



Gyrodata Incorporated  
10504 WCR 72  
Midland, TX 79707

Main: 432-561-8458  
Fax: 432-563-7982

June 23, 2017

**Railroad Commission of Texas  
Oil & Gas Division  
P.O. Box 12967  
Capitol Station  
Austin, Texas 78711**

Attn: Ms. Pamela Johns

**RE:  
XTO ENERGY  
UNIVERSITY BLOCK 20 #1307H  
PERMIT NO. 813658  
UL/ ABSTRACT/A-U14  
TWO GEORGES (BONE SPRING)  
WINKLER COUNTY, TEXAS  
API NO. 42-495-33710**

Ms. Johns:

Enclosed, please find the original and one copy of the survey performed on the referenced well by Gyrodata, Inc (P-5 No. 339711). Other information required by your office is as follows:

Name & Title Of Surveyor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Michael Robles Surveyor	Original Hole	0'-11140'	06/10/17-06/10/17	Gyroscopic Multishot

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in the case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Sincerely,

  
Baylee Ulrich  
Operations Assistant

Enclosure

A Gyrodata Directional Survey

# FINAL DEFINITIVE COPY

For

## XTO ENERGY

Lease: UNIVERSITY BLOCK 20 Well: 1307H, 5 INCH DRILLPIPE  
Location: SCAN PRODUCER DRILLING RIG, WINKLER COUNTY, TEXAS

Job Number: MD0617GVCW444

Run Date: 10 Jun 2017

Report Generated: 29 Mar 2018 09:03

Surveyor: Michael Robles

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Company Man

Survey Latitude: 31.726363 deg. N

Longitude: 103.285847 deg. W

Azimuth Correction:

Gyro: 1.52000 deg to Grid North

Proposed Well Direction: 162.260 deg

Depth Reference: Rotary Table

Air Gap (RKB to Ground / RKB to MSL): 27.00

Ground Elevation (Ground to MSL / MSL to Mudline): 2813.00

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.0	0.00	0.00	0.0 0.0	0.00 N 0.00 E

0 TO 11,140 FT. RATE GYROSCOPIC MULTISHOT VERTICAL CONTINUOUS SURVEY RUN INSIDE 5 INCH DRILLPIPE

ALL MEASURED DEPTHS AND COORDINATES ARE REFERENCED TO SCAN PRODUCER DRILLING RIG WITH R.K.B. HEIGHT OF 27 FT.

100.00	0.29	35.96	-0.1	0.29	100.00	0.3 36.0	0.21 N 0.15 E
200.00	0.42	20.57	-0.6	0.16	200.00	0.9 29.6	0.76 N 0.43 E
300.00	0.47	10.73	-1.2	0.09	299.99	1.6 22.9	1.50 N 0.63 E
400.00	0.42	4.14	-1.9	0.07	399.99	2.4 18.0	2.27 N 0.74 E
500.00	0.41	2.50	-2.6	0.02	499.99	3.1 14.6	2.99 N 0.78 E
600.00	0.33	354.29	-3.2	0.09	599.99	3.7 11.9	3.64 N 0.77 E
700.00	0.33	357.03	-3.8	0.02	699.99	4.3 9.7	4.21 N 0.72 E
800.00	0.34	353.22	-4.4	0.02	799.98	4.8 8.0	4.80 N 0.67 E
900.00	0.36	353.05	-5.0	0.02	899.98	5.4 6.3	5.40 N 0.60 E
1000.00	0.30	357.94	-5.5	0.07	999.98	6.0 5.3	5.98 N 0.55 E
1100.00	0.11	107.02	-5.7	0.35	1099.98	6.3 5.8	6.22 N 0.63 E
1200.00	0.21	146.58	-5.5	0.15	1199.98	6.1 7.7	6.04 N 0.82 E
1300.00	0.20	130.53	-5.2	0.06	1299.98	5.9 10.3	5.77 N 1.05 E
1400.00	0.18	137.00	-4.9	0.03	1399.98	5.7 13.1	5.55 N 1.29 E
1500.00	0.17	106.20	-4.7	0.09	1499.98	5.6 15.9	5.39 N 1.53 E
1600.00	0.25	77.29	-4.6	0.13	1599.98	5.7 19.2	5.40 N 1.88 E
1700.00	0.48	52.10	-4.7	0.27	1699.97	6.2 23.0	5.70 N 2.42 E

