

SWN PRODUCTION COMPANY, LLC

Location: Wetzel County, WV
 Field: Wetzel
 Facility: William Ritchea WTZ Pad

Slot: Slot 205H
 Well: William Ritchea WTZ 205H ST01
 Wellbore: William Ritchea WTZ 205H ST01 PWB

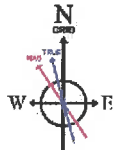


Location Information

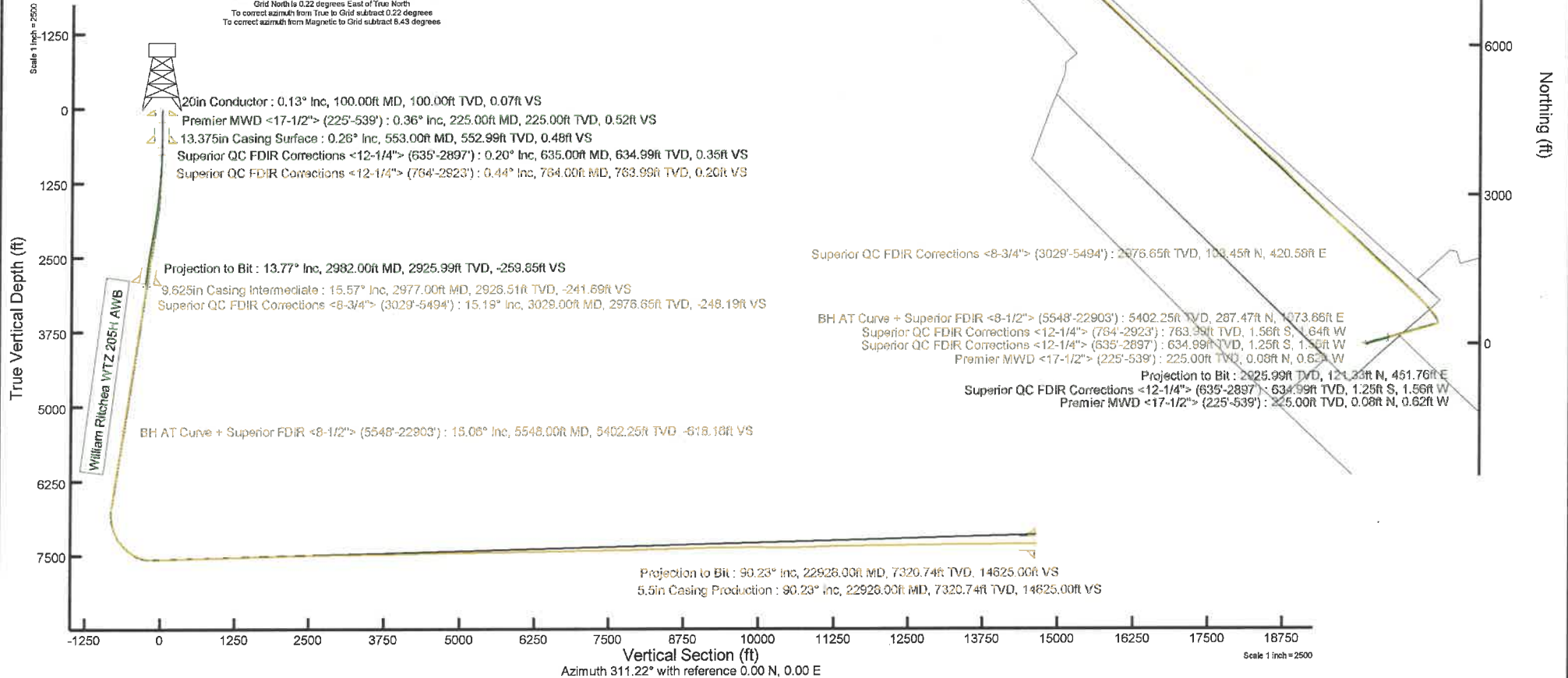
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
William Ritchea WTZ Pad		1736263.630	14406607.520	39°40'10.5672"N	80°39'33.7968"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot 205H	-5.97	67.67	1736331.270	14406601.550	39°40'10.5057"N	80°39'32.9318"W
SDC 41 (RKB) to Ground level (At Slot: Slot 205H)				26ft		
Mean Sea Level to Ground level (At Slot: Slot 205H)				-1562.9ft		
SDC 41 (RKB) to Mean Sea Level				1588.9ft		

Comments

API: 47-103-03368-0000
 BH Job #: 110778227
 Rig: SDC 41
 Duration: 03/14/2021 - 03/19/2021



User specified Dip: 88.58° Field: 52047 nT
 Magnetic North is 8.21 degrees West of True North (at 2/23/2021)
 Grid North is 0.22 degrees East of True North
 To correct azimuth from True to Grid subtract 0.22 degrees
 To correct azimuth from Magnetic to Grid subtract 8.43 degrees



REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Atenjen
Scale	0.999611	Report Generated	3/25/2021 at 4:23:06 PM
Convergence at slot	0.22° 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	-5.97	67.67	1736331.27	14406601.55	39°40'10.5057"N	80°39'32.9318"W
Facility Reference Pt			1736263.63	14406607.52	39°40'10.5672"N	80°39'33.7968"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 (RKB) to Facility Vertical Datum	1588.90ft
Horizontal Reference Pt	Slot	SDC 41 (RKB) to Mean Sea Level	1588.90ft
Vertical Reference Pt	SDC 41 (RKB)	SDC 41 (RKB) to Ground Level at Slot (Slot 205H)	26.00ft
MD Reference Pt	SDC 41 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	311.22°

