



Actual Wellpath Report

Crim South Unit 10H AWP Proj: 19237
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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Well	Crim South Unit 10H
Field	Marion	API	47-049-02489-0000
Facility	Crim Pad	Wellbore	Crim South Unit 10H AWB
Slot	Slot #10		

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	True	User	Delaset
Scale	0.999944	Report Generated	4/2/2020 at 1:32:00 PM
Convergence at slot	0.51° West	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	26.83	-29.68	1773538.93	354921.20	39°28'18.0903"N	80°18'7.9407"W
Facility Reference Pt			1773568.37	354894.11	39°28'17.8251"N	80°18'7.5622"W
Field Reference Pt			609601.22	0.00	38°23'48.7532"N	84°21'9.7646"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 579 (RKB) to Facility Vertical Datum	1247.00ft
Horizontal Reference Pt	Slot	Patterson 579 (RKB) to Mean Sea Level	1247.00ft
Vertical Reference Pt	Patterson 579 (RKB)	Patterson 579 (RKB) to Ground Level at Slot (Slot #10)	26.00ft
MD Reference Pt	Patterson 579 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	134.99°



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Slot	Slot #10		

WELLPATH DATA (236 stations) † = interpolated, ‡ = extrapolated station

MID (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
0.00†	0.000	327.000	0.00	0.00	0.00	0.00	1773538.93	354921.20	39°28'18.0903"N	80°18'7.9407"W	0.00	0.000	0.00	0.00	0.00	
26.00	0.000	327.000	26.00	0.00	0.00	0.00	1773538.93	354921.20	39°28'18.0903"N	80°18'7.9407"W	0.00	0.000	0.00	0.00	0.00	
76.00	0.220	327.000	76.00	-0.09	0.08	-0.05	1773538.88	354921.28	39°28'18.0910"N	80°18'7.9414"W	0.10	327.000	0.44	0.44	0.00	Javins Gyro <12-1/4">(60'-3050')
126.00	0.140	269.100	126.00	-0.23	0.16	-0.17	1773538.77	354921.36	39°28'18.0918"N	80°18'7.9428"W	0.23	314.017	0.38	-0.16	-115.80	
176.00	0.170	218.800	176.00	-0.26	0.10	-0.27	1773538.66	354921.30	39°28'18.0913"N	80°18'7.9442"W	0.29	290.342	0.27	0.06	-100.60	
226.00	0.130	189.500	226.00	-0.22	-0.01	-0.33	1773538.60	354921.19	39°28'18.0901"N	80°18'7.9449"W	0.33	267.830	0.17	-0.08	-58.60	
276.00	0.170	218.800	276.00	-0.18	-0.13	-0.38	1773538.54	354921.08	39°28'18.0890"N	80°18'7.9456"W	0.41	251.843	0.17	0.08	58.60	
326.00	0.170	238.100	326.00	-0.19	-0.22	-0.49	1773538.43	354920.98	39°28'18.0880"N	80°18'7.9470"W	0.54	245.697	0.11	0.00	38.60	
376.00	0.170	234.500	376.00	-0.22	-0.31	-0.62	1773538.31	354920.90	39°28'18.0872"N	80°18'7.9486"W	0.69	243.684	0.07	0.00	-7.20	
426.00	0.140	240.700	426.00	-0.25	-0.38	-0.73	1773538.20	354920.83	39°28'18.0865"N	80°18'7.9500"W	0.82	242.639	0.02	-0.06	12.40	
461.00	0.280	232.500	461.00	-0.27	-0.45	-0.84	1773538.09	354920.76	39°28'18.0858"N	80°18'7.9514"W	0.95	241.644	0.41	0.40	-23.43	
526.00	0.150	347.400	526.00	-0.37	-0.47	-0.98	1773537.94	354920.74	39°28'18.0857"N	80°18'7.9532"W	1.09	244.635	0.57	-0.20	176.77	
576.00	0.180	357.500	576.00	-0.48	-0.32	-1.00	1773537.93	354920.89	39°28'18.0871"N	80°18'7.9534"W	1.05	252.091	0.08	0.06	20.20	
626.00	0.440	166.100	626.00	-0.37	-0.43	-0.96	1773537.97	354920.78	39°28'18.0860"N	80°18'7.9529"W	1.05	245.750	1.23	0.52	337.20	
676.00	0.580	186.600	676.00	-0.05	-0.87	-0.94	1773537.98	354920.34	39°28'18.0817"N	80°18'7.9527"W	1.28	227.237	0.46	0.28	41.00	
726.00	0.770	203.700	726.00	0.23	-1.43	-1.10	1773537.81	354919.78	39°28'18.0761"N	80°18'7.9548"W	1.80	217.698	0.55	0.38	34.20	
776.00	1.040	217.500	776.00	0.41	-2.10	-1.51	1773537.40	354919.12	39°28'18.0695"N	80°18'7.9600"W	2.59	215.862	0.69	0.54	27.60	
826.00	1.500	228.400	826.00	0.43	-2.89	-2.28	1773536.62	354918.33	39°28'18.0617"N	80°18'7.9698"W	3.68	218.276	1.04	0.92	21.80	
876.00	1.610	227.800	876.00	0.36	-3.80	-3.29	1773535.61	354917.43	39°28'18.0527"N	80°18'7.9826"W	5.02	220.915	0.22	0.22	-1.20	
926.00	1.840	225.300	926.00	0.32	-4.83	-4.38	1773534.51	354916.41	39°28'18.0425"N	80°18'7.9966"W	6.52	222.194	0.48	0.46	-5.00	
976.00	1.800	220.400	976.00	0.38	-5.99	-5.46	1773533.42	354915.25	39°28'18.0310"N	80°18'8.0103"W	8.11	222.327	0.32	-0.08	-9.80	
1026.00	1.730	222.300	1026.00	0.47	-7.15	-6.48	1773532.39	354914.11	39°28'18.0196"N	80°18'8.0233"W	9.65	222.168	0.18	-0.14	3.80	
1076.00	1.590	221.100	1076.00	0.56	-8.23	-7.44	1773531.42	354913.04	39°28'18.0089"N	80°18'8.0356"W	11.10	222.110	0.29	-0.28	-2.40	
1126.00	1.160	213.800	1126.00	0.70	-9.18	-8.18	1773530.67	354912.10	39°28'17.9996"N	80°18'8.0450"W	12.29	221.712	0.93	-0.86	-14.60	
1176.00	0.600	199.100	1176.00	0.92	-9.84	-8.55	1773530.30	354911.43	39°28'17.9930"N	80°18'8.0497"W	13.04	220.964	1.20	-1.12	-29.40	
1226.00	0.430	185.200	1226.00	1.15	-10.28	-8.65	1773530.19	354911.00	39°28'17.9887"N	80°18'8.0510"W	13.43	220.080	0.42	-0.34	-27.80	
1276.00	0.400	151.700	1276.00	1.44	-10.62	-8.58	1773530.25	354910.66	39°28'17.9853"N	80°18'8.0501"W	13.65	218.949	0.48	-0.06	-67.00	
1326.00	0.620	115.500	1326.00	1.86	-10.89	-8.26	1773530.58	354910.39	39°28'17.9826"N	80°18'8.0460"W	13.66	217.171	0.76	0.44	-72.40	
1376.00	0.360	105.100	1376.00	2.25	-11.05	-7.86	1773530.97	354910.23	39°28'17.9811"N	80°18'8.0409"W	13.56	215.435	0.55	-0.52	-20.80	
1426.00	0.560	63.700	1426.00	2.46	-10.98	-7.49	1773531.34	354910.29	39°28'17.9817"N	80°18'8.0362"W	13.29	214.301	0.75	0.40	-82.80	



