

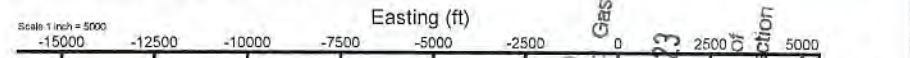
No reference wellbore is Vernon Johnson WTZ 401H AWP	Grid System: NAD83 / UTM Zone 17 West, US Feet
True vertical depth as referenced to SDC41 (KB)	North Reference: Custom
Reference wellbore is Vernon Johnson WTZ 401H AWP	Scale: True distance
SDC41 (KB) to Mean Sea Level: 1457.6 feet	Coordinates are in feet referenced to the
Mean Sea Level to Ground level (At Slot: 401H): +131.9 feet	Depth are as last
Other wellbore MDs are referenced to wellbore's default MD datum	Created by: subden on 2023-05-21 Database: SWA_OPS_EASTERNUS Data

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Vernon Johnson WTZ Pad	1766177.130	14424392.640	35°43'S 0023°W	80°22'44.3746"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
401H	-29.37	-46.57	1766130.578	14424364.279
SDC41 (KB) to Ground level (At Slot: 401H)	29ft			
Mean Sea Level to Ground level (At Slot: 401H)	-1431.6ft			
SDC41 (KB) to Mean Sea Level	1457.6ft			

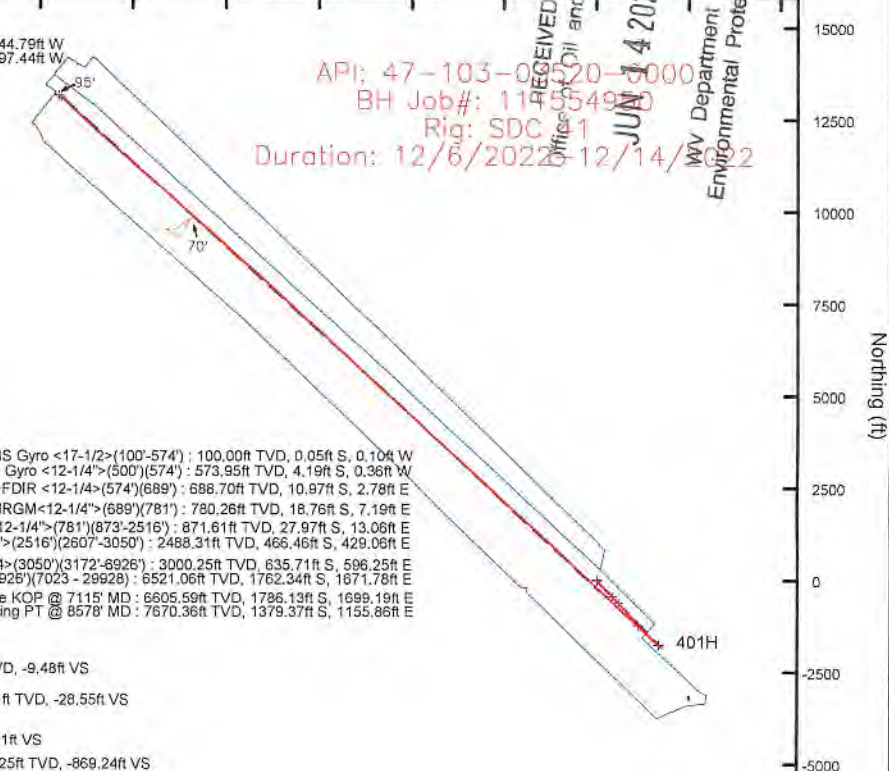
Bottom Hole Location				
MD (ft)	Int'l (')	Alt (ft)	TVD (ft)	Local N (ft)
30060.0	62.310	312.862	7229.72	53124.24
				-1447.44
				776366.76
				14424643.33
				33°45'S 111°W
				80°33'49.7416"W



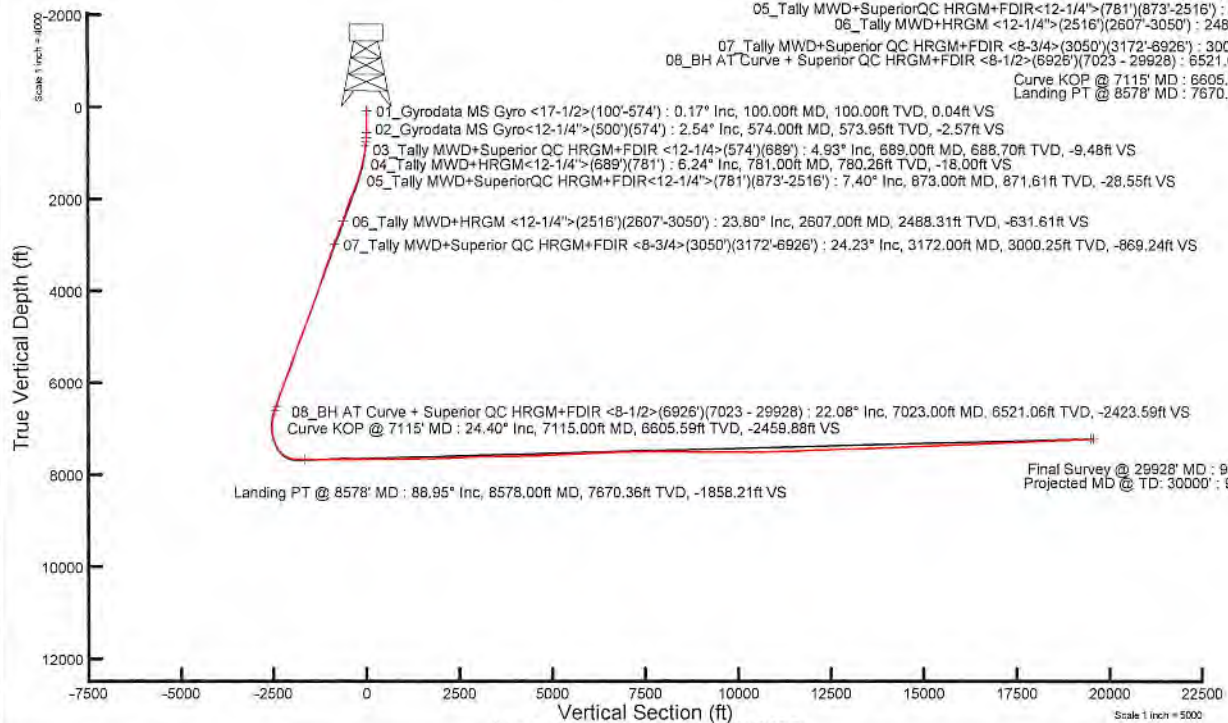
HDM2022v1.0 (1900.0 to 2023.0) Dia: 68.39° Field: 51630.6 nT
Magnetic North is 8.59 degrees West of True North (at 11/18/2022)
Grid North is 0.79 degrees East of True North
To correct azimuth from True to Grid subtract 0.79 degrees
To correct azimuth from Magnetic to Grid subtract 9.38 degrees



Final Survey @ 29928' MD : 7238.70ft TVD, 13075.05ft N, 14444.79ft W
Projected MD @ TD: 30000' : 7235.73ft TVD, 13124.08ft N, 14497.44ft W



- 01_Gyrodata MS Gyro <17-1/2>(100'-574') : 100.00ft TVD, 0.05ft S, 0.104 W
 - 02_Gyrodata MS Gyro <12-1/4>(500')(574') : 573.95ft TVD, 4.19ft S, 0.36ft W
 - 03_Tally MWD+Superior QC HRGM+FDIR <12-1/4>(574')(689') : 688.70ft TVD, 10.97ft S, 2.78ft E
 - 04_Tally MWD+HRGM <12-1/4>(689')(781') : 780.26ft TVD, 18.76ft S, 7.19ft E
 - 05_Tally MWD+Superior QC HRGM+FDIR <12-1/4>(781')(873'-2516') : 871.61ft TVD, 27.97ft S, 13.06ft E
 - 06_Tally MWD+HRGM <12-1/4>(2516')(2607'-3050') : 2488.31ft TVD, 466.46ft S, 429.08ft E
 - 07_Tally MWD+Superior QC HRGM+FDIR <8-3/4>(3050')(3172'-6926') : 3000.25ft TVD, 635.71ft S, 596.25ft E
 - 08_BH AT Curve + Superior QC HRGM+FDIR <8-1/2>(6926')(7023 - 29928) : 6521.06ft TVD, 1762.34ft S, 1671.78ft E
- Curve KOP @ 7115' MD : 6605.59ft TVD, 1786.13ft S, 1699.19ft E
Landing PT @ 8578' MD : 7670.36ft TVD, 1379.37ft S, 1155.86ft E





Actual Wellpath Report
 Vernon Johnson WTZ 401H AWP Proj: 30000'
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Scurdan
Scale	0.999619	Report Generated	1/4/2023 at 10:27:56 AM
Convergence at slot	0.29° 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	-28.37	-46.57	1768130.58	14424364.28	39°43'4.7252"N	80°32'44.9724"W
Facility Reference Pt			1768177.13	14424392.64	39°43'5.0033"N	80°32'44.3746"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM

Calculation method	Minimum curvature	SDC41 (KB) to Facility Vertical Datum	1457.60ft
Horizontal Reference Pt	Slot	SDC41 (KB) to Mean Sea Level	1457.60ft
Vertical Reference Pt	SDC41 (KB)	SDC41 (KB) to Ground Level at Slot (401H)	26.00ft
MD Reference Pt	SDC41 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	312.64°

