



Company: XTO Energy
 Site: Hughes
 Well: 10H
 Project: Marion County, West Virginia (NAD 27)
 Rig: Nomac 78



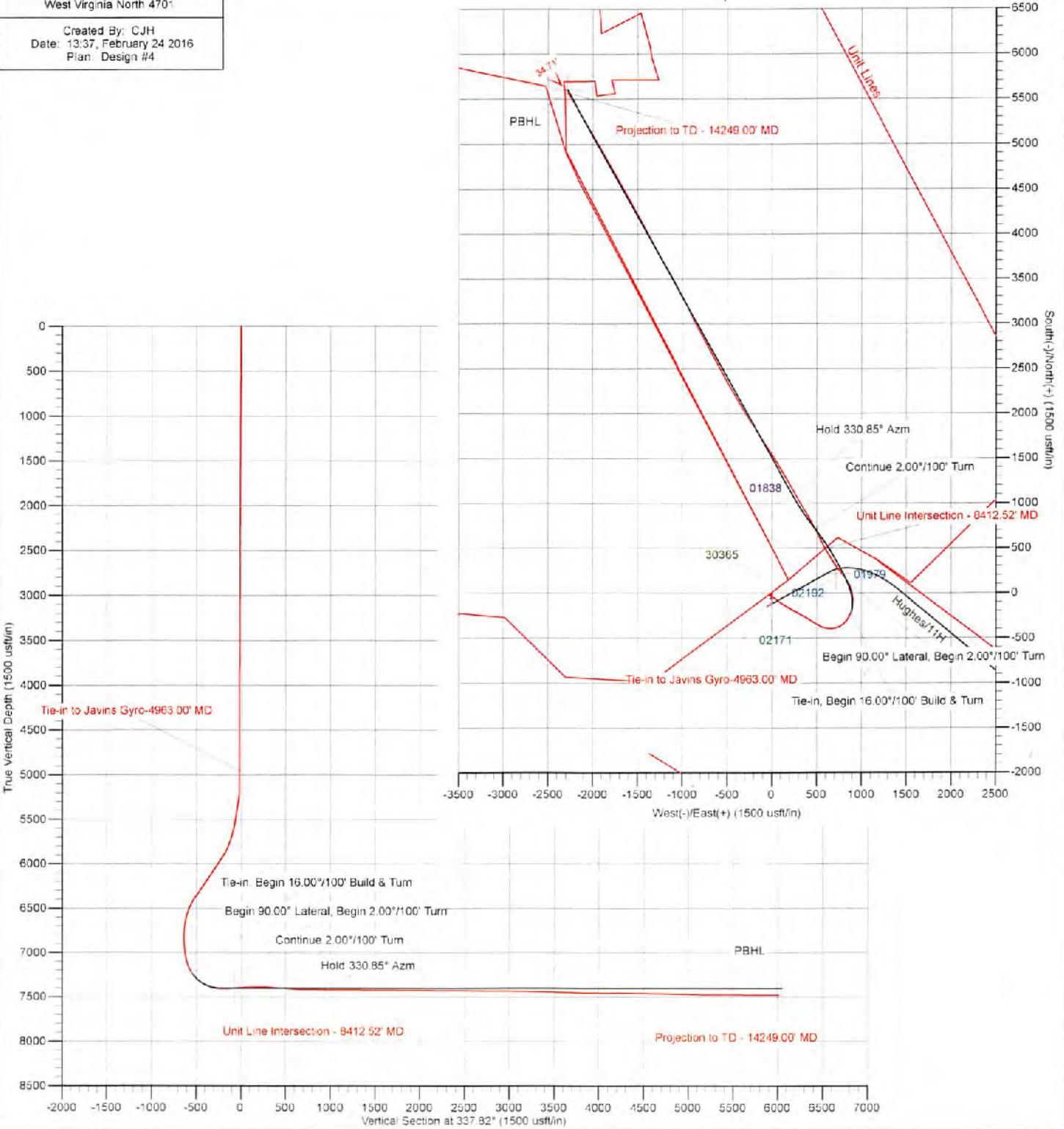
Azimuths to True North
 Magnetic North: -8.85°
 Magnetic Field
 Strength: 52121.7snT
 Dip Angle: 66.76°
 Date: 02/12/2016
 Model: BGGM2015

