



· Directional Drilling · Horizontal Drilling · MWD/LWD · Mud Motors

Survey Certification

March 29, 2020

State of New Mexico

County of Eddy

I, Allison Reinert, certify that; I am employed by Aim Directional Services, LLC; that I did on the day(s) of August 6, 2019 through August 28, 2019 conduct or supervise the taking of a directional MWD survey from a depth of 176 feet to a depth of 15761 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Aim Directional Services, LLC; that I am authorized and qualified to make this report; that this survey was conducted at the request of XTO Energy Inc. for Severus 31-5 Fed Com #12H API No. 30-025-46224 in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Aim Directional Services, LLC.

Survey Instrument Type

Surcon MSA Corrected

Allison Reinert
VP Engineering
Aim Directional Services, LLC



Survey Report

Company:	XTO Energy Inc.	Local Co-ordinate Reference:	Site SEVERUS 31-5 FED COM 12H
Project:	Lea Co., NM (NAD 27 NME)	TVD Reference:	Well @ 3713.00usft (Precision 595)
Site:	SEVERUS 31-5 FED COM 12H	MD Reference:	Well @ 3713.00usft (Precision 595)
Well:	SEVERUS 12H	North Reference:	Grid
Wellbore:	Drilling	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDMRESTORED

Project	Lea Co., NM (NAD 27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	SEVERUS 31-5 FED COM 12H		
Site Position:		Northing:	559,935.40 usft
From:	Map	Easting:	724,523.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 32' 14.138 N
		Longitude:	103° 36' 17.210 W
		Grid Convergence:	0.39 °

Well	SEVERUS 12H		
Well Position	+N/-S	0.00 usft	Northing: 559,935.40 usft
	+E/-W	0.00 usft	Easting: 724,523.30 usft
Position Uncertainty	0.00 usft		Wellhead Elevation: usft
			Latitude: 32° 32' 14.138 N
			Longitude: 103° 36' 17.210 W
			Ground Level: 3,688.00 usft

Wellbore	Drilling		
Magnetics	Model Name	Sample Date	Declination (°)
	MVHD	8/7/2019	6.64
			Dip Angle (°) 60.41
			Field Strength (nT) 48,135.84281223

Design	Surveys		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°) 179.59

Survey Program	Date 8/28/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
176.00	15,761.00	Aim MWD Svys (Drilling)	MWD+HRGM
			Description OWSG MWD + HRGM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000
176.00	0.88	247.87	175.99	-0.51	-1.25	0.50	0.500	0.500	0.000
First Aim Svy									
225.00	1.23	249.93	224.98	-0.83	-2.09	0.82	0.718	0.714	4.204
314.00	0.40	197.33	313.98	-1.46	-3.08	1.43	1.165	-0.933	-59.101
404.00	1.23	106.46	403.97	-2.03	-2.25	2.01	1.444	0.922	-100.966
493.00	1.41	105.84	492.94	-2.60	-0.28	2.60	0.203	0.202	-0.697
583.00	0.84	101.89	582.93	-3.04	1.43	3.05	0.639	-0.633	-4.389
672.00	0.35	37.55	671.92	-2.96	2.23	2.97	0.851	-0.551	-72.292
761.00	0.31	328.20	760.92	-2.54	2.27	2.55	0.424	-0.045	-77.921
851.00	0.22	314.67	850.92	-2.21	2.02	2.22	0.121	-0.100	-15.033



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Well:	SEVERUS 12H	North Reference:	Grid
Wellbore:	Drilling	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDMRESTORED

