



SWN PRODUCTION COMPANY, LLC



Location: Marshall County, WV
Field: Marshall
Facility: Yocum MSH Pad

Slot: 8H
Well: Yocum MSH 8H
Wellbore: Yocum MSH 8H AWB

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
22169.00	90.370	133.070	7284.26	-10037.03	10620.22	1768050.35	14419707.19	39°42'18.6870"N	80°32'46.3012"W

Plot reference wellpath is Yocum MSH 8H AWB_ awp Proj: 22169"
 True vertical depths are referenced to SDC 41 (KB)
 Reference wellpath measured depths are referenced to SDC 41 (KB)
 SDC 41 (KB) to Mean Sea Level: 1078.7 feet
 Mean Sea Level to Ground level (At Slot: 8H): -1052.7 feet
 Offset wellpath MDs are referenced to each path's default MD datum

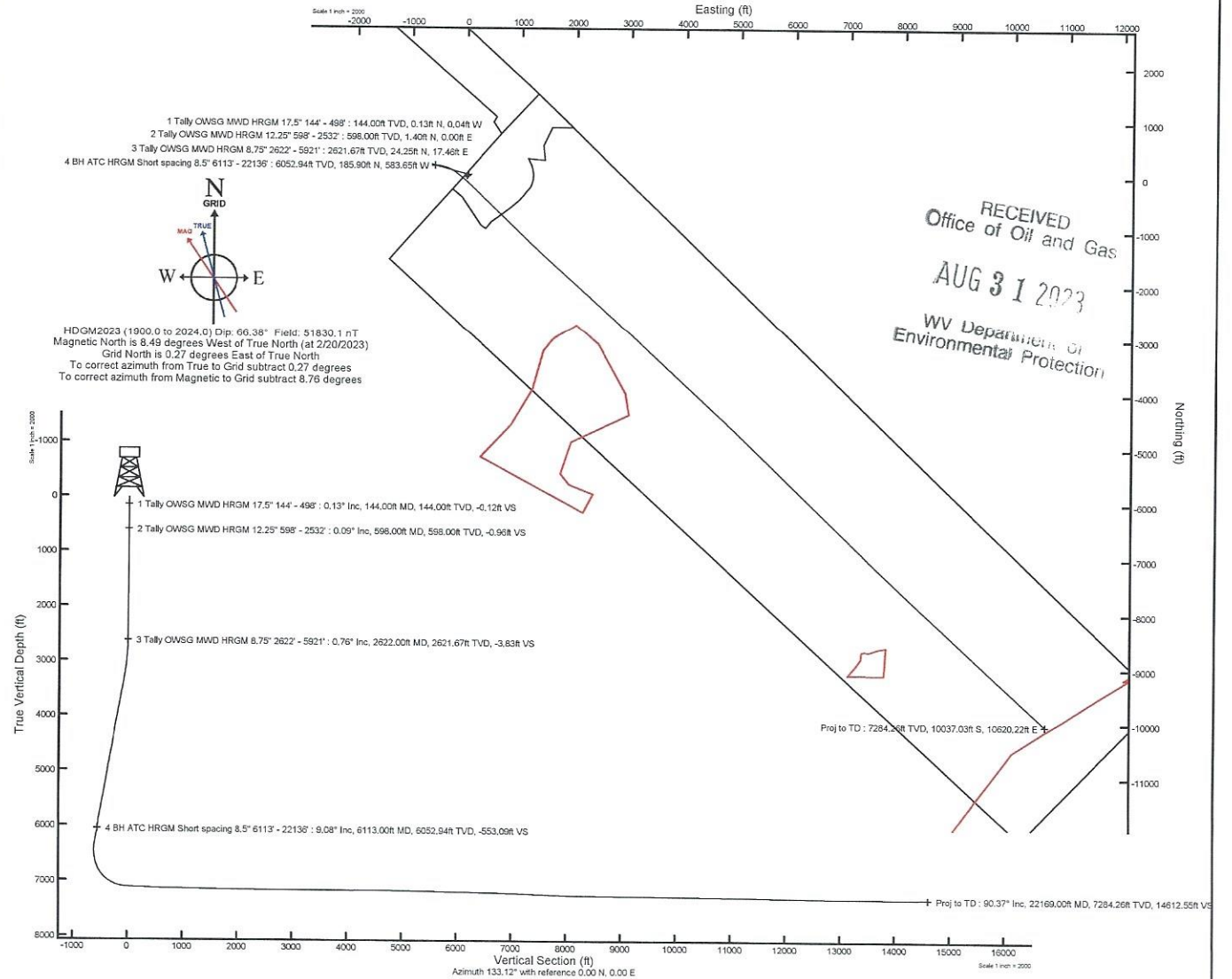
Grid System: NAD83 / UTM Zone 17 North, US feet
 North Reference: Grid north
 Scale: True distance
 Coordinates are in feet referenced to Slot
 Depths are in feet
 Created by: tranlam on 2023-03-07; Database: WA_MPL_EASTERNUS_Defn

Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Yocum MSH Pad		1757446.734	14429785.622	39°43'58.8360"N	80°35'1.4240"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
8H	-45.30	-12.51	1757434.230	14429740.340	39°43'58.3869"N	80°35'1.5868"W

SDC 41 (KB) to Ground level (At Slot: 8H): 26ft
 Mean Sea Level to Ground level (At Slot: 8H): -1052.7ft
 SDC 41 (KB) to Mean Sea Level: 1078.7ft

API: 47051024610000
 BH JOB: 111665627
 DURATION: 03.02.2023 to 03.06.2023
 RIG: SDC 41



03/15/2024

REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Yocum MSH 8H
Field	Marshall	API/Legal	
Facility	Yocum MSH Pad	Wellbore	Yocum MSH 8H AWB
Slot	8H		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Tranlam
Scale	0.999616	Report Generated	3/7/2023 at 10:10:59 AM
Convergence at slot	0.27° 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	-45.30	-12.51	1757434.23	14429740.34	39°43'58.3889"N	80°35'1.5868"W
Facility Reference Pt			1757446.73	14429785.62	39°43'58.8360"N	80°35'1.4240"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.4780"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 41 (KB) to Facility Vertical Datum	1078.70ft
Horizontal Reference Pt	Slot	SDC 41 (KB) to Mean Sea Level	1078.70ft
Vertical Reference Pt	SDC 41 (KB)	SDC 41 (KB) to Ground Level at Slot (8H)	26.00ft
MD Reference Pt	SDC 41 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	133.12°

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Office of Oil and Gas
AUG 31 2023
WV Department of
Environmental Protection

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Field	Marshall	API/Legal	
Facility	Yocum MSH Pad	Wellbore	Yocum MSH 8H AWB
Slot	8H		

