



SWN PRODUCTION COMPANY, LLC



Location: Marshall County, WV

Slot: 406H

Field: Marshall WV

Well: Charles Jamison MSH 406H

Facility: Charles Jamison MSH Pad

Wellbore: Charles Jamison MSH 406H AWB

Plot reference wellpath is Charles Jamison MSH 406H AWB_ awp 100' - 22781' Proj: 22806'

Grid System: NAD83 / UTM Zone 17 North, US feet

True vertical depths are referenced to Rig on Slot 406H (KB)

North Reference: Grid north

Reference wellpath measured depths are referenced to Rig on Slot 406H (KB)

Scale: True distance

Rig on Slot 406H (KB) to Mean Sea Level: 1363.5 feet

Coordinates are in feet referenced to Slot

Mean Sea Level to Ground level (At Slot: 406H): -1337.5 feet

Depths are in feet

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

Created by: tranlam on 2022-07-02; Database: WA_MPL_EASTERNUS_Defn

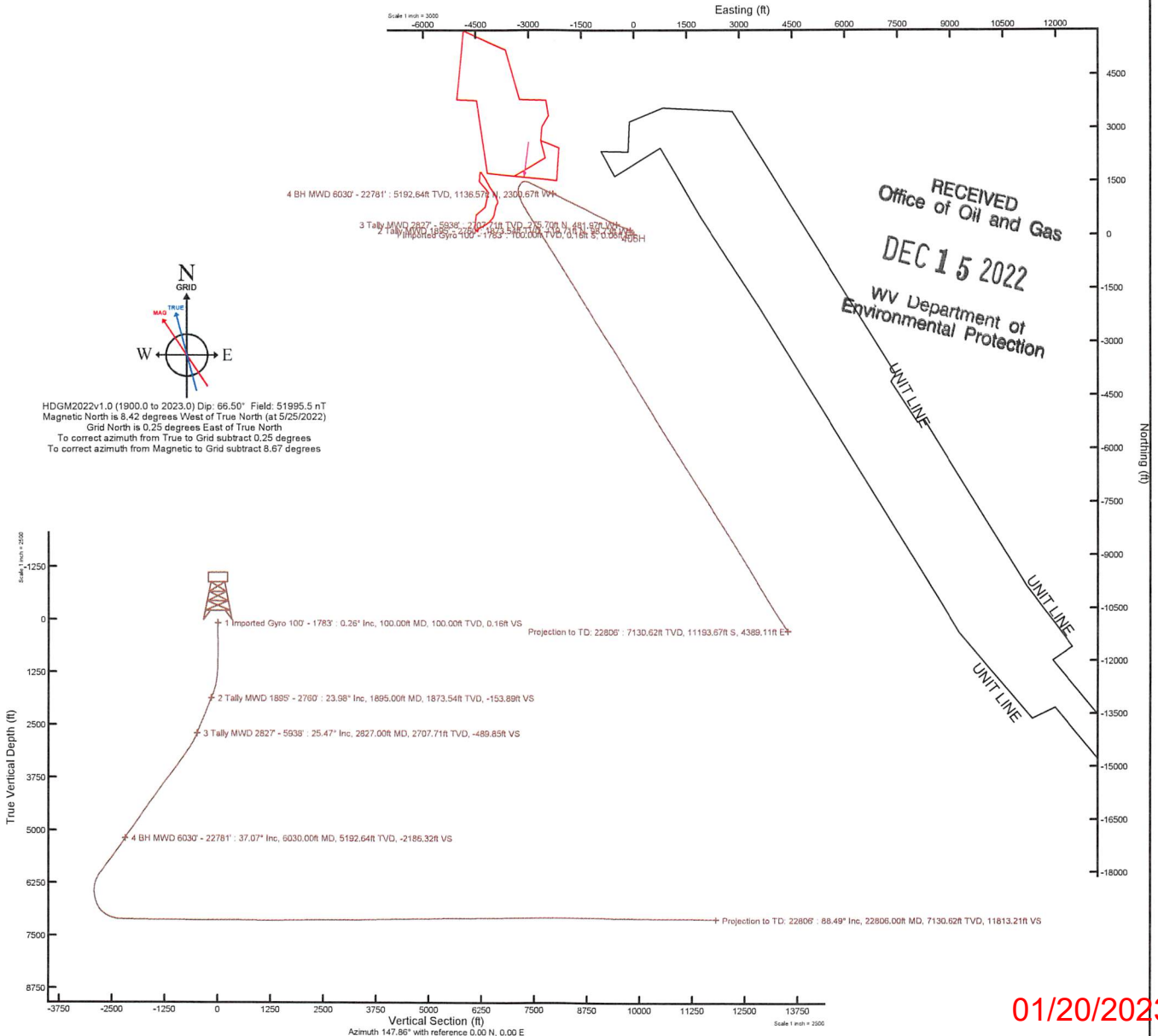
Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Charles Jamison MSH Pad			1750638.500	14451211.924	39°47'30.9700"N	80°36'27.4000"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
406H	-11.02	-33.15	1750605.360	14451200.910	39°47'30.8625"N	80°36'27.8253"W
Rig on Slot 406H (KB) to Ground level (At Slot: 406H)					26ft	
Mean Sea Level to Ground level (At Slot: 406H)					-1337.5ft	
Rig on Slot 406H (KB) to Mean Sea Level					1363.5ft	

Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
22806.00	88.490	147.600	7130.62	-11193.67	4389.11	1754992.76	14440011.58	39°45'40.0462"N	80°35'32.2507"W

API: 47051024340000
BH JOB: 111260166
DURATION: 06.19.2022 to 06.24.202
RIG: SDC 41



01/20/2023



Actual Wellpath Report

Charles Jamison MSH 406H AWB_awp 100' - 22781' Proj: 22806'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Charles Jamison MSH 406H
Field	Marshall WV	API	47051024340000
Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Tranlam
Scale	0.999614	Report Generated	7/2/2022 at 6:47:35 PM
Convergence at slot	0.25° 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	-11.02	-33.15	1750605.36	14451200.91	39°47'30.8625"N	80°36'27.8253"W
Facility Reference Pt			1750638.50	14451211.92	39°47'30.9700"N	80°36'27.4000"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on Slot 406H (KB) to Facility Vertical Datum	1363.50ft
Horizontal Reference Pt	Slot	Rig on Slot 406H (KB) to Mean Sea Level	1363.50ft
Vertical Reference Pt	Rig on Slot 406H (KB)	Rig on Slot 406H (KB) to Ground Level at Slot (406H)	26.00ft
MD Reference Pt	Rig on Slot 406H (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	147.86°

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Field	Marshall WV		API	47051024340000
Facility	Charles Jamison MSH Pad		Wellbore	Charles Jamison MSH 406H AWB
Slot	406H			