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
940.00	0.22	2.92	939.92	-1.92	1.91	1.93	0.202	0.000	54.213
1,029.00	0.26	268.70	1,028.92	-1.75	1.71	1.76	0.396	0.045	-105.865
1,119.00	0.35	216.23	1,118.92	-1.98	1.35	1.99	0.313	0.100	-58.300
1,208.00	0.09	95.21	1,207.92	-2.20	1.26	2.21	0.454	-0.292	-135.977
1,298.00	0.44	74.46	1,297.92	-2.12	1.66	2.13	0.397	0.389	-23.056
1,387.00	0.40	54.25	1,386.91	-1.84	2.24	1.86	0.171	-0.045	-22.708
1,477.00	0.35	22.52	1,476.91	-1.41	2.60	1.42	0.234	-0.056	-35.255
1,542.00	0.18	310.10	1,541.91	-1.16	2.60	1.18	0.526	-0.262	-111.415
1,659.00	0.31	329.26	1,658.91	-0.77	2.30	0.78	0.130	0.111	16.376
1,749.00	0.09	288.39	1,748.91	-0.53	2.11	0.55	0.277	-0.244	-45.411
1,838.00	0.22	132.56	1,837.91	-0.63	2.17	0.64	0.342	0.146	-175.090
1,928.00	0.26	111.65	1,927.91	-0.82	2.48	0.84	0.106	0.044	-23.233
2,017.00	0.22	128.08	2,016.91	-1.00	2.80	1.02	0.089	-0.045	18.461
2,107.00	0.26	145.05	2,106.91	-1.27	3.06	1.30	0.090	0.044	18.856
2,196.00	0.18	305.18	2,195.91	-1.36	3.06	1.38	0.487	-0.090	179.921
2,286.00	0.22	326.72	2,285.91	-1.13	2.85	1.15	0.094	0.044	23.933
2,375.00	0.40	357.30	2,374.91	-0.68	2.74	0.70	0.268	0.202	34.359
2,464.00	0.26	38.87	2,463.90	-0.21	2.85	0.23	0.301	-0.157	46.708
2,554.00	0.26	80.62	2,553.90	-0.02	3.18	0.04	0.206	0.000	46.389
2,643.00	0.31	72.71	2,642.90	0.08	3.61	-0.06	0.071	0.056	-8.888
2,733.00	0.18	66.47	2,732.90	0.21	3.97	-0.18	0.147	-0.144	-6.933
2,823.00	0.13	23.93	2,822.90	0.36	4.14	-0.33	0.135	-0.056	-47.267
2,912.00	0.13	334.54	2,911.90	0.55	4.14	-0.52	0.122	0.000	-55.494
3,001.00	0.04	355.28	3,000.90	0.67	4.10	-0.64	0.105	-0.101	23.303
3,091.00	0.26	91.70	3,090.90	0.69	4.30	-0.66	0.297	0.244	107.133
3,222.00	0.44	71.74	3,221.90	0.84	5.07	-0.81	0.164	0.137	-15.237
3,267.00	0.44	83.87	3,266.90	0.91	5.41	-0.88	0.207	0.000	26.956
3,357.00	3.16	270.90	3,356.86	0.99	3.27	-0.97	3.997	3.022	-192.188
3,446.00	5.19	269.76	3,445.62	1.01	-3.21	-1.04	2.283	2.281	-1.281
3,536.00	5.85	273.10	3,535.20	1.24	-11.86	-1.33	0.815	0.733	3.711
3,625.00	6.15	273.45	3,623.71	1.78	-21.15	-1.93	0.340	0.337	0.393
3,715.00	6.07	269.06	3,713.20	1.99	-30.72	-2.21	0.527	-0.089	-4.878
3,804.00	6.11	266.16	3,801.70	1.59	-40.15	-1.88	0.349	0.045	-3.258
3,894.00	6.33	265.54	3,891.17	0.89	-49.87	-1.24	0.256	0.244	-0.689
3,983.00	5.71	265.72	3,979.68	0.17	-59.18	-0.60	0.697	-0.697	0.202
4,073.00	4.44	264.93	4,069.32	-0.47	-67.11	-0.01	1.413	-1.411	-0.878
4,162.00	4.13	266.60	4,158.07	-0.96	-73.75	0.43	0.375	-0.348	1.876
4,252.00	4.40	266.95	4,247.82	-1.34	-80.43	0.76	0.301	0.300	0.389
4,341.00	4.48	267.83	4,336.56	-1.65	-87.31	1.03	0.118	0.090	0.989
4,431.00	4.62	270.03	4,426.27	-1.78	-94.45	1.11	0.249	0.156	2.444
4,521.00	4.88	271.52	4,515.96	-1.68	-101.90	0.95	0.320	0.289	1.656
4,610.00	4.88	272.05	4,604.64	-1.44	-109.47	0.66	0.051	0.000	0.596
4,699.00	4.97	273.80	4,693.31	-1.05	-117.10	0.21	0.197	0.101	1.966



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Wellbore:	Drilling	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDMRESTORED

