



## **Fleur De Lis Energy, LLC**

Reagan CountyTx  
Sec 22 & 27, BLK 10, U.L.S  
University 10 2702H

Wellbore #1

Survey: IDS MWD Surveys

## **Survey Report - Geographic**

17 October, 2017



<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Multi User Db

<b>Project</b>	Reagan CountyTx		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Texas Central Zone		

Site	Sec 22 & 27, BLK 10, U.L.S				
Site Position:		Northing:	10,414,955.9140 usft	Latitude:	31.235207
From:	Lat/Long	Easting:	1,925,522.8406 usft	Longitude:	-101.520645
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.61 °

Well	University 10 2702H					
Well Position	+N/-S	0.00 ft	Northing:	10,414,955.7626 usft	Latitude:	31.235207
	+E/-W	0.00 ft	Easting:	1,925,522.9258 usft	Longitude:	-101.520645
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	2,715.00 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	5/15/2017	5.85	59.60	47,702

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00		0.62

<b>Survey Program</b>	<b>Date</b>	10/17/2017			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
77.00	738.00	Halliburton Surveys (Wellbore #1)	MWD	MWD - Standard	
859.00	15,581.00	IDS MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
738.00	0.10	234.39	737.99	0.35	-3.97	10,414,956.1097	1,925,518.9571	31.235207	-101.520658	
Tie-On Survey										
859.00	0.40	118.70	858.98	0.08	-3.68	10,414,955.8453	1,925,519.2417	31.235207	-101.520657	
1st OH MWD Survey										
905.00	0.40	114.50	904.98	-0.06	-3.40	10,414,955.7016	1,925,519.5286	31.235206	-101.520656	
994.00	0.40	123.30	993.98	-0.36	-2.85	10,414,955.4022	1,925,520.0710	31.235206	-101.520654	
1,086.00	0.50	126.90	1,085.98	-0.78	-2.27	10,414,954.9848	1,925,520.6604	31.235204	-101.520652	
1,177.00	0.40	104.80	1,176.98	-1.10	-1.64	10,414,954.6653	1,925,521.2850	31.235204	-101.520650	
1,267.00	0.60	113.80	1,266.97	-1.37	-0.91	10,414,954.3948	1,925,522.0198	31.235203	-101.520648	
1,357.00	0.60	109.30	1,356.97	-1.71	-0.03	10,414,954.0489	1,925,522.8957	31.235202	-101.520645	
1,448.00	0.60	105.80	1,447.96	-2.00	0.88	10,414,953.7616	1,925,523.8039	31.235201	-101.520642	