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Facility	Crim Pad	Wellbore	Crim South Unit 10H AWB
Slot	Slot #10		

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)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
1476.00	0.770	51.900	1475.83	2.58	-10.66	-7.01	1773531.83	354910.60	39°28'17.9849"N	80°18'8.0300"W	12.76	213.307	0.50	0.42	-23.60	
1526.00	0.990	45.000	1525.82	2.62	-10.15	-6.44	1773532.40	354911.11	39°28'17.9899"N	80°18'8.0228"W	12.02	212.378	0.49	0.44	-13.80	
1576.00	1.300	33.000	1575.81	2.51	-9.37	-5.82	1773533.03	354911.88	39°28'17.9977"N	80°18'8.0149"W	11.03	211.856	0.78	0.62	-24.00	
1626.00	1.350	22.700	1625.80	2.17	-8.35	-5.29	1773533.57	354912.90	39°28'18.0077"N	80°18'8.0081"W	9.88	212.334	0.49	0.10	-20.60	
1676.00	1.330	2.300	1675.79	1.55	-7.23	-5.03	1773533.83	354914.02	39°28'18.0188"N	80°18'8.0049"W	8.81	214.865	0.95	-0.04	-40.80	
1726.00	1.230	349.500	1725.78	0.71	-6.12	-5.11	1773533.77	354915.13	39°28'18.0298"N	80°18'8.0058"W	7.97	219.861	0.60	-0.20	-25.60	
1776.00	1.300	327.900	1775.76	-0.28	-5.11	-5.51	1773533.38	354916.14	39°28'18.0397"N	80°18'8.0109"W	7.51	227.144	0.96	0.14	-43.20	
1826.00	1.320	315.200	1825.75	-1.41	-4.22	-6.22	1773532.68	354917.03	39°28'18.0485"N	80°18'8.0200"W	7.51	235.815	0.58	0.04	-25.40	
1876.00	1.260	297.900	1875.74	-2.51	-3.56	-7.11	1773531.79	354917.71	39°28'18.0551"N	80°18'8.0313"W	7.95	243.420	0.79	-0.12	-34.60	
1926.00	1.340	273.100	1925.73	-3.47	-3.27	-8.18	1773530.72	354918.01	39°28'18.0580"N	80°18'8.0450"W	8.81	248.220	1.13	0.16	-49.60	
1976.00	1.520	255.800	1975.71	-4.25	-3.40	-9.40	1773529.50	354917.89	39°28'18.0567"N	80°18'8.0606"W	10.00	250.131	0.93	0.36	-34.60	
2026.00	2.110	246.100	2025.68	-4.92	-3.93	-10.89	1773528.01	354917.36	39°28'18.0514"N	80°18'8.0795"W	11.58	250.135	1.33	1.18	-19.40	
2076.00	2.450	237.700	2075.65	-5.49	-4.88	-12.63	1773526.25	354916.44	39°28'18.0420"N	80°18'8.1018"W	13.54	248.888	0.95	0.68	-16.80	
2126.00	2.860	237.100	2125.59	-5.98	-6.13	-14.58	1773524.29	354915.20	39°28'18.0297"N	80°18'8.1267"W	15.82	247.213	0.82	0.82	-1.20	
2176.00	3.130	245.800	2175.52	-6.73	-7.36	-16.88	1773521.99	354913.99	39°28'18.0175"N	80°18'8.1559"W	18.41	246.427	1.06	0.54	17.40	
2226.00	3.310	253.100	2225.44	-7.89	-8.34	-19.50	1773519.36	354913.03	39°28'18.0078"N	80°18'8.1894"W	21.21	246.840	0.89	0.36	14.60	
2276.00	3.040	257.600	2275.37	-9.29	-9.05	-22.18	1773516.67	354912.35	39°28'18.0008"N	80°18'8.2235"W	23.95	247.808	0.73	-0.54	9.00	
2326.00	2.620	257.400	2325.31	-10.62	-9.58	-24.59	1773514.26	354911.84	39°28'17.9956"N	80°18'8.2542"W	26.39	248.711	0.84	-0.84	-0.40	
2376.00	2.390	251.400	2375.26	-11.69	-10.16	-26.69	1773512.15	354911.28	39°28'17.9898"N	80°18'8.2811"W	28.56	249.156	0.70	-0.46	-12.00	
2426.00	2.750	248.100	2425.21	-12.63	-10.94	-28.79	1773510.04	354910.52	39°28'17.9821"N	80°18'8.3078"W	30.80	249.191	0.78	0.72	-6.60	
2476.00	3.100	244.800	2475.14	-13.56	-11.97	-31.13	1773507.70	354909.51	39°28'17.9720"N	80°18'8.3376"W	33.35	248.974	0.78	0.70	-6.60	
2526.00	3.330	239.700	2525.06	-14.38	-13.27	-33.61	1773505.21	354908.23	39°28'17.9591"N	80°18'8.3692"W	36.13	248.446	0.73	0.46	-10.20	
2576.00	3.380	234.600	2574.98	-15.00	-14.86	-36.06	1773502.74	354906.66	39°28'17.9434"N	80°18'8.4005"W	39.00	247.604	0.61	0.10	-10.20	
2626.00	2.960	231.800	2624.90	-15.40	-16.51	-38.28	1773500.51	354905.03	39°28'17.9270"N	80°18'8.4288"W	41.69	246.665	0.90	-0.84	-5.60	
2676.00	2.580	225.100	2674.84	-15.55	-18.11	-40.09	1773498.68	354903.45	39°28'17.9113"N	80°18'8.4519"W	43.99	245.895	1.00	-0.76	-13.40	
2726.00	2.440	220.300	2724.80	-15.47	-19.71	-41.57	1773497.18	354901.86	39°28'17.8954"N	80°18'8.4708"W	46.01	244.633	0.50	-0.28	-9.60	
2776.00	2.400	220.800	2774.75	-15.30	-21.32	-42.95	1773495.80	354900.27	39°28'17.8796"N	80°18'8.4883"W	47.95	243.604	0.09	-0.08	1.00	
2826.00	2.370	230.000	2824.71	-15.32	-22.77	-44.42	1773494.31	354898.83	39°28'17.8652"N	80°18'8.5072"W	49.92	242.859	0.77	-0.06	18.40	
2876.00	2.310	238.200	2874.67	-15.64	-23.97	-46.07	1773492.65	354897.65	39°28'17.8534"N	80°18'8.5282"W	51.93	242.515	0.68	-0.12	16.40	
2926.00	2.430	247.500	2924.62	-16.27	-24.91	-47.91	1773490.81	354896.73	39°28'17.8441"N	80°18'8.5516"W	53.99	242.532	0.80	0.24	18.60	



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Facility	Crim Pad	Wellbore	Crim South Unit 10H AWB
Slot	Slot #10		

