



Fleur de Lis
Energy, L.L.C.

Fleur De Lis Energy, LLC

Reagan County, Tx (NAD 27) USE
Sec 19-30&31, Blk 9 & Sec 6, Blk 8
University 9-31 #8HR

Wellbore #1

Survey: Survey #2

Survey Report - Geographic

05 September, 2017



Company:	Fleur De Lis Energy, LLC	Local Co-ordinate Reference:	Site Sec 19-30&31, Blk 9 & Sec 6, Blk 8
Project:	Reagan County, Tx (NAD 27) USE	TVD Reference:	KB-25 @ 2806.0usft
Site:	Sec 19-30&31, Blk 9 & Sec 6, Blk 8	MD Reference:	KB-25 @ 2806.0usft
Well:	University 9-31 #8HR	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Project	Reagan County, Tx (NAD 27) USE		
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	Sec 19-30&31, Blk 9 & Sec 6, Blk 8				
Site Position:		Northing:	569,957.19 usft	Latitude:	31° 13' 40.527 N
From:	Map	Easting:	1,613,308.68 usft	Longitude:	101° 34' 13.952 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.64 °

Well	University 9-31 #8HR					
Well Position	+N/-S	0.0 usft	Northing:	569,957.19 usft	Latitude:	31° 13' 40.527 N
	+E/-W	0.0 usft	Easting:	1,613,308.68 usft	Longitude:	101° 34' 13.952 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	2,781.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/11/2017	5.90	59.58	47,687

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	355.19	

Survey Program	Date	9/5/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
89.0	829.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	
940.0	15,901.0	Survey #2 (Wellbore #1)	MWD	MWD - Standard	

Survey											
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude		
829.0	0.91	103.91	828.9	-8.7	-1.9	569,948.50	1,613,306.77	31° 13' 40.441 N	101° 34' 13.972 W		
PP/FTP University 9-31 #8HR											
940.0	1.00	97.80	939.9	-9.0	-0.1	569,948.16	1,613,308.58	31° 13' 40.438 N	101° 34' 13.951 W		
1st MWD Survey											
1,031.0	0.70	102.40	1,030.9	-9.3	1.2	569,947.93	1,613,309.91	31° 13' 40.436 N	101° 34' 13.936 W		
1,123.0	0.30	245.30	1,122.9	-9.5	1.6	569,947.71	1,613,310.24	31° 13' 40.434 N	101° 34' 13.932 W		
1,214.0	1.20	304.10	1,213.9	-9.1	0.6	569,948.14	1,613,309.24	31° 13' 40.438 N	101° 34' 13.944 W		
1,305.0	3.10	299.60	1,304.8	-7.3	-2.4	569,949.89	1,613,306.31	31° 13' 40.455 N	101° 34' 13.978 W		
1,395.0	4.60	293.00	1,394.6	-4.7	-7.8	569,952.50	1,613,300.87	31° 13' 40.480 N	101° 34' 14.041 W		
1,489.0	5.80	293.40	1,488.2	-1.3	-15.6	569,955.86	1,613,293.04	31° 13' 40.512 N	101° 34' 14.131 W		
1,578.0	7.50	292.60	1,576.6	2.7	-25.1	569,959.88	1,613,283.55	31° 13' 40.551 N	101° 34' 14.241 W		

