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XTO ENERGY, INC.

Eddy County, NM

Sec 21, T22S, R30E

James Ranch Unit DI 1 #169H

Wellbore #1

Design: Wellbore #1

QES Survey Certification Report

11 November, 2017



Quintana Energy Services

11390 FM 830

Willis, TX 77318

Phone: (936) 856-4332

Fax: (936) 856-8678



Survey Certification Sheet

Company	Job Number	Date
XTO Energy, Inc.	WT-171107	11/30/2017

Lease	Well Name	County & State
SEC 21, T-22S, R30E	James Ranch Unit DI 1 #169H	Eddy County, NM

API No.	Survey Depth Range	Survey Type
30-015-42628	55 feet to 18464 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
Click here to enter text.	Richard Tibbetts

Certification Statement

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Quintana Energy Services (QES). This report represents a true and correct directional survey of this well based on the original data obtained at the well site. Wellbore coordinates are calculated using minimum curvature.

Christopher Hughes

Digitally signed by Christopher Hughes

DN: cn=Christopher Hughes, o=QES,

ou=compliance, email=chrish@qeslp.com, c=US

Date: 2017.12.07 09:31:05 -06'00'

Christopher Hughes

MWD Compliance Manager

Quintana Energy Services

Company:	XTO ENERGY, INC.	Local Co-ordinate Reference:	Well James Ranch Unit DI 1 #169H
Project:	Eddy County, NM	TVD Reference:	RKB @ 3191.0usft (Noram #25)
Site:	Sec 21, T22S, R30E	MD Reference:	RKB @ 3191.0usft (Noram #25)
Well:	James Ranch Unit DI 1 #169H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 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	Sec 21, T22S, R30E		
Site Position:		Northing:	502,495.20 usft
From:	Map	Easting:	639,272.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 22' 50.401 N
		Longitude:	103° 52' 55.882 W
		Grid Convergence:	0.24 °

Well	James Ranch Unit DI 1 #169H					
Well Position	+N/-S	0.0 usft	Northing:	502,574.70 usft	Latitude:	32° 22' 51.183 N
	+E/-W	0.0 usft	Easting:	639,393.10 usft	Longitude:	103° 52' 54.466 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,167.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/13/2017	7.08	60.15	47,966.91382844

Design:	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	81.19

Survey Program	Date	11/11/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
55.0	18,464.0	QES MWD Surveys (Wellbore #1)	MWD	OWSG MWD - Standard

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
55.0	0.44	330.00	55.0	0.2	-0.1	0.2	330.00
First MWD Survey @ 55.0' MD / 55.0' TVD:							
83.0	0.62	290.00	83.0	0.3	-0.3	0.4	317.37
113.0	0.85	338.00	113.0	0.6	-0.5	0.8	317.64
142.0	1.00	337.00	142.0	1.0	-0.7	1.2	324.95
177.0	0.82	324.80	177.0	1.5	-1.0	1.8	326.96
212.0	0.80	337.80	212.0	1.9	-1.2	2.3	327.87
243.0	0.60	338.30	243.0	2.3	-1.4	2.7	329.31
272.0	0.80	341.70	272.0	2.6	-1.5	3.0	330.59
301.0	0.80	340.90	301.0	3.0	-1.6	3.4	331.85
330.0	0.90	317.50	330.0	3.4	-1.8	3.8	331.48

