



Gyrodata Incorporated
3811 South County Road 1285
Odessa, Texas 79765

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

April 30, 2014

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

Attn: Ms. Pamela Johns

**RE:
Memorial Production
Wemac, South Unit #7
Permit No. 779313
UL, Abstract A-U1
Wemac, South (Wolfcamp)
Andrews County, Texas
API No. 42-003-46000**

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
Will Skelton Surveyor	Original Hole	Surface - 7824'	04/12/14 - 04/13/14	Rate Gyro 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,

Holly Walker
Operations Assistant - Midland, TX

Enclosure

A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

MEMORIAL RESOURCES DEVELOPMENT

Lease: WELMAC Well: 7, 4 1/2 INCH XH DRILLPIPE
Location: NORTON 5, ANDREWS COUNTY, TEXAS

Job Number: MD0414GDM378

Run Date: 13 Apr 2014

Report Generated: 21 Apr 2014 11:37

Surveyor: Will Skelton

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Hand Held GPS

Survey Latitude: 32.260222 deg. N Longitude: 102.458083 deg. W

Azimuth Correction:

Gyro: 2.70000 deg to Grid North

Depth Reference: Rotary Table

Air Gap (RKB to Ground / RKB to MSL): 14.40

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

MEMORIAL RESOURCES DEVELOPMENT

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Location: NORTON 5, ANDREWS COUNTY, TEXAS

Job Number: MD0414GDM378

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00 N 0.00 E
0 TO 7824 FT RATE GYROSCOPIC MULTISHOT DROP SURVEY RUN INSIDE 4 1/2 INCH XH DRILLPIPE							
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO NORTON 5 AND R.K.B. HEIGHT OF 14.4 FT							
100.00	0.10	145.40	0.10	100.00	0.1	145.4	0.07 S 0.05 E
200.00	0.15	140.62	0.05	200.00	0.3	143.4	0.24 S 0.18 E
300.00	0.19	151.17	0.05	300.00	0.6	144.9	0.49 S 0.35 E
400.00	0.21	153.84	0.02	400.00	0.9	147.7	0.80 S 0.51 E
500.00	0.31	153.79	0.10	500.00	1.4	149.7	1.21 S 0.71 E
511.68	0.29	156.74	0.22	511.68	1.5	149.9	1.26 S 0.73 E
605.84	0.28	162.29	0.03	605.84	1.9	152.2	1.70 S 0.90 E
700.00	0.17	164.39	0.12	700.00	2.3	154.0	2.06 S 1.00 E
794.16	0.08	195.98	0.12	794.16	2.5	155.6	2.25 S 1.02 E
888.32	0.13	249.29	0.11	888.32	2.5	159.0	2.35 S 0.90 E
982.48	0.17	236.93	0.05	982.47	2.6	164.4	2.47 S 0.69 E
1076.64	0.27	238.48	0.11	1076.63	2.7	171.8	2.66 S 0.38 E
1170.80	0.20	234.70	0.08	1170.79	2.9	178.8	2.87 S 0.06 E
1264.96	0.34	257.16	0.18	1264.95	3.0	186.6	3.03 S 0.35 W
1359.12	0.40	269.82	0.11	1359.11	3.2	197.1	3.09 S 0.95 W
1453.28	0.26	274.85	0.15	1453.27	3.4	205.9	3.07 S 1.49 W
1547.44	0.14	272.35	0.13	1547.43	3.6	210.8	3.05 S 1.82 W
1641.60	0.09	241.71	0.08	1641.59	3.7	213.0	3.08 S 2.00 W
1735.76	0.07	207.97	0.05	1735.75	3.8	213.4	3.17 S 2.09 W

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Location: NORTON 5, ANDREWS COUNTY, TEXAS

