



Planned Wellpath Report

Brooke County Parks BRK 210H PWP Rev-A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #210
Area	Brooke County, WV	Well	Brooke County Parks BRK 210H
Field	Brooke	Wellbore	Brooke County Parks BRK 210H PWB
Facility	Brooke County Parks BRK Pad		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Edsaryar
Scale	0.999618	Report Generated	11/16/2016 at 1:18:59 AM
Convergence at slot	0.30° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Brooke_County_Parks_BRK_210H_PWP_Rev-A.0.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-11.53	22.39	1766577.99	14621894.10	40°15'37.584"N	80°32'52.022"W
Facility Reference Pt			1766555.61	14621905.62	40°15'37.699"N	80°32'52.310"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM

Calculation method	Minimum curvature	SDC 46 (RKB) to Facility Vertical Datum	1231.60ft
Horizontal Reference Pt	Slot	SDC 46 (RKB) to Mean Sea Level	1231.60ft
Vertical Reference Pt	SDC 46 (RKB)	SDC 46 (RKB) to Mud Line at Slot (Slot #210)	26.00ft
MD Reference Pt	SDC 46 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	143.03°

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Facility	Brooke County Parks BRK Pad		

WELLPATH DATA (136 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]	Comments
0.00†	0.000	49.000	0.00	0.00	0.00	0.00	1766577.99	14621894.10	40°15'37.584"N	80°32'52.022"W	0.00	0.000	0.00	0.00	0.00	
26.00	0.000	49.000	26.00	0.00	0.00	0.00	1766577.99	14621894.10	40°15'37.584"N	80°32'52.022"W	0.00	0.000	0.00	0.00	0.00	
126.00†	0.000	49.000	126.00	0.00	0.00	0.00	1766577.99	14621894.10	40°15'37.584"N	80°32'52.022"W	0.00	0.000	0.00	0.00	0.00	
226.00†	0.000	49.000	226.00	0.00	0.00	0.00	1766577.99	14621894.10	40°15'37.584"N	80°32'52.022"W	0.00	0.000	0.00	0.00	0.00	
326.00†	0.000	49.000	326.00	0.00	0.00	0.00	1766577.99	14621894.10	40°15'37.584"N	80°32'52.022"W	0.00	0.000	0.00	0.00	0.00	
426.00†	0.000	49.000	426.00	0.00	0.00	0.00	1766577.99	14621894.10	40°15'37.584"N	80°32'52.022"W	0.00	0.000	0.00	0.00	0.00	
500.00	0.000	49.000	500.00	0.00	0.00	0.00	1766577.99	14621894.10	40°15'37.584"N	80°32'52.022"W	0.00	0.000	0.00	0.00	0.00	
526.00†	0.390	49.000	526.00	-0.01	0.06	0.07	1766578.06	14621894.16	40°15'37.585"N	80°32'52.021"W	0.09	49.000	1.50	1.50	188.46	
626.00†	1.890	49.000	625.98	-0.15	1.36	1.57	1766579.56	14621895.46	40°15'37.597"N	80°32'52.002"W	2.08	49.000	1.50	1.50	0.00	
726.00†	3.390	49.000	725.87	-0.47	4.39	5.04	1766583.03	14621898.48	40°15'37.627"N	80°32'51.957"W	6.68	49.000	1.50	1.50	0.00	
826.00†	4.890	49.000	825.60	-0.98	9.12	10.49	1766588.48	14621903.22	40°15'37.674"N	80°32'51.886"W	13.90	49.000	1.50	1.50	0.00	
926.00†	6.390	49.000	925.12	-1.67	15.57	17.91	1766595.89	14621909.66	40°15'37.737"N	80°32'51.790"W	23.73	49.000	1.50	1.50	0.00	
933.33	6.500	49.000	932.40	-1.73	16.11	18.53	1766596.51	14621910.20	40°15'37.742"N	80°32'51.782"W	24.55	49.000	1.50	1.50	0.00	