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,789.00	5.32	275.65	4,782.95	-0.38	-125.14	-0.51	0.430	0.389	2.056
4,879.00	5.10	274.77	4,872.58	0.36	-133.28	-1.31	0.260	-0.244	-0.978
4,968.00	4.92	270.64	4,961.24	0.73	-141.04	-1.74	0.453	-0.202	-4.640
5,057.00	5.19	273.10	5,049.89	0.99	-148.87	-2.06	0.389	0.303	2.764
5,147.00	4.57	264.40	5,139.57	0.86	-156.50	-1.98	1.071	-0.689	-9.667
5,236.00	4.70	256.84	5,228.28	-0.31	-163.58	-0.86	0.701	0.146	-8.494
5,326.00	4.48	264.93	5,317.99	-1.46	-170.68	0.24	0.759	-0.244	8.989
5,415.00	4.70	272.57	5,406.70	-1.61	-177.78	0.34	0.729	0.247	8.584
5,505.00	4.84	271.08	5,496.39	-1.37	-185.26	0.04	0.208	0.156	-1.656
5,595.00	4.66	270.90	5,586.08	-1.24	-192.71	-0.14	0.201	-0.200	-0.200
5,684.00	4.57	271.52	5,674.79	-1.09	-199.87	-0.34	0.116	-0.101	0.697
5,735.00	4.66	271.87	5,725.63	-0.97	-203.97	-0.49	0.185	0.176	0.686
5,865.00	4.44	274.33	5,855.22	-0.42	-214.27	-1.12	0.226	-0.169	1.892
5,954.00	4.48	271.61	5,943.95	-0.06	-221.18	-1.52	0.242	0.045	-3.056
6,044.00	4.44	270.64	6,033.68	0.08	-228.17	-1.71	0.095	-0.044	-1.078
6,133.00	4.35	268.88	6,122.42	0.05	-234.99	-1.73	0.182	-0.101	-1.978
6,222.00	4.18	265.89	6,211.17	-0.25	-241.60	-1.48	0.314	-0.191	-3.360
6,312.00	5.32	288.92	6,300.87	0.87	-248.82	-2.65	2.444	1.267	25.589
6,401.00	5.49	290.77	6,389.47	3.72	-256.71	-5.56	0.274	0.191	2.079
6,491.00	5.67	284.62	6,479.05	6.37	-265.03	-8.26	0.694	0.200	-6.833
6,580.00	6.51	272.66	6,567.55	7.71	-274.33	-9.67	1.705	0.944	-13.438
6,670.00	6.37	271.43	6,656.98	8.07	-284.42	-10.11	0.218	-0.156	-1.367
6,759.00	6.42	271.43	6,745.42	8.32	-294.33	-10.43	0.056	0.056	0.000
6,848.00	6.20	270.73	6,833.89	8.51	-304.11	-10.68	0.262	-0.247	-0.787
6,938.00	5.63	267.83	6,923.41	8.40	-313.38	-10.64	0.715	-0.633	-3.222
7,027.00	5.45	269.41	7,011.99	8.19	-321.97	-10.49	0.265	-0.202	1.775
7,117.00	5.45	267.74	7,101.58	7.98	-330.51	-10.34	0.176	0.000	-1.856
7,206.00	5.05	264.05	7,190.21	7.41	-338.63	-9.83	0.588	-0.449	-4.146
7,296.00	3.38	257.81	7,279.96	6.43	-345.16	-8.90	1.922	-1.856	-6.933
7,385.00	3.38	259.74	7,368.81	5.41	-350.31	-7.92	0.128	0.000	2.169
7,475.00	3.56	246.65	7,458.65	3.83	-355.49	-6.38	0.901	0.200	-14.544
7,565.00	3.60	252.36	7,548.47	1.87	-360.74	-4.45	0.398	0.044	6.344
7,654.00	1.67	242.47	7,637.37	0.42	-364.56	-3.03	2.220	-2.169	-11.112
7,743.00	0.66	226.70	7,726.35	-0.53	-366.08	-2.09	1.180	-1.135	-17.719
7,833.00	0.75	232.94	7,816.35	-1.24	-366.93	-1.39	0.131	0.100	6.933
7,922.00	0.57	178.09	7,905.34	-2.03	-367.38	-0.60	0.706	-0.202	-61.629
8,011.00	0.84	167.98	7,994.33	-3.11	-367.23	0.48	0.333	0.303	-11.360
8,101.00	1.10	166.05	8,084.32	-4.60	-366.88	1.97	0.291	0.289	-2.144
8,190.00	0.40	98.55	8,173.31	-5.47	-366.37	2.85	1.142	-0.787	-75.843
8,280.00	0.53	102.86	8,263.31	-5.61	-365.65	2.99	0.149	0.144	4.789
8,369.00	0.40	66.12	8,352.31	-5.58	-364.97	2.96	0.357	-0.146	-41.281
8,459.00	0.13	127.91	8,442.31	-5.51	-364.60	2.90	0.397	-0.300	68.655
8,549.00	0.31	114.20	8,532.31	-5.67	-364.30	3.07	0.207	0.200	-15.233