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
7550.00	40.80	20.60	7238.49	-221.69	863.21	-538.68	0.00	Tie-in, Begin 16.00'/100' Build & Turn
7938.72	90.00	336.15	7402.00	107.98	845.53	-219.18	339.22	Begin 90.00° Lateral, Begin 2.00'/100' Turn
8649.99	90.00	321.94	7402.00	716.39	480.61	481.95	1050.49	Continue 2.00'/100' Turn
9095.98	90.00	330.85	7402.00	1087.45	234.02	918.67	1496.48	Hold 330.85° Azm
14262.98	90.00	330.85	7402.00	5600.05	-2282.81	6047.45	6663.48	PBHL

US State Plane 1927 (Exact solution)
 West Virginia North 4701

Created By: CJH
 Date: 13.37, February 24 2016
 Plan: Design #4



The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by MS Energy are at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this schematic or the information contained herein.

09/15/2017



XTO Energy

Marion County, West Virginia (NAD 27)

Hughes

10H

Wellbore #1

Survey: Javins Gyro

Standard Survey Report

24 February, 2016



09/15/2017



MS Energy Services
Survey Report



Company:	XTO Energy	Local Co-ordinate Reference:	Well 10H
Project:	Marion County, West Virginia (NAD 27)	TVD Reference:	WELL @ 1312.00usft (Nomac 78)
Site:	Hughes	MD Reference:	WELL @ 1312.00usft (Nomac 78)
Well:	10H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.1 Conroe DB

Project	Marion County, West Virginia (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		

Well	10H					
Well Position	+N/-S	0.00 usft	Northing:	348,577.69 usft	Latitude:	39° 27' 13.605 N
	+E/-W	0.00 usft	Easting:	1,754,098.45 usft	Longitude:	80° 22' 15.056 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	1,286.00 usft

Wellbore	Wellbore #1
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	02/12/16	-8.85	66.76	52,122

Design	Surveys
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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	337.82

Survey Program	Date	02/24/16
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From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
13.00	4,983.00	Javins Gyro (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro
5,073.00	14,249.00	MS MWD (Wellbore #1)	MWD	OWSG MWD - Standard

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13.00	0.00	0.00	13.00	0.00	0.00	0.00	0.00	0.00	0.00	
Added to adjust for KB-13.00' MD										
113.00	0.26	57.40	113.00	0.12	0.19	0.04	0.26	0.26	0.00	
213.00	0.34	81.40	213.00	0.29	0.68	0.01	0.15	0.08	24.00	
313.00	1.03	77.70	312.99	0.52	1.85	-0.21	0.69	0.69	-3.70	
413.00	1.00	120.80	412.98	0.27	3.47	-1.06	0.75	-0.03	43.10	
513.00	0.36	136.00	512.97	-0.40	4.44	-2.05	0.66	-0.64	15.20	
613.00	0.33	82.00	612.97	-0.59	4.95	-2.41	0.31	-0.03	-54.00	
713.00	0.54	71.70	712.96	-0.40	5.68	-2.52	0.22	0.21	-10.30	
813.00	0.45	86.40	812.96	-0.23	6.52	-2.67	0.15	-0.09	14.70	
913.00	0.48	150.90	912.96	-0.57	7.11	-3.21	0.50	0.03	64.50	
1,013.00	0.62	157.70	1,012.95	-1.44	7.52	-4.17	0.15	0.14	6.80	
1,113.00	0.61	103.80	1,112.95	-2.06	8.24	-5.02	0.56	-0.01	-53.90	
1,213.00	0.55	88.60	1,212.94	-2.18	9.24	-5.51	0.16	-0.06	-15.20	