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Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH DATA (256 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	277.660	0.00	0.00	0.00	0.00	1736331.27	14406601.55	39°40'10.5057"N	80°39'32.9318"W	0.00	0.00	0.00
26.00	0.000	277.660	26.00	0.00	0.00	0.00	1736331.27	14406601.55	39°40'10.5057"N	80°39'32.9318"W	0.00	0.00	0.00
225.00	0.360	277.660	225.00	0.52	0.08	-0.62	1736330.65	14406601.63	39°40'10.5065"N	80°39'32.9397"W	0.18	0.18	0.00
316.00	0.410	235.810	316.00	0.84	-0.06	-1.17	1736330.10	14406601.49	39°40'10.5051"N	80°39'32.9467"W	0.31	0.05	-45.90
407.00	0.310	254.560	407.00	1.06	-0.31	-1.68	1736329.59	14406601.24	39°40'10.5027"N	80°39'32.9532"W	0.17	-0.11	20.60
499.00	0.500	150.070	498.99	0.82	-0.72	-1.72	1736329.55	14406600.83	39°40'10.4986"N	80°39'32.9538"W	0.71	0.21	-113.50
539.00	0.310	144.320	538.99	0.54	-0.96	-1.57	1736329.70	14406600.59	39°40'10.4962"N	80°39'32.9519"W	0.49	-0.47	-14.30
635.00	0.200	241.210	634.99	0.35	-1.25	-1.56	1736329.71	14406600.30	39°40'10.4933"N	80°39'32.9518"W	0.40	-0.11	100.90
678.00	0.080	55.930	677.99	0.37	-1.27	-1.60	1736329.67	14406600.28	39°40'10.4931"N	80°39'32.9523"W	0.65	-0.28	406.30
764.00	0.440	194.310	763.99	0.20	-1.56	-1.64	1736329.63	14406599.99	39°40'10.4903"N	80°39'32.9528"W	0.58	0.42	160.90
811.00	1.500	208.510	810.98	-0.01	-2.28	-1.97	1736329.30	14406599.27	39°40'10.4833"N	80°39'32.9571"W	2.30	2.26	30.20
854.00	1.890	209.450	853.96	-0.28	-3.39	-2.59	1736328.68	14406598.16	39°40'10.4723"N	80°39'32.9651"W	0.91	0.91	2.10
943.00	1.320	186.540	942.93	-1.17	-5.68	-3.43	1736327.84	14406595.87	39°40'10.4496"N	80°39'32.9759"W	0.95	-0.64	-25.70
1033.00	2.490	98.930	1032.89	-3.41	-7.02	-1.62	1736329.65	14406594.53	39°40'10.4364"N	80°39'32.9528"W	3.08	1.30	-97.30
1122.00	4.660	85.940	1121.72	-7.59	-7.06	3.90	1736335.17	14406594.49	39°40'10.4357"N	80°39'32.8822"W	2.59	2.44	-14.60
1212.00	6.970	78.010	1211.25	-13.43	-5.67	12.89	1736344.15	14406595.88	39°40'10.4492"N	80°39'32.7672"W	2.71	2.57	-8.80
1302.00	8.450	69.700	1300.44	-19.86	-2.24	24.43	1736355.69	14406599.31	39°40'10.4826"N	80°39'32.6194"W	2.05	1.64	-9.20
1391.00	9.830	71.840	1388.30	-26.84	2.40	37.79	1736369.04	14406603.95	39°40'10.5279"N	80°39'32.4484"W	1.60	1.55	2.40
1481.00	10.900	79.000	1476.84	-35.97	6.42	53.44	1736384.69	14406607.96	39°40'10.5671"N	80°39'32.2480"W	1.86	1.19	7.90
1572.00	11.470	83.980	1566.11	-47.38	9.01	70.89	1736402.13	14406610.55	39°40'10.5920"N	80°39'32.0248"W	1.23	0.63	5.40
1660.00	11.200	84.240	1652.39	-59.16	10.78	88.09	1736419.33	14406612.33	39°40'10.6089"N	80°39'31.8047"W	0.31	-0.31	0.30
1750.00	11.720	81.600	1740.60	-71.04	12.99	105.83	1736437.06	14406614.54	39°40'10.6301"N	80°39'31.5778"W	0.82	0.58	-2.90
1841.00	13.190	78.230	1829.46	-83.28	16.46	125.14	1736456.36	14406618.01	39°40'10.6637"N	80°39'31.3307"W	1.80	1.62	-3.70
1931.00	14.440	72.480	1916.86	-95.28	21.94	145.89	1736477.11	14406623.48	39°40'10.7170"N	80°39'31.0650"W	2.06	1.39	-6.30
2024.00	15.080	71.930	2006.79	-107.48	29.18	168.45	1736499.66	14406630.72	39°40'10.7877"N	80°39'30.7762"W	0.70	0.69	-0.50
2112.00	14.380	72.480	2091.89	-119.00	36.02	189.76	1736520.95	14406637.55	39°40'10.8545"N	80°39'30.5034"W	0.81	-0.80	0.60
2202.00	14.740	70.890	2179.00	-130.46	43.13	211.23	1736542.42	14406644.66	39°40'10.9240"N	80°39'30.2284"W	0.60	0.40	-1.70
2292.00	15.300	72.330	2265.93	-142.27	50.48	233.36	1736564.54	14406652.01	39°40'10.9958"N	80°39'29.9450"W	0.75	0.62	1.60
2381.00	14.820	73.790	2351.87	-154.46	57.23	255.48	1736586.65	14406658.75	39°40'11.0616"N	80°39'29.6618"W	0.69	-0.54	1.60
2471.00	15.520	67.800	2438.74	-166.05	64.99	277.69	1736608.85	14406666.51	39°40'11.1375"N	80°39'29.3775"W	1.91	0.78	-6.60

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Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH DATA (256 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
2560.00	15.270	71.320	2524.55	-177.25	73.24	299.81	1736630.97	14406674.76	39°40'11.2182"N	80°39'29.0941"W	1.09	-0.28	3.9
2651.00	14.620	77.090	2612.48	-189.99	79.65	322.36	1736653.50	14406681.17	39°40'11.2807"N	80°39'28.8055"W	1.78	-0.71	6.3
2741.00	15.550	80.830	2699.38	-204.34	84.11	345.34	1736676.48	14406685.62	39°40'11.3239"N	80°39'28.5114"W	1.50	1.03	4.1
2834.00	15.710	78.340	2788.94	-219.88	88.64	369.98	1736701.10	14406690.15	39°40'11.3678"N	80°39'28.1961"W	0.74	0.17	-2.6
2923.00	16.020	74.800	2874.55	-233.95	94.29	393.63	1736724.75	14406695.81	39°40'11.4228"N	80°39'27.8933"W	1.14	0.35	-3.9
3029.00	15.190	67.490	2976.65	-248.19	103.45	420.58	1736751.68	14406704.96	39°40'11.5122"N	80°39'27.5483"W	2.01	-0.78	-6.9
3119.00	15.560	72.670	3063.43	-259.70	111.56	443.00	1736774.09	14406713.06	39°40'11.5915"N	80°39'27.2612"W	1.58	0.41	5.7
3206.00	16.880	76.050	3146.97	-273.01	118.08	466.39	1736797.48	14406719.58	39°40'11.6551"N	80°39'26.9617"W	1.86	1.52	3.8
3292.00	17.240	74.430	3229.19	-287.12	124.51	490.79	1736821.87	14406726.01	39°40'11.7177"N	80°39'26.6494"W	0.69	0.42	-1.8
3383.00	15.980	70.550	3316.39	-300.64	132.30	515.59	1736846.66	14406733.80	39°40'11.7938"N	80°39'26.3318"W	1.84	-1.38	-4.2
3475.00	15.720	68.840	3404.89	-312.62	141.02	539.16	1736870.22	14406742.51	39°40'11.8790"N	80°39'26.0301"W	0.58	-0.28	-1.8
3567.00	15.740	74.740	3493.45	-325.29	148.80	562.82	1736893.87	14406750.29	39°40'11.9550"N	80°39'25.7271"W	1.74	0.02	6.4
3658.00	15.960	75.960	3580.99	-339.24	155.08	586.86	1736917.90	14406756.57	39°40'12.0162"N	80°39'25.4193"W	0.44	0.24	1.3
3748.00	16.020	78.880	3667.51	-353.88	160.48	611.05	1736942.09	14406761.97	39°40'12.0687"N	80°39'25.1097"W	0.90	0.07	3.2
3839.00	16.330	77.480	3754.91	-369.12	165.67	635.86	1736966.89	14406767.16	39°40'12.1191"N	80°39'24.7921"W	0.55	0.34	-1.5
3931.00	15.620	73.020	3843.36	-383.29	172.10	660.34	1736991.35	14406773.58	39°40'12.1816"N	80°39'24.4789"W	1.54	-0.77	-4.8
4022.00	15.380	73.790	3931.05	-396.25	179.04	683.64	1737014.65	14406780.52	39°40'12.2494"N	80°39'24.1805"W	0.35	-0.26	0.8
4114.00	14.610	74.070	4019.92	-409.11	185.63	706.52	1737037.51	14406787.11	39°40'12.3136"N	80°39'23.8877"W	0.84	-0.84	0.3
4206.00	13.660	74.620	4109.13	-421.38	191.70	728.15	1737059.13	14406793.17	39°40'12.3728"N	80°39'23.6107"W	1.04	-1.03	0.6
4297.00	14.460	76.430	4197.41	-433.85	197.21	749.55	1737080.53	14406798.69	39°40'12.4265"N	80°39'23.3367"W	1.00	0.88	1.9
4390.00	15.350	74.150	4287.28	-447.23	203.30	772.68	1737103.65	14406804.77	39°40'12.4857"N	80°39'23.0406"W	1.15	0.96	-2.4
4481.00	16.180	74.620	4374.85	-460.76	209.95	796.49	1737127.45	14406811.42	39°40'12.5506"N	80°39'22.7358"W	0.92	0.91	0.5
4574.00	16.470	76.660	4464.10	-475.54	216.43	821.82	1737152.76	14406817.90	39°40'12.6137"N	80°39'22.4117"W	0.69	0.31	2.1
4667.00	16.060	74.260	4553.38	-490.20	222.96	847.02	1737177.96	14406824.43	39°40'12.6773"N	80°39'22.0890"W	0.85	-0.44	-2.5
4757.00	15.550	74.410	4639.98	-503.59	229.58	870.63	1737201.56	14406831.04	39°40'12.7418"N	80°39'21.7868"W	0.57	-0.57	0.1
4850.00	15.170	74.390	4729.66	-517.07	236.21	894.35	1737225.27	14406837.66	39°40'12.8063"N	80°39'21.4831"W	0.41	-0.41	-0.0
4940.00	14.920	74.810	4816.57	-529.92	242.41	916.88	1737247.79	14406843.87	39°40'12.8668"N	80°39'21.1947"W	0.30	-0.28	0.4
5033.00	15.330	71.780	4906.35	-542.80	249.39	940.11	1737271.01	14406850.85	39°40'12.9349"N	80°39'20.8973"W	0.96	0.44	-3.2
5125.00	15.630	72.560	4995.01	-555.43	256.91	963.48	1737294.38	14406858.36	39°40'13.0083"N	80°39'20.5980"W	0.40	0.33	0.8
5217.00	16.170	72.520	5083.49	-568.53	264.47	987.53	1737318.41	14406865.92	39°40'13.0821"N	80°39'20.2902"W	0.59	0.59	-0.0