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Survey

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8,638.00	0.13	45.99	8,621.31	-5.70	-364.00	3.10	0.324	-0.202	-76.640
8,728.00	0.18	3.98	8,711.31	-5.49	-363.92	2.89	0.134	0.056	-46.678
8,817.00	0.26	61.29	8,800.31	-5.25	-363.73	2.65	0.250	0.090	64.393
8,907.00	0.48	66.21	8,890.30	-5.00	-363.21	2.40	0.247	0.244	5.467
8,996.00	0.66	56.01	8,979.30	-4.57	-362.44	1.97	0.231	0.202	-11.461
9,086.00	0.13	45.90	9,069.30	-4.21	-361.94	1.62	0.592	-0.589	-11.233
9,175.00	0.26	48.10	9,158.30	-4.00	-361.72	1.41	0.146	0.146	2.472
9,265.00	0.31	88.27	9,248.30	-3.86	-361.32	1.27	0.224	0.056	44.633
9,354.00	0.53	91.34	9,337.29	-3.86	-360.67	1.28	0.248	0.247	3.449
9,444.00	0.62	69.63	9,427.29	-3.70	-359.80	1.13	0.260	0.100	-24.122
9,533.00	0.79	76.40	9,516.28	-3.39	-358.75	0.82	0.212	0.191	7.607
9,623.00	0.70	51.27	9,606.27	-2.90	-357.72	0.34	0.373	-0.100	-27.922
9,712.00	0.84	45.20	9,695.27	-2.10	-356.83	-0.45	0.182	0.157	-6.820
9,802.00	0.75	28.77	9,785.26	-1.12	-356.08	-1.43	0.271	-0.100	-18.256
9,892.00	0.84	52.14	9,875.25	-0.20	-355.28	-2.35	0.371	0.100	25.967
9,910.00	0.97	56.01	9,893.25	-0.03	-355.04	-2.51	0.798	0.722	21.500
9,971.00	0.97	130.81	9,954.24	-0.08	-354.23	-2.46	1.932	0.000	122.623
10,016.00	7.76	179.17	9,999.09	-3.37	-353.89	0.84	15.894	15.089	107.466
10,061.00	14.22	169.81	10,043.24	-11.86	-352.87	9.33	14.847	14.356	-20.800
10,105.00	20.18	171.34	10,085.26	-24.69	-350.77	22.18	13.583	13.545	3.477
10,150.00	23.57	174.67	10,127.01	-41.33	-348.76	38.83	8.019	7.533	7.400
10,195.00	27.62	177.20	10,167.59	-60.71	-347.42	58.23	9.320	9.000	5.622
10,240.00	30.94	177.88	10,206.84	-82.70	-346.48	80.22	7.415	7.378	1.511
10,284.00	33.15	179.39	10,244.13	-106.03	-345.93	103.56	5.342	5.023	3.432
10,329.00	31.60	177.70	10,282.13	-130.12	-345.33	127.64	3.988	-3.444	-3.756
10,374.00	33.16	177.84	10,320.14	-154.20	-344.39	151.73	3.471	3.467	0.311
10,418.00	35.66	179.14	10,356.43	-179.05	-343.75	176.59	5.922	5.682	2.955
10,463.00	40.55	181.99	10,391.84	-206.81	-344.06	204.34	11.546	10.867	6.333
10,508.00	45.84	182.57	10,424.63	-237.57	-345.29	235.09	11.788	11.756	1.289
10,553.00	49.34	181.75	10,454.98	-270.77	-346.54	268.28	7.893	7.778	-1.822
10,598.00	53.40	181.77	10,483.06	-305.90	-347.62	303.40	9.022	9.022	0.044
10,642.00	56.62	180.82	10,508.29	-341.93	-348.42	339.43	7.529	7.318	-2.159
10,687.00	62.17	181.12	10,531.19	-380.64	-349.08	378.13	12.347	12.333	0.667
10,732.00	68.13	180.57	10,550.10	-421.45	-349.68	418.94	13.291	13.244	-1.222
10,777.00	71.86	179.93	10,565.49	-463.73	-349.86	461.21	8.396	8.289	-1.422
10,821.00	75.61	177.63	10,577.81	-505.95	-348.95	503.44	9.890	8.523	-5.227
10,866.00	81.27	176.59	10,586.82	-549.96	-346.73	547.46	12.780	12.578	-2.311
10,911.00	87.35	177.92	10,591.28	-594.66	-344.59	592.18	13.827	13.511	2.956
10,956.00	90.29	180.10	10,592.21	-639.64	-343.81	637.16	8.133	6.533	4.844
11,045.00	89.93	179.93	10,592.04	-728.64	-343.83	726.16	0.447	-0.404	-0.191
11,135.00	88.92	179.89	10,592.94	-818.63	-343.69	816.15	1.123	-1.122	-0.044
11,224.00	88.39	180.15	10,595.03	-907.61	-343.72	905.13	0.663	-0.596	0.292
11,314.00	89.06	179.69	10,597.04	-997.59	-343.60	995.10	0.903	0.744	-0.511
11,404.00	88.08	179.60	10,599.28	-1,087.55	-343.04	1,085.07	1.093	-1.089	-0.100