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Design:	Wellbore.#1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
359.0	1.10	327.40	359.0	3.8	-2.1	4.3	330.49	
387.0	1.50	353.00	387.0	4.4	-2.3	4.9	331.95	
416.0	1.89	4.24	415.9	5.2	-2.3	5.7	335.89	
446.0	2.34	9.20	445.9	6.3	-2.2	6.7	340.79	
474.0	2.79	9.04	473.9	7.5	-2.0	7.8	345.16	
495.0	3.21	6.90	494.9	8.6	-1.8	8.8	347.91	
558.0	3.13	2.97	557.8	12.1	-1.5	12.2	352.71	
619.0	3.16	2.23	618.7	15.4	-1.4	15.5	354.83	
678.0	3.09	2.52	677.6	18.7	-1.3	18.7	356.13	
741.0	2.86	3.74	740.5	21.9	-1.1	22.0	357.16	
836.0	2.30	6.40	835.4	26.2	-0.7	26.2	358.43	
930.0	1.80	11.00	929.4	29.5	-0.2	29.5	359.56	
1,024.0	2.10	343.90	1,023.3	32.6	-0.4	32.6	359.26	
1,118.0	2.80	333.80	1,117.2	36.3	-1.9	36.4	356.98	
1,214.0	2.20	9.20	1,213.1	40.3	-2.7	40.3	356.23	
1,308.0	1.90	26.70	1,307.1	43.4	-1.7	43.5	357.80	
1,402.0	1.50	27.10	1,401.0	45.9	-0.4	45.9	359.49	
1,496.0	2.30	12.70	1,495.0	48.8	0.6	48.9	0.67	
1,591.0	4.20	15.90	1,589.8	54.1	1.9	54.1	2.06	
1,685.0	6.10	8.50	1,683.4	62.3	3.6	62.4	3.33	
1,779.0	6.70	357.20	1,776.9	72.7	4.1	72.8	3.22	
1,873.0	7.30	352.40	1,870.2	84.1	3.0	84.2	2.07	
1,967.0	8.20	4.90	1,963.3	96.7	2.8	96.8	1.67	
2,061.0	9.50	9.60	2,056.2	111.0	4.7	111.1	2.42	
2,156.0	9.50	8.70	2,149.9	126.5	7.2	126.7	3.25	
2,250.0	8.60	10.00	2,242.7	141.1	9.6	141.4	3.88	
2,344.0	7.70	10.50	2,335.8	154.2	11.9	154.7	4.43	
2,439.0	8.40	10.10	2,429.8	167.3	14.3	167.9	4.89	
2,533.0	8.90	0.60	2,522.8	181.3	15.6	182.0	4.92	
2,627.0	8.40	357.20	2,615.7	195.5	15.3	196.1	4.49	
2,721.0	7.20	1.90	2,708.8	208.2	15.2	208.8	4.17	
2,816.0	7.40	4.50	2,803.0	220.3	15.9	220.8	4.12	
2,910.0	8.80	5.70	2,896.1	233.5	17.1	234.1	4.18	
3,004.0	10.60	5.00	2,988.8	249.2	18.5	249.9	4.25	
3,099.0	10.30	5.60	3,082.2	266.4	20.1	267.1	4.32	
3,193.0	9.60	6.30	3,174.8	282.5	21.8	283.4	4.41	
3,287.0	8.50	7.40	3,267.6	297.2	23.6	298.2	4.53	
3,381.0	8.90	1.20	3,360.5	311.4	24.6	312.4	4.52	
3,476.0	8.90	357.90	3,454.4	326.1	24.5	327.0	4.30	
3,502.0	8.20	358.80	3,480.1	329.9	24.4	330.8	4.23	
3,587.0	7.40	356.90	3,564.3	341.5	24.0	342.3	4.01	
3,682.0	9.10	2.00	3,658.3	355.1	23.9	355.9	3.85	
3,776.0	10.10	2.70	3,751.0	370.7	24.5	371.6	3.79	
3,871.0	11.60	7.30	3,844.3	388.5	26.1	389.4	3.85	



