



## **EOG Resources**

**Crockett County, TX (NAD27 TC)  
University 40 #1403H (Wolfcamp)  
University 40 #1403H**

**OH**

**Design: Actual**

## **Standard Survey Report**

**30 September, 2011**



Company:	EOG Resources	Local Coordinate Reference:	Well University 40 #1403H
Project:	Crockett County, TX (NAD27 TC)	TVD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Site:	University 40 #1403H (Wolfcamp)	MD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Well:	University 40 #1403H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Julio

Project:	Crockett County, TX (NAD27 TC)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Texas Central 4203		

Site:	University 40 #1403H (Wolfcamp)		
Site Position:		Northing:	513,114.00 usft
From:	Map	Easting:	1,730,752.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	31° 4' 28.859 N
		Longitude:	101° 11' 36.231 W
		Grid Convergence:	-0.44 °

Well:	University 40 #1403H		
Well Position	+N-S	0.00 usft	Northing: 513,114.00 usft
	+E-W	0.00 usft	Easting: 1,730,752.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	31° 4' 28.859 N
		Longitude:	101° 11' 36.231 W
		Ground Level:	2,666.00 usft

Wellbore:	OH		
Magnetics:	Model Name	Sample Date	Declination (°)
	IGRF2010	2011/09/25	6.34
			59.50
			48,136

Design:	Actual		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)
	0.00	0.00	0.00
			0.16

Survey Program:	Data 2011/09/30		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.00	817.00	Gyro Survey (OH)	Keeper
991.00	14,005.00	MWD Survey (OH)	MWD
			Keeper Standard Rate Gyro
			MWD - Standard ISCWSA

Survey:									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Depth 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
100.00	0.52	123.60	100.00	-0.25	0.38	-0.25	0.52	0.52	0.00
200.00	0.45	144.87	200.00	-0.82	0.98	-0.82	0.19	-0.07	21.27
300.00	0.39	152.79	299.99	-1.45	1.36	-1.44	0.08	-0.06	7.92
400.00	0.22	149.80	399.99	-1.92	1.62	-1.91	0.17	-0.17	-2.99
500.00	0.30	201.80	499.99	-2.32	1.62	-2.32	0.24	0.08	52.00
600.00	0.52	229.61	599.99	-2.86	1.17	-2.86	0.29	0.22	27.81
700.00	0.23	161.75	699.99	-3.35	0.89	-3.34	0.48	-0.29	-67.86
800.00	0.39	171.52	799.98	-3.87	1.00	-3.87	0.17	0.16	9.77
817.00	0.37	169.02	816.98	-3.98	1.02	-3.98	0.15	-0.12	-14.71

Company:	EOG Resources	Local Co-ordinate Reference:	Well University 40 #1403H
Project:	Crockett County, TX (NAD27 TC)	TVD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Site:	University 40 #1403H (Wolfcamp)	MD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Well:	University 40 #1403H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Julio