WELLPATH DATA (251 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]	Comments
0.00†	0.000	159.280	0.00	0.00	0.00	0.00	1750605.36	14451200.91	39°47'30.8625"N	80°36'27.8253"W	0.00	
26.00	0.000	159.280	26.00	0.00	0.00	0.00	1750605.36	14451200.91	39°47'30.8625"N	80°36'27.8253"W	0.00	
100.00	0.260	159.280	100.00	0.16	-0.16	0.06	1750605.42	14451200.75	39°47'30.8610"N	80°36'27.8246"W	0.35	1 Imported Gyro 100' - 1783'
200.00	0.380	158.930	200.00	0.71	-0.68	0.26	1750605.62	14451200.23	39°47'30.8558"N	80°36'27.8221"W	0.12	
300.00	0.230	116.620	300.00	1.21	-1.08	0.56	1750605.92	14451199.83	39°47'30.8519"N	80°36'27.8182"W	0.26	
400.00	0.560	139.900	399.99	1.87	-1.54	1.05	1750606.41	14451199.37	39°47'30.8473"N	80°36'27.8119"W	0.36	
500.00	0.650	145.600	499.99	2.92	-2.38	1.69	1750607.05	14451198.53	39°47'30.8389"N	80°36'27.8039"W	0.11	
600.00	0.520	167.070	599.98	3.91	-3.29	2.11	1750607.47	14451197.62	39°47'30.8299"N	80°36'27.7985"W	0.25	
700.00	0.440	165.960	699.98	4.70	-4.11	2.30	1750607.66	14451196.80	39°47'30.8218"N	80°36'27.7961"W	0.08	
800.00	0.740	324.620	799.98	4.42	-3.95	2.02	1750607.38	14451196.96	39°47'30.8234"N	80°36'27.7996"W	1.16	
900.00	1.110	333.500	899.96	2.82	-2.56	1.22	1750606.58	14451198.35	39°47'30.8372"N	80°36'27.8099"W	0.40	
960.00	1.420	335.860	959.95	1.50	-1.36	0.65	1750606.01	14451199.55	39°47'30.8491"N	80°36'27.8170"W	0.52	
1000.00	1.350	331.700	999.94	0.54	-0.50	0.23	1750605.59	14451200.41	39°47'30.8576"N	80°36'27.8224"W	0.31	
1048.00	1.440	337.070	1047.92	-0.62	0.56	-0.28	1750605.08	14451201.47	39°47'30.8681"N	80°36'27.8288"W	0.33	
1139.00	2.290	338.110	1138.88	-3.54	3.30	-1.40	1750603.96	14451204.21	39°47'30.8952"N	80°36'27.8431"W	0.93	
1231.00	3.720	338.170	1230.75	-8.28	7.77	-3.19	1750602.17	14451208.68	39°47'30.9395"N	80°36'27.8658"W	1.55	
1324.00	5.550	335.380	1323.44	-15.71	14.66	-6.19	1750599.17	14451215.57	39°47'31.0077"N	80°36'27.9038"W	1.98	
1415.00	7.700	335.940	1413.83	-26.11	24.23	-10.51	1750594.86	14451225.13	39°47'31.1025"N	80°36'27.9586"W	2.36	
1508.00	10.060	328.280	1505.71	-40.40	36.83	-17.32	1750588.05	14451237.73	39°47'31.2273"N	80°36'28.0452"W	2.83	
1554.00	11.540	323.870	1550.89	-49.01	43.97	-22.15	1750583.22	14451244.86	39°47'31.2980"N	80°36'28.1066"W	3.68	
1600.00	13.580	320.290	1595.79	-58.96	51.84	-28.31	1750577.06	14451252.73	39°47'31.3761"N	80°36'28.1851"W	4.74	
1690.00	17.470	318.820	1682.49	-82.78	70.14	-43.96	1750561.41	14451271.02	39°47'31.5576"N	80°36'28.3846"W	4.34	
1783.00	21.370	313.370	1770.19	-112.99	92.29	-65.48	1750539.90	14451293.17	39°47'31.7775"N	80°36'28.6590"W	4.62	
1895.00	23.980	306.050	1873.54	-153.89	119.71	-98.73	1750506.67	14451320.57	39°47'32.0499"N	80°36'29.0834"W	3.43	2 Tally MWD 1895' - 2760'
1986.00	24.410	300.690	1956.56	-187.79	140.19	-129.85	1750475.56	14451341.05	39°47'32.2536"N	80°36'29.4810"W	2.46	
2079.00	25.860	295.490	2040.76	-222.02	158.73	-164.69	1750440.73	14451359.58	39°47'32.4384"N	80°36'29.9263"W	2.84	
2171.00	24.740	290.520	2123.95	-254.28	174.12	-200.84	1750404.60	14451374.96	39°47'32.5920"N	80°36'30.3885"W	2.61	
2261.00	25.610	287.140	2205.40	-284.00	186.45	-237.07	1750368.39	14451387.29	39°47'32.7154"N	80°36'30.8519"W	1.87	
2350.00	27.510	289.320	2285.01	-314.65	198.92	-274.85	1750330.62	14451399.76	39°47'32.8403"N	80°36'31.3352"W	2.40	
2442.00	28.150	290.820	2366.37	-348.60	213.67	-314.18	1750290.30	14451414.49	39°47'32.9878"N	80°36'31.8511"W	1.03	

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Actual Wellpath Report

Charles Jamison MSH 406H AWB_ awp 100' - 22781' Proj: 22806'
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REFERENCE WELLPATH IDENTIFICATION			
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Field	Marshall WV	API	47051024340000
Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