QES Survey Certification Report



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Site:	Sec 21, T22S, R30E	MD Reference:	RKB @ 3191.0usft (Noram #25)
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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
3,965.0	12.10	8.30	3,936.3	407.7	28.8	408.7	4.04	
4,060.0	12.10	9.00	4,029.2	427.4	31.8	428.5	4.25	
4,154.0	12.40	359.60	4,121.1	447.2	33.2	448.4	4.25	
4,249.0	10.90	0.20	4,214.1	466.4	33.2	467.5	4.07	
4,343.0	10.70	0.90	4,306.4	484.0	33.4	485.1	3.94	
4,438.0	10.70	1.20	4,399.8	501.6	33.7	502.7	3.84	
4,533.0	10.40	0.10	4,493.2	519.0	33.9	520.1	3.73	
4,627.0	10.50	1.80	4,585.6	536.0	34.2	537.1	3.65	
4,722.0	11.60	3.30	4,678.8	554.2	35.0	555.3	3.61	
4,817.0	11.90	6.60	4,771.9	573.5	36.7	574.7	3.66	
4,911.0	12.10	6.70	4,863.8	592.9	38.9	594.2	3.76	
5,005.0	12.20	8.00	4,955.7	612.5	41.5	613.9	3.87	
5,099.0	10.80	6.20	5,047.8	631.1	43.8	632.6	3.97	
5,194.0	10.50	6.40	5,141.2	648.6	45.7	650.2	4.03	
5,289.0	10.30	8.80	5,234.6	665.6	48.0	667.3	4.12	
5,383.0	10.00	10.10	5,327.1	681.9	50.7	683.8	4.25	
5,477.0	10.90	6.00	5,419.6	698.8	53.1	700.8	4.34	
5,571.0	10.90	5.60	5,511.9	716.5	54.9	718.6	4.38	
5,665.0	10.80	5.30	5,604.2	734.1	56.5	736.3	4.40	
5,758.0	10.90	7.80	5,695.5	751.5	58.5	753.7	4.45	
5,852.0	9.50	3.20	5,788.1	768.0	60.2	770.4	4.48	
5,946.0	8.50	1.60	5,880.9	782.7	60.8	785.1	4.44	
6,041.0	7.90	4.00	5,974.9	796.2	61.4	798.6	4.41	
6,136.0	7.40	4.10	6,069.1	808.9	62.3	811.3	4.41	
6,230.0	6.60	4.10	6,162.4	820.3	63.2	822.7	4.40	
6,325.0	7.20	1.60	6,256.7	831.7	63.7	834.1	4.38	
6,420.0	8.30	0.60	6,350.8	844.5	64.0	846.9	4.33	
6,514.0	7.80	2.30	6,443.9	857.6	64.3	860.0	4.29	
6,608.0	8.90	1.70	6,536.9	871.3	64.8	873.7	4.25	
6,703.0	10.10	1.00	6,630.6	887.0	65.1	889.3	4.20	
6,797.0	10.00	1.70	6,723.2	903.4	65.5	905.7	4.15	
6,891.0	9.40	2.30	6,815.8	919.2	66.1	921.6	4.11	
6,985.0	9.50	8.40	6,908.5	934.5	67.5	937.0	4.13	
7,080.0	10.20	3.10	7,002.1	950.7	69.1	953.2	4.16	
7,174.0	9.90	3.10	7,094.7	967.1	70.0	969.6	4.14	
7,269.0	8.90	3.30	7,188.4	982.6	70.8	985.1	4.12	
7,363.0	8.90	6.80	7,281.3	997.0	72.1	999.6	4.14	
7,458.0	8.60	8.10	7,375.2	1,011.4	74.0	1,014.1	4.18	
7,553.0	8.30	7.90	7,469.1	1,025.2	75.9	1,028.0	4.24	
7,648.0	8.20	6.90	7,563.2	1,038.7	77.7	1,041.6	4.28	
7,742.0	7.20	4.60	7,656.3	1,051.2	79.0	1,054.2	4.30	
7,838.0	6.80	3.60	7,751.6	1,062.9	79.8	1,065.9	4.29	
7,932.0	7.50	352.50	7,844.9	1,074.5	79.4	1,077.5	4.22	
8,027.0	8.90	357.20	7,938.9	1,088.0	78.2	1,090.8	4.11	
8,114.0	10.10	1.90	8,024.7	1,102.4	78.1	1,105.1	4.05	