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 (P/100ft)	Build Rate (P/100ft)	Turn Rate (P/100ft)	Comments
2976.00	2.210	241.800	2974.58	-16.96	-25.77	-49.74	1773488.97	354895.88	39°28'17.8356"N	80°18'8.5749"W	56.01	242.613	0.64	-0.44	-11.40	
3026.00	2.230	235.200	3024.55	-17.41	-26.78	-51.38	1773487.31	354894.88	39°28'17.8256"N	80°18'8.5959"W	57.94	242.476	0.51	0.04	-13.20	
3076.00	2.680	236.400	3074.50	-17.81	-27.98	-53.16	1773485.53	354893.70	39°28'17.8137"N	80°18'8.6185"W	60.07	242.240	0.91	0.90	2.40	
3196.00	2.840	214.920	3194.36	-17.85	-31.97	-57.20	1773481.45	354889.74	39°28'17.7743"N	80°18'8.6700"W	65.52	240.797	0.87	0.13	-17.90	Javins MWD Surveys <8-3/4">(3050)(3170-6397)
3291.00	2.190	248.490	3289.28	-18.16	-34.56	-60.23	1773478.40	354887.18	39°28'17.7486"N	80°18'8.7087"W	69.44	240.150	1.66	-0.68	35.34	
3385.00	2.220	247.290	3383.21	-19.57	-35.93	-63.58	1773475.03	354885.85	39°28'17.7352"N	80°18'8.7515"W	73.03	240.532	0.06	0.03	-1.28	
3483.00	2.470	243.370	3481.13	-20.95	-37.61	-67.22	1773471.38	354884.20	39°28'17.7186"N	80°18'8.7979"W	77.02	240.776	0.30	0.26	-4.00	
3577.00	2.030	241.890	3575.05	-22.08	-39.30	-70.50	1773468.09	354882.54	39°28'17.7019"N	80°18'8.8397"W	80.71	240.864	0.47	-0.47	-1.57	
3672.00	2.170	238.790	3669.99	-22.99	-41.02	-73.52	1773465.05	354880.84	39°28'17.6848"N	80°18'8.8782"W	84.19	240.840	0.19	0.15	-3.26	
3766.00	1.890	238.520	3763.93	-23.78	-42.75	-76.37	1773462.19	354879.13	39°28'17.6677"N	80°18'8.9145"W	87.52	240.757	0.30	-0.30	-0.29	
3861.00	2.120	234.920	3858.87	-24.45	-44.58	-79.14	1773459.40	354877.33	39°28'17.6496"N	80°18'8.9499"W	90.83	240.606	0.28	0.24	-3.79	
3955.00	2.280	234.590	3952.80	-25.06	-46.66	-82.09	1773456.43	354875.27	39°28'17.6290"N	80°18'8.9874"W	94.42	240.383	0.17	0.17	-0.35	
4050.00	2.890	232.530	4047.71	-25.69	-49.22	-85.53	1773452.97	354872.75	39°28'17.6038"N	80°18'9.0313"W	98.68	240.082	0.65	0.64	-2.17	
4144.00	2.860	230.740	4141.59	-26.24	-52.14	-89.22	1773449.25	354869.86	39°28'17.5749"N	80°18'9.0784"W	103.34	239.698	0.10	-0.03	-1.90	
4239.00	2.890	224.530	4236.47	-26.46	-55.35	-92.74	1773445.71	354866.68	39°28'17.5432"N	80°18'9.1233"W	108.00	239.170	0.33	0.03	-6.54	
4333.00	2.440	223.110	4330.37	-26.37	-58.50	-95.77	1773442.65	354863.56	39°28'17.5121"N	80°18'9.1619"W	112.22	238.582	0.48	-0.48	-1.51	
4428.00	2.300	226.140	4425.28	-26.34	-61.30	-98.52	1773439.87	354860.79	39°28'17.4844"N	80°18'9.1970"W	116.04	238.112	0.20	-0.15	3.19	
4523.00	2.260	222.350	4520.21	-26.30	-64.00	-101.16	1773437.21	354858.11	39°28'17.4577"N	80°18'9.2307"W	119.71	237.680	0.16	-0.04	-3.99	
4617.00	2.270	227.310	4614.14	-26.29	-66.63	-103.78	1773434.57	354855.50	39°28'17.4317"N	80°18'9.2640"W	123.33	237.296	0.21	0.01	5.28	
4712.00	2.490	224.240	4709.05	-26.34	-69.39	-106.60	1773431.72	354852.77	39°28'17.4045"N	80°18'9.3000"W	127.19	236.939	0.27	0.23	-3.23	
4806.00	2.550	220.450	4802.96	-26.14	-72.44	-109.38	1773428.91	354849.74	39°28'17.3743"N	80°18'9.3355"W	131.20	236.484	0.19	0.06	-4.03	
4901.00	2.670	227.300	4897.86	-26.06	-75.55	-112.38	1773425.89	354846.66	39°28'17.3435"N	80°18'9.3737"W	135.41	236.088	0.35	0.13	7.21	
4996.00	2.560	223.880	4992.77	-26.11	-78.58	-115.48	1773422.76	354843.66	39°28'17.3136"N	80°18'9.4132"W	139.68	235.765	0.20	-0.12	-3.60	
5093.00	2.940	222.360	5089.65	-25.96	-81.98	-118.65	1773419.56	354840.29	39°28'17.2800"N	80°18'9.4537"W	144.22	235.359	0.40	0.39	-1.57	
5188.00	2.890	226.530	5184.53	-25.91	-85.43	-122.03	1773416.15	354836.87	39°28'17.2459"N	80°18'9.4968"W	148.96	235.006	0.23	-0.09	4.39	
5282.00	2.730	223.750	5278.42	-25.92	-88.68	-125.30	1773412.85	354833.65	39°28'17.2138"N	80°18'9.5385"W	153.50	234.713	0.22	-0.17	-2.96	
5377.00	2.600	225.280	5373.32	-25.89	-91.83	-128.40	1773409.73	354830.53	39°28'17.1827"N	80°18'9.5779"W	157.85	234.429	0.16	-0.14	1.61	
5471.00	2.660	231.920	5467.22	-26.16	-94.67	-131.63	1773406.47	354827.71	39°28'17.1546"N	80°18'9.6192"W	162.14	234.275	0.33	0.06	7.06	
5566.00	2.740	236.450	5562.11	-26.88	-97.29	-135.26	1773402.82	354825.13	39°28'17.1287"N	80°18'9.6654"W	166.61	234.274	0.24	0.08	4.77	
5660.00	2.580	233.490	5656.01	-27.64	-99.79	-138.83	1773399.22	354822.66	39°28'17.1040"N	80°18'9.7110"W	170.97	234.292	0.22	-0.17	-3.15	



Actual Wellpath Report

Crim South Unit 10H AWP Proj: 19237
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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Well	Crim South Unit 10H
Field	Marion	API	47-049-02489-0000
Facility	Crim Pad	Wellbore	Crim South Unit 10H AWB
Slot	Slot #10		