WELLPATH DATA (236 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]	Comments
0.00†	0.000	342.000	0.00	0.00	0.00	0.00	1757434.23	14429740.34	39°43'58.3889"N	80°35'1.5868"W	0.00	0.000	0.00	
26.00	0.000	342.000	26.00	0.00	0.00	0.00	1757434.23	14429740.34	39°43'58.3889"N	80°35'1.5868"W	0.00	0.000	0.00	
144.00	0.130	342.000	144.00	-0.12	0.13	-0.04	1757434.19	14429740.47	39°43'58.3902"N	80°35'1.5873"W	0.13	342.000	0.11	
235.00	0.250	2.920	235.00	-0.34	0.42	-0.06	1757434.17	14429740.76	39°43'58.3931"N	80°35'1.5876"W	0.43	351.523	0.15	
327.00	0.110	271.580	327.00	-0.53	0.63	-0.14	1757434.09	14429740.97	39°43'58.3951"N	80°35'1.5886"W	0.64	347.301	0.30	
419.00	0.300	16.040	419.00	-0.71	0.86	-0.16	1757434.07	14429741.20	39°43'58.3974"N	80°35'1.5888"W	0.88	349.279	0.37	
498.00	0.270	10.550	498.00	-0.90	1.24	-0.07	1757434.16	14429741.58	39°43'58.4012"N	80°35'1.5876"W	1.24	356.696	0.05	
598.00	0.090	157.240	598.00	-0.96	1.40	0.00	1757434.23	14429741.74	39°43'58.4027"N	80°35'1.5867"W	1.40	0.074	0.35	
689.00	0.090	6.690	689.00	-0.93	1.41	0.04	1757434.27	14429741.75	39°43'58.4028"N	80°35'1.5862"W	1.41	1.539	0.19	
782.00	0.260	31.370	782.00	-1.02	1.66	0.16	1757434.39	14429742.00	39°43'58.4053"N	80°35'1.5847"W	1.67	5.376	0.20	
874.00	0.300	104.860	874.00	-0.85	1.78	0.50	1757434.73	14429742.12	39°43'58.4064"N	80°35'1.5803"W	1.84	15.654	0.37	
967.00	0.270	91.640	966.99	-0.47	1.71	0.95	1757435.18	14429742.05	39°43'58.4057"N	80°35'1.5745"W	1.95	29.147	0.08	
1058.00	0.440	91.260	1057.99	-0.05	1.69	1.52	1757435.75	14429742.03	39°43'58.4056"N	80°35'1.5673"W	2.27	41.831	0.19	
1149.00	0.530	84.450	1148.99	0.49	1.73	2.28	1757436.51	14429742.07	39°43'58.4059"N	80°35'1.5575"W	2.86	52.916	0.12	
1241.00	0.600	42.980	1240.99	0.77	2.12	3.04	1757437.26	14429742.46	39°43'58.4097"N	80°35'1.5478"W	3.70	55.074	0.44	
1331.00	0.800	67.250	1330.98	1.02	2.71	3.94	1757438.16	14429743.05	39°43'58.4155"N	80°35'1.5363"W	4.78	55.479	0.39	
1423.00	1.070	40.460	1422.97	1.25	3.61	5.09	1757439.31	14429743.95	39°43'58.4243"N	80°35'1.5215"W	6.24	54.638	0.55	
1514.00	1.450	53.690	1513.95	1.42	4.94	6.57	1757440.79	14429745.28	39°43'58.4374"N	80°35'1.5025"W	8.21	53.053	0.52	
1605.00	1.280	34.330	1604.92	1.47	6.46	8.07	1757442.29	14429746.80	39°43'58.4524"N	80°35'1.4832"W	10.33	51.315	0.54	
1697.00	1.240	13.090	1696.90	0.82	8.28	8.87	1757443.10	14429748.61	39°43'58.4703"N	80°35'1.4728"W	12.13	46.985	0.51	
1788.00	2.220	357.860	1787.86	-0.93	11.00	9.03	1757443.25	14429751.33	39°43'58.4972"N	80°35'1.4706"W	14.23	39.385	1.18	
1879.00	1.540	358.630	1878.81	-3.04	13.98	8.93	1757443.16	14429754.32	39°43'58.5267"N	80°35'1.4716"W	16.59	32.577	0.75	
1969.00	1.090	21.820	1968.78	-4.19	15.99	9.22	1757443.45	14429756.32	39°43'58.5464"N	80°35'1.4678"W	18.45	29.983	0.76	
2060.00	0.730	45.510	2059.77	-4.48	17.19	9.96	1757444.18	14429757.53	39°43'58.5584"N	80°35'1.4583"W	19.87	30.076	0.56	
2150.00	1.200	56.430	2149.76	-4.24	18.12	11.15	1757445.38	14429758.45	39°43'58.5674"N	80°35'1.4430"W	21.27	31.614	0.56	
2241.00	1.150	52.040	2240.74	-3.88	19.21	12.67	1757446.89	14429759.54	39°43'58.5781"N	80°35'1.4235"W	23.01	33.404	0.11	
2331.00	1.400	64.380	2330.72	-3.34	20.24	14.37	1757448.59	14429760.57	39°43'58.5882"N	80°35'1.4017"W	24.82	35.377	0.41	
2422.00	1.270	46.050	2421.69	-2.89	21.42	16.10	1757450.32	14429761.75	39°43'58.5998"N	80°35'1.3795"W	26.79	36.929	0.49	
2512.00	0.960	24.580	2511.68	-3.08	22.80	17.13	1757451.35	14429763.13	39°43'58.6134"N	80°35'1.3662"W	28.51	36.923	0.57	
2532.00	0.820	25.720	2531.67	-3.17	23.08	17.26	1757451.48	14429763.41	39°43'58.6162"N	80°35'1.3645"W	28.82	36.796	0.71	

AUG 31 2023

WV Department of Environmental Protection

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Field	Marshall	API/Legal	
Facility	Yocum MSH Pad	Wellbore	Yocum MSH 8H AWB
Slot	8H		