Company:	XTO ENERGY, INC.	Local Co-ordinate Reference:	Well James Ranch Unit DI 1 #169H
Project:	Eddy County, NM	TVD Reference:	RKB @ 3191.0usft (Noram #25)
Site:	Sec 21, T22S, R30E	MD Reference:	RKB @ 3191.0usft (Noram #25)
Well:	James Ranch Unit DI 1 #169H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
8,207.0	11.60	8.90	8,116.0	1,119.8	79.8	1,122.6	4.08
8,299.0	10.30	9.50	8,206.4	1,137.0	82.6	1,140.0	4.16
8,393.0	11.20	6.30	8,298.7	1,154.4	85.0	1,157.5	4.21
8,486.0	9.60	2.40	8,390.2	1,171.1	86.3	1,174.3	4.22
8,580.0	11.90	7.90	8,482.5	1,188.5	88.0	1,191.8	4.23
8,674.0	11.70	9.50	8,574.6	1,207.5	90.9	1,211.0	4.30
8,768.0	10.20	9.30	8,666.8	1,225.2	93.8	1,228.7	4.38
8,837.0	9.50	9.30	8,734.8	1,236.8	95.7	1,240.5	4.43
8,900.0	12.90	30.20	8,796.6	1,248.0	100.1	1,252.0	4.59
8,931.0	15.80	38.30	8,826.7	1,254.3	104.5	1,258.7	4.76
8,963.0	19.20	44.30	8,857.2	1,261.5	110.8	1,266.4	5.02
8,994.0	21.50	49.00	8,886.2	1,268.9	118.7	1,274.4	5.34
9,025.0	23.60	51.10	8,914.9	1,276.5	127.8	1,282.9	5.72
9,056.0	25.10	53.20	8,943.1	1,284.4	137.9	1,291.7	6.13
9,087.0	26.70	56.60	8,971.0	1,292.1	149.0	1,300.7	6.58
9,119.0	28.00	56.90	8,999.4	1,300.2	161.3	1,310.1	7.07
9,150.0	30.50	57.10	9,026.5	1,308.4	174.0	1,319.9	7.57
9,182.0	32.20	57.80	9,053.8	1,317.4	188.0	1,330.7	8.12
9,213.0	34.00	59.90	9,079.8	1,326.1	202.5	1,341.5	8.68
9,245.0	36.00	60.60	9,106.0	1,335.2	218.4	1,353.0	9.29
9,276.0	37.10	61.10	9,130.9	1,344.2	234.6	1,364.5	9.90
9,307.0	38.60	62.60	9,155.4	1,353.2	251.3	1,376.3	10.52
9,339.0	40.00	64.80	9,180.1	1,362.2	269.5	1,388.6	11.19
9,369.0	42.10	67.30	9,202.8	1,370.2	287.5	1,400.0	11.85
9,401.0	44.20	71.70	9,226.1	1,377.8	308.0	1,411.8	12.60
9,432.0	46.20	75.00	9,247.9	1,384.1	329.1	1,422.7	13.37
9,464.0	48.00	77.30	9,269.7	1,389.7	351.8	1,433.5	14.21
9,495.0	49.90	79.10	9,290.1	1,394.5	374.7	1,443.9	15.04
9,527.0	52.50	81.00	9,310.1	1,398.8	399.3	1,454.6	15.93
9,558.0	55.50	83.60	9,328.4	1,402.1	424.1	1,464.9	16.83
9,590.0	57.70	84.90	9,346.0	1,404.8	450.7	1,475.3	17.79
9,622.0	58.40	87.00	9,362.9	1,406.7	477.8	1,485.6	18.76
9,653.0	59.80	87.70	9,378.8	1,407.9	504.4	1,495.6	19.71
9,685.0	62.30	88.20	9,394.3	1,408.9	532.3	1,506.2	20.70
9,717.0	64.10	87.90	9,408.7	1,409.9	560.9	1,517.4	21.69
9,748.0	67.10	88.70	9,421.6	1,410.7	589.1	1,528.8	22.66
9,780.0	69.60	89.60	9,433.4	1,411.2	618.8	1,540.9	23.68
9,811.0	71.90	90.30	9,443.6	1,411.2	648.1	1,552.9	24.67
9,843.0	73.70	90.90	9,453.0	1,410.9	678.7	1,565.6	25.69
9,874.0	75.90	91.00	9,461.2	1,410.4	708.6	1,578.4	26.67
9,906.0	78.60	90.70	9,468.2	1,409.9	739.8	1,592.2	27.69
9,938.0	80.50	90.50	9,474.0	1,409.6	771.2	1,606.8	28.68
9,969.0	80.90	90.50	9,479.0	1,409.3	801.8	1,621.5	29.64
10,001.0	82.10	90.20	9,483.8	1,409.1	833.5	1,637.2	30.60