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5308.00	16.130	73.170	5170.90	-581.80	271.94	1011.71	1737342.59	14406873.38	39°40'13.1550"N	80°39'19.9805"W	0.20	-0.04	0.7
5401.00	15.300	76.750	5260.43	-595.77	278.49	1036.02	1737366.89	14406879.93	39°40'13.2189"N	80°39'19.6693"W	1.37	-0.89	3.8
5494.00	15.310	76.880	5350.13	-610.06	284.09	1059.92	1737390.78	14406885.53	39°40'13.2733"N	80°39'19.3634"W	0.04	0.01	0.1
5548.00	15.060	75.440	5402.25	-618.16	287.47	1073.66	1737404.51	14406888.91	39°40'13.3062"N	80°39'19.1876"W	0.84	-0.46	-2.6
5602.00	14.340	76.350	5454.48	-625.95	290.81	1086.94	1737417.79	14406892.25	39°40'13.3387"N	80°39'19.0175"W	1.40	-1.33	1.6
5694.00	12.940	76.710	5543.88	-638.49	295.87	1108.04	1737438.88	14406897.30	39°40'13.3879"N	80°39'18.7474"W	1.52	-1.52	0.3
5787.00	13.500	75.370	5634.42	-650.63	301.01	1128.68	1737459.51	14406902.44	39°40'13.4379"N	80°39'18.4833"W	0.69	0.60	-1.4
5880.00	15.560	74.090	5724.44	-663.49	307.17	1151.18	1737482.00	14406908.60	39°40'13.4979"N	80°39'18.1952"W	2.24	2.22	-1.3
5972.00	16.340	73.970	5812.89	-677.19	314.12	1175.49	1737506.30	14406915.55	39°40'13.5657"N	80°39'17.8841"W	0.85	0.85	-0.1
6065.00	16.620	74.270	5902.07	-691.52	321.34	1200.86	1737531.66	14406922.77	39°40'13.6361"N	80°39'17.5592"W	0.31	0.30	0.3
6158.00	15.870	73.980	5991.36	-705.65	328.46	1225.89	1737556.68	14406929.88	39°40'13.7055"N	80°39'17.2388"W	0.81	-0.81	-0.3
6250.00	15.670	73.940	6079.90	-719.18	335.37	1249.92	1737580.70	14406936.78	39°40'13.7728"N	80°39'16.9312"W	0.22	-0.22	-0.0
6343.00	16.500	74.190	6169.26	-733.15	342.44	1274.69	1737605.46	14406943.85	39°40'13.8418"N	80°39'16.6140"W	0.90	0.89	0.2
6435.00	16.620	73.850	6257.44	-747.36	349.66	1299.90	1737630.66	14406951.07	39°40'13.9122"N	80°39'16.2913"W	0.17	0.13	-0.3
6527.00	16.300	74.200	6345.67	-761.48	356.83	1324.96	1737655.71	14406958.24	39°40'13.9821"N	80°39'15.9704"W	0.36	-0.35	0.3
6619.00	16.290	74.000	6433.97	-775.49	363.90	1349.79	1737680.53	14406965.31	39°40'14.0511"N	80°39'15.6526"W	0.06	-0.01	-0.2
6709.00	15.770	70.150	6520.48	-788.24	371.54	1373.43	1737704.16	14406972.94	39°40'14.1256"N	80°39'15.3499"W	1.31	-0.58	-4.2
6799.00	15.660	66.330	6607.11	-799.32	380.57	1396.05	1737726.78	14406981.97	39°40'14.2140"N	80°39'15.0601"W	1.16	-0.12	-4.2
6892.00	15.240	63.960	6696.75	-809.37	390.97	1418.53	1737749.25	14406992.37	39°40'14.3159"N	80°39'14.7721"W	0.82	-0.45	-2.5
6985.00	12.610	38.910	6787.09	-813.69	404.25	1435.91	1737766.62	14407005.64	39°40'14.4465"N	80°39'14.5492"W	7.00	-2.83	-26.9
7076.00	13.090	20.110	6875.85	-809.57	421.67	1445.70	1737776.40	14407023.05	39°40'14.6182"N	80°39'14.4232"W	4.60	0.53	-20.6
7168.00	14.960	357.120	6965.18	-797.55	443.33	1448.68	1737779.39	14407044.70	39°40'14.8322"N	80°39'14.3840"W	6.34	2.03	-24.9
7260.00	19.220	338.650	7053.16	-775.82	469.32	1442.57	1737773.27	14407070.69	39°40'15.0893"N	80°39'14.4609"W	7.45	4.63	-20.0
7352.00	24.370	331.680	7138.57	-744.57	500.16	1428.04	1737758.75	14407101.51	39°40'15.3947"N	80°39'14.6452"W	6.26	5.60	-7.5
7444.00	30.680	326.160	7220.13	-704.06	536.41	1405.94	1737736.66	14407137.75	39°40'15.7537"N	80°39'14.9260"W	7.39	6.86	-6.0
7535.00	36.540	322.030	7295.89	-654.97	577.09	1376.31	1737707.04	14407178.41	39°40'16.1569"N	80°39'15.3029"W	6.91	6.44	-4.5
7627.00	44.330	320.750	7365.86	-596.27	623.64	1339.07	1737669.81	14407224.95	39°40'16.6184"N	80°39'15.7769"W	8.51	8.47	-1.3
7719.00	52.750	318.690	7426.72	-528.14	676.14	1294.47	1737625.24	14407277.42	39°40'17.1389"N	80°39'16.3446"W	9.30	9.15	-2.2
7812.00	60.890	317.050	7477.58	-450.89	733.78	1242.27	1737573.05	14407335.04	39°40'17.7105"N	80°39'17.0094"W	8.88	8.75	-1.7
7904.00	68.120	315.560	7517.16	-368.23	793.75	1184.92	1737515.72	14407394.99	39°40'18.3054"N	80°39'17.7399"W	7.99	7.86	-1.6

REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH DATA (256 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
7995.00	74.400	314.410	7546.38	-282.29	854.63	1123.99	1737454.82	14407455.84	39°40'18.9094"N	80°39'18.5161"W	7.00	6.90	-1.20
8086.00	81.820	312.050	7565.12	-193.36	915.55	1059.14	1737389.99	14407516.75	39°40'19.5140"N	80°39'19.3424"W	8.54	8.15	-2.50
8176.00	88.500	312.200	7572.71	-103.74	975.67	992.66	1737323.54	14407576.84	39°40'20.1106"N	80°39'20.1896"W	7.42	7.42	0.10
8267.00	91.490	312.560	7572.71	-12.77	1037.00	925.45	1737256.36	14407638.15	39°40'20.7193"N	80°39'21.0461"W	3.31	3.29	0.40
8358.00	91.580	312.710	7570.28	78.17	1098.62	858.53	1737189.46	14407699.74	39°40'21.3307"N	80°39'21.8990"W	0.19	0.10	0.10
8450.00	91.580	312.940	7567.74	170.09	1161.13	791.08	1737122.04	14407762.23	39°40'21.9511"N	80°39'22.7585"W	0.25	0.00	0.20
8539.00	91.800	313.170	7565.11	259.01	1221.87	726.07	1737057.06	14407822.94	39°40'22.5538"N	80°39'23.5869"W	0.36	0.25	0.20
8631.00	91.520	312.330	7562.45	350.94	1284.29	658.54	1736989.56	14407885.34	39°40'23.1733"N	80°39'24.4474"W	0.96	-0.30	-0.90
8723.00	92.110	311.930	7559.54	442.88	1345.97	590.35	1736921.39	14407947.00	39°40'23.7854"N	80°39'25.3165"W	0.77	0.64	-0.40
8815.00	91.740	313.380	7556.45	534.80	1408.27	522.73	1736853.79	14408009.27	39°40'24.4037"N	80°39'26.1783"W	1.63	-0.40	1.50
8907.00	92.010	311.530	7553.43	626.72	1470.34	454.89	1736785.98	14408071.31	39°40'25.0196"N	80°39'27.0428"W	2.03	0.29	-2.00
8999.00	91.580	311.670	7550.55	718.67	1531.39	386.13	1736717.24	14408132.34	39°40'25.6256"N	80°39'27.9192"W	0.49	-0.47	0.10
9090.00	91.710	312.570	7547.94	809.62	1592.40	318.66	1736649.80	14408193.32	39°40'26.2310"N	80°39'28.7791"W	1.00	0.14	0.90
9180.00	91.180	313.620	7545.67	899.55	1653.86	252.96	1736584.13	14408254.77	39°40'26.8410"N	80°39'29.6164"W	1.31	-0.59	1.10
9271.00	91.340	314.140	7543.67	990.43	1716.93	187.38	1736518.58	14408317.80	39°40'27.4667"N	80°39'30.4519"W	0.60	0.18	0.50
9362.00	91.770	314.050	7541.20	1081.28	1780.22	122.05	1736453.27	14408381.08	39°40'28.0947"N	80°39'31.2844"W	0.48	0.47	-0.10
9454.00	91.740	313.770	7538.38	1173.13	1844.00	55.80	1736387.05	14408444.83	39°40'28.7275"N	80°39'32.1285"W	0.31	-0.03	-0.30
9546.00	91.680	314.110	7535.64	1264.99	1907.81	-10.41	1736320.86	14408508.61	39°40'29.3606"N	80°39'32.9723"W	0.38	-0.07	0.30
9636.00	91.210	314.430	7533.37	1354.83	1970.61	-74.84	1736256.46	14408571.39	39°40'29.9837"N	80°39'33.7931"W	0.63	-0.52	0.30
9728.00	91.000	313.840	7531.59	1446.70	2034.67	-140.85	1736190.47	14408635.42	39°40'30.6192"N	80°39'34.6343"W	0.68	-0.23	-0.60
9819.00	90.750	314.190	7530.20	1537.58	2097.89	-206.29	1736125.06	14408698.62	39°40'31.2464"N	80°39'35.4681"W	0.47	-0.27	0.30
9909.00	91.340	314.420	7528.56	1627.43	2160.74	-270.69	1736060.69	14408761.45	39°40'31.8700"N	80°39'36.2887"W	0.70	0.66	0.20
9999.00	91.670	314.310	7526.20	1717.26	2223.65	-335.00	1735996.40	14408824.33	39°40'32.4941"N	80°39'37.1082"W	0.39	0.37	-0.10
10091.00	92.050	315.040	7523.21	1809.05	2288.30	-400.39	1735931.04	14408888.95	39°40'33.1355"N	80°39'37.9413"W	0.89	0.41	0.70
10181.00	91.520	314.780	7520.41	1898.82	2351.81	-464.10	1735867.35	14408952.44	39°40'33.7655"N	80°39'38.7530"W	0.66	-0.59	-0.20
10273.00	91.210	313.490	7518.22	1990.67	2415.85	-530.11	1735801.37	14409016.46	39°40'34.4009"N	80°39'39.5941"W	1.44	-0.34	-1.40
10365.00	92.170	314.150	7515.50	2082.53	2479.52	-596.46	1735735.05	14409080.10	39°40'35.0327"N	80°39'40.4396"W	1.27	1.04	0.70
10456.00	91.710	314.410	7512.42	2173.35	2543.02	-661.57	1735669.96	14409143.57	39°40'35.6626"N	80°39'41.2693"W	0.58	-0.51	0.20
10548.00	91.370	314.550	7509.95	2265.17	2607.46	-727.19	1735604.37	14409207.99	39°40'36.3019"N	80°39'42.1054"W	0.40	-0.37	0.10
10638.00	91.370	314.680	7507.80	2354.99	2670.65	-791.24	1735540.34	14409271.15	39°40'36.9288"N	80°39'42.9215"W	0.14	0.00	0.10