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Actual Wellpath Report

Vernon Johnson WTZ 401H AWP Proj: 30000'
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REFERENCE WELLPATH IDENTIFICATION			
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Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH DATA (325 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	
0.00†	0.000	243.770	0.00	0.00	0.00	0.00	1768130.58	14424364.28	39°43'4.7252"N	80°32'44.9724"W	0.00	0.000	0.00	0.00	0.00	
26.00	0.000	243.770	26.00	0.00	0.00	0.00	1768130.58	14424364.28	39°43'4.7252"N	80°32'44.9724"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.170	243.770	100.00	0.04	-0.05	-0.10	1768130.48	14424364.23	39°43'4.7247"N	80°32'44.9737"W	0.11	243.770	0.23	0.23	0.00	
200.00	0.110	279.900	200.00	0.17	-0.10	-0.33	1768130.25	14424364.18	39°43'4.7243"N	80°32'44.9766"W	0.34	253.341	0.10	-0.06	36.13	
300.00	0.040	277.080	300.00	0.28	-0.08	-0.46	1768130.12	14424364.20	39°43'4.7245"N	80°32'44.9782"W	0.46	260.429	0.07	-0.07	-2.82	
400.00	0.540	194.530	400.00	0.09	-0.53	-0.61	1768129.97	14424363.75	39°43'4.7200"N	80°32'44.9802"W	0.81	229.003	0.54	0.50	-82.55	
500.00	1.100	186.430	499.99	-0.70	-1.94	-0.83	1768129.74	14424362.34	39°43'4.7061"N	80°32'44.9832"W	2.11	203.275	0.57	0.56	-8.10	
574.00	2.540	160.230	573.95	-2.57	-4.19	-0.36	1768130.22	14424360.09	39°43'4.6838"N	80°32'44.9773"W	4.20	184.897	2.20	1.95	-35.41	
689.00	4.930	152.560	688.70	-9.48	-10.97	2.78	1768133.36	14424353.31	39°43'4.6166"N	80°32'44.9375"W	11.32	165.779	2.12	2.08	-6.67	
781.00	6.240	146.880	780.26	-18.00	-18.76	7.19	1768137.76	14424345.52	39°43'4.5394"N	80°32'44.8816"W	20.09	159.040	1.48	1.42	-4.00	
873.00	7.400	146.300	871.61	-28.55	-27.97	13.06	1768143.63	14424336.32	39°43'4.4481"N	80°32'44.8071"W	30.87	154.974	1.30	1.26	-2.80	
963.00	9.560	139.680	960.62	-41.80	-38.49	21.11	1768151.68	14424325.80	39°43'4.3437"N	80°32'44.7047"W	43.90	151.258	2.63	2.40	-7.36	
1054.00	11.660	135.200	1050.06	-58.29	-50.78	32.48	1768163.05	14424313.52	39°43'4.2217"N	80°32'44.5600"W	60.28	147.395	2.48	2.31	-4.92	
1145.00	13.680	136.740	1138.84	-78.21	-65.14	46.34	1768176.90	14424299.16	39°43'4.0791"N	80°32'44.3836"W	79.94	144.575	2.25	2.22	1.69	
1236.00	15.890	136.930	1226.82	-101.37	-82.08	62.22	1768192.77	14424282.23	39°43'3.9109"N	80°32'44.1816"W	103.00	142.837	2.43	2.43	0.21	
1328.00	18.220	133.960	1314.77	-126.32	-101.27	81.18	1768211.72	14424263.05	39°43'3.7203"N	80°32'43.9401"W	129.79	141.285	2.70	2.53	-3.23	
1419.00	20.810	130.810	1400.54	-158.70	-121.71	103.66	1768234.20	14424242.61	39°43'3.5172"N	80°32'43.6538"W	159.87	139.581	3.07	2.85	-3.46	
1510.00	21.510	132.770	1485.40	-191.54	-143.61	128.14	1768258.67	14424220.73	39°43'3.2996"N	80°32'43.3419"W	192.47	138.258	1.09	0.77	2.15	
1601.00	20.940	137.420	1570.24	-224.43	-166.91	151.39	1768281.91	14424197.43	39°43'3.0681"N	80°32'43.0459"W	225.34	137.792	1.95	-0.63	5.11	
1693.00	22.570	139.080	1655.68	-256.36	-192.36	174.08	1768304.59	14424171.99	39°43'2.8155"N	80°32'42.7572"W	259.44	137.856	1.89	1.77	1.80	
1785.00	25.510	136.800	1739.69	-295.67	-220.15	199.21	1768329.71	14424144.21	39°43'2.5396"N	80°32'42.4374"W	296.90	137.858	3.35	3.20	-2.48	
1877.00	28.250	131.880	1821.76	-337.21	-249.13	228.99	1768359.48	14424115.24	39°43'2.2516"N	80°32'42.0581"W	338.39	137.412	3.83	2.98	-5.35	
1968.00	27.860	130.140	1902.14	-379.85	-277.13	261.18	1768391.65	14424087.26	39°43'1.9733"N	80°32'41.6481"W	380.81	136.697	1.11	-0.65	-1.91	
2058.00	25.820	132.770	1982.51	-420.33	-303.91	291.54	1768422.00	14424060.49	39°43'1.7072"N	80°32'41.2613"W	421.13	136.190	2.43	-2.04	2.92	
2150.00	23.540	137.070	2066.11	-458.69	-330.97	318.76	1768449.22	14424033.44	39°43'1.4384"N	80°32'40.9147"W	459.51	136.076	3.15	-2.48	4.67	
2242.00	23.860	142.390	2150.36	-495.35	-359.17	342.64	1768473.08	14424005.25	39°43'1.1585"N	80°32'40.6110"W	496.39	136.349	2.35	0.35	5.78	
2335.00	21.510	140.860	2236.16	-530.76	-387.29	364.88	1768495.32	14423977.13	39°43'0.8794"N	80°32'40.3282"W	532.10	136.707	2.61	-2.53	-1.65	
2425.00	21.590	138.180	2319.87	-563.58	-412.43	386.34	1768516.77	14423952.00	39°43'0.6299"N	80°32'40.0553"W	565.12	136.871	1.10	0.09	-2.98	
2516.00	21.820	141.940	2404.43	-596.93	-438.23	407.93	1768538.35	14423926.22	39°43'0.3739"N	80°32'39.7806"W	598.71	137.051	1.55	0.25	4.13	
2607.00	23.800	144.340	2488.31	-631.61	-466.46	429.06	1768559.47	14423897.99	39°43'0.0938"N	80°32'39.5121"W	633.78	137.392	2.40	2.18	2.64	

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Vernon Johnson WTZ 401H AWP Proj: 30000*
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH DATA (325 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)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2699.00	26.020	142.820	2571.74	-669.65	-497.63	452.08	1768582.48	14423866.84	39°42'59.7846"N	80°32'39.2195"W	672.32	137.746	2.51	2.41	-1.65
2790.00	26.780	138.170	2653.26	-709.71	-528.81	477.82	1768608.21	14423835.67	39°42'59.4752"N	80°32'38.8922"W	712.71	137.900	2.42	0.84	-5.11
2880.00	25.020	132.870	2734.23	-748.93	-556.87	505.29	1768635.68	14423807.62	39°42'59.1985"N	80°32'38.5424"W	751.95	137.780	3.23	-1.96	-5.89
2972.00	24.450	131.630	2817.79	-787.42	-582.76	533.78	1768664.16	14423781.74	39°42'58.9392"N	80°32'38.1795"W	790.27	137.511	0.84	-0.62	-1.35
3050.00	24.030	130.290	2888.91	-819.43	-603.75	557.96	1768688.33	14423760.76	39°42'58.7305"N	80°32'37.8714"W	822.10	137.257	0.89	-0.54	-1.72
3172.00	24.230	129.420	3000.25	-869.24	-635.71	596.25	1768726.60	14423728.81	39°42'58.4128"N	80°32'37.3836"W	871.58	136.835	0.33	0.16	-0.71
3263.00	22.850	135.820	3083.69	-905.53	-660.25	623.00	1768753.34	14423704.29	39°42'58.1690"N	80°32'37.0429"W	907.77	136.663	3.19	-1.52	7.03
3355.00	24.320	139.580	3168.01	-942.18	-687.48	647.73	1768778.06	14423677.06	39°42'57.8985"N	80°32'36.7282"W	944.56	136.705	2.29	1.60	4.09
3448.00	23.750	137.700	3252.95	-979.84	-715.91	672.75	1768803.07	14423648.64	39°42'57.6163"N	80°32'36.4098"W	982.41	136.780	1.03	-0.61	-2.02
3539.00	22.990	136.170	3336.48	-1015.84	-742.29	697.39	1768827.70	14423622.28	39°42'57.3544"N	80°32'36.0963"W	1018.50	136.786	1.07	-0.84	-1.68
3722.00	22.330	138.850	3505.36	-1086.07	-794.25	745.02	1768875.31	14423570.34	39°42'56.8385"N	80°32'35.4902"W	1088.98	136.832	0.67	-0.36	1.46
3816.00	22.950	138.620	3592.11	-1122.05	-821.45	768.88	1768899.17	14423543.15	39°42'56.5685"N	80°32'35.1866"W	1125.15	136.893	0.67	0.66	-0.24
3906.00	24.150	139.540	3674.62	-1157.78	-848.62	792.43	1768922.71	14423515.98	39°42'56.2988"N	80°32'34.8870"W	1161.08	136.961	1.39	1.33	1.02
3997.00	23.050	136.770	3758.01	-1194.03	-875.77	816.72	1768946.98	14423488.85	39°42'56.0293"N	80°32'34.5780"W	1197.49	136.998	1.72	-1.21	-3.04
4087.00	23.540	137.410	3840.67	-1229.51	-901.83	840.95	1768971.20	14423462.79	39°42'55.7704"N	80°32'34.2697"W	1233.08	137.001	0.61	0.54	0.71
4178.00	22.470	136.080	3924.43	-1264.98	-927.74	865.31	1768995.55	14423436.89	39°42'55.5132"N	80°32'33.9596"W	1268.64	136.994	1.31	-1.18	-1.46
4270.00	23.130	136.760	4009.24	-1300.56	-953.57	889.88	1769020.12	14423411.08	39°42'55.2567"N	80°32'33.6468"W	1304.29	136.979	0.77	0.72	0.74
4361.00	23.920	138.200	4092.68	-1336.75	-980.34	914.42	1769044.65	14423384.31	39°42'54.9909"N	80°32'33.3345"W	1340.61	136.993	1.07	0.87	1.58
4454.00	22.830	136.400	4178.05	-1373.52	-1007.46	939.43	1769069.65	14423357.20	39°42'54.7216"N	80°32'33.0163"W	1377.50	137.001	1.40	-1.17	-1.94
4544.00	22.710	135.050	4261.03	-1408.30	-1032.40	963.75	1769093.96	14423332.27	39°42'54.4739"N	80°32'32.7068"W	1412.93	136.970	0.60	-0.13	-1.50
4640.00	24.080	134.490	4349.14	-1446.39	-1059.24	990.81	1769121.01	14423305.44	39°42'54.2072"N	80°32'32.3622"W	1450.42	136.912	1.45	1.43	-0.58
4731.00	25.060	135.980	4431.90	-1484.18	-1086.11	1017.45	1769147.64	14423278.58	39°42'53.9404"N	80°32'32.0231"W	1488.24	136.870	1.27	1.08	1.64
4824.00	25.820	138.550	4515.88	-1523.99	-1115.46	1044.54	1769174.72	14423249.25	39°42'53.6490"N	80°32'31.6783"W	1528.18	136.880	1.44	0.82	2.76
4916.00	24.230	136.540	4599.25	-1562.76	-1144.18	1070.79	1769200.96	14423220.54	39°42'53.3638"N	80°32'31.3443"W	1567.08	136.898	1.96	-1.73	-2.18
5007.00	24.350	136.910	4682.19	-1600.10	-1171.44	1096.45	1769226.61	14423193.29	39°42'53.0932"N	80°32'31.0177"W	1604.52	136.894	0.21	0.13	0.41
5099.00	25.190	136.250	4765.73	-1638.55	-1199.43	1122.95	1769253.10	14423165.31	39°42'52.8152"N	80°32'30.6804"W	1643.06	136.886	0.96	0.91	-0.72
5191.00	24.860	134.570	4849.09	-1677.42	-1227.14	1150.27	1769280.40	14423137.61	39°42'52.5399"N	80°32'30.3327"W	1681.96	136.852	0.85	-0.36	-1.83
5281.00	23.900	135.250	4931.06	-1714.54	-1253.37	1176.58	1769306.71	14423111.39	39°42'52.2794"N	80°32'29.9977"W	1719.09	136.810	1.11	-1.07	0.76
5373.00	24.710	136.490	5014.91	-1752.34	-1280.55	1202.94	1769333.06	14423084.22	39°42'52.0094"N	80°32'29.6622"W	1756.95	136.790	1.04	0.88	1.35
5467.00	25.110	134.920	5100.17	-1791.88	-1308.88	1230.59	1769360.70	14423055.90	39°42'51.7280"N	80°32'29.3102"W	1796.53	136.766	0.82	0.43	-1.67