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10,032.0	82.70	90.20	9,487.9	1,409.0	864.2	1,652.9	31.52	
10,051.0	84.00	90.20	9,490.1	1,409.0	883.1	1,662.8	32.08	
10,090.0	85.50	89.30	9,493.6	1,409.1	921.9	1,683.9	33.19	
10,184.0	86.50	91.10	9,500.2	1,408.8	1,015.7	1,736.8	35.79	
10,279.0	86.70	89.80	9,505.8	1,408.1	1,110.5	1,793.3	38.26	
10,374.0	89.00	89.30	9,509.4	1,408.8	1,205.4	1,854.1	40.55	
10,468.0	90.20	88.90	9,510.1	1,410.3	1,299.4	1,917.7	42.66	
10,562.0	89.80	89.10	9,510.1	1,411.9	1,393.4	1,983.7	44.62	
10,655.0	90.80	89.40	9,509.6	1,413.1	1,486.4	2,050.9	46.45	
10,750.0	90.20	89.10	9,508.7	1,414.4	1,581.4	2,121.6	48.19	
10,845.0	89.80	89.20	9,508.7	1,415.8	1,676.4	2,194.2	49.82	
10,941.0	90.00	89.40	9,508.9	1,417.0	1,772.4	2,269.2	51.36	
11,035.0	89.20	89.20	9,509.6	1,418.1	1,866.3	2,344.0	52.77	
11,130.0	89.80	89.00	9,510.4	1,419.6	1,961.3	2,421.2	54.10	
11,224.0	90.20	89.30	9,510.4	1,421.0	2,055.3	2,498.7	55.34	
11,319.0	90.40	89.40	9,509.9	1,422.1	2,150.3	2,578.0	56.52	
11,414.0	90.50	89.40	9,509.1	1,423.1	2,245.3	2,658.3	57.63	
11,508.0	88.90	89.80	9,509.6	1,423.7	2,339.3	2,738.5	58.67	
11,603.0	88.70	89.60	9,511.6	1,424.2	2,434.3	2,820.3	59.67	
11,698.0	88.70	89.00	9,513.8	1,425.4	2,529.2	2,903.2	60.60	
11,792.0	88.80	88.80	9,515.8	1,427.2	2,623.2	2,986.3	61.45	
11,886.0	87.10	89.70	9,519.2	1,428.4	2,717.1	3,069.7	62.27	
11,981.0	89.10	91.10	9,522.3	1,427.8	2,812.1	3,153.8	63.08	
12,075.0	90.70	92.70	9,522.5	1,424.6	2,906.0	3,236.4	63.88	
12,169.0	90.50	91.90	9,521.5	1,420.9	2,999.9	3,319.4	64.66	
12,263.0	91.20	91.80	9,520.1	1,417.8	3,093.9	3,403.3	65.38	
12,358.0	90.20	91.60	9,519.0	1,415.0	3,188.8	3,488.7	66.07	
12,453.0	90.60	91.00	9,518.3	1,412.9	3,283.8	3,574.8	66.72	
12,547.0	88.90	90.50	9,518.7	1,411.6	3,377.8	3,660.9	67.32	
12,641.0	86.90	89.10	9,522.2	1,412.0	3,471.7	3,747.9	67.87	
12,735.0	87.30	89.30	9,526.9	1,413.3	3,565.6	3,835.5	68.38	
12,828.0	88.40	89.80	9,530.4	1,414.0	3,658.5	3,922.3	68.87	
12,921.0	89.40	90.30	9,532.2	1,413.9	3,751.5	4,009.1	69.35	
13,016.0	88.80	89.80	9,533.7	1,413.8	3,846.5	4,098.1	69.82	
13,111.0	89.00	89.80	9,535.5	1,414.2	3,941.5	4,187.5	70.26	
13,205.0	89.40	90.00	9,536.8	1,414.3	4,035.5	4,276.1	70.69	
13,300.0	90.50	90.90	9,536.9	1,413.6	4,130.4	4,365.6	71.11	
13,395.0	90.10	89.10	9,536.4	1,413.6	4,225.4	4,455.6	71.50	
13,489.0	90.00	88.40	9,536.3	1,415.6	4,319.4	4,545.5	71.85	
13,583.0	90.00	88.50	9,536.3	1,418.2	4,413.4	4,635.6	72.19	
13,677.0	90.10	88.10	9,536.2	1,421.0	4,507.3	4,726.0	72.50	
13,771.0	90.50	88.70	9,535.7	1,423.6	4,601.3	4,816.5	72.81	
13,866.0	90.70	88.40	9,534.8	1,426.0	4,696.3	4,908.0	73.11	
13,961.0	89.30	89.00	9,534.8	1,428.2	4,791.2	4,999.6	73.40	