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Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
1,669.0	9.10	294.10	1,666.7	7.9	-37.2	569,965.10	1,613,271.50	31° 13' 40.601 N	101° 34' 14.381 W	
1,759.0	10.60	285.90	1,755.3	13.1	-51.6	569,970.28	1,613,257.04	31° 13' 40.651 N	101° 34' 14.548 W	
1,849.0	11.40	287.40	1,843.7	18.0	-68.1	569,975.21	1,613,240.59	31° 13' 40.698 N	101° 34' 14.738 W	
1,940.0	11.00	289.60	1,933.0	23.6	-84.8	569,980.81	1,613,223.83	31° 13' 40.752 N	101° 34' 14.932 W	
2,030.0	10.60	285.40	2,021.4	28.7	-100.9	569,985.89	1,613,207.76	31° 13' 40.800 N	101° 34' 15.118 W	
2,121.0	11.10	287.50	2,110.7	33.5	-117.3	569,990.74	1,613,191.34	31° 13' 40.846 N	101° 34' 15.307 W	
2,211.0	10.80	286.70	2,199.1	38.6	-133.7	569,995.77	1,613,175.00	31° 13' 40.894 N	101° 34' 15.496 W	
2,303.0	10.60	286.40	2,289.5	43.4	-150.1	570,000.64	1,613,158.62	31° 13' 40.941 N	101° 34' 15.685 W	
2,392.0	11.00	285.90	2,376.9	48.1	-166.1	570,005.27	1,613,142.60	31° 13' 40.985 N	101° 34' 15.870 W	
2,481.0	10.60	285.60	2,464.3	52.6	-182.1	570,009.80	1,613,126.55	31° 13' 41.028 N	101° 34' 16.056 W	
2,571.0	10.90	287.70	2,552.8	57.4	-198.2	570,014.61	1,613,110.47	31° 13' 41.074 N	101° 34' 16.242 W	
2,662.0	11.00	286.50	2,642.1	62.5	-214.7	570,019.70	1,613,093.95	31° 13' 41.122 N	101° 34' 16.433 W	
2,754.0	11.10	293.20	2,732.4	68.5	-231.3	570,025.68	1,613,077.40	31° 13' 41.180 N	101° 34' 16.624 W	
2,843.0	10.90	292.40	2,819.8	75.1	-246.9	570,032.26	1,613,061.74	31° 13' 41.243 N	101° 34' 16.805 W	
2,933.0	11.00	296.20	2,908.1	82.1	-262.5	570,039.29	1,613,046.17	31° 13' 41.311 N	101° 34' 16.985 W	
3,025.0	11.20	296.30	2,998.4	89.9	-278.4	570,047.13	1,613,030.29	31° 13' 41.387 N	101° 34' 17.169 W	
3,115.0	11.60	295.40	3,086.6	97.7	-294.4	570,054.88	1,613,014.28	31° 13' 41.462 N	101° 34' 17.355 W	
3,204.0	10.50	295.70	3,174.0	105.0	-309.8	570,062.24	1,612,998.89	31° 13' 41.533 N	101° 34' 17.533 W	
3,294.0	10.60	293.40	3,262.5	111.9	-324.8	570,069.08	1,612,983.90	31° 13' 41.599 N	101° 34' 17.706 W	
3,386.0	11.10	291.50	3,352.8	118.5	-340.8	570,075.69	1,612,967.89	31° 13' 41.662 N	101° 34' 17.892 W	
3,476.0	10.70	289.70	3,441.2	124.5	-356.7	570,081.68	1,612,951.97	31° 13' 41.720 N	101° 34' 18.076 W	
3,567.0	10.20	290.50	3,530.7	130.2	-372.2	570,087.35	1,612,936.47	31° 13' 41.774 N	101° 34' 18.255 W	
3,657.0	11.20	290.60	3,619.1	136.0	-387.9	570,093.21	1,612,920.82	31° 13' 41.831 N	101° 34' 18.436 W	
3,748.0	10.00	291.70	3,708.6	142.1	-403.5	570,099.25	1,612,905.21	31° 13' 41.889 N	101° 34' 18.617 W	
3,837.0	9.00	290.90	3,796.3	147.4	-417.2	570,104.59	1,612,891.52	31° 13' 41.940 N	101° 34' 18.775 W	
3,927.0	8.80	289.30	3,885.3	152.2	-430.2	570,109.37	1,612,878.45	31° 13' 41.986 N	101° 34' 18.926 W	
4,018.0	9.10	290.10	3,975.2	157.0	-443.6	570,114.15	1,612,865.12	31° 13' 42.032 N	101° 34' 19.080 W	
4,109.0	8.60	286.80	4,065.1	161.4	-456.8	570,118.59	1,612,851.85	31° 13' 42.074 N	101° 34' 19.234 W	
4,199.0	8.80	283.70	4,154.0	165.0	-470.0	570,122.16	1,612,838.72	31° 13' 42.108 N	101° 34' 19.385 W	
4,290.0	9.80	285.10	4,243.8	168.6	-484.2	570,125.83	1,612,824.48	31° 13' 42.143 N	101° 34' 19.550 W	
4,381.0	11.00	285.70	4,333.3	173.0	-500.0	570,130.19	1,612,808.64	31° 13' 42.184 N	101° 34' 19.733 W	
4,471.0	10.60	284.80	4,421.8	177.4	-516.3	570,134.63	1,612,792.37	31° 13' 42.227 N	101° 34' 19.921 W	
4,562.0	10.60	287.40	4,511.2	182.1	-532.4	570,139.27	1,612,776.29	31° 13' 42.271 N	101° 34' 20.106 W	
4,653.0	9.90	285.50	4,600.7	186.7	-547.9	570,143.87	1,612,760.77	31° 13' 42.314 N	101° 34' 20.286 W	
4,744.0	10.20	289.60	4,690.4	191.5	-563.0	570,148.66	1,612,745.64	31° 13' 42.360 N	101° 34' 20.461 W	
4,836.0	9.90	289.30	4,780.9	196.8	-578.2	570,154.01	1,612,730.50	31° 13' 42.411 N	101° 34' 20.636 W	
4,925.0	10.10	290.60	4,868.6	202.1	-592.7	570,159.28	1,612,715.98	31° 13' 42.462 N	101° 34' 20.804 W	
5,017.0	10.30	291.00	4,959.1	207.9	-607.9	570,165.07	1,612,700.75	31° 13' 42.518 N	101° 34' 20.980 W	
5,109.0	9.90	288.30	5,049.7	213.3	-623.1	570,170.50	1,612,685.56	31° 13' 42.570 N	101° 34' 21.155 W	
5,200.0	10.10	287.60	5,139.3	218.2	-638.2	570,175.37	1,612,670.53	31° 13' 42.616 N	101° 34' 21.329 W	
5,292.0	9.80	288.10	5,229.9	223.0	-653.3	570,180.24	1,612,655.39	31° 13' 42.663 N	101° 34' 21.504 W	
5,383.0	9.40	287.40	5,319.7	227.7	-667.7	570,184.87	1,612,640.94	31° 13' 42.707 N	101° 34' 21.671 W	
5,474.0	9.80	289.80	5,409.4	232.5	-682.1	570,189.71	1,612,626.56	31° 13' 42.753 N	101° 34' 21.837 W	
5,563.0	9.60	291.70	5,497.1	237.8	-696.1	570,195.02	1,612,612.54	31° 13' 42.804 N	101° 34' 22.000 W	
5,655.0	9.50	293.60	5,587.8	243.7	-710.2	570,200.90	1,612,598.46	31° 13' 42.861 N	101° 34' 22.163 W	
5,746.0	9.40	295.60	5,677.6	249.9	-723.8	570,207.12	1,612,584.87	31° 13' 42.921 N	101° 34' 22.320 W	
5,835.0	9.00	296.70	5,765.5	256.2	-736.6	570,213.38	1,612,572.10	31° 13' 42.982 N	101° 34' 22.468 W	
5,926.0	8.50	296.60	5,855.4	262.4	-748.9	570,219.59	1,612,559.73	31° 13' 43.042 N	101° 34' 22.611 W	
6,017.0	8.50	295.30	5,945.4	268.3	-761.0	570,225.48	1,612,547.63	31° 13' 43.099 N	101° 34' 22.751 W	
6,108.0	7.30	297.00	6,035.5	273.8	-772.3	570,230.98	1,612,536.40	31° 13' 43.152 N	101° 34' 22.881 W	
6,200.0	5.80	294.90	6,126.9	278.4	-781.7	570,235.59	1,612,526.98	31° 13' 43.197 N	101° 34' 22.990 W	
6,289.0	5.50	292.40	6,215.5	281.9	-789.7	570,239.11	1,612,518.95	31° 13' 43.230 N	101° 34' 23.083 W	
6,379.0	5.00	289.80	6,305.1	284.9	-797.4	570,242.08	1,612,511.28	31° 13' 43.259 N	101° 34' 23.172 W	
6,470.0	4.60	291.20	6,395.8	287.6	-804.5	570,244.74	1,612,504.14	31° 13' 43.285 N	101° 34' 23.254 W	
6,559.0	3.70	288.90	6,484.6	289.8	-810.6	570,246.96	1,612,498.10	31° 13' 43.306 N	101° 34' 23.324 W	