WELLPATH DATA (236 stations) † = interpolated, ‡ = extrapolated station

MD ft	Inclination °	Azimuth °	TVD ft	Vert Sect ft	North ft	East ft	Grid East ft	Grid North ft	Latitude	Longitude	Closure Dist ft	Closure Dir °	DLS F/100ft	Build Rate F/100ft	Turn Rate F/100ft	Comments
5755.00	2.620	227.610	5750.91	-28.05	-102.52	-142.15	1773395.88	354819.96	39°28'17.070"N	80°18'9.7533"W	175.26	234.200	0.28	0.04	-6.19	
5850.00	2.910	226.850	5845.80	-28.23	-105.64	-145.51	1773392.49	354816.87	39°28'17.0462"N	80°18'9.7962"W	179.81	234.022	0.31	0.31	-0.80	
5946.00	3.790	209.670	5941.64	-27.47	-110.06	-148.86	1773389.10	354812.48	39°28'17.0025"N	80°18'9.8389"W	185.13	233.523	1.38	0.92	-17.90	
6041.00	3.690	199.160	6036.44	-25.31	-115.67	-151.42	1773386.49	354806.89	39°28'16.9470"N	80°18'9.8715"W	190.55	232.623	0.73	-0.11	-11.06	
6136.00	4.080	203.180	6131.22	-22.72	-121.67	-153.75	1773384.10	354800.92	39°28'16.8877"N	80°18'9.9013"W	196.07	231.645	0.50	0.41	4.23	
6232.00	4.160	200.200	6226.97	-19.99	-128.08	-156.30	1773381.50	354794.53	39°28'16.8244"N	80°18'9.9338"W	202.07	230.668	0.24	0.08	-3.10	
6327.00	4.000	195.090	6321.73	-16.90	-134.51	-158.35	1773379.39	354788.12	39°28'16.7608"N	80°18'9.9599"W	207.77	229.654	0.42	-0.17	-5.38	
6423.00	4.510	198.210	6417.47	-13.53	-141.33	-160.40	1773377.28	354781.32	39°28'16.6934"N	80°18'9.9861"W	213.78	228.618	0.58	0.53	3.25	
6470.00	5.120	198.490	6464.30	-11.76	-145.07	-161.65	1773376.00	354777.59	39°28'16.6564"N	80°18'10.0019"W	217.20	228.093	1.30	1.30	0.60	BH AT Curve <8-1/2"> (6423')(6470-19212')
6549.00	4.040	195.220	6543.05	-8.80	-151.10	-163.50	1773374.10	354771.57	39°28'16.5969"N	80°18'10.0255"W	222.63	227.256	1.41	-1.37	-4.14	
6644.00	5.020	195.100	6637.75	-5.07	-158.34	-165.46	1773372.08	354764.35	39°28'16.5253"N	80°18'10.0505"W	229.02	226.259	1.03	1.03	-0.13	
6738.00	5.140	193.620	6731.38	-0.83	-166.41	-167.52	1773369.94	354756.31	39°28'16.4456"N	80°18'10.0768"W	236.12	225.191	0.19	0.13	-1.57	
6833.00	5.060	193.310	6826.00	3.59	-174.62	-169.49	1773367.90	354748.11	39°28'16.3644"N	80°18'10.1019"W	243.35	224.145	0.09	-0.08	-0.33	
6927.00	8.260	162.580	6919.39	11.75	-185.10	-168.42	1773368.88	354737.62	39°28'16.2608"N	80°18'10.0883"W	250.25	222.298	4.98	3.40	-32.69	
7022.00	13.830	146.180	7012.61	28.96	-201.06	-160.05	1773377.10	354721.59	39°28'16.1031"N	80°18'9.9815"W	256.98	218.520	6.68	5.86	-17.26	
7116.00	21.060	138.440	7102.24	56.88	-223.07	-142.56	1773394.39	354699.43	39°28'15.8856"N	80°18'9.7586"W	264.73	212.583	8.06	7.69	-8.23	
7210.00	27.370	138.590	7187.93	95.34	-251.94	-117.04	1773419.65	354670.33	39°28'15.6002"N	80°18'9.4331"W	277.80	204.918	6.71	6.71	0.16	
7304.00	35.210	142.350	7268.20	143.86	-289.66	-86.15	1773450.21	354632.34	39°28'15.2274"N	80°18'9.0392"W	302.20	196.562	8.59	8.34	4.00	
7399.00	43.330	139.010	7341.69	203.64	-336.03	-47.97	1773487.97	354585.63	39°28'14.7691"N	80°18'8.5524"W	339.44	188.124	8.83	8.55	-3.52	
7494.00	52.530	134.790	7405.29	274.03	-387.32	0.28	1773535.75	354533.92	39°28'14.2622"N	80°18'7.9371"W	387.32	179.958	10.23	9.68	-4.44	
7588.00	60.750	135.670	7456.94	352.47	-443.03	55.51	1773590.48	354477.72	39°28'13.7116"N	80°18'7.2329"W	446.49	172.859	8.78	8.74	0.94	
7683.00	68.580	137.020	7497.56	438.24	-505.12	114.71	1773649.12	354415.10	39°28'13.0879"N	80°18'6.4780"W	517.98	167.206	8.34	8.24	1.42	
7777.00	77.570	138.480	7524.90	527.97	-571.64	175.09	1773708.90	354348.06	39°28'12.4405"N	80°18'5.7081"W	597.85	162.971	9.68	9.56	1.55	
7790.00†	78.651	137.757	7527.58	540.67	-581.11	183.58	1773717.30	354338.51	39°28'12.3469"N	80°18'5.5998"W	609.42	162.468	9.94	8.31	-5.56	Landing Pt. at 7790' MD
7872.00	85.500	133.300	7538.88	621.81	-639.00	240.45	1773773.65	354280.12	39°28'11.7748"N	80°18'4.8747"W	682.74	159.379	9.94	8.35	-5.44	
7967.00	90.280	134.130	7542.38	716.69	-704.58	309.04	1773841.65	354213.92	39°28'11.1265"N	80°18'4.0000"W	769.38	156.317	5.11	5.03	0.87	
8061.00	90.120	133.980	7542.05	810.68	-769.95	376.60	1773908.62	354147.97	39°28'10.4805"N	80°18'3.1866"W	857.11	153.936	0.23	-0.17	-0.16	
8156.00	90.120	135.140	7541.85	905.68	-836.60	444.29	1773975.70	354080.71	39°28'9.8217"N	80°18'2.2755"W	947.26	152.029	1.22	0.00	1.22	
8250.00	89.450	133.810	7542.20	999.67	-902.46	511.36	1774042.18	354014.27	39°28'9.1708"N	80°18'1.4203"W	1037.26	150.463	1.58	-0.71	-1.41	
8345.00	90.150	134.770	7542.54	1094.66	-968.79	579.36	1774109.58	353947.33	39°28'8.5152"N	80°18'0.5632"W	1128.81	149.120	1.25	0.74	1.01	



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Well	Crim South Unit 10H
Field	Marion	API	47-049-02489-0000
Facility	Crim Pad	Wellbore	Crim South Unit 10H AWB
Slot	Slot #10		