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Depth Rate (ft/100usft)	Build Rate (ft/100usft)	Turn Rate (ft/100usft)
991.00	0.88	270.20	990.98	-4.53	-0.21	-4.53	0.59	0.29	58.15
1,181.00	0.79	293.23	1,180.96	-4.01	-2.87	-4.02	0.18	-0.05	12.12
1,372.00	0.79	307.02	1,371.94	-2.70	-5.13	-2.71	0.10	0.00	7.22
1,562.00	0.62	289.09	1,561.92	-1.57	-7.15	-1.59	0.15	-0.09	-9.44
1,752.00	0.44	267.30	1,751.92	-1.27	-8.85	-1.30	0.14	-0.09	-11.47
1,944.00	0.26	255.08	1,943.91	-1.42	-10.01	-1.45	0.10	-0.09	-6.36
2,134.00	0.09	308.69	2,133.91	-1.44	-10.54	-1.47	0.12	-0.09	28.22
2,324.00	0.79	84.40	2,323.91	-1.21	-9.35	-1.24	0.45	0.37	71.43
2,514.00	0.62	72.97	2,513.89	-0.79	-7.07	-0.81	0.12	-0.09	-6.02
2,705.00	0.09	116.92	2,704.89	-0.55	-5.94	-0.57	0.29	-0.28	23.01
2,800.00	0.18	329.96	2,799.89	-0.46	-5.95	-0.47	0.27	0.09	-154.69
2,895.00	0.70	98.11	2,894.89	-0.41	-5.45	-0.42	0.87	0.55	134.89
2,989.00	0.70	74.38	2,988.88	-0.33	-4.33	-0.35	0.31	0.00	-25.24
3,084.00	1.32	19.71	3,083.87	0.85	-3.40	0.84	1.14	0.85	-57.55
3,179.00	1.41	5.56	3,178.84	3.04	-2.92	3.04	0.37	0.09	-14.89
3,275.00	1.49	2.57	3,274.81	5.47	-2.75	5.46	0.11	0.08	-3.11
3,370.00	1.06	30.17	3,369.79	7.46	-2.25	7.45	0.78	-0.45	29.05
3,561.00	1.32	60.14	3,560.75	10.08	0.54	10.09	0.35	0.14	15.69
3,752.00	1.67	65.50	3,751.68	12.33	4.98	12.35	0.20	0.18	2.81
3,942.00	1.14	74.82	3,941.62	13.98	9.33	14.00	0.30	-0.28	4.91
4,133.00	1.23	85.72	4,132.58	14.63	13.20	14.66	0.13	0.05	5.71
4,324.00	0.70	50.12	4,323.56	15.53	16.14	15.57	0.41	-0.28	-18.64
4,514.00	0.70	74.73	4,513.54	16.58	18.15	16.63	0.16	0.00	12.95
4,705.00	0.26	175.72	4,704.54	16.45	19.31	16.51	0.41	-0.23	52.87
4,896.00	1.93	213.95	4,895.50	13.35	17.55	13.40	0.91	0.87	20.02
5,087.00	1.32	192.68	5,086.42	8.54	15.27	8.58	0.44	-0.32	-11.14
5,278.00	0.88	173.34	5,277.39	4.93	14.96	4.98	0.30	-0.23	-10.13
5,469.00	0.88	145.83	5,468.36	2.26	15.95	2.31	0.22	0.00	-14.40
5,661.00	0.97	138.10	5,660.34	-0.17	17.86	-0.12	0.08	0.05	-4.03
5,852.00	0.79	130.45	5,851.32	-2.22	19.95	-2.17	0.11	-0.09	-4.01
5,954.00	0.70	112.26	5,953.31	-2.91	21.06	-2.86	0.25	-0.09	-17.83
5,986.00	0.62	95.21	5,985.31	-3.00	21.41	-2.94	0.66	-0.25	-53.28
6,018.00	3.52	6.61	6,017.28	-2.04	21.70	-1.98	11.12	9.06	-276.88
6,050.00	8.79	1.96	6,049.09	1.38	21.89	1.44	16.53	16.47	-14.53
6,081.00	14.52	1.14	6,079.44	7.64	22.05	7.70	18.49	18.48	-2.65
6,113.00	19.17	1.43	6,110.06	16.90	22.26	16.97	14.53	14.53	0.91
6,145.00	22.86	1.78	6,139.92	28.37	22.59	28.44	11.54	11.53	1.09
6,177.00	26.19	2.47	6,169.03	41.64	23.08	41.71	10.44	10.41	2.16
6,209.00	29.46	1.96	6,197.33	56.57	23.66	56.63	10.25	10.22	-1.59
6,241.00	32.18	0.55	6,224.81	72.96	24.01	73.02	8.79	8.50	-4.41
6,272.00	35.92	358.35	6,250.49	90.31	23.83	90.37	12.70	12.06	-7.10
6,304.00	39.63	356.68	6,275.78	109.89	22.96	109.95	12.03	11.59	-5.22
6,336.00	43.00	356.51	6,299.81	130.97	21.71	131.03	10.54	10.53	-0.53

Company:	EOG Resources	Local Co-ordinate Reference:	Well University 40 #1403H
Project:	Crockett County, TX (NAD27 TC)	TVD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Site:	University 40 #1403H (Wolfcamp)	MD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Well:	University 40 #1403H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Julio