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH DATA (256 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
10730.00	91.340	314.350	7505.62	2446.81	2735.13	-856.82	1735474.79	14409335.61	39°40'37.5685"N	80°39'43.7572"W	0.36	-0.03	-0.3
10820.00	91.340	314.310	7503.52	2536.65	2798.01	-921.18	1735410.45	14409398.46	39°40'38.1923"N	80°39'44.5773"W	0.04	0.00	-0.0
10911.00	91.610	314.370	7501.18	2627.49	2861.59	-986.24	1735345.41	14409462.02	39°40'38.8230"N	80°39'45.4064"W	0.30	0.30	0.0
11002.00	90.780	313.870	7499.28	2718.35	2924.92	-1051.56	1735280.13	14409525.33	39°40'39.4514"N	80°39'46.2386"W	1.06	-0.91	-0.5
11095.00	90.690	313.110	7498.09	2811.27	2988.92	-1119.02	1735212.69	14409589.30	39°40'40.0864"N	80°39'47.0984"W	0.82	-0.10	-0.8
11186.00	91.120	314.150	7496.65	2902.17	3051.70	-1184.88	1735146.86	14409652.06	39°40'40.7093"N	80°39'47.9377"W	1.24	0.47	1.1
11276.00	90.840	314.730	7495.11	2992.02	3114.71	-1249.13	1735082.63	14409715.04	39°40'41.3343"N	80°39'48.7564"W	0.72	-0.31	0.6
11367.00	90.940	314.280	7493.70	3082.86	3178.49	-1314.02	1735017.77	14409778.79	39°40'41.9671"N	80°39'49.5833"W	0.51	0.11	-0.4
11459.00	90.780	313.090	7492.32	3174.76	3242.02	-1380.54	1734951.27	14409842.30	39°40'42.5974"N	80°39'50.4310"W	1.30	-0.17	-1.2
11548.00	91.030	314.530	7490.91	3263.66	3303.63	-1444.76	1734887.08	14409903.88	39°40'43.2086"N	80°39'51.2494"W	1.64	0.28	1.6
11641.00	90.690	314.290	7489.51	3356.50	3368.70	-1511.18	1734820.68	14409968.93	39°40'43.8542"N	80°39'52.0959"W	0.45	-0.37	-0.2
11732.00	91.150	316.930	7488.05	3447.21	3433.71	-1574.83	1734757.06	14410033.92	39°40'44.4990"N	80°39'52.9068"W	2.94	0.51	2.9
11824.00	90.510	314.420	7486.72	3538.92	3499.52	-1639.10	1734692.81	14410099.70	39°40'45.1517"N	80°39'53.7256"W	2.82	-0.70	-2.7
11916.00	91.030	314.170	7485.48	3630.78	3563.76	-1704.94	1734627.00	14410163.91	39°40'45.7891"N	80°39'54.5647"W	0.63	0.57	-0.2
12009.00	91.030	313.430	7483.81	3723.67	3628.12	-1772.05	1734559.91	14410228.25	39°40'46.4276"N	80°39'55.4200"W	0.80	0.00	-0.8
12100.00	90.690	311.520	7482.45	3814.63	3689.56	-1839.16	1734492.83	14410289.66	39°40'47.0372"N	80°39'56.2754"W	2.13	-0.37	-2.1
12193.00	90.870	311.980	7481.18	3907.62	3751.48	-1908.54	1734423.48	14410351.56	39°40'47.6517"N	80°39'57.1598"W	0.53	0.19	0.4
12284.00	91.090	312.270	7479.62	3998.59	3812.51	-1976.02	1734356.02	14410412.56	39°40'48.2574"N	80°39'58.0200"W	0.40	0.24	0.3
12377.00	90.880	312.060	7478.02	4091.57	3874.93	-2044.94	1734287.13	14410474.96	39°40'48.8768"N	80°39'58.8985"W	0.32	-0.23	-0.2
12469.00	90.540	312.020	7476.88	4183.55	3936.53	-2113.27	1734218.83	14410536.54	39°40'49.4881"N	80°39'59.7694"W	0.37	-0.37	-0.0
12561.00	92.570	311.590	7474.39	4275.51	3997.83	-2181.81	1734150.31	14410597.81	39°40'50.0964"N	80°40'0.6433"W	2.26	2.21	-0.4
12653.00	91.640	312.740	7471.01	4367.43	4059.54	-2249.96	1734082.19	14410659.50	39°40'50.7088"N	80°40'1.5119"W	1.61	-1.01	1.2
12746.00	90.780	311.870	7469.04	4460.39	4122.12	-2318.72	1734013.46	14410722.06	39°40'51.3298"N	80°40'2.3885"W	1.32	-0.92	-0.9
12838.00	90.690	312.670	7467.86	4552.37	4184.00	-2386.79	1733945.41	14410783.91	39°40'51.9438"N	80°40'3.2562"W	0.87	-0.10	0.8
12929.00	90.870	312.100	7466.63	4643.34	4245.34	-2454.00	1733878.23	14410845.23	39°40'52.5525"N	80°40'4.1129"W	0.66	0.20	-0.6
13020.00	92.050	312.030	7464.31	4734.30	4306.28	-2521.54	1733810.72	14410906.15	39°40'53.1573"N	80°40'4.9738"W	1.30	1.30	-0.0
13111.00	90.970	312.410	7461.91	4825.25	4367.41	-2588.90	1733743.38	14410967.25	39°40'53.7639"N	80°40'5.8325"W	1.26	-1.19	0.4
13204.00	90.970	313.040	7460.33	4918.20	4430.50	-2657.21	1733675.10	14411030.32	39°40'54.3899"N	80°40'6.7033"W	0.68	0.00	0.6
13292.00	90.810	312.500	7458.97	5006.16	4490.25	-2721.81	1733610.53	14411090.04	39°40'54.9827"N	80°40'7.5266"W	0.64	-0.18	-0.6
13385.00	90.780	312.650	7457.68	5099.13	4553.16	-2790.28	1733542.08	14411152.93	39°40'55.6070"N	80°40'8.3995"W	0.16	-0.03	0.1

REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH DATA (256 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
13475.00	90.540	313.810	7456.64	5189.06	4614.80	-2855.85	1733476.54	14411214.55	39°40'56.2185"N	80°40'9.2352"W	1.32	-0.27	1.21
13567.00	90.630	312.470	7455.70	5281.00	4677.71	-2922.98	1733409.44	14411277.43	39°40'56.8426"N	80°40'10.0909"W	1.46	0.10	-1.41
13655.00	91.280	315.170	7454.23	5368.89	4738.62	-2986.46	1733345.98	14411338.32	39°40'57.4469"N	80°40'10.8999"W	3.16	0.74	3.01
13745.00	90.230	312.160	7453.05	5458.79	4800.75	-3051.55	1733280.92	14411400.42	39°40'58.0633"N	80°40'11.7295"W	3.54	-1.17	-3.31
13834.00	90.600	313.690	7452.40	5547.75	4861.36	-3116.71	1733215.78	14411461.00	39°40'58.6647"N	80°40'12.5602"W	1.77	0.42	1.71
13923.00	91.030	313.400	7451.14	5636.66	4922.67	-3181.22	1733151.30	14411522.29	39°40'59.2729"N	80°40'13.3824"W	0.58	0.48	-0.31
14011.00	90.200	313.950	7450.19	5724.58	4983.43	-3244.86	1733087.68	14411583.03	39°40'59.8757"N	80°40'14.1935"W	1.13	-0.94	0.61
14101.00	91.310	312.740	7449.01	5814.51	5045.20	-3310.30	1733022.26	14411644.77	39°41'0.4885"N	80°40'15.0277"W	1.82	1.23	-1.31
14193.00	90.870	313.340	7447.26	5906.44	5107.98	-3377.53	1732955.06	14411707.53	39°41'1.1114"N	80°40'15.8847"W	0.81	-0.48	0.61
14284.00	90.380	313.040	7446.26	5997.38	5170.26	-3443.87	1732888.74	14411769.78	39°41'1.7293"N	80°40'16.7303"W	0.63	-0.54	-0.31
14375.00	91.210	314.040	7445.00	6088.30	5232.94	-3509.83	1732822.81	14411832.44	39°41'2.3511"N	80°40'17.5710"W	1.43	0.91	1.11
14468.00	90.940	313.850	7443.26	6181.17	5297.46	-3576.78	1732755.89	14411896.94	39°41'2.9913"N	80°40'18.4243"W	0.35	-0.29	-0.21
14559.00	91.060	313.170	7441.67	6272.09	5360.10	-3642.77	1732689.93	14411959.56	39°41'3.6127"N	80°40'19.2654"W	0.76	0.13	-0.71
14648.00	91.000	313.660	7440.07	6361.01	5421.26	-3707.41	1732625.31	14412020.69	39°41'4.2195"N	80°40'20.0894"W	0.55	-0.07	0.51
14739.00	90.570	313.690	7438.82	6451.92	5484.10	-3773.22	1732559.53	14412083.50	39°41'4.8428"N	80°40'20.9282"W	0.47	-0.47	0.01
14832.00	90.470	312.930	7437.98	6544.85	5547.89	-3840.89	1732491.89	14412147.27	39°41'5.4757"N	80°40'21.7908"W	0.82	-0.11	-0.81
14921.00	90.970	312.770	7436.86	6633.81	5608.41	-3906.13	1732426.67	14412207.76	39°41'6.0762"N	80°40'22.6225"W	0.59	0.56	-0.11
15011.00	91.090	313.020	7435.24	6723.75	5669.66	-3972.05	1732360.77	14412268.99	39°41'6.6839"N	80°40'23.4629"W	0.31	0.13	0.21
15102.00	91.060	313.370	7433.53	6814.68	5731.94	-4038.38	1732294.47	14412331.24	39°41'7.3017"N	80°40'24.3084"W	0.39	-0.03	0.31
15192.00	91.640	312.830	7431.41	6904.61	5793.41	-4104.08	1732228.80	14412392.70	39°41'7.9117"N	80°40'25.1458"W	0.88	0.64	-0.61
15284.00	91.240	313.840	7429.10	6996.52	5856.53	-4170.97	1732161.93	14412455.79	39°41'8.5378"N	80°40'25.9986"W	1.18	-0.43	1.11
15373.00	91.400	313.480	7427.05	7085.41	5917.96	-4235.34	1732097.58	14412517.19	39°41'9.1472"N	80°40'26.8191"W	0.44	0.18	-0.41
15465.00	90.810	313.310	7425.28	7177.33	5981.15	-4302.18	1732030.77	14412580.36	39°41'9.7741"N	80°40'27.6711"W	0.67	-0.64	-0.11
15555.00	90.940	313.270	7423.90	7267.26	6042.85	-4367.68	1731965.30	14412642.04	39°41'10.3863"N	80°40'28.5061"W	0.15	0.14	-0.01
15646.00	90.320	313.540	7422.90	7358.19	6105.38	-4433.79	1731899.21	14412704.54	39°41'11.0066"N	80°40'29.3488"W	0.74	-0.68	0.31
15738.00	90.910	313.860	7421.92	7450.09	6168.94	-4500.30	1731832.73	14412768.07	39°41'11.6371"N	80°40'30.1965"W	0.73	0.64	0.31
15829.00	90.170	313.490	7421.06	7541.01	6231.78	-4566.12	1731766.94	14412830.89	39°41'12.2605"N	80°40'31.0355"W	0.91	-0.81	-0.41
15919.00	91.150	312.910	7420.02	7630.94	6293.38	-4631.72	1731701.37	14412892.47	39°41'12.8716"N	80°40'31.8718"W	1.27	1.09	-0.61
16009.00	91.210	314.210	7418.17	7720.85	6355.39	-4696.92	1731636.19	14412954.45	39°41'13.4868"N	80°40'32.7029"W	1.45	0.07	1.41
16101.00	91.670	314.380	7415.86	7812.69	6419.61	-4762.75	1731570.39	14413018.65	39°41'14.1239"N	80°40'33.5420"W	0.53	0.50	0.11

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH DATA (256 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
16193.00	91.680	313.550	7413.17	7904.54	6483.45	-4828.94	1731504.22	14413082.47	39°41'14.7572"N	80°40'34.3857"W	0.90	0.01	-0.91
16285.00	92.080	313.900	7410.15	7996.40	6547.01	-4895.39	1731437.80	14413146.00	39°41'15.3876"N	80°40'35.2328"W	0.58	0.43	0.33
16378.00	91.610	313.900	7407.15	8089.25	6611.46	-4962.36	1731370.85	14413210.43	39°41'16.0270"N	80°40'36.0865"W	0.51	-0.51	0.00
16469.00	91.640	313.110	7404.57	8180.14	6674.08	-5028.34	1731304.90	14413273.02	39°41'16.6482"N	80°40'36.9276"W	0.87	0.03	-0.87
16559.00	91.580	313.860	7402.04	8270.04	6735.99	-5093.61	1731239.65	14413334.91	39°41'17.2624"N	80°40'37.7597"W	0.84	-0.07	0.84
16651.00	91.090	312.280	7399.90	8361.96	6798.80	-5160.80	1731172.49	14413397.69	39°41'17.8855"N	80°40'38.6162"W	1.80	-0.53	-1.77
16744.00	91.520	312.410	7397.78	8454.92	6861.43	-5229.52	1731103.80	14413460.29	39°41'18.5068"N	80°40'39.4924"W	0.48	0.46	0.11
16836.00	90.840	312.050	7395.89	8546.88	6923.25	-5297.63	1731035.72	14413522.09	39°41'19.1202"N	80°40'40.3607"W	0.84	-0.74	-0.33
16923.00	90.840	312.200	7394.61	8633.86	6981.60	-5362.15	1730971.22	14413580.41	39°41'19.6992"N	80°40'41.1833"W	0.17	0.00	0.17
17009.00	91.030	312.260	7393.21	8719.84	7039.39	-5425.82	1730907.58	14413638.19	39°41'20.2726"N	80°40'41.9952"W	0.23	0.22	0.00
17101.00	91.310	313.170	7391.33	8811.79	7101.79	-5493.40	1730840.02	14413700.56	39°41'20.8916"N	80°40'42.8568"W	1.03	0.30	0.91
17193.00	91.370	312.840	7389.18	8903.72	7164.52	-5560.66	1730772.79	14413763.26	39°41'21.5140"N	80°40'43.7143"W	0.36	0.07	-0.33
17286.00	92.720	312.550	7385.86	8996.63	7227.54	-5628.97	1730704.51	14413826.26	39°41'22.1392"N	80°40'44.5852"W	1.48	1.45	-0.33
17378.00	91.680	312.170	7382.33	9088.54	7289.48	-5696.90	1730636.60	14413888.18	39°41'22.7538"N	80°40'45.4513"W	1.20	-1.13	-0.44
17464.00	91.980	312.550	7379.58	9174.48	7347.40	-5760.41	1730573.11	14413946.07	39°41'23.3284"N	80°40'46.2611"W	0.56	0.35	0.44
17554.00	92.040	310.920	7376.43	9264.41	7407.27	-5827.53	1730506.02	14414005.92	39°41'23.9225"N	80°40'47.1169"W	1.81	0.07	-1.81
17643.00	91.270	309.080	7373.86	9353.35	7464.45	-5895.67	1730437.90	14414063.08	39°41'24.4900"N	80°40'47.9860"W	2.24	-0.87	-2.00
17732.00	90.200	308.150	7372.71	9442.25	7519.99	-5965.21	1730368.40	14414118.59	39°41'25.0413"N	80°40'48.8730"W	1.59	-1.20	-1.00
17821.00	89.980	308.980	7372.57	9531.15	7575.47	-6034.80	1730298.84	14414174.06	39°41'25.5921"N	80°40'49.7606"W	0.96	-0.25	0.96
17909.00	89.670	308.970	7372.84	9619.09	7630.82	-6103.21	1730230.45	14414229.38	39°41'26.1415"N	80°40'50.6332"W	0.35	-0.35	-0.00
17998.00	90.290	308.510	7372.87	9708.00	7686.52	-6172.63	1730161.06	14414285.06	39°41'26.6943"N	80°40'51.5187"W	0.87	0.70	-0.50
18086.00	91.030	309.690	7371.86	9795.93	7742.01	-6240.91	1730092.80	14414340.53	39°41'27.2452"N	80°40'52.3897"W	1.58	0.84	1.33
18176.00	90.070	309.000	7371.00	9885.88	7799.07	-6310.51	1730023.23	14414397.56	39°41'27.8115"N	80°40'53.2774"W	1.31	-1.07	-0.77
18264.00	89.860	308.980	7371.05	9973.81	7854.43	-6378.91	1729954.86	14414452.91	39°41'28.3611"N	80°40'54.1498"W	0.24	-0.24	-0.00
18353.00	89.150	307.790	7371.82	10062.70	7909.69	-6448.67	1729885.13	14414508.15	39°41'28.9096"N	80°40'55.0397"W	1.56	-0.80	-1.33
18445.00	89.610	308.100	7372.81	10154.54	7966.26	-6521.21	1729812.61	14414564.69	39°41'29.4712"N	80°40'55.9652"W	0.60	0.50	0.33
18535.00	89.920	308.620	7373.18	10244.43	8022.11	-6591.78	1729742.07	14414620.52	39°41'30.0257"N	80°40'56.8654"W	0.67	0.34	0.50
18628.00	89.890	308.110	7373.34	10337.31	8079.84	-6664.70	1729669.18	14414678.22	39°41'30.5987"N	80°40'57.7956"W	0.55	-0.03	-0.50
18718.00	89.980	308.210	7373.44	10427.19	8135.44	-6735.47	1729598.44	14414733.81	39°41'31.1507"N	80°40'58.6983"W	0.15	0.10	0.11
18807.00	90.070	307.260	7373.40	10516.02	8189.91	-6805.85	1729528.08	14414788.26	39°41'31.6915"N	80°40'59.5962"W	1.07	0.10	-1.00