MS Energy Services
Survey Report



Company:	XTO Energy	Local Co-ordinate Reference:	Well 10H
Project:	Marion County, West Virginia (NAD 27)	TVD Reference:	WELL @ 1312.00usft (Nomac 78)
Site:	Hughes	MD Reference:	WELL @ 1312.00usft (Nomac 78)
Well:	10H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.1 Conroe DB

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)
1,313.00	0.25	196.30	1,312.94	-2.38	9.66	-5.85	0.67	-0.30	107.70
1,413.00	0.42	192.20	1,412.94	-2.94	9.52	-6.32	0.17	0.17	-4.10
1,513.00	0.54	177.30	1,512.94	-3.77	9.47	-7.07	0.17	0.12	-14.90
1,613.00	0.50	200.40	1,612.93	-4.65	9.34	-7.83	0.21	-0.04	23.10
1,713.00	0.44	150.70	1,712.93	-5.40	9.37	-8.54	0.40	-0.06	-49.70
1,813.00	0.43	121.80	1,812.93	-5.93	9.88	-9.22	0.22	-0.01	-28.90
1,913.00	0.37	308.00	1,912.93	-5.93	9.94	-9.24	0.80	-0.06	-173.80
2,013.00	0.51	170.70	2,012.92	-6.17	9.76	-9.40	0.82	0.14	-137.30
2,113.00	0.49	143.70	2,112.92	-6.95	10.09	-10.25	0.23	-0.02	-27.00
2,213.00	0.37	118.80	2,212.92	-7.45	10.62	-10.91	0.22	-0.12	-24.90
2,313.00	0.44	260.50	2,312.92	-7.67	10.53	-11.08	0.77	0.07	141.70
2,413.00	0.50	249.30	2,412.91	-7.89	9.74	-10.98	0.11	0.06	-11.20
2,513.00	0.66	224.70	2,512.91	-8.45	8.93	-11.20	0.29	0.16	-24.60
2,613.00	0.47	147.90	2,612.91	-9.21	8.74	-11.83	0.72	-0.19	-76.80
2,713.00	0.32	292.50	2,712.90	-9.45	8.70	-12.04	0.75	-0.15	144.60
2,813.00	0.53	253.10	2,812.90	-9.48	8.00	-11.80	0.35	0.21	-39.40
2,913.00	0.16	45.80	2,912.90	-9.52	7.66	-11.70	0.68	-0.37	152.70
3,013.00	0.45	292.10	3,012.90	-9.27	7.39	-11.37	0.53	0.29	-113.70
3,113.00	0.68	234.00	3,112.90	-9.47	6.55	-11.24	0.58	0.23	-58.10
3,213.00	0.42	162.50	3,212.89	-10.17	6.18	-11.75	0.68	-0.26	-71.50
3,313.00	0.43	195.40	3,312.89	-10.88	6.19	-12.41	0.24	0.01	32.90
3,413.00	0.45	167.20	3,412.89	-11.83	6.18	-13.10	0.22	0.02	-28.20
3,513.00	0.24	16.00	3,512.89	-11.81	6.32	-13.32	0.67	-0.21	-151.20
3,613.00	0.48	173.80	3,612.88	-12.02	6.42	-13.56	0.71	0.24	157.80
3,713.00	0.62	239.60	3,712.88	-12.71	6.00	-14.04	0.81	0.14	65.80
3,813.00	0.84	230.70	3,812.87	-13.45	4.97	-14.33	0.25	0.22	-8.90
3,913.00	0.86	185.50	3,912.86	-14.86	4.33	-15.21	0.65	0.02	-45.20
4,013.00	1.10	229.10	4,012.85	-16.04	3.53	-16.18	0.76	0.24	43.60
4,113.00	1.00	248.50	4,112.83	-16.99	1.99	-16.48	0.37	-0.10	19.40
4,213.00	0.65	216.90	4,212.82	-17.76	0.84	-16.76	0.56	-0.35	-31.60
4,313.00	0.92	275.80	4,312.81	-18.13	-0.30	-16.68	0.81	0.27	58.90
4,413.00	1.56	255.20	4,412.79	-18.40	-2.41	-16.13	0.77	0.64	-20.60
4,513.00	1.46	246.20	4,512.76	-19.26	-4.89	-15.99	0.26	-0.10	-9.00
4,613.00	1.21	249.50	4,612.73	-20.14	-7.05	-15.99	0.26	-0.25	3.30
4,713.00	1.38	249.20	4,712.70	-20.94	-9.16	-15.93	0.17	0.17	-0.30
4,813.00	1.15	286.90	4,812.68	-21.08	-11.25	-15.27	0.85	-0.23	37.70
4,913.00	1.57	254.70	4,912.65	-21.15	-13.53	-14.48	0.86	0.42	-32.20
4,963.00	1.15	246.50	4,962.64	-21.53	-14.65	-14.41	0.92	-0.84	-16.40