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	MD-S (usft)	MD-N (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Buid Rate (°/100usft)	Turn Rate (°/100usft)
6,368.00	48.53	356.88	6,322.53	153.46	20.41	153.52	11.06	11.03	1.16
6,399.00	49.67	358.00	6,343.23	176.51	19.39	176.57	10.48	10.13	3.61
6,431.00	52.41	358.97	6,363.35	201.38	18.73	201.43	8.88	8.56	3.03
6,463.00	55.33	359.33	6,382.21	227.22	18.35	227.27	9.17	9.13	1.13
6,495.00	57.77	0.02	6,399.85	253.92	18.20	253.97	7.83	7.63	2.16
6,526.00	58.65	359.85	6,416.18	280.27	18.17	280.32	2.88	2.84	-0.55
6,558.00	59.53	359.76	6,432.62	307.72	18.08	307.77	2.76	2.75	-0.28
6,590.00	62.17	0.11	6,448.20	335.67	18.05	335.72	8.31	8.25	1.09
6,622.00	65.77	0.46	6,462.24	364.42	18.19	364.47	11.29	11.25	1.09
6,653.00	69.64	0.46	6,474.00	393.09	18.42	393.14	12.48	12.48	0.00
6,685.00	73.23	0.76	6,484.19	423.42	18.75	423.47	11.25	11.22	0.94
6,717.00	75.97	1.78	6,492.69	454.26	19.43	454.31	9.10	8.56	3.19
6,749.00	78.61	2.04	6,499.73	485.46	20.47	485.51	8.29	8.25	0.81
6,780.00	81.43	1.96	6,505.10	515.97	21.54	516.02	9.10	9.10	-0.26
6,812.00	84.24	1.80	6,509.09	547.70	22.58	547.76	8.80	8.78	-0.50
6,837.00	86.35	1.08	6,511.14	572.60	23.21	572.67	8.91	8.44	-2.88
6,869.00	87.41	1.43	6,512.88	604.55	23.91	604.61	3.49	3.31	1.09
6,931.00	89.34	1.60	6,514.64	666.50	25.54	666.57	3.12	3.11	0.27
7,026.00	91.54	2.48	6,513.91	761.43	28.93	761.51	2.49	2.32	0.93
7,121.00	90.04	0.37	6,512.60	856.38	31.29	856.47	2.72	-1.58	-2.22
7,216.00	88.55	357.12	6,513.77	951.34	29.21	951.41	3.76	-1.57	-3.42
7,311.00	89.60	355.19	6,515.30	1,046.10	22.84	1,046.16	2.31	1.11	-2.03
7,406.00	88.72	357.03	6,516.70	1,140.87	16.39	1,140.91	2.15	-0.93	1.94
7,502.00	89.43	357.56	6,518.25	1,236.75	11.86	1,236.78	0.92	0.74	0.55
7,597.00	87.67	358.88	6,520.65	1,331.67	8.91	1,331.69	2.32	-1.85	1.39
7,692.00	88.64	359.06	6,523.71	1,426.60	7.21	1,426.62	1.04	1.02	0.19
7,788.00	90.04	1.87	6,524.81	1,522.58	7.99	1,522.60	3.27	1.46	2.93
7,884.00	91.45	2.13	6,523.57	1,618.51	11.34	1,618.54	1.49	1.47	0.27
7,979.00	89.52	1.60	6,522.76	1,713.45	14.43	1,713.49	2.11	-2.03	-0.56
8,075.00	88.55	2.13	6,524.38	1,809.39	17.55	1,809.43	1.15	-1.01	0.55
8,166.00	87.49	0.73	6,527.52	1,900.30	19.82	1,900.35	1.93	-1.16	-1.54
8,256.00	88.46	1.60	6,530.70	1,990.22	21.65	1,990.28	1.45	1.08	0.97
8,349.00	90.48	2.48	6,531.56	2,083.16	24.96	2,083.22	2.37	2.17	0.95
8,441.00	90.48	2.83	6,530.79	2,175.05	29.22	2,175.13	0.38	0.00	0.38
8,534.00	88.55	1.52	6,531.58	2,267.98	32.75	2,268.06	2.51	-2.08	-1.41
8,627.00	89.25	358.62	6,533.37	2,360.95	32.86	2,361.03	3.21	0.75	-3.12
8,718.00	89.69	357.65	6,534.21	2,451.90	29.90	2,451.97	1.17	0.48	-1.07
8,811.00	87.67	357.91	6,536.35	2,544.80	26.30	2,544.86	2.19	-2.17	0.28
8,903.00	88.37	358.18	6,539.53	2,636.69	23.16	2,636.74	0.82	0.76	0.29
8,995.00	89.96	359.06	6,540.87	2,728.65	20.95	2,728.69	1.98	1.73	0.96
9,087.00	90.22	1.43	6,540.72	2,820.64	21.34	2,820.69	2.59	0.28	2.58
9,180.00	87.76	0.81	6,542.36	2,913.60	23.16	2,913.65	2.73	-2.65	-0.67
9,274.00	88.72	359.85	6,545.25	3,007.55	23.70	3,007.61	1.44	1.02	-1.02