Job Number: MD0414GDM378

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
1829.92	0.11	185.83	0.06	1829.91	3.9 212.7	3.31 S 2.13 W
1924.08	0.64	82.00	0.72	1924.07	3.7 205.9	3.33 S 1.62 W
2018.24	0.70	80.66	0.07	2018.22	3.2 189.5	3.16 S 0.53 W
2112.40	0.65	71.59	0.13	2112.37	2.9 169.3	2.90 S 0.55 E
2206.56	0.61	69.98	0.05	2206.53	3.0 149.2	2.56 S 1.53 E
2300.72	0.55	68.92	0.06	2300.68	3.3 132.6	2.22 S 2.42 E
2394.88	0.50	66.20	0.06	2394.84	3.7 120.5	1.89 S 3.22 E
2489.04	0.55	59.40	0.08	2488.99	4.3 110.6	1.50 S 3.98 E
2583.20	0.58	61.89	0.04	2583.15	4.9 102.3	1.04 S 4.79 E
2677.36	0.55	65.46	0.05	2677.31	5.7 96.4	0.63 S 5.62 E
2771.52	0.41	69.09	0.15	2771.46	6.4 92.9	0.32 S 6.35 E
2865.68	0.36	43.56	0.19	2865.62	6.9 89.9	0.01 N 6.87 E
2959.84	0.36	32.39	0.07	2959.78	7.2 86.2	0.48 N 7.23 E
3054.00	0.34	23.39	0.06	3053.94	7.6 82.5	0.98 N 7.50 E
3148.16	0.35	9.36	0.09	3148.09	7.8 78.8	1.52 N 7.65 E
3242.32	0.31	15.74	0.06	3242.25	8.0 75.2	2.05 N 7.77 E
3336.48	0.26	31.42	0.10	3336.41	8.3 72.7	2.48 N 7.95 E
3430.64	0.25	35.02	0.02	3430.57	8.7 70.9	2.83 N 8.18 E
3524.80	0.30	25.32	0.07	3524.73	9.0 69.0	3.22 N 8.40 E
3618.96	0.28	24.70	0.02	3618.89	9.3 67.0	3.65 N 8.61 E
3713.12	0.25	24.74	0.03	3713.05	9.7 65.3	4.05 N 8.79 E
3807.28	0.33	31.19	0.09	3807.21	10.1 63.6	4.47 N 9.01 E
3901.44	0.36	33.24	0.03	3901.36	10.5 62.0	4.95 N 9.32 E

A Gyrodata Directional Survey

MEMORIAL RESOURCES DEVELOPMENT

Lease: WELMAC Well: 7, 4 1/2 INCH XH DRILLPIPE

Location: NORTON 5, ANDREWS COUNTY, TEXAS

Job Number: MD0414GDM378

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet	
3995.60	0.25	4.93	0.19	3995.52	10.9	60.4	5.40 N	9.50 E
4089.76	0.12	30.25	0.16	4089.68	11.1	59.3	5.69 N	9.56 E
4183.92	0.11	138.15	0.20	4183.84	11.2	59.5	5.70 N	9.67 E
4278.08	0.20	147.41	0.10	4278.00	11.3	60.8	5.50 N	9.82 E
4372.24	0.25	96.58	0.21	4372.16	11.4	62.2	5.34 N	10.11 E
4466.40	0.27	99.05	0.02	4466.32	11.8	63.4	5.28 N	10.54 E
4560.56	0.21	111.43	0.08	4560.48	12.1	64.6	5.18 N	10.92 E
4654.72	0.13	131.74	0.11	4654.64	12.2	65.7	5.05 N	11.16 E
4748.88	0.05	204.97	0.13	4748.80	12.3	66.2	4.94 N	11.22 E
4843.04	0.23	236.86	0.20	4842.96	12.0	66.5	4.80 N	11.04 E
4937.20	0.26	215.09	0.10	4937.12	11.7	67.2	4.52 N	10.76 E
5031.36	0.23	222.22	0.05	5031.28	11.3	68.2	4.20 N	10.51 E
5125.52	0.18	182.54	0.16	5125.44	11.1	69.3	3.92 N	10.38 E
5219.68	0.11	153.43	0.11	5219.60	11.0	70.5	3.69 N	10.41 E
5313.84	0.30	139.56	0.21	5313.76	11.2	72.1	3.42 N	10.61 E
5408.00	0.26	135.71	0.05	5407.91	11.3	74.3	3.08 N	10.92 E
5502.16	0.23	135.42	0.03	5502.07	11.5	76.0	2.79 N	11.21 E
5596.32	0.19	173.54	0.15	5596.23	11.6	77.6	2.50 N	11.36 E
5690.48	0.40	184.89	0.23	5690.39	11.5	79.9	2.02 N	11.35 E
5784.64	0.55	198.79	0.20	5784.55	11.2	83.5	1.26 N	11.17 E
5878.80	0.52	183.72	0.15	5878.70	11.0	87.9	0.41 N	11.00 E
5972.96	0.51	190.47	0.07	5972.86	10.9	92.3	0.43 S	10.89 E