Final Javins Gyro - 4963.00' MD



Company:	XTO Energy	Local Co-ordinate Reference:	Well 10H
Project:	Marion County, West Virginia (NAD 27)	TVD Reference:	WELL @ 1312.00usft (Nomac 78)
Site:	Hughes	MD Reference:	WELL @ 1312.00usft (Nomac 78)
Well:	10H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.1 Conroe DB

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
13.00	13.00	0.00	0.00	Added to adjust for KB-13.00' MD
4,963.00	4,962.64	-21.53	-14.65	Final Javins Gyro - 4963.00' MD



XTO Energy

Marion County, West Virginia (NAD 27)

Hughes

10H

Wellbore #1

Survey: MS MWD

Standard Survey Report

24 February, 2016



09/15/2017



MS Energy Services
Survey Report



Company:	XTO Energy	Local Co-ordinate Reference:	Well 10H
Project:	Marion County, West Virginia (NAD 27)	TVD Reference:	WELL @ 1312.00usft (Nomac 78)
Site:	Hughes	MD Reference:	WELL @ 1312.00usft (Nomac 78)
Well:	10H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.1 Conroe DB

Project	Marion County, West Virginia (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		

Well	10H				
Well Position	+N/-S	0.00 usft	Northing:	348,577.69 usft	Latitude: 39° 27' 13.605 N
	+E/-W	0.00 usft	Easting:	1,754,098.45 usft	Longitude: 80° 22' 15.056 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 1,286.00 usft

Wellbore	Wellbore #1
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	02/12/16	-8.85	66.76	52,122

Design	Surveys
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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	337.82

Survey Program	Date	02/24/16
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From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
13.00	4,963.00	Javins Gyro (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro
5,073.00	14,249.00	MS MWD (Wellbore #1)	MWD	OWSG MWD - Standard

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)	
4,963.00	1.15	246.50	4,962.64	-21.53	-14.65	-14.41	0.00	0.00	0.00	
Tie-in to Javins Gyro-4963.00' MD										
5,073.00	1.10	242.70	5,072.62	-22.45	-16.60	-14.53	0.08	-0.05	-3.45	
5,168.00	1.30	212.40	5,167.60	-23.78	-17.99	-15.23	0.69	0.21	-31.89	
5,264.00	9.60	145.00	5,263.12	-31.27	-13.97	-23.69	9.56	8.65	-70.21	
5,359.00	11.10	116.40	5,358.63	-41.84	-1.23	-38.28	5.57	1.58	-30.11	
5,454.00	10.70	113.10	5,449.92	-49.36	15.07	-51.40	0.78	-0.42	-3.47	
5,549.00	13.50	121.40	5,542.81	-58.60	32.66	-66.59	3.46	2.95	8.74	
5,644.00	16.00	126.50	5,634.67	-72.17	52.65	-86.70	2.96	2.63	5.37	
5,740.00	20.40	127.60	5,725.85	-90.26	76.55	-112.48	4.60	4.58	1.15	
5,835.00	26.80	123.20	5,812.86	-112.11	107.63	-144.44	6.98	6.74	-4.63	
5,930.00	37.40	121.10	5,893.23	-138.82	150.37	-185.31	11.22	11.16	-2.21	
6,025.00	41.10	120.20	5,966.78	-169.44	202.08	-233.18	3.94	3.89	-0.95	
6,121.00	38.90	118.30	6,040.32	-199.60	255.90	-281.43	2.62	-2.29	-1.98	
6,216.00	40.10	119.70	6,113.62	-228.91	308.75	-328.51	1.57	1.26	1.47	



