

# Schlumberger

## Reservoir Development

Drilling & Measurements (Anadrill)  
4301 SW 44th St  
Oklahoma City, Oklahoma 73119 USA  
Phone: (405) 682-2284  
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February 29, 2012

Railroad Commission of Texas  
Oil and Gas Division  
PO Box 12967  
Capital Station  
Austin, Texas 78711

Attention: Pam Johns

RECEIVED  
RRC OF TEXAS

MAR 23 2012

O&G  
AUSTIN TX

Re:

CLIENT: Energen Resources Corporation  
WELL: University 35-20 1  
FIELD: Two Georges (Bone Spring)  
RIG: PD 592  
COUNTY: Winkler  
API NO: 42-495-33396  
JOB NO: 12MLD0024

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements (formerly Anadrill), a division of Schlumberger Technology Corporation (P-5 No. 754900).

Other information required by your office is as follows.

<u>Name &amp; Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Donovan Wong MWD	University 35-20 1 Original Hole	11760.00 Ft to 15957.00 Ft	February 20, 2012 to February 29, 2012	SlimPulse & ShortPulse

A plat of the bottom hole location is oriented both to the surface location and to the lease lines (or until line in case of pooling), is attached to the survey report.

If any other information is required, please contact the undersigned at the above letterhead and phone number.

Sincerely,



Chad McMillan  
Field Service Manager

CC: Energen Resources Corporation  
Enclosures: [2]  
County of Winkler  
State of Texas

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## Survey Record

### Survey Calculation

Method :	Minimum Radius of Curvature	DLS Method :	Lubinski
North Reference :	Grid North	Total Correction Formula :	Magnetic Dec - Grid Convergence
Grid Convergence :	-1.52 deg		

### Rig Location

Latitude :	31° 41' 0.19" N	Longitude :	103° 17' 25.437" W
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### Tie In Point

Measured Depth:	0.00 ft	Inclination:	0.00 deg	Azimuth:	0.00 deg
True Vertical Depth:	0.00 ft	North Displacement:	0.00 ft	East Displacement:	0.00 ft
N/-S VSec Origin:	0.00 ft	E/-W VSec Origin:	0.00 ft	Vertical Section Azimuth:	163.71 deg

### D&I Inits Computed and Values Used - RUN001

Geomagnetic Model :	BGGM 2011	Geomagnetic Date :	17-Feb-2012
Computed Location B :	48264.25 nT +/- 300.00nT	Used Location B :	48264.25 nT +/- 300.00nT
Computed Location G :	32.13 ft/s2 +/- 0.08ft/s2	Used Location G :	32.13 ft/s2 +/- 0.08ft/s2
Computed Magnetic Dip :	59.68 deg +/- 0.45deg	Used Magnetic Dip :	59.68 deg +/- 0.45deg
Computed Magnetic Dec :	7.40 deg	Used Magnetic Dec :	7.40 deg
Computed Total Correction :	8.92 deg	Used Total Correction :	8.92 deg

### D&I Inits Computed and Values Used - Run002

Geomagnetic Model :	BGGM 2011	Geomagnetic Date :	20-Feb-2012
Computed Location B :	48263.23 nT +/- 300.00nT	Used Location B :	48263.23 nT +/- 300.00nT
Computed Location G :	32.13 ft/s2 +/- 0.08ft/s2	Used Location G :	32.13 ft/s2 +/- 0.08ft/s2
Computed Magnetic Dip :	59.68 deg +/- 0.45deg	Used Magnetic Dip :	59.68 deg +/- 0.45deg
Computed Magnetic Dec :	7.40 deg	Used Magnetic Dec :	7.40 deg
Computed Total Correction :	8.92 deg	Used Total Correction :	8.92 deg

### D&I Inits Computed and Values Used - RUN003

Geomagnetic Model :	BGGM 2011	Geomagnetic Date :	22-Feb-2012
Computed Location B :	48262.55 nT +/- 300.00nT	Used Location B :	48262.55 nT +/- 300.00nT
Computed Location G :	32.13 ft/s2 +/- 0.08ft/s2	Used Location G :	32.13 ft/s2 +/- 0.08ft/s2
Computed Magnetic Dip :	59.68 deg +/- 0.45deg	Used Magnetic Dip :	59.68 deg +/- 0.45deg
Computed Magnetic Dec :	7.40 deg	Used Magnetic Dec :	7.40 deg
Computed Total Correction :	8.92 deg	Used Total Correction :	8.92 deg

### D&I Inits Computed and Values Used - RUN004

Geomagnetic Model :	BGGM 2011	Geomagnetic Date :	25-Feb-2012
Computed Location B :	48261.53 nT +/- 300.00nT	Used Location B :	48261.53 nT +/- 300.00nT
Computed Location G :	32.13 ft/s2 +/- 0.08ft/s2	Used Location G :	32.13 ft/s2 +/- 0.08ft/s2
Computed Magnetic Dip :	59.68 deg +/- 0.45deg	Used Magnetic Dip :	59.68 deg +/- 0.45deg
Computed Magnetic Dec :	7.40 deg	Used Magnetic Dec :	7.40 deg
Computed Total Correction :	8.92 deg	Used Total Correction :	8.92 deg

### Survey Quality Index

0 : Long Survey passed all criteria      2 : Long Survey failed mag criteria      9 : Manual  
28 : Tie-In Point

### Survey Correction Index

0 : No correction

### Survey Description Index

0 : Not Flagged Survey

Seq	MD (ft)	Incl (deg)	Azim (deg)	Course (ft)	TVD (ft)	V Sec (ft)	N/ -S (ft)	E/ -W (ft)	Closure (ft)	at Azim (deg)	DLS deg/100ft	Tool Type	QI	CI	DI
1	0.00	0.00	0.00	----	0.00	0.00	0.00	0.00	0.00	90.00	0.00	TIP	28	0	0
2	100.00	0.45	29.44	100.00	100.00	-0.27	0.34	0.19	0.39	29.44	0.45	GyroTool	9	0	0

