

02/15/2019



**XTO ENERGY INC**  
 Location: Marion County, WV  
 Field: Marion  
 Facility: Brennan Snider Pad



Facility Name: Brennan Snider Pad  
 Grid East (US Ft): 1775488.690  
 Grid North (US Ft): 395352.800  
 Local N (ft): 1775488.690  
 Local E (ft): 395352.800  
 Slot #13: -9.59  
 -28.84  
 1775488.690  
 395352.800  
 Patterson 583 (RFB) to Ground level (At Slot: Slot #13)  
 Mean Sea Level to Ground level (At Slot: Slot #13)  
 Patterson 583 (RFB) to Mean Sea Level

**Location Information**

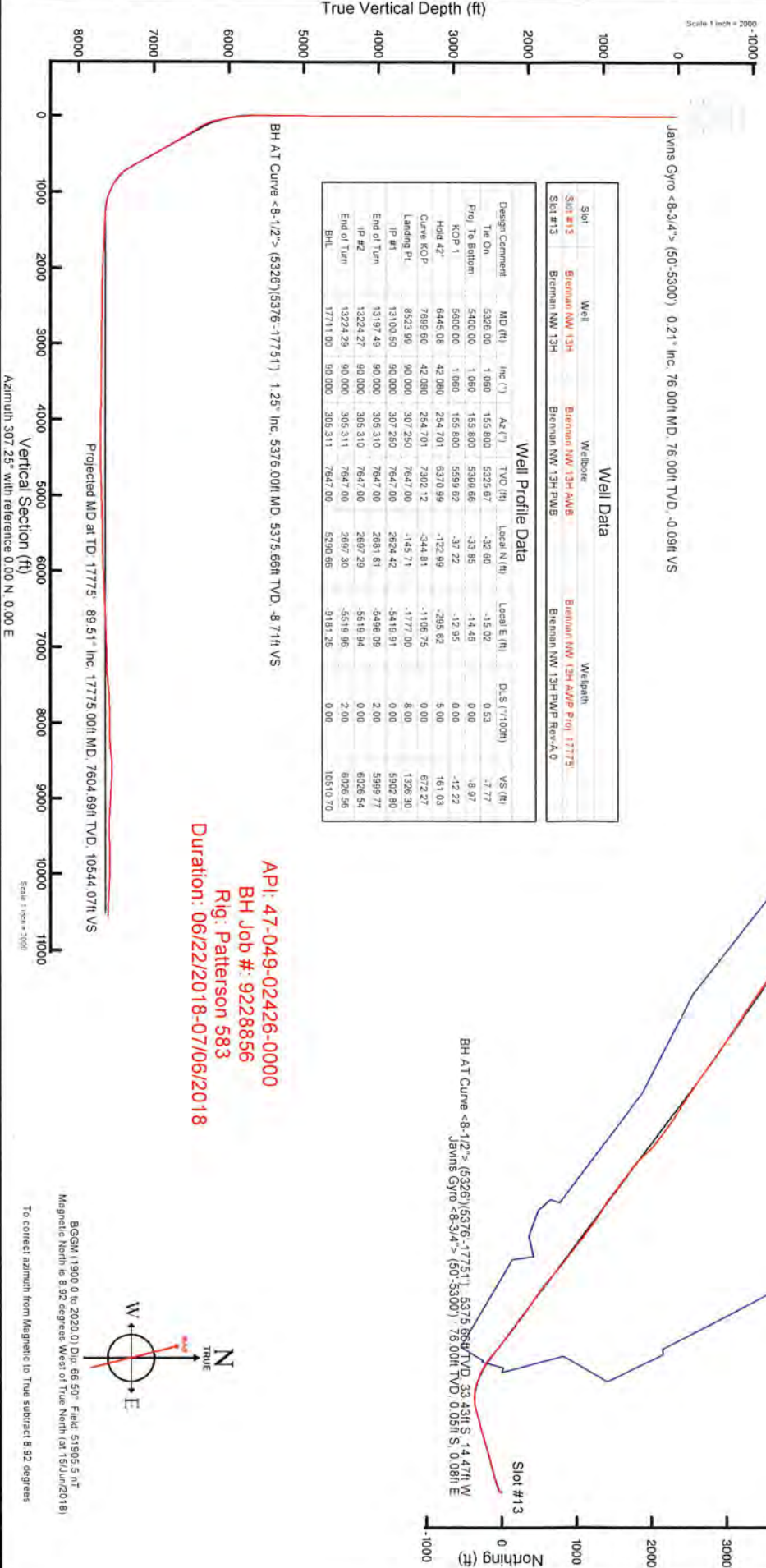
Grid East (US Ft)	Grid North (US Ft)	Latitude	Longitude
1775488.690	395352.800	39°30'01.564"N	80°17'44.263"W
Local N (ft)	Local E (ft)	Latitude	Longitude
1775488.690	395352.800	39°30'01.569"N	80°17'44.631"W
Slot #13		20ft	-1251.63ft
			1227.63ft

**Well Data**

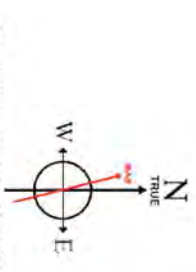
Slot	Well	Wellbore	Wellpath
Slot #13	Brennan NW 13H	Brennan NW 13H PWB	Brennan NW 13H AMP Proj: 17775
Slot #13	Brennan NW 13H	Brennan NW 13H PWB	Brennan NW 13H PWP Rev: A-0

**Well Profile Data**

Design Comment	MD (ft)	Incl (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/100ft)	VS (ft)
Top On	5326.00	1.060	155.800	5325.67	-32.66	-15.02	0.53	1.77
Proj To Bottom	5400.00	1.060	155.800	5398.66	-33.85	-14.46	0.00	-18.97
KOP 1	5500.00	1.060	155.800	5599.82	-37.22	-12.95	0.00	-12.22
Hold 42"	6445.08	42.080	254.701	6370.99	-122.99	-295.62	5.00	161.03
Curve KOP	7699.60	42.080	254.701	7302.12	-344.81	-1105.75	0.00	672.27
Landing Pt	8523.89	90.000	307.250	7647.00	-145.71	-1777.00	6.00	1326.30
IP #1	13100.50	90.000	307.280	7647.00	2624.42	-5419.91	0.00	5902.80
End of Turn	13197.49	90.000	305.310	7647.00	2681.81	-5498.09	2.00	5999.77
IP #2	13224.27	90.000	305.310	7647.00	2687.29	-5519.84	0.00	6026.54
End of Turn	13224.29	90.000	305.311	7647.00	2687.30	-5519.95	2.00	6026.56
BHL	17711.80	90.000	305.311	7647.00	5290.66	-9181.25	0.00	10510.70



API: 47-049-02426-0000  
 BH Job #: 9228856  
 Rig: Patterson 583  
 Duration: 06/22/2018-07/06/2018