1026.00†	6.500	49.000	1024.48	-2.46	22.99	26.45	1766604.43	14621917.08	40°15'37.810"N	80°32'51.679"W	35.04	49.000	0.00	0.00	0.00	
1126.00†	6.500	49.000	1123.83	-3.26	30.42	34.99	1766612.97	14621924.51	40°15'37.883"N	80°32'51.569"W	46.36	49.000	0.00	0.00	0.00	
1128.18†	6.500	49.000	1126.00	-3.28	30.58	35.18	1766613.15	14621924.67	40°15'37.884"N	80°32'51.566"W	46.61	49.000	0.00	0.00	0.00	Salt Water Top-1126' TVD
1226.00†	6.500	49.000	1223.19	-4.05	37.84	43.54	1766621.51	14621931.93	40°15'37.956"N	80°32'51.458"W	57.68	49.000	0.00	0.00	0.00	
1326.00†	6.500	49.000	1322.55	-4.85	45.27	52.08	1766630.05	14621939.35	40°15'38.029"N	80°32'51.347"W	69.00	49.000	0.00	0.00	0.00	
1426.00†	6.500	49.000	1421.90	-5.65	52.70	60.62	1766638.59	14621946.78	40°15'38.102"N	80°32'51.237"W	80.33	49.000	0.00	0.00	0.00	
1526.00†	6.500	49.000	1521.26	-6.44	60.12	69.17	1766647.13	14621954.20	40°15'38.175"N	80°32'51.126"W	91.65	49.000	0.00	0.00	0.00	
1626.00†	6.500	49.000	1620.62	-7.24	67.55	77.71	1766655.67	14621961.63	40°15'38.248"N	80°32'51.015"W	102.97	49.000	0.00	0.00	0.00	
1637.46†	6.500	49.000	1632.00	-7.33	68.40	78.69	1766656.65	14621962.48	40°15'38.256"N	80°32'51.003"W	104.26	49.000	0.00	0.00	0.00	Big Injun Base-1632' TVD
1726.00†	6.500	49.000	1719.98	-8.03	74.98	86.25	1766664.21	14621969.05	40°15'38.321"N	80°32'50.904"W	114.29	49.000	0.00	0.00	0.00	
1772.00	6.500	49.000	1765.68	-8.40	78.39	90.18	1766668.14	14621972.46	40°15'38.354"N	80°32'50.854"W	119.49	49.000	0.00	0.00	0.00	
1826.00†	7.579	49.377	1819.27	-8.84	82.72	95.19	1766673.15	14621976.79	40°15'38.397"N	80°32'50.789"W	126.11	49.011	2.00	2.00	0.70	
1926.00†	9.578	49.853	1918.15	-9.72	92.38	106.56	1766684.51	14621986.44	40°15'38.491"N	80°32'50.641"W	141.03	49.078	2.00	2.00	0.48	
1984.78†	10.753	50.051	1976.00	-10.28	99.05	114.50	1766692.45	14621993.11	40°15'38.557"N	80°32'50.539"W	151.40	49.138	2.00	2.00	0.34	Berea-1976' TVD
2026.00†	11.577	50.165	2016.44	-10.68	104.17	120.62	1766698.57	14621998.23	40°15'38.607"N	80°32'50.459"W	159.38	49.186	2.00	2.00	0.28	
2126.00†	13.576	50.387	2114.04	-11.73	118.08	137.37	1766715.31	14622012.14	40°15'38.744"N	80°32'50.242"W	181.15	49.318	2.00	2.00	0.22	
2226.00†	15.576	50.552	2210.82	-12.85	134.10	156.78	1766734.71	14622028.15	40°15'38.901"N	80°32'49.991"W	206.31	49.460	2.00	2.00	0.17	



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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]	Comments
2326.00†	17.576	50.681	2306.66	-14.05	152.20	178.83	1766756.76	14622046.24	40°15'39.079"N	80°32'49.705"W	234.83	49.601	2.00	2.00	0.13	
2426.00†	19.575	50.784	2401.44	-15.32	172.36	203.50	1766781.41	14622066.39	40°15'39.277"N	80°32'49.386"W	266.68	49.736	2.00	2.00	0.10	
2447.37	20.003	50.804	2421.55	-15.60	176.93	209.10	1766787.01	14622070.96	40°15'39.322"N	80°32'49.313"W	273.91	49.764	2.00	2.00	0.09	