WELLPATH DATA (251 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]	Comments
2533.00	28.680	291.170	2446.40	-383.24	229.18	-355.61	1750249.89	14451430.00	39°47'33.1428"N	80°36'32.3681"W	0.61	
2626.00	27.870	288.880	2528.31	-418.04	244.28	-396.99	1750208.52	14451445.09	39°47'33.2938"N	80°36'32.8974"W	1.46	
2718.00	26.620	289.780	2610.10	-450.98	258.21	-436.73	1750168.79	14451459.02	39°47'33.4332"N	80°36'33.4058"W	1.43	
2760.00	26.930	291.250	2647.60	-466.02	264.84	-454.45	1750151.08	14451465.65	39°47'33.4995"N	80°36'33.6324"W	1.74	
2827.00	25.470	291.820	2707.71	-489.85	275.70	-481.97	1750123.58	14451476.50	39°47'33.6080"N	80°36'33.9843"W	2.21	3 Tally MWD 2827' - 5938'
2923.00	28.270	293.430	2793.34	-525.30	292.41	-522.00	1750083.56	14451493.21	39°47'33.7749"N	80°36'34.4962"W	3.01	
3014.00	31.170	292.770	2872.36	-562.35	310.10	-563.50	1750042.08	14451510.89	39°47'33.9515"N	80°36'35.0268"W	3.21	
3107.00	33.930	294.190	2950.75	-603.65	330.05	-609.38	1749996.22	14451530.84	39°47'34.1506"N	80°36'35.6134"W	3.08	
3199.00	36.080	296.330	3026.10	-648.12	352.59	-657.08	1749948.53	14451553.37	39°47'34.3755"N	80°36'36.2234"W	2.69	
3290.00	38.390	297.600	3098.55	-695.37	377.57	-706.15	1749899.49	14451578.34	39°47'34.6244"N	80°36'36.8505"W	2.68	
3383.00	38.910	297.810	3171.18	-745.60	404.58	-757.57	1749848.08	14451605.33	39°47'34.8935"N	80°36'37.5078"W	0.58	
3472.00	39.120	297.230	3240.33	-793.95	430.47	-807.26	1749798.41	14451631.21	39°47'35.1515"N	80°36'38.1429"W	0.47	
3562.00	39.690	296.050	3309.87	-842.81	456.08	-858.33	1749747.37	14451656.81	39°47'35.4068"N	80°36'38.7957"W	1.05	
3654.00	40.250	296.370	3380.38	-893.11	482.18	-911.35	1749694.37	14451682.90	39°47'35.6670"N	80°36'39.4735"W	0.65	
3744.00	39.340	295.770	3449.53	-942.08	507.50	-963.09	1749642.64	14451708.21	39°47'35.9195"N	80°36'40.1349"W	1.10	
3836.00	40.270	295.480	3520.21	-991.89	532.97	-1016.19	1749589.56	14451733.67	39°47'36.1734"N	80°36'40.8138"W	1.03	
3927.00	40.870	294.350	3589.33	-1041.56	557.90	-1069.87	1749535.91	14451758.59	39°47'36.4221"N	80°36'41.5001"W	1.04	
4020.00	41.850	295.210	3659.13	-1093.05	583.66	-1125.66	1749480.14	14451784.34	39°47'36.6791"N	80°36'42.2134"W	1.22	
4111.00	42.160	295.130	3726.75	-1144.30	609.56	-1180.77	1749425.04	14451810.23	39°47'36.9374"N	80°36'42.9180"W	0.35	
4203.00	41.660	296.180	3795.22	-1196.30	636.16	-1236.17	1749369.67	14451836.82	39°47'37.2027"N	80°36'43.6262"W	0.94	
4292.00	42.190	297.780	3861.44	-1247.33	663.14	-1289.16	1749316.70	14451863.79	39°47'37.4716"N	80°36'44.3035"W	1.34	
4383.00	40.950	296.950	3929.52	-1299.36	690.90	-1342.78	1749263.11	14451891.54	39°47'37.7482"N	80°36'44.9889"W	1.49	
4475.00	39.580	294.820	3999.72	-1349.80	716.87	-1396.26	1749209.64	14451917.50	39°47'38.0071"N	80°36'45.6727"W	2.11	
4566.00	40.070	293.970	4069.61	-1398.42	740.94	-1449.33	1749156.59	14451941.56	39°47'38.2473"N	80°36'46.3513"W	0.80	
4658.00	40.570	296.140	4139.76	-1448.45	766.15	-1503.25	1749102.69	14451966.76	39°47'38.4987"N	80°36'47.0406"W	1.62	
4749.00	40.570	294.730	4208.89	-1498.41	791.57	-1556.70	1749049.27	14451992.17	39°47'38.7522"N	80°36'47.7239"W	1.01	
4840.00	40.740	295.320	4277.92	-1548.22	816.64	-1610.42	1748995.57	14452017.24	39°47'39.0023"N	80°36'48.4108"W	0.46	
4932.00	40.580	295.980	4347.72	-1598.94	842.59	-1664.45	1748941.55	14452043.17	39°47'39.2611"N	80°36'49.1016"W	0.50	
5026.00	40.160	294.930	4419.33	-1650.34	868.76	-1719.43	1748886.60	14452069.33	39°47'39.5220"N	80°36'49.8044"W	0.85	
5118.00	39.650	294.370	4489.91	-1699.72	895.98	-1778.30	1748832.98	14452093.94	39°47'39.7676"N	80°36'50.4902"W	0.68	

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Slot	406H		

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5209.00	38.950	293.810	4560.33	-1747.64	916.91	-1825.68	1748780.39	14452117.46	39°47'40.0024"N	80°36'51.1630"W	0.86	
5300.00	38.990	294.150	4631.08	-1795.15	940.17	-1877.97	1748728.12	14452140.71	39°47'40.2345"N	80°36'51.8316"W	0.24	
5391.00	39.210	294.230	4701.70	-1842.91	963.68	-1930.33	1748675.78	14452164.22	39°47'40.4691"N	80°36'52.5010"W	0.25	
5482.00	38.640	296.240	4772.49	-1891.06	988.05	-1982.04	1748624.09	14452188.58	39°47'40.7121"N	80°36'53.1622"W	1.52	
5573.00	40.120	296.340	4842.83	-1940.25	1013.62	-2033.80	1748572.35	14452214.14	39°47'40.9670"N	80°36'53.8240"W	1.63	
5664.00	41.860	295.620	4911.52	-1990.93	1039.76	-2087.46	1748518.71	14452240.27	39°47'41.2276"N	80°36'54.5099"W	1.98	
5754.00	41.420	295.380	4978.78	-2041.44	1065.51	-2141.44	1748464.76	14452266.00	39°47'41.4844"N	80°36'55.2000"W	0.52	
5849.00	39.450	294.530	5051.08	-2093.17	1091.51	-2197.29	1748408.92	14452292.00	39°47'41.7437"N	80°36'55.9142"W	2.15	
5938.00	38.850	293.640	5120.10	-2139.88	1114.44	-2248.59	1748357.65	14452314.92	39°47'41.9725"N	80°36'56.5701"W	0.92	
6030.00	37.070	292.380	5192.64	-2186.32	1136.57	-2300.67	1748305.59	14452337.04	39°47'42.1934"N	80°36'57.2360"W	2.11	4 BH MWD 6030' - 22781'
6121.00	40.100	292.780	5263.76	-2232.65	1158.37	-2353.06	1748253.21	14452358.83	39°47'42.4110"N	80°36'57.9061"W	3.34	
6212.00	40.910	289.110	5332.96	-2279.88	1179.47	-2408.25	1748198.05	14452379.93	39°47'42.6220"N	80°36'58.6119"W	2.77	
6303.00	40.820	293.470	5401.80	-2327.68	1201.08	-2463.69	1748142.62	14452401.52	39°47'42.8378"N	80°36'59.3211"W	3.14	
6393.00	40.840	294.870	5469.90	-2376.63	1225.17	-2517.38	1748088.96	14452425.61	39°47'43.0782"N	80°37'0.0075"W	1.02	
6484.00	40.770	295.700	5538.78	-2426.74	1250.57	-2571.14	1748035.21	14452451.00	39°47'43.3315"N	80°37'0.6950"W	0.60	
6576.00	40.830	296.040	5608.42	-2477.73	1276.80	-2625.23	1747981.14	14452477.22	39°47'43.5930"N	80°37'1.3865"W	0.25	
6667.00	40.770	296.370	5677.31	-2528.34	1303.06	-2678.58	1747927.82	14452503.46	39°47'43.8547"N	80°37'2.0686"W	0.25	
6758.00	40.870	296.210	5746.17	-2579.03	1329.40	-2731.92	1747874.50	14452529.80	39°47'44.1173"N	80°37'2.7504"W	0.16	
6851.00	40.750	295.970	5816.56	-2630.70	1356.13	-2786.50	1747819.94	14452556.52	39°47'44.3838"N	80°37'3.4482"W	0.21	
6944.00	40.800	295.950	5886.99	-2682.26	1382.72	-2841.11	1747765.35	14452583.10	39°47'44.6489"N	80°37'4.1464"W	0.06	
7036.00	40.780	296.060	5956.65	-2733.31	1409.07	-2895.13	1747711.35	14452609.44	39°47'44.9116"N	80°37'4.8370"W	0.08	
7129.00	40.770	296.670	6027.07	-2785.10	1436.05	-2949.55	1747656.96	14452636.40	39°47'45.1804"N	80°37'5.5327"W	0.43	
7222.00	35.200	290.510	6100.37	-2832.44	1459.09	-3001.85	1747604.68	14452659.44	39°47'45.4104"N	80°37'6.2015"W	7.24	
7315.00	29.760	280.080	6178.86	-2869.32	1472.55	-3049.75	1747556.79	14452672.88	39°47'45.5454"N	80°37'6.8145"W	8.38	
7406.00	28.700	272.220	6258.30	-2896.84	1477.35	-3093.84	1747512.72	14452677.68	39°47'45.5947"N	80°37'7.3791"W	4.37	
7497.00	23.190	253.380	6340.23	-2914.01	1473.06	-3132.94	1747473.64	14452673.40	39°47'45.5539"N	80°37'7.8802"W	10.83	
7589.00	24.930	242.520	6424.28	-2920.43	1458.92	-3167.52	1747439.07	14452659.27	39°47'45.4157"N	80°37'8.3240"W	5.16	
7682.00	26.530	226.720	6508.15	-2918.01	1435.61	-3200.07	1747406.53	14452635.96	39°47'45.1867"N	80°37'8.7423"W	7.55	
7773.00	26.760	211.220	6589.59	-2904.88	1404.12	-3228.50	1747381.10	14452604.48	39°47'44.8765"N	80°37'9.0700"W	7.62	
7866.00	28.060	211.060	6672.15	-2885.63	1367.47	-3247.85	1747358.97	14452567.85	39°47'44.5153"N	80°37'9.3556"W	1.40	