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Job Number: MD0414GDM378

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
6067.12	0.58	200.70	0.13	6067.02	10.7	96.9	1.29 S 10.65 E
6161.28	0.57	200.39	0.01	6161.17	10.5	101.9	2.17 S 10.32 E
6255.44	0.55	201.23	0.02	6255.33	10.4	106.9	3.03 S 9.99 E
6349.60	0.57	196.38	0.05	6349.48	10.5	111.9	3.90 S 9.70 E
6443.76	0.69	185.91	0.18	6443.64	10.7	117.3	4.92 S 9.51 E
6537.92	0.76	179.48	0.11	6537.79	11.3	122.9	6.10 S 9.45 E
6632.08	0.91	176.12	0.17	6631.94	12.1	128.2	7.47 S 9.51 E
6726.24	0.96	165.81	0.19	6726.09	13.3	132.7	8.99 S 9.75 E
6820.40	1.12	161.56	0.19	6820.23	14.8	136.1	10.62 S 10.24 E
6914.56	1.27	167.79	0.21	6914.37	16.5	139.3	12.52 S 10.75 E
7008.72	1.52	166.79	0.27	7008.50	18.6	142.7	14.75 S 11.26 E
7102.88	1.98	170.46	0.50	7102.62	21.2	146.1	17.57 S 11.81 E
7197.04	2.34	167.74	0.40	7196.71	24.5	149.3	21.05 S 12.49 E
7291.20	2.39	184.21	0.72	7290.79	28.0	152.9	24.89 S 12.75 E
7385.36	2.93	196.00	0.81	7384.85	31.5	157.7	29.16 S 11.94 E
7479.52	3.55	197.18	0.66	7478.86	35.8	163.1	34.26 S 10.42 E
7573.68	4.16	198.91	0.66	7572.81	41.2	168.1	40.28 S 8.45 E
7762.00	4.56	194.38	0.28	7760.58	54.2	175.4	53.99 S 4.38 E
7767.84	4.55	195.59	1.65	7766.40	54.6	175.5	54.44 S 4.26 E
7824.00	4.48	194.33	0.22	7822.39	58.8	177.0	58.71 S 3.12 E

Final Station Closure: Distance: 58.79 ft Az: 176.96 deg.