Survey Report

Company:	XTO Energy Inc.	Local Co-ordinate Reference:	Site SEVERUS 31-5 FED COM 12H
Project:	Lea Co., NM (NAD 27 NME)	TVD Reference:	Well @ 3713.00usft (Precision 595)
Site:	SEVERUS 31-5 FED COM 12H	MD Reference:	Well @ 3713.00usft (Precision 595)
Well:	SEVERUS 12H	North Reference:	Grid
Wellbore:	Drilling	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDMRESTORED

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,493.00	89.82	180.32	10,600.91	-1,176.54	-342.98	1,174.05	2.116	1.955	0.809
11,583.00	89.40	179.62	10,601.52	-1,266.53	-342.93	1,264.05	0.907	-0.467	-0.778
11,672.00	88.95	179.96	10,602.81	-1,355.52	-342.61	1,353.04	0.634	-0.506	0.382
11,761.00	88.45	179.89	10,604.83	-1,444.50	-342.49	1,442.01	0.567	-0.562	-0.079
11,851.00	90.60	179.07	10,605.57	-1,534.49	-341.67	1,532.00	2.557	2.389	-0.911
11,940.00	90.27	178.70	10,604.90	-1,623.47	-339.94	1,620.99	0.557	-0.371	-0.416
12,030.00	89.82	178.93	10,604.82	-1,713.45	-338.08	1,710.98	0.562	-0.500	0.256
12,119.00	89.29	178.46	10,605.52	-1,802.42	-336.05	1,799.97	0.796	-0.596	-0.528
12,209.00	88.56	178.60	10,607.20	-1,892.37	-333.74	1,889.94	0.826	-0.811	0.156
12,298.00	90.80	180.26	10,607.70	-1,981.36	-332.86	1,978.93	3.133	2.517	1.865
12,388.00	90.97	180.36	10,606.31	-2,071.35	-333.35	2,068.91	0.219	0.189	0.111
12,477.00	90.32	180.17	10,605.31	-2,160.34	-333.76	2,157.90	0.761	-0.730	-0.213
12,567.00	89.79	180.04	10,605.22	-2,250.34	-333.92	2,247.89	0.606	-0.589	-0.144
12,656.00	89.62	180.14	10,605.68	-2,339.34	-334.06	2,336.89	0.222	-0.191	0.112
12,745.00	89.57	179.89	10,606.31	-2,428.34	-334.09	2,425.88	0.286	-0.056	-0.281
12,835.00	88.78	179.35	10,607.61	-2,518.32	-333.49	2,515.87	1.063	-0.878	-0.600
12,925.00	88.05	178.78	10,610.10	-2,608.28	-332.02	2,605.83	1.029	-0.811	-0.633
13,014.00	87.27	178.10	10,613.73	-2,697.17	-329.60	2,694.74	1.162	-0.876	-0.764
13,137.00	87.44	178.24	10,619.41	-2,819.98	-325.68	2,817.57	0.179	0.138	0.114
13,227.00	89.20	178.84	10,622.04	-2,909.90	-323.38	2,907.51	2.066	1.956	0.667
13,316.00	89.01	179.29	10,623.43	-2,998.88	-321.93	2,996.50	0.549	-0.213	0.506
13,406.00	89.76	180.39	10,624.40	-3,088.87	-321.68	3,086.49	1.479	0.833	1.222
13,495.00	89.31	179.87	10,625.12	-3,177.87	-321.88	3,175.48	0.773	-0.506	-0.584
13,585.00	88.22	180.69	10,627.06	-3,267.84	-322.32	3,265.45	1.515	-1.211	0.911
13,675.00	90.10	179.93	10,628.38	-3,357.83	-322.81	3,355.43	2.253	2.089	-0.844
13,764.00	90.29	179.25	10,628.08	-3,446.83	-322.17	3,444.43	0.793	0.213	-0.764
13,854.00	90.21	179.22	10,627.69	-3,536.82	-320.97	3,534.43	0.095	-0.089	-0.033