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Actual Wellpath Report

Charles Jamison MSH 406H AWB_awp 100' - 22781' Proj: 22806'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Charles Jamison MSH 406H
Field	Marshall WV	API	47051024340000
Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

WELLPATH DATA (251 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]	Comments
7956.00	32.170	198.680	6750.06	-2860.91	1326.59	-3266.27	1747340.35	14452526.98	39°47'44.1120"N	80°37'9.5964"W	8.26	
8049.00	37.270	186.170	6826.57	-2823.10	1275.04	-3277.25	1747329.38	14452475.45	39°47'43.6030"N	80°37'9.7398"W	9.40	
8141.00	44.120	178.030	6896.33	-2773.46	1215.22	-3279.15	1747327.48	14452415.66	39°47'43.0120"N	80°37'9.7674"W	9.41	
8234.00	51.150	168.010	6959.05	-2711.32	1147.27	-3270.49	1747336.14	14452347.73	39°47'42.3401"N	80°37'9.6602"W	10.96	
8326.00	58.420	163.610	7012.08	-2639.85	1074.51	-3251.96	1747354.66	14452275.00	39°47'41.6202"N	80°37'9.4267"W	8.81	
8419.00	66.050	158.210	7055.40	-2559.75	996.88	-3224.95	1747381.66	14452197.41	39°47'40.8520"N	80°37'9.0849"W	9.68	
8511.00	71.910	155.120	7088.39	-2474.93	918.10	-3190.91	1747415.69	14452118.65	39°47'40.0719"N	80°37'8.6532"W	7.10	
8601.00	80.850	152.200	7109.57	-2388.00	839.82	-3152.11	1747454.48	14452040.40	39°47'39.2966"N	80°37'8.1603"W	10.42	
8690.00	88.460	148.840	7117.86	-2299.56	762.75	-3108.52	1747498.04	14451963.37	39°47'38.5332"N	80°37'7.6062"W	9.34	
8782.00	89.260	148.940	7119.69	-2207.60	684.00	-3061.00	1747545.55	14451884.64	39°47'37.7529"N	80°37'7.0016"W	0.88	
8873.00	88.710	149.320	7121.30	-2116.63	605.90	-3014.31	1747592.21	14451806.58	39°47'36.9792"N	80°37'6.4078"W	0.73	
8966.00	89.320	147.950	7122.90	-2023.66	526.51	-2965.92	1747640.59	14451727.21	39°47'36.1925"N	80°37'5.7921"W	1.61	
9058.00	88.800	147.930	7124.41	-1931.67	448.55	-2917.09	1747689.40	14451649.29	39°47'35.4200"N	80°37'5.1709"W	0.57	
9148.00	88.400	146.950	7126.60	-1841.70	372.72	-2868.67	1747737.80	14451573.48	39°47'34.6686"N	80°37'4.5547"W	1.18	
9241.00	88.890	148.520	7128.80	-1748.73	294.10	-2819.04	1747787.42	14451494.90	39°47'33.8896"N	80°37'3.9232"W	1.77	
9333.00	88.340	147.250	7131.03	-1656.76	216.21	-2770.14	1747836.29	14451417.03	39°47'33.1177"N	80°37'3.3011"W	1.50	
9425.00	89.260	146.760	7132.95	-1564.79	139.06	-2720.06	1747886.36	14451339.92	39°47'32.3532"N	80°37'2.6636"W	1.13	
9517.00	90.460	150.910	7133.18	-1472.83	60.36	-2672.46	1747933.94	14451261.24	39°47'31.5734"N	80°37'2.0581"W	4.70	
9608.00	90.800	146.500	7132.18	-1381.87	-17.38	-2625.20	1747981.18	14451183.54	39°47'30.8031"N	80°37'1.4570"W	4.86	
9701.00	89.230	146.520	7132.15	-1288.89	-94.94	-2573.89	1748032.47	14451106.01	39°47'30.0345"N	80°37'0.8039"W	1.69	
9791.00	90.490	148.280	7132.37	-1198.90	-170.75	-2525.40	1748080.94	14451030.22	39°47'29.2832"N	80°37'0.1869"W	2.40	
9880.00	88.340	147.360	7133.28	-1109.91	-246.07	-2478.01	1748128.31	14450954.93	39°47'28.5368"N	80°36'59.5839"W	2.63	
9972.00	90.890	148.580	7133.90	-1017.93	-324.06	-2429.22	1748177.08	14450876.98	39°47'27.7641"N	80°36'58.9632"W	3.07	
10062.00	88.800	146.070	7134.14	-927.94	-399.80	-2380.64	1748225.65	14450801.26	39°47'27.0134"N	80°36'58.3450"W	3.63	
10154.00	89.820	147.490	7135.25	-835.97	-476.76	-2330.24	1748276.02	14450724.34	39°47'26.2508"N	80°36'57.7036"W	1.90	
10246.00	89.110	147.380	7136.11	-743.98	-554.29	-2280.72	1748325.52	14450646.83	39°47'25.4825"N	80°36'57.0735"W	0.78	
10335.00	89.820	146.210	7136.94	-655.00	-628.75	-2231.99	1748374.24	14450572.40	39°47'24.7445"N	80°36'56.4533"W	1.54	
10427.00	89.880	148.970	7137.18	-563.01	-706.42	-2182.68	1748423.52	14450494.77	39°47'23.9749"N	80°36'55.8259"W	3.00	
10518.00	89.230	147.960	7137.89	-472.02	-783.97	-2135.09	1748471.10	14450417.24	39°47'23.2064"N	80°36'55.2205"W	1.32	
10608.00	89.080	146.670	7139.22	-382.03	-859.71	-2086.50	1748519.67	14450341.53	39°47'22.4559"N	80°36'54.6022"W	1.44	