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**Actual Wellpath Report**  
 Brennan NW 13H AWP Proj: 17775'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	XTO ENERGY INC	Slot	Slot #13
Area	Marion County, WV	Well	Brennan NW 13H
Field	Marion	Wellbore	Brennan NW 13H AWB
Facility	Brennan Snider Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Delaset
Scale	0.999943	Report Generated	12/Jul/2018 at 16:51
Convergence at slot	0.51° West	Database/Source file	WA_MPL_EasternUS_Defn/Brennan NW 13H AWP Proj_17775_.xml

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-9.59	-28.84	1775459.17	365343.53	39°30'01.269"N	80°17'44.631"W
Facility Reference Pt			1775488.09	365352.86	39°30'01.364"N	80°17'44.263"W
Field Reference Pt			609601.22	0.00	38°23'48.763"N	84°21'09.765"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 583 (RKB) to Facility Vertical Datum	1277.63ft
Horizontal Reference Pt	Slot	Patterson 583 (RKB) to Mean Sea Level	1277.63ft
Vertical Reference Pt	Patterson 583 (RKB)	Patterson 583 (RKB) to Ground Level at Slot (Slot #13)	26.00ft
MD Reference Pt	Patterson 583 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	307.25°

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**Actual Wellpath Report**  
Brennan NW 13H AWP Proj: 17775'  
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REFERENCE WELLPATH IDENTIFICATION		Operator	XTO ENERGY INC	Slot	Slot #13
Area	Marion County, WV	Well	Brennan NW 13H		
Field	Marion	Wellbore	Brennan NW 13H AWP		
Facility	Brennan Snider Pad				

WELLPATH DATA (193 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
ft	°	°	ft	ft	ft	ft	US ft	US ft			ft	°	ft/100ft	ft/100ft	ft/100ft	
0.00†	0.000	119.500	0.00	0.00	0.00	0.00	1775459.17	365343.53	39°30'01.269"N	80°17'44.631"W	0.00	0.000	0.00	0.00	0.00	
26.00	0.000	119.500	26.00	0.00	0.00	0.00	1775459.17	365343.53	39°30'01.269"N	80°17'44.631"W	0.00	0.000	0.00	0.00	0.00	
76.00	0.210	119.500	76.00	-0.09	-0.05	0.08	1775459.25	365343.48	39°30'01.268"N	80°17'44.630"W	0.09	119.500	0.42	0.42	239.00	Javins Gyro <R-3/4"> (50'-5300')
126.00	0.290	208.800	126.00	-0.20	-0.20	0.10	1775459.27	365343.33	39°30'01.267"N	80°17'44.630"W	0.22	153.897	0.71	0.16	178.60	
176.00	0.070	82.600	176.00	-0.24	-0.31	0.07	1775459.24	365343.22	39°30'01.266"N	80°17'44.631"W	0.32	167.576	0.67	-0.44	-252.40	
226.00	0.290	220.000	226.00	-0.26	-0.40	0.02	1775459.18	365343.13	39°30'01.265"N	80°17'44.631"W	0.40	177.598	0.69	0.44	274.80	
276.00	0.390	203.000	276.00	-0.29	-0.65	-0.13	1775459.03	365342.88	39°30'01.262"N	80°17'44.633"W	0.67	191.316	0.28	0.20	-34.00	
326.00	0.230	212.800	326.00	-0.34	-0.90	-0.25	1775458.91	365342.64	39°30'01.260"N	80°17'44.635"W	0.93	195.706	0.34	-0.32	19.60	
376.00	0.270	202.400	376.00	-0.38	-1.09	-0.35	1775458.81	365342.44	39°30'01.258"N	80°17'44.638"W	1.14	197.871	0.12	0.08	-20.80	
426.00	0.290	195.400	426.00	-0.46	-1.32	-0.43	1775458.73	365342.21	39°30'01.256"N	80°17'44.637"W	1.39	198.030	0.08	0.04	-14.00	
476.00	0.240	197.700	476.00	-0.54	-1.54	-0.50	1775458.66	365341.99	39°30'01.254"N	80°17'44.638"W	1.62	197.803	0.10	-0.10	4.60	
526.00	0.240	210.100	526.00	-0.59	-1.73	-0.58	1775458.58	365341.80	39°30'01.252"N	80°17'44.639"W	1.83	198.497	0.10	0.00	24.80	
576.00	0.220	189.100	576.00	-0.65	-1.92	-0.65	1775458.51	365341.62	39°30'01.250"N	80°17'44.640"W	2.02	198.650	0.17	-0.04	-42.00	
626.00	0.230	231.400	626.00	-0.67	-2.07	-0.74	1775458.41	365341.46	39°30'01.248"N	80°17'44.641"W	2.20	199.648	0.33	0.02	84.60	
726.00	0.050	245.100	726.00	-0.60	-2.22	-0.84	1775458.21	365341.32	39°30'01.247"N	80°17'44.643"W	2.41	202.902	0.18	-0.18	13.70	
826.00	0.240	29.800	826.00	-0.55	-2.05	-0.87	1775458.28	365341.48	39°30'01.249"N	80°17'44.643"W	2.23	203.009	0.28	0.19	144.70	
926.00	0.350	78.000	926.00	-0.72	-1.81	-0.47	1775458.68	365341.72	39°30'01.251"N	80°17'44.637"W	1.87	194.553	0.26	0.11	48.20	
1026.00	0.240	28.400	1026.00	-0.89	-1.56	-0.07	1775459.08	365341.97	39°30'01.253"N	80°17'44.632"W	1.56	182.618	0.27	-0.11	-49.60	
1126.00	0.300	64.400	1126.00	-0.98	-1.26	0.26	1775459.42	365342.26	39°30'01.256"N	80°17'44.628"W	1.29	168.196	0.18	0.06	36.00	
1226.00	0.210	37.400	1226.00	-1.10	-1.01	0.61	1775459.77	365342.52	39°30'01.259"N	80°17'44.624"W	1.18	148.697	0.15	-0.09	-27.00	
1326.00	0.080	358.200	1326.00	-1.05	-0.79	0.72	1775459.88	365342.73	39°30'01.261"N	80°17'44.622"W	1.07	137.642	0.16	-0.13	-39.20	
1426.00	0.170	346.200	1426.00	-0.89	-0.58	0.68	1775459.85	365342.95	39°30'01.263"N	80°17'44.623"W	0.89	130.167	0.09	0.09	-12.00	
1526.00	0.190	64.200	1526.00	-0.85	-0.36	0.80	1775459.96	365343.16	39°30'01.265"N	80°17'44.621"W	0.87	114.333	0.23	0.02	78.00	
1626.00	0.310	126.100	1626.00	-1.20	-0.45	1.16	1775460.33	365343.07	39°30'01.264"N	80°17'44.617"W	1.25	111.021	0.28	0.12	61.90	
1726.00	0.430	145.100	1726.00	-1.83	-0.91	1.80	1775460.76	365342.60	39°30'01.266"N	80°17'44.611"W	1.84	119.787	0.17	0.12	19.00	
1826.00	0.550	166.100	1826.00	-2.56	-1.69	1.93	1775461.08	365341.82	39°30'01.252"N	80°17'44.607"W	2.56	131.208	0.21	0.12	21.00	
1926.00	0.620	175.300	1926.00	-3.29	-2.69	2.09	1775461.23	365340.82	39°30'01.242"N	80°17'44.605"W	3.41	142.220	0.12	0.07	9.20	
2026.00	0.540	228.200	2026.00	-3.56	-3.55	1.78	1775460.92	365339.97	39°30'01.234"N	80°17'44.609"W	3.97	153.339	0.52	-0.08	52.90	
2126.00	0.650	225.000	2126.00	-3.40	-4.26	1.03	1775460.16	365339.26	39°30'01.222"N	80°17'44.618"W	4.38	166.433	0.11	0.11	-3.20	
2226.00	0.950	223.100	2226.00	-3.24	-5.27	0.06	1775459.18	365338.26	39°30'01.217"N	80°17'44.631"W	5.27	173.336	0.30	0.30	-1.90	