Company:	EOG Resources	Local Coordinate Reference:	Well University 40 #1403H
Project:	Crockett County, TX (NAD27 TC)	TVD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Site:	University 40 #1403H (Wolfcamp)	MD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Well:	University 40 #1403H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Julio

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Built Rate (°/100usft)	Turn Rate (°/100usft)
9,368.00	89.78	1.52	6,546.48	3,101.53	24.83	3,101.59	2.10	1.13	1.78
9,462.00	87.87	0.46	6,548.57	3,195.49	26.45	3,195.55	2.51	-2.24	-1.13
9,556.00	89.69	2.04	6,550.74	3,289.43	28.50	3,289.50	2.73	2.15	1.68
9,650.00	89.80	1.60	6,551.32	3,383.38	31.48	3,383.46	0.48	-0.10	-0.47
9,745.00	89.87	0.37	6,551.76	3,478.37	33.12	3,478.44	1.33	0.28	-1.29
9,839.00	89.08	0.02	6,552.62	3,572.36	33.44	3,572.44	0.92	-0.84	-0.37
9,933.00	88.02	0.99	6,555.00	3,666.32	34.27	3,666.41	1.53	-1.13	1.03
10,027.00	90.31	2.57	6,556.37	3,760.26	37.19	3,760.35	2.96	2.44	1.68
10,122.00	89.16	1.43	6,556.81	3,855.20	40.50	3,855.30	1.70	-1.21	-1.20
10,216.00	88.29	0.55	6,558.90	3,949.16	42.12	3,949.26	1.32	-0.93	-0.94
10,310.00	90.13	1.16	6,560.20	4,043.13	43.53	4,043.24	2.06	1.96	0.65
10,404.00	89.80	359.93	6,560.42	4,137.13	44.42	4,137.24	1.42	-0.56	-1.31
10,498.00	88.99	357.65	6,561.57	4,231.09	42.44	4,231.20	2.51	-0.65	-2.43
10,593.00	88.55	358.27	6,563.61	4,326.01	39.06	4,326.10	0.80	-0.46	0.65
10,687.00	87.93	359.14	6,566.50	4,419.94	36.93	4,420.03	1.14	-0.66	0.93
10,781.00	88.72	358.44	6,569.25	4,513.88	34.95	4,513.96	1.12	0.84	-0.74
10,875.00	88.46	0.37	6,571.58	4,607.84	33.97	4,607.92	2.07	-0.28	2.05
10,970.00	90.40	1.87	6,572.51	4,702.81	35.83	4,702.89	2.58	2.04	1.58
11,064.00	88.55	359.76	6,573.37	4,796.79	37.17	4,796.87	2.99	-1.97	-2.24
11,158.00	88.72	357.83	6,575.61	4,890.74	35.19	4,890.81	2.06	0.18	-2.05
11,253.00	87.58	357.30	6,578.67	4,985.60	31.16	4,985.67	1.32	-1.20	-0.56
11,347.00	88.37	357.21	6,582.00	5,079.43	26.66	5,079.49	0.85	0.84	-0.10
11,441.00	90.57	359.85	6,582.87	5,173.38	24.25	5,173.43	3.66	2.34	2.81
11,535.00	89.52	359.85	6,582.79	5,267.38	24.00	5,267.43	1.12	-1.12	0.00
11,630.00	87.76	359.76	6,585.05	5,362.35	23.68	5,362.39	1.86	-1.85	-0.09
11,724.00	86.61	0.20	6,589.66	5,456.23	23.64	5,456.28	1.31	-1.22	0.47
11,818.00	87.76	0.73	6,594.28	5,550.12	24.41	5,550.16	1.35	1.22	0.56
11,912.00	89.25	0.81	6,596.73	5,644.07	25.67	5,644.12	1.59	1.59	0.09
12,006.00	88.11	0.55	6,598.90	5,738.04	26.78	5,738.09	1.24	-1.21	-0.28
12,101.00	87.58	359.76	6,602.47	5,832.97	27.04	5,833.02	1.00	-0.56	-0.83
12,195.00	88.99	0.90	6,605.28	5,926.92	27.58	5,926.98	1.93	1.50	1.21
12,289.00	90.84	2.75	6,605.42	6,020.87	30.58	6,020.93	2.78	1.97	1.97
12,384.00	89.52	1.87	6,605.12	6,115.79	34.41	6,115.86	1.67	-1.39	-0.93
12,478.00	90.04	359.93	6,605.48	6,209.77	35.88	6,209.85	2.14	0.55	-2.06
12,572.00	89.08	357.47	6,606.21	6,303.73	33.75	6,303.80	2.81	-1.02	-2.62
12,666.00	87.85	356.42	6,608.72	6,397.56	28.74	6,397.62	1.72	-1.31	-1.12
12,760.00	89.34	357.56	6,611.03	6,491.40	23.81	6,491.44	2.00	1.59	1.21
12,855.00	89.52	357.03	6,611.97	6,586.29	19.32	6,586.32	0.59	0.19	-0.56
12,949.00	87.87	358.97	6,614.28	6,680.20	16.04	6,680.22	2.85	-1.97	2.06
13,043.00	88.20	357.91	6,617.67	6,774.10	13.49	6,774.11	1.26	0.56	-1.13
13,138.00	88.20	0.99	6,620.65	6,869.04	12.58	6,869.04	3.24	0.00	3.24
13,232.00	89.78	359.06	6,622.31	6,963.01	12.62	6,963.02	2.65	1.68	-2.05
13,326.00	90.84	358.79	6,621.80	7,056.99	10.85	7,057.00	1.16	1.13	-0.29
13,420.00	90.48	0.99	6,620.72	7,150.98	10.67	7,150.98	2.37	-0.38	2.34