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
6,651.0	3.50	286.50	6,576.4	291.5	-816.1	570,248.72	1,612,492.60	31° 13' 43.323 N	101° 34' 23.388 W	
6,741.0	3.40	283.30	6,666.2	292.9	-821.3	570,250.12	1,612,487.37	31° 13' 43.336 N	101° 34' 23.448 W	
6,833.0	3.30	283.20	6,758.1	294.2	-826.5	570,251.35	1,612,482.13	31° 13' 43.348 N	101° 34' 23.509 W	
6,924.0	3.20	285.70	6,848.9	295.4	-831.5	570,252.63	1,612,477.14	31° 13' 43.360 N	101° 34' 23.566 W	
7,015.0	2.90	285.00	6,939.8	296.7	-836.2	570,253.92	1,612,472.47	31° 13' 43.372 N	101° 34' 23.620 W	
7,104.0	2.70	284.00	7,028.7	297.8	-840.4	570,255.01	1,612,468.26	31° 13' 43.382 N	101° 34' 23.669 W	
7,127.0	2.60	282.90	7,051.7	298.1	-841.4	570,255.26	1,612,467.23	31° 13' 43.385 N	101° 34' 23.681 W	
7,203.0	2.40	288.20	7,127.6	298.9	-844.6	570,256.14	1,612,464.04	31° 13' 43.393 N	101° 34' 23.718 W	
7,294.0	2.00	275.50	7,218.5	299.7	-848.0	570,256.88	1,612,460.64	31° 13' 43.400 N	101° 34' 23.757 W	
7,384.0	1.50	270.70	7,308.5	299.9	-850.8	570,257.05	1,612,457.90	31° 13' 43.401 N	101° 34' 23.789 W	
7,474.0	5.50	345.00	7,398.3	304.0	-853.1	570,261.23	1,612,455.61	31° 13' 43.442 N	101° 34' 23.816 W	
7,520.0	11.10	352.10	7,443.8	310.6	-854.2	570,267.75	1,612,454.43	31° 13' 43.507 N	101° 34' 23.830 W	
7,565.0	16.00	354.70	7,487.6	321.0	-855.4	570,278.23	1,612,453.26	31° 13' 43.610 N	101° 34' 23.845 W	
7,610.0	21.50	358.10	7,530.2	335.5	-856.3	570,292.65	1,612,452.41	31° 13' 43.753 N	101° 34' 23.856 W	
7,655.0	26.40	0.30	7,571.3	353.7	-856.5	570,310.91	1,612,452.19	31° 13' 43.934 N	101° 34' 23.861 W	
7,701.0	31.70	1.40	7,611.5	376.0	-856.1	570,333.24	1,612,452.54	31° 13' 44.155 N	101° 34' 23.860 W	
7,747.0	36.30	1.00	7,649.6	401.8	-855.6	570,358.95	1,612,453.07	31° 13' 44.409 N	101° 34' 23.857 W	
7,793.0	39.20	0.80	7,686.0	429.9	-855.2	570,387.10	1,612,453.51	31° 13' 44.688 N	101° 34' 23.856 W	
7,838.0	41.30	359.90	7,720.3	459.0	-855.0	570,416.18	1,612,453.69	31° 13' 44.976 N	101° 34' 23.858 W	
7,884.0	44.70	359.00	7,753.9	490.3	-855.3	570,447.54	1,612,453.38	31° 13' 45.286 N	101° 34' 23.865 W	
7,924.0	47.63	358.28	7,781.6	519.2	-856.0	570,476.38	1,612,452.69	31° 13' 45.572 N	101° 34' 23.877 W	
Cross Sec 7924 MD/7781.6 TVD 519.2 N -856.0 W N: 570476.3 E: 1612452.6										
7,929.0	48.00	358.20	7,785.0	522.9	-856.1	570,480.09	1,612,452.58	31° 13' 45.608 N	101° 34' 23.879 W	
7,975.0	51.20	358.10	7,814.8	557.9	-857.2	570,515.09	1,612,451.44	31° 13' 45.955 N	101° 34' 23.896 W	
8,019.0	53.10	358.30	7,841.8	592.6	-858.3	570,549.82	1,612,450.35	31° 13' 46.298 N	101° 34' 23.913 W	
8,064.0	57.70	1.60	7,867.4	629.6	-858.3	570,586.84	1,612,450.35	31° 13' 46.665 N	101° 34' 23.918 W	
8,109.0	61.80	5.00	7,890.0	668.4	-856.1	570,625.63	1,612,452.61	31° 13' 47.049 N	101° 34' 23.897 W	