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Actual Wellpath Report

Charles Jamison MSH 406H AWB_awp 100' - 22781' Proj: 22806'
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Field	Marshall WV	API	47051024340000
Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

WELLPATH DATA (251 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]	Comments
10699.00	90.030	147.320	7139.92	-291.05	-936.02	-2036.93	1748569.22	14450265.25	39°47'21.6996"N	80°36'53.9714"W	1.26	
10791.00	90.030	148.400	7139.88	-199.05	-1013.92	-1987.99	1748618.14	14450187.38	39°47'20.9277"N	80°36'53.3488"W	1.17	
10882.00	89.780	147.870	7140.03	-108.05	-1091.21	-1939.95	1748666.17	14450110.13	39°47'20.1618"N	80°36'52.7376"W	0.64	
10973.00	89.290	148.020	7140.77	-17.05	-1168.33	-1891.65	1748714.44	14450033.03	39°47'19.3976"N	80°36'52.1232"W	0.56	
11065.00	89.510	147.880	7141.73	74.94	-1246.31	-1842.83	1748763.24	14449955.09	39°47'18.6250"N	80°36'51.5021"W	0.28	
11156.00	90.030	147.510	7142.09	165.94	-1323.22	-1794.20	1748811.86	14449878.20	39°47'17.8628"N	80°36'50.8834"W	0.70	
11248.00	89.940	147.520	7142.12	257.94	-1400.82	-1744.79	1748861.25	14449800.63	39°47'17.0937"N	80°36'50.2547"W	0.10	
11339.00	88.740	149.010	7143.17	348.93	-1478.21	-1696.93	1748909.09	14449723.27	39°47'16.3269"N	80°36'49.6459"W	2.10	
11431.00	91.480	147.140	7142.99	440.91	-1556.28	-1648.29	1748957.71	14449645.23	39°47'15.5533"N	80°36'49.0271"W	3.61	
11522.00	87.010	147.600	7144.19	531.88	-1632.89	-1599.24	1749006.75	14449568.65	39°47'14.7941"N	80°36'48.4030"W	4.94	
11613.00	90.180	150.030	7146.42	622.82	-1710.71	-1552.14	1749053.82	14449490.87	39°47'14.0231"N	80°36'47.8040"W	4.39	
11704.00	90.280	145.980	7146.05	713.80	-1787.87	-1503.93	1749102.01	14449413.74	39°47'13.2585"N	80°36'47.1908"W	4.45	
11795.00	89.750	148.320	7146.03	804.78	-1864.31	-1454.58	1749151.35	14449337.33	39°47'12.5009"N	80°36'46.5627"W	2.64	
11886.00	88.550	147.730	7147.38	895.77	-1941.49	-1406.39	1749199.51	14449260.17	39°47'11.7361"N	80°36'45.9498"W	1.47	
11977.00	89.570	148.300	7148.87	986.76	-2018.66	-1358.20	1749247.69	14449183.03	39°47'10.9714"N	80°36'45.3367"W	1.28	
12067.00	90.060	147.420	7149.16	1076.76	-2094.87	-1310.32	1749295.55	14449106.85	39°47'10.2162"N	80°36'44.7276"W	1.12	
12159.00	90.060	147.650	7149.07	1168.76	-2172.49	-1260.94	1749344.91	14449029.26	39°47'9.4470"N	80°36'44.0994"W	0.25	
12251.00	89.420	146.650	7149.49	1260.75	-2249.78	-1211.03	1749394.80	14448952.00	39°47'8.6810"N	80°36'43.4644"W	1.29	
12343.00	90.340	149.790	7149.68	1352.73	-2327.98	-1162.59	1749443.22	14448873.84	39°47'7.9062"N	80°36'42.8482"W	3.56	
12435.00	89.850	146.910	7149.53	1444.72	-2406.28	-1114.32	1749491.48	14448795.56	39°47'7.1302"N	80°36'42.2342"W	3.18	
12525.00	91.260	149.000	7148.65	1534.71	-2482.56	-1066.57	1749539.20	14448719.31	39°47'6.3744"N	80°36'41.6268"W	2.80	
12616.00	90.250	146.150	7147.45	1625.69	-2559.36	-1017.79	1749587.97	14448642.55	39°47'5.6133"N	80°36'41.0062"W	3.32	
12707.00	90.860	148.920	7146.57	1716.67	-2636.12	-968.95	1749636.79	14448565.81	39°47'4.8526"N	80°36'40.3849"W	3.12	
12798.00	90.370	144.620	7145.60	1807.63	-2712.22	-919.09	1749686.62	14448489.74	39°47'4.0984"N	80°36'39.7505"W	4.76	
12889.00	90.180	149.110	7145.16	1898.59	-2788.40	-869.36	1749736.33	14448413.59	39°47'3.3434"N	80°36'39.1178"W	4.94	
12980.00	90.180	146.600	7144.87	1989.58	-2865.45	-820.95	1749784.73	14448336.58	39°47'2.5799"N	80°36'38.5019"W	2.76	
13072.00	91.910	147.370	7143.19	2081.55	-2942.58	-770.83	1749834.83	14448259.48	39°47'1.8155"N	80°36'37.8643"W	2.06	
13165.00	88.980	144.840	7142.47	2174.49	-3019.75	-718.98	1749886.66	14448182.33	39°47'1.0506"N	80°36'37.2044"W	4.16	
13255.00	90.920	147.740	7142.55	2264.44	-3094.61	-669.04	1749936.58	14448107.50	39°47'0.3087"N	80°36'36.5688"W	3.88	
13346.00	90.740	144.500	7141.23	2355.38	-3170.14	-618.32	1749987.28	14448032.00	39°46'59.5600"N	80°36'35.9234"W	3.57	