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Slot	401H		

WELLPATH DATA (325 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]
5558.00	23.930	132.490	5182.96	-1829.63	-1334.99	1257.87	1769387.97	14423029.81	39°42'51.4687"N	80°32'28.9628"W	1834.24	136.704	1.71	-1.30	-2.67
5648.00	23.710	135.090	5265.30	-1865.96	-1360.13	1284.11	1769414.19	14423004.67	39°42'51.2189"N	80°32'28.6287"W	1870.53	136.647	1.19	-0.24	2.89
5739.00	25.070	135.850	5348.17	-1903.49	-1386.92	1310.45	1769440.53	14422977.89	39°42'50.9528"N	80°32'28.2934"W	1908.10	136.624	1.53	1.49	0.84
5831.00	25.090	134.510	5431.50	-1942.45	-1414.58	1337.94	1769468.01	14422950.24	39°42'50.6780"N	80°32'27.9434"W	1947.08	136.595	0.62	0.02	-1.46
5921.00	24.360	134.950	5513.25	-1980.06	-1441.07	1364.69	1769494.74	14422923.76	39°42'50.4149"N	80°32'27.6029"W	1984.71	136.560	0.84	-0.81	0.49
6013.00	25.000	138.380	5596.85	-2018.37	-1489.01	1391.03	1769521.07	14422895.83	39°42'50.1374"N	80°32'27.2677"W	2023.11	136.562	1.70	0.70	3.73
6104.00	23.890	137.820	5679.69	-2055.85	-1497.04	1416.17	1769546.21	14422867.81	39°42'49.8591"N	80°32'26.9478"W	2060.75	136.590	1.25	-1.22	-0.62
6196.00	24.060	140.350	5763.75	-2092.99	-1525.29	1440.65	1769570.67	14422839.57	39°42'49.5788"N	80°32'26.6364"W	2098.09	136.635	1.13	0.18	2.75
6289.00	24.570	142.010	5848.51	-2130.86	-1555.12	1464.65	1769594.66	14422809.75	39°42'49.2827"N	80°32'26.3313"W	2136.26	136.716	0.92	0.55	1.78
6380.00	23.190	140.380	5931.71	-2167.28	-1583.84	1487.72	1769617.73	14422781.05	39°42'48.9978"N	80°32'26.0379"W	2172.98	136.792	1.68	-1.52	-1.79
6471.00	23.680	140.250	6015.21	-2203.15	-1611.69	1510.83	1769640.83	14422753.21	39°42'48.7213"N	80°32'25.7440"W	2209.11	136.850	0.54	0.54	-0.14
6562.00	25.750	135.510	6097.88	-2241.01	-1639.85	1536.37	1769666.36	14422725.06	39°42'48.4418"N	80°32'25.4190"W	2247.12	136.866	3.15	2.27	-5.21
6653.00	24.620	131.140	6180.23	-2279.70	-1666.42	1564.50	1769694.48	14422698.50	39°42'48.1777"N	80°32'25.0608"W	2285.75	136.807	2.39	-1.24	-4.80
6744.00	22.740	133.490	6263.57	-2316.24	-1691.00	1591.54	1769721.51	14422673.93	39°42'47.9334"N	80°32'24.7164"W	2322.17	136.735	2.31	-2.07	2.58
6836.00	23.400	132.480	6348.21	-2352.29	-1715.57	1617.92	1769747.87	14422649.36	39°42'47.6892"N	80°32'24.3806"W	2358.15	136.678	0.84	0.72	-1.10
6926.00	22.140	130.030	6431.20	-2387.11	-1738.55	1644.09	1769774.03	14422626.39	39°42'47.4608"N	80°32'24.0472"W	2392.82	136.600	1.75	-1.40	-2.72
7023.00	22.080	131.300	6521.06	-2423.59	-1762.34	1671.78	1769801.71	14422602.61	39°42'47.2243"N	80°32'23.6944"W	2429.13	136.511	0.50	-0.06	1.31
7115.00	24.400	130.630	6605.59	-2459.88	-1786.13	1699.19	1769829.12	14422578.83	39°42'46.9878"N	80°32'23.3452"W	2465.26	136.429	2.54	2.52	-0.73
7205.00	18.010	136.450	6689.47	-2492.37	-1808.35	1722.92	1769852.83	14422556.63	39°42'46.7671"N	80°32'23.0431"W	2497.71	136.386	7.47	-7.10	6.47
7297.00	12.420	136.450	6778.21	-2516.46	-1825.84	1739.54	1769869.46	14422539.14	39°42'46.5934"N	80°32'22.8314"W	2521.85	136.387	6.08	-6.08	0.00
7390.00	6.290	143.580	6869.93	-2531.45	-1837.20	1749.47	1769879.38	14422527.78	39°42'46.4806"N	80°32'22.7052"W	2536.92	136.401	6.70	-6.59	7.67
7480.00	0.320	328.350	6959.76	-2536.06	-1840.96	1752.27	1769882.17	14422524.03	39°42'46.4433"N	80°32'22.6696"W	2541.57	136.414	7.34	-6.63	-194.70
7572.00	6.930	307.800	7051.52	-2530.27	-1837.33	1747.74	1769877.65	14422527.65	39°42'46.4794"N	80°32'22.7273"W	2535.82	136.432	7.21	7.18	-22.34
7663.00	13.210	307.880	7141.07	-2514.42	-1827.57	1735.18	1769865.10	14422537.41	39°42'46.5765"N	80°32'22.8873"W	2520.10	136.485	6.90	6.90	0.09
7755.00	19.790	310.920	7229.24	-2488.35	-1810.90	1715.10	1769845.02	14422554.07	39°42'46.7423"N	80°32'23.1433"W	2494.18	136.556	7.21	7.15	3.30
7846.00	26.420	308.840	7312.89	-2452.71	-1788.09	1687.66	1769817.59	14422576.88	39°42'46.9691"N	80°32'23.4929"W	2458.75	136.655	7.34	7.29	-2.29
7938.00	34.120	312.740	7392.30	-2406.41	-1757.69	1652.71	1769782.65	14422607.26	39°42'47.2713"N	80°32'23.9381"W	2412.66	136.763	8.63	8.37	4.24
8030.00	42.800	313.600	7464.27	-2349.25	-1718.55	1611.04	1769741.00	14422646.39	39°42'47.6602"N	80°32'24.4687"W	2355.60	136.849	9.45	9.43	0.93
8121.00	51.100	314.130	7526.34	-2282.83	-1672.49	1563.16	1769693.13	14422692.43	39°42'48.1178"N	80°32'25.0785"W	2289.26	136.935	9.13	9.12	0.58
8213.00	59.490	313.590	7578.67	-2207.28	-1620.15	1508.66	1769638.66	14422744.75	39°42'48.6379"N	80°32'25.7724"W	2213.80	137.041	9.13	9.12	-0.59

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH DATA (325 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]	Build Rate ["/100ft]	Turn Rate ["/100ft]
8304.00	67.980	313.850	7618.90	-2125.76	-1563.79	1449.74	1769579.76	14422801.08	39°42'49.1978"N	80°32'26.5226"W	2132.42	137.167	9.33	9.33	0.29
8396.00	76.110	313.050	7647.24	-2038.32	-1503.67	1386.25	1769516.29	14422861.19	39°42'49.7952"N	80°32'27.3311"W	2045.16	137.327	8.88	8.84	-0.87
8486.00	82.770	313.750	7663.73	-1949.91	-1442.91	1322.00	1769452.07	14422921.93	39°42'50.3989"N	80°32'28.1492"W	1956.96	137.504	7.44	7.40	0.78
8578.00	88.950	313.950	7670.36	-1858.21	-1379.37	1255.86	1769385.96	14422985.44	39°42'51.0302"N	80°32'28.9914"W	1865.43	137.683	6.72	6.72	0.22
8669.00	89.690	312.960	7671.44	-1767.23	-1316.79	1189.81	1769319.93	14423048.00	39°42'51.6520"N	80°32'29.8326"W	1774.70	137.900	1.36	0.81	-1.09
8761.00	89.470	312.870	7672.12	-1675.23	-1254.14	1122.43	1769252.58	14423110.62	39°42'52.2745"N	80°32'30.6906"W	1683.07	138.172	0.26	-0.24	-0.10
8853.00	89.350	313.230	7673.07	-1583.24	-1191.34	1055.21	1769185.38	14423173.39	39°42'52.8985"N	80°32'31.5468"W	1591.47	138.468	0.41	-0.13	0.39
8945.00	89.470	313.110	7674.01	-1491.25	-1128.40	988.11	1769118.31	14423236.31	39°42'53.5239"N	80°32'32.4012"W	1499.89	138.792	0.18	0.13	-0.13
9036.00	88.980	312.840	7675.24	-1400.26	-1066.38	921.54	1769051.76	14423298.31	39°42'54.1403"N	80°32'33.2491"W	1409.40	139.167	0.61	-0.54	-0.30
9127.00	89.070	312.960	7676.79	-1309.27	-1004.44	854.89	1768985.14	14423360.22	39°42'54.7557"N	80°32'34.0980"W	1318.99	139.599	0.16	0.10	0.13
9219.00	89.940	312.810	7677.59	-1217.28	-941.83	787.48	1768917.76	14423422.81	39°42'55.3778"N	80°32'34.9564"W	1227.67	140.101	0.96	0.95	-0.18
9309.00	90.000	312.900	7677.63	-1127.28	-880.62	721.50	1768851.81	14423483.99	39°42'55.9861"N	80°32'35.7967"W	1138.45	140.672	0.12	0.07	0.10
9402.00	89.870	312.720	7677.74	-1034.28	-817.42	653.28	1768783.61	14423547.17	39°42'56.6141"N	80°32'36.6657"W	1046.40	141.368	0.24	-0.14	-0.19
9492.00	89.720	312.660	7678.06	-944.28	-756.40	587.13	1768717.48	14423608.17	39°42'57.2205"N	80°32'37.5082"W	957.53	142.181	0.18	-0.17	-0.07
9584.00	90.060	312.930	7678.24	-852.28	-693.90	519.62	1768650.00	14423670.65	39°42'57.8416"N	80°32'38.3680"W	866.89	143.173	0.47	0.37	0.29
9675.00	90.060	313.240	7678.14	-761.28	-631.74	453.16	1768583.56	14423732.78	39°42'58.4592"N	80°32'39.2145"W	777.46	144.347	0.34	0.00	0.34
9767.00	90.000	313.190	7678.09	-669.29	-568.74	386.11	1768516.54	14423795.76	39°42'59.0852"N	80°32'40.0684"W	687.42	145.828	0.08	-0.07	-0.05
9859.00	90.460	312.940	7677.73	-577.29	-505.92	318.90	1768449.35	14423858.55	39°42'59.7094"N	80°32'40.9244"W	598.04	147.776	0.57	0.50	-0.27
9950.00	90.310	312.780	7677.11	-486.30	-444.04	252.18	1768382.86	14423920.41	39°43'0.3243"N	80°32'41.7741"W	510.65	150.406	0.26	-0.16	-0.20
10042.00	90.610	312.980	7676.38	-394.30	-381.45	184.76	1768315.26	14423982.98	39°43'0.9462"N	80°32'42.6328"W	423.84	154.156	0.40	0.33	0.24
10132.00	90.270	313.080	7675.68	-304.30	-320.03	118.97	1768249.50	14424044.37	39°43'1.5565"N	80°32'43.4707"W	341.43	159.608	0.39	-0.38	0.11
10223.00	89.840	313.040	7675.60	-213.31	-257.90	52.48	1768183.04	14424106.48	39°43'2.1738"N	80°32'44.3175"W	263.19	168.498	0.47	-0.47	-0.04
10316.00	90.520	313.640	7675.30	-120.32	-194.08	-15.16	1768115.43	14424170.28	39°43'2.8080"N	80°32'45.1789"W	194.67	184.465	0.98	0.73	0.65
10407.00	90.460	313.560	7674.53	-29.33	-131.32	-81.05	1768049.56	14424233.01	39°43'3.4315"N	80°32'46.0181"W	154.32	211.683	0.11	-0.07	-0.09
10498.00	89.840	313.010	7674.29	61.66	-68.93	-147.30	1767983.34	14424295.37	39°43'4.0514"N	80°32'46.8618"W	162.63	244.922	0.91	-0.68	-0.60
10598.00	91.260	313.940	7673.42	151.64	-7.01	-212.60	1767918.06	14424357.27	39°43'4.6665"N	80°32'47.6935"W	212.72	268.111	1.89	1.58	1.03
10680.00	89.890	313.010	7672.66	243.63	56.28	-279.36	1767851.33	14424420.54	39°43'5.2954"N	80°32'48.5437"W	284.97	281.391	1.98	-1.71	-1.01
10770.00	90.580	312.010	7672.45	393.63	117.10	-345.70	1767785.01	14424481.33	39°43'5.8997"N	80°32'49.3888"W	364.99	288.712	1.49	0.99	-1.11
10861.00	90.490	313.610	7671.60	424.62	178.93	-412.45	1767718.28	14424543.14	39°43'6.5141"N	80°32'50.2390"W	449.59	293.452	1.76	-0.10	1.78
10951.00	90.030	313.290	7671.19	514.61	240.83	-477.79	1767652.97	14424605.01	39°43'7.1291"N	80°32'51.0711"W	535.05	296.750	0.62	0.51	-0.36