WELLPATH DATA (236 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]	Comments
2622.00	0.760	352.560	2621.67	-3.83	24.25	17.46	1757451.69	14429764.58	39°43'58.6277"N	80°35'1.3618"W	29.88	35.761	0.50	
2713.00	1.670	298.040	2712.65	-5.57	25.47	16.22	1757450.44	14429765.80	39°43'58.6399"N	80°35'1.3777"W	30.19	32.481	1.51	
2806.00	3.930	278.920	2805.53	-9.52	26.60	11.87	1757446.10	14429766.93	39°43'58.6513"N	80°35'1.4333"W	29.13	24.046	2.60	
2898.00	5.160	283.940	2897.24	-15.74	28.09	4.74	1757438.97	14429768.42	39°43'58.6663"N	80°35'1.5245"W	28.48	9.578	1.40	
2988.00	6.320	283.900	2986.79	-23.60	30.25	-4.00	1757430.23	14429770.58	39°43'58.6881"N	80°35'1.6362"W	30.52	352.473	1.29	
3080.00	8.040	281.500	3078.06	-33.50	32.75	-15.22	1757419.02	14429773.08	39°43'58.7133"N	80°35'1.7796"W	36.12	335.078	1.90	
3172.00	9.800	284.980	3168.95	-45.88	36.06	-29.09	1757405.15	14429776.39	39°43'58.7466"N	80°35'1.9570"W	46.33	321.108	2.00	
3264.00	10.130	286.540	3259.56	-60.02	40.39	-44.41	1757389.84	14429780.71	39°43'58.7901"N	80°35'2.1528"W	60.03	312.285	0.46	
3355.00	10.690	286.030	3349.06	-74.69	45.00	-60.19	1757374.06	14429785.32	39°43'58.8363"N	80°35'2.3546"W	75.15	306.780	0.62	
3446.00	10.940	283.690	3438.45	-89.72	49.37	-76.69	1757357.57	14429789.69	39°43'58.8803"N	80°35'2.5655"W	91.21	302.771	0.56	
3538.00	12.210	285.810	3528.57	-105.97	54.09	-94.54	1757339.73	14429794.41	39°43'58.9277"N	80°35'2.7936"W	108.91	299.775	1.46	
3631.00	12.290	286.150	3619.46	-123.53	59.52	-113.51	1757320.77	14429799.84	39°43'58.9823"N	80°35'3.0361"W	128.16	297.671	0.12	
3720.00	11.330	283.140	3706.57	-139.55	64.14	-131.12	1757303.16	14429804.46	39°43'59.0288"N	80°35'3.2613"W	145.97	296.067	1.28	
3810.00	11.410	282.260	3794.81	-154.85	68.04	-148.43	1757285.86	14429808.35	39°43'59.0681"N	80°35'3.4826"W	163.28	294.628	0.21	
3903.00	11.730	285.050	3885.92	-171.09	72.45	-166.55	1757267.75	14429812.76	39°43'59.1125"N	80°35'3.7142"W	181.62	293.510	0.69	
3993.00	11.620	282.450	3974.06	-186.95	76.78	-184.23	1757250.07	14429817.09	39°43'59.1561"N	80°35'3.9404"W	199.59	292.624	0.60	
4084.00	12.180	287.800	4063.10	-203.52	81.69	-202.32	1757231.99	14429822.00	39°43'59.2055"N	80°35'4.1716"W	218.19	291.987	1.36	
4176.00	11.330	288.760	4153.17	-220.52	87.56	-220.12	1757214.20	14429827.87	39°43'59.2643"N	80°35'4.3991"W	236.90	291.693	0.95	
4268.00	10.810	285.590	4243.46	-236.40	92.79	-236.99	1757197.34	14429833.09	39°43'59.3168"N	80°35'4.6147"W	254.50	291.382	0.87	
4360.00	11.020	284.320	4333.80	-251.76	97.28	-253.82	1757180.51	14429837.58	39°43'59.3619"N	80°35'4.8298"W	271.82	290.971	0.35	
4456.00	11.230	286.700	4427.99	-268.17	102.24	-271.66	1757162.68	14429842.54	39°43'59.4117"N	80°35'5.0579"W	290.26	290.623	0.53	
4546.00	11.200	287.180	4516.27	-283.88	107.34	-288.40	1757145.94	14429847.64	39°43'59.4629"N	80°35'5.2719"W	307.73	290.414	0.11	
4637.00	10.900	286.620	4605.59	-299.53	112.41	-305.09	1757129.26	14429852.71	39°43'59.5138"N	80°35'5.4852"W	325.14	290.226	0.35	
4728.00	11.380	284.460	4694.87	-315.11	117.11	-322.03	1757112.32	14429857.41	39°43'59.5610"N	80°35'5.7018"W	342.66	289.985	0.70	
4820.00	13.010	282.210	4784.79	-331.96	121.57	-340.94	1757093.42	14429861.86	39°43'59.6059"N	80°35'5.9436"W	361.97	289.624	1.85	
4910.00	11.650	284.830	4872.72	-348.65	126.04	-359.63	1757074.74	14429866.33	39°43'59.6510"N	80°35'6.1825"W	381.07	289.314	1.63	
5002.00	10.450	284.120	4963.01	-364.13	130.45	-376.70	1757057.68	14429870.74	39°43'59.6953"N	80°35'6.4007"W	398.65	289.101	1.31	
5094.00	9.310	283.320	5053.64	-377.88	134.20	-392.03	1757042.35	14429874.49	39°43'59.7331"N	80°35'6.5968"W	414.37	288.897	1.25	
5185.00	10.100	285.730	5143.34	-391.36	138.06	-406.88	1757027.51	14429878.35	39°43'59.7719"N	80°35'6.7865"W	429.66	288.743	0.98	
5277.00	11.140	287.470	5233.76	-406.53	142.91	-423.12	1757011.27	14429883.20	39°43'59.8207"N	80°35'6.9942"W	446.60	288.663	1.18	

Office of Oil and Gas

AUG 31 2023

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Field	Marshall		API/Legal	
Facility	Yocum MSH Pad		Wellbore	Yocum MSH 8H AWB
Slot	8H			