Company:	EOG Resources	Local Coordinate Reference:	Well University 40 #1403H
Project:	Crockett County, TX (NAD27 TC)	TVD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Site:	University 40 #1403H (Wolfcamp)	MD Reference:	KB Elev (27.5') @ 2693.50usft (Cactus #102)
Well:	University 40 #1403H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	EDM-Julio

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Depth Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,514.00	88.81	1.16	6,621.30	7,244.96	12.44	7,244.97	1.79	-1.78	0.18
13,609.00	90.31	2.22	6,622.03	7,339.91	15.24	7,339.93	1.93	1.58	1.12
13,703.00	88.90	2.75	6,622.68	7,433.82	19.31	7,433.84	1.60	-1.50	0.56
13,797.00	90.13	4.42	6,623.47	7,527.63	25.19	7,527.67	2.21	1.31	1.78
13,891.00	91.19	3.54	6,622.39	7,621.39	31.71	7,621.45	1.47	1.13	-0.94
13,922.64	91.78	3.37	6,621.57	7,652.96	33.62	7,653.03	1.94	1.86	-0.53
13922.64' MD Projected Intersection 100' FNL									
13,957.00	92.42	3.19	6,620.31	7,687.24	35.59	7,687.31	1.94	1.86	-0.53
Last MWD Survey									
14,005.00	92.42	3.19	6,618.28	7,735.13	38.26	7,735.20	0.00	0.00	0.00
Projection to Bit									

Measured Depth (usft)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Comment
13,922.64	6,621.57	7,652.96	33.62	13922.64' MD Projected Intersection 100' FNL
13,957.00	6,620.31	7,687.24	35.59	Last MWD Survey
14,005.00	6,618.28	7,735.13	38.26	Projection to Bit

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_





Scientific Drilling for EOG Resources  
 Site: Crockett County, TX (NAD27 TC)  
 Well: University 40 #1403H  
 Wellbore: OH  
 Design: Plan #3 vs Actual - 8-3/4" Hole



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSec	Target
1	5852.00	0.79	130.45	5851.32	-2.22	19.95	0.00	0.00	-2.17	
2	6040.00	0.79	130.45	6039.30	-3.90	21.92	0.00	0.00	-3.84	
3	6783.22	89.80	359.96	6515.00	465.95	26.59	12.15	-130.49	466.02	
4	13970.32	89.80	359.96	6540.00	7653.00	22.00	0.00	0.00	7653.03	PBHL-Univ 40 #1403H

#### WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
North HL-Univ 40 #1403H	52.00	7653.00	22.00	520767.00	1730774.00	31° 5' 44.611" N	101° 11' 36.658" W	Rectangle ( Sides: L0.00 W1000.00)
PBHL-Univ 40 #1403H	6540.00	7653.00	22.00	520767.00	1730774.00	31° 5' 44.611" N	101° 11' 36.658" W	Rectangle (SI des: L20.00 W100.00)