<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude		Longitude
1,540.00	0.50	121.50	1,539.96	-2.34	1.68	10,414,953.4207	1,925,524.6096	31.235200		-101.520640
1,632.00	0.60	122.40	1,631.95	-2.81	2.43	10,414,952.9528	1,925,525.3586	31.235199		-101.520637
1,724.00	0.70	109.50	1,723.95	-3.26	3.37	10,414,952.5070	1,925,526.2950	31.235198		-101.520634
1,815.00	0.50	102.00	1,814.94	-3.52	4.28	10,414,952.2389	1,925,527.2074	31.235197		-101.520631
1,905.00	0.40	146.60	1,904.94	-3.87	4.84	10,414,951.8949	1,925,527.7644	31.235196		-101.520629
1,996.00	0.20	170.70	1,995.94	-4.29	5.04	10,414,951.4730	1,925,527.9649	31.235195		-101.520629
2,085.00	0.40	136.50	2,084.94	-4.67	5.28	10,414,951.0943	1,925,528.2038	31.235194		-101.520628
2,176.00	0.30	141.50	2,175.94	-5.09	5.65	10,414,950.6775	1,925,528.5708	31.235193		-101.520627
2,267.00	0.00	130.60	2,266.94	-5.27	5.79	10,414,950.4910	1,925,528.7191	31.235192		-101.520626
2,358.00	0.20	96.50	2,357.94	-5.29	5.95	10,414,950.4730	1,925,528.8769	31.235192		-101.520626
2,448.00	0.30	43.90	2,447.94	-5.14	6.27	10,414,950.6250	1,925,529.1963	31.235193		-101.520625
2,539.00	0.50	48.40	2,538.93	-4.70	6.73	10,414,951.0602	1,925,529.6585	31.235194		-101.520623
2,630.00	0.50	38.10	2,629.93	-4.13	7.27	10,414,951.6363	1,925,530.2004	31.235196		-101.520622
2,721.00	0.70	34.20	2,720.92	-3.35	7.83	10,414,952.4085	1,925,530.7579	31.235198		-101.520620
2,812.00	0.60	37.70	2,811.92	-2.52	8.44	10,414,953.2452	1,925,531.3618	31.235200		-101.520618
2,904.00	1.10	285.90	2,903.91	-1.89	7.88	10,414,953.8683	1,925,530.8070	31.235202		-101.520620
2,995.00	1.40	277.30	2,994.89	-1.51	5.94	10,414,954.2490	1,925,528.8643	31.235203		-101.520626
3,086.00	1.60	281.30	3,085.86	-1.12	3.59	10,414,954.6393	1,925,526.5159	31.235204		-101.520633
3,175.00	1.10	286.70	3,174.83	-0.63	1.55	10,414,955.1283	1,925,524.4792	31.235205		-101.520640
3,264.00	0.70	295.10	3,263.82	-0.16	0.24	10,414,955.6045	1,925,523.1687	31.235206		-101.520644
3,356.00	0.70	283.10	3,355.82	0.21	-0.81	10,414,955.9703	1,925,522.1124	31.235207		-101.520648
3,446.00	0.70	287.30	3,445.81	0.50	-1.87	10,414,956.2585	1,925,521.0521	31.235208		-101.520651
3,536.00	0.80	296.70	3,535.80	0.94	-2.96	10,414,956.7043	1,925,519.9659	31.235209		-101.520654
3,625.00	0.80	303.80	3,624.79	1.57	-4.03	10,414,957.3292	1,925,518.8946	31.235211		-101.520658
3,716.00	0.40	344.80	3,715.79	2.23	-4.64	10,414,957.9891	1,925,518.2834	31.235213		-101.520660
3,805.00	0.40	96.50	3,804.79	2.49	-4.42	10,414,958.2538	1,925,518.5106	31.235213		-101.520659
3,896.00	0.50	84.00	3,895.78	2.50	-3.70	10,414,958.2593	1,925,519.2211	31.235213		-101.520657