3	200.00	0.90	58.88	100.00	199.99	-0.75	1.09	1.06	1.51	44.16	0.55	GyroTool	9	0	0
4	300.00	0.94	71.96	100.00	299.98	-0.98	1.75	2.51	3.05	55.13	0.21	GyroTool	9	0	0
5	400.00	0.99	85.04	100.00	399.97	-0.83	2.08	4.15	4.66	63.40	0.23	GyroTool	9	0	0
6	500.00	0.98	84.20	100.00	499.95	-0.51	2.24	5.86	6.27	69.09	0.02	GyroTool	9	0	0
7	600.00	0.97	83.36	100.00	599.94	-0.21	2.42	7.55	7.94	72.21	0.02	GyroTool	9	0	0
8	700.00	0.75	87.88	100.00	699.92	0.09	2.55	9.05	9.42	74.29	0.23	GyroTool	9	0	0
9	800.00	0.54	92.40	100.00	799.92	0.41	2.55	10.17	10.50	75.93	0.22	GyroTool	9	0	0
10	900.00	0.34	96.11	100.00	899.92	0.67	2.50	10.94	11.22	77.13	0.20	GyroTool	9	0	0
11	1000.00	0.13	99.82	100.00	999.91	0.83	2.45	11.35	11.61	77.82	0.21	GyroTool	9	0	0
12	1100.00	0.27	99.33	100.00	1099.91	0.98	2.39	11.69	11.94	78.44	0.14	GyroTool	9	0	0
13	1200.00	0.40	98.84	100.00	1199.91	1.23	2.30	12.27	12.47	79.39	0.13	GyroTool	9	0	0
14	1300.00	0.37	95.18	100.00	1299.91	1.50	2.22	12.93	13.12	80.28	0.04	GyroTool	9	0	0
15	1400.00	0.33	91.52	100.00	1399.91	1.71	2.18	13.54	13.71	80.86	0.05	GyroTool	9	0	0
16	1500.00	0.58	90.98	100.00	1499.90	1.94	2.16	14.34	14.50	81.42	0.25	GyroTool	9	0	0
17	1600.00	0.83	90.44	100.00	1599.90	2.30	2.15	15.57	15.72	82.14	0.25	GyroTool	9	0	0
18	1700.00	1.17	89.79	100.00	1699.88	2.79	2.15	17.31	17.45	82.93	0.34	GyroTool	9	0	0
19	1800.00	1.50	89.14	100.00	1799.85	3.43	2.17	19.64	19.75	83.70	0.33	GyroTool	9	0	0
20	1900.00	1.56	87.30	100.00	1899.82	4.09	2.25	22.31	22.44	84.23	0.08	GyroTool	9	0	0
21	2000.00	1.63	85.46	100.00	1999.78	4.70	2.43	25.09	25.20	84.47	0.09	GyroTool	9	0	0
22	2100.00	1.70	80.34	100.00	2099.74	5.16	2.79	27.97	28.12	84.30	0.16	GyroTool	9	0	0
23	2200.00	1.78	75.21	100.00	2199.69	5.38	3.44	30.93	31.14	83.66	0.18	GyroTool	9	0	0
24	2300.00	1.84	72.94	100.00	2299.64	5.39	4.31	33.97	34.25	82.78	0.09	GyroTool	9	0	0
25	2400.00	1.89	70.66	100.00	2399.59	5.28	5.32	37.06	37.43	81.83	0.09	GyroTool	9	0	0
26	2500.00	1.87	67.66	100.00	2499.54	5.03	6.49	40.13	40.65	80.81	0.10	GyroTool	9	0	0
27	2600.00	1.85	64.65	100.00	2599.48	4.60	7.80	43.09	43.80	79.74	0.10	GyroTool	9	0	0
28	2700.00	2.21	61.48	100.00	2699.42	3.94	9.41	46.25	47.18	78.50	0.38	GyroTool	9	0	0
29	2800.00	2.56	58.31	100.00	2799.33	2.93	11.51	49.84	51.15	77.00	0.37	GyroTool	9	0	0
30	2900.00	2.41	65.92	100.00	2899.24	2.06	13.54	53.66	55.35	75.84	0.36	GyroTool	9	0	0
31	3000.00	2.26	73.53	100.00	2999.16	1.76	14.95	57.47	59.38	75.42	0.34	GyroTool	9	0	0
32	3100.00	2.22	73.60	100.00	3099.08	1.75	16.06	61.22	63.29	75.30	0.04	GyroTool	9	0	0
33	3200.00	2.19	73.66	100.00	3199.01	1.75	17.14	64.91	67.13	75.21	0.03	GyroTool	9	0	0
34	3300.00	2.02	71.38	100.00	3298.94	1.68	18.24	68.41	70.80	75.07	0.19	GyroTool	9	0	0
35	3400.00	1.85	69.09	100.00	3398.88	1.47	19.38	71.59	74.18	74.85	0.19	GyroTool	9	0	0
36	3500.00	1.30	65.10	100.00	3498.84	1.17	20.44	74.13	76.90	74.59	0.56	GyroTool	9	0	0
37	3600.00	0.76	61.11	100.00	3598.83	0.86	21.23	75.74	78.67	74.34	0.54	GyroTool	9	0	0
38	3700.00	0.91	64.02	100.00	3698.82	0.58	21.90	77.03	80.09	74.13	0.16	GyroTool	9	0	0
39	3800.00	1.05	66.94	100.00	3798.80	0.34	22.61	78.59	81.79	73.95	0.15	GyroTool	9	0	0
40	3900.00	2.29	66.47	100.00	3898.76	-0.02	23.77	81.27	84.68	73.70	1.24	GyroTool	9	0	0
41	4000.00	3.53	66.00	100.00	3998.63	-0.69	25.82	85.91	89.70	73.27	1.24	GyroTool	9	0	0
42	4100.00	3.19	70.53	100.00	4098.45	-1.25	28.00	91.35	95.54	72.96	0.43	GyroTool	9	0	0
43	4200.00	2.86	75.07	100.00	4198.31	-1.35	29.57	96.38	100.82	72.95	0.41	GyroTool	9	0	0
44	4300.00	2.05	75.87	100.00	4298.22	-1.22	30.64	100.52	105.09	73.05	0.81	GyroTool	9	0	0
45	4400.00	1.25	76.68	100.00	4398.18	-1.10	31.33	103.32	107.97	73.13	0.80	GyroTool	9	0	0
46	4500.00	1.35	79.87	100.00	4498.15	-0.92	31.79	105.54	110.24	73.24	0.12	GyroTool	9	0	0
47	4600.00	1.45	83.05	100.00	4598.12	-0.58	32.15	107.96	112.63	73.42	0.13	GyroTool	9	0	0
48	4700.00	1.73	90.78	100.00	4698.09	0.06	32.28	110.72	115.32	73.74	0.35	GyroTool	9	0	0
49	4800.00	2.01	98.51	100.00	4798.03	1.24	32.00	113.97	118.37	74.31	0.38	GyroTool	9	0	0
50	4900.00	1.63	103.95	100.00	4897.98	2.69	31.40	117.08	121.23	74.99	0.42	GyroTool	9	0	0
51	5000.00	1.24	109.40	100.00	4997.95	4.04	30.70	119.48	123.36	75.59	0.41	GyroTool	9	0	0
52	5100.00	0.97	124.23	100.00	5097.93	5.33	29.86	121.20	124.84	76.16	0.39	GyroTool	9	0	0
53	5200.00	0.70	139.06	100.00	5197.92	6.53	28.93	122.30	125.69	76.69	0.34	GyroTool	9	0	0
54	5300.00	0.54	128.04	100.00	5297.92	7.47	28.17	123.07	126.25	77.11	0.20	GyroTool	9	0	0
55	5400.00	0.38	117.01	100.00	5397.91	8.08	27.73	123.74	126.80	77.37	0.18	GyroTool	9	0	0
56	5500.00	0.56	116.74	100.00	5497.91	8.64	27.36	124.47	127.43	77.60	0.18	GyroTool	9	0	0