2526.00†	20.003	50.804	2495.44	-16.65	193.93	229.95	1766807.85	14622087.95	40°15'39.489"N	80°32'49.043"W	300.81	49.857	0.00	0.00	0.00	
2626.00†	20.003	50.804	2589.40	-17.98	215.55	256.46	1766834.35	14622109.56	40°15'39.701"N	80°32'48.700"W	335.01	49.954	0.00	0.00	0.00	
2726.00†	20.003	50.804	2683.37	-19.31	237.16	282.97	1766860.85	14622131.17	40°15'39.913"N	80°32'48.356"W	369.21	50.032	0.00	0.00	0.00	
2826.00†	20.003	50.804	2777.34	-20.64	258.78	309.48	1766887.35	14622152.78	40°15'40.126"N	80°32'48.013"W	403.41	50.098	0.00	0.00	0.00	
2926.00†	20.003	50.804	2871.31	-21.96	280.40	335.98	1766913.85	14622174.39	40°15'40.338"N	80°32'47.670"W	437.62	50.153	0.00	0.00	0.00	
3026.00†	20.003	50.804	2965.27	-23.29	302.02	362.49	1766940.35	14622196.00	40°15'40.550"N	80°32'47.326"W	471.82	50.200	0.00	0.00	0.00	
3126.00†	20.003	50.804	3059.24	-24.62	323.63	389.00	1766966.84	14622217.61	40°15'40.762"N	80°32'46.983"W	506.03	50.241	0.00	0.00	0.00	
3226.00†	20.003	50.804	3153.21	-25.95	345.25	415.51	1766993.34	14622239.22	40°15'40.975"N	80°32'46.640"W	540.23	50.277	0.00	0.00	0.00	
3326.00†	20.003	50.804	3247.18	-27.28	366.87	442.02	1767019.84	14622260.83	40°15'41.187"N	80°32'46.296"W	574.44	50.308	0.00	0.00	0.00	
3426.00†	20.003	50.804	3341.15	-28.61	388.49	468.53	1767046.34	14622282.44	40°15'41.399"N	80°32'45.953"W	608.64	50.336	0.00	0.00	0.00	
3526.00†	20.003	50.804	3435.11	-29.94	410.10	495.04	1767072.84	14622304.05	40°15'41.612"N	80°32'45.610"W	642.85	50.361	0.00	0.00	0.00	
3626.00†	20.003	50.804	3529.08	-31.27	431.72	521.55	1767099.34	14622325.66	40°15'41.824"N	80°32'45.266"W	677.05	50.383	0.00	0.00	0.00	
3726.00†	20.003	50.804	3623.05	-32.59	453.34	548.06	1767125.84	14622347.27	40°15'42.036"N	80°32'44.923"W	711.26	50.403	0.00	0.00	0.00	
3826.00†	20.003	50.804	3717.02	-33.92	474.96	574.57	1767152.34	14622368.88	40°15'42.248"N	80°32'44.579"W	745.46	50.422	0.00	0.00	0.00	
3926.00†	20.003	50.804	3810.98	-35.25	496.58	601.08	1767178.84	14622390.48	40°15'42.461"N	80°32'44.236"W	779.67	50.439	0.00	0.00	0.00	
4026.00†	20.003	50.804	3904.95	-36.58	518.19	627.59	1767205.34	14622412.09	40°15'42.673"N	80°32'43.893"W	813.87	50.454	0.00	0.00	0.00	
4126.00†	20.003	50.804	3998.92	-37.91	539.81	654.10	1767231.84	14622433.70	40°15'42.885"N	80°32'43.549"W	848.08	50.468	0.00	0.00	0.00	
4226.00†	20.003	50.804	4092.89	-39.24	561.43	680.61	1767258.34	14622455.31	40°15'43.097"N	80°32'43.206"W	882.29	50.481	0.00	0.00	0.00	
4326.00†	20.003	50.804	4186.85	-40.57	583.05	707.12	1767284.84	14622476.92	40°15'43.310"N	80°32'42.863"W	916.49	50.493	0.00	0.00	0.00	
4426.00†	20.003	50.804	4280.82	-41.90	604.66	733.63	1767311.33	14622498.53	40°15'43.522"N	80°32'42.519"W	950.70	50.504	0.00	0.00	0.00	
4526.00†	20.003	50.804	4374.79	-43.23	626.28	760.14	1767337.83	14622520.14	40°15'43.734"N	80°32'42.176"W	984.90	50.515	0.00	0.00	0.00	