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**Actual Wellpath Report**  
Brennan NW 13H AWP Proj: 17775'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	XTO ENERGY INC	Slot	Slot #13
Area	Marion County, WV	Well	Brennan NW 13H
Field	Marion	Wellbore	Brennan NW 13H AWB
Facility	Brennan Snider Pad		

WELLPATH DATA (193 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 F/100ft	Build Rate F/100ft	Turn Rate F/100ft	Comments
2326.00	1.130	227.700	2325.94	-2.97	-6.54	-1.23	1775457.88	365337.00	39°30'01.204"N	80°17'44.647"W	6.65	190.695	0.20	0.18	4.60	
2426.00	1.480	233.800	2425.91	-2.43	-7.97	-3.01	1775456.09	365335.59	39°30'01.190"N	80°17'44.670"W	8.52	200.713	0.39	0.36	6.10	
2526.00	1.550	221.100	2525.88	-1.96	-9.76	-4.95	1775454.13	365333.82	39°30'01.172"N	80°17'44.695"W	10.94	206.909	0.34	0.06	-12.70	
2626.00	1.480	227.600	2625.84	-1.64	-11.65	-6.80	1775452.27	365331.94	39°30'01.154"N	80°17'44.718"W	13.49	210.270	0.18	-0.06	6.50	
2726.00	1.210	236.700	2725.82	-1.05	-13.11	-8.64	1775450.41	365330.90	39°30'01.139"N	80°17'44.742"W	15.70	213.400	0.35	-0.28	9.10	
2826.00	0.570	215.100	2825.80	-0.72	-14.09	-8.81	1775449.23	365329.52	39°30'01.130"N	80°17'44.757"W	17.17	214.843	0.71	-0.64	-21.60	
2926.00	0.810	240.700	2925.80	-0.46	-14.85	-10.71	1775448.33	365328.78	39°30'01.122"N	80°17'44.768"W	18.31	215.814	0.39	0.24	25.60	
3026.00	0.640	242.700	3025.79	0.06	-15.45	-11.83	1775447.21	365328.19	39°30'01.116"N	80°17'44.782"W	19.46	217.434	0.17	-0.17	2.00	
3126.00	0.460	233.400	3125.78	0.41	-15.95	-12.65	1775446.38	365327.70	39°30'01.111"N	80°17'44.793"W	20.35	218.416	0.20	-0.18	-9.30	
3226.00	0.550	173.500	3225.78	0.19	-16.66	-12.91	1775446.11	365326.98	39°30'01.104"N	80°17'44.796"W	21.08	217.777	0.51	0.09	-59.90	
3326.00	0.530	183.900	3325.78	-0.39	-17.60	-12.89	1775446.12	365326.05	39°30'01.095"N	80°17'44.796"W	21.82	216.220	0.10	-0.02	10.40	
3426.00	0.490	180.000	3425.77	-0.91	-18.49	-12.92	1775446.09	365325.16	39°30'01.086"N	80°17'44.796"W	22.56	214.950	0.05	-0.04	-3.90	
3526.00	0.410	111.300	3525.77	-1.51	-19.05	-12.59	1775446.41	365324.60	39°30'01.081"N	80°17'44.792"W	22.83	213.462	0.51	-0.08	-68.70	
3626.00	0.390	233.700	3625.77	-1.76	-19.38	-12.53	1775446.47	365324.27	39°30'01.077"N	80°17'44.791"W	23.08	212.886	0.70	-0.02	122.40	
3726.00	0.250	88.700	3725.77	-1.83	-19.57	-12.59	1775446.41	365324.07	39°30'01.075"N	80°17'44.792"W	23.27	212.740	0.61	-0.14	-145.00	
3826.00	0.570	249.100	3825.77	-1.74	-19.75	-12.83	1775446.16	365323.90	39°30'01.074"N	80°17'44.795"W	23.55	213.017	0.81	0.32	160.40	
3926.00	0.420	177.300	3925.76	-1.71	-20.29	-13.28	1775445.71	365323.36	39°30'01.068"N	80°17'44.801"W	24.25	213.204	0.59	-0.15	-71.80	
4026.00	0.380	267.400	4025.76	-1.69	-20.67	-13.59	1775445.59	365322.98	39°30'01.065"N	80°17'44.805"W	24.74	213.329	0.57	-0.04	80.10	
4126.00	0.310	296.300	4125.76	-1.17	-20.57	-14.17	1775444.82	365323.09	39°30'01.066"N	80°17'44.812"W	24.97	214.561	0.19	-0.07	28.90	
4226.00	0.570	205.400	4225.76	-1.01	-20.90	-14.62	1775444.38	365322.77	39°30'01.062"N	80°17'44.818"W	25.60	214.985	0.65	0.26	-90.90	
4326.00	0.030	350.200	4325.76	-1.09	-21.32	-14.84	1775444.14	365322.34	39°30'01.058"N	80°17'44.821"W	25.98	214.843	0.59	-0.54	144.80	
4426.00	0.540	234.200	4425.76	-0.93	-21.57	-15.23	1775443.75	365322.10	39°30'01.056"N	80°17'44.826"W	26.40	215.221	0.55	0.51	-116.00	
4526.00	0.460	244.200	4525.75	-0.62	-22.02	-15.97	1775443.01	365321.65	39°30'01.051"N	80°17'44.835"W	27.20	215.954	0.12	-0.08	10.00	
4626.00	0.590	157.000	4625.75	-0.88	-22.67	-16.13	1775442.84	365321.01	39°30'01.045"N	80°17'44.837"W	27.82	215.437	0.73	0.13	-87.20	
4726.00	0.950	188.700	4725.74	-1.72	-23.96	-16.06	1775442.90	365319.71	39°30'01.032"N	80°17'44.836"W	28.94	213.824	0.54	0.36	31.70	
4826.00	0.910	163.600	4825.73	-2.76	-25.54	-15.96	1775442.99	365318.13	39°30'01.016"N	80°17'44.835"W	30.12	211.993	0.41	-0.04	-25.10	
4926.00	0.350	195.900	4925.72	-3.51	-26.60	-15.82	1775443.12	365317.07	39°30'01.006"N	80°17'44.833"W	30.95	210.737	0.64	-0.56	32.30	
5026.00	0.830	187.700	5025.72	-3.98	-27.61	-16.00	1775442.93	365316.06	39°30'00.996"N	80°17'44.835"W	31.91	210.088	0.49	0.48	-8.20	
5126.00	1.010	151.300	5125.70	-5.14	-29.10	-15.67	1775443.24	365315.57	39°30'00.981"N	80°17'44.831"W	33.05	208.303	0.60	0.18	-56.40	
5226.00	1.080	184.700	5225.69	-5.45	-30.81	-15.33	1775443.57	365312.86	39°30'00.964"N	80°17'44.827"W	34.41	206.443	0.60	0.07	33.40	