57	5600.00	0.75	116.46	100.00	5597.90	9.42	26.85	125.49	128.35	77.92	0.19	GyroTool	9	0	0
58	5700.00	0.52	118.69	100.00	5697.90	10.19	26.34	126.48	129.20	78.24	0.23	GyroTool	9	0	0
59	5800.00	0.29	120.92	100.00	5797.89	10.69	25.99	127.09	129.72	78.44	0.23	GyroTool	9	0	0
60	5900.00	0.28	37.40	100.00	5897.89	10.73	26.06	127.46	130.09	78.45	0.38	GyroTool	9	0	0
61	6000.00	0.27	313.87	100.00	5997.89	10.38	26.42	127.44	130.15	78.29	0.37	GyroTool	9	0	0
62	6100.00	0.38	307.04	100.00	6097.89	9.91	26.78	127.00	129.79	78.09	0.12	GyroTool	9	0	0
63	6200.00	0.48	300.22	100.00	6197.89	9.34	27.19	126.38	129.27	77.86	0.11	GyroTool	9	0	0
64	6300.00	0.39	300.93	100.00	6297.88	8.79	27.57	125.72	128.71	77.63	0.09	GyroTool	9	0	0
65	6400.00	0.30	301.65	100.00	6397.88	8.35	27.89	125.21	128.28	77.44	0.09	GyroTool	9	0	0
66	6500.00	0.42	295.86	100.00	6497.88	7.91	28.18	124.66	127.79	77.26	0.13	GyroTool	9	0	0
67	6600.00	0.55	290.08	100.00	6597.88	7.38	28.51	123.87	127.10	77.04	0.14	GyroTool	9	0	0
68	6700.00	0.61	289.02	100.00	6697.87	6.78	28.85	122.92	126.25	76.79	0.06	GyroTool	9	0	0
69	6800.00	0.67	287.97	100.00	6797.87	6.15	29.20	121.86	125.30	76.52	0.06	GyroTool	9	0	0
70	6900.00	0.74	283.44	100.00	6897.86	5.50	29.53	120.68	124.25	76.25	0.09	GyroTool	9	0	0
71	7000.00	0.80	278.91	100.00	6997.85	4.88	29.79	119.36	123.03	75.99	0.09	GyroTool	9	0	0
72	7100.00	1.01	275.32	100.00	7097.84	4.26	29.98	117.79	121.56	75.72	0.22	GyroTool	9	0	0
73	7200.00	1.22	271.73	100.00	7197.82	3.60	30.09	115.85	119.69	75.44	0.22	GyroTool	9	0	0
74	7300.00	1.11	269.13	100.00	7297.80	3.02	30.11	113.82	117.75	75.18	0.12	GyroTool	9	0	0
75	7400.00	0.99	266.53	100.00	7397.78	2.57	30.04	111.99	115.94	74.98	0.13	GyroTool	9	0	0
76	7500.00	0.68	266.25	100.00	7497.77	2.25	29.95	110.53	114.53	74.84	0.31	GyroTool	9	0	0
77	7600.00	0.38	265.96	100.00	7597.77	2.05	29.89	109.61	113.62	74.75	0.30	GyroTool	9	0	0
78	7700.00	0.68	163.41	100.00	7697.76	2.57	29.30	109.45	113.29	75.01	0.85	GyroTool	9	0	0
79	7800.00	0.99	100.86	100.00	7797.75	3.56	28.57	110.47	114.11	75.50	0.91	GyroTool	9	0	0
80	7900.00	0.93	99.85	100.00	7897.74	4.31	28.27	112.11	115.62	75.85	0.06	GyroTool	9	0	0
81	8000.00	0.87	98.84	100.00	7997.73	4.99	28.01	113.66	117.06	76.16	0.06	GyroTool	9	0	0
82	8100.00	0.48	103.74	100.00	8097.72	5.52	27.79	114.82	118.14	76.39	0.39	GyroTool	9	0	0
83	8200.00	0.08	108.64	100.00	8197.72	5.77	27.67	115.29	118.57	76.50	0.40	GyroTool	9	0	0
84	8300.00	0.37	111.71	100.00	8297.72	6.01	27.53	115.66	118.90	76.61	0.29	GyroTool	9	0	0
85	8400.00	0.66	114.79	100.00	8397.71	6.59	27.17	116.48	119.62	76.87	0.29	GyroTool	9	0	0
86	8500.00	0.38	135.58	100.00	8497.71	7.26	26.69	117.24	120.24	77.17	0.33	GyroTool	9	0	0
87	8600.00	0.11	156.37	100.00	8597.71	7.65	26.37	117.51	120.44	77.35	0.28	GyroTool	9	0	0
88	8700.00	0.54	167.73	100.00	8697.71	8.21	25.82	117.65	120.44	77.62	0.43	GyroTool	9	0	0
89	8800.00	0.98	179.09	100.00	8797.70	9.51	24.50	117.76	120.28	78.25	0.46	GyroTool	9	0	0
90	8900.00	1.81	176.99	100.00	8897.67	11.87	22.07	117.86	119.91	79.39	0.83	GyroTool	9	0	0
91	9000.00	2.64	174.90	100.00	8997.59	15.66	18.20	118.14	119.55	81.24	0.83	GyroTool	9	0	0
92	9100.00	2.59	174.78	100.00	9097.49	20.14	13.66	118.56	119.32	83.43	0.05	GyroTool	9	0	0
93	9200.00	2.53	174.66	100.00	9197.39	24.53	9.21	118.97	119.32	85.57	0.06	GyroTool	9	0	0
94	9300.00	1.85	172.33	100.00	9297.31	28.29	5.41	119.39	119.52	87.41	0.69	GyroTool	9	0	0
95	9400.00	1.17	170.00	100.00	9397.28	30.90	2.81	119.78	119.82	88.66	0.68	GyroTool	9	0	0
96	9500.00	1.31	169.06	100.00	9497.25	33.05	0.68	120.17	120.18	89.68	0.14	GyroTool	9	0	0
97	9600.00	1.44	168.12	100.00	9597.23	35.44	-1.67	120.65	120.67	90.80	0.13	GyroTool	9	0	0
98	9700.00	1.17	162.32	100.00	9697.20	37.72	-3.88	121.22	121.29	91.83	0.30	GyroTool	9	0	0
99	9800.00	0.90	156.51	100.00	9797.18	39.52	-5.57	121.84	121.98	92.62	0.29	GyroTool	9	0	0
100	9900.00	0.99	146.65	100.00	9897.17	41.12	-7.01	122.63	122.83	93.27	0.19	GyroTool	9	0	0
101	10000.00	1.09	136.78	100.00	9997.15	42.80	-8.43	123.76	124.05	93.90	0.20	GyroTool	9	0	0
102	10100.00	1.10	137.51	100.00	10097.14	44.50	-9.83	125.06	125.43	94.49	0.02	GyroTool	9	0	0
103	10200.00	1.12	138.25	100.00	10197.12	46.25	-11.26	126.35	126.87	95.09	0.02	GyroTool	9	0	0
104	10300.00	1.29	140.15	100.00	10297.09	48.16	-12.86	127.73	128.38	95.75	0.17	GyroTool	9	0	0
105	10400.00	1.47	142.06	100.00	10397.07	50.39	-14.73	129.24	130.09	96.50	0.19	GyroTool	9	0	0
106	10450.00	1.30	140.89	50.00	10447.05	51.51	-15.68	129.99	130.94	96.88	0.34	GyroTool	9	0	0
107	10632.00	2.70	210.40	182.00	10628.96	56.35	-20.98	129.12	130.81	99.23	1.40	Other	9	0	0
108	10812.00	1.90	207.00	180.00	10808.81	61.43	-27.30	125.62	128.54	102.26	0.45	Other	9	0	0
109	10991.00	0.08	207.00	179.00	10987.78	63.68	-30.05	124.22	127.79	103.60	1.02	Other	9	0	0
110	11098.00	1.30	220.90	107.00	11094.77	64.39	-31.03	123.39	127.23	104.12	1.14	Other	9	0	0