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1800.00	0.69	52.40	-5.0	0.22	1799.97	7.1 27.0	6.32 N 3.22 E
1900.00	0.94	48.27	-5.6	0.25	1899.96	8.4 30.8	7.24 N 4.32 E
2000.00	1.20	45.91	-6.4	0.26	1999.94	10.2 33.7	8.51 N 5.68 E
2100.00	1.56	49.15	-7.4	0.37	2099.91	12.6 36.4	10.13 N 7.46 E
2200.00	1.71	50.76	-8.4	0.16	2199.87	15.4 38.9	11.96 N 9.64 E
2300.00	2.17	56.95	-9.5	0.50	2299.81	18.6 41.6	13.93 N 12.38 E
2400.00	2.49	58.92	-10.5	0.34	2399.73	22.6 44.5	16.09 N 15.83 E
2500.00	2.76	58.13	-11.6	0.27	2499.63	27.0 46.9	18.48 N 19.73 E
2600.00	2.63	58.00	-12.7	0.13	2599.52	31.7 48.5	20.97 N 23.72 E
2700.00	2.55	56.99	-13.9	0.09	2699.41	36.1 49.6	23.39 N 27.53 E
2800.00	2.55	57.03	-15.1	0.00	2799.32	40.5 50.5	25.82 N 31.27 E
2900.00	2.75	57.02	-16.3	0.20	2899.21	45.1 51.1	28.34 N 35.15 E
3000.00	2.87	58.81	-17.5	0.14	2999.09	50.0 51.8	30.94 N 39.30 E
3100.00	2.91	58.97	-18.7	0.04	3098.96	55.0 52.4	33.54 N 43.61 E
3200.00	2.92	59.53	-19.8	0.03	3198.83	60.1 53.0	36.14 N 47.98 E
3300.00	3.24	62.88	-20.8	0.37	3298.69	65.4 53.7	38.72 N 52.70 E
3400.00	2.29	80.06	-21.0	1.25	3398.57	70.0 54.8	40.36 N 57.18 E
3500.00	1.82	93.33	-20.2	0.67	3498.51	73.1 56.2	40.61 N 60.74 E
3600.00	1.56	199.12	-18.5	2.70	3598.48	73.3 57.6	39.23 N 61.87 E
3700.00	0.91	172.39	-16.6	0.85	3698.46	71.9 58.9	37.16 N 61.53 E
3800.00	2.06	67.82	-16.0	2.46	3798.44	73.4 59.7	37.05 N 63.31 E
3900.00	2.21	66.01	-16.4	0.16	3898.37	77.0 60.0	38.51 N 66.73 E



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4000.00	0.95	76.96	-16.5	1.29	3998.33	79.8 60.3	39.48 N 69.30 E
4100.00	0.53	140.94	-16.0	0.86	4098.32	80.6 60.8	39.31 N 70.40 E
4200.00	0.46	129.79	-15.2	0.12	4198.32	80.9 61.4	38.70 N 70.99 E
4300.00	0.15	91.96	-14.9	0.35	4298.31	81.1 61.7	38.44 N 71.43 E
4400.00	0.08	63.01	-14.8	0.09	4398.31	81.3 61.8	38.47 N 71.61 E
4500.00	0.48	85.87	-14.7	0.41	4498.31	81.7 61.9	38.53 N 72.09 E
4600.00	1.01	77.96	-14.5	0.54	4598.30	83.0 62.2	38.74 N 73.37 E
4700.00	1.35	85.54	-14.2	0.38	4698.28	84.9 62.6	39.01 N 75.41 E
4800.00	1.89	87.37	-13.5	0.54	4798.24	87.5 63.4	39.18 N 78.23 E
4900.00	0.93	78.26	-13.0	0.99	4898.21	89.8 64.0	39.42 N 80.68 E
5000.00	0.30	20.42	-13.1	0.81	4998.20	90.8 64.0	39.83 N 81.56 E
5100.00	0.35	6.05	-13.6	0.09	5098.20	91.1 63.7	40.38 N 81.68 E
5200.00	0.54	337.33	-14.3	0.29	5198.20	91.3 63.2	41.12 N 81.53 E
5300.00	0.56	335.97	-15.3	0.02	5298.20	91.4 62.6	41.99 N 81.16 E
5400.00	0.54	334.50	-16.2	0.02	5398.19	91.4 62.0	42.86 N 80.76 E
5500.00	0.57	334.94	-17.2	0.03	5498.19	91.5 61.4	43.74 N 80.34 E
5600.00	0.59	332.76	-18.2	0.03	5598.18	91.5 60.8	44.65 N 79.90 E
5700.00	0.48	312.78	-19.1	0.21	5698.18	91.4 60.2	45.38 N 79.36 E
5800.00	0.42	300.44	-19.7	0.11	5798.17	91.1 59.8	45.85 N 78.74 E
5900.00	0.48	298.36	-20.3	0.07	5898.17	90.7 59.4	46.23 N 78.05 E
6000.00	0.50	292.05	-20.8	0.06	5998.17	90.2 58.9	46.60 N 77.27 E