Gyrodata Incorporated
3811 South County Road 1285
Odessa, Texas 79765

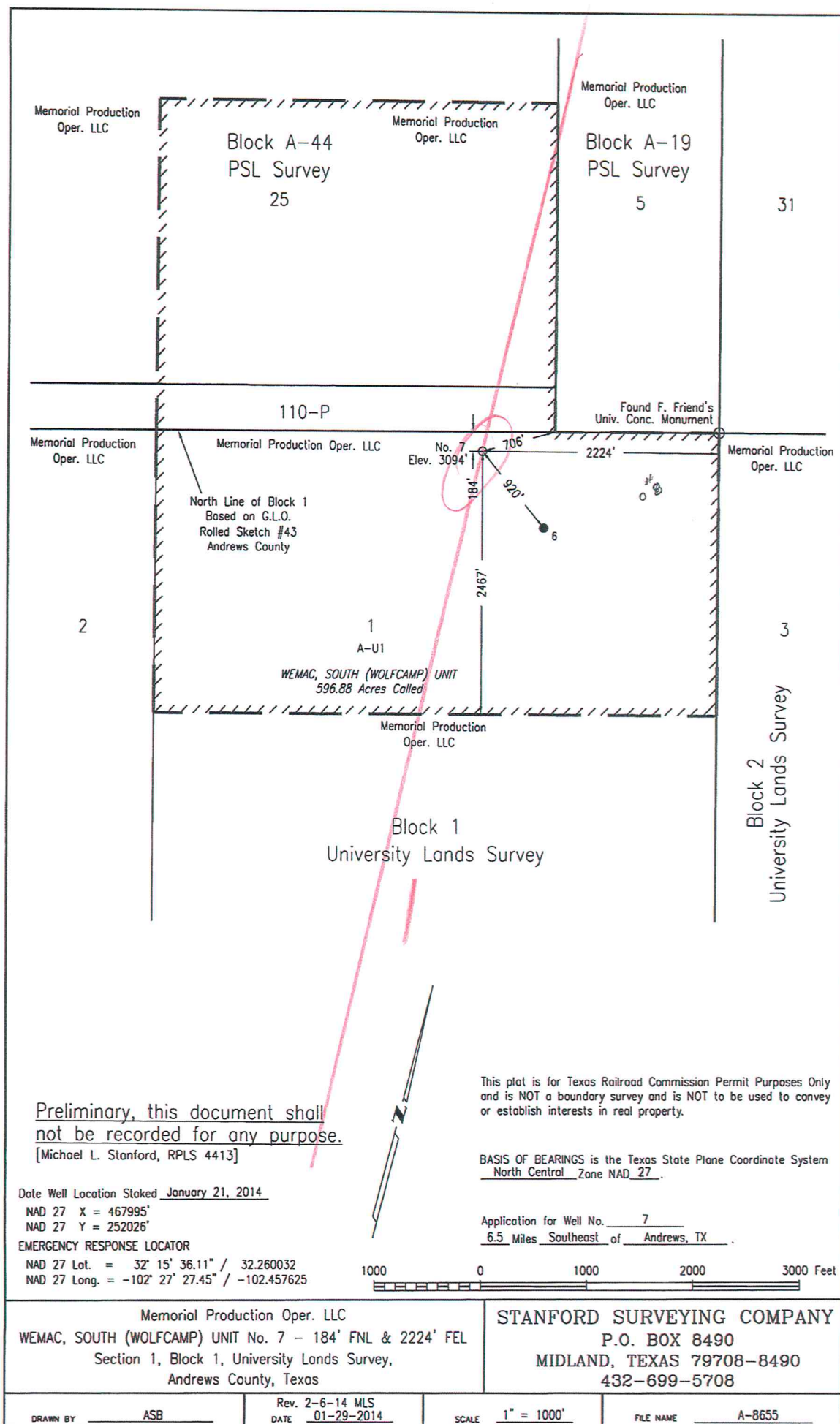
432-561-8458
Fax: 432-563-7982

State of Texas
County of Harris

I, Holly Walker, certify that; I am employed by Gyrodata Inc.; that I am authorized and qualified to review the Rate Gyro Multishot survey from a depth of 0 feet to a depth of 7824 feet conducted on the day(s) of 04/12/14 through 04/13/14; that this survey was conducted at the request of Memorial Production for the Wemac, South Unit #7 Well API No. 42-003-46000 in Andrews 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 that reads "Holly Walker". The signature is written in a cursive, flowing style.

Holly Walker
Operations Assistant – Midland, TX



GYRODATA BOTTOM HOLE LOCATION
58.79° FT @ 176.96° DEGREES OF
SURFACE LOCATION
MD 1894' TVD 7892.39'
SOUTH 58.71° EAST 3.12°



SURVEY & TARGET TRACKING PROGRAM

OPERATOR:	Tri-City	START:	04/12/14
WELL:	Wemac #7	FINISH:	
LOCATION:	Andrews County	MWD Operator	Chris Morris