MS Energy Services
Survey Report



Company:	XTO Energy	Local Co-ordinate Reference:	Well 10H
Project:	Marion County, West Virginia (NAD 27)	TVD Reference:	WELL @ 1312.00usft (Nomac 78)
Site:	Hughes	MD Reference:	WELL @ 1312.00usft (Nomac 78)
Well:	10H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.1 Conroe 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)
6,312.00	41.60	121.70	6,186.24	-260.97	362.72	-378.58	2.07	1.56	2.08
6,407.00	39.70	119.00	6,258.32	-292.26	416.10	-427.70	2.73	-2.00	-2.84
6,503.00	40.60	122.40	6,331.71	-323.87	469.30	-477.05	2.47	0.94	3.54
6,598.00	38.50	120.50	6,404.96	-355.44	520.88	-525.76	2.55	-2.21	-2.00
6,694.00	33.10	110.50	6,482.86	-379.83	571.26	-567.35	8.28	-5.63	-10.42
6,789.00	30.90	98.80	6,563.50	-392.66	619.72	-597.52	6.91	-2.32	-12.32
6,883.00	27.70	86.70	6,645.53	-395.10	665.44	-617.04	7.15	-3.40	-12.87
6,978.00	24.30	79.60	6,730.93	-390.29	706.73	-628.17	4.85	-3.58	-7.47
7,074.00	20.00	68.10	6,819.86	-380.60	741.42	-632.29	6.34	-4.48	-11.98
7,169.00	20.20	58.30	6,909.10	-365.91	770.46	-629.65	3.55	0.21	-10.32
7,265.00	23.40	50.60	6,998.24	-345.09	799.30	-621.26	4.46	3.33	-8.02
7,360.00	28.80	42.20	7,083.56	-316.14	829.28	-605.76	6.88	5.68	-8.84
7,455.00	35.80	29.70	7,163.90	-274.95	858.49	-578.65	10.15	7.37	-13.16
7,550.00	40.80	20.60	7,238.49	-221.69	883.21	-538.65	7.92	5.26	-9.58
7,646.00	50.00	8.60	7,305.94	-155.71	899.81	-483.82	13.05	9.58	-12.50
7,740.00	64.40	2.40	7,356.77	-77.29	907.01	-413.92	16.26	15.32	-6.60
7,836.00	73.10	347.90	7,391.69	11.44	899.15	-328.78	16.72	9.06	-15.10
LP for 11H Plan									
7,932.00	83.00	331.00	7,411.68	98.84	866.11	-235.38	20.05	10.31	-17.60
8,027.00	97.80	322.10	7,411.02	177.81	813.95	-142.56	18.17	15.58	-9.37
8,072.00	98.50	321.40	7,404.64	212.79	786.37	-99.76	2.19	1.56	-1.56
8,168.00	93.50	324.10	7,394.60	288.77	728.62	-7.61	5.91	-5.21	2.81
8,263.00	91.80	327.10	7,390.21	367.06	675.01	85.13	3.63	-1.79	3.16
8,358.00	90.50	329.70	7,388.30	447.95	625.25	178.82	3.06	-1.37	2.74
8,412.52	89.52	331.48	7,388.29	495.44	598.48	232.90	3.72	-1.79	3.26
Unit Line Intersection - 8412.52' MD									
8,453.00	88.80	332.80	7,388.88	531.22	579.56	273.17	3.72	-1.79	3.26
8,549.00	85.10	332.70	7,393.99	616.43	535.68	368.65	3.86	-3.85	-0.10
8,645.00	85.10	333.20	7,402.19	701.62	492.18	463.95	0.52	0.00	0.52
8,739.00	84.80	331.20	7,410.47	784.44	448.51	557.13	2.14	-0.32	-2.13
8,835.00	87.90	329.40	7,416.58	867.64	401.05	652.09	3.73	3.23	-1.88
8,930.00	89.70	329.70	7,418.57	949.52	352.92	746.08	1.92	1.89	0.32
9,025.00	89.80	329.80	7,418.98	1,031.58	305.06	840.14	0.15	0.11	0.11
9,120.00	90.50	330.60	7,418.73	1,114.02	257.85	934.30	1.12	0.74	0.84
9,215.00	89.90	330.40	7,418.40	1,196.70	211.07	1,028.52	0.67	-0.63	-0.21
9,311.00	89.80	330.10	7,418.65	1,280.05	163.43	1,123.68	0.33	-0.10	-0.31
9,406.00	89.50	329.30	7,419.23	1,362.07	115.50	1,217.72	0.90	-0.32	-0.84
9,502.00	89.10	327.70	7,420.41	1,443.91	65.35	1,312.45	1.72	-0.42	-1.67
9,597.00	89.90	327.70	7,421.24	1,524.21	14.59	1,405.96	0.84	0.84	0.00
9,692.00	89.10	327.00	7,422.06	1,604.19	-36.66	1,499.37	1.12	-0.84	-0.74
9,787.00	89.50	326.50	7,423.22	1,683.63	-88.75	1,592.60	0.67	0.42	-0.53
9,883.00	89.50	327.80	7,424.06	1,764.28	-140.82	1,686.93	1.35	0.00	1.35
9,978.00	90.40	328.60	7,424.15	1,845.02	-190.88	1,780.59	1.27	0.95	0.84