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH DATA (325 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]	Build Rate ["/100ft]	Turn Rate ["/100ft]
11043.00	90.610	313.580	7670.68	806.60	304.08	-544.60	1767586.19	14424668.24	39°43'7.7575"N	80°32'51.9220"W	623.74	299.177	0.70	0.63	0.32
11133.00	90.710	313.400	7669.64	896.58	366.01	-609.89	1767520.93	14424730.15	39°43'8.3729"N	80°32'52.7535"W	711.29	300.969	0.23	0.11	-0.20
11224.00	90.740	312.740	7668.49	787.57	428.15	-676.36	1767454.48	14424792.27	39°43'8.9903"N	80°32'53.6001"W	800.48	302.335	0.73	0.03	-0.73
11314.00	90.680	312.890	7667.37	877.56	489.31	-742.37	1767388.49	14424853.40	39°43'9.5980"N	80°32'54.4410"W	889.13	303.390	0.18	-0.07	0.17
11407.00	90.580	312.730	7666.35	970.56	552.51	-810.59	1767320.29	14424916.58	39°43'10.2259"N	80°32'55.3100"W	980.98	304.279	0.20	-0.11	-0.17
11497.00	90.240	312.580	7665.71	1060.55	613.49	-876.78	1767254.13	14424977.53	39°43'10.8319"N	80°32'56.1531"W	1070.10	304.981	0.41	-0.38	-0.17
11587.00	90.710	312.930	7664.96	1150.55	674.59	-942.86	1767188.08	14425038.61	39°43'11.4389"N	80°32'56.9948"W	1159.34	305.582	0.65	0.52	0.39
11678.00	90.770	313.430	7663.79	1241.54	736.85	-1009.22	1767121.75	14425100.85	39°43'12.0576"N	80°32'57.8399"W	1249.59	306.134	0.55	0.07	0.55
11769.00	90.580	313.180	7662.71	1332.53	799.26	-1075.43	1767055.56	14425163.23	39°43'12.6777"N	80°32'58.6833"W	1339.92	306.620	0.35	-0.21	-0.27
11860.00	91.010	312.930	7661.45	1423.51	861.38	-1141.92	1766989.10	14425225.33	39°43'13.2949"N	80°32'59.5302"W	1430.37	307.028	0.55	0.47	-0.27
11951.00	90.400	313.810	7660.33	1514.50	923.87	-1208.07	1766922.98	14425287.79	39°43'13.9157"N	80°33'0.3727"W	1520.84	307.407	1.18	-0.67	0.97
12041.00	90.490	311.930	7659.63	1604.49	985.09	-1274.02	1766857.05	14425348.99	39°43'14.5240"N	80°33'1.2128"W	1610.45	307.712	2.09	0.10	-2.09
12131.00	90.950	313.290	7658.50	1694.48	1046.02	-1340.25	1766790.84	14425409.89	39°43'15.1294"N	80°33'2.0565"W	1700.12	307.971	1.60	0.51	1.51
12223.00	91.140	314.900	7656.82	1786.43	1110.02	-1406.31	1766724.80	14425473.87	39°43'15.7652"N	80°33'2.8978"W	1791.61	308.285	1.76	0.21	1.75
12316.00	90.860	313.060	7655.20	1879.39	1174.59	-1473.22	1766657.92	14425538.42	39°43'16.4066"N	80°33'3.7499"W	1884.15	308.565	2.00	-0.30	-1.98
12408.00	91.540	312.250	7653.27	1971.37	1236.91	-1540.87	1766590.30	14425600.72	39°43'17.0259"N	80°33'4.6116"W	1975.91	308.755	1.15	0.74	-0.88
12500.00	90.890	312.170	7651.32	2063.35	1298.71	-1608.99	1766522.20	14425662.49	39°43'17.6400"N	80°33'5.4795"W	2067.73	308.909	0.71	-0.71	-0.09
12591.00	91.660	312.130	7649.30	2154.32	1359.76	-1676.44	1766454.78	14425723.52	39°43'18.2467"N	80°33'6.3388"W	2158.57	309.045	0.85	0.85	-0.04
12683.00	91.630	312.110	7646.66	2246.28	1421.44	-1744.65	1766386.59	14425785.17	39°43'18.8596"N	80°33'7.2078"W	2250.40	309.171	0.04	-0.03	-0.02
12776.00	93.140	313.810	7642.78	2339.19	1484.76	-1812.65	1766318.62	14425848.47	39°43'19.4887"N	80°33'8.0740"W	2343.12	309.321	2.44	1.62	1.83
12866.00	91.260	310.300	7639.33	2429.10	1544.98	-1879.42	1766251.88	14425908.67	39°43'20.0872"N	80°33'8.9246"W	2432.94	309.422	4.42	-2.09	-3.90
12958.00	91.260	312.460	7637.31	2521.05	1605.78	-1948.43	1766182.90	14425969.45	39°43'20.6914"N	80°33'9.8039"W	2524.86	309.493	2.35	0.00	2.35
13050.00	91.940	312.040	7634.74	2613.01	1667.62	-2016.50	1766114.85	14426031.25	39°43'21.3059"N	80°33'10.6711"W	2616.72	309.590	0.87	0.74	-0.46
13140.00	92.000	312.010	7631.65	2702.95	1727.83	-2083.32	1766048.06	14426091.45	39°43'21.9043"N	80°33'11.5224"W	2706.59	309.671	0.07	0.07	-0.03
13231.00	91.810	311.980	7628.62	2793.90	1788.67	-2150.92	1765980.48	14426152.26	39°43'22.5088"N	80°33'12.3837"W	2797.46	309.746	0.22	-0.21	-0.05
13320.00	91.810	312.090	7625.81	2882.85	1848.22	-2217.00	1765914.43	14426211.79	39°43'23.1006"N	80°33'13.2256"W	2886.35	309.817	0.15	0.00	0.15
13412.00	91.880	312.300	7622.85	2974.80	1909.98	-2285.13	1765846.33	14426273.53	39°43'23.7143"N	80°33'14.0935"W	2978.23	309.890	0.24	0.08	0.23
13504.00	91.010	312.660	7620.53	3066.77	1972.09	-2352.95	1765778.53	14426335.62	39°43'24.3315"N	80°33'14.9576"W	3070.10	309.968	1.02	-0.95	0.39
13594.00	91.140	312.190	7618.84	3156.75	2032.80	-2419.38	1765712.13	14426396.30	39°43'24.9347"N	80°33'15.8039"W	3160.01	310.037	0.54	0.14	-0.52
13685.00	91.290	312.070	7616.91	3247.72	2093.83	-2486.85	1765644.68	14426457.30	39°43'25.5411"N	80°33'16.6635"W	3250.93	310.096	0.21	0.16	-0.13

