



I Joseph Proske, certify that I am employed by Scout Downhole Inc. (SDI). That I did on the day(s) of 06/11/19 thru 07/15/19 conduct or supervise the taking of a MWD Survey from a depth of 953' to a depth of 22296'; that the data is true, correct, complete and within the limitations of the tool as set forth by Scout Downhole Inc. (SDI).; that I am authorized and qualified to make this report; that this survey was conducted at the request of XTO Energy LLC for the Poker Lake Unit 15 Twin Wells Ranch 905H API No. 30-015-45061 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 Scout Downhole Inc. (SDI).

Joseph Proske

Joseph
Proske

Digitally signed by:
Joseph Proske
DN: CN = Joseph
Proske email =
jproske@scoutdrilltech.
com C = US O = Scout
Downhole OU = SDI
Date: 2020.03.20 09:57:
27 -05'00'

1125 Beach Airport Rd, Conroe, Texas
77301
PH 936-756-3255 FAX 936-756-3229



XTO Energy

Eddy County, NM

PLU 15 Twin Wells Ranch

PLU 15 Twin Wells Ranch 905H

Wellbore #1

Survey: Scout MWD

Standard Survey Report

13 August, 2019



Survey Report

Company: XTO Energy	Local Co-ordinate Reference: Well PLU 15 Twin Wells Ranch 905H
Project: Eddy County, NM	TVD Reference: GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Site: PLU 15 Twin Wells Ranch	MD Reference: GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Well: PLU 15 Twin Wells Ranch 905H	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Surveys	Database: EDM 5000.14 Single User Db

Project Eddy County, NM		
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 PLU 15 Twin Wells Ranch		
Site Position:	Northing: 440,939.70 usft	Latitude: 32° 12' 39.506 N
From: Map	Easting: 676,390.50 usft	Longitude: 103° 45' 46.859 W
Position Uncertainty: 0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.30 °

Well PLU 15 Twin Wells Ranch 905H		
Well Position +N/-S 0.00 usft	Northing: 440,905.10 usft	Latitude: 32° 12' 39.203 N
+E/-W 0.00 usft	Easting: 675,631.00 usft	Longitude: 103° 45' 55.701 W
Position Uncertainty 0.00 usft	Wellhead Elevation: usft	Ground Level: 3,552.00 usft

Wellbore Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	02/22/19	6.77	59.90	47,927.50000000

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)	Direction (°)
	0.00	0.00	0.00	179.64

Survey Program		Date 08/12/19		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
94.00	837.00	Teledrift (Wellbore #1)	MWD	MWD - Standard
953.00	22,353.00	Scout MWD (Wellbore #1)	A008Mb_MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
834.00	0.50	342.36	833.97	3.77	-1.60	-3.78	0.00	0.00	0.00	
953.00	1.01	331.14	952.96	5.19	-2.26	-5.20	0.44	0.43	-9.43	
First Scout MWD Survey @ 953.00' MD										
1,048.00	0.97	340.46	1,047.95	6.68	-2.94	-6.70	0.17	-0.04	9.81	
1,142.00	1.10	338.79	1,141.93	8.27	-3.53	-8.29	0.14	0.14	-1.78	
1,236.00	1.10	340.98	1,235.92	9.96	-4.15	-9.99	0.04	0.00	2.33	
1,330.00	1.23	341.77	1,329.90	11.77	-4.76	-11.80	0.14	0.14	0.84	
1,425.00	0.75	349.95	1,424.88	13.36	-5.19	-13.39	0.53	-0.51	8.61	
1,519.00	0.26	90.23	1,518.88	13.96	-5.08	-13.99	0.89	-0.52	106.68	
1,613.00	0.92	60.09	1,612.87	14.34	-4.21	-14.36	0.75	0.70	-32.06	