3,986.00	0.70	63.90	3,985.78	2.78	-2.82	10,414,958.5421	1,925,520.1054	31.235214		-101.520654
4,075.00	0.90	57.50	4,074.77	3.39	-1.74	10,414,959.1568	1,925,521.1832	31.235216		-101.520651
4,165.00	0.40	70.70	4,164.77	3.88	-0.85	10,414,959.6404	1,925,522.0758	31.235217		-101.520648
4,255.00	0.30	61.00	4,254.76	4.10	-0.35	10,414,959.8584	1,925,522.5784	31.235218		-101.520646
4,345.00	0.30	75.00	4,344.76	4.27	0.09	10,414,960.0336	1,925,523.0121	31.235218		-101.520645
4,436.00	0.30	65.80	4,435.76	4.43	0.53	10,414,960.1929	1,925,523.4595	31.235219		-101.520643
4,528.00	0.40	89.70	4,527.76	4.53	1.07	10,414,960.2933	1,925,524.0003	31.235219		-101.520642
4,619.00	0.40	84.40	4,618.76	4.56	1.71	10,414,960.3259	1,925,524.6341	31.235219		-101.520640
4,709.00	0.60	80.20	4,708.75	4.67	2.49	10,414,960.4368	1,925,525.4111	31.235220		-101.520637
4,798.00	0.50	82.80	4,797.75	4.80	3.33	10,414,960.5647	1,925,526.2556	31.235220		-101.520634
4,889.00	0.80	70.40	4,888.74	5.06	4.32	10,414,960.8275	1,925,527.2480	31.235221		-101.520631
4,979.00	0.50	77.80	4,978.74	5.36	5.30	10,414,961.1212	1,925,528.2237	31.235222		-101.520628
5,069.00	0.70	186.00	5,068.73	4.89	5.62	10,414,960.6574	1,925,528.5501	31.235220		-101.520627
5,161.00	0.90	193.10	5,160.73	3.63	5.40	10,414,959.3948	1,925,528.3275	31.235217		-101.520628
5,250.00	0.90	160.40	5,249.72	2.29	5.48	10,414,958.0555	1,925,528.4035	31.235213		-101.520628
5,341.00	1.30	144.00	5,340.70	0.78	6.32	10,414,956.5471	1,925,529.2499	31.235209		-101.520625
5,432.00	1.00	147.30	5,431.68	-0.72	7.36	10,414,955.0437	1,925,530.2856	31.235205		-101.520621
5,522.00	0.70	155.60	5,521.67	-1.88	8.01	10,414,953.8821	1,925,530.9369	31.235202		-101.520619
5,613.00	0.40	209.00	5,612.67	-2.66	8.09	10,414,953.0980	1,925,531.0125	31.235200		-101.520619
5,702.00	0.50	198.80	5,701.66	-3.30	7.81	10,414,952.4587	1,925,530.7367	31.235198		-101.520620
5,794.00	0.60	180.20	5,793.66	-4.17	7.68	10,414,951.5970	1,925,530.6056	31.235195		-101.520620
5,886.00	0.80	156.60	5,885.65	-5.24	7.93	10,414,950.5259	1,925,530.8590	31.235192		-101.520619
5,975.00	1.20	153.30	5,974.64	-6.64	8.60	10,414,949.1231	1,925,531.5244	31.235189		-101.520617
6,068.00	1.70	147.30	6,067.61	-8.67	9.78	10,414,947.0921	1,925,532.7071	31.235183		-101.520613
6,157.00	1.30	137.20	6,156.58	-10.52	11.18	10,414,945.2404	1,925,534.1062	31.235178		-101.520609
6,248.00	1.30	132.00	6,247.56	-11.97	12.65	10,414,943.7922	1,925,535.5746	31.235174		-101.520604
6,340.00	1.90	121.90	6,339.52	-13.47	14.72	10,414,942.2878	1,925,537.6449	31.235170		-101.520597
6,431.00	2.10	116.10	6,430.46	-15.01	17.50	10,414,940.7570	1,925,540.4228	31.235166		-101.520588