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH DATA (325 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]
13775.00	91.010	312.270	7615.10	3337.70	2154.24	-2553.54	1765578.02	14426517.69	39°43'26.1414"N	80°33'17.5132"W	3340.85	310.152	0.38	-0.31	0.22
13867.00	91.230	312.580	7613.30	3429.69	2216.29	-2621.44	1765510.14	14426579.72	39°43'26.7580"N	80°33'18.3782"W	3432.77	310.213	0.41	0.24	0.34
13959.00	91.320	312.460	7611.26	3521.66	2278.45	-2689.23	1765442.38	14426641.86	39°43'27.3756"N	80°33'19.2418"W	3524.67	310.273	0.16	0.10	-0.13
14051.00	91.350	312.420	7609.11	3613.64	2340.52	-2757.11	1765374.53	14426703.90	39°43'27.9923"N	80°33'20.1066"W	3616.58	310.328	0.05	0.03	-0.04
14144.00	91.010	312.150	7607.20	3706.61	2403.08	-2825.89	1765305.77	14426766.43	39°43'28.6140"N	80°33'20.9830"W	3709.51	310.377	0.47	-0.37	-0.29
14236.00	91.320	312.150	7605.33	3798.59	2464.80	-2894.09	1765237.60	14426828.14	39°43'29.2273"N	80°33'21.8518"W	3801.45	310.420	0.34	0.34	0.00
14329.00	90.400	312.200	7603.93	3891.58	2527.23	-2963.00	1765168.71	14426890.55	39°43'29.8477"N	80°33'22.7298"W	3894.39	310.462	0.99	-0.99	0.05
14420.00	90.710	312.200	7603.05	3982.57	2588.36	-3030.41	1765101.33	14426951.65	39°43'30.4550"N	80°33'23.5887"W	3985.35	310.502	0.34	0.34	0.00
14513.00	90.520	312.020	7602.05	4075.56	2650.72	-3099.40	1765032.37	14427013.98	39°43'31.0747"N	80°33'24.4677"W	4078.31	310.538	0.28	-0.20	-0.19
14606.00	90.920	312.340	7600.88	4168.55	2713.16	-3168.31	1764963.48	14427076.40	39°43'31.6951"N	80°33'25.3457"W	4171.26	310.575	0.55	0.43	0.34
14697.00	90.370	312.180	7599.86	4259.54	2774.35	-3235.65	1764896.16	14427137.57	39°43'32.3032"N	80°33'26.2037"W	4262.22	310.611	0.63	-0.60	-0.18
14789.00	90.490	312.170	7599.17	4351.54	2836.12	-3303.83	1764828.01	14427199.31	39°43'32.9169"N	80°33'27.0724"W	4354.18	310.644	0.13	0.13	-0.01
14881.00	90.520	311.660	7598.36	4443.53	2897.57	-3372.29	1764759.58	14427260.74	39°43'33.5276"N	80°33'27.9447"W	4446.15	310.670	0.56	0.03	-0.55
14973.00	92.490	312.250	7595.94	4535.48	2959.05	-3440.68	1764691.22	14427322.20	39°43'34.1385"N	80°33'28.8161"W	4538.09	310.696	2.24	2.14	0.64
15064.00	92.120	312.360	7592.28	4626.41	3020.26	-3507.93	1764623.99	14427383.98	39°43'34.7466"N	80°33'29.6729"W	4628.98	310.728	0.42	-0.41	0.12
15156.00	92.090	312.910	7588.90	4718.34	3082.53	-3575.57	1764556.38	14427445.62	39°43'35.3653"N	80°33'30.5346"W	4720.87	310.765	0.60	-0.03	0.60
15243.00	91.910	312.560	7585.87	4805.29	3141.53	-3639.43	1764492.55	14427504.60	39°43'35.9516"N	80°33'31.3483"W	4807.77	310.801	0.45	-0.21	-0.40
15335.00	91.970	312.180	7582.75	4897.24	3203.49	-3707.36	1764424.64	14427566.55	39°43'36.5672"N	80°33'32.2138"W	4899.68	310.830	0.42	0.07	-0.41
15428.00	92.150	312.200	7579.41	4990.17	3265.91	-3776.22	1764355.81	14427628.94	39°43'37.1874"N	80°33'33.0912"W	4992.60	310.855	0.19	0.19	0.02
15519.00	91.660	312.120	7576.38	5081.12	3326.96	-3843.64	1764288.41	14427689.96	39°43'37.7940"N	80°33'33.9502"W	5083.52	310.879	0.55	-0.54	-0.09
15610.00	91.660	312.290	7573.75	5172.08	3388.06	-3911.02	1764221.06	14427751.04	39°43'38.4012"N	80°33'34.8087"W	5174.46	310.902	0.19	0.00	0.19
15701.00	91.690	312.260	7571.09	5263.04	3449.25	-3978.32	1764153.78	14427812.21	39°43'39.0092"N	80°33'35.6663"W	5265.40	310.926	0.05	0.03	-0.03
15792.00	92.340	312.310	7567.89	5353.98	3510.44	-4045.60	1764086.53	14427873.37	39°43'39.6171"N	80°33'36.5236"W	5356.31	310.949	0.72	0.71	0.05
15884.00	91.480	312.150	7564.82	5445.93	3572.24	-4113.69	1764018.47	14427935.15	39°43'40.2312"N	80°33'37.3911"W	5448.24	310.970	0.95	-0.93	-0.17
15975.00	91.440	312.370	7562.50	5536.89	3633.42	-4181.01	1763951.17	14427996.30	39°43'40.8390"N	80°33'38.2489"W	5539.19	310.992	0.25	-0.04	0.24
16067.00	91.780	312.520	7559.92	5628.86	3695.48	-4248.88	1763883.33	14428058.34	39°43'41.4557"N	80°33'39.1136"W	5631.12	311.015	0.40	0.37	0.16
16158.00	91.260	312.040	7557.50	5719.82	3756.68	-4316.18	1763816.05	14428119.52	39°43'42.0637"N	80°33'39.9712"W	5722.07	311.035	0.78	-0.57	-0.53
16248.00	93.170	312.320	7554.03	5809.75	3817.06	-4382.82	1763749.44	14428179.88	39°43'42.6637"N	80°33'40.8203"W	5811.98	311.053	2.14	2.12	0.31
16339.00	93.050	311.950	7549.09	5900.61	3878.02	-4450.20	1763682.08	14428240.82	39°43'43.2694"N	80°33'41.6790"W	5902.83	311.070	0.43	-0.13	-0.41
16429.00	92.550	312.250	7544.69	5990.50	3938.29	-4516.90	1763615.41	14428301.06	39°43'43.8682"N	80°33'42.5288"W	5992.71	311.085	0.65	-0.56	0.33

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REFERENCE WELLPATH IDENTIFICATION			
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Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH DATA (325 stations)															
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16520.00	92.240	312.280	7540.89	6081.42	3999.43	-4584.20	1763548.14	14428362.17	39°43'44.4757"N	80°33'43.3863"W	6083.61	311.103	0.34	-0.34	0.01
16611.00	91.940	312.190	7537.57	6172.35	4060.54	-4651.54	1763480.82	14428423.27	39°43'45.0829"N	80°33'44.2444"W	6174.53	311.119	0.34	-0.33	-0.08
16702.00	92.310	312.130	7534.20	6263.29	4121.58	-4718.95	1763413.44	14428484.28	39°43'45.6894"N	80°33'45.1034"W	6265.45	311.134	0.41	0.41	-0.07
16791.00	92.340	312.540	7530.59	6352.21	4181.47	-4784.68	1763347.73	14428544.15	39°43'46.2844"N	80°33'45.9410"W	6354.36	311.151	0.46	0.03	0.46
16880.00	91.410	312.330	7527.67	6441.16	4241.49	-4850.33	1763282.10	14428604.14	39°43'46.8807"N	80°33'46.7775"W	6443.29	311.169	1.07	-1.04	-0.24
16972.00	91.600	312.550	7525.26	6533.13	4303.55	-4918.20	1763214.26	14428666.18	39°43'47.4973"N	80°33'47.6424"W	6535.23	311.187	0.32	0.21	0.24
17064.00	91.720	312.040	7522.59	6625.09	4365.44	-4986.23	1763146.26	14428728.04	39°43'48.1122"N	80°33'48.5091"W	6627.18	311.202	0.57	0.13	-0.55
17151.00	90.670	312.010	7520.78	6712.07	4423.67	-5050.84	1763081.67	14428786.25	39°43'48.6908"N	80°33'49.3325"W	6714.15	311.213	1.21	-1.21	-0.03
17237.00	90.520	312.480	7519.89	6798.06	4481.48	-5114.50	1763018.04	14428844.04	39°43'49.2652"N	80°33'50.1437"W	6800.13	311.226	0.57	-0.17	0.55
17324.00	91.320	312.300	7518.49	6885.05	4540.13	-5178.75	1762953.82	14428902.66	39°43'49.8479"N	80°33'50.9624"W	6887.10	311.241	0.94	0.92	-0.21
17413.00	91.170	312.120	7516.58	6974.02	4599.91	-5244.65	1762887.94	14428962.42	39°43'50.4418"N	80°33'51.8022"W	6976.07	311.253	0.26	-0.17	-0.20
17499.00	91.040	311.880	7514.90	7060.00	4657.44	-5308.55	1762824.06	14429019.93	39°43'51.0135"N	80°33'52.6165"W	7062.04	311.262	0.32	-0.15	-0.28
17590.00	90.950	312.200	7513.32	7150.98	4718.37	-5376.13	1762756.51	14429080.84	39°43'51.6189"N	80°33'53.4776"W	7153.02	311.272	0.37	-0.10	0.35
17680.00	90.120	312.480	7512.48	7240.98	4778.98	-5442.65	1762690.02	14429141.43	39°43'52.2211"N	80°33'54.3253"W	7243.00	311.285	0.97	-0.92	0.31
17771.00	89.750	312.510	7512.58	7331.98	4840.46	-5509.74	1762622.95	14429202.88	39°43'52.8318"N	80°33'55.1803"W	7333.98	311.300	0.41	-0.41	0.08
17858.00	89.970	312.240	7512.79	7418.98	4899.09	-5574.01	1762558.70	14429261.48	39°43'53.4144"N	80°33'55.9993"W	7420.97	311.313	0.40	0.25	-0.31
17948.00	89.970	312.020	7512.84	7508.97	4959.47	-5640.76	1762491.98	14429321.84	39°43'54.0142"N	80°33'56.8498"W	7510.98	311.323	0.24	0.00	-0.24
18039.00	89.970	312.140	7512.89	7599.97	5020.45	-5708.30	1762424.46	14429382.80	39°43'54.6202"N	80°33'57.7108"W	7601.95	311.332	0.13	0.00	0.13
18132.00	89.870	313.170	7513.02	7692.97	5083.46	-5776.70	1762356.10	14429445.80	39°43'55.2462"N	80°33'58.5821"W	7694.92	311.348	1.11	-0.11	1.11
18224.00	89.600	313.320	7513.44	7784.96	5146.49	-5843.71	1762289.11	14429508.80	39°43'55.8723"N	80°33'59.4360"W	7786.87	311.370	0.34	-0.29	0.16
18317.00	90.310	313.660	7513.52	7877.95	5210.50	-5911.18	1762221.66	14429572.78	39°43'56.5080"N	80°34'0.2956"W	7879.81	311.395	0.85	0.76	0.37
18409.00	89.140	313.240	7513.96	7969.94	5273.77	-5977.97	1762154.90	14429636.03	39°43'57.1365"N	80°34'1.1465"W	7971.75	311.419	1.35	-1.27	-0.46
18501.00	90.120	313.510	7514.55	8061.93	5336.95	-6044.84	1762088.05	14429699.18	39°43'57.7641"N	80°34'1.9986"W	8063.69	311.441	1.10	1.07	0.29
18593.00	90.240	313.030	7514.28	8153.92	5400.01	-6111.83	1762021.09	14429762.22	39°43'58.3905"N	80°34'2.8521"W	8155.64	311.462	0.54	0.13	-0.52
18683.00	90.120	313.580	7513.98	8243.91	5461.73	-6177.33	1761955.61	14429823.91	39°43'59.0035"N	80°34'3.6867"W	8245.60	311.482	0.60	-0.13	0.59
18776.00	90.610	313.490	7513.39	8336.90	5525.77	-6244.76	1761888.21	14429887.93	39°43'59.6397"N	80°34'4.5459"W	8338.54	311.504	0.53	0.53	-0.08
18868.00	90.060	314.470	7512.85	8428.87	5589.65	-6310.96	1761822.04	14429951.79	39°44'0.2742"N	80°34'5.3893"W	8430.45	311.531	1.22	-0.60	1.07
18960.00	89.470	314.030	7513.23	8520.83	5653.85	-6376.86	1761756.16	14430015.96	39°44'0.9117"N	80°34'6.2288"W	8522.35	311.561	0.80	-0.64	-0.48
19051.00	88.710	314.000	7514.67	8611.80	5717.07	-6442.30	1761690.75	14430079.16	39°44'1.5397"N	80°34'7.0625"W	8613.25	311.587	0.84	-0.84	-0.03
19146.00	89.110	312.560	7516.48	8706.77	5782.19	-6511.44	1761621.63	14430144.25	39°44'2.1865"N	80°34'7.9435"W	8708.19	311.605	1.57	0.42	-1.52

