°38'35.1817"W	8956.17	346.070	0.63
15608.00	90.830	336.000	5915.27	8908.21	8779.64	-2194.49	1740305.23	14532412.15	40°00'54.1641"N	80°38'35.6717"W	9049.74	345.966	0.24
15703.00	90.770	335.940	5913.95	9003.20	8866.39	-2233.17	1740266.56	14532498.88	40°00'55.0230"N	80°38'36.1644"W	9143.30	345.863	0.09
15799.00	90.770	333.480	5912.66	9099.17	8953.18	-2274.18	1740225.57	14532585.63	40°00'55.8823"N	80°38'36.6869"W	9237.49	345.748	2.56
15894.00	90.740	334.810	5911.41	9194.12	9038.66	-2315.60	1740184.16	14532671.07	40°00'56.7287"N	80°38'37.2149"W	9330.56	345.631	1.40
15989.00	90.650	335.290	5910.25	9289.10	9124.79	-2355.67	1740144.11	14532757.17	40°00'57.5814"N	80°38'37.7255"W	9423.95	345.524	0.51
16084.00	90.890	336.090	5908.98	9384.09	9211.36	-2394.78	1740105.02	14532843.70	40°00'58.4384"N	80°38'38.2237"W	9517.56	345.427	0.88
16180.00	90.920	336.120	5907.46	9480.08	9299.12	-2433.66	1740066.15	14532931.43	40°00'59.3072"N	80°38'38.7189"W	9612.30	345.334	0.04
16275.00	90.860	335.870	5905.98	9575.07	9385.89	-2472.30	1740027.53	14533018.17	40°01'0.1662"N	80°38'39.2111"W	9706.04	345.243	0.27
16370.00	90.860	335.860	5904.56	9670.06	9472.57	-2511.14	1739988.70	14533104.82	40°01'1.0244"N	80°38'39.7058"W	9799.77	345.153	0.01
16466.00	90.890	336.130	5903.09	9766.04	9560.26	-2550.19	1739949.67	14533192.47	40°01'1.8925"N	80°38'40.2032"W	9894.55	345.064	0.28
16561.00	90.890	335.930	5901.62	9861.03	9647.06	-2588.78	1739911.09	14533279.23	40°01'2.7518"N	80°38'40.6948"W	9988.37	344.979	0.21
16656.00	90.860	335.990	5900.17	9956.02	9733.81	-2627.47	1739872.41	14533365.95	40°01'3.6106"N	80°38'41.1877"W	10082.19	344.894	0.07
16751.00	90.580	336.110	5898.97	10051.01	9820.62	-2666.04	1739833.86	14533452.73	40°01'4.4700"N	80°38'41.6789"W	10176.07	344.812	0.32
16847.00	90.650	336.210	5897.94	10147.00	9908.43	-2704.84	1739795.08	14533540.50	40°01'5.3392"N	80°38'42.1730"W	10270.98	344.731	0.13



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Actual Wellpath Report

Betty Schafer MSH 205H AWP Proj: 21965'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Betty Schafer MSH 205H
Field	Marshall	API	47051025070000
Facility	Betty Schafer MSH Pad	Wellbore	Betty Schafer MSH 205H AWB
Slot	205		