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #13
Operator	XTO ENERGY INC	Well	Brennan NW 13H
Area	Marion County, WV	Wellbore	Brennan NW 13H AWP
Field	Marion		
Facility	Brennan Snider Pad		

WELLPATH DATA (193 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US-ft)	(US-ft)	(°)	(°)	(ft)	(°)	(ft/100ft)	(ft/100ft)	(ft/100ft)	
5326.00	1.060	155.800	5325.67	-7.77	-32.60	-15.02	1775443.86	365311.07	39°30'00.947"N	80°17'44.823"W	35.89	204.744	0.53	-0.02	-28.90	
5376.00	1.250	138.310	5375.66	-8.71	-33.43	-14.47	1775444.40	365310.24	39°30'00.939"N	80°17'44.816"W	36.42	203.409	0.80	0.38	-34.98	BH AT Curve <8-1/2"> (5326)-(5376)-(17751')
5476.00	0.030	261.070	5475.65	-9.77	-34.24	-13.77	1775445.10	365309.41	39°30'00.930"N	80°17'44.807"W	36.91	201.907	1.27	-1.22	122.76	
5570.00	0.070	299.600	5569.65	-9.69	-34.22	-13.85	1775445.02	365309.44	39°30'00.931"N	80°17'44.808"W	36.91	202.028	0.05	0.04	40.99	
5665.00	4.320	259.980	5664.56	-7.21	-34.81	-17.42	1775441.44	365308.87	39°30'00.925"N	80°17'44.854"W	38.93	206.584	4.49	4.47	-41.71	
5760.00	9.130	261.910	5758.88	0.52	-36.50	-28.41	1775430.44	365307.29	39°30'00.908"N	80°17'44.994"W	46.25	217.900	5.07	5.06	2.03	
5854.00	9.910	247.890	5851.60	9.89	-40.59	-43.29	1775415.52	365303.32	39°30'00.868"N	80°17'45.184"W	59.35	226.844	2.60	0.83	-14.91	
5949.00	12.860	248.720	5944.72	19.58	-47.51	-60.72	1775398.03	365296.56	39°30'00.799"N	80°17'45.406"W	77.10	231.961	3.11	3.11	0.87	
6044.00	17.420	250.140	6036.40	32.83	-56.18	-83.96	1775374.72	365288.10	39°30'00.714"N	80°17'45.702"W	101.02	236.212	4.82	4.80	1.49	
6138.00	22.620	247.260	6124.69	49.52	-67.96	-113.89	1775344.69	365276.58	39°30'00.597"N	80°17'46.084"W	132.62	239.175	5.63	5.53	-3.06	
6234.00	29.070	246.350	6211.04	70.12	-84.47	-152.32	1775306.12	365260.42	39°30'00.434"N	80°17'46.574"W	174.17	240.990	6.73	6.72	-0.95	
6328.00	35.240	252.780	6290.61	97.02	-101.68	-199.20	1775259.09	365243.63	39°30'00.264"N	80°17'47.172"W	223.65	242.959	7.50	6.56	6.84	
6422.00	42.690	259.480	6363.68	134.26	-115.55	-266.54	1775201.63	365230.26	39°30'00.127"N	80°17'47.904"W	281.36	245.752	9.10	7.93	7.13	
6516.00	43.710	259.210	6432.20	177.40	-127.45	-319.78	1775138.30	365218.93	39°30'00.009"N	80°17'48.711"W	344.24	248.270	1.10	1.09	-0.29	
6611.00	43.750	256.670	6500.85	220.21	-141.17	-383.99	1775073.97	365205.78	39°29'59.874"N	80°17'49.530"W	409.11	249.815	1.88	0.04	-2.67	
6705.00	44.080	254.790	6568.57	260.77	-157.24	-447.17	1775010.66	365190.27	39°29'59.715"N	80°17'50.336"W	474.01	250.627	1.43	0.35	-2.00	
6800.00	43.930	253.640	6636.90	300.45	-175.19	-510.67	1774947.00	365172.88	39°29'59.537"N	80°17'51.146"W	539.89	251.065	0.86	-0.16	-1.21	
6894.00	43.970	252.230	6704.58	338.51	-194.34	-573.04	1774884.47	365154.29	39°29'59.348"N	80°17'51.941"W	605.09	251.267	1.04	0.04	-1.50	
6989.00	44.030	252.400	6772.92	376.42	-214.38	-635.91	1774821.42	365134.80	39°29'59.150"N	80°17'52.743"W	671.07	251.370	0.14	0.06	0.18	
7084.00	44.070	253.170	6841.20	414.81	-233.93	-699.00	1774758.16	365115.81	39°29'58.957"N	80°17'53.548"W	737.11	251.496	0.57	0.04	0.81	
7179.00	44.020	254.280	6909.48	454.07	-252.44	-762.40	1774694.61	365097.87	39°29'58.774"N	80°17'54.357"W	803.11	251.680	0.81	-0.05	1.17	
7273.00	41.940	254.660	6978.25	492.83	-269.60	-824.14	1774632.72	365081.25	39°29'58.604"N	80°17'55.145"W	867.12	251.866	2.23	-2.21	0.40	
7368.00	41.980	254.640	7048.89	531.41	-286.42	-885.39	1774571.33	365064.98	39°29'58.438"N	80°17'55.926"W	930.56	252.074	0.04	0.04	-0.02	
7463.00	41.970	255.180	7119.59	570.23	-302.96	-946.74	1774509.84	365048.99	39°29'58.274"N	80°17'56.709"W	994.03	252.255	0.38	-0.01	0.57	
7558.00	41.980	255.340	7190.89	609.76	-319.29	-1009.83	1774447.61	365033.20	39°29'58.113"N	80°17'57.501"W	1058.15	252.438	0.11	0.01	0.17	
7653.00	42.000	255.670	7260.76	648.70	-335.03	-1069.71	1774386.59	365018.01	39°29'57.957"N	80°17'58.277"W	1120.95	252.610	0.24	0.02	0.35	
7747.00	44.070	257.830	7329.46	689.52	-349.71	-1132.15	1774324.03	365003.88	39°29'57.812"N	80°17'59.074"W	1184.93	252.835	2.70	2.20	2.30	
7842.00	48.340	263.190	7395.22	736.55	-360.89	-1199.74	1774266.35	364993.30	39°29'57.702"N	80°17'59.936"W	1252.84	253.258	6.06	4.49	5.64	
7937.00	53.110	272.190	7455.42	793.25	-363.65	-1273.07	1774193.00	364991.19	39°29'57.674"N	80°18'00.871"W	1323.99	254.058	8.88	5.02	9.47	
8033.00	58.420	281.450	7509.49	861.64	-354.05	-1351.68	1774104.48	365001.49	39°29'57.769"N	80°18'01.874"W	1397.28	255.322	9.70	5.53	9.65	