8,154.0	64.10	4.30	7,910.5	708.4	-852.8	570,665.57	1,612,455.86	31° 13' 47.444 N	101° 34' 23.865 W	
8,199.0	69.10	1.80	7,928.4	749.6	-850.6	570,706.80	1,612,458.04	31° 13' 47.853 N	101° 34' 23.845 W	
8,244.0	72.10	1.00	7,943.3	792.0	-849.6	570,749.23	1,612,459.07	31° 13' 48.273 N	101° 34' 23.838 W	
8,289.0	75.40	0.80	7,955.9	835.2	-848.9	570,792.42	1,612,459.75	31° 13' 48.700 N	101° 34' 23.836 W	
8,334.0	81.20	0.60	7,965.0	879.3	-848.4	570,836.46	1,612,460.29	31° 13' 49.136 N	101° 34' 23.835 W	
8,378.0	86.80	2.10	7,969.6	923.0	-847.4	570,880.19	1,612,461.32	31° 13' 49.569 N	101° 34' 23.829 W	
8,469.0	88.20	1.40	7,973.6	1,013.9	-844.6	570,971.06	1,612,464.10	31° 13' 50.469 N	101° 34' 23.809 W	
8,586.0	90.70	1.50	7,974.7	1,130.8	-841.6	571,088.00	1,612,467.06	31° 13' 51.627 N	101° 34' 23.790 W	
8,675.0	89.30	0.70	7,974.7	1,219.8	-839.9	571,176.98	1,612,468.76	31° 13' 52.508 N	101° 34' 23.782 W	
8,765.0	90.70	0.40	7,974.7	1,309.8	-839.0	571,266.98	1,612,469.63	31° 13' 53.398 N	101° 34' 23.783 W	
8,855.0	89.80	357.50	7,974.3	1,399.8	-840.7	571,356.95	1,612,467.98	31° 13' 54.289 N	101° 34' 23.814 W	
8,946.0	89.50	357.80	7,974.9	1,490.7	-844.4	571,447.87	1,612,464.25	31° 13' 55.188 N	101° 34' 23.868 W	
9,037.0	90.40	359.50	7,975.0	1,581.7	-846.6	571,538.84	1,612,462.10	31° 13' 56.088 N	101° 34' 23.905 W	
9,127.0	90.20	0.70	7,974.5	1,671.6	-846.4	571,628.84	1,612,462.26	31° 13' 56.979 N	101° 34' 23.914 W	
9,218.0	89.50	3.90	7,974.7	1,762.6	-842.8	571,719.75	1,612,465.91	31° 13' 57.879 N	101° 34' 23.884 W	
9,308.0	90.00	4.90	7,975.1	1,852.3	-835.9	571,809.49	1,612,472.82	31° 13' 58.768 N	101° 34' 23.816 W	
9,398.0	90.20	2.80	7,975.0	1,942.1	-829.8	571,899.28	1,612,478.86	31° 13' 59.658 N	101° 34' 23.758 W	
9,488.0	90.00	2.20	7,974.8	2,032.0	-825.9	571,989.19	1,612,482.79	31° 14' 0.548 N	101° 34' 23.724 W	
9,578.0	89.60	359.00	7,975.1	2,122.0	-824.9	572,079.17	1,612,483.73	31° 14' 1.439 N	101° 34' 23.725 W	
9,667.0	90.40	359.90	7,975.1	2,211.0	-825.8	572,168.17	1,612,482.87	31° 14' 2.319 N	101° 34' 23.746 W	
9,757.0	90.20	359.90	7,974.6	2,301.0	-826.0	572,258.17	1,612,482.72	31° 14' 3.210 N	101° 34' 23.760 W	
9,847.0	90.00	359.20	7,974.5	2,391.0	-826.7	572,348.16	1,612,482.01	31° 14' 4.101 N	101° 34' 23.779 W	
9,938.0	90.40	359.90	7,974.2	2,482.0	-827.4	572,439.16	1,612,481.30	31° 14' 5.001 N	101° 34' 23.799 W	
10,028.0	90.20	0.30	7,973.7	2,572.0	-827.2	572,529.16	1,612,481.45	31° 14' 5.892 N	101° 34' 23.809 W	
10,119.0	90.00	359.90	7,973.5	2,663.0	-827.1	572,620.16	1,612,481.61	31° 14' 6.793 N	101° 34' 23.819 W	
10,209.0	90.50	1.00	7,973.1	2,753.0	-826.4	572,710.15	1,612,482.32	31° 14' 7.684 N	101° 34' 23.822 W	
10,300.0	90.40	1.60	7,972.4	2,843.9	-824.3	572,801.13	1,612,484.38	31° 14' 8.584 N	101° 34' 23.810 W	
10,390.0	90.50	2.70	7,971.7	2,933.9	-820.9	572,891.06	1,612,487.76	31° 14' 9.475 N	101° 34' 23.783 W	