111	11171.00	2.30	187.30	73.00	11167.73	66.18	-33.11	122.66	127.07	105.11	1.94	Other	9	0	0
112	11203.00	4.70	170.90	32.00	11199.67	68.07	-35.05	122.79	127.69	105.93	8.05	Other	9	0	0
113	11235.00	6.90	163.90	32.00	11231.50	71.30	-38.19	123.53	129.30	107.18	7.21	Other	9	0	0
114	11267.00	8.90	158.80	32.00	11263.20	75.69	-42.34	124.96	131.92	108.72	6.62	Other	9	0	0
115	11299.00	11.10	153.70	32.00	11294.71	81.19	-47.41	127.22	135.76	110.44	7.40	Other	9	0	0
116	11331.00	14.90	151.00	32.00	11325.89	88.24	-53.77	130.58	141.21	112.38	12.02	Other	9	0	0
117	11363.00	19.30	151.90	32.00	11356.46	97.43	-62.04	135.06	148.62	114.67	13.77	Other	9	0	0
118	11395.00	23.30	154.00	32.00	11386.27	108.85	-72.40	140.33	157.91	117.29	12.72	Other	9	0	0
119	11427.00	26.80	156.80	32.00	11415.26	122.25	-84.72	145.95	168.77	120.13	11.55	Other	9	0	0
120	11459.00	31.50	159.70	32.00	11443.20	137.76	-99.20	151.69	181.27	123.18	15.33	Other	9	0	0
121	11491.00	36.50	160.40	32.00	11469.72	155.62	-116.02	157.79	195.87	126.33	15.67	Other	9	0	0
122	11523.00	41.20	150.90	32.00	11494.66	175.42	-134.22	166.12	213.58	128.94	23.68	Other	9	0	0
123	11555.00	46.10	162.10	32.00	11517.84	197.27	-154.44	174.81	233.27	131.46	28.56	Other	9	0	0
124	11587.00	51.00	163.80	32.00	11539.02	221.24	-177.37	181.83	254.00	134.29	15.82	Other	9	0	0
125	11619.00	56.10	164.70	32.00	11558.02	246.97	-202.14	188.80	276.61	136.95	16.10	Other	9	0	0
126	11651.00	61.70	165.10	32.00	11574.55	274.36	-228.58	195.94	301.05	139.40	17.53	Other	9	0	0
127	11685.00	68.10	165.40	34.00	11588.96	305.12	-258.34	203.77	329.04	141.73	18.84	Other	9	0	0
128	11760.00	72.90	166.63	75.00	11613.99	375.74	-326.92	220.84	394.52	145.96	6.58	SlimPulse	0	0	0
129	11792.00	73.89	166.74	32.00	11623.14	406.36	-356.77	227.90	423.33	147.43	3.14	SlimPulse	2	0	0
130	11842.00	77.10	166.14	50.00	11635.66	454.71	-403.82	239.25	469.36	149.35	6.51	ShortPulse	0	0	0
131	11872.00	78.08	166.37	30.00	11642.10	483.98	-432.27	246.21	497.47	150.34	3.38	ShortPulse	0	0	0
132	11903.00	78.58	166.31	31.00	11648.37	514.30	-461.78	253.38	526.74	151.25	1.62	ShortPulse	0	0	0
133	11934.00	78.90	166.44	31.00	11654.43	544.67	-491.32	260.54	556.14	152.06	1.10	ShortPulse	0	0	0
134	11965.00	79.46	166.87	31.00	11660.25	575.08	-520.95	267.57	585.63	152.81	2.27	ShortPulse	0	0	0
135	11996.00	80.95	165.98	31.00	11665.52	605.60	-550.64	274.74	615.39	153.48	5.60	ShortPulse	0	0	0
136	12028.00	82.17	165.79	32.00	11670.22	637.23	-581.34	282.45	646.33	154.09	3.84	ShortPulse	0	0	0
137	12059.00	82.86	165.63	31.00	11674.25	667.94	-611.13	290.04	676.48	154.61	2.30	ShortPulse	0	0	0
138	12090.00	84.25	165.41	31.00	11677.73	698.73	-640.95	297.74	706.73	155.08	4.52	ShortPulse	0	0	0