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #13
Operator	XTO ENERGY INC	Well	Brennan NW 13H
Area	Marion County, WV	Wellbore	Brennan NW 13H AWB
Field	Marion		
Facility	Brennan Snider Pad		

WELLPATH DATA (193 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US-ft)	(US-ft)	(°)	(°)	(ft)	(°)	(ft/100ft)	(ft/100ft)	(ft/100ft)	
8127.00	64.350	288.180	7554.52	937.87	-332.84	-1431.32	1774025.04	365023.40	39°29'57.979"N	80°18'02.890"W	1469.51	256.909	8.90	6.31	7.18	
8221.00	70.030	291.030	7590.96	1020.41	-303.74	-1512.89	1773943.74	365053.22	39°29'58.266"N	80°18'03.931"W	1543.08	258.648	6.66	6.04	3.03	
8316.00	75.380	295.980	7619.21	1108.46	-267.54	-1595.98	1773860.97	365080.15	39°29'58.624"N	80°18'04.991"W	1618.25	260.484	7.51	5.63	5.21	
8411.00	82.870	301.100	7637.13	1200.59	-222.97	-1677.83	1773779.53	365135.44	39°29'59.065"N	80°18'06.035"W	1692.58	262.430	9.49	7.88	5.39	
8506.00	88.220	307.280	7644.51	1298.09	-169.78	-1756.09	1773701.74	365189.32	39°29'59.590"N	80°18'07.033"W	1764.28	264.478	8.59	5.63	6.51	
8600.00	87.450	311.320	7648.06	1388.94	-110.29	-1828.77	1773629.60	365249.44	39°30'00.178"N	80°18'07.861"W	1832.09	266.549	4.37	-0.82	4.30	
8694.00	87.170	308.870	7652.48	1482.72	-49.82	-1900.59	1773556.32	365310.54	39°30'00.776"N	80°18'08.877"W	1901.24	268.498	2.62	-0.30	-2.61	
8789.00	87.200	308.580	7657.14	1577.57	9.60	-1974.57	1773484.88	365370.62	39°30'01.363"N	80°18'09.821"W	1974.59	270.279	0.20	0.03	-0.20	
8883.00	87.230	308.410	7661.71	1671.43	68.10	-2048.00	1773411.98	365429.77	39°30'01.941"N	80°18'10.757"W	2049.13	271.905	0.29	0.03	-0.29	
8978.00	87.230	307.700	7666.30	1766.31	126.59	-2122.71	1773337.79	365488.91	39°30'02.519"N	80°18'11.711"W	2126.48	273.413	0.75	0.00	-0.75	
9072.00	87.780	306.930	7670.39	1860.22	183.52	-2197.40	1773263.61	365548.50	39°30'03.643"N	80°18'12.663"W	2205.05	274.774	1.01	0.59	-0.82	
9167.00	87.630	306.620	7674.20	1955.14	240.35	-2273.44	1773188.09	365603.99	39°30'04.204"N	80°18'13.633"W	2286.11	276.035	0.36	-0.16	-0.33	
9262.00	87.750	306.720	7678.03	2050.06	297.04	-2349.57	1773112.46	365661.35	39°30'04.768"N	80°18'14.605"W	2368.27	277.205	0.16	0.13	0.11	
9356.00	88.920	306.690	7680.76	2144.01	353.19	-2424.91	1773037.63	365718.16	39°30'05.390"N	80°18'15.566"W	2450.49	278.287	1.25	1.24	-0.04	
9451.00	89.350	303.840	7682.19	2238.94	408.02	-2502.46	1772960.57	365773.68	39°30'05.900"N	80°18'16.555"W	2535.51	279.260	3.02	0.45	-2.99	
9545.00	89.380	303.490	7683.23	2332.75	460.13	-2580.69	1772882.81	365826.47	39°30'05.815"N	80°18'17.553"W	2621.39	280.109	0.37	0.03	-0.37	
9640.00	89.230	305.900	7684.39	2427.64	514.19	-2658.79	1772805.20	365881.22	39°30'06.349"N	80°18'18.550"W	2708.05	280.946	2.54	-0.16	2.54	
9734.00	89.200	307.720	7685.67	2521.62	570.51	-2734.04	1772730.45	365938.20	39°30'06.906"N	80°18'19.510"W	2792.93	281.787	1.94	-0.03	1.94	
9829.00	89.320	310.220	7686.90	2618.56	630.24	-2807.88	1772657.14	365998.58	39°30'07.496"N	80°18'20.452"W	2877.75	282.651	2.63	0.13	2.63	
9923.00	89.260	312.110	7688.07	2710.33	682.11	-2878.64	1772586.94	366051.07	39°30'08.108"N	80°18'21.355"W	2960.67	283.519	2.01	-0.06	2.01	
10018.00	89.320	311.240	7689.24	2805.04	755.27	-2949.59	1772516.56	366124.85	39°30'08.732"N	80°18'22.260"W	3044.75	284.363	0.92	0.06	-0.92	
10112.00	89.420	308.310	7690.28	2898.93	815.40	-3021.83	1772444.86	366185.61	39°30'09.326"N	80°18'23.181"W	3129.90	285.101	3.12	0.11	-3.12	
10207.00	89.480	306.440	7691.19	2993.93	873.06	-3097.31	1772369.89	366243.94	39°30'09.866"N	80°18'24.145"W	3218.01	285.742	1.97	0.06	-1.97	
10302.00	89.510	308.650	7692.03	3088.92	930.95	-3172.63	1772292.54	366302.48	39°30'10.468"N	80°18'25.105"W	3306.39	286.353	2.33	0.03	2.33	
10396.00	89.380	309.270	7692.94	3182.87	990.05	-3245.72	1772222.54	366362.23	39°30'11.052"N	80°18'26.038"W	3393.36	286.963	0.67	-0.14	0.66	
10490.00	89.480	309.480	7693.87	3276.80	1049.68	-3318.38	1772150.42	366422.50	39°30'11.641"N	80°18'26.965"W	3480.44	287.553	0.25	0.11	0.22	
10585.00	89.290	307.750	7694.89	3371.76	1108.96	-3392.60	1772076.73	366482.43	39°30'12.227"N	80°18'27.912"W	3569.25	288.101	1.83	-0.20	-1.82	
10679.00	89.450	306.630	7695.93	3465.76	1165.78	-3467.48	1772002.36	366542.90	39°30'12.788"N	80°18'28.867"W	3656.20	288.583	1.20	0.17	-1.19	
10774.00	89.230	306.450	7697.02	3560.74	1222.33	-3543.80	1771926.54	366597.13	39°30'13.347"N	80°18'29.841"W	3748.68	289.030	0.30	-0.23	-0.19	
10869.00	89.170	304.990	7698.35	3655.70	1277.79	-3620.92	1771849.92	366653.26	39°30'13.895"N	80°18'30.825"W	3839.76	289.437	1.54	-0.06	-1.54	