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19241.00	89.410	312.540	7517.71	8801.76	5846.42	-6581.42	1761551.68	14430208.46	39°44'2.8246"N	80°34'8.8353"W	8803.17	311.615	0.32	0.32	-0.02
19337.00	90.120	312.840	7518.10	8897.76	5911.51	-6651.98	1761481.14	14430273.53	39°44'3.4712"N	80°34'9.7345"W	8899.15	311.627	0.80	0.74	0.31
19432.00	90.030	313.800	7517.97	8992.75	5976.89	-6721.10	1761412.06	14430338.68	39°44'4.1186"N	80°34'10.6152"W	8994.11	311.645	1.01	-0.09	1.01
19527.00	89.660	314.660	7518.23	9087.71	6042.96	-6789.17	1761344.01	14430404.92	39°44'4.7767"N	80°34'11.4824"W	9089.01	311.672	0.99	-0.39	0.91
19622.00	88.550	312.750	7519.72	9182.68	6108.58	-6857.83	1761275.37	14430470.52	39°44'5.4286"N	80°34'12.3573"W	9183.93	311.693	2.33	-1.17	-2.01
19714.00	91.260	312.810	7519.87	9274.67	6171.06	-6925.35	1761207.88	14430532.98	39°44'6.0492"N	80°34'13.2177"W	9275.91	311.704	2.95	2.95	0.07
19809.00	89.870	313.460	7518.93	9369.66	6236.01	-6994.67	1761138.59	14430597.90	39°44'6.6944"N	80°34'14.1010"W	9370.87	311.718	1.62	-1.46	0.68
19903.00	89.540	313.450	7519.42	9463.65	6300.66	-7062.91	1761070.38	14430662.53	39°44'7.3365"N	80°34'14.9705"W	9464.83	311.735	0.35	-0.35	-0.01
19998.00	89.600	313.330	7520.13	9558.64	6365.92	-7131.94	1761001.37	14430727.76	39°44'7.9847"N	80°34'15.8501"W	9559.79	311.752	0.14	0.06	-0.13
20093.00	91.720	313.950	7519.03	9653.61	6431.47	-7200.68	1760932.66	14430793.29	39°44'8.6358"N	80°34'16.7260"W	9654.72	311.770	2.33	2.23	0.65
20188.00	89.810	315.500	7517.77	9748.53	6498.32	-7268.17	1760865.20	14430860.10	39°44'9.2996"N	80°34'17.5858"W	9749.58	311.799	2.59	-2.01	1.63
20282.00	89.470	313.850	7518.36	9842.47	6564.40	-7335.01	1760798.38	14430926.16	39°44'9.9559"N	80°34'18.4373"W	9843.46	311.827	1.79	-0.36	-1.78
20377.00	89.200	313.000	7519.46	9937.45	6629.70	-7404.00	1760729.42	14430991.44	39°44'10.6044"N	80°34'19.3164"W	9938.42	311.842	0.94	-0.28	-0.89
20472.00	89.320	312.590	7520.69	10032.44	6694.24	-7473.70	1760659.74	14431055.95	39°44'11.2455"N	80°34'20.2047"W	10033.40	311.851	0.45	0.13	-0.43
20567.00	90.520	312.040	7520.82	10127.44	6758.19	-7543.95	1760589.52	14431119.88	39°44'11.8808"N	80°34'21.1000"W	10128.39	311.855	1.39	1.26	-0.58
20662.00	89.410	314.250	7520.88	10222.43	6823.15	-7613.26	1760520.24	14431184.81	39°44'12.5261"N	80°34'21.9832"W	10223.36	311.867	2.60	-1.17	2.33
20757.00	89.910	310.650	7521.44	10317.41	6887.26	-7683.34	1760450.18	14431248.90	39°44'13.1630"N	80°34'22.8764"W	10318.34	311.873	3.83	0.53	-3.79
20851.00	90.950	313.510	7520.74	10411.39	6950.24	-7753.10	1760380.45	14431311.86	39°44'13.7887"N	80°34'23.7655"W	10412.32	311.875	3.24	1.11	3.04
20946.00	90.150	313.190	7519.82	10506.38	7015.45	-7822.18	1760311.40	14431377.04	39°44'14.4364"N	80°34'24.6458"W	10507.29	311.888	0.91	-0.84	-0.34
21041.00	92.090	313.600	7517.97	10601.35	7080.70	-7891.19	1760242.41	14431442.27	39°44'15.0845"N	80°34'25.5252"W	10602.23	311.901	2.09	2.04	0.43
21137.00	89.540	312.190	7516.60	10697.33	7146.03	-7961.51	1760172.12	14431507.57	39°44'15.7334"N	80°34'26.4214"W	10698.20	311.910	3.04	-2.66	-1.47
21231.00	91.140	312.030	7516.04	10791.32	7209.06	-8031.24	1760102.42	14431570.58	39°44'16.3596"N	80°34'27.3101"W	10792.19	311.912	1.71	1.70	-0.17
21327.00	91.660	313.220	7513.70	10887.29	7274.05	-8101.85	1760031.83	14431635.54	39°44'17.0052"N	80°34'28.2101"W	10888.15	311.918	1.35	0.54	1.24
21418.00	91.410	314.540	7511.26	10978.23	7337.11	-8167.42	1759966.29	14431698.57	39°44'17.6314"N	80°34'29.0456"W	10979.06	311.935	1.48	-0.27	1.45
21513.00	91.080	313.810	7509.20	11073.18	7403.29	-8235.54	1759898.20	14431764.73	39°44'18.2887"N	80°34'29.9135"W	11073.97	311.954	0.84	-0.35	-0.77
21608.00	90.860	313.400	7507.59	11168.15	7468.80	-8304.32	1759829.44	14431830.22	39°44'18.9393"N	80°34'30.7900"W	11168.92	311.968	0.49	-0.23	-0.43
21704.00	90.950	312.950	7506.07	11264.13	7534.48	-8374.32	1759759.47	14431895.87	39°44'19.5917"N	80°34'31.6821"W	11264.88	311.978	0.48	0.09	-0.47
21799.00	91.350	313.540	7504.16	11359.11	7599.55	-8443.51	1759690.31	14431960.92	39°44'20.2380"N	80°34'32.5638"W	11359.84	311.989	0.75	0.42	0.62
21894.00	91.010	313.370	7502.21	11454.08	7664.88	-8512.45	1759621.39	14432026.22	39°44'20.8868"N	80°34'33.4424"W	11454.79	312.001	0.40	-0.36	-0.18
21988.00	92.580	312.530	7499.26	11548.03	7728.89	-8581.22	1759552.65	14432090.21	39°44'21.5227"N	80°34'34.3188"W	11548.73	312.009	1.89	1.67	-0.89