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Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

WELLPATH DATA (251 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]	Comments
13439.00	88.950	147.150	7141.48	2448.31	-3247.07	-566.09	1750039.49	14447955.10	39°46'58.7975"N	80°36'35.2586"W	3.44	
13534.00	90.920	149.370	7141.59	2543.29	-3327.85	-516.12	1750089.44	14447874.35	39°46'57.9970"N	80°36'34.6231"W	3.12	
13628.00	89.970	146.710	7140.86	2637.28	-3407.59	-466.37	1750139.17	14447794.64	39°46'57.2068"N	80°36'33.9903"W	3.00	
13723.00	89.940	149.260	7140.94	2732.27	-3488.14	-416.01	1750189.51	14447714.12	39°46'56.4087"N	80°36'33.3497"W	2.68	
13817.00	90.150	151.550	7140.86	2826.17	-3569.87	-369.59	1750235.91	14447632.43	39°46'55.5989"N	80°36'32.7597"W	2.45	
13912.00	90.580	147.960	7140.26	2921.10	-3651.92	-321.75	1750283.74	14447550.40	39°46'54.7860"N	80°36'32.1515"W	3.81	
14004.00	90.580	147.130	7139.33	3013.10	-3729.55	-272.38	1750333.09	14447472.81	39°46'54.0167"N	80°36'31.5235"W	0.90	
14099.00	90.280	149.610	7138.61	3108.08	-3810.43	-222.56	1750382.88	14447391.96	39°46'53.2153"N	80°36'30.8899"W	2.63	
14194.00	90.990	147.960	7137.56	3203.06	-3891.67	-173.34	1750432.09	14447310.75	39°46'52.4103"N	80°36'30.2639"W	1.89	
14288.00	89.450	148.140	7137.20	3297.06	-3971.42	-123.59	1750481.81	14447231.03	39°46'51.6199"N	80°36'29.6313"W	1.65	
14382.00	91.510	148.870	7136.41	3391.04	-4051.57	-74.49	1750530.90	14447150.91	39°46'50.8258"N	80°36'29.0068"W	2.32	
14477.00	90.180	148.780	7135.01	3486.01	-4132.84	-25.32	1750580.05	14447069.67	39°46'50.0205"N	80°36'28.3816"W	1.40	
14571.00	91.140	146.810	7133.93	3580.00	-4212.37	24.77	1750630.12	14446990.18	39°46'49.2324"N	80°36'27.7444"W	2.33	
14665.00	90.060	149.900	7132.94	3673.98	-4292.38	74.08	1750679.41	14446910.20	39°46'48.4395"N	80°36'27.1174"W	3.48	
14760.00	92.400	150.360	7130.90	3768.88	-4374.73	121.38	1750726.69	14446827.88	39°46'47.6236"N	80°36'26.5162"W	2.51	
14854.00	90.980	148.060	7128.13	3862.80	-4455.44	169.47	1750774.76	14446747.20	39°46'46.8239"N	80°36'25.9047"W	2.87	
14949.00	91.420	148.480	7126.14	3957.78	-4536.22	219.42	1750824.70	14446666.45	39°46'46.0234"N	80°36'25.2695"W	0.64	
15044.00	90.920	148.490	7124.20	4052.75	-4617.19	269.07	1750874.32	14446585.51	39°46'45.2211"N	80°36'24.6381"W	0.53	
15139.00	90.520	148.790	7123.01	4147.74	-4698.31	318.50	1750923.74	14446504.43	39°46'44.4173"N	80°36'24.0095"W	0.53	
15233.00	89.940	148.880	7122.63	4241.72	-4778.74	367.15	1750972.37	14446424.02	39°46'43.6203"N	80°36'23.3909"W	0.62	
15327.00	90.220	148.580	7122.50	4335.71	-4859.08	415.94	1751021.14	14446343.71	39°46'42.8241"N	80°36'22.7705"W	0.44	
15422.00	90.740	147.730	7121.70	4430.70	-4939.78	466.06	1751071.24	14446263.05	39°46'42.0245"N	80°36'22.1331"W	1.05	
15517.00	91.570	147.960	7119.79	4525.68	-5020.19	516.61	1751121.77	14446182.67	39°46'41.2276"N	80°36'21.4902"W	0.91	
15611.00	91.630	151.340	7117.16	4619.59	-5101.27	564.08	1751169.23	14446101.62	39°46'40.4243"N	80°36'20.8867"W	3.59	
15705.00	90.950	148.310	7115.05	4713.50	-5182.50	611.32	1751216.44	14446020.42	39°46'39.6195"N	80°36'20.2864"W	3.30	
15799.00	90.430	148.800	7113.91	4807.48	-5262.69	660.35	1751265.45	14445940.27	39°46'38.8249"N	80°36'19.6629"W	0.76	
15894.00	89.660	147.050	7113.84	4902.48	-5343.18	710.79	1751315.88	14445859.80	39°46'38.0272"N	80°36'19.0213"W	2.01	
15988.00	92.030	148.520	7112.45	4996.46	-5422.69	760.90	1751365.96	14445780.32	39°46'37.2392"N	80°36'18.3841"W	2.97	
16083.00	90.830	147.660	7110.08	5091.43	-5503.31	811.09	1751416.14	14445699.74	39°46'36.4403"N	80°36'17.7457"W	1.55	
16178.00	91.110	147.000	7108.47	5186.41	-5583.27	862.37	1751467.39	14445619.81	39°46'35.6479"N	80°36'17.0935"W	0.75	

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Field	Marshall WV	API	47051024340000
Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