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Job Number: MD0617GVCW444

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
6100.00	0.46	292.00	-21.4	0.04	6098.16	89.7 58.5	46.92 N 76.49 E
6200.00	0.49	292.99	-21.9	0.03	6198.16	89.2 58.0	47.24 N 75.72 E
6300.00	0.52	292.88	-22.5	0.02	6298.16	88.7 57.6	47.58 N 74.91 E
6400.00	0.56	286.21	-23.1	0.08	6398.15	88.2 57.1	47.89 N 74.02 E
6500.00	0.59	282.29	-23.6	0.05	6498.15	87.5 56.6	48.14 N 73.04 E
6600.00	0.58	287.82	-24.1	0.06	6598.14	86.8 56.1	48.40 N 72.06 E
6700.00	0.61	283.30	-24.7	0.06	6698.14	86.1 55.6	48.68 N 71.06 E
6800.00	0.59	274.36	-25.2	0.10	6798.13	85.4 55.1	48.84 N 70.03 E
6900.00	0.65	258.16	-25.4	0.19	6898.12	84.5 54.7	48.77 N 68.96 E
7000.00	0.64	254.56	-25.5	0.04	6998.12	83.4 54.4	48.50 N 67.86 E
7100.00	0.82	244.67	-25.4	0.21	7098.11	82.2 54.2	48.05 N 66.68 E
7200.00	0.90	240.98	-25.2	0.10	7198.10	80.7 54.1	47.36 N 65.35 E
7300.00	0.87	239.05	-24.9	0.04	7298.09	79.2 54.0	46.59 N 64.02 E
7400.00	0.90	238.80	-24.5	0.04	7398.08	77.6 53.9	45.80 N 62.69 E
7500.00	1.02	239.53	-24.1	0.12	7498.06	76.0 53.7	44.94 N 61.26 E
7600.00	1.21	238.61	-23.7	0.20	7598.04	74.0 53.6	43.94 N 59.59 E
7700.00	1.19	240.48	-23.2	0.04	7698.02	71.9 53.4	42.87 N 57.77 E
7800.00	0.81	252.65	-23.0	0.44	7798.00	70.2 53.1	42.15 N 56.20 E
7900.00	0.75	250.95	-23.0	0.07	7898.00	69.0 52.8	41.72 N 54.91 E
8000.00	0.79	252.46	-23.0	0.05	7997.99	67.7 52.4	41.31 N 53.64 E
8100.00	0.76	250.73	-23.0	0.03	8097.98	66.4 52.0	40.88 N 52.35 E
8200.00	0.69	247.68	-22.9	0.09	8197.97	65.2 51.7	40.43 N 51.17 E

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Job Number: MD0617GVCW444

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet	
8300.00	0.72	252.18	-22.9	0.06	8297.96	64.1	51.3	40.01 N	50.02 E
8400.00	0.61	248.74	-22.8	0.11	8397.96	63.0	51.0	39.63 N	48.93 E
8500.00	0.69	251.16	-22.8	0.08	8497.95	61.9	50.7	39.24 N	47.85 E
8600.00	0.55	256.04	-22.8	0.15	8597.94	60.9	50.3	38.92 N	46.81 E
8700.00	0.53	257.66	-22.9	0.03	8697.94	60.0	49.9	38.71 N	45.90 E
8800.00	0.62	266.46	-23.1	0.13	8797.93	59.2	49.3	38.58 N	44.91 E
8900.00	0.85	266.75	-23.4	0.23	8897.93	58.2	48.6	38.50 N	43.62 E
9000.00	1.01	267.91	-23.8	0.16	8997.91	56.9	47.5	38.43 N	42.00 E
9100.00	1.13	273.12	-24.4	0.15	9097.89	55.6	46.2	38.45 N	40.14 E
9200.00	1.07	295.11	-25.4	0.42	9197.88	54.6	44.6	38.90 N	38.31 E
9300.00	0.89	297.02	-26.6	0.18	9297.86	54.1	42.8	39.65 N	36.77 E
9400.00	0.90	295.73	-27.6	0.02	9397.85	53.7	41.2	40.34 N	35.37 E
9500.00	0.88	302.55	-28.8	0.11	9497.84	53.3	39.6	41.10 N	34.01 E
9600.00	0.88	306.57	-30.0	0.06	9597.83	53.2	38.0	41.97 N	32.75 E
9700.00	0.91	265.67	-30.8	0.63	9697.81	52.7	36.5	42.37 N	31.34 E
9800.00	0.96	260.44	-31.1	0.10	9797.80	51.6	35.2	42.17 N	29.72 E
9900.00	1.14	269.89	-31.5	0.24	9897.78	50.4	33.6	42.03 N	27.90 E
10000.00	1.23	274.60	-32.2	0.14	9997.76	49.4	31.5	42.11 N	25.84 E
10100.00	2.24	286.28	-33.7	1.06	10097.72	48.5	28.2	42.75 N	22.89 E
10200.00	2.67	287.37	-36.2	0.43	10197.62	47.8	23.1	43.99 N	18.79 E
10300.00	1.58	297.38	-38.5	1.15	10297.55	47.8	18.7	45.32 N	15.35 E
10400.00	1.22	304.80	-40.3	0.40	10397.52	48.4	15.9	46.56 N	13.25 E