WELLPATH DATA (236 stations)														
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5372.00	11.860	287.770	5326.86	-423.63	148.65	-441.17	1756993.23	14429888.93	39°43'59.8782"N	80°35'7.2249"W	465.54	288.621	0.76	
5465.00	11.520	284.050	5417.93	-440.38	153.82	-459.28	1756975.13	14429894.10	39°43'59.9301"N	80°35'7.4564"W	484.35	288.517	0.89	
5555.00	11.530	284.280	5506.11	-456.11	158.22	-476.71	1756957.70	14429898.50	39°43'59.9744"N	80°35'7.6793"W	502.29	288.361	0.05	
5648.00	10.940	282.430	5597.33	-471.84	162.41	-494.34	1756940.08	14429902.69	39°44'0.0166"N	80°35'7.9046"W	520.34	288.188	0.74	
5739.00	12.830	287.240	5686.38	-488.36	167.27	-512.42	1756922.00	14429907.54	39°44'0.0654"N	80°35'8.1358"W	539.03	288.078	2.34	
5831.00	13.310	286.570	5776.00	-507.03	173.31	-532.33	1756902.10	14429913.59	39°44'0.1261"N	80°35'8.3903"W	559.83	288.034	0.55	
5921.00	11.180	283.580	5863.94	-523.89	178.32	-550.74	1756883.70	14429918.59	39°44'0.1764"N	80°35'8.6256"W	578.89	287.941	2.47	
6113.00	9.080	282.240	6052.94	-553.09	185.90	-583.65	1756850.81	14429926.17	39°44'0.2528"N	80°35'9.0463"W	612.54	287.668	1.10	
6204.00	11.980	281.420	6142.40	-567.29	189.29	-599.92	1756834.54	14429929.56	39°44'0.2871"N	80°35'9.2545"W	629.08	287.512	3.19	
6295.00	12.090	284.780	6231.40	-583.71	193.60	-618.40	1756816.07	14429933.86	39°44'0.3304"N	80°35'9.4907"W	647.99	287.383	0.78	
6388.00	11.230	284.100	6322.48	-600.20	198.29	-636.60	1756797.88	14429938.55	39°44'0.3776"N	80°35'9.7234"W	666.76	287.301	0.94	
6481.00	2.910	296.880	6414.69	-610.41	201.57	-647.51	1756786.97	14429941.83	39°44'0.4105"N	80°35'9.8628"W	678.15	287.291	9.05	
6572.00	5.190	103.110	6505.60	-609.06	201.68	-645.55	1756788.93	14429941.94	39°44'0.4115"N	80°35'9.8378"W	676.32	287.349	8.84	
6664.00	12.400	95.120	6596.46	-597.65	199.85	-631.64	1756802.83	14429940.11	39°44'0.3928"N	80°35'9.6599"W	662.51	287.557	7.93	
6756.00	20.530	99.170	6684.62	-576.45	196.39	-605.84	1756828.63	14429936.65	39°44'0.3575"N	80°35'9.3297"W	636.87	287.961	8.92	
6847.00	28.540	98.670	6767.33	-545.24	190.56	-568.53	1756865.92	14429930.83	39°44'0.2982"N	80°35'8.8526"W	599.62	288.530	8.81	
6939.00	38.400	97.470	6843.98	-503.79	183.52	-518.35	1756916.08	14429923.78	39°44'0.2263"N	80°35'8.2107"W	549.88	289.496	10.74	
7029.00	45.560	101.390	6910.85	-453.68	173.52	-459.05	1756975.35	14429913.79	39°44'0.1248"N	80°35'7.4523"W	490.75	290.707	8.47	
7121.00	52.560	108.210	6971.14	-392.50	155.59	-392.03	1757042.35	14429895.87	39°43'59.9445"N	80°35'6.5955"W	421.78	291.647	9.44	
7213.00	60.880	115.880	7021.63	-320.80	126.55	-320.98	1757113.37	14429866.84	39°43'59.6543"N	80°35'5.6878"W	345.03	291.517	11.41	
7305.00	67.950	121.170	7061.36	-240.56	86.87	-248.21	1757186.11	14429827.18	39°43'59.2588"N	80°35'4.7587"W	262.98	289.289	9.27	
7397.00	76.720	128.180	7089.28	-153.97	36.98	-176.32	1757257.98	14429777.30	39°43'58.7624"N	80°35'3.8415"W	180.16	281.844	11.98	
7487.00	81.720	128.940	7106.11	-65.87	-18.12	-107.21	1757327.06	14429722.23	39°43'58.2147"N	80°35'2.9602"W	108.73	260.407	5.62	
7578.00	87.630	130.740	7114.55	24.54	-76.14	-37.68	1757396.57	14429664.23	39°43'57.6381"N	80°35'2.0736"W	84.96	206.328	6.79	
7668.00	87.880	133.460	7118.08	114.45	-136.43	29.04	1757463.26	14429603.96	39°43'57.0393"N	80°35'1.2232"W	139.49	167.983	3.03	
7761.00	87.970	133.790	7121.45	207.39	-200.55	96.32	1757530.51	14429539.87	39°43'56.4025"N	80°35'0.3659"W	222.48	154.347	0.37	
7851.00	88.180	133.530	7124.47	297.33	-262.65	161.39	1757595.56	14429477.79	39°43'55.7858"N	80°34'59.5367"W	308.27	148.430	0.37	
7944.00	88.150	133.670	7127.45	390.28	-326.75	228.70	1757662.85	14429413.71	39°43'55.1492"N	80°34'58.6789"W	398.84	145.011	0.15	
8035.00	87.880	133.870	7130.60	481.22	-389.67	294.38	1757728.49	14429350.83	39°43'54.5244"N	80°34'57.8420"W	488.36	142.930	0.37	
8136.00	87.810	133.470	7134.40	582.14	-459.36	367.38	1757801.47	14429281.16	39°43'53.8323"N	80°34'56.9118"W	588.20	141.348	0.40	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SWN PRODUCTION COMPANY, LLC	Well	Yocum MSH 8H
Field	Marshall	API/Legal	
Facility	Yocum MSH Pad	Wellbore	Yocum MSH 8H AWB
Slot	8H		

WELLPATH DATA (236 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]	Comments
8233.00	90.620	134.390	7135.73	679.12	-526.64	437.23	1757871.29	14429213.90	39°43'53.1642"N	80°34'56.0218"W	684.48	140.300	3.05	
8329.00	90.060	134.660	7135.16	775.08	-593.96	505.67	1757939.70	14429146.61	39°43'52.4958"N	80°34'55.1498"W	780.05	139.590	0.65	
8425.00	88.980	133.700	7135.96	871.06	-660.86	574.51	1758008.52	14429079.74	39°43'51.8315"N	80°34'54.2727"W	875.67	138.998	1.51	
8522.00	88.980	133.660	7137.69	968.04	-727.84	644.65	1758078.63	14429012.79	39°43'51.1663"N	80°34'53.3789"W	972.27	138.468	0.04	
8618.00	89.230	133.520	7139.19	1064.03	-794.02	714.17	1758148.13	14428946.63	39°43'50.5090"N	80°34'52.4930"W	1067.95	138.030	0.30	
8714.00	88.980	133.710	7140.69	1160.01	-860.23	783.67	1758217.60	14428880.44	39°43'49.8514"N	80°34'51.6075"W	1163.67	137.667	0.33	
8811.00	88.280	133.650	7143.01	1256.98	-927.20	853.80	1758287.70	14428813.49	39°43'49.1863"N	80°34'50.7139"W	1260.43	137.360	0.72	
8907.00	88.920	133.960	7145.35	1352.94	-993.64	923.06	1758356.93	14428747.09	39°43'48.5266"N	80°34'49.8314"W	1356.23	137.109	0.74	
9004.00	88.490	134.010	7147.54	1449.91	-1060.98	992.84	1758426.68	14428679.77	39°43'47.8578"N	80°34'48.9423"W	1453.07	136.900	0.45	
9100.00	88.890	133.600	7149.74	1545.87	-1127.42	1062.10	1758495.92	14428613.36	39°43'47.1981"N	80°34'48.0598"W	1548.91	136.709	0.60	
9197.00	88.610	133.790	7151.86	1642.85	-1194.41	1132.22	1758566.01	14428546.39	39°43'46.5327"N	80°34'47.1664"W	1645.76	136.531	0.35	
9294.00	89.170	133.290	7153.73	1739.82	-1261.22	1202.52	1758636.28	14428479.61	39°43'45.8692"N	80°34'46.2706"W	1742.62	136.365	0.77	
9390.00	89.690	131.930	7154.69	1835.81	-1326.20	1273.17	1758706.91	14428414.65	39°43'45.2237"N	80°34'45.3702"W	1838.42	136.169	1.52	
9487.00	90.250	132.580	7154.74	1932.80	-1391.43	1344.96	1758778.67	14428349.45	39°43'44.5758"N	80°34'44.4552"W	1935.20	135.973	0.88	
9583.00	90.280	132.200	7154.30	2028.79	-1456.15	1415.86	1758849.55	14428284.75	39°43'43.9329"N	80°34'43.5517"W	2031.02	135.804	0.40	
9680.00	90.460	132.440	7153.67	2125.78	-1521.45	1487.58	1758921.24	14428219.47	39°43'43.2842"N	80°34'42.6376"W	2127.85	135.645	0.31	
9777.00	89.420	131.990	7153.77	2222.77	-1586.63	1559.42	1758993.05	14428154.32	39°43'42.6367"N	80°34'41.7221"W	2224.68	135.495	1.17	
9873.00	89.200	132.120	7154.93	2318.74	-1650.93	1630.70	1759064.30	14428090.05	39°43'41.9980"N	80°34'40.8137"W	2320.51	135.353	0.27	
9970.00	89.690	131.710	7155.87	2415.72	-1715.72	1702.88	1759136.45	14428025.28	39°43'41.3542"N	80°34'39.8938"W	2417.33	135.215	0.66	
10067.00	89.050	132.180	7156.93	2512.69	-1780.56	1775.02	1759208.56	14427960.47	39°43'40.7102"N	80°34'38.9744"W	2514.17	135.089	0.82	
10163.00	89.750	131.620	7157.94	2608.66	-1844.66	1846.47	1759279.99	14427896.39	39°43'40.0733"N	80°34'38.0638"W	2610.03	134.972	0.93	
10259.00	90.060	131.210	7158.10	2704.62	-1908.17	1918.46	1759351.95	14427832.91	39°43'39.4423"N	80°34'37.1462"W	2705.85	134.846	0.54	
10356.00	90.220	132.770	7157.86	2801.60	-1973.06	1990.56	1759424.02	14427768.04	39°43'38.7977"N	80°34'36.2274"W	2802.73	134.747	1.62	
10453.00	89.880	131.800	7157.78	2898.58	-2038.32	2062.32	1759495.75	14427702.81	39°43'38.1494"N	80°34'35.3129"W	2899.64	134.665	1.06	
10549.00	90.520	131.970	7157.44	2994.56	-2102.41	2133.79	1759567.19	14427638.74	39°43'37.5126"N	80°34'34.4021"W	2995.53	134.576	0.69	
10646.00	89.780	131.330	7157.19	3091.53	-2166.88	2206.27	1759639.64	14427574.30	39°43'36.8722"N	80°34'33.4783"W	3092.40	134.484	1.01	
10743.00	90.280	132.570	7157.14	3188.51	-2231.72	2278.41	1759711.76	14427509.48	39°43'36.2280"N	80°34'32.5590"W	3189.31	134.407	1.38	
10839.00	89.020	132.740	7157.72	3284.50	-2296.76	2349.01	1759782.33	14427444.46	39°43'35.5819"N	80°34'31.6593"W	3285.26	134.356	1.32	
10936.00	89.080	131.230	7159.33	3381.46	-2361.64	2421.10	1759854.39	14427379.61	39°43'34.9373"N	80°34'30.7406"W	3382.17	134.288	1.56	
11033.00	89.540	132.050	7160.50	3478.42	-2426.09	2493.58	1759926.85	14427315.19	39°43'34.2970"N	80°34'29.8168"W	3479.06	134.214	0.97	