SURVEY NUMBER "0" IS A TIE-IN TO A SURVEY

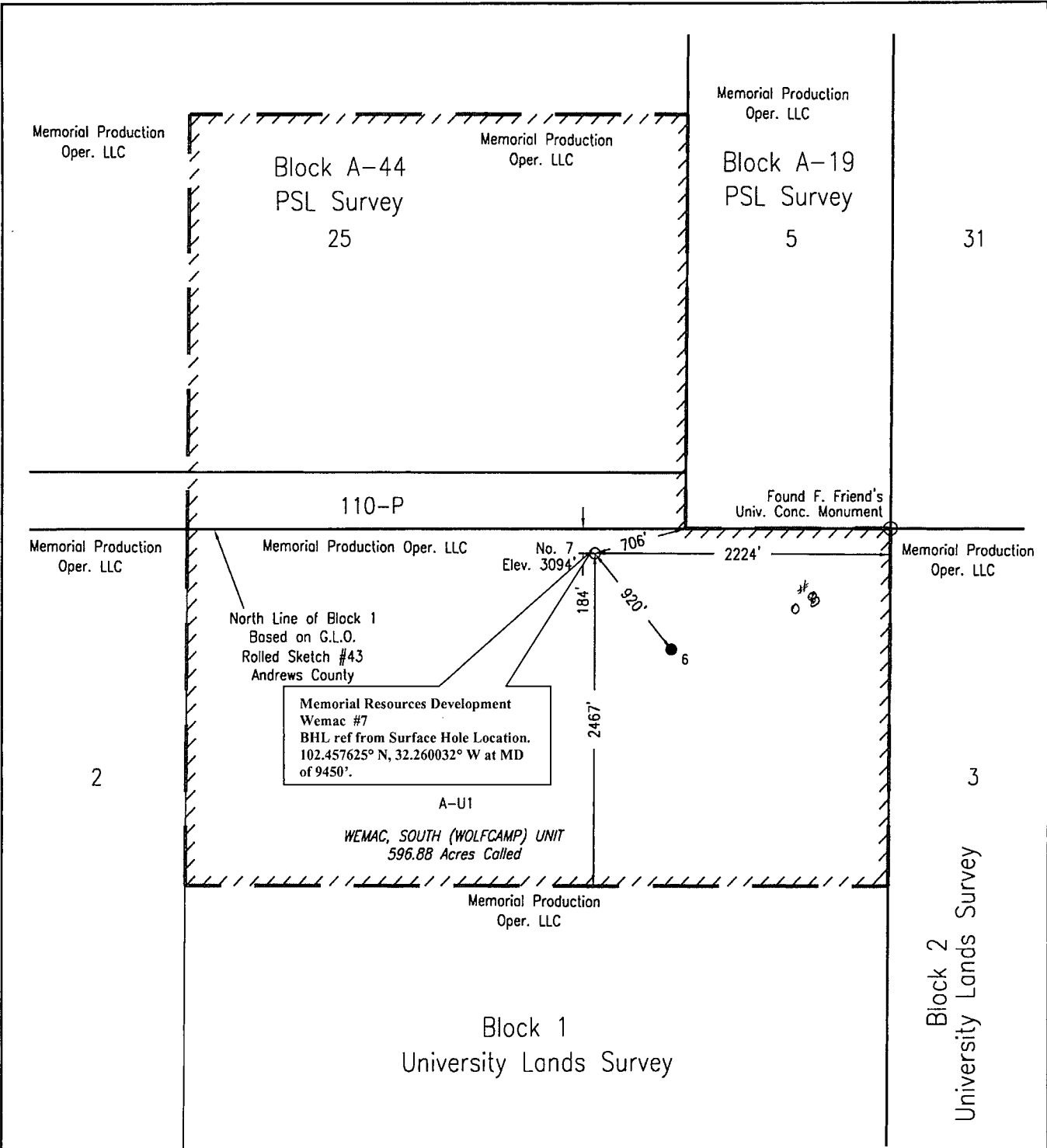
0

DECLINATION (+E / -W) 9.41°

MINIMUM CURVATURE CALCULATIONS(SPE-3362)