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**Actual Wellpath Report**  
Brennan NW 13H AWP Proj: 17775'

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #13
Operator	XTO ENERGY INC	Well	Brennan NW 13H
Area	Marion County, WV	Wellbore	Brennan NW 13H AWP
Field	Marion		
Facility	Brennan Snider Pad		

WELLPATH DATA (193 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 ft/100ft	Build Rate ft/100ft	Turn Rate ft/100ft	Comments
10963.00	89.260	301.920	7699.63	3749.47	1329.60	-3699.53	1771771.98	366705.76	39°30'14.407"N	80°18'31.825"W	3931.01	289.769	3.27	0.10	-3.27	
11056.00	89.020	299.820	7701.06	3843.87	1378.34	-3780.85	1771690.89	366755.22	39°30'14.889"N	80°18'32.866"W	4024.26	290.030	2.22	-0.25	-2.21	
11152.00	89.780	306.130	7702.05	3937.55	1429.47	-3859.67	1771612.54	366807.04	39°30'15.394"N	80°18'33.871"W	4115.87	290.323	6.76	0.81	6.71	
11246.00	89.910	307.590	7702.30	4031.55	1485.85	-3934.87	1771537.84	366864.09	39°30'15.951"N	80°18'34.831"W	4206.07	290.687	1.56	0.14	1.55	
11341.00	89.940	308.710	7702.42	4126.54	1543.22	-4010.59	1771462.64	366922.12	39°30'16.518"N	80°18'35.797"W	4297.26	291.046	0.93	0.03	-0.93	
11435.00	89.880	307.580	7702.57	4220.54	1599.98	-4085.52	1771388.22	366979.54	39°30'17.079"N	80°18'36.753"W	4387.55	291.386	0.93	-0.06	0.93	
11529.00	89.780	307.730	7702.85	4314.54	1657.41	-4159.94	1771314.32	367037.62	39°30'17.646"N	80°18'37.702"W	4477.96	291.723	0.19	-0.11	0.16	
11624.00	89.850	309.480	7703.16	4409.51	1716.68	-4234.18	1771240.61	367097.54	39°30'18.232"N	80°18'38.650"W	4568.94	292.069	1.84	0.07	1.84	
11719.00	89.850	308.500	7703.41	4504.46	1776.45	-4308.02	1771167.31	367157.96	39°30'18.823"N	80°18'39.592"W	4659.91	292.409	1.03	0.00	-1.03	
11814.00	90.150	313.720	7703.41	4598.22	1838.89	-4379.57	1771096.32	367221.03	39°30'19.440"N	80°18'40.505"W	4749.96	292.777	5.50	0.32	5.49	
11909.00	92.220	318.240	7701.44	4693.07	1907.17	-4445.55	1771030.95	367289.89	39°30'20.024"N	80°18'41.347"W	4837.38	293.220	2.18	0.00	4.76	
12004.00	92.370	316.440	7697.64	4786.52	1976.97	-4508.87	1770967.25	367350.25	39°30'20.604"N	80°18'42.167"W	4924.16	293.671	1.90	0.16	-1.89	
12099.00	91.750	309.030	7694.22	4880.96	2041.35	-4579.56	1770898.14	367425.24	39°30'21.440"N	80°18'43.057"W	5013.93	294.025	7.82	-0.65	-7.80	
12194.00	91.750	307.910	7691.32	4975.89	2100.43	-4653.90	1770824.33	367484.97	39°30'22.024"N	80°18'44.005"W	5105.93	294.291	1.18	0.00	-1.18	
12288.00	92.000	307.240	7688.24	5068.84	2157.72	-4728.36	1770750.38	367542.91	39°30'22.590"N	80°18'44.955"W	5197.42	294.529	0.76	0.27	-0.71	
12382.00	91.940	306.820	7685.01	5163.78	2214.29	-4803.36	1770675.90	367600.15	39°30'23.149"N	80°18'45.912"W	5289.17	294.749	0.45	-0.06	-0.45	
12477.00	91.350	305.250	7682.28	5258.72	2270.15	-4880.15	1770599.61	367656.68	39°30'23.701"N	80°18'46.892"W	5382.32	294.947	1.76	-0.62	-1.65	
12571.00	90.370	302.790	7680.87	5352.55	2322.73	-4958.04	1770522.19	367709.95	39°30'24.220"N	80°18'47.886"W	5475.15	295.102	2.82	-1.04	-2.62	
12665.00	90.620	301.960	7680.06	5446.20	2373.06	-5037.43	1770443.26	367760.98	39°30'24.718"N	80°18'48.899"W	5568.40	295.224	0.92	0.27	-0.88	
12759.00	90.980	302.980	7678.75	5539.87	2423.53	-5116.72	1770366.42	367812.14	39°30'25.216"N	80°18'49.811"W	5661.65	295.345	1.16	0.38	1.10	
12854.00	90.890	303.220	7677.20	5634.61	2475.41	-5196.29	1770285.32	367864.72	39°30'25.729"N	80°18'50.926"W	5755.78	295.472	0.26	-0.09	0.24	
12949.00	91.020	304.780	7675.61	5729.44	2528.52	-5275.03	1770207.05	367918.53	39°30'26.254"N	80°18'51.931"W	5849.73	295.610	1.65	0.14	1.64	
13044.00	91.380	303.080	7673.62	5824.25	2581.54	-5353.83	1770128.72	367972.23	39°30'26.778"N	80°18'52.936"W	5943.73	295.743	1.83	0.38	-1.78	
13139.00	91.940	305.090	7670.87	5919.06	2634.75	-5432.48	1770050.56	368026.14	39°30'27.303"N	80°18'53.940"W	6037.69	295.873	2.20	0.59	2.12	
13234.00	92.430	305.990	7667.25	6013.95	2689.93	-5509.72	1769973.81	368082.00	39°30'27.848"N	80°18'54.925"W	6131.28	296.022	1.08	0.52	0.95	
13329.00	92.520	307.450	7663.15	6108.85	2746.68	-5585.80	1769898.25	368139.41	39°30'28.409"N	80°18'55.896"W	6224.58	296.185	1.54	0.09	1.54	
13423.00	92.490	306.200	7659.04	6202.76	2802.96	-5660.97	1769823.58	368196.36	39°30'28.965"N	80°18'56.855"W	6316.90	296.342	1.33	-0.03	-1.33	
13518.00	92.400	305.040	7654.98	6297.65	2858.24	-5738.12	1769746.93	368252.31	39°30'29.511"N	80°18'57.840"W	6410.58	296.479	1.22	-0.09	-1.22	
13613.00	93.320	305.090	7650.24	6392.45	2912.75	-5815.78	1769669.76	368307.50	39°30'30.050"N	80°18'58.831"W	6504.42	296.603	0.97	0.97	0.05	
13707.00	92.430	303.190	7645.53	6486.18	2965.44	-5893.46	1769592.53	368360.87	39°30'30.571"N	80°18'59.822"W	6597.49	296.710	2.23	-0.95	-2.02	