MS Energy Services
Survey Report



Company:	XTO Energy	Local Co-ordinate Reference:	Well 10H
Project:	Marion County, West Virginia (NAD 27)	TVD Reference:	WELL @ 1312.00usft (Nomac 78)
Site:	Hughes	MD Reference:	WELL @ 1312.00usft (Nomac 78)
Well:	10H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.1 Conroe DB

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)
10,074.00	89.80	328.60	7,423.98	1,926.96	-240.90	1,875.35	0.63	-0.63	0.00
10,169.00	89.10	326.70	7,424.89	2,007.21	-291.72	1,968.85	2.13	-0.74	-2.00
10,264.00	89.10	328.60	7,426.38	2,087.45	-342.55	2,062.34	2.00	0.00	2.00
10,360.00	90.40	330.80	7,426.80	2,170.33	-390.98	2,157.36	2.66	1.35	2.29
10,455.00	90.50	330.60	7,426.06	2,253.17	-437.47	2,251.63	0.24	0.11	-0.21
10,550.00	89.90	330.40	7,425.72	2,335.85	-484.25	2,345.85	0.67	-0.63	-0.21
10,646.00	88.60	330.80	7,426.98	2,419.48	-531.37	2,441.08	1.42	-1.35	0.42
10,742.00	88.40	331.20	7,429.49	2,503.41	-577.90	2,536.37	0.47	-0.21	0.42
10,837.00	88.40	331.70	7,432.15	2,586.83	-623.28	2,630.74	0.53	0.00	0.53
10,933.00	89.40	331.60	7,433.99	2,671.30	-668.86	2,726.17	1.05	1.04	-0.10
11,028.00	89.20	331.60	7,435.15	2,754.86	-714.04	2,820.60	0.21	-0.21	0.00
11,123.00	90.00	332.30	7,435.81	2,838.70	-758.71	2,915.10	1.12	0.84	0.74
11,218.00	89.90	332.10	7,435.90	2,922.73	-803.02	3,009.64	0.24	-0.11	-0.21
11,312.00	89.60	332.30	7,436.31	3,005.88	-846.86	3,103.19	0.38	-0.32	0.21
11,407.00	89.50	334.00	7,437.05	3,090.63	-889.76	3,197.86	1.79	-0.11	1.79
11,502.00	89.10	334.70	7,438.21	3,176.27	-930.88	3,292.68	0.85	-0.42	0.74
11,598.00	87.30	332.80	7,441.23	3,262.32	-973.31	3,388.38	2.73	-1.88	-1.98
11,694.00	87.90	331.60	7,445.25	3,347.16	-1,018.05	3,483.83	1.40	0.63	-1.25
11,789.00	88.60	330.70	7,448.15	3,430.33	-1,063.87	3,578.14	1.20	0.74	-0.95
11,885.00	88.20	330.50	7,450.83	3,513.93	-1,110.97	3,673.34	0.47	-0.42	-0.21
11,979.00	89.20	330.10	7,452.96	3,595.56	-1,157.53	3,766.51	1.15	1.06	-0.43
12,075.00	89.20	329.90	7,454.30	3,678.69	-1,205.53	3,861.61	0.21	0.00	-0.21
12,171.00	89.40	331.00	7,455.48	3,762.20	-1,252.87	3,956.80	1.16	0.21	1.15