13,944.00	89.76	178.74	10,627.71	-3,626.80	-319.37	3,624.42	0.731	-0.500	-0.533
14,033.00	90.15	178.60	10,627.78	-3,715.78	-317.30	3,713.41	0.466	0.438	-0.157
14,123.00	90.71	180.01	10,627.10	-3,805.77	-316.21	3,803.41	1.686	0.622	1.567
14,213.00	90.04	180.41	10,626.52	-3,895.76	-316.54	3,893.40	0.867	-0.744	0.444
14,302.00	90.77	180.22	10,625.89	-3,984.76	-317.03	3,982.39	0.848	0.820	-0.213
14,392.00	88.64	180.70	10,626.35	-4,074.75	-317.75	4,072.37	2.426	-2.367	0.533
14,481.00	88.25	180.71	10,628.76	-4,163.71	-318.85	4,161.32	0.438	-0.438	0.011
14,571.00	88.00	180.47	10,631.71	-4,253.66	-319.77	4,251.26	0.385	-0.278	-0.267
14,660.00	87.44	179.95	10,635.25	-4,342.58	-320.10	4,340.18	0.858	-0.629	-0.584
14,750.00	88.64	180.34	10,638.33	-4,432.53	-320.33	4,430.12	1.402	1.333	0.433
14,839.00	89.09	179.87	10,640.09	-4,521.51	-320.49	4,519.10	0.731	0.506	-0.528
14,929.00	88.87	179.37	10,641.69	-4,611.50	-319.89	4,609.09	0.607	-0.244	-0.556
15,018.00	88.45	178.81	10,643.77	-4,700.46	-318.48	4,698.06	0.786	-0.472	-0.629
15,108.00	89.26	180.04	10,645.57	-4,790.43	-317.58	4,788.04	1.636	0.900	1.367
15,198.00	89.23	180.10	10,646.76	-4,880.43	-317.69	4,878.03	0.075	-0.033	0.067
15,287.00	88.61	179.45	10,648.44	-4,969.41	-317.34	4,967.01	1.009	-0.697	-0.730



Survey Report

Company:	XTO Energy Inc.	Local Co-ordinate Reference:	Site SEVERUS 31-5 FED COM 12H
Project:	Lea Co., NM (NAD 27 NME)	TVD Reference:	Well @ 3713.00usft (Precision 595)
Site:	SEVERUS 31-5 FED COM 12H	MD Reference:	Well @ 3713.00usft (Precision 595)
Well:	SEVERUS 12H	North Reference:	Grid
Wellbore:	Drilling	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDMRESTORED

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,377.00	88.50	179.38	10,650.71	-5,059.38	-316.42	5,056.98	0.145	-0.122	-0.078
15,466.00	87.77	179.05	10,653.60	-5,148.32	-315.20	5,145.93	0.900	-0.820	-0.371
15,556.00	87.30	178.39	10,657.47	-5,238.21	-313.19	5,235.84	0.900	-0.522	-0.733
15,646.00	87.02	177.98	10,661.93	-5,328.06	-310.35	5,325.70	0.551	-0.311	-0.456
15,707.00	87.10	177.75	10,665.06	-5,388.93	-308.08	5,386.59	0.399	0.131	-0.377
Last Aim Svy									
15,761.00	87.10	177.75	10,667.79	-5,442.82	-305.96	5,440.50	0.000	0.000	0.000
Projection to BHL									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
176.00	175.99	-0.51	-1.25	First Aim Svy
15,707.00	10,665.06	-5,388.93	-308.08	Last Aim Svy
15,761.00	10,667.79	-5,442.82	-305.96	Projection to BHL

Checked By: _____	Approved By: _____	Date: _____
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