REFERENCE WELLPATH IDENTIFICATION			
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Field	Marshall	API/Legal	
Facility	Yocum MSH Pad	Wellbore	Yocum MSH 8H AWB
Slot	8H		

WELLPATH DATA (236 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]	Comments
11129.00	90.120	132.500	7160.78	3574.41	-2490.66	2564.61	1759997.85	14427250.64	39°43'33.6555"N	80°34'28.9116"W	3575.00	134.162	0.76	
11225.00	89.750	132.170	7160.89	3670.40	-2555.32	2635.58	1760068.79	14427186.01	39°43'33.0133"N	80°34'28.0073"W	3670.95	134.114	0.52	
11323.00	89.750	131.590	7161.32	3768.38	-2620.74	2708.54	1760141.73	14427120.62	39°43'32.3633"N	80°34'27.0775"W	3768.88	134.056	0.59	
11419.00	90.920	132.940	7160.76	3864.36	-2685.30	2779.58	1760212.74	14427056.08	39°43'31.7219"N	80°34'26.1722"W	3864.83	134.012	1.86	
11516.00	89.450	132.090	7160.45	3961.35	-2750.85	2851.08	1760284.21	14426990.56	39°43'31.0708"N	80°34'25.2612"W	3961.79	133.975	1.75	
11612.00	89.080	132.610	7161.68	4057.34	-2815.51	2922.02	1760355.12	14426925.92	39°43'30.4284"N	80°34'24.3572"W	4057.75	133.937	0.66	
11709.00	91.350	133.370	7161.31	4154.33	-2881.65	2992.97	1760426.04	14426859.80	39°43'29.7714"N	80°34'23.4532"W	4154.73	133.914	2.47	
11806.00	89.780	132.870	7160.36	4251.32	-2947.95	3063.76	1760496.81	14426793.53	39°43'29.1129"N	80°34'22.5512"W	4251.71	133.896	1.70	
11902.00	90.220	133.020	7160.36	4347.32	-3013.35	3134.04	1760567.06	14426728.15	39°43'28.4632"N	80°34'21.6558"W	4347.70	133.875	0.48	
11999.00	89.480	133.060	7160.61	4444.32	-3079.55	3204.93	1760637.92	14426661.98	39°43'27.8056"N	80°34'20.7525"W	4444.69	133.857	0.76	
12095.00	90.250	133.260	7160.84	4540.32	-3145.22	3274.96	1760707.92	14426596.34	39°43'27.1534"N	80°34'19.8603"W	4540.68	133.842	0.83	
12192.00	89.940	133.170	7160.68	4637.32	-3211.64	3345.65	1760778.59	14426529.94	39°43'26.4936"N	80°34'18.9596"W	4637.67	133.829	0.33	
12288.00	89.380	132.800	7161.25	4733.31	-3277.09	3415.87	1760848.79	14426464.52	39°43'25.8435"N	80°34'18.0649"W	4733.66	133.812	0.70	
12385.00	89.940	133.100	7161.82	4830.31	-3343.18	3486.87	1760919.76	14426398.45	39°43'25.1870"N	80°34'17.1603"W	4830.65	133.795	0.65	
12481.00	89.660	132.830	7162.16	4926.31	-3408.61	3557.12	1760989.98	14426333.05	39°43'24.5370"N	80°34'16.2652"W	4926.64	133.779	0.41	
12578.00	89.380	133.490	7162.97	5023.31	-3474.96	3627.88	1761060.70	14426266.72	39°43'23.8780"N	80°34'15.3638"W	5023.63	133.767	0.74	
12675.00	89.350	133.020	7164.05	5120.30	-3541.42	3698.52	1761131.32	14426200.29	39°43'23.2178"N	80°34'14.4638"W	5120.62	133.757	0.49	
12771.00	88.650	132.670	7165.72	5216.28	-3606.69	3768.89	1761201.67	14426135.04	39°43'22.5694"N	80°34'13.5672"W	5216.59	133.740	0.82	
12868.00	89.260	132.930	7167.49	5313.26	-3672.59	3840.05	1761272.80	14426069.17	39°43'21.9148"N	80°34'12.6605"W	5313.56	133.723	0.68	
12964.00	89.260	132.970	7168.73	5409.26	-3737.99	3910.31	1761343.03	14426003.79	39°43'21.2651"N	80°34'11.7653"W	5409.54	133.709	0.04	
13061.00	89.170	132.620	7170.06	5506.25	-3803.89	3981.48	1761414.18	14425937.92	39°43'20.6105"N	80°34'10.8585"W	5506.52	133.693	0.37	
13157.00	88.990	132.910	7171.60	5602.23	-3869.06	4051.95	1761484.62	14425872.77	39°43'19.9631"N	80°34'9.9607"W	5602.50	133.677	0.36	
13253.00	88.950	133.080	7173.33	5698.21	-3934.52	4122.16	1761554.79	14425807.34	39°43'19.3129"N	80°34'9.0663"W	5698.47	133.666	0.18	
13350.00	88.920	132.330	7175.13	5795.19	-4000.29	4193.42	1761626.03	14425741.59	39°43'18.6595"N	80°34'8.1582"W	5795.44	133.650	0.77	
13446.00	89.380	133.220	7176.55	5891.18	-4065.48	4263.88	1761696.47	14425676.43	39°43'18.0119"N	80°34'7.2606"W	5891.42	133.635	1.04	
13543.00	89.170	132.930	7177.78	5988.17	-4131.72	4334.73	1761767.29	14425610.21	39°43'17.3539"N	80°34'6.3579"W	5988.41	133.626	0.37	
13640.00	88.980	132.380	7179.35	6085.16	-4197.44	4406.06	1761838.59	14425544.52	39°43'16.7010"N	80°34'5.4492"W	6085.38	133.611	0.60	
13737.00	89.260	133.350	7180.84	6182.14	-4263.42	4477.15	1761909.65	14425478.57	39°43'16.0456"N	80°34'4.5435"W	6182.36	133.599	1.04	
13833.00	89.170	132.530	7182.15	6278.13	-4328.81	4547.42	1761979.89	14425413.20	39°43'15.3960"N	80°34'3.6482"W	6278.34	133.589	0.86	
13930.00	88.550	132.610	7184.08	6375.11	-4394.41	4618.84	1762051.29	14425347.62	39°43'14.7442"N	80°34'2.7382"W	6375.31	133.574	0.64	