12,266.00	90.20	332.20	7,455.81	3,845.76	-1,298.05	4,051.24	1.52	0.84	1.26
12,362.00	90.10	332.50	7,455.56	3,930.80	-1,342.60	4,146.80	0.33	-0.10	0.31
12,457.00	88.90	331.30	7,456.38	4,014.59	-1,387.35	4,241.29	1.79	-1.26	-1.26
12,552.00	88.70	331.60	7,458.37	4,098.02	-1,432.74	4,335.68	0.38	-0.21	0.32
12,647.00	89.70	331.20	7,459.70	4,181.42	-1,478.21	4,430.07	1.13	1.05	-0.42
12,743.00	89.20	331.30	7,460.82	4,265.58	-1,524.38	4,525.44	0.53	-0.52	0.10
12,838.00	89.50	330.80	7,461.70	4,348.71	-1,570.36	4,619.77	0.61	0.32	-0.53
12,934.00	88.60	332.10	7,463.29	4,433.02	-1,616.24	4,715.16	1.65	-0.94	1.35
13,028.00	87.80	331.60	7,466.24	4,515.86	-1,660.56	4,808.60	1.00	-0.85	-0.53
13,124.00	88.30	329.70	7,469.51	4,599.48	-1,707.59	4,903.79	2.05	0.52	-1.98
13,218.00	88.50	330.60	7,472.14	4,680.98	-1,754.35	4,996.91	0.98	0.21	0.96
13,313.00	88.30	329.40	7,474.79	4,763.22	-1,801.83	5,090.99	1.28	-0.21	-1.26
13,408.00	90.40	330.50	7,475.87	4,845.44	-1,849.40	5,185.08	2.50	2.21	1.16
13,503.00	90.20	330.70	7,475.37	4,928.20	-1,896.04	5,279.32	0.30	-0.21	0.21
13,598.00	90.00	329.80	7,475.20	5,010.68	-1,943.18	5,373.49	0.97	-0.21	-0.95
13,693.00	90.30	330.80	7,474.95	5,093.20	-1,990.24	5,467.67	1.10	0.32	1.05
13,789.00	89.60	329.00	7,475.04	5,176.25	-2,038.39	5,562.75	2.01	-0.73	-1.88
13,884.00	88.50	328.60	7,476.61	5,257.50	-2,087.59	5,656.56	1.23	-1.16	-0.42
13,980.00	90.20	329.00	7,477.70	5,339.60	-2,137.32	5,751.36	1.82	1.77	0.42
14,076.00	89.80	329.30	7,477.70	5,422.02	-2,186.54	5,846.26	0.52	-0.42	0.31
14,172.00	89.00	328.90	7,478.71	5,504.39	-2,235.84	5,941.15	0.93	-0.83	-0.42



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14,249.00	89.00	328.90	7,480.05	5,570.31	-2,275.61	6,017.20	0.00	0.00	0.00
Projection to TD - 14249.00' MD									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,963.00	4,962.64	-21.53	-14.65	Tie-in to Javins Gyro-4963.00' MD
7,836.00	7,391.69	11.44	899.15	LP for 11H Plan
8,412.52	7,388.29	495.44	598.48	Unit Line Intersection - 8412.52' MD
14,249.00	7,480.05	5,570.31	-2,275.61	Projection to TD - 14249.00' MD