139	12121.00	84.56	165.37	31.00	11680.75	729.57	-670.81	305.53	737.11	155.51	1.01	ShortPulse	0	0	0
140	12152.00	85.11	165.36	31.00	11683.55	760.43	-700.68	313.33	767.55	155.91	1.78	ShortPulse	0	0	0
141	12183.00	86.35	165.75	31.00	11685.85	791.33	-730.61	321.04	798.03	156.28	4.19	ShortPulse	0	0	0
142	12216.00	86.35	166.07	33.00	11687.95	824.24	-762.56	329.05	830.51	156.66	0.97	ShortPulse	0	0	0
143	12247.00	86.80	166.09	31.00	11689.80	855.16	-792.59	336.50	861.06	157.00	1.44	ShortPulse	0	0	0
144	12278.00	87.32	166.28	31.00	11691.39	886.09	-822.66	343.89	891.63	157.31	1.77	ShortPulse	0	0	0
145	12309.00	87.42	166.36	31.00	11692.82	917.02	-852.74	351.21	922.24	157.61	0.44	ShortPulse	0	0	0
146	12340.00	87.56	166.45	31.00	11694.17	947.96	-882.85	358.49	952.85	157.90	0.52	ShortPulse	0	0	0
147	12371.00	87.28	165.76	31.00	11695.57	978.90	-912.91	365.93	983.53	158.16	2.37	ShortPulse	0	0	0
148	12402.00	87.73	165.80	31.00	11696.92	1009.85	-942.93	373.54	1014.24	158.39	1.45	ShortPulse	0	0	0
149	12426.00	87.94	165.47	24.00	11697.83	1033.82	-966.16	379.49	1038.02	158.56	1.62	ShortPulse	0	0	0
150	12520.00	91.86	163.79	94.00	11698.00	1127.78	-1056.78	404.41	1131.53	159.06	4.54	ShortPulse	0	0	0
151	12551.00	92.41	163.80	31.00	11696.84	1158.76	-1086.53	413.05	1162.40	159.19	1.78	ShortPulse	0	0	0
152	12582.00	92.79	163.61	31.00	11695.44	1189.73	-1116.25	421.74	1193.27	159.30	1.36	ShortPulse	0	0	0
153	12613.00	93.13	162.78	31.00	11693.84	1220.69	-1145.89	430.69	1224.15	159.40	2.92	ShortPulse	0	0	0
154	12644.00	91.93	163.52	31.00	11692.47	1251.66	-1175.53	439.67	1255.05	159.49	4.58	ShortPulse	0	0	0
155	12675.00	89.21	162.80	31.00	11692.16	1282.65	-1205.19	448.64	1285.99	159.58	9.07	ShortPulse	0	0	0
156	12707.00	88.93	163.68	32.00	11692.68	1314.64	-1235.83	457.87	1317.91	159.67	2.88	ShortPulse	2	0	0
157	12738.00	89.14	162.20	31.00	11693.20	1345.64	-1265.46	466.96	1348.88	159.75	4.81	ShortPulse	0	0	0
158	12769.00	90.00	161.45	31.00	11693.44	1376.62	-1294.91	476.63	1379.86	159.79	3.69	ShortPulse	0	0	0
159	12800.00	90.31	161.89	31.00	11693.35	1407.60	-1324.34	486.38	1410.83	159.83	1.74	ShortPulse	0	0	0
160	12831.00	90.96	162.27	31.00	11693.01	1438.58	-1353.83	495.92	1441.80	159.88	2.43	ShortPulse	0	0	0
161	12862.00	91.48	162.37	31.00	11692.35	1469.57	-1383.36	505.33	1472.77	159.93	1.69	ShortPulse	0	0	0
162	12893.00	91.86	162.08	31.00	11691.45	1500.54	-1412.87	514.79	1503.74	159.98	1.54	ShortPulse	0	0	0
163	12924.00	92.27	162.30	31.00	11690.33	1531.51	-1442.36	524.27	1534.68	160.02	1.51	ShortPulse	0	0	0
164	12955.00	91.96	162.66	31.00	11689.18	1562.48	-1471.91	533.59	1565.65	160.07	1.53	ShortPulse	0	0	0