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Brennan NW 13H AWP Proj: 17775'  
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #13
Operator	XTO ENERGY INC	Well	Brennan NW 13H
Area	Marion County, WV	Wellbore	Brennan NW 13H AWB
Field	Marion		
Facility	Brennan Snider Pad		

WELLPATH DATA (193 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
ft	°	°	ft	ft	ft	ft	US-ft	US-ft	°	°	ft	°	ft/100ft	ft/100ft	ft/100ft	
13802.00	92.030	301.330	7641.83	6580.75	3016.10	-5973.75	1769512.72	368412.24	39°30'31.07"N	80°19'00.846"W	6691.98	296.789	2.00	-0.42	-1.96	
13897.00	91.820	303.080	7638.64	6675.32	3086.70	-6054.09	1769432.84	368463.55	39°30'31.57"N	80°19'01.872"W	6786.50	296.865	1.85	-0.22	1.84	
13992.00	92.060	303.370	7635.42	6770.03	3118.73	-6133.51	1769353.88	368516.27	39°30'32.085"N	80°19'02.885"W	6880.87	296.952	0.40	0.25	0.31	
14086.00	92.000	304.270	7632.09	6865.81	3171.01	-6211.56	1769276.31	368569.24	39°30'32.602"N	80°19'03.881"W	6974.15	297.044	0.96	-0.06	0.96	
14182.00	91.970	304.110	7628.77	6956.61	3224.92	-6290.92	1769197.43	368623.86	39°30'33.184"N	80°19'04.894"W	7068.36	297.141	0.17	-0.03	-0.17	
14277.00	91.860	304.830	7625.58	7054.44	3278.66	-6369.19	1769119.64	368678.28	39°30'33.665"N	80°19'05.892"W	7163.54	297.238	0.76	-0.09	0.76	
14372.00	91.940	304.790	7622.41	7149.31	3332.86	-6447.15	1769042.17	368733.17	39°30'34.201"N	80°19'06.887"W	7257.67	297.337	0.08	0.06	-0.04	
14467.00	91.600	305.570	7619.48	7244.20	3387.57	-6524.76	1768965.05	368788.56	39°30'34.741"N	80°19'07.878"W	7351.74	297.438	0.90	-0.36	0.82	
14562.00	92.460	305.310	7616.11	7339.09	3442.62	-6602.11	1768888.20	368844.29	39°30'35.285"N	80°19'08.865"W	7445.77	297.539	0.95	0.91	-0.27	
14657.00	95.180	305.690	7609.78	7433.83	3497.66	-6679.27	1768811.53	368900.00	39°30'35.829"N	80°19'09.849"W	7539.65	297.639	2.89	2.86	0.40	
14751.00	96.350	307.890	7600.34	7527.34	3553.66	-6754.16	1768737.14	368956.87	39°30'36.372"N	80°19'10.805"W	7631.99	297.751	1.24	1.24	2.34	
14847.00	93.510	304.440	7592.09	7622.94	3610.09	-6831.36	1768660.45	369013.77	39°30'36.940"N	80°19'11.790"W	7726.59	297.855	4.64	-2.96	-3.59	
14942.00	90.400	305.540	7588.85	7717.80	3664.52	-6909.14	1768583.17	369068.89	39°30'37.477"N	80°19'12.783"W	7820.80	297.941	3.47	-3.27	1.16	
15037.00	92.120	309.220	7586.76	7812.76	3722.17	-6984.59	1768508.23	369127.20	39°30'38.047"N	80°19'13.746"W	7914.49	298.054	4.27	1.81	3.87	
15132.00	91.050	307.880	7584.13	7907.69	3781.35	-7058.86	1768434.50	369187.03	39°30'38.632"N	80°19'14.693"W	8007.88	298.177	1.80	-1.13	-1.41	
15227.00	89.510	304.280	7583.67	8002.65	3837.28	-7135.62	1768358.24	369243.64	39°30'39.184"N	80°19'15.673"W	8101.96	298.270	4.12	-1.62	-3.79	
15322.00	89.170	302.200	7584.76	8097.41	3889.35	-7215.07	1768279.26	369298.40	39°30'39.699"N	80°19'16.687"W	8196.60	298.327	2.22	-0.36	-2.19	
15417.00	91.720	303.260	7584.02	8192.10	3940.71	-7294.97	1768199.81	369354.46	39°30'40.206"N	80°19'17.706"W	8291.31	298.378	2.91	2.68	1.12	
15512.00	94.900	305.180	7578.54	8286.79	3994.04	-7373.38	1768121.88	369402.48	39°30'40.733"N	80°19'18.707"W	8385.65	298.444	3.91	3.35	2.02	
15607.00	95.420	304.830	7569.99	8381.34	4048.31	-7450.88	1768044.87	369457.43	39°30'41.269"N	80°19'19.689"W	8479.65	298.517	0.66	0.55	-0.37	
15704.00	95.020	304.690	7561.17	8477.84	4103.38	-7530.24	1767966.01	369513.21	39°30'41.813"N	80°19'20.709"W	8575.68	298.587	0.44	-0.41	-0.14	
15799.00	90.180	300.880	7556.86	8572.41	4154.74	-7609.99	1767886.72	369565.27	39°30'42.320"N	80°19'21.727"W	8670.29	298.633	6.48	-5.09	-4.01	
15894.00	88.370	302.740	7556.06	8666.97	4204.81	-7690.71	1767806.46	369616.04	39°30'42.815"N	80°19'22.757"W	8766.13	298.667	2.73	-1.91	1.96	
15989.00	87.720	306.950	7551.30	8761.81	4259.04	-7768.61	1767729.04	369670.96	39°30'43.351"N	80°19'23.751"W	8859.50	298.733	4.48	-0.68	4.43	
16084.00	86.860	306.760	7565.80	8856.70	4315.96	-7844.54	1767653.62	369728.54	39°30'43.913"N	80°19'24.720"W	8953.46	298.819	0.93	-0.91	-0.20	
16179.00	87.170	305.890	7570.74	8951.55	4372.16	-7920.98	1767577.69	369785.41	39°30'44.468"N	80°19'25.695"W	9047.52	298.897	0.97	0.33	-0.92	
16274.00	86.950	304.880	7575.62	9046.38	4427.10	-7998.33	1767500.84	369841.03	39°30'45.011"N	80°19'26.682"W	9141.79	298.965	1.09	-0.23	-1.06	
16369.00	85.970	305.450	7581.48	9141.13	4481.70	-8075.64	1767423.82	369896.32	39°30'45.550"N	80°19'27.672"W	9236.06	299.028	1.19	-1.03	0.60	
16464.00	87.110	306.840	7587.21	9235.94	4537.63	-8152.41	1767347.75	369952.92	39°30'46.103"N	80°19'28.649"W	9330.16	299.100	1.89	1.20	1.46	
16559.00	87.260	307.130	7591.86	9330.82	4594.72	-8228.20	1767272.47	370010.67	39°30'46.667"N	80°19'29.616"W	9424.16	299.179	0.35	0.19	0.31	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	XTO ENERGY INC	Slot	Slot #13
Area	Marion County, WV	Well	Brennan NW 13H
Field	Marion	Wellbore	Brennan NW 13H AWP
Facility	Brennan Snider Pad		