Company:	XTO ENERGY, INC.	Local Co-ordinate Reference:	Well James Ranch Unit DI 1 #169H
Project:	Eddy County, NM	TVD Reference:	RKB @ 3191.0usft (Noram #25)
Site:	Sec 21, T22S, R30E	MD Reference:	RKB @ 3191.0usft (Noram #25)
Well:	James Ranch Unit DI 1 #169H	North Reference:	Grid.
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
14,055.0	88.80	89.10	9,536.3	1,429.7	4,885.2	5,090.1	73.69	
14,150.0	89.20	89.40	9,538.0	1,431.0	4,980.2	5,181.7	73.97	
14,243.0	89.30	89.40	9,539.2	1,431.9	5,073.2	5,271.4	74.24	
14,338.0	89.00	89.20	9,540.6	1,433.1	5,168.2	5,363.2	74.50	
14,432.0	88.30	90.30	9,542.8	1,433.5	5,262.1	5,453.9	74.76	
14,527.0	88.10	90.50	9,545.8	1,432.8	5,357.1	5,545.4	75.03	
14,622.0	88.70	90.40	9,548.4	1,432.1	5,452.0	5,637.0	75.28	
14,717.0	88.40	90.20	9,550.9	1,431.6	5,547.0	5,728.8	75.53	
14,811.0	87.60	90.30	9,554.1	1,431.2	5,640.9	5,819.7	75.76	
14,906.0	88.60	90.80	9,557.3	1,430.3	5,735.9	5,911.5	76.00	
15,001.0	89.50	90.30	9,558.9	1,429.4	5,830.9	6,003.5	76.23	
15,096.0	90.60	89.90	9,558.8	1,429.2	5,925.9	6,095.8	76.44	
15,190.0	90.00	89.50	9,558.3	1,429.7	6,019.9	6,187.3	76.64	
15,285.0	89.80	89.50	9,558.4	1,430.5	6,114.9	6,280.0	76.83	
15,380.0	89.80	89.50	9,558.8	1,431.3	6,209.9	6,372.7	77.02	
15,475.0	90.30	90.00	9,558.7	1,431.8	6,304.9	6,465.4	77.21	
15,570.0	89.30	89.40	9,559.0	1,432.3	6,399.9	6,558.2	77.39	
15,663.0	88.80	89.20	9,560.6	1,433.4	6,492.8	6,649.2	77.55	
15,758.0	88.30	88.80	9,563.0	1,435.1	6,587.8	6,742.3	77.71	
15,853.0	90.60	90.20	9,563.9	1,435.9	6,682.8	6,835.3	77.87	
15,948.0	89.80	89.80	9,563.6	1,435.9	6,777.8	6,928.2	78.04	
16,044.0	92.60	90.60	9,561.5	1,435.5	6,873.7	7,022.0	78.20	
16,138.0	92.80	90.60	9,557.1	1,434.6	6,967.6	7,113.8	78.37	
16,232.0	92.80	90.60	9,552.5	1,433.6	7,061.5	7,205.6	78.52	
16,327.0	90.50	91.40	9,549.8	1,431.9	7,156.5	7,298.3	78.69	
16,421.0	88.70	91.30	9,550.4	1,429.7	7,250.4	7,390.0	78.84	