WELLPATH DATA (236 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
8439.00	90.180	135.060	7542.26	1188.66	-1035.16	645.93	1774175.55	353880.37	39°28'7.8592"N	80°17'59.7045"W	1220.16	148.036	0.31	0.03	0.31	
8533.00	90.250	133.690	7541.91	1282.65	-1100.90	713.11	1774242.14	353814.04	39°28'7.2095"N	80°17'58.8478"W	1311.68	147.067	1.46	0.07	-1.46	
8628.00	90.460	135.770	7541.32	1377.64	-1167.75	780.60	1774309.03	353746.59	39°28'6.5488"N	80°17'57.9873"W	1404.63	146.239	2.20	0.22	2.19	
8723.00	91.020	135.700	7540.10	1472.63	-1235.78	846.90	1774374.71	353677.98	39°28'5.8764"N	80°17'57.1419"W	1498.13	145.576	0.59	0.59	-0.07	
8818.00	90.740	135.190	7538.64	1567.61	-1303.46	913.54	1774440.75	353609.71	39°28'5.2074"N	80°17'56.2922"W	1591.72	144.975	0.61	-0.29	-0.54	
8912.00	90.860	134.400	7537.32	1661.60	-1369.69	980.24	1774506.85	353542.89	39°28'4.5529"N	80°17'55.4417"W	1684.31	144.410	0.85	0.13	-0.84	
9007.00	90.220	130.340	7536.43	1756.48	-1433.69	1050.41	1774576.44	353478.27	39°28'3.9203"N	80°17'54.5471"W	1777.31	143.771	4.33	-0.67	-4.27	
9101.00	89.940	131.640	7536.30	1850.25	-1495.35	1121.36	1774646.83	353415.99	39°28'3.3109"N	80°17'53.6424"W	1869.10	143.134	1.41	-0.30	1.38	
9195.00	89.940	133.600	7536.40	1944.16	-1558.99	1190.53	1774715.42	353351.73	39°28'2.6818"N	80°17'52.7605"W	1961.59	142.633	2.09	0.00	2.03	
9290.00	89.320	132.210	7537.01	2039.09	-1623.67	1260.11	1774784.42	353286.44	39°28'2.0426"N	80°17'51.8733"W	2055.28	142.185	1.60	-0.65	-1.46	
9384.00	90.120	136.170	7537.47	2133.06	-1689.17	1327.50	1774851.22	353220.34	39°28'1.3951"N	80°17'51.0141"W	2148.39	141.837	4.30	0.85	4.21	
9478.00	90.060	136.770	7537.32	2227.03	-1757.32	1392.24	1774915.34	353151.62	39°28'0.7215"N	80°17'50.1887"W	2241.99	141.612	0.64	-0.06	0.64	
9573.00	89.970	136.170	7537.30	2322.00	-1826.20	1457.67	1774980.15	353082.16	39°28'0.0407"N	80°17'49.3545"W	2336.62	141.403	0.64	-0.03	-0.63	
9668.00	89.820	136.930	7537.47	2416.96	-1895.17	1523.00	1775044.86	353012.62	39°27'59.3591"N	80°17'48.5215"W	2431.29	141.214	0.82	-0.16	0.80	
9762.00	90.030	136.150	7537.59	2510.93	-1963.40	1587.66	1775108.90	352943.82	39°27'58.6847"N	80°17'47.6971"W	2524.99	141.040	0.86	0.22	-0.83	
9857.00	89.880	135.050	7537.67	2605.92	-2031.27	1654.13	1775174.76	352875.36	39°27'58.0138"N	80°17'46.8497"W	2619.58	140.843	1.17	-0.16	-1.16	
9952.00	90.830	136.000	7537.08	2700.91	-2099.06	1720.68	1775240.70	352806.98	39°27'57.3438"N	80°17'46.0011"W	2714.18	140.657	1.41	1.00	1.00	
10047.00	90.950	135.270	7535.60	2795.90	-2166.96	1787.10	1775306.51	352738.49	39°27'56.6726"N	80°17'45.1543"W	2808.82	140.488	0.78	0.13	-0.77	
10142.00	90.250	131.460	7534.61	2890.83	-2232.18	1856.15	1775374.96	352672.67	39°27'56.0280"N	80°17'44.2740"W	2903.08	140.255	4.08	-0.74	-4.01	
10236.00	90.620	131.100	7533.90	2984.63	-2294.19	1926.78	1775445.04	352610.03	39°27'55.4151"N	80°17'43.3734"W	2995.97	139.975	0.55	0.39	-0.38	
10331.00	90.740	134.410	7532.77	3079.54	-2358.67	1996.52	1775514.20	352544.93	39°27'54.7778"N	80°17'42.4842"W	3090.22	139.753	3.49	0.13	3.48	
10426.00	90.620	135.950	7531.64	3174.53	-2426.05	2063.48	1775580.55	352476.96	39°27'54.1118"N	80°17'41.6306"W	3184.91	139.617	1.63	-0.13	1.62	
10522.00	91.350	137.920	7529.99	3270.46	-2496.17	2129.02	1775645.45	352406.26	39°27'53.4187"N	80°17'40.7950"W	3280.79	139.539	2.19	0.76	2.05	
10616.00	90.650	136.210	7528.35	3364.38	-2564.98	2193.04	1775708.85	352336.89	39°27'52.7386"N	80°17'39.9788"W	3374.69	139.470	1.97	-0.74	-1.82	
10710.00	91.230	137.120	7526.81	3458.32	-2633.34	2257.54	1775772.73	352267.96	39°27'52.0629"N	80°17'39.1565"W	3468.56	139.394	1.15	0.62	0.97	
10805.00	90.770	137.010	7525.15	3553.25	-2702.88	2322.24	1775836.81	352197.85	39°27'51.3755"N	80°17'38.3317"W	3563.47	139.332	0.50	-0.48	-0.12	
10900.00	90.280	130.830	7524.28	3648.18	-2768.74	2390.63	1775904.61	352131.38	39°27'50.7245"N	80°17'37.4597"W	3658.01	139.191	6.53	-0.52	-6.51	
10994.00	90.150	132.710	7523.92	3742.03	-2831.35	2460.73	1775974.19	352068.15	39°27'50.1056"N	80°17'36.5660"W	3751.24	139.006	2.00	-0.14	2.00	
11089.00	88.950	135.430	7524.67	3837.00	-2897.42	2528.98	1776041.79	352001.48	39°27'49.4526"N	80°17'35.6959"W	3845.88	138.884	3.13	-1.26	2.86	
11184.00	89.540	134.880	7525.92	3931.99	-2964.65	2596.09	1776108.29	351933.65	39°27'48.7880"N	80°17'34.8404"W	3940.66	138.792	1.00	0.62	-0.79	



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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Well	Crim South Unit 10H
Field	Marion	API	47-049-02489-0000
Facility	Crim Pad	Wellbore	Crim South Unit 10H AWB
Slot	Slot #10		