WELLPATH DATA (193 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 [ft/100ft]	Build Rate [ft/100ft]	Turn Rate [ft/100ft]	Comments
16654.00	91.050	308.170	7593.23	9425.79	4652.73	-8303.40	1767197.79	370069.35	39°30'47.240"N	80°19'30.576"W	9518.11	299.264	4.11	3.96	1.09	
16812.00	93.170	307.370	7587.41	9583.67	4749.43	-8428.20	1767073.86	370167.14	39°30'48.195"N	80°19'32.168"W	9674.28	299.402	1.43	1.34	-0.51	
16908.00	90.120	304.970	7584.66	9679.59	4806.06	-8505.65	1766996.92	370224.45	39°30'48.755"N	80°19'33.157"W	9769.56	299.468	4.04	-3.18	-2.50	
17003.00	91.350	305.390	7583.44	9774.52	4860.78	-8583.29	1766919.77	370279.86	39°30'49.295"N	80°19'34.148"W	9864.08	299.523	1.37	1.29	0.44	
17098.00	90.620	304.160	7581.81	9869.42	4914.98	-8661.31	1766842.24	370334.72	39°30'49.831"N	80°19'35.144"W	9958.67	299.573	1.51	-0.77	-1.29	
17193.00	88.280	303.150	7582.72	9964.22	4967.60	-8740.38	1766763.65	370388.05	39°30'50.351"N	80°19'36.153"W	10053.42	299.612	2.68	-2.46	-1.06	
17288.00	86.830	302.140	7586.77	10058.82	5018.80	-8820.30	1766684.19	370439.95	39°30'50.856"N	80°19'37.172"W	10148.20	299.640	1.86	-1.53	-1.06	
17383.00	87.570	300.570	7591.41	10153.20	5068.17	-8901.32	1766603.61	370490.04	39°30'51.344"N	80°19'38.207"W	10243.04	299.656	1.83	0.78	-1.65	
17478.00	87.540	301.910	7595.47	10247.59	5117.39	-8982.47	1766522.90	370539.98	39°30'51.830"N	80°19'39.242"W	10337.91	299.671	1.41	-0.03	1.41	
17573.00	86.520	304.450	7600.39	10342.22	5189.31	-9061.87	1766443.97	370592.59	39°30'52.343"N	80°19'40.255"W	10432.60	299.702	2.88	-1.07	2.67	
17668.00	89.450	306.300	7603.73	10437.09	5224.26	-9139.27	1766367.07	370648.23	39°30'52.886"N	80°19'41.243"W	10527.07	299.754	3.65	3.08	1.95	
17751.00	89.510	306.380	7604.48	10520.08	5273.45	-9206.12	1766300.66	370697.99	39°30'53.372"N	80°19'42.097"W	10609.52	299.805	0.12	0.07	0.10	
17775.00	89.510	306.380	7604.69	10544.07	5287.68	-9225.45	1766281.46	370712.40	39°30'53.512"N	80°19'42.343"W	10633.36	299.820	0.00	0.00	0.00	Projected MD at TD: 17775'

HOLE & CASING SECTIONS - Ref Wellbore: Brennan NW 13H AWP Ref Wellpath: Brennan NW 13H AWP Proj: 17775'													
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S	Start E/W	End N/S	End E/W				
17.5in Open Hole	26.00	637.00	611.00	26.00	636.99	0.00	0.00	-2.10	-0.77				
13.375in Casing Surface	26.00	637.00	611.00	26.00	636.99	0.00	0.00	-2.10	-0.77				
12.25in Open Hole	637.00	3179.00	2542.00	636.99	3178.78	-2.10	-0.77	-16.27	-12.88				
9.625in Casing Intermediate	26.00	3179.00	3153.00	26.00	3178.78	0.00	0.00	-33.77	-14.17				
8.75in Open Hole	3179.00	5400.00	2221.00	3178.78	5399.66	-16.27	-12.88	-33.77	-14.17				
8.5in Open Hole	5400.00	17775.00	12375.00	5399.66	7604.69	-33.77	-14.17	-33.77	-14.17				
5.5in Casing Production	26.00	17775.00	17749.00	26.00	7604.69	0.00	0.00	5287.68	-9225.45				

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 Brennan NW 13H AWP Proj: 17775'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	XTO ENERGY INC	Slot	Slot #13
Area	Marion County, WV	Well	Brennan NW 13H
Field	Marion	Wellbore	Brennan NW 13H AWB
Facility	Brennan Snider Pad		

TARGETS	Name	TVD (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Shape
	Brennan NW 13H BHL Rev-1	7647.00	5290.66	-9181.25	1766325.68	370714.99	39°30'53.542"N	80°19'41.779"W	point
	Brennan NW 13H IP#1 Rev-1	7647.00	2624.42	-5419.91	1770063.04	368015.70	39°30'27.201"N	80°18'53.779"W	point
	Brennan NW 13H IP#2 Rev-1	7647.00	2697.29	-5519.94	1769963.66	368089.44	39°30'27.921"N	80°18'55.056"W	point
	Brennan NW 13H LP Rev-1	7647.00	-145.71	-1777.00	1773681.05	365213.57	39°29'59.828"N	80°18'07.300"W	point

WELLPATH COMPOSITION - Ref Wellbore: Brennan NW 13H AWB Ref Wellpath: Brennan NW 13H AWP Proj: 17775'			
Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment
26.00	5326.00	BH Generic gyro - northseeking (Standard)	01 Javins Gyro <8-3/4">(50-5300)
5326.00	17751.00	BH AutoTrak Curve (Short)	02 BH AT Curve <8-1/2">(5326)(5376-17751)
17751.00	17775.00	Blind Drilling (std)	Projection to bit

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### REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #13
XTO ENERGY INC	Marion County, WV	Marion	Brennan Snider Pad	Well	Brennan NW 13H
				Wellbore	Brennan NW 13H AWB

### COMMENTS

Wellpath general comments  
 API: 47-049-02426-0000  
 BH Job #: 9228856  
 Rig: Patterson 583  
 Duration: 06/22/2018-07/06/2018  
 Javins Gyro <8-3/4"> (50'-5300')  
 BH AT Curve <8-1/2"> (5326')(5376'-17751')  
 Projected MD at TD: 17775'