Company:	Fleur De Lis Energy, LLC	Local Co-ordinate Reference:	Site Sec 19-30&31, Blk 9 & Sec 6, Blk 8
Project:	Reagan County, Tx (NAD 27) USE	TVD Reference:	KB-25 @ 2806.0usft
Site:	Sec 19-30&31, Blk 9 & Sec 6, Blk 8	MD Reference:	KB-25 @ 2806.0usft
Well:	University 9-31 #8HR	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10,482.0	90.00	2.20	7,971.3	3,025.8	-817.0	572,982.97	1,612,491.69	31° 14' 10.385 N	101° 34' 23.749 W	
10,571.0	90.30	3.40	7,971.1	3,114.7	-812.6	573,071.86	1,612,496.04	31° 14' 11.265 N	101° 34' 23.711 W	
10,662.0	90.60	3.10	7,970.4	3,205.5	-807.5	573,162.71	1,612,501.20	31° 14' 12.165 N	101° 34' 23.663 W	
10,752.0	90.00	1.20	7,969.9	3,295.5	-804.1	573,252.65	1,612,504.57	31° 14' 13.055 N	101° 34' 23.636 W	
10,843.0	90.50	1.50	7,969.5	3,386.4	-802.0	573,343.62	1,612,506.72	31° 14' 13.956 N	101° 34' 23.623 W	
10,935.0	90.70	1.10	7,968.5	3,478.4	-799.9	573,435.59	1,612,508.80	31° 14' 14.867 N	101° 34' 23.610 W	
11,026.0	90.10	359.30	7,967.9	3,569.4	-799.6	573,526.58	1,612,509.12	31° 14' 15.767 N	101° 34' 23.618 W	
11,117.0	90.60	0.70	7,967.4	3,660.4	-799.6	573,617.58	1,612,509.12	31° 14' 16.668 N	101° 34' 23.630 W	
11,208.0	90.90	1.90	7,966.2	3,751.4	-797.5	573,708.55	1,612,511.19	31° 14' 17.568 N	101° 34' 23.618 W	
11,299.0	88.50	1.40	7,966.6	3,842.3	-794.9	573,799.50	1,612,513.81	31° 14' 18.469 N	101° 34' 23.599 W	
11,388.0	89.10	1.40	7,968.5	3,931.3	-792.7	573,888.45	1,612,515.98	31° 14' 19.350 N	101° 34' 23.586 W	
11,479.0	88.60	1.50	7,970.3	4,022.2	-790.4	573,979.41	1,612,518.28	31° 14' 20.250 N	101° 34' 23.571 W	
11,570.0	89.00	2.30	7,972.2	4,113.1	-787.4	574,070.33	1,612,521.30	31° 14' 21.150 N	101° 34' 23.548 W	
11,660.0	89.40	2.40	7,973.5	4,203.1	-783.7	574,160.25	1,612,524.99	31° 14' 22.041 N	101° 34' 23.517 W	
11,751.0	89.40	1.40	7,974.4	4,294.0	-780.7	574,251.19	1,612,528.01	31° 14' 22.941 N	101° 34' 23.494 W	
11,841.0	91.10	3.70	7,974.0	4,383.9	-776.7	574,341.09	1,612,532.01	31° 14' 23.831 N	101° 34' 23.459 W	
11,933.0	87.70	0.30	7,975.0	4,475.8	-773.5	574,433.01	1,612,535.22	31° 14' 24.741 N	101° 34' 23.434 W	
12,024.0	90.30	0.90	7,976.6	4,566.8	-772.5	574,523.98	1,612,536.17	31° 14' 25.642 N	101° 34' 23.435 W	
12,116.0	91.00	2.60	7,975.6	4,658.7	-769.7	574,615.93	1,612,538.98	31° 14' 26.552 N	101° 34' 23.414 W	
12,206.0	91.20	1.50	7,973.8	4,748.7	-766.5	574,705.85	1,612,542.20	31° 14' 27.443 N	101° 34' 23.389 W	
12,297.0	91.50	1.30	7,971.7	4,839.6	-764.3	574,796.80	1,612,544.42	31° 14' 28.343 N	101° 34' 23.375 W	
12,386.0	92.20	1.10	7,968.8	4,928.5	-762.4	574,885.73	1,612,546.29	31° 14' 29.223 N	101° 34' 23.365 W	
12,476.0	93.00	1.30	7,964.7	5,018.4	-760.5	574,975.62	1,612,548.17	31° 14' 30.113 N	101° 34' 23.355 W	
12,566.0	91.90	359.50	7,960.9	5,108.3	-759.9	575,065.53	1,612,548.80	31° 14' 31.003 N	101° 34' 23.359 W	
12,657.0	90.00	358.60	7,959.4	5,199.3	-761.4	575,156.50	1,612,547.29	31° 14' 31.904 N	101° 34' 23.388 W	
12,748.0	90.70	359.10	7,958.8	5,290.3	-763.2	575,247.48	1,612,545.46	31° 14' 32.804 N	101° 34' 23.421 W	