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH DATA (325 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]	Build Rate ["/100ft]	Turn Rate ["/100ft]
22083.00	92.310	313.160	7495.21	11642.94	7793.43	-8650.81	1759483.08	14432154.72	39°44'22.1638"N	80°34'35.2057"W	11643.63	312.015	0.72	-0.28	0.66
22177.00	92.150	313.220	7491.55	11736.86	7857.72	-8719.29	1759414.63	14432218.99	39°44'22.8023"N	80°34'36.0785"W	11737.54	312.025	0.18	-0.17	0.06
22272.00	92.770	313.080	7487.48	11831.77	7922.63	-8788.54	1759345.41	14432283.87	39°44'23.4470"N	80°34'36.9610"W	11832.43	312.034	0.67	0.69	-0.15
22366.00	92.030	314.840	7483.54	11925.66	7987.82	-8856.14	1759277.84	14432349.04	39°44'24.0944"N	80°34'37.8224"W	11926.29	312.049	2.03	-0.79	1.87
22460.00	90.800	313.250	7481.22	12019.60	8053.15	-8923.68	1759210.32	14432414.34	39°44'24.7432"N	80°34'38.6831"W	12020.20	312.065	2.14	-1.31	-1.89
22555.00	91.410	310.450	7479.39	12114.56	8116.51	-8994.42	1759139.60	14432477.68	39°44'25.3727"N	80°34'39.5849"W	12115.17	312.063	3.02	0.64	-2.95
22650.00	92.580	311.880	7476.08	12209.47	8179.00	-9065.90	1759068.16	14432540.15	39°44'25.9936"N	80°34'40.4960"W	12210.10	312.056	1.94	1.23	1.51
22744.00	92.460	313.480	7471.94	12303.37	8242.66	-9134.93	1758999.15	14432603.78	39°44'26.6259"N	80°34'41.3759"W	12304.00	312.061	1.71	-0.13	1.70
22839.00	90.770	312.110	7469.27	12398.33	8307.17	-9204.61	1758929.50	14432668.27	39°44'27.2667"N	80°34'42.2640"W	12398.95	312.066	2.29	-1.78	-1.44
22933.00	91.480	310.750	7467.42	12492.29	8369.36	-9275.07	1758859.06	14432730.43	39°44'27.8846"N	80°34'43.1623"W	12492.92	312.062	1.63	0.76	-1.45
23028.00	91.600	311.890	7464.87	12587.23	8432.06	-9346.39	1758787.77	14432793.11	39°44'28.5075"N	80°34'44.0715"W	12587.88	312.056	1.21	0.13	1.20
23121.00	91.510	311.810	7462.34	12680.18	8494.09	-9415.64	1758718.55	14432855.11	39°44'29.1237"N	80°34'44.9542"W	12680.85	312.054	0.13	-0.10	-0.09
23216.00	91.630	312.020	7459.74	12775.14	8557.53	-9486.31	1758647.91	14432918.52	39°44'29.7539"N	80°34'45.8551"W	12775.81	312.053	0.25	0.13	0.22
23311.00	91.780	312.480	7456.92	12870.10	8621.37	-9556.60	1758577.64	14432982.35	39°44'30.3882"N	80°34'46.7510"W	12870.77	312.055	0.51	0.16	0.48
23406.00	91.600	312.890	7454.11	12965.05	8685.75	-9626.40	1758507.87	14433046.70	39°44'31.0276"N	80°34'47.6408"W	12965.72	312.059	0.47	-0.19	0.43
23500.00	91.380	312.580	7451.67	13059.02	8749.52	-9695.42	1758438.87	14433110.44	39°44'31.6610"N	80°34'48.5205"W	13059.68	312.064	0.40	-0.23	-0.33
23594.00	91.260	312.260	7449.50	13153.00	8812.91	-9764.79	1758369.53	14433173.81	39°44'32.2907"N	80°34'49.4048"W	13153.65	312.067	0.36	-0.13	-0.34
23689.00	91.480	312.230	7447.23	13247.97	8876.76	-9835.10	1758299.25	14433237.64	39°44'32.9250"N	80°34'50.3010"W	13248.63	312.068	0.23	0.23	-0.03
23783.00	91.630	312.100	7444.68	13341.93	8939.84	-9904.75	1758229.63	14433300.69	39°44'33.5516"N	80°34'51.1888"W	13342.59	312.069	0.21	0.16	-0.14
23877.00	91.510	312.000	7442.11	13435.89	9002.77	-9974.52	1758159.88	14433363.60	39°44'34.1768"N	80°34'52.0783"W	13436.56	312.069	0.17	-0.13	-0.11
23970.00	91.440	313.080	7439.71	13528.86	9065.63	-10043.02	1758091.40	14433426.43	39°44'34.8011"N	80°34'52.9514"W	13529.52	312.072	1.16	-0.08	1.18
24063.00	91.290	312.310	7437.50	13621.83	9128.67	-10111.36	1758023.10	14433489.45	39°44'35.4273"N	80°34'53.8224"W	13622.49	312.076	0.84	-0.16	-0.83
24157.00	92.460	312.670	7434.42	13715.78	9192.13	-10180.63	1757953.85	14433552.89	39°44'36.0576"N	80°34'54.7055"W	13716.43	312.079	1.30	1.24	0.38
24251.00	92.520	312.510	7430.34	13809.69	9255.68	-10249.77	1757884.74	14433616.42	39°44'36.6889"N	80°34'55.5868"W	13810.34	312.082	0.18	0.06	-0.17
24345.00	91.200	313.060	7427.29	13903.63	9319.50	-10318.72	1757815.81	14433680.21	39°44'37.3228"N	80°34'56.4657"W	13904.28	312.087	1.52	-1.40	0.59
24440.00	91.380	312.730	7425.15	13998.61	9384.15	-10388.30	1757746.26	14433744.83	39°44'37.9648"N	80°34'57.3525"W	13999.25	312.093	0.40	0.19	-0.35
24534.00	90.980	311.760	7423.21	14092.59	9447.33	-10457.87	1757676.72	14433807.98	39°44'38.5924"N	80°34'58.2394"W	14093.23	312.094	1.12	-0.43	-1.03
24629.00	91.350	311.190	7421.28	14187.55	9510.23	-10529.03	1757605.58	14433870.87	39°44'39.2174"N	80°34'59.1467"W	14188.20	312.090	0.72	0.39	-0.60
24723.00	92.060	311.640	7418.48	14281.48	9572.39	-10599.50	1757535.15	14433932.99	39°44'39.8349"N	80°35'00.0450"W	14282.15	312.085	0.89	0.78	0.48
24817.00	92.090	312.310	7415.08	14375.41	9635.21	-10669.33	1757465.34	14433995.80	39°44'40.4590"N	80°35'00.9353"W	14376.09	312.084	0.71	0.03	0.71

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH DATA (325 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]	Build Rate ["/100ft]	Turn Rate ["/100ft]
24912.00	91.540	312.340	7412.07	14470.36	9699.15	-10739.53	1757395.16	14434059.71	39°44'41.0940"N	80°35'1.8303"W	14471.04	312.086	0.58	-0.58	0.03
25006.00	92.580	312.170	7408.69	14564.30	9762.31	-10809.06	1757325.66	14434122.85	39°44'41.7215"N	80°35'2.7166"W	14564.98	312.087	1.12	1.11	-0.18
25101.00	91.750	311.720	7405.10	14659.22	9825.77	-10879.67	1757255.08	14434186.28	39°44'42.3518"N	80°35'3.6168"W	14659.91	312.086	0.99	-0.87	-0.47
25195.00	92.150	312.190	7401.91	14753.16	9888.57	-10949.54	1757185.24	14434249.06	39°44'42.9757"N	80°35'4.5075"W	14753.85	312.085	0.66	0.43	0.50
25289.00	91.380	311.890	7399.01	14847.11	9951.49	-11019.31	1757115.49	14434311.95	39°44'43.6007"N	80°35'5.3970"W	14847.81	312.085	0.88	-0.82	-0.32
25384.00	91.690	311.850	7396.47	14942.07	10014.87	-11090.03	1757044.80	14434375.31	39°44'44.2303"N	80°35'6.2986"W	14942.77	312.084	0.33	0.33	-0.04
25478.00	91.440	311.990	7393.90	15036.03	10077.65	-11159.95	1756974.91	14434438.07	39°44'44.8539"N	80°35'7.1900"W	15036.74	312.083	0.30	-0.27	0.19
25573.00	91.880	312.250	7391.15	15130.98	10141.34	-11230.38	1756904.50	14434501.73	39°44'45.4866"N	80°35'8.0879"W	15131.70	312.083	0.54	0.46	0.27
25668.00	91.780	312.430	7388.11	15225.93	10205.29	-11300.57	1756834.34	14434565.66	39°44'46.1218"N	80°35'8.9827"W	15226.65	312.084	0.22	-0.11	0.19
25763.00	92.150	312.470	7384.85	15320.88	10269.37	-11370.62	1756764.31	14434629.72	39°44'46.7583"N	80°35'9.8758"W	15321.59	312.087	0.39	0.39	0.04
25858.00	91.690	312.260	7381.67	15415.82	10333.35	-11440.78	1756694.19	14434693.67	39°44'47.3938"N	80°35'10.7701"W	15416.54	312.088	0.53	-0.48	-0.22
25952.00	92.150	312.900	7378.52	15509.77	10396.92	-11509.95	1756625.04	14434757.21	39°44'48.0251"N	80°35'11.6519"W	15510.48	312.091	0.84	0.49	0.68
26046.00	91.910	313.080	7375.19	15603.71	10460.97	-11578.67	1756556.35	14434821.24	39°44'48.6613"N	80°35'12.5279"W	15604.41	312.097	0.32	-0.26	0.19
26141.00	92.000	312.400	7371.95	15698.65	10525.41	-11648.40	1756486.64	14434885.66	39°44'49.3013"N	80°35'13.4168"W	15699.35	312.101	0.72	0.09	-0.72
26235.00	91.880	312.370	7368.77	15792.60	10588.74	-11717.79	1756417.28	14434948.96	39°44'49.9303"N	80°35'14.3014"W	15793.29	312.102	0.13	-0.13	-0.03
26329.00	91.410	311.910	7366.07	15886.55	10651.78	-11787.46	1756347.63	14435011.98	39°44'50.5565"N	80°35'15.1897"W	15887.25	312.103	0.70	-0.50	-0.49
26422.00	92.000	312.000	7363.30	15979.51	10713.93	-11856.59	1756278.53	14435074.10	39°44'51.1738"N	80°35'16.0711"W	15980.21	312.102	0.64	0.63	0.10
26517.00	91.910	311.580	7360.06	16074.44	10777.20	-11927.38	1756207.77	14435137.35	39°44'51.8024"N	80°35'16.9737"W	16075.15	312.100	0.45	-0.09	-0.44
26611.00	91.660	311.120	7357.14	16168.37	10839.27	-11997.91	1756137.26	14435199.40	39°44'52.4190"N	80°35'17.8730"W	16169.10	312.096	0.56	-0.27	-0.49
26705.00	91.200	311.870	7354.79	16262.32	10901.53	-12068.30	1756066.91	14435261.63	39°44'53.0375"N	80°35'18.7704"W	16263.06	312.092	0.94	-0.49	0.80
26799.00	91.480	311.650	7352.59	16356.28	10964.12	-12138.40	1755996.83	14435324.20	39°44'53.6592"N	80°35'19.6642"W	16357.04	312.090	0.38	0.30	-0.23
26894.00	92.250	311.830	7349.50	16451.22	11027.33	-12209.25	1755926.01	14435387.39	39°44'54.2871"N	80°35'20.5675"W	16451.98	312.088	0.83	0.81	0.19
26988.00	92.830	312.030	7345.33	16545.12	11090.08	-12279.11	1755856.18	14435450.11	39°44'54.9104"N	80°35'21.4583"W	16545.89	312.087	0.65	0.62	0.21
27082.00	91.840	312.380	7341.50	16639.04	11153.18	-12348.68	1755786.63	14435513.18	39°44'55.5371"N	80°35'22.3453"W	16639.81	312.088	1.12	-1.05	0.37
27176.00	93.570	312.020	7337.07	16732.93	11216.25	-12418.24	1755717.10	14435576.23	39°44'56.1636"N	80°35'23.2321"W	16733.70	312.089	1.88	1.84	-0.38
27271.00	91.630	312.390	7332.76	16827.82	11280.00	-12488.53	1755646.83	14435639.95	39°44'56.7968"N	80°35'24.1283"W	16828.60	312.089	2.08	-2.04	0.39
27366.00	92.150	312.080	7329.63	16922.77	11343.82	-12558.83	1755576.56	14435703.75	39°44'57.4307"N	80°35'25.0246"W	16923.55	312.090	0.64	0.55	-0.33
27461.00	91.970	311.870	7326.21	17017.70	11407.32	-12629.41	1755506.01	14435767.22	39°44'58.0614"N	80°35'25.9245"W	17018.49	312.089	0.29	-0.19	-0.22
27556.00	91.440	312.160	7323.38	17112.65	11470.87	-12699.96	1755435.49	14435830.75	39°44'58.6927"N	80°35'26.8241"W	17113.44	312.089	0.64	-0.56	0.31
27651.00	92.120	311.710	7320.43	17207.60	11534.33	-12770.60	1755364.88	14435894.19	39°44'59.3230"N	80°35'27.7247"W	17208.40	312.088	0.86	0.73	-0.47