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Site:	PLU 15 Twin Wells Ranch	MD Reference:	GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Well:	PLU 15 Twin Wells Ranch 905H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,708.00	1.41	59.38	1,707.85	15.31	-2.55	-15.33	0.52	0.52	-0.75	
1,802.00	1.36	100.25	1,801.83	15.70	-0.45	-15.70	1.03	-0.05	43.48	
1,896.00	1.71	121.78	1,895.80	14.76	1.84	-14.75	0.71	0.37	22.90	
1,991.00	1.67	117.57	1,990.75	13.38	4.27	-13.35	0.14	-0.04	-4.43	
2,085.00	2.33	134.79	2,084.70	11.40	6.84	-11.35	0.94	0.70	18.32	
2,179.00	3.12	148.24	2,178.59	7.88	9.54	-7.82	1.08	0.84	14.31	
2,274.00	2.46	167.31	2,273.48	3.69	11.35	-3.62	1.19	-0.69	20.07	
2,368.00	2.37	188.67	2,367.40	-0.20	11.50	0.27	0.96	-0.10	22.72	
2,462.00	2.15	197.81	2,461.33	-3.80	10.67	3.87	0.45	-0.23	9.72	
2,556.00	1.80	225.32	2,555.27	-6.52	9.08	6.57	1.06	-0.37	29.27	
2,650.00	2.15	231.12	2,649.22	-8.66	6.66	8.70	0.43	0.37	6.17	
2,744.00	2.51	247.38	2,743.14	-10.56	3.38	10.58	0.80	0.38	17.30	
2,839.00	2.73	263.90	2,838.04	-11.60	-0.79	11.60	0.82	0.23	17.39	
2,933.00	3.16	287.63	2,931.92	-11.05	-5.48	11.02	1.36	0.46	25.24	
3,028.00	2.37	291.85	3,026.81	-9.53	-9.80	9.47	0.86	-0.83	4.44	
3,122.00	1.01	311.63	3,120.77	-8.26	-12.22	8.18	1.55	-1.45	21.04	
3,217.00	0.92	46.73	3,215.76	-7.18	-12.29	7.10	1.50	-0.09	100.11	
3,311.00	1.05	53.41	3,309.74	-6.15	-11.05	6.08	0.18	0.14	7.11	
3,406.00	1.19	57.01	3,404.73	-5.09	-9.53	5.03	0.16	0.15	3.79	
3,500.00	1.19	55.34	3,498.71	-4.00	-7.90	3.96	0.04	0.00	-1.78	
3,595.00	1.19	57.98	3,593.68	-2.92	-6.26	2.88	0.06	0.00	2.78	
3,689.00	1.36	65.80	3,687.66	-1.95	-4.41	1.92	0.26	0.18	8.32	
3,783.00	1.54	77.66	3,781.63	-1.22	-2.16	1.21	0.37	0.19	12.62	
3,878.00	1.91	91.46	3,876.59	-0.99	0.67	0.99	0.58	0.39	14.53	
3,972.00	1.89	94.10	3,970.54	-1.14	3.78	1.16	0.10	-0.02	2.81	
4,067.00	2.33	112.20	4,065.47	-1.98	7.13	2.02	0.83	0.46	19.05	
4,161.00	2.64	123.98	4,159.39	-3.91	10.70	3.98	0.63	0.33	12.53	
4,256.00	2.73	130.22	4,254.28	-6.59	14.24	6.68	0.32	0.09	6.57	
4,444.00	2.86	127.94	4,442.06	-12.37	21.36	12.50	0.09	0.07	-1.21	
4,539.00	3.16	103.24	4,536.93	-14.43	25.77	14.59	1.39	0.32	-26.00	
4,633.00	4.53	69.84	4,630.73	-13.74	31.78	13.94	2.73	1.46	-35.53	
4,728.00	5.01	71.69	4,725.40	-11.14	39.24	11.39	0.53	0.51	1.95	
4,823.00	6.11	87.77	4,819.96	-9.64	48.23	9.95	2.00	1.16	16.93	
4,917.00	7.47	95.07	4,913.30	-9.99	59.32	10.36	1.71	1.45	7.77	
5,012.00	6.59	86.63	5,007.58	-10.21	70.91	10.66	1.43	-0.93	-8.88	
5,106.00	6.07	77.93	5,101.01	-8.86	81.16	9.37	1.16	-0.55	-9.26	
5,200.00	6.15	77.14	5,194.48	-6.70	90.93	7.27	0.12	0.09	-0.84	
5,295.00	5.98	81.88	5,288.95	-4.87	100.79	5.50	0.56	-0.18	4.99	
5,389.00	6.55	88.21	5,382.39	-4.01	110.99	4.70	0.95	0.61	6.73	
5,484.00	6.77	86.36	5,476.75	-3.48	122.00	4.25	0.32	0.23	-1.95	
5,578.00	6.90	85.57	5,570.08	-2.69	133.16	3.53	0.17	0.14	-0.84	
5,673.00	6.68	82.85	5,664.41	-1.57	144.33	2.47	0.41	-0.23	-2.86	
5,767.00	6.11	87.51	5,757.83	-0.67	154.75	1.64	0.82	-0.61	4.96	