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH DATA (256 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
18896.00	89.800	306.690	7373.50	10604.78	8243.44	-6876.96	1729457.01	14414841.77	39°41'32.2230"N	80°41'0.5034"W	0.71	-0.30	-0.6
18986.00	91.740	306.630	7372.29	10694.48	8297.17	-6949.14	1729384.85	14414895.47	39°41'32.7565"N	80°41'1.4244"W	2.16	2.16	-0.0
19073.00	91.460	307.080	7369.86	10781.19	8349.33	-7018.73	1729315.29	14414947.61	39°41'33.2744"N	80°41'2.3122"W	0.61	-0.32	0.5
19164.00	91.950	306.320	7367.16	10871.87	8403.69	-7091.66	1729242.39	14415001.95	39°41'33.8142"N	80°41'3.2427"W	0.99	0.54	-0.8
19253.00	92.230	307.940	7363.91	10960.58	8457.38	-7162.56	1729171.51	14415055.62	39°41'34.3472"N	80°41'4.1474"W	1.85	0.31	1.8
19346.00	92.010	307.730	7360.47	11053.35	8514.38	-7235.96	1729098.14	14415112.60	39°41'34.9131"N	80°41'5.0838"W	0.33	-0.24	-0.2
19435.00	91.920	306.840	7357.42	11142.09	8568.26	-7306.73	1729027.40	14415166.46	39°41'35.4481"N	80°41'5.9866"W	1.00	-0.10	-1.0
19525.00	91.090	307.130	7355.05	11231.81	8622.39	-7378.60	1728955.56	14415220.56	39°41'35.9855"N	80°41'6.9036"W	0.98	-0.92	0.3
19617.00	90.690	307.090	7353.62	11323.56	8677.89	-7451.96	1728882.23	14415276.04	39°41'36.5365"N	80°41'7.8395"W	0.44	-0.43	-0.0
19707.00	90.810	306.310	7352.45	11413.28	8731.67	-7524.11	1728810.11	14415329.80	39°41'37.0706"N	80°41'8.7601"W	0.88	0.13	-0.8
19798.00	90.780	307.010	7351.18	11503.98	8786.00	-7597.10	1728737.14	14415384.11	39°41'37.6100"N	80°41'9.6915"W	0.77	-0.03	0.7
19890.00	91.090	307.660	7349.68	11595.75	8841.79	-7670.24	1728664.03	14415439.88	39°41'38.1639"N	80°41'10.6246"W	0.78	0.34	0.7
19980.00	90.750	306.780	7348.24	11685.52	8896.22	-7741.90	1728592.40	14415494.29	39°41'38.7043"N	80°41'11.5389"W	1.05	-0.38	-0.9
20071.00	90.750	306.890	7347.05	11776.25	8950.77	-7814.73	1728519.60	14415548.82	39°41'39.2459"N	80°41'12.4681"W	0.12	0.00	0.1
20164.00	90.840	306.570	7345.76	11868.95	9006.38	-7889.26	1728445.10	14415604.41	39°41'39.7981"N	80°41'13.4190"W	0.36	0.10	-0.3
20255.00	91.000	307.180	7344.30	11959.68	9060.98	-7962.04	1728372.35	14415658.98	39°41'40.3402"N	80°41'14.3477"W	0.69	0.18	0.6
20347.00	90.690	307.550	7342.94	12051.46	9116.81	-8035.15	1728299.26	14415714.79	39°41'40.8944"N	80°41'15.2805"W	0.52	-0.34	0.4
20438.00	90.320	307.880	7342.14	12142.29	9172.48	-8107.14	1728227.31	14415770.43	39°41'41.4470"N	80°41'16.1989"W	0.54	-0.41	0.3
20529.00	90.170	307.070	7341.75	12233.09	9227.84	-8179.36	1728155.12	14415825.78	39°41'41.9967"N	80°41'17.1203"W	0.91	-0.16	-0.8
20622.00	90.570	306.390	7341.15	12325.80	9283.46	-8253.89	1728080.61	14415881.37	39°41'42.5489"N	80°41'18.0714"W	0.85	0.43	-0.7
20712.00	90.780	307.340	7340.09	12415.54	9337.45	-8325.89	1728008.64	14415935.34	39°41'43.0849"N	80°41'18.9900"W	1.08	0.23	1.0
20804.00	90.870	307.270	7338.76	12507.31	9393.20	-8399.06	1727935.50	14415991.07	39°41'43.6384"N	80°41'19.9236"W	0.12	0.10	-0.0
20896.00	90.970	307.610	7337.28	12599.10	9449.12	-8472.10	1727862.49	14416046.97	39°41'44.1936"N	80°41'20.8555"W	0.39	0.11	0.3
20987.00	90.940	307.080	7335.77	12689.88	9504.31	-8544.43	1727790.18	14416102.14	39°41'44.7415"N	80°41'21.7785"W	0.58	-0.03	-0.5
21077.00	90.840	306.840	7334.37	12779.62	9558.42	-8616.34	1727718.31	14416156.23	39°41'45.2787"N	80°41'22.6960"W	0.29	-0.11	-0.2
21168.00	90.840	306.210	7333.04	12870.30	9612.58	-8689.46	1727645.22	14416210.36	39°41'45.8164"N	80°41'23.6290"W	0.69	0.00	-0.6
21259.00	90.970	306.600	7331.60	12960.97	9666.58	-8762.69	1727572.01	14416264.34	39°41'46.3526"N	80°41'24.5634"W	0.45	0.14	0.4
21350.00	90.290	305.780	7330.60	13051.61	9720.30	-8836.13	1727498.60	14416318.05	39°41'46.8861"N	80°41'25.5006"W	1.17	-0.75	-0.9
21441.00	90.690	306.180	7329.82	13142.23	9773.76	-8909.76	1727425.00	14416371.49	39°41'47.4169"N	80°41'26.4402"W	0.62	0.44	0.4
21532.00	90.630	307.510	7328.77	13232.96	9828.33	-8982.58	1727352.21	14416426.03	39°41'47.9587"N	80°41'27.3694"W	1.46	-0.07	1.4

REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH DATA (256 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
21625.00	90.660	307.020	7327.72	13325.73	9884.64	-9056.59	1727278.23	14416482.32	39°41'48.5177"N	80°41'28.3137"W	0.53	0.03	-0.51
21717.00	90.910	307.560	7326.46	13417.50	9940.37	-9129.77	1727205.07	14416538.03	39°41'49.0709"N	80°41'29.2475"W	0.65	0.27	0.51
21808.00	90.410	307.360	7325.42	13508.30	9995.71	-9202.00	1727132.87	14416593.35	39°41'49.6203"N	80°41'30.1691"W	0.59	-0.55	-0.22
21898.00	90.600	307.840	7324.62	13598.12	10050.62	-9273.31	1727061.60	14416648.24	39°41'50.1654"N	80°41'31.0789"W	0.57	0.21	0.51
21989.00	90.290	307.280	7323.92	13688.93	10106.09	-9345.44	1726989.49	14416703.69	39°41'50.7161"N	80°41'31.9993"W	0.70	-0.34	-0.61
22080.00	90.410	307.230	7323.36	13779.71	10161.18	-9417.87	1726917.09	14416758.75	39°41'51.2630"N	80°41'32.9235"W	0.14	0.13	-0.01
22171.00	90.470	307.060	7322.66	13870.48	10216.13	-9490.40	1726844.58	14416813.68	39°41'51.8084"N	80°41'33.8491"W	0.20	0.07	-0.11
22262.00	90.200	305.960	7322.13	13961.17	10270.27	-9563.54	1726771.47	14416867.80	39°41'52.3460"N	80°41'34.7824"W	1.24	-0.30	-1.21
22353.00	90.040	305.020	7321.94	14051.71	10323.10	-9637.64	1726697.41	14416920.61	39°41'52.8706"N	80°41'35.7280"W	1.05	-0.18	-1.01
22443.00	90.070	307.080	7321.85	14141.34	10376.06	-9710.40	1726624.67	14416973.55	39°41'53.3965"N	80°41'36.6565"W	2.29	0.03	2.21
22536.00	89.890	307.080	7321.88	14234.10	10432.13	-9784.59	1726550.51	14417029.60	39°41'53.9531"N	80°41'37.6033"W	0.19	-0.19	0.01
22628.00	90.290	307.120	7321.74	14325.86	10487.63	-9857.97	1726477.16	14417085.07	39°41'54.5040"N	80°41'38.5396"W	0.44	0.43	0.01
22718.00	90.040	307.080	7321.48	14415.63	10541.91	-9929.75	1726405.41	14417139.34	39°41'55.0430"N	80°41'39.4556"W	0.28	-0.28	-0.01
22809.00	90.260	306.640	7321.24	14506.36	10596.50	-10002.56	1726332.62	14417193.90	39°41'55.5849"N	80°41'40.3847"W	0.54	0.24	-0.41
22903.00	90.230	306.870	7320.84	14600.08	10652.75	-10077.87	1726257.34	14417250.13	39°41'56.1433"N	80°41'41.3458"W	0.25	-0.03	0.21
22928.00	90.230	306.870	7320.74	14625.00	10667.75	-10097.87	1726237.35	14417265.12	39°41'56.2922"N	80°41'41.6010"W	0.00	0.00	0.01

REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

HOLE & CASING SECTIONS - Ref Wellbore: William Ritchea WTZ 205H ST01 AWB Ref Wellpath: William Ritchea WTZ 205H ST01 AWP Proj: 22928'

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]
2.0in Conductor	26.00	100.00	74.00	26.00	100.00	0.00	0.00	0.01	-0.00
7.5in Open Hole	100.00	553.00	453.00	100.00	552.99	0.01	-0.09	-1.02	-1.50
3.375in Casing Surface	26.00	553.00	527.00	26.00	552.99	0.00	0.00	-1.02	-1.50
2.25in Open Hole	553.00	2977.00	2424.00	552.99	2926.51	-1.02	-1.53	98.59	407.68
3.625in Casing Intermediate	678.00	2977.00	2299.00	677.99	2926.51	-1.27	-1.60	98.59	407.68
3.75in Open Hole	2977.00	5574.00	2597.00	2926.51	5427.37	98.59	407.68	289.13	1080.13
3.5in Open Hole	5574.00	22928.00	17354.00	5427.37	7320.74	289.13	1080.13	10667.75	-10097.80
3.5in Casing Production	678.00	22928.00	22250.00	677.99	7320.74	-1.27	-1.60	10667.75	-10097.80

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
William Ritchea WTZ 205H BHL Rev-7	7160.00	10685.87	-10084.02	1726251.20	14417283.24	39°41'56.4708"N	80°41'41.4230"W	point
William Ritchea WTZ 205H LP Rev-7	7572.00	979.64	995.28	1737326.17	14407580.81	39°40'20.1497"N	80°39'20.1559"W	point

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

WELLPATH COMPOSITION - Ref Wellbore: William Ritchea WTZ 205H ST01 AWB Ref Wellpath: William Ritchea WTZ 205H ST01 AWP Proj: 22928'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	539.00	OWSG MWD rev2 + HRGM	01 Premier MWD <17-1/2"> (225'-539')	William Ritchea WTZ 205H AWB	2/24/2021
539.00	678.00	Superior QC MWD+HRGM_FDIR (Custom)	03 Superior QC FDIR Corrections <12-1/4"> (635'-2897')	William Ritchea WTZ 205H AWB	3/8/2021
678.00	2923.00	Superior QC MWD+HRGM_FDIR (Custom)	05 Superior QC FDIR Corrections <12-1/4"> (764'-2923')	William Ritchea WTZ 205H ST01 AWB	3/13/2021
2923.00	5494.00	Superior QC MWD+HRGM_FDIR (Custom)	07 Superior QC FDIR Corrections <8-3/4"> (3029'-5494')	William Ritchea WTZ 205H ST01 AWB	3/13/2021
5494.00	22928.00	Superior QC MWD+HRGM_FDIR (Custom)	09 BH AT Curve + Superior FDIR <8-1/2"> (5548'-22903')	William Ritchea WTZ 205H ST01 AWB	3/13/2021

REFERENCE WELLPATH IDENTIFICATION

Operator	SWN PRODUCTION COMPANY, LLC	Well	William Ritchea WTZ 205H ST01
Field	Wetzel	API/Legal	
Facility	William Ritchea WTZ Pad	Wellbore	William Ritchea WTZ 205H ST01 AWB
Slot	Slot 205H	Sidetrack from	William Ritchea WTZ 205H AWP Proj: 2982' at 678.00 MD

COMMENTS

Wellpath general comments
 API: 47-103-03368-0000
 BH Job #: 110778227
 Rig: SDC 41
 Duration: 03/14/2021 - 03/19/2021