4626.00†	20.003	50.804	4468.76	-44.55	647.90	786.64	1767364.33	14622541.75	40°15'43.947"N	80°32'41.832"W	1019.11	50.524	0.00	0.00	0.00	
4726.00†	20.003	50.804	4562.73	-45.88	669.52	813.15	1767390.83	14622563.36	40°15'44.159"N	80°32'41.489"W	1053.31	50.533	0.00	0.00	0.00	
4826.00†	20.003	50.804	4656.69	-47.21	691.13	839.66	1767417.33	14622584.97	40°15'44.371"N	80°32'41.146"W	1087.52	50.542	0.00	0.00	0.00	
4926.00†	20.003	50.804	4750.66	-48.54	712.75	866.17	1767443.83	14622606.58	40°15'44.583"N	80°32'40.802"W	1121.73	50.550	0.00	0.00	0.00	
5026.00†	20.003	50.804	4844.63	-49.87	734.37	892.68	1767470.33	14622628.19	40°15'44.796"N	80°32'40.459"W	1155.93	50.557	0.00	0.00	0.00	
5126.00†	20.003	50.804	4938.60	-51.20	755.99	919.19	1767496.83	14622649.80	40°15'45.008"N	80°32'40.116"W	1190.14	50.564	0.00	0.00	0.00	



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5226.00†	20.003	50.804	5032.56	-52.53	777.60	945.70	1767523.33	14622671.41	40°15'45.220"N	80°32'39.772"W	1224.34	50.571	0.00	0.00	0.00	
5326.00†	20.003	50.804	5126.53	-53.86	799.22	972.21	1767549.83	14622693.02	40°15'45.432"N	80°32'39.429"W	1258.55	50.577	0.00	0.00	0.00	
5426.00†	20.003	50.804	5220.50	-55.18	820.84	998.72	1767576.33	14622714.63	40°15'45.645"N	80°32'39.085"W	1292.76	50.583	0.00	0.00	0.00	
5512.50	20.003	50.804	5301.78	-56.33	839.54	1021.65	1767599.25	14622733.32	40°15'45.828"N	80°32'38.788"W	1322.35	50.588	0.00	0.00	0.00	
5526.00†	19.655	54.236	5314.48	-56.38	842.33	1025.28	1767602.88	14622736.10	40°15'45.856"N	80°32'38.741"W	1326.92	50.595	9.00	-2.58	25.43	
5578.44†	18.966	68.390	5364.00	-53.93	850.62	1040.37	1767617.96	14622744.40	40°15'45.937"N	80°32'38.546"W	1343.85	50.730	9.00	-1.31	26.99	Upper Rhinestreet-5364' TVD
5626.00†	19.306	81.431	5408.95	-48.14	854.64	1055.34	1767632.92	14622748.42	40°15'45.976"N	80°32'38.353"W	1357.99	50.998	9.00	0.71	27.42	
5696.38†	21.370	98.740	5475.00	-33.41	854.43	1079.54	1767657.11	14622748.20	40°15'45.973"N	80°32'38.041"W	1376.75	51.639	9.00	2.93	24.59	Lower Rhinestreet-5475' TVD
5726.00†	22.696	104.910	5502.46	-25.05	852.14	1090.40	1767667.97	14622745.91	40°15'45.949"N	80°32'37.901"W	1383.87	51.993	9.00	4.48	20.83	
5761.51†	24.561	111.395	5535.00	-13.38	847.68	1103.89	1767681.46	14622741.46	40°15'45.905"N	80°32'37.727"W	1391.81	52.479	9.00	5.25	18.26	Basal Rhinestreet-5535' TVD
5826.00†	28.521	120.923	5592.71	12.32	834.87	1129.60	1767707.16	14622728.65	40°15'45.777"N	80°32'37.396"W	1404.64	53.533	9.00	6.14	14.78	
5844.66†	29.772	123.224	5609.00	20.80	830.04	1137.30	1767714.85	14622723.82	40°15'45.729"N	80°32'37.297"W	1407.98	53.877	9.00	6.70	12.33	Cashaqua-5609' TVD
5909.56†	34.383	129.996	5664.00	53.85	809.42	1164.84	1767742.38	14622703.21	40°15'45.523"N	80°32'36.943"W	1418.45	55.206	9.00	7.10	10.43	Middlesex-5664' TVD