PROPOSED DIR: 0.00°

SUR NUM	MD	INC	TRUE AZM	TVD	N-S	E-W	SECT	DLS/ 100
Tie In	7824	4.5	194.3	7822.39	-58.71	3.12	-58.71	
1	7881	4.2	197.3	7879.23	-62.86	1.95	-62.86	0.63
2	7975	4.7	199.1	7972.94	-69.79	-0.34	-69.79	0.55
3	8069	4.0	210.5	8066.67	-76.25	-3.26	-76.25	1.18
4	8163	4.2	217.0	8160.43	-81.82	-7.00	-81.82	0.54
5	8256	3.1	253.0	8253.25	-85.28	-11.45	-85.28	2.67
6	8350	3.0	253.7	8347.12	-86.71	-16.24	-86.71	0.11
7	8444	2.2	277.8	8441.03	-87.16	-20.39	-87.16	1.42
8	8537	1.4	256.0	8533.98	-87.19	-23.26	-87.19	1.12
9	8631	1.2	263.2	8627.96	-87.59	-25.35	-87.59	0.27
10	8725	2.4	286.6	8721.91	-87.14	-28.22	-87.14	1.47
11	8818	1.1	282.0	8814.86	-86.40	-30.96	-86.40	1.40
12	8912	1.9	287.8	8908.83	-85.73	-33.32	-85.73	0.87
13	9005	1.6	290.3	9001.79	-84.81	-36.01	-84.81	0.33
14	9099	2.1	339.9	9095.74	-82.74	-37.83	-82.74	1.72
15	9192	3.9	1.7	9188.62	-77.98	-38.32	-77.98	2.26
16	9286	4.0	6.1	9282.39	-71.52	-37.88	-71.52	0.34
17	9379	4.0	5.4	9375.17	-65.07	-37.23	-65.07	0.05
PTB	9450	4.0	5.4	9445.99	-60.14	-36.76	-60.14	0.00



Preliminary, this document shall not be recorded for any purpose.
[Michael L. Stanford, RPLS 4413]

Date Well Location Staked January 21, 2014

NAD 27 X = 467995'
NAD 27 Y = 252026'

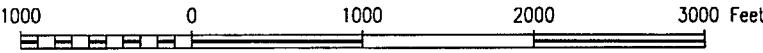
EMERGENCY RESPONSE LOCATOR

NAD 27 Lat. = 32° 15' 36.11" / 32.260032
NAD 27 Long. = -102° 27' 27.45" / -102.457625

This plat is for Texas Railroad Commission Permit Purposes Only and is NOT a boundary survey and is NOT to be used to convey or establish interests in real property.

BASIS OF BEARINGS is the Texas State Plane Coordinate System North Central Zone NAD 27.

Application for Well No. 7
6.5 Miles Southeast of Andrews, TX



Memorial Production Oper. LLC WEMAC, SOUTH (WOLFCAMP) UNIT No. 7 - 184' FNL & 2224' FEL Section 1, Block 1, University Lands Survey, Andrews County, Texas	STANFORD SURVEYING COMPANY P.O. BOX 8490 MIDLAND, TEXAS 79708-8490 432-699-5708
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DRAWN BY <u>ASB</u>	Rev. 2-6-14 MLS DATE <u>01-29-2014</u>	SCALE <u>1" = 1000'</u>	FILE NAME <u>A-8655</u>
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Compass Directional Guidance, Inc.
14427 Interdrive West
Houston, TX 77032
Office: (281) 442-7484
Fax: (832) 230-2145

May 19, 2014

State of Texas
Andrews County
Wemac #7
API NO. 42-003-46000

I, Kevin Williams, certify that; I am employed by Compass Directional Guidance, Inc. I did on this day review the surveys from a measured depth of 7881 feet to a measured depth of 9379 feet with a PTB @ 9379'. All of the surveys were taken with Compass MWD equipment and we found the data is true, correct, complete and within the limitations of the equipment provided by Compass Directional Guidance, Inc. I am authorized and qualified to make this report, and this survey(s) were conducted at the request of Memorial Resource Development, Wemac #7, Anderson County, Texas. I have reviewed this report, and find that it conforms to the principles and procedures as set forth by Compass Directional Guidance, Inc.

Signature:

Kevin Williams

Operations Manager

Position

RECEIVED
RRC OF TEXAS
MAY 30 2014
O & G
AUSTIN, TX