WELLPATH DATA (235 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]
16942.00	90.680	336.320	5896.84	10241.99	9995.38	-2743.07	1739756.86	14533627.42	40°01'6.2001"N	80°38'42.6600"W	10364.95	344.654	0.12
17037.00	90.650	336.240	5895.74	10336.99	10082.35	-2781.28	1739718.66	14533714.36	40°01'7.0610"N	80°38'43.1467"W	10458.94	344.578	0.09
17132.00	90.620	336.040	5894.68	10431.98	10169.23	-2819.71	1739680.25	14533801.20	40°01'7.9211"N	80°38'43.6362"W	10552.91	344.502	0.21
17228.00	90.550	335.950	5893.70	10527.97	10256.92	-2858.76	1739641.21	14533888.86	40°01'8.7892"N	80°38'44.1336"W	10647.86	344.426	0.12
17323.00	90.620	336.110	5892.73	10622.97	10343.72	-2897.35	1739602.64	14533975.63	40°01'9.6485"N	80°38'44.6252"W	10741.85	344.352	0.18
17418.00	90.580	336.110	5891.74	10717.96	10430.58	-2935.83	1739564.18	14534062.45	40°01'10.5084"N	80°38'45.1153"W	10835.87	344.280	0.04
17513.00	90.770	336.460	5890.62	10812.95	10517.55	-2974.03	1739525.99	14534149.39	40°01'11.3693"N	80°38'45.6019"W	10929.95	344.211	0.42
17609.00	90.550	336.180	5889.51	10908.94	10605.46	-3012.58	1739487.45	14534237.27	40°01'12.2396"N	80°38'46.0929"W	11025.04	344.142	0.37
17704.00	90.620	336.120	5888.54	11003.93	10692.35	-3050.99	1739449.06	14534324.11	40°01'13.0997"N	80°38'46.5822"W	11119.12	344.074	0.10
17799.00	90.490	335.920	5887.62	11098.93	10779.14	-3089.60	1739410.46	14534410.88	40°01'13.9590"N	80°38'47.0740"W	11213.19	344.006	0.25
17894.00	90.220	335.910	5887.04	11193.93	10865.87	-3128.37	1739371.71	14534497.57	40°01'14.8175"N	80°38'47.5679"W	11307.25	343.938	0.28
17990.00	90.550	335.990	5886.39	11289.92	10953.53	-3167.49	1739332.60	14534585.20	40°01'15.6854"N	80°38'48.0663"W	11402.32	343.871	0.35
18085.00	90.580	336.140	5885.45	11384.92	11040.36	-3206.03	1739294.08	14534671.99	40°01'16.5449"N	80°38'48.5572"W	11496.44	343.807	0.16
18180.00	90.580	336.100	5884.49	11479.91	11127.22	-3244.49	1739255.64	14534758.82	40°01'17.4048"N	80°38'49.0471"W	11590.59	343.744	0.04
18275.00	90.520	336.260	5883.58	11574.91	11214.13	-3282.85	1739217.29	14534845.69	40°01'18.2651"N	80°38'49.5358"W	11684.77	343.683	0.18
18371.00	90.680	336.180	5882.57	11670.90	11301.97	-3321.56	1739178.59	14534933.50	40°01'19.1348"N	80°38'50.0289"W	11779.95	343.622	0.19
18466.00	90.550	336.160	5881.56	11765.89	11388.87	-3359.94	1739140.23	14535020.36	40°01'19.9950"N	80°38'50.5178"W	11874.15	343.563	0.14
18561.00	90.580	336.330	5880.62	11860.88	11475.81	-3398.21	1739101.98	14535107.28	40°01'20.8557"N	80°38'51.0052"W	11968.38	343.505	0.18
18656.00	90.580	336.140	5879.66	11955.88	11562.75	-3436.49	1739063.71	14535194.18	40°01'21.7164"N	80°38'51.4929"W	12062.62	343.448	0.20
18752.00	90.740	336.450	5878.55	12051.87	11650.65	-3475.08	1739025.13	14535282.04	40°01'22.5865"N	80°38'51.9845"W	12157.87	343.392	0.36
18847.00	90.740	336.590	5877.32	12146.85	11737.78	-3512.93	1738987.30	14535369.14	40°01'23.4489"N	80°38'52.4665"W	12252.18	343.338	0.15
18942.00	90.620	336.560	5876.20	12241.84	11824.94	-3550.69	1738949.55	14535456.27	40°01'24.3118"N	80°38'52.9475"W	12346.52	343.286	0.13
19037.00	90.650	336.790	5875.14	12336.82	11912.17	-3588.31	1738911.95	14535543.46	40°01'25.1753"N	80°38'53.4266"W	12440.89	343.236	0.24
19133.00	90.650	336.300	5874.05	12432.81	12000.23	-3626.51	1738873.76	14535631.49	40°01'26.0470"N	80°38'53.9132"W	12536.23	343.185	0.51
19229.00	90.580	336.840	5873.02	12528.79	12088.31	-3664.68	1738835.60	14535719.54	40°01'26.9189"N	80°38'54.3994"W	12631.59	343.135	0.57
19325.00	90.580	336.170	5872.05	12624.78	12176.35	-3702.95	1738797.35	14535807.54	40°01'27.7904"N	80°38'54.8868"W	12726.95	343.085	0.70
19421.00	90.580	336.250	5871.08	12720.77	12264.19	-3741.68	1738758.64	14535895.34	40°01'28.6600"N	80°38'55.3801"W	12822.26	343.034	0.08
19518.00	90.550	336.160	5870.12	12817.77	12352.94	-3780.81	1738719.52	14535984.06	40°01'29.5385"N	80°38'55.8787"W	12918.57	342.982	0.10
19614.00	90.620	336.360	5869.14	12913.76	12440.81	-3819.46	1738680.89	14536071.89	40°01'30.4084"N	80°38'56.3710"W	13013.91	342.933	0.22
19710.00	90.650	336.240	5868.08	13009.75	12528.71	-3858.04	1738642.32	14536159.76	40°01'31.2785"N	80°38'56.8625"W	13109.27	342.885	0.13