5926.00†	35.602	131.458	5677.47	63.06	803.26	1171.98	1767749.52	14622697.06	40°15'45.462"N	80°32'36.852"W	1420.84	55.574	9.00	7.42	8.89	
5940.28†	36.674	132.659	5689.00	71.33	797.62	1178.24	1767755.77	14622691.42	40°15'45.406"N	80°32'36.771"W	1422.83	55.903	9.00	7.51	8.41	Lower Middlesex-5689' TVD
5977.13†	39.492	135.494	5718.00	93.77	781.81	1194.54	1767772.08	14622675.61	40°15'45.249"N	80°32'36.562"W	1427.64	56.796	9.00	7.65	7.70	Burket-5718' TVD
6003.43†	41.543	137.318	5738.00	110.75	769.43	1206.32	1767783.85	14622663.23	40°15'45.126"N	80°32'36.411"W	1430.82	57.469	9.00	7.79	6.93	Tully-5738' TVD
6026.00†	43.322	138.768	5754.65	125.91	758.10	1216.50	1767794.02	14622651.91	40°15'45.014"N	80°32'36.280"W	1433.38	58.070	9.00	7.89	6.43	
6091.22†	48.556	142.472	5800.00	172.71	721.86	1246.16	1767823.67	14622615.68	40°15'44.654"N	80°32'35.900"W	1440.14	59.918	9.00	8.02	5.68	Hamilton-5800' TVD
6114.31†	50.435	143.640	5815.00	190.27	707.83	1256.71	1767834.22	14622601.65	40°15'44.515"N	80°32'35.765"W	1442.34	60.610	9.00	8.14	5.06	Mahantango-5815' TVD
6126.00†	51.390	144.207	5822.37	199.34	700.49	1262.06	1767839.56	14622594.32	40°15'44.442"N	80°32'35.697"W	1443.42	60.968	9.00	8.17	4.85	
6226.00†	59.658	148.529	5878.94	281.52	631.86	1307.53	1767885.02	14622525.71	40°15'43.762"N	80°32'35.115"W	1452.19	64.208	9.00	8.27	4.32	
6279.17†	64.107	150.530	5904.00	328.10	591.44	1331.29	1767908.77	14622485.31	40°15'43.361"N	80°32'34.811"W	1456.75	66.046	9.00	8.37	3.76	Levanna-5904' TVD
6320.74†	67.603	151.990	5921.00	365.63	558.19	1349.51	1767926.99	14622452.07	40°15'43.031"N	80°32'34.578"W	1460.40	67.529	9.00	8.41	3.51	Upper Marcellus-5921' TVD
6326.00†	68.046	152.170	5922.99	370.44	553.88	1351.80	1767929.27	14622447.77	40°15'42.989"N	80°32'34.549"W	1460.87	67.719	9.00	8.43	3.41	
6426.00†	76.505	155.400	5953.41	463.91	468.49	1393.77	1767971.23	14622362.41	40°15'42.143"N	80°32'34.013"W	1470.40	71.421	9.00	8.46	3.23	
6526.00†	85.003	158.407	5969.47	559.63	377.78	1432.42	1768009.86	14622271.74	40°15'41.244"N	80°32'33.521"W	1481.40	75.225	9.00	8.50	3.01	
6578.85	89.500	159.957	5972.00†	610.31	328.45	1451.17	1768028.61	14622222.43	40°15'40.756"N	80°32'33.282"W	1487.88	77.247	9.00	8.51	2.93	
6626.00†	89.500	159.957	5972.41	655.42	284.16	1467.33	1768044.76	14622178.15	40°15'40.318"N	80°32'33.076"W	1494.60	79.040	0.00	0.00	0.00	
6726.00†	89.500	159.957	5973.28	751.09	190.22	1501.61	1768079.02	14622084.25	40°15'39.388"N	80°32'32.641"W	1513.61	82.780	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #210
Area	Brooke County, WV	Well	Brooke County Parks BRK 210H
Field	Brooke	Wellbore	Brooke County Parks BRK 210H PWB
Facility	Brooke County Parks BRK Pad		

WELLPATH DATA (136 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]	Comments
6826.00†	89.500	159.957	5974.16	846.75	96.28	1535.88	1768113.28	14621990.34	40°15'38.457"N	80°32'32.205"W	1538.89	86.413	0.00	0.00	0.00	