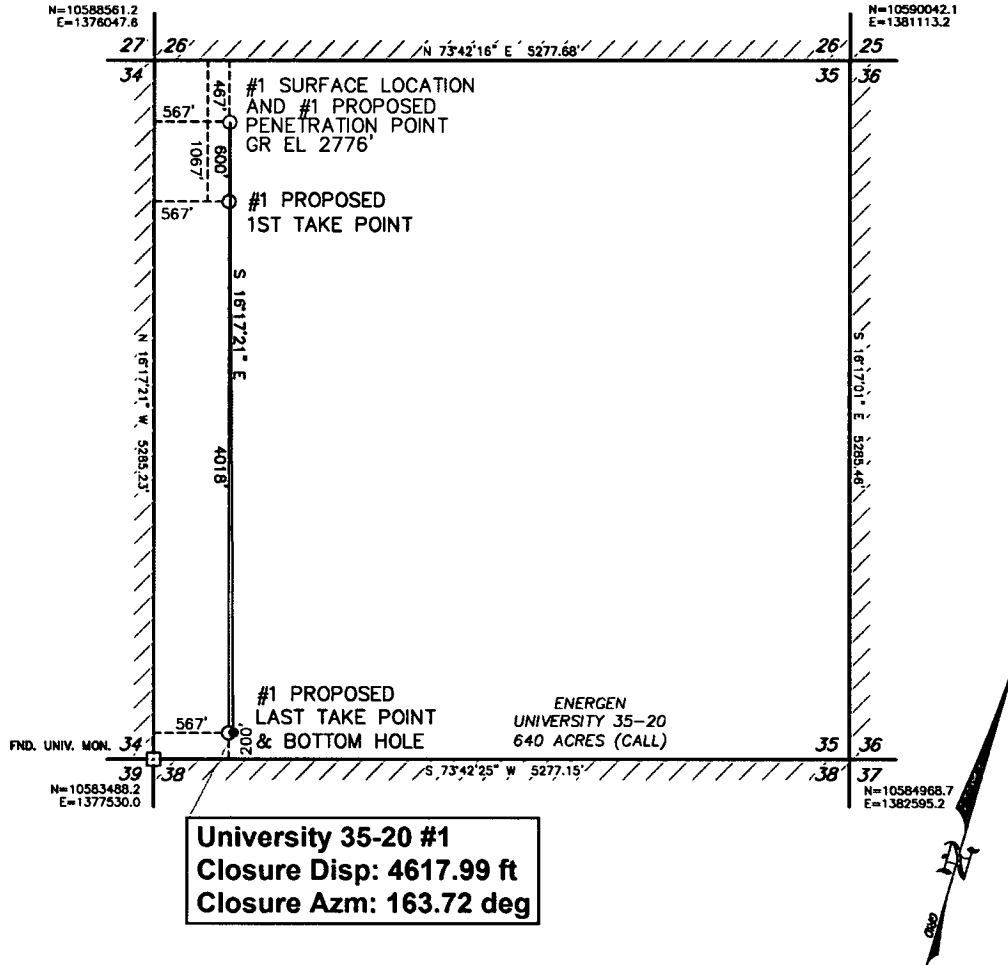
165	12987.00	91.79	163.68	32.00	11688.14	1594.46	-1502.52	542.85	1597.57	160.14	3.22	ShortPulse	0	0	0
166	13018.00	92.17	163.61	31.00	11687.07	1625.45	-1532.25	551.58	1628.51	160.20	1.25	ShortPulse	0	0	0
167	13049.00	90.76	164.28	31.00	11686.28	1656.43	-1562.03	560.15	1659.42	160.27	5.04	ShortPulse	0	0	0
168	13080.00	90.62	164.83	31.00	11685.91	1687.43	-1591.90	568.41	1690.35	160.35	1.85	ShortPulse	0	0	0
169	13111.00	89.76	165.72	31.00	11685.80	1718.42	-1621.89	576.28	1721.23	160.44	3.99	ShortPulse	0	0	0
170	13141.00	90.45	166.20	30.00	11685.75	1748.39	-1650.99	583.56	1751.08	160.53	2.79	ShortPulse	0	0	0
171	13173.00	90.89	165.74	32.00	11685.38	1780.37	-1682.03	591.32	1782.94	160.63	2.01	ShortPulse	0	0	0
172	13203.00	91.41	166.41	30.00	11684.77	1810.33	-1711.15	598.53	1812.80	160.72	2.83	ShortPulse	0	0	0
173	13235.00	90.86	168.19	32.00	11684.14	1842.26	-1742.36	605.57	1844.59	160.83	5.80	ShortPulse	0	0	0
174	13266.00	88.86	169.05	31.00	11684.21	1873.15	-1772.74	611.68	1875.30	160.96	7.02	ShortPulse	2	0	0
175	13297.00	88.31	168.47	31.00	11684.98	1904.02	-1803.14	617.72	1906.00	161.09	2.59	ShortPulse	0	0	0
176	13327.00	86.77	169.15	30.00	11686.26	1933.87	-1832.54	623.54	1935.73	161.21	5.64	ShortPulse	0	0	0
177	13358.00	87.32	168.67	31.00	11687.86	1964.70	-1862.92	629.50	1966.40	161.33	2.36	ShortPulse	0	0	0
178	13395.00	88.31	167.67	37.00	11689.27	2001.56	-1899.11	637.07	2003.12	161.46	3.81	ShortPulse	0	0	0
179	13425.00	88.90	166.74	30.00	11690.00	2031.50	-1928.35	643.72	2032.97	161.54	3.68	ShortPulse	0	0	0
180	13454.00	89.86	166.49	29.00	11690.32	2060.46	-1956.57	650.43	2061.84	161.61	3.43	ShortPulse	0	0	0
181	13485.00	89.62	166.28	31.00	11690.46	2091.42	-1986.69	657.73	2092.75	161.68	1.04	ShortPulse	0	0	0
182	13517.00	89.76	165.94	32.00	11690.63	2123.40	-2017.76	665.41	2124.64	161.75	1.15	ShortPulse	0	0	0
183	13547.00	89.79	165.72	30.00	11690.75	2153.37	-2046.84	672.75	2154.56	161.81	0.75	ShortPulse	0	0	0
184	13639.00	89.72	165.71	92.00	11691.13	2245.32	-2136.00	695.45	2246.36	161.97	0.07	ShortPulse	0	0	0
185	13732.00	89.14	164.90	93.00	11692.05	2338.28	-2225.95	719.04	2339.21	162.10	1.07	ShortPulse	0	0	0
186	13825.00	89.07	164.21	93.00	11693.50	2431.25	-2315.58	743.80	2432.12	162.19	0.75	ShortPulse	0	0	0
187	13918.00	89.52	164.26	93.00	11694.65	2524.24	-2405.08	769.06	2525.03	162.27	0.48	ShortPulse	0	0	0
188	14012.00	89.55	163.69	94.00	11695.41	2618.24	-2495.42	795.00	2619.00	162.33	0.61	ShortPulse	0	0	0
189	14105.00	89.42	163.78	93.00	11696.25	2711.23	-2584.70	821.05	2711.98	162.38	0.18	ShortPulse	0	0	0
190	14198.00	89.31	164.05	93.00	11697.28	2804.23	-2674.05	846.82	2804.92	162.43	0.31	ShortPulse	0	0	0