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REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Betty Schafer MSH 205H
Field	Marshall	API	47051025070000
Facility	Betty Schafer MSH Pad	Wellbore	Betty Schafer MSH 205H AWB
Slot	205		

WELLPATH DATA (235 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]
19807.00	90.650	336.220	5866.98	13106.74	12617.47	-3897.14	1738603.24	14536248.49	40°01'32.1573"N	80°38'57.3606"W	13205.61	342.836	0.02
19903.00	90.550	336.150	5865.97	13202.73	12705.29	-3935.90	1738564.50	14536336.28	40°01'33.0266"N	80°38'57.8544"W	13300.97	342.788	0.13
20000.00	90.620	336.140	5864.98	13299.73	12794.00	-3975.13	1738525.28	14536424.95	40°01'33.9048"N	80°38'58.3541"W	13397.32	342.740	0.07
20096.00	90.580	336.350	5863.98	13395.72	12881.86	-4013.80	1738486.63	14536512.78	40°01'34.7746"N	80°38'58.8468"W	13492.70	342.694	0.22
20192.00	90.710	336.220	5862.90	13491.71	12969.75	-4052.40	1738448.04	14536600.63	40°01'35.6446"N	80°38'59.3386"W	13588.10	342.649	0.19
20288.00	90.620	336.140	5861.78	13587.70	13057.57	-4091.17	1738409.28	14536688.41	40°01'36.5139"N	80°38'59.8325"W	13683.48	342.603	0.13
20383.00	90.580	336.230	5860.79	13682.69	13144.47	-4129.53	1738370.94	14536775.29	40°01'37.3742"N	80°39'0.3212"W	13777.89	342.559	0.10
20479.00	90.650	336.370	5859.76	13778.68	13232.37	-4168.11	1738332.37	14536863.15	40°01'38.2444"N	80°39'0.8128"W	13873.31	342.516	0.16
20574.00	90.650	335.980	5858.68	13873.68	13319.27	-4206.49	1738294.02	14536950.02	40°01'39.1046"N	80°39'1.3016"W	13967.73	342.473	0.41
20669.00	90.520	336.250	5857.71	13968.67	13406.13	-4244.95	1738255.57	14537036.84	40°01'39.9645"N	80°39'1.7917"W	14062.15	342.430	0.32
20764.00	90.650	336.340	5856.74	14063.66	13493.11	-4283.14	1738217.39	14537123.79	40°01'40.8255"N	80°39'2.2782"W	14156.60	342.389	0.17
20860.00	90.620	336.240	5855.68	14159.65	13581.00	-4321.74	1738178.81	14537211.64	40°01'41.6956"N	80°39'2.7700"W	14252.05	342.348	0.11
20955.00	90.580	336.240	5854.68	14254.64	13667.95	-4360.01	1738140.55	14537298.55	40°01'42.5562"N	80°39'3.2576"W	14346.51	342.308	0.04
21050.00	90.650	336.150	5853.66	14349.64	13754.86	-4398.36	1738102.22	14537385.43	40°01'43.4166"N	80°39'3.7461"W	14440.97	342.267	0.12
21145.00	90.620	336.100	5852.61	14444.63	13841.72	-4436.80	1738063.79	14537472.26	40°01'44.2765"N	80°39'4.2360"W	14535.42	342.227	0.06
21240.00	90.580	336.070	5851.61	14539.62	13928.56	-4475.31	1738025.29	14537559.07	40°01'45.1362"N	80°39'4.7267"W	14629.88	342.188	0.05
21336.00	90.580	336.260	5850.64	14635.62	14016.37	-4514.11	1737986.52	14537646.84	40°01'46.0054"N	80°39'5.2209"W	14725.35	342.148	0.20
21431.00	90.650	336.160	5849.62	14730.61	14103.29	-4552.42	1737948.21	14537733.73	40°01'46.8659"N	80°39'5.7092"W	14819.83	342.110	0.13
21526.00	90.490	334.200	5848.68	14825.59	14189.51	-4592.30	1737908.35	14537819.92	40°01'47.7194"N	80°39'6.2174"W	14914.13	342.066	2.07
21621.00	90.370	332.060	5847.97	14920.48	14274.25	-4635.23	1737865.44	14537904.62	40°01'48.5585"N	80°39'6.7651"W	15007.98	342.010	2.26
21717.00	90.400	330.040	5847.32	15016.14	14358.24	-4681.70	1737818.99	14537988.58	40°01'49.3903"N	80°39'7.3582"W	15102.23	341.941	2.10
21812.00	90.340	327.800	5846.71	15110.45	14439.60	-4730.74	1737769.97	14538069.91	40°01'50.1962"N	80°39'7.9845"W	15194.80	341.860	2.36
21907.00	90.280	326.000	5846.19	15204.29	14519.18	-4782.61	1737718.11	14538149.45	40°01'50.9846"N	80°39'8.6474"W	15286.59	341.768	1.90
21940.00	90.400	326.110	5846.00	15236.81	14546.55	-4801.04	1737699.69	14538176.82	40°01'51.2559"N	80°39'8.8829"W	15318.36	341.735	0.49
21965.00‡	90.400	326.110	5845.82	15261.45	14567.31	-4814.98	1737685.76	14538197.56	40°01'51.4615"N	80°39'9.0611"W	15342.44	341.710	0.00