6926.00†	89.500	159.957	5975.03	942.41	2.34	1570.15	1768147.54	14621896.44	40°15'37.527"N	80°32'31.769"W	1570.15	89.915	0.00	0.00	0.00	
7026.00†	89.500	159.957	5975.90	1038.08	-91.60	1604.42	1768181.79	14621802.53	40°15'36.597"N	80°32'31.333"W	1607.03	93.268	0.00	0.00	0.00	
7126.00†	89.500	159.957	5976.77	1133.74	-185.54	1638.69	1768216.05	14621708.63	40°15'35.667"N	80°32'30.898"W	1649.16	96.460	0.00	0.00	0.00	
7226.00†	89.500	159.957	5977.65	1229.41	-279.48	1672.96	1768250.31	14621614.73	40°15'34.737"N	80°32'30.462"W	1696.15	99.484	0.00	0.00	0.00	
7326.00†	89.500	159.957	5978.52	1325.07	-373.42	1707.23	1768284.57	14621520.82	40°15'33.807"N	80°32'30.026"W	1747.60	102.338	0.00	0.00	0.00	
7426.00†	89.500	159.957	5979.39	1420.73	-467.36	1741.51	1768318.83	14621426.92	40°15'32.877"N	80°32'29.590"W	1803.13	105.022	0.00	0.00	0.00	
7526.00†	89.500	159.957	5980.27	1516.40	-561.30	1775.78	1768353.09	14621333.01	40°15'31.947"N	80°32'29.154"W	1862.38	107.541	0.00	0.00	0.00	
7626.00†	89.500	159.957	5981.14	1612.06	-655.24	1810.05	1768387.34	14621239.11	40°15'31.017"N	80°32'28.719"W	1925.00	109.900	0.00	0.00	0.00	
7726.00†	89.500	159.957	5982.01	1707.73	-749.18	1844.32	1768421.60	14621145.21	40°15'30.087"N	80°32'28.283"W	1990.67	112.107	0.00	0.00	0.00	
7826.00†	89.500	159.957	5982.88	1803.39	-843.12	1878.59	1768455.86	14621051.30	40°15'29.157"N	80°32'27.847"W	2059.12	114.171	0.00	0.00	0.00	
7926.00†	89.500	159.957	5983.76	1899.05	-937.06	1912.86	1768490.12	14620957.40	40°15'28.227"N	80°32'27.411"W	2130.05	116.099	0.00	0.00	0.00	
8026.00†	89.500	159.957	5984.63	1994.72	-1031.00	1947.13	1768524.38	14620863.49	40°15'27.297"N	80°32'26.976"W	2203.25	117.901	0.00	0.00	0.00	
8126.00†	89.500	159.957	5985.50	2090.38	-1124.94	1981.40	1768558.63	14620769.59	40°15'26.367"N	80°32'26.540"W	2278.48	119.586	0.00	0.00	0.00	
8226.00†	89.500	159.957	5986.37	2186.05	-1218.88	2015.68	1768592.89	14620675.69	40°15'25.437"N	80°32'26.104"W	2355.55	121.161	0.00	0.00	0.00	
8326.00†	89.500	159.957	5987.25	2281.71	-1312.82	2049.95	1768627.15	14620581.78	40°15'24.507"N	80°32'25.668"W	2434.29	122.636	0.00	0.00	0.00	
8426.00†	89.500	159.957	5988.12	2377.37	-1406.76	2084.22	1768661.41	14620487.88	40°15'23.577"N	80°32'25.233"W	2514.55	124.018	0.00	0.00	0.00	
8526.00†	89.500	159.957	5988.99	2473.04	-1500.70	2118.49	1768695.67	14620393.98	40°15'22.647"N	80°32'24.797"W	2596.17	125.313	0.00	0.00	0.00	
8626.00†	89.500	159.957	5989.86	2568.70	-1594.64	2152.76	1768729.93	14620300.07	40°15'21.717"N	80°32'24.361"W	2679.04	126.529	0.00	0.00	0.00	
8726.00†	89.500	159.957	5990.74	2664.37	-1688.58	2187.03	1768764.18	14620206.17	40°15'20.787"N	80°32'23.925"W	2763.04	127.671	0.00	0.00	0.00	
8826.00†	89.500	159.957	5991.61	2760.03	-1782.52	2221.30	1768798.44	14620112.26	40°15'19.857"N	80°32'23.490"W	2848.08	128.746	0.00	0.00	0.00	