Survey Report

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Site:	PLU 15 Twin Wells Ranch	MD Reference:	GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Well:	PLU 15 Twin Wells Ranch 905H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,862.00	5.05	95.51	5,852.38	-0.85	163.96	1.88	1.38	-1.12	8.42	
5,956.00	3.82	93.40	5,946.09	-1.43	171.21	2.51	1.32	-1.31	-2.24	
6,050.00	3.47	92.69	6,039.90	-1.75	177.17	2.87	0.38	-0.37	-0.76	
6,144.00	3.43	90.06	6,133.73	-1.89	182.83	3.04	0.17	-0.04	-2.80	
6,239.00	3.47	89.53	6,228.56	-1.87	188.55	3.05	0.05	0.04	-0.56	
6,333.00	3.56	89.00	6,322.38	-1.79	194.31	3.01	0.10	0.10	-0.56	
6,428.00	3.74	88.03	6,417.19	-1.64	200.35	2.89	0.20	0.19	-1.02	
6,523.00	3.69	85.22	6,511.99	-1.27	206.50	2.57	0.20	-0.05	-2.96	
6,618.00	3.60	85.57	6,606.80	-0.79	212.52	2.12	0.10	-0.09	0.37	
6,712.00	3.78	84.69	6,700.60	-0.27	218.54	1.65	0.20	0.19	-0.94	
6,807.00	3.60	83.73	6,795.41	0.34	224.63	1.07	0.20	-0.19	-1.01	
6,901.00	3.47	88.03	6,889.23	0.76	230.40	0.69	0.31	-0.14	4.57	
6,995.00	3.65	92.87	6,983.05	0.71	236.23	0.78	0.37	0.19	5.15	
7,090.00	3.43	94.71	7,077.87	0.32	242.09	1.20	0.26	-0.23	1.94	
7,184.00	2.86	91.20	7,171.72	0.04	247.23	1.51	0.64	-0.61	-3.73	
7,279.00	2.51	82.15	7,266.62	0.28	251.66	1.30	0.58	-0.37	-9.53	
7,374.00	3.34	74.41	7,361.50	1.31	256.39	0.30	0.97	0.87	-8.15	
7,468.00	5.05	75.55	7,455.24	3.07	263.04	-1.42	1.82	1.82	1.21	
7,563.00	6.07	85.31	7,549.80	4.53	272.09	-2.82	1.46	1.07	10.27	
7,657.00	5.63	91.02	7,643.31	4.85	281.65	-3.08	0.78	-0.47	6.07	
7,751.00	5.36	91.90	7,736.87	4.63	290.65	-2.80	0.30	-0.29	0.94	
7,846.00	5.14	93.40	7,831.48	4.23	299.33	-2.35	0.27	-0.23	1.58	
7,940.00	5.05	85.49	7,925.11	4.30	307.66	-2.37	0.75	-0.10	-8.41	
8,035.00	4.97	82.50	8,019.74	5.17	315.91	-3.18	0.29	-0.08	-3.15	
8,129.00	4.66	82.94	8,113.41	6.17	323.74	-4.13	0.33	-0.33	0.47	
8,223.00	4.40	83.01	8,207.12	7.08	331.11	-5.00	0.28	-0.28	0.07	
8,318.00	4.18	83.73	8,301.85	7.90	338.16	-5.77	0.24	-0.23	0.76	
8,412.00	4.22	80.04	8,395.60	8.87	344.98	-6.70	0.29	0.04	-3.93	
8,507.00	4.09	80.65	8,490.35	10.03	351.76	-7.81	0.14	-0.14	0.64	
8,601.00	4.35	84.61	8,584.09	10.90	358.62	-8.65	0.42	0.28	4.21	
8,696.00	3.96	86.01	8,678.84	11.47	365.48	-9.17	0.42	-0.41	1.47	
8,790.00	3.69	79.68	8,772.64	12.24	371.69	-9.90	0.53	-0.29	-6.73	
8,885.00	4.26	78.98	8,867.41	13.46	378.16	-11.09	0.60	0.60	-0.74	
8,980.00	4.26	79.60	8,962.14	14.77	385.10	-12.35	0.05	0.00	0.65	
9,075.00	4.00	80.74	9,056.90	15.94	391.84	-13.48	0.29	-0.27	1.20	
9,169.00	3.47	68.17	9,150.70	17.53	397.71	-15.03	1.03	-0.56	-13.37	
9,264.00	3.34	73.71	9,245.53	19.37	403.04	-16.84	0.37	-0.14	5.83	
9,359.00	3.30	95.33	9,340.38	19.90	408.42	-17.33	1.31	-0.04	22.76	
9,453.00	2.24	104.03	9,434.26	19.20	412.89	-16.60	1.21	-1.13	9.26	
9,548.00	0.88	105.26	9,529.23	18.56	415.40	-15.95	1.43	-1.43	1.29	
9,643.00	0.22	77.49	9,624.22	18.40	416.28	-15.79	0.73	-0.69	-29.23	
9,738.00	0.22	153.95	9,719.22	18.28	416.54	-15.66	0.29	0.00	80.48	
9,833.00	0.57	178.91	9,814.22	17.64	416.63	-15.03	0.40	0.37	26.27	