#### WELL DETAILS: University 40 #1403H

		Ground Level:		2666.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	513114.00	1730752.00	31° 4' 28.859 N	101° 11' 36.231 W	

Plan: Plan #3 - 8-3/4" Hole (University 40 #1403H/OH)

Created By: Julio Pina Date: 25-Sep-11

Checked: Date:

Reviewed: Date:

PROJECT DETAILS: Crockett County, TX (NAD27 TC)

Geodetic System: US State Plane 1927 (Exact solution)

Datum: NAD 1927 (NADCON CONUS)

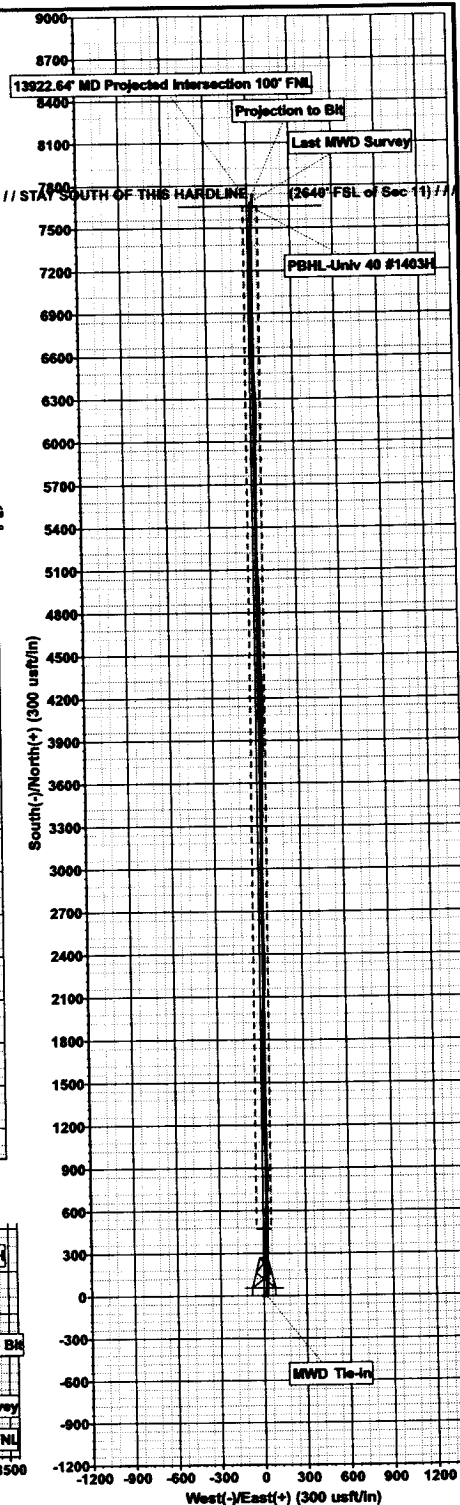
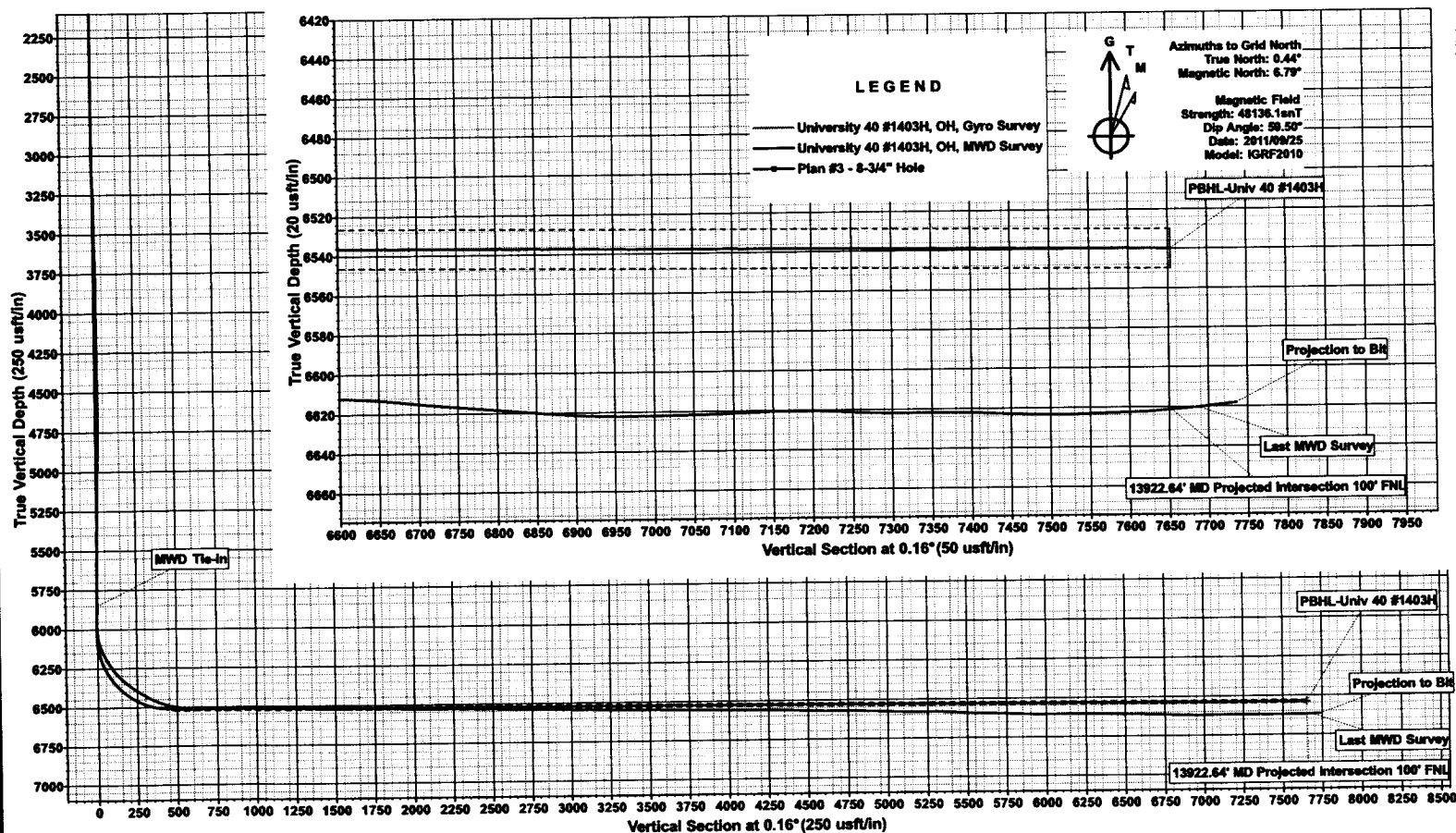
Ellipsoid: Clarke 1866