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Slot	401H		

WELLPATH DATA (325 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]	Build Rate ["/100ft]	Turn Rate ["/100ft]
27745.00	91.810	312.150	7317.21	17301.54	11597.11	-12840.49	1755295.01	14435956.94	39°44'59.9465"N	80°35'28.6158"W	17302.34	312.087	0.57	-0.33	0.47
27840.00	91.880	312.210	7314.15	17396.48	11660.86	-12910.85	1755224.68	14436020.67	39°45'0.5798"N	80°35'29.5130"W	17397.29	312.088	0.10	0.07	0.06
27934.00	92.030	312.320	7310.94	17490.43	11724.04	-12980.37	1755155.18	14436083.83	39°45'1.2073"N	80°35'30.3994"W	17491.24	312.089	0.20	0.16	0.12
28029.00	91.910	312.380	7307.68	17585.37	11788.00	-13050.54	1755085.04	14436147.76	39°45'1.8426"N	80°35'31.2940"W	17586.18	312.090	0.14	-0.13	0.06
28124.00	91.630	312.410	7304.74	17680.32	11852.03	-13120.67	1755014.94	14436211.76	39°45'2.4784"N	80°35'32.1881"W	17681.13	312.092	0.30	-0.29	0.03
28219.00	91.570	312.440	7302.09	17775.28	11916.09	-13190.76	1754944.87	14436275.80	39°45'3.1147"N	80°35'33.0819"W	17776.09	312.094	0.07	-0.06	0.03
28313.00	92.060	312.140	7299.11	17869.24	11979.31	-13260.27	1754875.40	14436339.00	39°45'3.7426"N	80°35'33.9680"W	17870.05	312.095	0.61	0.52	-0.32
28408.00	91.880	311.460	7295.85	17964.17	12042.59	-13331.04	1754804.64	14436402.26	39°45'4.3712"N	80°35'34.8705"W	17964.99	312.093	0.74	-0.19	-0.72
28503.00	92.150	310.930	7292.51	18059.08	12105.12	-13402.48	1754733.23	14436464.76	39°45'4.9924"N	80°35'35.7815"W	18059.92	312.088	0.63	0.28	-0.56
28598.00	91.010	313.250	7289.89	18154.03	12168.77	-13472.95	1754662.79	14436528.39	39°45'5.6246"N	80°35'36.6800"W	18154.87	312.088	2.72	-1.20	2.44
28693.00	94.870	313.060	7285.02	18248.88	12233.65	-13542.15	1754593.62	14436593.24	39°45'6.2688"N	80°35'37.5622"W	18249.71	312.094	4.07	4.06	-0.20
28788.00	93.050	312.930	7278.46	18343.65	12298.28	-13611.46	1754524.33	14436657.84	39°45'6.9106"N	80°35'38.4460"W	18344.47	312.099	1.92	-1.92	-0.14
28883.00	91.780	313.440	7274.45	18438.56	12363.23	-13680.67	1754455.15	14436722.77	39°45'7.5557"N	80°35'39.3283"W	18439.37	312.104	1.44	-1.34	0.54
28978.00	93.140	310.480	7270.38	18533.45	12426.68	-13751.24	1754384.61	14436786.20	39°45'8.1859"N	80°35'40.2281"W	18534.27	312.103	3.43	1.43	-3.12
29072.00	91.290	313.740	7266.74	18627.36	12489.66	-13820.91	1754314.97	14436849.15	39°45'8.8114"N	80°35'41.1164"W	18628.18	312.103	3.99	-1.97	3.47
29168.00	92.090	313.220	7263.91	18723.31	12555.69	-13890.53	1754245.37	14436915.15	39°45'9.4670"N	80°35'42.0041"W	18724.11	312.111	0.99	0.83	-0.54
29262.00	91.750	313.500	7260.76	18817.25	12620.19	-13958.84	1754177.09	14436979.63	39°45'10.1075"N	80°35'42.8749"W	18818.03	312.117	0.47	-0.36	0.30
29357.00	91.780	313.370	7257.83	18912.19	12685.47	-14027.79	1754108.16	14437044.89	39°45'10.7558"N	80°35'43.7540"W	18912.96	312.123	0.14	0.03	-0.14
29452.00	92.400	312.990	7254.37	19007.13	12750.44	-14097.02	1754038.96	14437109.83	39°45'11.4009"N	80°35'44.6366"W	19007.88	312.129	0.77	0.65	-0.40
29547.00	91.850	313.110	7250.85	19102.06	12815.24	-14166.39	1753969.62	14437174.61	39°45'12.0444"N	80°35'45.5211"W	19102.81	312.133	0.59	-0.58	0.13
29642.00	91.690	313.290	7247.91	19197.01	12880.25	-14235.61	1753900.42	14437239.59	39°45'12.6899"N	80°35'46.4036"W	19197.74	312.138	0.25	-0.17	0.19
29738.00	91.230	313.130	7245.47	19292.97	12945.95	-14305.56	1753830.50	14437305.27	39°45'13.3424"N	80°35'47.2953"W	19293.70	312.144	0.51	-0.48	-0.17
29833.00	92.280	312.630	7242.56	19387.92	13010.57	-14375.14	1753760.95	14437369.86	39°45'13.9840"N	80°35'48.1825"W	19388.64	312.147	1.22	1.11	-0.53
29928.00	92.370	312.960	7238.70	19482.85	13075.05	-14444.79	1753691.32	14437434.32	39°45'14.6244"N	80°35'49.0706"W	19483.56	312.151	0.36	0.09	0.35
30000.00†	92.370	312.960	7235.73	19554.78	13124.08	-14497.44	1753638.70	14437493.33	39°45'15.1113"N	80°35'49.7418"W	19555.49	312.154	0.00	0.00	0.00

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Actual Wellpath Report
 Vernon Johnson WTZ 401H AWP Proj: 30000'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

HOLE & CASING SECTIONS - Ref Wellbore: Vernon Johnson WTZ 401H AWB Ref Wellpath: Vernon Johnson WTZ 401H AWP Proj: 30000'										
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]	
20in Conductor	26.00	70.00	44.00	26.00	70.00	0.00	0.00	-0.02	-0.03	-0.03
17.5in Open Hole	70.00	511.00	441.00	70.00	510.99	-0.02	-0.03	-2.17	-0.84	-0.84
13.375in Casing Surface	26.00	491.00	465.00	26.00	490.99	0.00	0.00	-1.77	-0.81	-0.81
12.25in Open Hole	511.00	3119.00	2608.00	510.99	2951.91	-2.17	-0.84	-621.87	579.52	579.52
9.625in Casing Intermediate	26.00	3098.00	3072.00	26.00	2932.74	0.00	0.00	-616.37	572.93	572.93
8.75in Open Hole	3119.00	6997.00	3878.00	2951.91	6496.97	-621.87	579.52	-1755.91	1664.41	1664.41
8.5in Open Hole	6997.00	30000.00	23003.00	6496.97	7235.73	-1755.91	1664.41	13124.08	-14497.44	-14497.44
5.5in Casing Production	26.00	30000.00	29974.00	26.00	7235.73	0.00	0.00	13124.08	-14497.44	-14497.44

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Vernon Johnson WTZ 401H PBHL rev6	7236.00	13137.86	-14485.81	1753650.32	14437497.10	39°45'15.2470"N	80°35'49.5922"W	point
Vernon Johnson WTZ 401H PBHL rev5	7241.00	13137.86	-14485.81	1753650.32	14437497.10	39°45'15.2470"N	80°35'49.5922"W	point
Vernon Johnson WTZ 401H wp1	7241.10	13057.40	-14429.10	1753707.01	14437416.67	39°45'14.4492"N	80°35'48.8706"W	point
Vernon Johnson WTZ 401H wp2	7241.10	13100.63	-14459.57	1753676.55	14437459.89	39°45'14.8779"N	80°35'49.2584"W	point
50' Boundary	7500.00	-0.01	-0.01	1768130.57	14424364.27	39°43'4.7251"N	80°32'44.9725"W	point
Vernon Johnson WTZ 401H LP rev 3	7692.00	-1382.78	1256.95	1769387.05	14422982.03	39°42'50.9964"N	80°32'28.9777"W	point
Vernon Johnson WTZ 401H LP rev 2	7697.00	-1382.78	1256.95	1769387.05	14422982.03	39°42'50.9964"N	80°32'28.9777"W	point

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

WELLPATH COMPOSITION - Ref Wellbore: Vernon Johnson WTZ 401H AWB Ref Wellpath: Vernon Johnson WTZ 401H AWP Proj: 30000'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	500.00	Gyrodata 2015 - GC+WR+DPIPE	01 Gyrodata MS Gyro <17-1/2>(100'-500')	Vernon Johnson WTZ 401H AWB	12/5/2022
500.00	574.00	Gyrodata 2015 - GC+WR+DPIPE	02 Gyrodata MS Gyro <12-1/4">(500')(574')	Vernon Johnson WTZ 401H AWB	12/20/2022
574.00	689.00	OWSG MWD rev2 +HRGM + Multi-Station Correction	03 Tally MWD+Superior QC HRGM+FDIR <12-1/4>(574')(689')	Vernon Johnson WTZ 401H AWB	12/5/2022
689.00	781.00	OWSG MWD rev2 + HRGM	04 Tally MWD+HRGM<12-1/4">(689')(781')	Vernon Johnson WTZ 401H AWB	12/21/2022
781.00	2516.00	OWSG MWD rev2 +HRGM + Multi-Station Correction	05 Tally MWD+SuperiorQC HRGM+FDIR<12-1/4">(781')(873'-2516')	Vernon Johnson WTZ 401H AWB	12/21/2022
2516.00	3050.00	OWSG MWD rev2 + HRGM	06 Tally MWD+HRGM <12-1/4">(2516')(2607'-3050')	Vernon Johnson WTZ 401H AWB	12/21/2022
3050.00	6926.00	OWSG MWD rev2 +HRGM + Multi-Station Correction	07 Tally MWD+Superior QC HRGM+FDIR <8-3/4>(3050')(3172'-6926')	Vernon Johnson WTZ 401H AWB	12/13/2022
6926.00	80000.00	OWSG MWD rev2 +HRGM + Multi-Station Correction	08 BH AT Curve + Superior QC HRGM+FDIR <8-1/2>(6926')(7023 - 29928)	Vernon Johnson WTZ 401H AWB	12/8/2022

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Vernon Johnson WTZ 401H
Field	Wetzel	API	47-103-03520-0000
Facility	Vernon Johnson WTZ Pad	Wellbore	Vernon Johnson WTZ 401H AWB
Slot	401H		

COMMENTS
Wellpath general comments API: 47-103-03520-0000 BH Job#: 111554950 Rig: SDC 41 Duration: 12/6/2022-12/14/2022 01_Gyrodata MS Gyro <17-1/2>(100'-574') 02_Gyrodata MS Gyro<12-1/4">(500')(574') 03_Tally MWD+Superior QC HRGM+FDIR <12-1/4>(574')(689') 04_Tally MWD+HRGM<12-1/4">(689')(781') 05_Tally MWD+SuperiorQC HRGM+FDIR<12-1/4">(781')(873'-2516') 06_Tally MWD+HRGM <12-1/4">(2516')(2607'-3050') 07_Tally MWD+Superior QC HRGM+FDIR <8-3/4>(3050')(3172'-6926') 08_BH AT Curve + Superior QC HRGM+FDIR <8-1/2>(6926')(7023 - 29928) Projected MD @ TD: 30000'

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