WELLPATH DATA (251 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]	Comments
16272.00	90.550	148.080	7107.11	5280.39	-5662.57	912.81	1751517.82	14445540.53	39°46'34.8620"N	80°36'16.4519"W	1.29	
16367.00	90.460	147.540	7106.28	5375.39	-5742.97	963.42	1751568.41	14445460.17	39°46'34.0652"N	80°36'15.8083"W	0.58	
16461.00	90.370	147.160	7105.59	5469.38	-5822.11	1014.13	1751619.10	14445381.06	39°46'33.2809"N	80°36'15.1633"W	0.42	
16556.00	90.370	147.170	7104.98	5564.38	-5901.93	1065.64	1751670.59	14445301.27	39°46'32.4898"N	80°36'14.5081"W	0.01	
16650.00	90.490	147.420	7104.28	5658.37	-5981.03	1116.43	1751721.36	14445222.20	39°46'31.7059"N	80°36'13.8621"W	0.30	
16745.00	90.770	148.490	7103.23	5753.36	-6061.55	1166.83	1751771.74	14445141.72	39°46'30.9080"N	80°36'13.2211"W	1.16	
16839.00	89.940	147.490	7102.65	5847.36	-6141.25	1216.66	1751821.54	14445062.04	39°46'30.1181"N	80°36'12.5875"W	1.38	
16933.00	91.200	146.660	7101.71	5941.34	-6220.15	1267.74	1751872.61	14444983.18	39°46'29.3362"N	80°36'11.9377"W	1.61	
17028.00	90.950	147.080	7099.93	6036.31	-6299.69	1319.66	1751924.50	14444903.67	39°46'28.5478"N	80°36'11.2773"W	0.51	
17122.00	91.350	148.530	7098.04	6130.29	-6379.22	1369.73	1751974.56	14444824.17	39°46'27.7597"N	80°36'10.6405"W	1.60	
17217.00	90.580	147.540	7096.44	6225.27	-6459.80	1420.01	1752024.82	14444743.62	39°46'26.9611"N	80°36'10.0011"W	1.32	
17312.00	90.430	148.250	7095.61	6320.27	-6540.27	1470.50	1752075.29	14444663.18	39°46'26.1637"N	80°36'9.3590"W	0.76	
17406.00	90.090	146.360	7095.18	6414.26	-6619.37	1521.27	1752126.04	14444584.11	39°46'25.3797"N	80°36'8.7133"W	2.04	
17500.00	90.310	147.610	7094.85	6508.24	-6698.19	1572.49	1752177.24	14444505.32	39°46'24.5985"N	80°36'8.0618"W	1.35	
17595.00	90.220	147.300	7094.41	6603.24	-6778.27	1623.59	1752228.32	14444425.27	39°46'23.8048"N	80°36'7.4119"W	0.34	
17690.00	89.630	148.390	7094.54	6698.24	-6858.70	1674.15	1752278.86	14444344.88	39°46'23.0078"N	80°36'6.7689"W	1.30	
17785.00	91.320	146.430	7093.75	6793.22	-6938.73	1725.32	1752330.01	14444264.87	39°46'22.2146"N	80°36'6.1182"W	2.72	
17879.00	91.290	147.810	7091.61	6887.19	-7017.65	1776.33	1752381.00	14444185.99	39°46'21.4325"N	80°36'5.4693"W	1.47	
17973.00	90.680	147.610	7089.99	6981.18	-7097.10	1826.54	1752431.19	14444106.56	39°46'20.6451"N	80°36'4.8309"W	0.68	
18067.00	90.000	147.460	7089.44	7075.17	-7176.41	1877.00	1752481.63	14444027.29	39°46'19.8591"N	80°36'4.1892"W	0.74	
18161.00	90.090	147.010	7089.36	7169.17	-7255.45	1927.87	1752532.48	14443948.27	39°46'19.0757"N	80°36'3.5422"W	0.49	
18256.00	90.430	145.820	7088.93	7264.13	-7334.59	1980.42	1752585.01	14443869.17	39°46'18.2913"N	80°36'2.8737"W	1.30	
18350.00	90.370	147.790	7088.27	7358.11	-7413.24	2031.88	1752636.45	14443790.54	39°46'17.5117"N	80°36'2.2191"W	2.10	
18445.00	90.090	146.560	7087.89	7453.10	-7493.07	2083.38	1752687.93	14443710.74	39°46'16.7205"N	80°36'1.5642"W	1.33	
18539.00	90.310	147.310	7087.56	7547.09	-7571.85	2134.66	1752739.19	14443632.00	39°46'15.9397"N	80°36'0.9119"W	0.83	
18634.00	89.970	147.600	7087.33	7642.08	-7651.93	2185.77	1752790.28	14443551.95	39°46'15.1460"N	80°36'0.2620"W	0.47	
18728.00	90.150	147.270	7087.23	7736.08	-7731.15	2236.36	1752840.85	14443472.76	39°46'14.3609"N	80°35'59.6185"W	0.40	
18823.00	90.000	147.400	7087.11	7831.08	-7811.13	2287.64	1752892.11	14443392.81	39°46'13.5683"N	80°35'58.9664"W	0.21	
18917.00	89.780	147.130	7087.29	7925.07	-7890.20	2338.47	1752942.92	14443313.77	39°46'12.7846"N	80°35'58.3200"W	0.37	
19011.00	89.910	147.370	7087.54	8019.07	-7969.26	2389.32	1752993.75	14443234.75	39°46'12.0011"N	80°35'57.6733"W	0.29	

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Actual Wellpath Report

Charles Jamison MSH 406H AWB_awp 100' - 22781' Proj: 22806'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Charles Jamison MSH 406H
Field	Marshall WV	API	47051024340000
Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