191	14290.00	89.21	164.31	92.00	11698.47	2896.22	-2762.56	871.90	2896.88	162.48	0.30	ShortPulse	0	0	0
192	14384.00	89.76	164.52	94.00	11699.31	2990.21	-2853.10	897.15	2990.81	162.54	0.63	ShortPulse	0	0	0
193	14477.00	89.31	164.63	93.00	11700.07	3083.19	-2942.75	921.89	3083.76	162.61	0.49	ShortPulse	0	0	0
194	14569.00	90.17	165.23	92.00	11700.48	3175.17	-3031.58	945.80	3175.69	162.67	1.14	ShortPulse	0	0	0
195	14661.00	90.24	165.00	92.00	11700.15	3267.14	-3120.49	969.43	3267.62	162.74	0.27	ShortPulse	0	0	0
196	14754.00	90.17	164.88	93.00	11699.81	3360.12	-3210.30	993.60	3360.53	162.80	0.15	ShortPulse	0	0	0
197	14848.00	89.73	164.44	94.00	11699.90	3454.11	-3300.95	1018.47	3454.49	162.85	0.67	ShortPulse	0	0	0
198	14879.00	89.83	164.93	31.00	11700.02	3485.10	-3330.85	1026.66	3485.47	162.87	1.63	ShortPulse	0	0	0
199	14908.00	89.97	165.88	29.00	11700.07	3514.09	-3358.91	1033.97	3514.44	162.89	3.29	ShortPulse	0	0	0
200	14938.00	89.17	166.61	30.00	11700.30	3544.06	-3388.05	1041.10	3544.39	162.92	3.59	ShortPulse	0	0	0
201	14969.00	88.87	167.19	31.00	11700.83	3575.00	-3418.24	1048.12	3575.33	162.95	2.14	ShortPulse	0	0	0
202	15000.00	88.87	167.79	31.00	11701.44	3605.93	-3448.50	1054.84	3606.20	162.99	1.93	ShortPulse	0	0	0
203	15031.00	88.93	168.13	31.00	11702.04	3636.84	-3478.81	1061.30	3637.11	163.03	1.10	ShortPulse	0	0	0
204	15124.00	88.28	169.94	93.00	11704.30	3729.41	-3570.08	1078.99	3729.56	163.18	2.07	ShortPulse	0	0	0
205	15216.00	87.52	169.35	92.00	11707.66	3820.85	-3660.52	1095.52	3820.93	163.34	1.05	ShortPulse	0	0	0
206	15308.00	87.46	167.52	92.00	11711.69	3912.45	-3750.56	1113.94	3912.50	163.46	1.99	ShortPulse	0	0	0
207	15401.00	88.21	166.61	93.00	11715.21	4005.22	-3841.13	1134.74	4005.25	163.54	1.27	ShortPulse	0	0	0
208	15495.00	89.83	165.89	94.00	11716.82	4099.11	-3932.42	1157.08	4099.11	163.60	1.88	ShortPulse	0	0	0
209	15526.00	90.89	165.62	31.00	11716.62	4130.09	-3962.47	1164.70	4130.09	163.62	3.55	ShortPulse	0	0	0
210	15557.00	91.65	164.86	31.00	11715.93	4161.07	-3992.44	1172.60	4161.09	163.63	3.48	ShortPulse	0	0	0
211	15588.00	91.79	164.79	31.00	11715.00	4192.05	-4022.34	1180.71	4192.06	163.64	0.49	ShortPulse	0	0	0
212	15681.00	90.65	164.45	93.00	11713.02	4285.02	-4111.99	1205.37	4285.01	163.66	1.28	ShortPulse	0	0	0
213	15774.00	90.65	163.98	93.00	11711.96	4378.01	-4201.48	1230.67	4378.02	163.67	0.50	ShortPulse	0	0	0
214	15868.00	90.65	163.68	94.00	11710.89	4472.00	-4291.75	1256.85	4472.01	163.68	0.32	ShortPulse	0	0	0
215	15957.00	90.65	163.72	89.00	11709.88	4561.00	-4377.17	1281.82	4560.99	163.68	0.05	ShortPulse	0	0	0
216	16014.00	90.65	163.72	57.00	11709.23	4617.99	-4431.88	1297.80	4617.98	163.68	0.01	Other	9	0	0