WELLPATH DATA (236 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VertSect (ft)	North (ft)	East (ft)	Grid East (IUS ft)	Grid North (IUS ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
11278.00	90.090	136.480	7526.23	4025.98	-3031.79	2661.87	1776173.47	351865.94	39°27'48.1244"N	80°17'34.0017"W	4034.52	138.717	2.00	0.59	1.91	
11372.00	90.030	136.420	7526.13	4119.95	-3099.92	2726.64	1776237.62	351797.24	39°27'47.4510"N	80°17'33.1760"W	4128.44	138.666	0.09	-0.06	-0.06	
11467.00	89.290	135.280	7526.69	4214.94	-3168.08	2792.81	1776303.18	351728.49	39°27'46.7713"N	80°17'32.3324"W	4223.33	138.602	1.43	-0.78	-1.20	
11561.00	89.380	134.280	7527.78	4308.93	-3234.29	2859.52	1776369.30	351661.70	39°27'46.1229"N	80°17'31.4819"W	4317.12	138.519	1.07	0.10	-1.06	
11656.00	88.830	131.610	7529.27	4403.85	-3298.99	2929.05	1776438.24	351596.37	39°27'45.4832"N	80°17'30.5955"W	4411.66	138.399	2.87	-0.58	-2.81	
11750.00	88.890	134.660	7531.14	4497.77	-3363.24	2997.62	1776506.23	351531.52	39°27'44.8482"N	80°17'29.7213"W	4505.24	138.290	3.24	0.06	3.24	
11843.00	89.420	137.500	7532.51	4590.73	-3430.22	3062.12	1776570.12	351463.97	39°27'44.1861"N	80°17'28.8991"W	4598.15	138.245	3.11	0.57	3.05	
11938.00	89.510	136.300	7533.40	4685.67	-3499.58	3127.03	1776634.40	351394.04	39°27'43.5005"N	80°17'28.0717"W	4693.12	138.218	1.27	0.09	-1.26	
12033.00	89.570	136.800	7534.16	4780.63	-3568.54	3192.36	1776699.11	351324.50	39°27'42.8189"N	80°17'27.2388"W	4788.08	138.185	0.53	0.06	0.53	
12128.00	90.150	136.490	7534.39	4875.59	-3637.62	3257.58	1776763.71	351254.85	39°27'42.1361"N	80°17'26.4074"W	4883.04	138.155	0.69	0.81	-0.33	
12223.00	89.540	135.260	7534.65	4970.58	-3705.81	3323.72	1776829.23	351186.07	39°27'41.4620"N	80°17'25.5643"W	4977.96	138.111	1.45	-0.64	-1.29	
12318.00	89.630	136.990	7535.34	5065.55	-3774.29	3389.56	1776894.45	351117.01	39°27'40.7852"N	80°17'24.7249"W	5072.90	138.074	1.82	0.09	1.82	
12412.00	89.820	137.170	7535.79	5159.49	-3843.12	3453.57	1776957.84	351047.61	39°27'40.1047"N	80°17'23.9089"W	5166.89	138.056	0.28	0.20	0.19	
12507.00	89.230	136.190	7536.58	5254.44	-3912.24	3518.74	1777022.39	350977.93	39°27'39.4216"N	80°17'23.0781"W	5261.86	138.031	1.20	-0.62	-1.03	
12602.00	89.450	136.430	7537.67	5349.41	-3980.92	3584.36	1777087.39	350908.66	39°27'38.7426"N	80°17'22.2417"W	5356.81	138.001	0.34	0.23	0.25	
12698.00	89.380	137.150	7538.65	5445.36	-4050.89	3650.08	1777152.49	350838.11	39°27'38.0510"N	80°17'21.4038"W	5452.78	137.979	0.75	-0.07	0.75	
12793.00	90.370	138.320	7538.86	5540.25	-4121.19	3713.97	1777215.74	350767.25	39°27'37.3561"N	80°17'20.5894"W	5547.78	137.975	1.61	1.04	1.23	
12888.00	90.030	135.350	7538.53	5635.19	-4190.48	3778.96	1777280.10	350697.39	39°27'36.6713"N	80°17'19.7610"W	5642.75	137.956	3.15	-0.36	-3.13	
12983.00	89.820	133.350	7538.65	5730.18	-4256.88	3846.88	1777347.43	350630.39	39°27'36.0148"N	80°17'18.8951"W	5737.56	137.896	2.12	-0.22	-2.11	
13077.00	89.600	133.910	7539.13	5824.15	-4321.74	3914.92	1777414.88	350564.93	39°27'35.3737"N	80°17'18.0278"W	5831.30	137.828	0.64	-0.23	0.60	
13172.00	91.630	135.890	7538.11	5919.13	-4388.79	3982.20	1777481.56	350497.28	39°27'34.7110"N	80°17'17.1701"W	5926.16	137.781	2.98	2.14	2.08	
13267.00	90.030	133.130	7536.73	6014.11	-4455.37	4049.94	1777548.69	350430.10	39°27'34.0528"N	80°17'16.3067"W	6020.99	137.729	3.36	-1.68	-2.91	
13361.00	90.550	135.770	7536.25	6108.09	-4521.19	4117.03	1777615.19	350363.69	39°27'33.4022"N	80°17'15.4514"W	6114.83	137.679	2.86	0.55	2.81	
13456.00	90.150	132.460	7535.67	6203.07	-4587.31	4185.22	1777682.79	350296.97	39°27'32.7466"N	80°17'14.5821"W	6209.63	137.624	3.51	-0.42	-3.48	
13551.00	89.780	130.950	7535.73	6297.91	-4650.51	4256.15	1777753.14	350233.14	39°27'32.1238"N	80°17'13.6780"W	6304.13	137.535	1.64	-0.39	-1.59	
13646.00	90.550	133.200	7535.46	6392.78	-4714.16	4326.66	1777823.07	350168.86	39°27'31.4946"N	80°17'12.7792"W	6398.70	137.454	2.50	0.81	2.37	
13741.00	90.060	131.520	7534.95	6487.67	-4778.17	4396.85	1777892.69	350104.24	39°27'30.8618"N	80°17'11.8845"W	6493.32	137.380	1.84	-0.52	-1.77	
13835.00	90.650	129.770	7534.37	6581.40	-4839.39	4468.17	1777963.46	350042.38	39°27'30.2566"N	80°17'10.9753"W	6586.68	137.284	1.96	0.63	-1.86	
13930.00	90.310	132.890	7533.57	6676.19	-4902.12	4539.50	1778034.21	349979.02	39°27'29.6365"N	80°17'10.0661"W	6681.16	137.199	3.30	-0.36	3.28	
14025.00	90.400	135.310	7532.98	6771.17	-4968.23	4607.71	1778101.83	349912.31	39°27'28.9830"N	80°17'9.1966"W	6776.01	137.156	2.55	0.09	2.55	



Actual Wellpath Report

Crim South Unit 10H AWP Proj: 19237
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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Well	Crim South Unit 10H
Field	Marion	API	47-049-02489-0000
Facility	Crim Pad	Wellbore	Crim South Unit 10H AWP
Slot	Slot #10		