Survey Report

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,927.00	1.19	177.95	9,908.21	16.20	416.67	-13.58	0.66	0.66	-1.02	
10,024.00	1.71	173.82	10,005.18	13.76	416.86	-11.14	0.55	0.54	-4.26	
10,119.00	0.92	174.43	10,100.15	11.59	417.09	-8.97	0.83	-0.83	0.64	
10,213.00	0.66	171.27	10,194.14	10.30	417.25	-7.68	0.28	-0.28	-3.36	
10,308.00	0.79	152.81	10,289.13	9.18	417.63	-6.55	0.28	0.14	-19.43	
10,402.00	0.31	162.30	10,383.13	8.36	418.00	-5.73	0.52	-0.51	10.10	
10,497.00	0.09	202.47	10,478.13	8.05	418.05	-5.42	0.26	-0.23	42.28	
10,610.00	0.40	175.93	10,591.13	7.57	418.05	-4.94	0.28	0.27	-23.49	
10,704.00	0.88	167.84	10,685.12	6.54	418.22	-3.91	0.52	0.51	-8.61	
10,799.00	0.88	337.12	10,780.12	6.50	418.09	-3.87	1.84	0.00	178.19	
10,893.00	1.01	317.34	10,874.11	7.77	417.25	-5.15	0.37	0.14	-21.04	
10,988.00	0.79	266.45	10,969.10	8.35	416.03	-5.73	0.84	-0.23	-53.57	
11,082.00	0.92	234.81	11,063.09	7.87	414.76	-5.26	0.51	0.14	-33.66	
11,177.00	0.22	133.03	11,158.08	7.31	414.27	-4.70	1.04	-0.74	-107.14	
11,240.00	0.44	84.96	11,221.08	7.24	414.60	-4.64	0.53	0.35	-76.30	
11,289.00	0.24	126.40	11,270.08	7.20	414.87	-4.59	0.62	-0.41	84.57	
11,336.00	7.76	175.40	11,316.93	3.97	415.21	-1.37	16.18	16.00	104.26	
11,383.00	15.80	175.97	11,362.91	-5.59	415.91	8.20	17.11	17.11	1.21	
11,431.00	18.20	182.45	11,408.81	-19.60	416.05	22.21	6.36	5.00	13.50	
11,478.00	17.71	182.65	11,453.52	-34.07	415.41	36.68	1.05	-1.04	0.43	
11,525.00	20.20	184.73	11,497.97	-49.30	414.41	51.91	5.49	5.30	4.43	
11,572.00	23.97	185.64	11,541.51	-66.90	412.80	69.49	8.05	8.02	1.94	
11,620.00	29.17	181.61	11,584.43	-88.31	411.51	90.89	11.46	10.83	-8.40	
11,667.00	34.92	178.64	11,624.26	-113.23	411.51	115.81	12.68	12.23	-6.32	
11,714.00	40.26	175.52	11,661.49	-141.84	413.02	144.43	12.06	11.36	-6.64	
11,761.00	43.31	177.25	11,696.53	-173.09	414.98	175.70	6.94	6.49	3.68	
11,809.00	42.84	178.84	11,731.59	-205.85	416.10	208.46	2.47	-0.98	3.31	
11,856.00	45.98	179.65	11,765.16	-238.74	416.52	241.35	6.79	6.68	1.72	
11,903.00	52.34	177.29	11,795.89	-274.26	417.51	276.87	14.05	13.53	-5.02	
11,950.00	57.42	175.13	11,822.92	-312.60	420.07	315.23	11.44	10.81	-4.60	
11,997.00	59.09	175.52	11,847.65	-352.43	423.33	355.08	3.62	3.55	0.83	
12,044.00	63.46	177.26	11,870.23	-393.55	425.91	396.22	9.85	9.30	3.70	
12,092.00	71.80	179.88	11,888.49	-437.89	426.98	440.56	18.09	17.38	5.46	
12,139.00	80.46	179.90	11,899.74	-483.47	427.07	486.15	18.43	18.43	0.04	
12,186.00	86.62	178.26	11,905.03	-530.14	427.82	532.82	13.56	13.11	-3.49	
12,233.00	89.94	177.24	11,906.44	-577.08	429.67	579.77	7.39	7.06	-2.17	
12,327.00	90.59	178.44	11,906.00	-671.01	433.21	673.72	1.45	0.69	1.28	
12,422.00	92.30	177.27	11,903.61	-765.91	436.77	768.64	2.18	1.80	-1.23	
12,516.00	93.10	175.80	11,899.18	-859.63	442.44	862.39	1.78	0.85	-1.56	
12,611.00	93.39	176.15	11,893.80	-954.24	449.10	957.04	0.48	0.31	0.37	
12,705.00	92.91	180.31	11,888.63	-1,048.03	452.00	1,050.85	4.45	-0.51	4.43	
12,800.00	89.90	177.97	11,886.30	-1,142.98	453.42	1,145.80	4.01	-3.17	-2.46	
12,894.00	88.59	178.66	11,887.54	-1,236.92	456.19	1,239.77	1.58	-1.39	0.73	
12,988.00	89.63	182.14	11,889.00	-1,330.89	455.53	1,333.73	3.86	1.11	3.70	



Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well PLU 15 Twin Wells Ranch 905H
Project:	Eddy County, NM	TVD Reference:	GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Site:	PLU 15 Twin Wells Ranch	MD Reference:	GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Well:	PLU 15 Twin Wells Ranch 905H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,082.00	90.20	184.09	11,889.14	-1,424.75	450.42	1,427.55	2.16	0.61	2.07	
13,177.00	91.11	185.23	11,888.06	-1,519.43	442.70	1,522.18	1.54	0.96	1.20	
13,270.00	90.09	181.41	11,887.08	-1,612.25	437.32	1,614.96	4.25	-1.10	-4.11	
13,364.00	91.63	181.79	11,885.67	-1,706.20	434.70	1,708.90	1.69	1.64	0.40	
13,459.00	90.26	180.98	11,884.11	-1,801.15	432.40	1,803.84	1.68	-1.44	-0.85	
13,554.00	91.46	181.34	11,882.68	-1,896.12	430.48	1,898.79	1.32	1.26	0.38	
13,648.00	90.25	179.57	11,881.28	-1,990.10	429.73	1,992.76	2.28	-1.29	-1.88	
13,742.00	89.91	179.79	11,881.15	-2,084.10	430.26	2,086.76	0.43	-0.36	0.23	
13,836.00	89.92	180.45	11,881.29	-2,178.10	430.06	2,180.76	0.70	0.01	0.70	
13,930.00	89.53	180.55	11,881.74	-2,272.10	429.24	2,274.75	0.43	-0.41	0.11	
14,025.00	88.73	179.50	11,883.18	-2,367.08	429.20	2,369.73	1.39	-0.84	-1.11	
14,119.00	91.14	178.95	11,883.29	-2,461.07	430.47	2,463.72	2.63	2.56	-0.59	
14,214.00	91.02	178.48	11,881.49	-2,556.03	432.60	2,558.69	0.51	-0.13	-0.49	
14,307.00	90.74	178.89	11,880.07	-2,648.99	434.73	2,651.67	0.53	-0.30	0.44	
14,401.00	90.73	178.67	11,878.86	-2,742.96	436.73	2,745.65	0.23	-0.01	-0.23	
14,496.00	91.69	178.77	11,876.85	-2,837.92	438.86	2,840.62	1.02	1.01	0.11	
14,590.00	90.35	180.05	11,875.18	-2,931.89	439.82	2,934.60	1.97	-1.43	1.36	
14,684.00	88.68	179.72	11,875.98	-3,025.88	440.01	3,028.59	1.81	-1.78	-0.35	
14,779.00	88.50	179.19	11,878.31	-3,120.85	440.92	3,123.56	0.59	-0.19	-0.56	