**Company:** Energen Resources Corporation

PERMIT PLAT

A-1330

SECTION 35, BLOCK 20, UNIVERSITY LAND SURVEY



NAD 83, TEXAS CENTRAL ZONE		NAD 27, TEXAS CENTRAL ZONE	
S/L: N=10588272.1', E=1376722.8'	LAT=31.683159 N, LONG=103.2908470 W	S/L: N=745695.9', E=1080258.0'	LAT=31.6833861 N, LONG=103.2903982 W
1ST/P: N=10587696.2', E=1376691.1'	LAT=31.6819455 N, LONG=103.2902569 W	1ST/P: N=745120.0', E=1080426.3'	LAT=31.6818157 N, LONG=103.2898092 W
L/P: N=10583839.2', E=1376018.1'	LAT=31.6714287 N, LONG=103.2863059 W	L/P: N=741263.0', E=1081553.2'	LAT=31.6712986 N, LONG=103.2858587 W

APPROXIMATELY 14.4 MILES NW OF PYOTE, TEXAS

- NOTES:
- COORDINATES AND BEARINGS SHOWN HEREON ARE NAD 83, LAMBERT GRID COORDINATES AND CONFORM TO THE TEXAS COORDINATE SYSTEM, TEXAS CENTRAL ZONE, WITH REFERENCE TO USGS TIG-STATION "WILEY" WITH A CENTRAL CORRECTION SCALE FACTOR OF 0.999801780. THE POSITIONAL TOLERANCE OF THIS SURVEY EXCEEDS THE REQUIREMENTS FOR A RURAL SURVEY.
  - THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF IMPROVEMENTS AND/OR EASEMENTS WERE BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAVE BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.
  - SEE DOCUMENTS AND ELECTRONIC DATA FILED IN THE OFFICE OF WPG INC FOR COMPLETE RECONSTRUCTION OF THESE SECTIONS OR BLOCKS.

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. NO WARRANTY IS MADE OR INTENDED FOR THE LOCATION OF ANY OR ALL EASEMENTS THAT MAY EXIST WITHIN THE BOUNDS OF THIS SURVEY. 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."



- ☼ GAS WELL
- △ WATER INJECTION WELL
- OIL WELL
- LOCATED WELL
- ⊙ DRY HOLE
- ⊕ WATER WELL
- ⊖ SHUT IN WELL

W.D. Watson, Jr. TEXAS R.P.L.S. No. 1989  
FILE: T: WINKLER BLOCK 20.dwg

11/9/11  
DATE

1000 0 1000 2000 FEET

**Watson**  
Professional  
Group Inc



P.O. DRAWER 11186  
MIDLAND, TEXAS 79702  
(432) 520-9200  
FAX (432) 520-9222  
w@watsongroup.us.com

CONSULTING ENGINEERS, LAND SURVEYORS & PLANNERS

PERMIT PLAT  
ENERGEN RESOURCES  
UNIVERSITY 35-20 #1  
S/L & PROPOSED P/P: 567' FSNL & 467' FSNL  
PROPOSED 1ST T/P: 567' FSNL & 1067' FSNL  
PROPOSED LAST T/P & B/H: 567' FSNL & 200' FSEL  
SECTION 35, BLOCK 20, UNIVERSITY LAND SURVEY  
WINKLER COUNTY, TEXAS

DATE: NOVEMBER 9, 2011

DATE SURVEYED: 11/7/11

JOB NO.: 11-1306-00, FIELD BOOK: 648/40

DRAFT NGH REV. 0