WELLPATH DATA (236 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (JUS ft)	Grid North (JUS ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
14119.00	90.000	135.670	7532.66	6865.16	-5035.26	4673.61	1778167.12	349844.70	39°27'28.3204"N	80°17'8.3566"W	6869.97	137.133	0.57	-0.43	0.38	
14213.00	89.660	136.430	7532.94	6959.15	-5102.94	4738.85	1778231.75	349776.45	39°27'27.6514"N	80°17'7.5251"W	6963.95	137.119	0.89	-0.36	0.81	
14307.00	89.600	136.880	7533.54	7053.10	-5171.29	4803.37	1778295.65	349707.82	39°27'26.9757"N	80°17'6.7027"W	7057.95	137.112	0.48	-0.06	0.48	
14402.00	89.110	136.530	7534.61	7148.06	-5240.43	4868.51	1778360.17	349637.81	39°27'26.2922"N	80°17'5.8724"W	7152.94	137.107	0.63	-0.52	-0.37	
14497.00	88.490	136.800	7536.60	7242.99	-5309.52	4933.69	1778424.73	349568.15	39°27'25.6093"N	80°17'5.0415"W	7247.91	137.101	0.71	-0.65	0.28	
14591.00	88.520	136.840	7539.05	7336.91	-5378.04	4997.99	1778488.41	349499.09	39°27'24.9320"N	80°17'4.2219"W	7341.88	137.098	0.05	0.03	0.04	
14686.00	87.630	136.200	7542.24	7431.82	-5446.93	5063.32	1778553.12	349429.59	39°27'24.2509"N	80°17'3.3892"W	7436.82	137.090	1.15	-0.94	-0.67	
14781.00	87.450	134.760	7546.32	7526.73	-5514.60	5129.87	1778619.06	349361.33	39°27'23.5820"N	80°17'2.5410"W	7531.69	137.070	1.53	-0.19	-1.52	
14875.00	86.950	135.920	7550.91	7620.61	-5581.38	5195.86	1778684.45	349293.97	39°27'22.9218"N	80°17'1.6998"W	7625.54	137.049	1.34	-0.53	1.23	
14970.00	86.830	135.870	7556.07	7715.46	-5649.50	5261.88	1778749.85	349225.27	39°27'22.2485"N	80°17'0.8583"W	7720.38	137.035	0.14	-0.13	-0.05	
15065.00	86.980	136.250	7561.20	7810.31	-5717.81	5327.71	1778815.06	349156.38	39°27'21.5733"N	80°17'0.0193"W	7815.23	137.023	0.43	0.16	0.40	
15160.00	88.400	135.400	7565.03	7905.22	-5785.88	5393.85	1778880.59	349087.72	39°27'20.9003"N	80°16'59.1763"W	7910.12	137.008	1.74	1.49	-0.89	
15255.00	86.920	134.150	7568.91	8000.13	-5852.74	5461.23	1778947.37	349020.27	39°27'20.2394"N	80°16'58.3175"W	8004.97	136.982	2.04	-1.56	-1.32	
15349.00	86.950	134.340	7573.93	8093.99	-5918.23	5528.47	1779014.02	348954.19	39°27'19.5920"N	80°16'57.4604"W	8098.73	136.950	0.20	0.03	0.20	
15444.00	87.290	134.700	7578.70	8188.87	-5984.75	5596.12	1779081.07	348887.06	39°27'18.9343"N	80°16'56.5982"W	8193.52	136.922	0.52	0.36	0.38	
15539.00	86.830	133.820	7583.58	8283.73	-6050.97	5664.07	1779148.42	348820.25	39°27'18.2798"N	80°16'55.7321"W	8288.30	136.892	1.04	-0.48	-0.93	
15633.00	87.260	134.650	7588.42	8377.60	-6116.45	5731.33	1779215.08	348754.17	39°27'17.6324"N	80°16'54.8749"W	8382.07	136.862	0.99	0.46	0.88	
15728.00	88.180	133.790	7592.20	8472.51	-6182.65	5799.36	1779282.52	348687.37	39°27'16.9779"N	80°16'54.0078"W	8476.89	136.832	1.33	0.97	-0.91	
15822.00	87.630	133.070	7595.64	8566.41	-6247.23	5867.57	1779350.15	348622.19	39°27'16.3395"N	80°16'53.1383"W	8570.67	136.795	0.96	-0.59	-0.77	
15917.00	89.380	135.070	7598.12	8661.36	-6313.28	5935.80	1779417.78	348555.53	39°27'15.6866"N	80°16'52.2687"W	8665.52	136.765	2.80	1.84	2.11	
16011.00	87.880	134.580	7600.37	8755.33	-6379.52	6002.45	1779483.83	348488.70	39°27'15.0317"N	80°16'51.4192"W	8759.44	136.744	1.68	-1.60	-0.52	
16106.00	88.830	136.190	7603.09	8850.29	-6447.12	6069.14	1779549.91	348420.52	39°27'14.3635"N	80°16'50.5692"W	8854.37	136.730	1.97	1.00	1.69	
16200.00	87.780	132.540	7605.87	8944.22	-6512.81	6136.30	1779616.48	348354.24	39°27'13.7141"N	80°16'49.7133"W	8948.23	136.705	4.04	-1.12	-3.88	
16295.00	89.110	135.450	7608.45	9039.16	-6578.76	6204.61	1779684.19	348287.68	39°27'13.0621"N	80°16'48.8427"W	9043.08	136.676	3.37	1.40	3.06	
16390.00	89.200	135.380	7609.85	9134.15	-6646.41	6271.29	1779750.26	348219.44	39°27'12.3933"N	80°16'48.0000"W	9138.04	136.663	0.12	0.09	-0.07	
16483.00	89.260	134.780	7611.10	9227.14	-6712.26	6336.95	1779815.33	348153.01	39°27'11.7423"N	80°16'47.1560"W	9231.00	136.647	0.65	0.06	-0.65	
16578.00	88.340	132.550	7613.09	9322.08	-6777.83	6405.65	1779883.44	348086.83	39°27'11.0941"N	80°16'46.2804"W	9325.84	136.617	2.54	-0.97	-2.35	
16672.00	89.290	134.900	7615.04	9416.03	-6842.79	6473.56	1779950.76	348021.28	39°27'10.4520"N	80°16'45.4148"W	9419.70	136.588	2.70	1.01	2.50	
16767.00	90.400	137.120	7615.29	9511.01	-6911.13	6539.54	1780016.12	347952.35	39°27'9.7763"N	80°16'44.5740"W	9514.69	136.562	2.61	1.17	2.34	Deepest TVD at 7615.29' TVD
16862.00	90.520	137.310	7614.53	9605.94	-6980.85	6604.06	1780080.02	347882.07	39°27'9.0871"N	80°16'43.7516"W	9609.68	136.589	0.24	0.13	0.20	



Actual Wellpath Report

Crim South Unit 10H AWP Proj: 19237'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	XTO ENERGY INC
Field	Marion
Facility	Crim Pad
Slot	Slot #10
Well	Crim South Unit 10H
API	47-049-02489-0000
Wellbore	Crim South Unit 10H AWB