12,837.0	90.70	359.20	7,957.7	5,379.3	-764.5	575,336.46	1,612,544.14	31° 14' 33.684 N	101° 34' 23.447 W	
12,927.0	91.90	359.00	7,955.7	5,469.2	-765.9	575,426.43	1,612,542.73	31° 14' 34.575 N	101° 34' 23.475 W	
13,017.0	88.00	359.20	7,955.8	5,559.2	-767.4	575,516.40	1,612,541.32	31° 14' 35.465 N	101° 34' 23.503 W	
13,108.0	88.50	359.60	7,958.5	5,650.2	-768.3	575,607.35	1,612,540.36	31° 14' 36.365 N	101° 34' 23.526 W	
13,197.0	88.70	359.20	7,960.7	5,739.1	-769.2	575,696.32	1,612,539.43	31° 14' 37.246 N	101° 34' 23.548 W	
13,286.0	89.00	359.10	7,962.5	5,828.1	-770.6	575,785.29	1,612,538.11	31° 14' 38.126 N	101° 34' 23.574 W	
13,376.0	90.70	2.10	7,962.7	5,918.1	-769.6	575,875.27	1,612,539.05	31° 14' 39.017 N	101° 34' 23.575 W	
13,465.0	90.70	2.40	7,961.7	6,007.0	-766.1	575,964.20	1,612,542.55	31° 14' 39.897 N	101° 34' 23.546 W	
13,555.0	91.60	1.80	7,959.8	6,096.9	-762.8	576,054.12	1,612,545.84	31° 14' 40.788 N	101° 34' 23.520 W	
13,644.0	90.60	3.10	7,958.1	6,185.8	-759.0	576,143.02	1,612,549.65	31° 14' 41.668 N	101° 34' 23.487 W	
13,734.0	89.80	1.30	7,957.8	6,275.8	-755.6	576,232.94	1,612,553.10	31° 14' 42.558 N	101° 34' 23.459 W	
13,823.0	89.30	1.60	7,958.5	6,364.7	-753.3	576,321.91	1,612,555.36	31° 14' 43.439 N	101° 34' 23.445 W	
13,912.0	89.80	1.40	7,959.2	6,453.7	-751.0	576,410.88	1,612,557.68	31° 14' 44.320 N	101° 34' 23.429 W	
14,002.0	90.40	358.90	7,959.1	6,543.7	-750.8	576,500.87	1,612,557.92	31° 14' 45.211 N	101° 34' 23.438 W	
14,091.0	91.00	359.90	7,958.0	6,632.7	-751.7	576,589.86	1,612,556.99	31° 14' 46.091 N	101° 34' 23.460 W	
14,181.0	91.30	0.20	7,956.2	6,722.6	-751.6	576,679.84	1,612,557.07	31° 14' 46.982 N	101° 34' 23.471 W	
14,272.0	90.30	0.70	7,954.9	6,813.6	-750.9	576,770.83	1,612,557.78	31° 14' 47.882 N	101° 34' 23.474 W	
14,363.0	89.20	1.90	7,955.3	6,904.6	-748.8	576,861.80	1,612,559.85	31° 14' 48.783 N	101° 34' 23.462 W	
14,452.0	88.40	1.70	7,957.2	6,993.5	-746.0	576,950.73	1,612,562.64	31° 14' 49.664 N	101° 34' 23.442 W	
14,541.0	89.30	2.50	7,958.9	7,082.5	-742.8	577,039.66	1,612,565.90	31° 14' 50.544 N	101° 34' 23.415 W	
14,631.0	89.30	1.70	7,960.0	7,172.4	-739.5	577,129.59	1,612,569.20	31° 14' 51.435 N	101° 34' 23.389 W	
14,721.0	89.30	1.00	7,961.1	7,262.4	-737.4	577,219.56	1,612,571.32	31° 14' 52.325 N	101° 34' 23.376 W	
14,810.0	91.50	4.30	7,960.5	7,351.2	-733.2	577,308.44	1,612,575.43	31° 14' 53.205 N	101° 34' 23.340 W	
14,901.0	89.60	1.40	7,959.7	7,442.1	-728.7	577,399.31	1,612,579.96	31° 14' 54.105 N	101° 34' 23.300 W	
14,992.0	91.70	3.80	7,958.6	7,533.0	-724.6	577,490.20	1,612,584.08	31° 14' 55.005 N	101° 34' 23.264 W	
15,082.0	89.10	1.40	7,958.0	7,622.9	-720.5	577,580.09	1,612,588.16	31° 14' 55.895 N	101° 34' 23.228 W	
15,173.0	89.10	1.30	7,959.4	7,713.9	-718.4	577,671.05	1,612,590.31	31° 14' 56.796 N	101° 34' 23.215 W	
15,265.0	89.20	1.40	7,960.8	7,805.8	-716.2	577,763.02	1,612,592.48	31° 14' 57.706 N	101° 34' 23.202 W	
15,354.0	91.30	2.80	7,960.4	7,894.8	-712.9	577,851.95	1,612,595.74	31° 14' 58.587 N	101° 34' 23.176 W	