Zone: Texas Central 4203

System Datum: Mean Sea Level

#### AZIMUTH CORRECTIONS

ALL AZIMUTHS MUST BE CORRECTED TO GRID  
 GRID CORRECTIONS MUST BE APPLIED BEFORE PLOTTING  
 To convert a Magnetic Direction to a Grid Direction, Add 6.79°  
 To convert a True Direction to a Grid Direction, Add 0.44°



# TOPOGRAPHIC

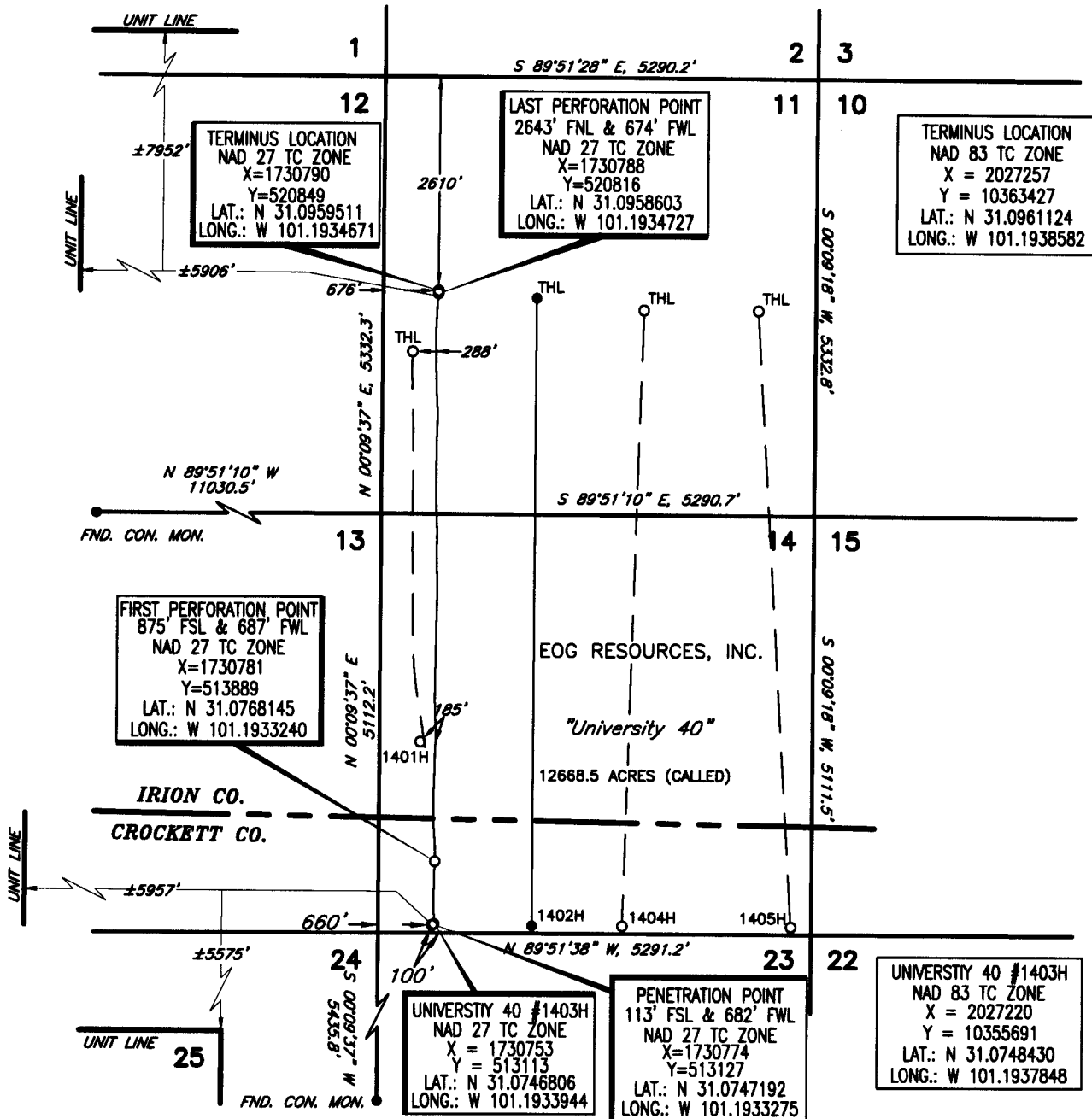
SURVEYING • MAPPING • GIS • GPS  
2903 N. BIG SPRING • MIDLAND, TEXAS 79705  
TELEPHONE: (432) 682-1653 (800) 767-1653 • FAX (432) 682-1743

"AS-DRILLED"

CROCKETT/IRION County, Texas  
SHL: 100' FSL & 660' FWL  
Description THL: 2610' FNL & 676' FWL (SEC. 11)

SECTION 14, BLOCK 40, UNIVERSITY LAND

NAD 27  
GRID BEARINGS



This location has been very carefully staked on the ground according to the best official survey records, maps, and other data available to us. This plat does not in any way represents a "Boundary Survey", and does not comply with correct T.B.P.L.S. Minimum Standards of Procedures for Boundary Surveys.

SCALE: 1" = 2000'  
0' 1000' 2000'

Operator **Geog resources, inc.**

Date Staked OCTOBER 11, 2010

Lease Name & Well No. UNIVERSITY 40 #1403H Ground Elev. 2666'

Topography & Vegetation NATURE PASTURE

Nearest Town in County ±25.2 MILES NORTH OF OZONA, TEXAS

Driving Directions FROM JCT. OF HWY. 163 & CO. RD. 301. GO SOUTH 3.0 MILES ON CO. RD. 301.

THENCE WEST 0.4 MILES. THENCE SOUTHWEST 0.3 MILES. THENCE SOUTHEAST 0.3 MILES TO A POINT

±1200' NORTHEAST OF LOCATION.



## CERTIFICATION:

I, William J. Keating, a Registered Professional Land Surveyor, and an authorized agent of Topographic Land Surveyors, do hereby certify that in my professional opinion the above described well location was surveyed and staked on the ground as shown. This plat is for Texas Railroad Commission permitting only.

William J. Keating  
Texas R.P.L.S. No. 5041

Invoice #  
AD UNIVERSITY40\_1403H/517NW  
A.C.P.