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REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	Betty Schafer MSH 205H
Field	Marshall	API	47051025070000
Facility	Betty Schafer MSH Pad	Wellbore	Betty Schafer MSH 205H AWB
Slot	205		

HOLE & CASING SECTIONS - Ref Wellbore: Betty Schafer MSH 205H AWB Ref Wellpath: Betty Schafer MSH 205H AWP Proj: 21965'

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	430.00	404.00	26.00	430.00	0.00	0.00	0.72	0.64
9.625in Casing	26.00	1742.00	1716.00	26.00	1708.23	0.00	0.00	-8.80	254.90
5.5in Casing	26.00	21965.00	21939.00	26.00	5845.82	0.00	0.00	14567.31	-4814.98

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Betty Schafer MSH 205H BHL Rev 4	5844.00	14570.16	-4810.64	1737690.10	14538200.42	40°01'51.4896"N	80°39'9.0051"W	point
Betty Schafer MSH 205H LP Rev 3	6014.00	615.42	1454.39	1743952.68	14524251.12	39°59'33.3365"N	80°37'49.2103"W	point

WELLPATH COMPOSITION - Ref Wellbore: Betty Schafer MSH 205H AWB Ref Wellpath: Betty Schafer MSH 205H AWP Proj: 21965'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	426.00	OWSG MWD rev2 + HRGM	1 Total MWD 17.5' HRGM 161' - 426'	Betty Schafer MSH 205H AWB	3/4/2024
426.00	1672.00	OWSG MWD rev2 + HRGM	2 Total MWD 12.25' HRGM 519' - 1672'	Betty Schafer MSH 205H AWB	3/4/2024
1672.00	5396.00	OWSG MWD rev2 + HRGM	3 Total MWD 8.75" HRGM 1786' - 5396'	Betty Schafer MSH 205H AWB	3/4/2024
5396.00	21965.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	4 BH MWD 8.5" HRGM ATC Short spacing 5510' - 21940'	Betty Schafer MSH 205H AWB	3/4/2024