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Location: SCAN PRODUCER DRILLING RIG, WINKLER COUNTY, TEXAS

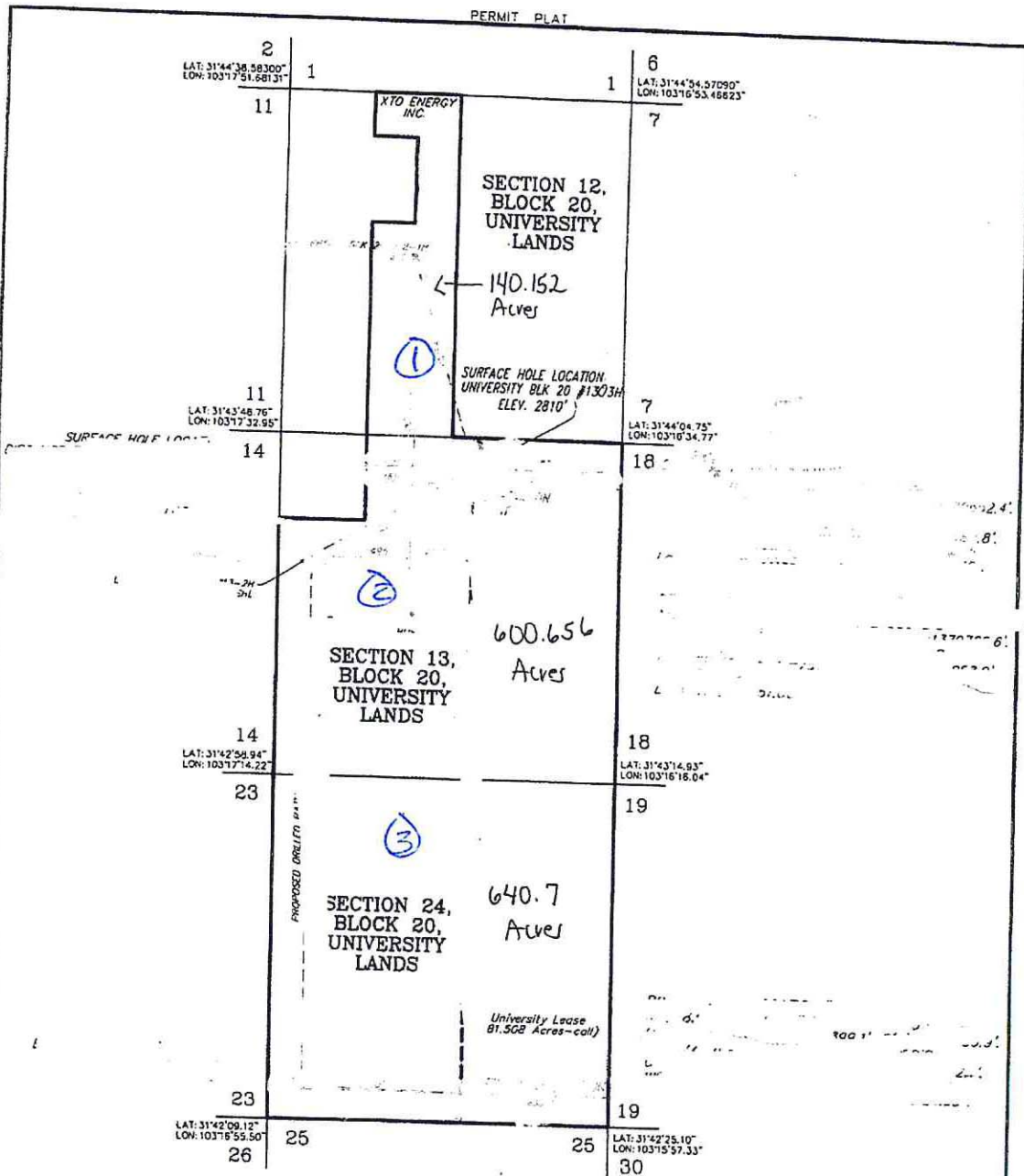
Job Number: MD0617GVCW444

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10500.00	1.35	299.02	-42.0	0.18	10497.50	49.1	13.4	47.74 N	11.35 E
10600.00	1.57	295.69	-43.8	0.24	10597.47	49.7	10.5	48.90 N	9.08 E
10700.00	1.72	285.34	-45.6	0.33	10697.43	50.3	7.3	49.89 N	6.40 E
10800.00	1.89	277.13	-47.1	0.31	10797.38	50.6	3.8	50.50 N	3.32 E
10900.00	2.06	273.78	-48.4	0.21	10897.32	50.8	359.9	50.82 N	0.11 W
11000.00	2.30	273.63	-49.8	0.24	10997.24	51.2	355.6	51.07 N	3.91 W
11100.00	2.41	267.84	-51.1	0.26	11097.16	51.7	351.1	51.11 N	8.01 W
11140.00	2.51	269.07	-51.6	0.29	11137.12	52.0	349.2	51.07 N	9.73 W

Final Station Closure: Distance: 51.99 ft Az: 349.21 deg.



PERMIT PLAT



NOTE: THIS PERMIT PLAT HAS BEEN PREPARED FROM A CERTIFIED SURVEY PLAT ON FILE IN THE OFFICE OF JOHN F. WATSON & COMPANY, MIDLAND, TEXAS. APPROXIMATELY 7.4 MILES SOUTHWEST OF WINK, TEXAS

I, THE UNDERSIGNED, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM ACTUAL FIELD NOTES OF ON-THE-GROUND SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THE INFORMATION PRESENTED HEREON IS FOR THE PRIVATE USE OF THE PARTY NAMED IN THE "REFERENCE PORTION" OF THE TITLE BLOCK AND DOES NOT CONSTITUTE A COMPLETE BOUNDARY SURVEY AS DEFINED BY THE "PROFESSIONAL LAND SURVEYING PRACTICES ACT."