8926.00†	89.500	159.957	5992.48	2855.69	-1876.46	2255.58	1768832.70	14620018.36	40°15'18.927"N	80°32'23.054"W	2934.06	129.758	0.00	0.00	0.00	
9026.00†	89.500	159.957	5993.36	2951.36	-1970.40	2289.85	1768866.96	14619924.46	40°15'17.997"N	80°32'22.618"W	3020.91	130.712	0.00	0.00	0.00	
9126.00†	89.500	159.957	5994.23	3047.02	-2064.34	2324.12	1768901.22	14619830.55	40°15'17.066"N	80°32'22.182"W	3108.54	131.612	0.00	0.00	0.00	
9226.00†	89.500	159.957	5995.10	3142.69	-2158.28	2358.39	1768935.47	14619736.65	40°15'16.136"N	80°32'21.747"W	3196.90	132.463	0.00	0.00	0.00	
9326.00†	89.500	159.957	5995.97	3238.35	-2252.22	2392.66	1768969.73	14619642.74	40°15'15.206"N	80°32'21.311"W	3285.93	133.268	0.00	0.00	0.00	
9426.00†	89.500	159.957	5996.85	3334.01	-2346.16	2426.93	1769003.99	14619548.84	40°15'14.276"N	80°32'20.875"W	3375.57	134.031	0.00	0.00	0.00	
9526.00†	89.500	159.957	5997.72	3429.68	-2440.10	2461.20	1769038.25	14619454.94	40°15'13.346"N	80°32'20.440"W	3465.78	134.753	0.00	0.00	0.00	
9626.00†	89.500	159.957	5998.59	3525.34	-2534.04	2495.47	1769072.51	14619361.03	40°15'12.416"N	80°32'20.004"W	3556.51	135.439	0.00	0.00	0.00	
9726.00†	89.500	159.957	5999.46	3621.01	-2627.98	2529.75	1769106.76	14619267.13	40°15'11.486"N	80°32'19.568"W	3647.72	136.091	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #210
Area	Brooke County, WV	Well	Brooke County Parks BRK 210H
Field	Brooke	Wellbore	Brooke County Parks BRK 210H PWB
Facility	Brooke County Parks BRK Pad		

WELLPATH DATA (136 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]	Comments
9826.00†	89.500	159.957	6000.34	3716.67	-2721.92	2564.02	1769141.02	14619173.22	40°15'10.556"N	80°32'19.132"W	3739.39	136.711	0.00	0.00	0.00	
9926.00†	89.500	159.957	6001.21	3812.34	-2815.86	2598.29	1769175.28	14619079.32	40°15'09.626"N	80°32'18.697"W	3831.47	137.301	0.00	0.00	0.00	
10026.00†	89.500	159.957	6002.08	3908.00	-2909.80	2632.56	1769209.54	14618985.42	40°15'08.696"N	80°32'18.261"W	3923.94	137.864	0.00	0.00	0.00	
10126.00†	89.500	159.957	6002.95	4003.66	-3003.74	2666.83	1769243.80	14618891.51	40°15'07.766"N	80°32'17.825"W	4016.77	138.400	0.00	0.00	0.00	
10226.00†	89.500	159.957	6003.83	4099.33	-3097.68	2701.10	1769278.06	14618797.61	40°15'06.836"N	80°32'17.390"W	4109.94	138.912	0.00	0.00	0.00	
10326.00†	89.500	159.957	6004.70	4194.99	-3191.62	2735.37	1769312.31	14618703.71	40°15'05.906"N	80°32'16.954"W	4203.42	139.402	0.00	0.00	0.00	
10426.00†	89.500	159.957	6005.57	4290.66	-3285.56	2769.65	1769346.57	14618609.80	40°15'04.976"N	80°32'16.518"W	4297.19	139.870	0.00	0.00	0.00	
10526.00†	89.500	159.957	6006.45	4386.32	-3379.50	2803.92	1769380.83	14618515.90	40°15'04.046"N	80°32'16.083"W	4391.24	140.318	0.00	0.00	0.00	
10626.00†	89.500	159.957	6007.32	4481.98	-3473.44	2838.19	1769415.09	14618421.99	40°15'03.116"N	80°32'15.647"W	4485.54	140.747	0.00	0.00	0.00	