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REFERENCE WELLPATH IDENTIFICATION				
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Field	Marshall		API/Legal	
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Slot	8H			

WELLPATH DATA (236 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]	Comments
14027.00	88.890	132.560	7186.25	6472.08	-4460.04	4690.24	1762122.66	14425282.03	39°43'14.0923"N	80°34'1.8285"W	6472.27	133.559	0.35	
14123.00	88.950	132.840	7188.06	6568.06	-4525.13	4760.78	1762193.17	14425216.96	39°43'13.4457"N	80°34'0.9298"W	6568.24	133.546	0.30	
14220.00	89.080	133.310	7189.72	6665.05	-4591.36	4831.62	1762263.99	14425150.75	39°43'12.7877"N	80°34'0.0273"W	6665.22	133.539	0.50	
14316.00	88.520	132.790	7191.73	6761.02	-4656.88	4901.76	1762334.10	14425085.26	39°43'12.1368"N	80°33'59.1338"W	6761.20	133.532	0.80	
14413.00	89.200	134.610	7193.66	6858.00	-4723.88	4971.87	1762404.18	14425018.28	39°43'11.4714"N	80°33'58.2407"W	6858.18	133.535	2.00	
14509.00	88.210	133.780	7195.83	6953.95	-4790.79	5040.68	1762472.96	14424951.41	39°43'10.8069"N	80°33'57.3643"W	6954.14	133.544	1.35	
14606.00	88.280	133.990	7198.81	7050.90	-4858.00	5110.56	1762542.82	14424884.22	39°43'10.1393"N	80°33'56.4742"W	7051.10	133.549	0.23	
14703.00	88.030	134.340	7201.93	7147.83	-4925.54	5180.11	1762612.33	14424816.70	39°43'9.4684"N	80°33'55.5884"W	7148.04	133.557	0.44	
14800.00	88.060	134.010	7205.24	7244.76	-4993.10	5249.63	1762681.84	14424749.17	39°43'8.7975"N	80°33'54.7028"W	7244.98	133.565	0.34	
14896.00	87.780	133.550	7208.72	7340.69	-5059.48	5318.90	1762751.08	14424682.82	39°43'8.1382"N	80°33'53.8205"W	7340.91	133.568	0.56	
14993.00	87.970	133.990	7212.32	7437.62	-5126.53	5388.90	1762821.05	14424615.79	39°43'7.4721"N	80°33'52.9289"W	7437.85	133.571	0.49	
15090.00	87.940	133.770	7215.78	7534.54	-5193.72	5458.77	1762890.89	14424548.62	39°43'6.8047"N	80°33'52.0389"W	7534.78	133.575	0.23	
15186.00	88.120	134.130	7219.08	7630.48	-5260.31	5527.84	1762959.94	14424482.06	39°43'6.1434"N	80°33'51.1591"W	7630.72	133.579	0.42	
15283.00	87.750	133.780	7222.58	7727.40	-5327.59	5597.63	1763029.70	14424414.80	39°43'5.4751"N	80°33'50.2703"W	7727.66	133.584	0.52	
15379.00	88.180	133.710	7225.98	7823.34	-5393.93	5666.94	1763098.98	14424348.49	39°43'4.8162"N	80°33'49.3875"W	7823.60	133.586	0.45	
15476.00	88.550	134.880	7228.75	7920.28	-5461.64	5736.34	1763168.35	14424280.81	39°43'4.1436"N	80°33'48.5036"W	7920.55	133.595	1.26	
15572.00	87.910	133.830	7231.72	8016.21	-5528.72	5804.94	1763236.93	14424213.75	39°43'3.4774"N	80°33'47.6298"W	8016.49	133.604	1.28	
15669.00	89.110	133.810	7234.24	8113.16	-5595.86	5874.91	1763306.87	14424146.64	39°43'2.8105"N	80°33'46.7387"W	8113.46	133.606	1.24	
15765.00	89.350	133.290	7235.53	8209.15	-5662.00	5944.48	1763376.41	14424080.53	39°43'2.1536"N	80°33'45.8525"W	8209.45	133.606	0.60	
15861.00	89.170	133.780	7236.77	8305.14	-5728.12	6014.07	1763445.97	14424014.44	39°43'1.4968"N	80°33'44.9661"W	8305.44	133.605	0.54	
15958.00	89.820	134.370	7237.62	8402.12	-5795.59	6083.75	1763515.63	14423946.99	39°43'0.8266"N	80°33'44.0786"W	8402.43	133.610	0.90	
16055.00	89.630	133.640	7238.09	8499.11	-5862.97	6153.52	1763585.37	14423879.63	39°43'0.1573"N	80°33'43.1900"W	8499.43	133.615	0.78	
16152.00	89.420	133.670	7238.89	8596.10	-5929.93	6223.70	1763655.52	14423812.70	39°42'59.4922"N	80°33'42.2962"W	8596.42	133.615	0.22	
16248.00	89.630	133.990	7239.69	8692.09	-5996.41	6292.95	1763724.75	14423746.25	39°42'58.8319"N	80°33'41.4141"W	8692.42	133.618	0.40	
16345.00	89.290	133.790	7240.60	8789.08	-6063.66	6362.85	1763794.62	14423679.03	39°42'58.1639"N	80°33'40.5238"W	8789.41	133.621	0.41	
16442.00	89.080	133.500	7241.98	8886.06	-6130.60	6433.04	1763864.78	14423612.11	39°42'57.4990"N	80°33'39.6299"W	8886.40	133.621	0.37	
16538.00	90.150	134.120	7242.63	8982.05	-6197.05	6502.31	1763934.03	14423545.68	39°42'56.8389"N	80°33'38.7476"W	8982.40	133.623	1.29	
16635.00	89.110	133.300	7243.26	9079.04	-6264.08	6572.42	1764004.11	14423478.68	39°42'56.1731"N	80°33'37.8546"W	9079.39	133.624	1.37	
16731.00	89.320	133.670	7244.57	9175.03	-6330.13	6642.07	1764073.73	14423412.65	39°42'55.5169"N	80°33'36.9675"W	9175.39	133.623	0.44	
16828.00	89.380	134.300	7245.67	9272.01	-6397.49	6711.86	1764143.50	14423345.32	39°42'54.8478"N	80°33'36.0787"W	9272.38	133.626	0.65	