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)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
16956.00	90.650	136.950	7613.57	9699.87	-7049.74	6668.01	1780143.35	3478112.61	39°27'8.4061"N	80°16'42.9367"W	9703.67	136.594	0.41	0.14	-0.38	
17052.00	90.740	137.840	7612.41	9795.71	-7120.39	6732.99	1780207.69	347741.39	39°27'7.7076"N	80°16'42.1085"W	9799.65	136.602	0.93	0.09	0.93	
17147.00	90.550	134.510	7611.34	9890.73	-7188.92	6798.76	1780272.84	347672.28	39°27'7.0302"N	80°16'41.2703"W	9894.63	136.598	3.51	-0.20	-3.51	
17241.00	90.060	135.510	7610.84	9984.73	-7255.39	6865.22	1780338.70	347605.22	39°27'6.3730"N	80°16'40.4234"W	9988.59	136.583	1.18	-0.52	1.06	
17335.00	90.680	136.450	7610.23	10078.71	-7322.99	6930.54	1780403.40	347537.05	39°27'5.7047"N	80°16'39.5909"W	10082.58	136.577	1.20	0.66	1.00	
17430.00	90.370	134.420	7609.36	10173.70	-7390.66	6997.19	1780469.45	347468.78	39°27'5.0357"N	80°16'38.7414"W	10177.55	136.566	2.16	-0.33	-2.14	
17524.00	90.680	135.930	7608.50	10267.69	-7457.33	7063.45	1780535.11	347401.53	39°27'4.3766"N	80°16'37.8970"W	10271.52	136.554	1.64	0.33	1.61	
17618.00	90.490	136.420	7607.54	10361.67	-7525.14	7128.54	1780599.58	347333.14	39°27'3.7062"N	80°16'37.0622"W	10365.51	136.550	0.56	-0.20	0.52	
17713.00	90.460	136.460	7606.75	10456.64	-7593.98	7194.00	1780664.43	347263.72	39°27'3.0256"N	80°16'36.2333"W	10460.51	136.549	0.05	-0.03	0.04	
17808.00	91.660	135.730	7604.99	10551.60	-7662.41	7259.87	1780729.68	347194.71	39°27'2.3491"N	80°16'35.3939"W	10555.49	136.545	1.48	1.26	-0.77	
17903.00	91.510	135.050	7602.37	10646.56	-7730.02	7326.56	1780795.76	347126.52	39°27'1.6808"N	80°16'34.5440"W	10650.43	136.535	0.73	-0.16	-0.72	
17998.00	92.280	135.410	7599.22	10741.51	-7797.43	7393.43	1780862.02	347058.52	39°27'1.0144"N	80°16'33.6918"W	10745.35	136.523	0.89	0.81	0.38	
18092.00	92.150	135.420	7595.59	10835.43	-7864.32	7459.36	1780927.35	346991.04	39°27'0.3530"N	80°16'32.8515"W	10839.27	136.514	0.14	-0.14	0.01	
18187.00	92.920	134.600	7591.39	10930.34	-7931.44	7526.46	1780993.84	346923.33	39°26'59.6894"N	80°16'31.9965"W	10934.14	136.501	1.18	0.81	-0.86	
18281.00	92.830	132.820	7586.67	11024.19	-7996.31	7594.32	1781061.11	346857.86	39°26'59.0481"N	80°16'31.1317"W	11027.91	136.477	1.89	-0.10	-1.89	
18377.00	92.370	132.770	7582.32	11120.02	-8061.47	7664.69	1781130.89	346792.08	39°26'58.4039"N	80°16'30.2349"W	11123.61	136.445	0.48	-0.48	-0.05	
18471.00	92.430	132.540	7578.38	11213.86	-8125.10	7733.76	1781199.39	346727.83	39°26'57.7748"N	80°16'29.3546"W	11217.33	136.414	0.25	0.06	-0.24	
18566.00	92.680	132.730	7574.15	11308.69	-8189.39	7803.58	1781268.63	346662.94	39°26'57.1392"N	80°16'28.4648"W	11312.03	136.382	0.33	0.26	0.20	
18660.00	92.590	133.090	7569.83	11402.53	-8253.32	7872.36	1781336.83	346598.40	39°26'56.5071"N	80°16'27.5884"W	11405.76	136.353	0.39	-0.10	0.38	
18755.00	89.450	131.370	7568.14	11497.39	-8317.15	7942.68	1781406.57	346533.94	39°26'55.8761"N	80°16'26.6922"W	11500.48	136.319	3.77	-3.31	-1.81	
18849.00	92.460	133.050	7566.57	11591.25	-8380.28	8012.28	1781475.61	346470.19	39°26'55.2519"N	80°16'25.8052"W	11594.21	136.286	3.67	3.20	1.79	
18943.00	93.510	133.020	7561.67	11685.06	-8444.34	8080.90	1781543.64	346405.53	39°26'54.6185"N	80°16'24.9308"W	11687.94	136.260	1.12	1.12	-0.03	
19037.00	92.920	133.460	7556.40	11778.87	-8508.64	8149.27	1781611.43	346340.63	39°26'53.9828"N	80°16'24.0595"W	11781.66	136.236	0.78	-0.63	0.47	
19132.00	96.480	132.870	7548.62	11873.49	-8573.40	8218.31	1781679.89	346275.26	39°26'53.3426"N	80°16'23.1796"W	11876.19	136.211	3.80	3.75	-0.62	
19212.00	95.700	132.930	7540.13	11952.98	-8627.55	8276.59	1781737.67	346220.59	39°26'52.8072"N	80°16'22.4371"W	11955.60	136.189	0.98	-0.97	0.07	Last MWD Survey at 19212' MD
19237.00#	95.700	132.930	7537.65	11977.84	-8644.49	8294.80	1781755.74	346203.49	39°26'52.6397"N	80°16'22.2050"W	11980.44	136.183	0.00	0.00	0.00	Projected MD at TD: 19237' MD



Actual Wellpath Report

Crim South Unit 10H AWP Proj: 19237'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	XTO ENERGY INC
Field	Marion
Facility	Crim Pad
Slot	Slot #10
Well	Crim South Unit 10H
API	47-049-02489-0000
Wellbore	Crim South Unit 10H AWB

HOLE & CASING SECTIONS - Ref Wellbore: Crim South Unit 10H AWB Ref Wellpath: Crim South Unit 10H AWP Proj: 19237'									
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]
30in Conductor	26.00	102.00	76.00	26.00	102.00	0.00	0.00	0.14	-0.11
17.5in Open Hole	50.00	559.00	509.00	50.00	559.00	0.02	-0.01	-0.37	-1.00
13.375in Casing Surface	26.00	559.00	533.00	26.00	559.00	0.00	0.00	-0.37	-1.00
12.25in Open Hole	559.00	3171.00	2612.00	559.00	3169.39	-0.37	-1.00	-30.99	-56.46
9.625in Casing Intermediate	26.00	3171.00	3145.00	26.00	3169.39	0.00	0.00	-30.99	-56.46
8.75in Open Hole	3171.00	6468.00	3297.00	3169.39	6462.31	-30.99	-56.46	-144.90	-161.59
8.5in Open Hole	6468.00	19237.00	12769.00	6462.31	7537.65	-144.90	-161.59	-8644.49	8294.80
5.5in Casing Production	26.00	19237.00	19211.00	26.00	7537.65	0.00	0.00	-8644.49	8294.80

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Crim South Unit 10H BHL Rev-1	7541.00	-8750.86	8364.50	1781824.48	346096.51	39°26'51.5882"N	80°16'21.3169"W	point
Crim South Unit 10H LP Rev-1	7541.00	-660.99	271.81	1773804.81	354257.85	39°28'11.5574"N	80°18'4.4748"W	point

WELLPATH COMPOSITION - Ref Wellbore: Crim South Unit 10H AWB Ref Wellpath: Crim South Unit 10H AWP Proj: 19237'			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
26.00	3076.00	BH Generic gyro - northseeking (Standard)	01_Javins Gyro <12-1/4">(50'-3050')
3076.00	6423.00	OWSG MWD rev2 + HRGM	02_Javins MWD Surveys <-8-3/4">(3050')(3170'-6397')
6423.00	19237.00	BH AutoTrak Curve (Short)	03_BH AT Curve <-8-1/2">(6423')(6470'-19212')



Actual Wellpath Report

Crim South Unit 10H AWP Proj: 19237'

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REFERENCE WELLPATH IDENTIFICATION

Operator	XTO ENERGY INC	Well	Crim South Unit 10H
Field	Marion	API	47-049-02489-0000
Facility	Crim Pad	Wellbore	Crim South Unit 10H AWB
Slot	Slot #10		

COMMENTS

Wellpath general comments

API: 47-049-02489-0000
 BHI Job #: 110037471A
 Rig: Patteron 579
 Duration: 09/27/2019-10/02/2019
 Javins Gyro <12-1/4">(50'-3050')
 Javins MWD Surveys <8-3/4">(3050')(3170'-6397')
 BH AT Curve <8-1/2">(6423')(6470'-19212')
 Landing Pt. at 7790' MD
 Deepest TVD at 7615.29' TVD
 Last MWD Survey at 19212' MD
 Projected MD at TD: 19237'MD