REGISTERED PROFESSIONAL LAND SURVEYOR

10-05-2012  
DATE

PERMIT PLAT

SCALE: 1" = 2000'

John F. Watson & Company

LAND & DEVELOPMENT SERVICES  
PROFESSIONAL LAND SURVEYORS  
200 N. Loraine, Ste. 230  
Midland, Texas 79701  
rwatson@windearthwater.com  
off: (432) 520-2400  
fax: (432) 520-2404  
mob: (432) 528-0174



XTO ENERGY, INC.  
UNIVERSITY BLK 20 #1303H  
SHL: 467' FNL & 2302' FEL - SECTION 13  
PP/TTL: 717' FNL & 2302' FEL - SECTION 13  
BHL/BTL: 467' FSL & 2302' FEL - SECTION 24  
BLOCK 20, UNIVERSITY LANDS, WINKLER COUNTY, TEXAS  
JOB NO.: 12-0188 FIELD BOOK 115/25 DRAFT KP DATE 10/5/12



Gyrodata Incorporated  
10504 WCR 72  
Midland, TX 79707

Main: 432-561-8458  
Fax: 432-563-7982

State of Texas  
County of Harris

I, Kevin Willard, certify that; I am employed by Gyrodata Inc.; that I am authorized and qualified to review the Gyroscopic Multishot survey from a depth of 0 feet to a depth of 11140 feet conducted on the day(s) of 06/10/17 through 06/10/17; that this survey was conducted at the request XTO ENERGY for the UNIVERSITY BLOCK 20 #1307H Well API No. 42-495-33710 in WINKLER County, Texas; that the data is true, correct, complete, and within the limitations of the tool as set forth by Gyrodata Inc.; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Gyrodata Inc.

A handwritten signature in blue ink, appearing to read "Kevin Willard", is written over a horizontal line.

Kevin Willard  
Operations Coordinator