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REFERENCE WELLPATH IDENTIFICATION				
Operator	SWN PRODUCTION COMPANY, LLC		Well	Yocum MSH 8H
Field	Marshall		API/Legal	
Facility	Yocum MSH Pad		Wellbore	Yocum MSH 8H AWB
Slot	8H			

WELLPATH DATA (236 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]	Comments
16925.00	89.570	134.200	7246.56	9368.99	-6465.18	6781.34	1764212.95	14423277.66	39°42'54.1756"N	80°33'35.1938"W	9369.37	133.633	0.22	
17021.00	89.230	133.690	7247.56	9464.98	-6531.79	6850.45	1764282.04	14423211.07	39°42'53.5139"N	80°33'34.3136"W	9465.36	133.636	0.64	
17118.00	90.000	133.670	7248.22	9561.97	-6598.78	6920.60	1764352.16	14423144.11	39°42'52.8484"N	80°33'33.4201"W	9562.36	133.636	0.79	
17214.00	89.540	133.690	7248.60	9657.96	-6665.08	6990.03	1764421.56	14423077.83	39°42'52.1898"N	80°33'32.5359"W	9658.36	133.637	0.48	
17311.00	89.630	133.720	7249.30	9754.96	-6732.10	7060.15	1764491.65	14423010.84	39°42'51.5241"N	80°33'31.6428"W	9755.35	133.637	0.10	
17407.00	89.690	134.410	7249.87	9850.94	-6798.87	7129.13	1764560.61	14422944.10	39°42'50.8609"N	80°33'30.7644"W	9851.35	133.642	0.72	
17503.00	89.630	133.770	7250.44	9946.92	-6865.66	7198.08	1764629.53	14422877.33	39°42'50.1975"N	80°33'29.8863"W	9947.34	133.646	0.67	
17600.00	89.970	134.210	7250.78	10043.91	-6933.03	7267.87	1764699.29	14422809.99	39°42'49.5283"N	80°33'28.9975"W	10044.34	133.649	0.57	
17696.00	89.320	133.950	7251.38	10139.90	-6999.81	7336.83	1764768.22	14422743.23	39°42'48.8649"N	80°33'28.1193"W	10140.34	133.653	0.73	
17793.00	89.380	133.740	7252.48	10236.88	-7067.00	7406.78	1764838.15	14422676.07	39°42'48.1975"N	80°33'27.2284"W	10237.33	133.655	0.23	
17889.00	89.230	133.490	7253.64	10332.87	-7133.22	7476.28	1764907.62	14422609.88	39°42'47.5397"N	80°33'26.3433"W	10333.32	133.655	0.30	
17986.00	89.290	132.600	7254.90	10429.86	-7199.42	7547.16	1764978.48	14422543.70	39°42'46.8820"N	80°33'25.4404"W	10430.31	133.649	0.92	
18082.00	89.350	132.640	7256.03	10525.85	-7264.42	7617.80	1765049.09	14422478.73	39°42'46.2362"N	80°33'24.5406"W	10526.28	133.640	0.08	
18179.00	89.780	133.000	7256.77	10622.85	-7330.35	7688.95	1765120.21	14422412.82	39°42'45.5812"N	80°33'23.6344"W	10623.27	133.632	0.58	
18276.00	89.290	132.930	7257.56	10719.84	-7396.46	7759.93	1765191.16	14422346.74	39°42'44.9244"N	80°33'22.7304"W	10720.26	133.626	0.51	
18372.00	89.690	132.840	7258.41	10815.84	-7461.78	7830.26	1765261.47	14422281.44	39°42'44.2753"N	80°33'21.8345"W	10816.25	133.620	0.43	
18469.00	89.570	133.410	7259.04	10912.84	-7528.09	7901.06	1765332.24	14422215.16	39°42'43.6166"N	80°33'20.9328"W	10913.24	133.615	0.60	
18565.00	89.380	133.250	7259.92	11008.83	-7593.96	7970.89	1765402.04	14422149.31	39°42'42.9621"N	80°33'20.0434"W	11009.24	133.613	0.26	
18662.00	89.290	132.470	7261.04	11105.82	-7659.94	8041.99	1765473.11	14422083.36	39°42'42.3066"N	80°33'19.1379"W	11106.22	133.606	0.81	
18759.00	89.450	132.920	7262.11	11202.81	-7725.71	8113.27	1765544.37	14422017.61	39°42'41.6532"N	80°33'18.2299"W	11203.20	133.598	0.49	
18855.00	89.570	133.310	7262.93	11298.81	-7791.32	8183.35	1765614.42	14421952.03	39°42'41.0013"N	80°33'17.3374"W	11299.20	133.594	0.43	
18952.00	89.320	132.300	7263.87	11395.80	-7857.23	8254.51	1765685.55	14421886.15	39°42'40.3465"N	80°33'16.4310"W	11396.18	133.587	1.07	
19048.00	89.320	132.760	7265.01	11491.79	-7922.12	8325.25	1765756.26	14421821.28	39°42'39.7017"N	80°33'15.5299"W	11492.16	133.579	0.48	
19145.00	89.290	132.600	7266.19	11588.78	-7987.87	8396.55	1765827.54	14421755.56	39°42'39.0484"N	80°33'14.6217"W	11589.14	133.571	0.17	
19241.00	89.110	132.700	7267.53	11684.77	-8052.90	8467.16	1765898.11	14421690.55	39°42'38.4022"N	80°33'13.7225"W	11685.12	133.564	0.21	
19338.00	89.200	132.620	7268.96	11781.75	-8118.63	8538.48	1765969.41	14421624.85	39°42'37.7492"N	80°33'12.8140"W	11782.10	133.556	0.12	
19434.00	89.510	132.390	7270.04	11877.74	-8183.49	8609.25	1766040.15	14421560.01	39°42'37.1047"N	80°33'11.9126"W	11878.07	133.548	0.40	
19530.00	89.480	132.860	7270.89	11973.74	-8248.50	8679.88	1766110.76	14421495.03	39°42'36.4588"N	80°33'11.0130"W	11974.06	133.540	0.49	
19627.00	89.380	132.880	7271.85	12070.73	-8314.48	8750.97	1766181.82	14421429.07	39°42'35.8031"N	80°33'10.1076"W	12071.05	133.535	0.11	
19723.00	89.570	133.250	7272.73	12166.73	-8380.03	8821.10	1766251.93	14421363.54	39°42'35.1519"N	80°33'9.2144"W	12167.04	133.531	0.43	

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Field	Marshall	API/Legal	
Facility	Yocum MSH Pad	Wellbore	Yocum MSH 8H AWB
Slot	8H		