16,516.0	88.80	91.50	9,552.5	1,427.4	7,345.4	7,482.8	79.00	
16,611.0	88.80	90.90	9,554.5	1,425.4	7,440.3	7,575.6	79.15	
16,706.0	88.80	90.50	9,556.5	1,424.2	7,535.3	7,668.7	79.30	
16,800.0	89.10	90.80	9,558.2	1,423.2	7,629.3	7,760.9	79.43	
16,894.0	89.00	90.60	9,559.8	1,422.0	7,723.3	7,853.1	79.57	
16,988.0	88.80	90.40	9,561.6	1,421.2	7,817.2	7,945.4	79.70	
17,083.0	88.60	89.90	9,563.7	1,421.0	7,912.2	8,038.8	79.82	
17,177.0	88.60	89.70	9,566.0	1,421.3	8,006.2	8,131.4	79.93	
17,272.0	88.20	89.00	9,568.7	1,422.4	8,101.1	8,225.1	80.04	
17,366.0	89.10	88.60	9,570.9	1,424.3	8,195.1	8,317.9	80.14	
17,461.0	89.70	88.00	9,571.9	1,427.1	8,290.0	8,412.0	80.23	
17,555.0	90.00	87.50	9,572.1	1,430.8	8,384.0	8,505.2	80.32	
17,649.0	90.00	87.30	9,572.1	1,435.1	8,477.9	8,598.5	80.39	
17,744.0	89.80	87.10	9,572.3	1,439.7	8,572.8	8,692.8	80.47	
17,838.0	89.70	86.60	9,572.7	1,444.9	8,666.6	8,786.2	80.53	
17,932.0	89.10	86.90	9,573.7	1,450.2	8,760.5	8,879.7	80.60	
18,027.0	90.20	88.10	9,574.3	1,454.4	8,855.4	8,974.0	80.67	
18,121.0	90.70	89.50	9,573.5	1,456.3	8,949.3	9,067.1	80.76	

Company:	XTO ENERGY, INC.	Local Co-ordinate Reference:	Well James Ranch Unit DI 1 #169H
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Site:	Sec 21, T22S, R30E	MD Reference:	RKB @ 3191.0usft (Noram #25)
Well:	James Ranch Unit DI 1 #169H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
18,216.0	90.80	89.40	9,572.3	1,457.3	9,044.3	9,161.0	80.85	
18,310.0	90.60	89.30	9,571.2	1,458.3	9,138.3	9,253.9	80.93	
18,388.0	90.60	89.10	9,570.3	1,459.4	9,216.3	9,331.1	81.00	
18,464.0	90.60	89.10	9,569.5	1,460.6	9,292.3	9,406.4	81.07	
TD @ 18464.0' MD / 9569.5' TVD								

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
18,464.0	9,569.5	1,460.6	9,292.3	TD @ 18464.0' MD / 9569.5' TVD	

Checked By: _____	Approved By: _____	Date: _____
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