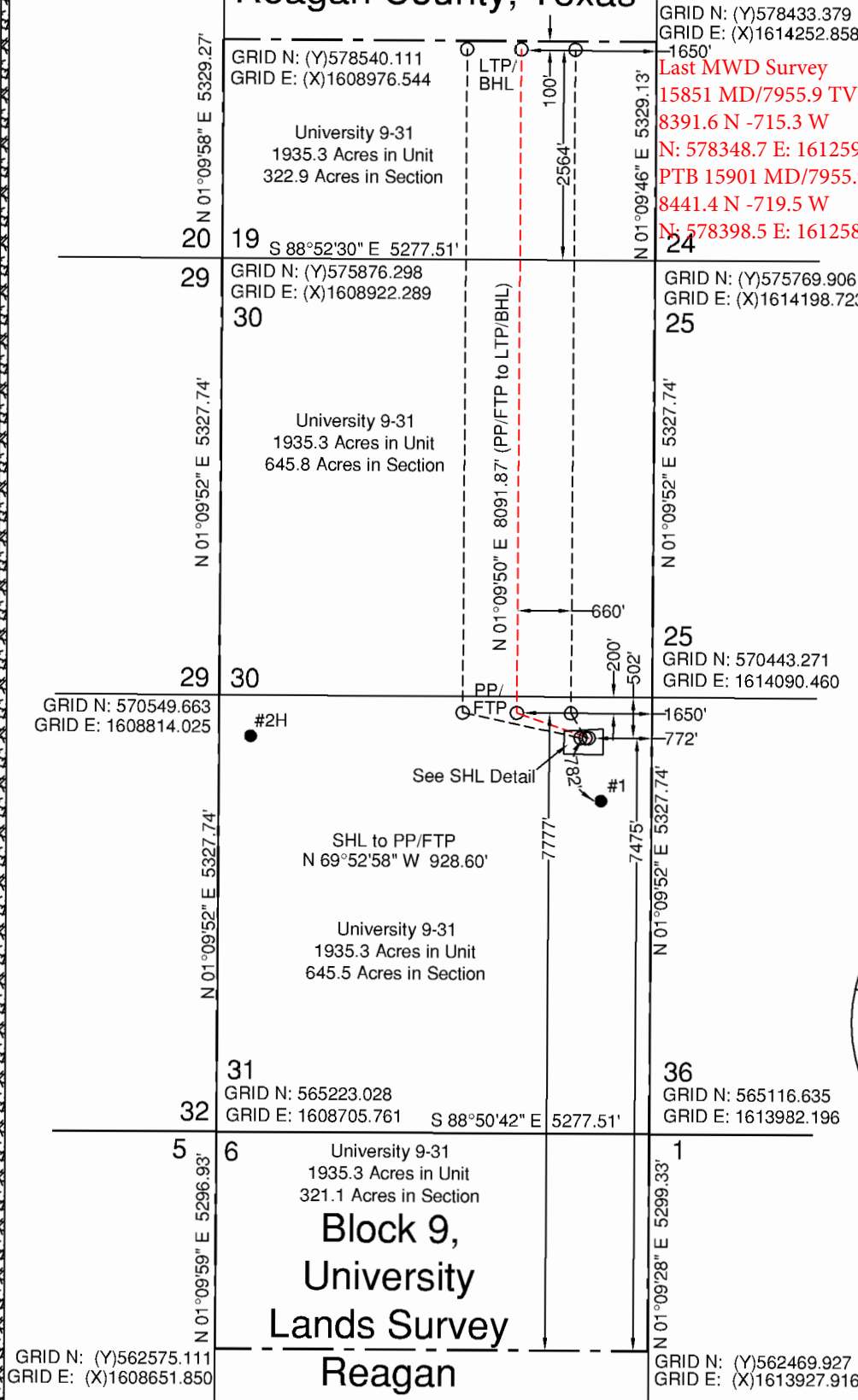
Company:	Fleur De Lis Energy, LLC	Local Co-ordinate Reference:	Site Sec 19-30&31, Blk 9 & Sec 6, Blk 8
Project:	Reagan County, Tx (NAD 27) USE	TVD Reference:	KB-25 @ 2806.0usft
Site:	Sec 19-30&31, Blk 9 & Sec 6, Blk 8	MD Reference:	KB-25 @ 2806.0usft
Well:	University 9-31 #8HR	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
15,444.0	89.70	0.30	7,959.6	7,984.7	-710.5	577,941.90	1,612,598.17	31° 14' 59.478 N	101° 34' 23.160 W	
15,533.0	90.60	0.20	7,959.4	8,073.7	-710.1	578,030.90	1,612,598.56	31° 15' 0.359 N	101° 34' 23.166 W	
15,623.0	90.70	0.20	7,958.4	8,163.7	-709.8	578,120.89	1,612,598.87	31° 15' 1.249 N	101° 34' 23.174 W	
15,712.0	90.40	358.70	7,957.5	8,252.7	-710.7	578,209.88	1,612,598.02	31° 15' 2.130 N	101° 34' 23.196 W	
15,801.0	91.10	358.70	7,956.3	8,341.7	-712.7	578,298.85	1,612,596.00	31° 15' 3.010 N	101° 34' 23.230 W	
15,851.0	90.00	355.20	7,955.9	8,391.6	-715.3	578,348.77	1,612,593.34	31° 15' 3.504 N	101° 34' 23.267 W	
Last MWD Survey 15851MD/7955.9 TVD 8391.6 N -715.3 W N: 578348.7 E: 1612593.3										
15,868.3	90.00	355.20	7,955.9	8,408.8	-716.8	578,366.02	1,612,591.89	31° 15' 3.675 N	101° 34' 23.286 W	
LTP/PBHL University 9-31 #8HR Plan #4 - LTP PBHL University 9-31 #8HR - LTP/PBHL University 9-31 #8HR Plan #5 - LTP/PBHL Universit										
15,870.0	90.00	355.20	7,955.9	8,410.5	-716.9	578,367.70	1,612,591.75	31° 15' 3.691 N	101° 34' 23.288 W	
Cross 100' 15870 MD/7955.9 TVD 8410.5 N -716.9 W N: 578367.7 E: 1612591.7										
15,901.0	90.00	355.20	7,955.9	8,441.4	-719.5	578,398.60	1,612,589.16	31° 15' 3.997 N	101° 34' 23.322 W	
PTB 15901 MD/7955.9 TVD 8441.4 N -719.5 W N: 578398.5 E: 1612589.1										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
940.0	939.9	-9.0	-0.1	1st MWD Survey	
7,924.0	7,781.6	519.2	-856.0	Cross Sec 7924 MD/7781.6 TVD 519.2 N -856.0 W N: 570476.3 E: 1612452.6	
15,851.0	7,955.9	8,391.6	-715.3	Last MWD Survey 15851MD/7955.9 TVD 8391.6 N -715.3 W N: 578348.7 E: 1612593.3	
15,870.0	7,955.9	8,410.5	-716.9	Cross 100' 15870 MD/7955.9 TVD 8410.5 N -716.9 W N: 578367.7 E: 1612591.7	
15,901.0	7,955.9	8,441.4	-719.5	PTB 15901 MD/7955.9 TVD 8441.4 N -719.5 W N: 578398.5 E: 1612589.1	