WELLPATH DATA (236 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]	Comments
19820.00	89.350	132.870	7273.64	12263.72	-8446.26	8891.97	1766322.77	14421297.34	39°42'34.4939"N	80°33'8.3118"W	12264.03	133.527	0.45	
19916.00	89.230	132.720	7274.83	12359.71	-8511.47	8962.41	1766393.18	14421232.15	39°42'33.8459"N	80°33'7.4147"W	12360.02	133.522	0.20	
20013.00	89.380	132.690	7276.01	12456.70	-8577.26	9033.69	1766464.43	14421166.40	39°42'33.1923"N	80°33'6.5069"W	12457.00	133.515	0.16	
20109.00	89.380	132.810	7277.05	12552.69	-8642.42	9104.18	1766534.89	14421101.26	39°42'32.5449"N	80°33'5.6091"W	12552.98	133.510	0.12	
20206.00	89.600	132.070	7277.91	12649.68	-8707.87	9175.76	1766606.44	14421035.83	39°42'31.8945"N	80°33'4.6974"W	12649.96	133.501	0.80	
20302.00	89.690	132.200	7278.51	12745.67	-8772.27	9246.95	1766677.60	14420971.45	39°42'31.2545"N	80°33'3.7907"W	12745.93	133.491	0.16	
20398.00	89.080	132.660	7279.54	12841.65	-8837.04	9317.80	1766748.43	14420906.71	39°42'30.6109"N	80°33'2.8882"W	12841.91	133.483	0.80	
20495.00	89.290	132.000	7280.92	12938.63	-8902.35	9389.50	1766820.11	14420841.43	39°42'29.9619"N	80°33'1.9750"W	12938.88	133.474	0.71	
20591.00	90.150	132.440	7281.39	13034.62	-8966.86	9460.60	1766891.17	14420776.94	39°42'29.3208"N	80°33'1.0695"W	13034.86	133.465	1.01	
20688.00	90.000	132.900	7281.26	13131.62	-9032.61	9531.92	1766962.46	14420711.22	39°42'28.6676"N	80°33'0.1611"W	13131.85	133.459	0.50	
20784.00	89.480	132.630	7281.70	13227.61	-9097.79	9602.39	1767032.91	14420646.07	39°42'28.0199"N	80°32'59.2636"W	13227.84	133.454	0.61	
20881.00	89.780	132.630	7282.32	13324.61	-9163.48	9673.76	1767104.25	14420580.40	39°42'27.3671"N	80°32'58.3547"W	13324.83	133.448	0.31	
20977.00	89.720	132.550	7282.74	13420.60	-9228.45	9744.43	1767174.90	14420515.46	39°42'26.7216"N	80°32'57.4545"W	13420.81	133.442	0.10	
21074.00	89.540	132.460	7283.37	13517.59	-9293.99	9815.94	1767246.38	14420449.95	39°42'26.0704"N	80°32'56.5438"W	13517.80	133.435	0.21	
21170.00	89.820	132.710	7283.90	13613.59	-9358.95	9886.62	1767317.04	14420385.01	39°42'25.4249"N	80°32'55.6436"W	13613.79	133.429	0.39	
21267.00	89.660	132.590	7284.34	13710.58	-9424.66	9957.97	1767388.35	14420319.32	39°42'24.7718"N	80°32'54.7350"W	13710.78	133.424	0.21	
21364.00	89.320	132.760	7285.21	13807.58	-9490.41	10029.28	1767459.64	14420253.59	39°42'24.1185"N	80°32'53.8268"W	13807.77	133.419	0.39	
21460.00	90.060	133.090	7285.73	13903.58	-9555.79	10099.57	1767529.90	14420188.24	39°42'23.4689"N	80°32'52.9316"W	13903.76	133.415	0.84	
21557.00	89.910	133.260	7285.75	14000.57	-9622.16	10170.31	1767600.61	14420121.90	39°42'22.8095"N	80°32'52.0308"W	14000.76	133.414	0.23	
21654.00	89.940	132.700	7285.88	14097.57	-9688.29	10241.28	1767671.55	14420055.79	39°42'22.1524"N	80°32'51.1271"W	14097.76	133.411	0.58	
21750.00	89.970	132.350	7285.95	14193.57	-9753.18	10312.03	1767742.27	14419990.93	39°42'21.5076"N	80°32'50.2261"W	14193.74	133.405	0.37	
21847.00	90.090	132.570	7285.90	14290.56	-9818.66	10383.59	1767813.81	14419925.47	39°42'20.8569"N	80°32'49.3147"W	14290.73	133.398	0.26	
21943.00	90.370	132.650	7285.52	14386.56	-9883.65	10454.24	1767884.43	14419860.51	39°42'20.2111"N	80°32'48.4149"W	14386.72	133.393	0.30	
22040.00	90.250	132.510	7284.99	14483.55	-9949.28	10525.67	1767955.83	14419794.90	39°42'19.5589"N	80°32'47.5053"W	14483.71	133.388	0.19	
22136.00	90.370	133.070	7284.47	14579.55	-10014.49	10596.11	1768026.25	14419729.71	39°42'18.9109"N	80°32'46.6082"W	14579.70	133.384	0.60	
22169.00†	90.370	133.070	7284.26	14612.55	-10037.03	10620.22	1768050.35	14419707.19	39°42'18.6870"N	80°32'46.3012"W	14612.70	133.383	0.00	

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Field	Marshall	API/Legal	
Facility	Yocum MSH Pad	Wellbore	Yocum MSH 8H AWB
Slot	8H		

HOLE & CASING SECTIONS - Ref Wellbore: Yocum MSH 8H AWB Ref Wellpath: Yocum MSH 8H AWB_awp Proj: 22169"									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.375in Casing	26.00	550.00	524.00	26.00	550.00	0.00	0.00	1.40	-0.03
9.625in Casing	26.00	2600.00	2574.00	26.00	2599.67	0.00	0.00	23.96	17.48

TARGETS									
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
Yocum MSH 8H tully 2	6953.70	255.11	-759.50	1756675.02	14429995.35	39°44'0.9448"N	80°35'11.2932"W	point	
Yocum MSH 8H tully 1	6956.70	250.83	-320.34	1757114.01	14429991.07	39°44'0.8824"N	80°35'5.6722"W	point	
1st perf on the Yocum MSH 3H	7014.70	250.82	-320.34	1757114.01	14429991.07	39°44'0.8824"N	80°35'5.6722"W	ellipse	
	2D Ellipse radii 200 x 200.								
Yocum MSH 8H LP Rev 2	7105.70	-38.20	-71.71	1757362.55	14429702.15	39°43'58.0146"N	80°35'2.5069"W	point	
Yocum MSH 8H BHL Rev 2	7291.00	-10044.03	10614.91	1768045.04	14419700.19	39°42'18.6181"N	80°32'46.3696"W	point	

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Slot	8H		

WELLPATH COMPOSITION - Ref Wellbore: Yocum MSH 8H AWB Ref Wellpath: Yocum MSH 8H AWB_awp Proj: 22169"					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	498.00	OWSG MWD rev2 + HRGM	1 Tally OWSG MWD HRGM 17.5" 144' - 498'	Yocum MSH 8H AWB	2/28/2023
498.00	2532.00	OWSG MWD rev2 + HRGM	2 Tally OWSG MWD HRGM 12.25" 598' - 2532'	Yocum MSH 8H AWB	2/28/2023
2532.00	5921.00	OWSG MWD rev2 + HRGM	3 Tally OWSG MWD HRGM 8.75" 2622' - 5921'	Yocum MSH 8H AWB	2/28/2023
5921.00	22169.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	4 BH ATC HRGM Short spacing 8.5" 6113' - 22136'	Yocum MSH 8H AWB	2/28/2023

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