10726.00†	89.500	159.957	6008.19	4577.65	-3567.38	2872.46	1769449.35	14618328.09	40°15'02.186"N	80°32'15.211"W	4580.09	141.159	0.00	0.00	0.00	
10826.00†	89.500	159.957	6009.06	4673.31	-3661.32	2906.73	1769483.60	14618234.19	40°15'01.256"N	80°32'14.776"W	4674.86	141.554	0.00	0.00	0.00	
10926.00†	89.500	159.957	6009.94	4768.98	-3755.26	2941.00	1769517.86	14618140.28	40°15'00.325"N	80°32'14.340"W	4769.85	141.933	0.00	0.00	0.00	
11026.00†	89.500	159.957	6010.81	4864.64	-3849.20	2975.27	1769552.12	14618046.38	40°14'59.395"N	80°32'13.904"W	4865.04	142.297	0.00	0.00	0.00	
11126.00†	89.500	159.957	6011.68	4960.30	-3943.14	3009.54	1769586.38	14617952.47	40°14'58.465"N	80°32'13.469"W	4960.41	142.648	0.00	0.00	0.00	
11226.00†	89.500	159.957	6012.55	5055.97	-4037.08	3043.82	1769620.64	14617858.57	40°14'57.535"N	80°32'13.033"W	5055.97	142.985	0.00	0.00	0.00	
11238.62	89.500	159.957	6012.66†	5068.04	-4048.94	3048.14	1769624.96	14617846.72	40°14'57.418"N	80°32'12.978"W	5068.04	143.027	0.00	0.00	0.00	



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #210
Area	Brooke County, WV	Well	Brooke County Parks BRK 210H
Field	Brooke	Wellbore	Brooke County Parks BRK 210H PWB
Facility	Brooke County Parks BRK Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Brooke County Parks BRK 210H PWB Ref Wellpath: Brooke County Parks BRK 210H PWP Rev-A.0

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	126.00	100.00	26.00	126.00	0.00	0.00	0.00	0.00
17.5in Open Hole	126.00	350.00	224.00	126.00	350.00	0.00	0.00	0.00	0.00
13.375in Casing Surface	26.00	350.00	324.00	26.00	350.00	0.00	0.00	0.00	0.00
12.25in Open Hole	350.00	1687.78	1337.78	350.00	1682.00	0.00	0.00	72.14	82.99
9.625in Casing Intermediate	26.00	1687.78	1661.78	26.00	1682.00	0.00	0.00	72.14	82.99
8.75in Open Hole	1687.78	5500.00	3812.22	1682.00	5290.04	72.14	82.99	836.84	1018.34
8.5in Open Hole	5500.00	11238.62	5738.62	5290.04	6012.66	836.84	1018.34	-4048.94	3048.14
5.5in Casing Production	26.00	11238.62	11212.62	26.00	6012.66	0.00	0.00	-4048.94	3048.14

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
1) Brooke County Parks BRK 210H LP Rev-2	6578.85	5972.00	328.45	1451.17	1768028.61	14622222.43	40°15'40.756"N	80°32'33.282"W	point
2) Brooke County Parks BRK 210H BHL Rev-3	11238.62	6012.66	-4048.94	3048.14	1769624.96	14617846.72	40°14'57.418"N	80°32'12.978"W	point

SURVEY PROGRAM - Ref Wellbore: Brooke County Parks BRK 210H PWB Ref Wellpath: Brooke County Parks BRK 210H PWP Rev-A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	350.00	OWSG EMS rev2 + HRGM	MSS <17-1/2">	Brooke County Parks BRK 210H PWB
350.00	1650.00	BHI NaviTrak (Axial)	APS EM <12-1/4">	Brooke County Parks BRK 210H PWB
1650.00	5500.00	BHI NaviTrak (Axial)	APS EM <8-3/4">	Brooke County Parks BRK 210H PWB
5500.00	11238.62	BHI AutoTrak Curve (Short)	BHI AT Curve <8-1/2">	Brooke County Parks BRK 210H PWB