14,811.00	88.80	179.52	11,879.07	-3,152.84	441.28	3,155.55	1.39	0.94	1.03	
14,905.00	89.38	179.86	11,880.56	-3,246.83	441.78	3,249.54	0.72	0.62	0.36	
14,999.00	89.14	179.90	11,881.78	-3,340.82	441.98	3,343.53	0.26	-0.26	0.04	
15,094.00	91.56	179.43	11,881.20	-3,435.81	442.54	3,438.52	2.59	2.55	-0.49	
15,188.00	90.53	180.14	11,879.48	-3,529.79	442.89	3,532.50	1.33	-1.10	0.76	
15,283.00	90.59	179.22	11,878.55	-3,624.78	443.42	3,627.50	0.97	0.06	-0.97	
15,377.00	89.57	180.73	11,878.42	-3,718.78	443.46	3,721.49	1.94	-1.09	1.61	
15,471.00	89.64	180.87	11,879.07	-3,812.77	442.15	3,815.47	0.17	0.07	0.15	
15,566.00	89.35	180.55	11,879.91	-3,907.76	440.97	3,910.45	0.45	-0.31	-0.34	
15,660.00	89.40	180.14	11,880.93	-4,001.75	440.40	4,004.44	0.44	0.05	-0.44	
15,755.00	90.68	179.42	11,880.87	-4,096.74	440.77	4,099.43	1.55	1.35	-0.76	
15,849.00	91.17	179.45	11,879.35	-4,190.73	441.70	4,193.42	0.52	0.52	0.03	
15,943.00	89.91	179.38	11,878.46	-4,284.72	442.66	4,287.41	1.34	-1.34	-0.07	
16,038.00	89.82	178.81	11,878.69	-4,379.70	444.16	4,382.41	0.61	-0.09	-0.60	
16,132.00	90.00	178.32	11,878.83	-4,473.67	446.51	4,476.39	0.56	0.19	-0.52	
16,227.00	93.28	179.88	11,876.11	-4,568.61	448.00	4,571.33	3.82	3.45	1.64	
16,321.00	93.11	179.71	11,870.88	-4,662.46	448.34	4,665.19	0.26	-0.18	-0.18	
16,415.00	91.02	178.58	11,867.49	-4,756.38	449.74	4,759.11	2.53	-2.22	-1.20	
16,510.00	91.26	179.69	11,865.60	-4,851.35	451.17	4,854.09	1.20	0.25	1.17	
16,604.00	91.33	180.09	11,863.47	-4,945.33	451.36	4,948.07	0.43	0.07	0.43	
16,698.00	91.15	179.48	11,861.44	-5,039.30	451.71	5,042.04	0.68	-0.19	-0.65	
16,792.00	89.61	179.35	11,860.82	-5,133.29	452.67	5,136.04	1.64	-1.64	-0.14	
16,887.00	89.58	179.02	11,861.49	-5,228.28	454.02	5,231.03	0.35	-0.03	-0.35	
16,981.00	89.34	178.63	11,862.37	-5,322.26	455.95	5,325.02	0.49	-0.26	-0.41	



Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well PLU 15 Twin Wells Ranch 905H
Project:	Eddy County, NM	TVD Reference:	GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Site:	PLU 15 Twin Wells Ranch	MD Reference:	GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Well:	PLU 15 Twin Wells Ranch 905H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
17,076.00	88.50	178.76	11,864.16	-5,417.22	458.11	5,419.99	0.89	-0.88	0.14	
17,170.00	88.42	178.65	11,866.69	-5,511.16	460.23	5,513.94	0.14	-0.09	-0.12	
17,264.00	88.15	178.47	11,869.50	-5,605.09	462.59	5,607.88	0.35	-0.29	-0.19	
17,359.00	90.18	178.24	11,870.89	-5,700.03	465.32	5,702.84	2.15	2.14	-0.24	
17,453.00	89.81	178.62	11,870.90	-5,794.00	467.90	5,796.82	0.56	-0.39	0.40	
17,547.00	89.99	178.23	11,871.06	-5,887.96	470.48	5,890.80	0.46	0.19	-0.41	
17,642.00	90.35	178.99	11,870.78	-5,982.93	472.78	5,985.78	0.89	0.38	0.80	
17,736.00	89.94	178.50	11,870.54	-6,076.91	474.84	6,079.77	0.68	-0.44	-0.52	
17,831.00	92.56	181.01	11,868.47	-6,171.87	475.25	6,174.73	3.82	2.76	2.64	
17,925.00	92.05	181.49	11,864.69	-6,265.77	473.20	6,268.62	0.74	-0.54	0.51	
18,020.00	92.91	180.96	11,860.58	-6,360.66	471.17	6,363.49	1.06	0.91	-0.56	
18,114.00	90.06	180.62	11,858.14	-6,454.61	469.88	6,457.43	3.05	-3.03	-0.36	
18,209.00	90.32	181.25	11,857.83	-6,549.59	468.33	6,552.41	0.72	0.27	0.66	
18,303.00	90.12	179.54	11,857.47	-6,643.59	467.68	6,646.39	1.83	-0.21	-1.82	
18,398.00	87.57	178.74	11,859.38	-6,738.55	469.10	6,741.36	2.81	-2.68	-0.84	
18,492.00	86.90	178.74	11,863.91	-6,832.42	471.17	6,835.24	0.71	-0.71	0.00	
18,587.00	86.37	177.71	11,869.49	-6,927.20	474.11	6,930.05	1.22	-0.56	-1.08	
18,681.00	86.30	178.57	11,875.50	-7,020.96	477.15	7,023.82	0.92	-0.07	0.91	
18,775.00	88.89	178.81	11,879.44	-7,114.85	479.30	7,117.72	2.77	2.76	0.26	
18,870.00	90.23	180.03	11,880.17	-7,209.83	480.26	7,212.71	1.91	1.41	1.28	
18,964.00	90.30	177.39	11,879.74	-7,303.80	482.37	7,306.69	2.81	0.07	-2.81	
19,058.00	90.69	179.88	11,878.93	-7,397.76	484.61	7,400.66	2.68	0.41	2.65	
19,154.00	91.61	180.52	11,877.00	-7,493.74	484.28	7,496.64	1.17	0.96	0.67	
19,248.00	90.97	180.47	11,874.88	-7,587.71	483.47	7,590.60	0.68	-0.68	-0.05	
19,343.00	88.85	179.29	11,875.03	-7,682.71	483.67	7,685.59	2.55	-2.23	-1.24	
19,437.00	89.02	179.76	11,876.78	-7,776.69	484.44	7,779.58	0.53	0.18	0.50	
19,532.00	88.33	179.68	11,878.98	-7,871.66	484.91	7,874.55	0.73	-0.73	-0.08	
19,627.00	91.41	179.81	11,879.19	-7,966.65	485.33	7,969.54	3.24	3.24	0.14	
19,721.00	92.02	179.91	11,876.38	-8,060.60	485.56	8,063.50	0.66	0.65	0.11	
19,815.00	92.57	179.86	11,872.61	-8,154.53	485.75	8,157.42	0.59	0.59	-0.05	
19,910.00	90.54	180.05	11,870.04	-8,249.49	485.82	8,252.38	2.15	-2.14	0.20	
20,004.00	90.79	179.86	11,868.95	-8,343.48	485.90	8,346.37	0.33	0.27	-0.20	
20,099.00	89.80	179.93	11,868.46	-8,438.48	486.07	8,441.37	1.04	-1.04	0.07	
20,193.00	89.21	180.01	11,869.27	-8,532.48	486.12	8,535.36	0.63	-0.63	0.09	
20,287.00	88.87	179.35	11,870.84	-8,626.46	486.65	8,629.35	0.79	-0.36	-0.70	
20,382.00	88.91	179.68	11,872.68	-8,721.44	487.45	8,724.33	0.35	0.04	0.35	
20,476.00	89.59	178.97	11,873.91	-8,815.42	488.56	8,818.32	1.05	0.72	-0.76	
20,570.00	90.61	180.26	11,873.75	-8,909.42	489.19	8,912.32	1.75	1.09	1.37	
20,665.00	89.08	178.97	11,874.01	-9,004.41	489.83	9,007.31	2.11	-1.61	-1.36	
20,760.00	88.01	177.70	11,876.42	-9,099.34	492.59	9,102.25	1.75	-1.13	-1.34	
20,854.00	87.84	178.00	11,879.82	-9,193.21	496.11	9,196.14	0.37	-0.18	0.32	
20,949.00	89.42	179.66	11,882.09	-9,288.16	498.05	9,291.10	2.41	1.66	1.75	
21,044.00	89.44	178.87	11,883.04	-9,383.14	499.27	9,386.09	0.83	0.02	-0.83	



Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well PLU 15 Twin Wells Ranch 905H
Project:	Eddy County, NM	TVD Reference:	GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Site:	PLU 15 Twin Wells Ranch	MD Reference:	GL 3552' + 27' KB @ 3579.00usft (H&P 467)
Well:	PLU 15 Twin Wells Ranch 905H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.14 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
21,138.00	89.25	178.43	11,884.11	-9,477.11	501.48	9,480.07	0.51	-0.20	-0.47	
21,232.00	89.97	178.79	11,884.75	-9,571.08	503.76	9,574.06	0.86	0.77	0.38	
21,327.00	90.65	178.67	11,884.24	-9,666.05	505.87	9,669.04	0.73	0.72	-0.13	
21,421.00	90.87	178.96	11,882.99	-9,760.03	507.81	9,763.02	0.39	0.23	0.31	
21,516.00	91.20	179.34	11,881.28	-9,855.00	509.22	9,858.00	0.53	0.35	0.40	
21,610.00	88.18	178.36	11,881.79	-9,948.97	511.11	9,951.98	3.38	-3.21	-1.04	
21,705.00	88.04	178.52	11,884.92	-10,043.88	513.69	10,046.91	0.22	-0.15	0.17	
21,800.00	87.48	178.54	11,888.63	-10,138.78	516.13	10,141.82	0.59	-0.59	0.02	
21,894.00	87.76	179.03	11,892.54	-10,232.67	518.12	10,235.73	0.60	0.30	0.52	
21,988.00	87.96	178.95	11,896.05	-10,326.59	519.77	10,329.65	0.23	0.21	-0.09	
22,083.00	86.90	178.13	11,900.31	-10,421.46	522.19	10,424.54	1.41	-1.12	-0.86	
22,177.00	86.67	178.31	11,905.58	-10,515.27	525.11	10,518.36	0.31	-0.24	0.19	
22,272.00	86.51	177.46	11,911.23	-10,610.04	528.61	10,613.15	0.91	-0.17	-0.89	
22,296.00	86.47	177.11	11,912.70	-10,633.97	529.74	10,637.08	1.47	-0.17	-1.46	
Last Scout MWD Survey @ 22296.00' MD										
22,353.00	86.47	177.11	11,916.21	-10,690.78	532.61	10,693.92	0.00	0.00	0.00	
Projection to Bit @ 22353.00' MD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PLU 15 Twin Wells Ranc - hit/miss target - Shape	0.20	0.00	11,874.64	-10,691.20	481.20	430,213.90	676,112.20	32° 10' 53.379 N	103° 45' 50.759 W	
- survey misses target center by 65.94usft at 22348.27usft MD (11915.92 TVD, -10686.07 N, 532.37 E)										
- Rectangle (sides W30.00 H10,034.06 D30.00)										
PLU 15 Twin Wells Ranc - survey misses target center by 56.79usft at 22219.36usft MD (11908.06 TVD, -10557.53 N, 526.49 E)	0.00	0.01	11,875.09	-10,561.20	480.40	430,343.90	676,111.40	32° 10' 54.665 N	103° 45' 50.760 W	
- Point										
PLU 15 Twin Wells Ranc - survey misses target center by 14.35usft at 12312.85usft MD (11906.14 TVD, -656.86 N, 432.80 E)	0.00	0.00	11,909.66	-657.40	418.90	440,247.70	676,049.90	32° 12' 32.676 N	103° 45' 50.866 W	
- Point										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
953.00	952.96	5.19	-2.26	First Scout MWD Survey @ 953.00' MD	
22,296.00	11,912.70	-10,633.97	529.74	Last Scout MWD Survey @ 22296.00' MD	
22,353.00	11,916.21	-10,690.78	532.61	Projection to Bit @ 22353.00' MD	

Checked By: _____ Approved By: _____ Date: _____