WELLPATH DATA (251 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]	Comments
19105.00	89.690	146.840	7087.87	8113.06	-8048.18	2440.37	1753044.78	14443155.85	39°46'11.2188"N	80°35'57.0240"W	0.61	
19200.00	89.690	147.390	7088.39	8208.05	-8127.96	2491.95	1753096.34	14443076.11	39°46'10.4281"N	80°35'56.3680"W	0.58	
19294.00	89.570	146.640	7088.99	8302.03	-8206.81	2543.12	1753147.50	14442997.29	39°46'9.6466"N	80°35'55.7172"W	0.81	
19389.00	89.970	147.290	7089.38	8397.02	-8286.45	2594.91	1753199.26	14442917.68	39°46'8.8573"N	80°35'55.0585"W	0.80	
19484.00	89.720	147.340	7089.63	8492.02	-8366.40	2646.21	1753250.55	14442837.75	39°46'8.0648"N	80°35'54.4061"W	0.27	
19578.00	89.690	147.600	7090.12	8586.01	-8445.65	2696.76	1753301.07	14442758.53	39°46'7.2794"N	80°35'53.7634"W	0.28	
19672.00	89.600	147.210	7090.70	8680.01	-8524.85	2747.40	1753351.69	14442679.37	39°46'6.4945"N	80°35'53.1194"W	0.43	
19767.00	89.850	147.380	7091.15	8775.00	-8604.79	2798.73	1753403.00	14442599.46	39°46'5.7022"N	80°35'52.4667"W	0.32	
19861.00	89.820	148.170	7091.43	8869.00	-8684.30	2848.85	1753453.10	14442519.98	39°46'4.9142"N	80°35'51.8294"W	0.84	
19955.00	89.780	148.190	7091.75	8963.00	-8764.18	2898.41	1753502.65	14442440.13	39°46'4.1226"N	80°35'51.1993"W	0.05	
20050.00	89.480	149.160	7092.37	9057.99	-8845.33	2947.80	1753552.02	14442359.02	39°46'3.3184"N	80°35'50.5714"W	1.07	
20144.00	88.980	148.370	7093.63	9151.96	-8925.69	2996.54	1753600.74	14442278.68	39°46'2.5221"N	80°35'49.9519"W	0.99	
20239.00	88.340	148.930	7095.85	9246.93	-9006.80	3045.95	1753650.13	14442197.61	39°46'1.7183"N	80°35'49.3238"W	0.90	
20333.00	88.430	147.910	7098.50	9340.89	-9086.85	3095.16	1753699.31	14442117.59	39°46'0.9250"N	80°35'48.6983"W	1.09	
20427.00	88.800	148.670	7100.77	9434.85	-9166.79	3144.55	1753748.69	14442037.68	39°46'0.1328"N	80°35'48.0704"W	0.90	
20521.00	88.770	148.300	7102.77	9528.83	-9246.91	3193.67	1753797.79	14441957.59	39°45'59.3388"N	80°35'47.4459"W	0.39	
20616.00	89.420	148.600	7104.27	9623.81	-9327.85	3243.38	1753847.48	14441876.68	39°45'58.5367"N	80°35'46.8141"W	0.75	
20710.00	89.200	147.290	7105.40	9717.80	-9407.52	3293.26	1753897.34	14441797.05	39°45'57.7472"N	80°35'46.1799"W	1.41	
20804.00	89.750	150.020	7106.26	9811.78	-9487.78	3342.15	1753946.21	14441716.81	39°45'56.9517"N	80°35'45.5584"W	2.96	
20899.00	88.800	148.750	7107.46	9906.73	-9569.53	3390.53	1753994.57	14441635.09	39°45'56.1417"N	80°35'44.9437"W	1.67	
20993.00	89.600	150.070	7108.77	10000.69	-9650.44	3438.36	1754042.38	14441554.21	39°45'55.3400"N	80°35'44.3358"W	1.64	
21088.00	89.420	149.320	7109.59	10095.64	-9732.46	3486.29	1754090.30	14441472.23	39°45'54.5273"N	80°35'43.7267"W	0.81	
21182.00	89.420	149.080	7110.54	10189.60	-9813.19	3534.42	1754138.41	14441391.52	39°45'53.7273"N	80°35'43.1151"W	0.26	
21278.00	89.630	149.280	7111.33	10285.58	-9895.63	3583.60	1754187.57	14441309.12	39°45'52.9103"N	80°35'42.4900"W	0.30	
21372.00	89.540	149.170	7112.02	10379.55	-9976.40	3631.70	1754235.65	14441228.39	39°45'52.1101"N	80°35'41.8788"W	0.15	
21467.00	89.290	149.400	7112.99	10474.51	-10058.06	3680.22	1754284.15	14441146.75	39°45'51.3008"N	80°35'41.2622"W	0.36	
21561.00	90.520	149.520	7113.14	10568.47	-10139.02	3727.98	1754331.90	14441065.82	39°45'50.4986"N	80°35'40.6553"W	1.31	
21656.00	89.720	148.340	7112.94	10663.45	-10220.39	3777.01	1754380.90	14440984.49	39°45'49.6922"N	80°35'40.0322"W	1.50	
21750.00	89.570	148.570	7113.52	10757.45	-10300.50	3826.19	1754430.06	14440904.41	39°45'48.8984"N	80°35'39.4071"W	0.29	
21845.00	89.630	148.010	7114.19	10852.44	-10381.32	3876.12	1754479.97	14440823.62	39°45'48.0975"N	80°35'38.7724"W	0.59	

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Actual Wellpath Report

Charles Jamison MSH 406H AWB_ awp 100' - 22781' Proj: 22806'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Charles Jamison MSH 406H
Field	Marshall WV	API	47051024340000
Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

WELLPATH DATA (251 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]	Comments
21940.00	89.630	148.580	7114.80	10947.44	-10462.14	3926.04	1754529.88	14440742.83	39°45'47.2965"N	80°35'38.1377"W	0.60	
22034.00	89.820	148.520	7115.25	11041.43	-10542.33	3975.09	1754578.91	14440662.68	39°45'46.5018"N	80°35'37.5144"W	0.21	
22129.00	89.570	148.150	7115.76	11136.42	-10623.18	4024.96	1754628.76	14440581.85	39°45'45.7005"N	80°35'36.8805"W	0.47	
22223.00	88.220	147.670	7117.57	11230.40	-10702.80	4074.89	1754678.66	14440502.26	39°45'44.9114"N	80°35'36.2458"W	1.52	
22318.00	88.150	146.640	7120.58	11325.35	-10782.58	4126.38	1754730.14	14440422.52	39°45'44.1207"N	80°35'35.5909"W	1.09	
22412.00	89.630	147.440	7122.40	11419.32	-10861.43	4177.51	1754781.25	14440343.70	39°45'43.3392"N	80°35'34.9408"W	1.79	
22506.00	89.230	147.130	7123.34	11513.31	-10940.51	4228.31	1754832.03	14440264.64	39°45'42.5553"N	80°35'34.2949"W	0.54	
22601.00	88.550	147.900	7125.18	11608.29	-11020.63	4279.33	1754883.03	14440184.55	39°45'41.7612"N	80°35'33.6464"W	1.08	
22696.00	88.430	147.460	7127.68	11703.25	-11100.89	4330.10	1754933.78	14440104.33	39°45'40.9658"N	80°35'33.0009"W	0.48	
22781.00	88.490	147.600	7129.96	11788.22	-11172.57	4375.72	1754979.38	14440032.67	39°45'40.2553"N	80°35'32.4209"W	0.18	
22806.00‡	88.490	147.600	7130.62	11813.21	-11193.67	4389.11	1754992.76	14440011.58	39°45'40.0462"N	80°35'32.2507"W	0.00	Projection to TD: 22806'

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Charles Jamison MSH 406H LP Rev 5	7120.00	741.98	-3098.71	1747507.85	14451942.60	39°47'38.3275"N	80°37'7.4816"W	point
Charles Jamison MSH 406H BHL Rev 3	7136.00	-11188.34	4397.65	1755001.30	14440016.91	39°45'40.0985"N	80°35'32.1410"W	point

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Charles Jamison MSH 406H
Field	Marshall WV	API	47051024340000
Facility	Charles Jamison MSH Pad	Wellbore	Charles Jamison MSH 406H AWB
Slot	406H		

WELLPATH COMPOSITION - Ref Wellbore: Charles Jamison MSH 406H AWB Ref Wellpath: Charles Jamison MSH 406H AWB_ awp 100' - 22781' Proj: 22806'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	1783.00	Gyrodatta 2015 - GC+WIR+DPIPE	1 Imported Gyro 100' - 1783'	Charles Jamison MSH 406H AWB	6/17/2022
1783.00	2760.00	OWSG MWD rev2 + HRGM	2 Tally MWD 1895' - 2760'	Charles Jamison MSH 406H AWB	6/17/2022
2760.00	5938.00	OWSG MWD rev2 + HRGM	3 Tally MWD 2827' - 5938'	Charles Jamison MSH 406H AWB	6/17/2022
5938.00	22806.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	4 BH MWD 6030' - 22781'	Charles Jamison MSH 406H AWB	6/17/2022

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