Checked By: _____	Approved By: _____	Date: _____
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Block 9, University Lands Survey Reagan County, Texas



Last Take Point/
Bottom Hole Location (LTP/BHL)
GRID N: (Y)578433.379
GRID E: (X)1614252.858
-1650'
Last MWD Survey
15851 MD/7955.9 TVD
8391.6 N -715.3 W
N: 578348.7 E: 1612593.3
PTB 15901 MD/7955.9 TVD
8441.4 N -719.5 W
N: 578398.5 E: 1612589.1

Penetration Point (PP)/ First Take Point (FTP)
GRID N: (Y)570276.575
GRID E: (X)1612436.731
NAD'83 Lat/Long
Lat: 31°15'04.229" N
Long: 101°34'24.609" W

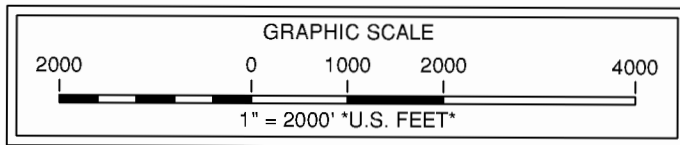
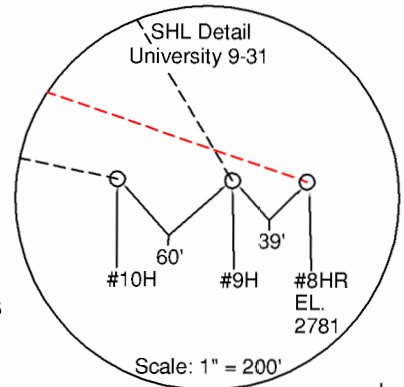
Surface Hole Location (SHL)
GRID N: (Y)569957.188
GRID E: (X)1613308.681
NAD'83 Lat/Long
Lat: +31°13'41.077"
Long: -101°34'15.380"

Driving Directions:

Beginning at the intersection of US Highway 67 & ST Highway 137 in Big Lake, Texas, Travel West for 6.7 Miles to a lease road at coordinates 31°12'54.99" N, 101°34'39.02" N.

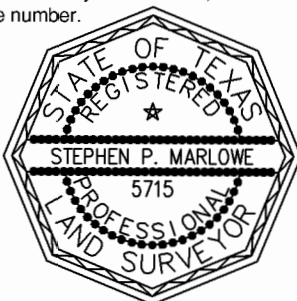
Turn Right (North) on lease road and travel North for 1/2 of a mile to the first intersection of a lease road to the right. Turn right (East) & continue for a total distance of 1 mile to coordinates 31°13'34.61" N, 101°34'16.75" W.

Location is 659.5 feet to the left (North).



Note: Well is located 7.0 miles Northwest of the city of Big Lake, Texas.
 Note: Survey Reconstruction filed in the Office of Pennell & Marlowe Land Surveyors, Inc.
 Note: Coordinates shown herein are on The Texas Coordinate System of 1927, Central Zone.
 Note: Bearings and distances are based on The Texas Coordinate System of 1927, Central Zone.
 Note: Example: (S-99999) indicates General Land Office file number.

Revised: 07/11/17 KRM
 USGS Quadrangle Sheet: Best, Tex.



Stephen P. Marlowe
 REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5715

March 23, 2017
 170323JR2-BLS

Railroad Commission Permit Plat
 FDL OPERATING, LLC.
 University 9-31 #8HR
 502' FROM NORTH LINE
 772' FROM EAST LINE
 University 9-31 Unit
 1935.3 Acres (Called) in Unit
 Sections 19, 30 & 31, Block 9, &
 Section 6, Block 8
 University Lands Survey
 Reagan County, Texas
 Scale: 1" = 2000'



Survey Certification Form

STATE OF TEXAS

REAGAN COUNTY

I **Christina Myers**, certify that; I am employed **Integrity Directional Services**; that I did on the day(s) of **08/19/2017** through **09/04/2017** conduct or supervise the taking of MWD surveys from a depth of **940** feet to a depth of **15851** feet & Project to TD **15901** feet. The data is true, correct, complete, and within the limitations of the tool set forth by Integrity Directional Services. I am authorized and qualified to make this report, and that this report was conducted at the request of **FDL Operating, LLC.** , for the **University 9-31 #8HR** , API # **42-383-38404** drilled in **Reagan** County, Texas. I have reviewed this report and find that it conforms to the principles and procedures as set forth by Integrity Directional Services.

Christina Myers

Christina Myers
Well Planner