<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
6,521.00	1.90	102.30	6,520.41	-16.05	20.44	10,414,939.7135	1,925,543.3613	31.235163	-101.520579	
6,612.00	0.80	78.10	6,611.38	-16.24	22.53	10,414,939.5231	1,925,545.4570	31.235163	-101.520572	
6,701.00	1.00	312.90	6,700.38	-15.58	22.57	10,414,940.1799	1,925,545.4960	31.235164	-101.520572	
6,791.00	1.70	301.80	6,790.35	-14.34	20.86	10,414,941.4181	1,925,543.7862	31.235168	-101.520578	
6,881.00	1.40	317.00	6,880.32	-12.84	18.98	10,414,942.9257	1,925,541.9018	31.235172	-101.520584	
6,970.00	1.40	354.90	6,969.30	-10.96	18.14	10,414,944.8039	1,925,541.0638	31.235177	-101.520587	
7,061.00	1.90	8.70	7,060.26	-8.36	18.27	10,414,947.4024	1,925,541.1933	31.235184	-101.520586	
7,151.00	2.60	355.30	7,150.19	-4.85	18.33	10,414,950.9117	1,925,541.2519	31.235194	-101.520586	
7,242.00	2.60	350.30	7,241.09	-0.76	17.81	10,414,955.0033	1,925,540.7352	31.235205	-101.520588	
7,331.00	1.90	341.20	7,330.03	2.63	16.99	10,414,958.3899	1,925,539.9198	31.235214	-101.520591	
7,422.00	1.40	344.80	7,420.99	5.13	16.22	10,414,960.8908	1,925,539.1423	31.235221	-101.520593	
7,475.00	1.20	352.50	7,473.97	6.30	15.97	10,414,962.0658	1,925,538.9001	31.235224	-101.520594	
7,564.00	0.70	8.70	7,562.96	7.76	15.94	10,414,963.5272	1,925,538.8608	31.235228	-101.520594	
7,656.00	2.90	344.40	7,654.91	10.56	15.39	10,414,966.3247	1,925,538.3200	31.235236	-101.520596	
7,686.00	7.40	340.40	7,684.78	13.11	14.54	10,414,968.8770	1,925,537.4676	31.235243	-101.520599	
7,716.00	11.40	343.30	7,714.37	17.78	13.04	10,414,973.5387	1,925,535.9671	31.235256	-101.520604	
7,747.00	14.00	345.80	7,744.61	24.35	11.24	10,414,980.1097	1,925,534.1669	31.235274	-101.520610	
7,790.00	19.20	346.50	7,785.81	36.27	8.31	10,414,992.0357	1,925,531.2390	31.235307	-101.520620	
7,835.00	21.40	345.70	7,828.01	51.43	4.56	10,415,007.1881	1,925,527.4841	31.235348	-101.520632	
7,880.00	24.60	345.20	7,869.43	68.44	0.14	10,415,024.2037	1,925,523.0634	31.235395	-101.520647	
7,926.00	28.00	342.60	7,910.66	88.01	-5.54	10,415,043.7709	1,925,517.3878	31.235448	-101.520666	
7,971.00	29.30	341.00	7,950.15	108.50	-12.28	10,415,064.2633	1,925,510.6448	31.235505	-101.520688	
8,017.00	32.80	340.70	7,989.55	130.91	-20.06	10,415,086.6723	1,925,502.8610	31.235566	-101.520714	
8,064.00	38.60	343.10	8,027.71	156.98	-28.54	10,415,112.7390	1,925,494.3852	31.235637	-101.520742	
8,110.00	42.80	346.20	8,062.58	185.90	-36.44	10,415,141.6609	1,925,486.4834	31.235717	-101.520768	
8,156.00	46.90	348.30	8,095.18	217.54	-43.58	10,415,173.2973	1,925,479.3484	31.235803	-101.520792	
8,201.00	51.30	347.70	8,124.64	250.80	-50.65	10,415,206.5580	1,925,472.2743	31.235895	-101.520816	
8,246.00	56.00	347.90	8,151.31	286.21	-58.30	10,415,241.9738	1,925,464.6210	31.235992	-101.520841	
8,278.25	59.01	348.12	8,168.63	312.82	-63.95	10,415,268.5801	1,925,458.9722	31.236065	-101.520860	
PP/FTP University 10 2702H										
8,291.00	60.20	348.20	8,175.08	323.58	-66.21	10,415,279.3419	1,925,456.7165	31.236094	-101.520868	
8,336.00	63.10	349.10	8,196.45	362.40	-74.00	10,415,318.1667	1,925,448.9297	31.236201	-101.520894	
8,381.00	66.80	350.90	8,215.50	402.55	-81.06	10,415,358.3073	1,925,441.8637	31.236311	-101.520918	
8,426.00	71.60	353.40	8,231.47	444.20	-86.79	10,415,399.9662	1,925,436.1370	31.236425	-101.520938	
8,472.00	77.70	354.30	8,243.65	488.29	-91.53	10,415,444.0492	1,925,431.3943	31.236546	-101.520955	
8,517.00	82.00	354.70	8,251.57	532.37	-95.77	10,415,488.1308	1,925,427.1531	31.236667	-101.520970	
8,563.00	86.30	356.70	8,256.26	577.99	-99.20	10,415,533.7497	1,925,423.7284	31.236793	-101.520982	
8,655.00	90.00	1.40	8,259.23	669.89	-100.71	10,415,625.6473	1,925,422.2131	31.237045	-101.520990	
8,747.00	91.40	2.70	8,258.11	761.82	-97.42	10,415,717.5769	1,925,425.5082	31.237298	-101.520983	
8,836.00	90.00	358.50	8,257.02	850.78	-96.48	10,415,806.5431	1,925,426.4439	31.237543	-101.520983	
8,926.00	91.50	358.50	8,255.84	940.74	-98.83	10,415,896.5019	1,925,424.0928	31.237790	-101.520993	
9,015.00	88.70	356.40	8,255.69	1,029.64	-102.79	10,415,985.3998	1,925,420.1381	31.238034	-101.521009	
9,106.00	89.00	357.80	8,257.52	1,120.50	-107.39	10,416,076.2627	1,925,415.5399	31.238284	-101.521027	
9,197.00	88.60	359.90	8,259.42	1,211.46	-109.21	10,416,167.2190	1,925,413.7185	31.238534	-101.521036	
9,288.00	90.70	3.20	8,259.98	1,302.41	-106.74	10,416,258.1660	1,925,416.1843	31.238784	-101.521031	
9,379.00	91.00	2.20	8,258.63	1,393.29	-102.45	10,416,349.0534	1,925,420.4751	31.239034	-101.521020	
9,468.00	91.70	1.30	8,256.53	1,482.23	-99.73	10,416,437.9854	1,925,423.1968	31.239279	-101.521015	
9,559.00	89.20	0.00	8,255.82	1,573.21	-98.69	10,416,528.9673	1,925,424.2334	31.239529	-101.521014	
9,675.00	88.50	359.70	8,258.14	1,689.18	-98.99	10,416,644.9425	1,925,423.9357	31.239848	-101.521019	
9,766.00	90.70	2.00	8,258.78	1,780.16	-97.64	10,416,735.9183	1,925,425.2903	31.240098	-101.521018	
9,856.00	90.80	1.00	8,257.60	1,870.12	-95.28	10,416,825.8782	1,925,427.6506	31.240345	-101.521014	
9,946.00	89.20	1.40	8,257.60	1,960.10	-93.39	10,416,915.8551	1,925,429.5399	31.240593	-101.521011	
10,037.00	89.40	3.60	8,258.71	2,051.00	-89.41	10,417,006.7557	1,925,433.5133	31.240843	-101.521001	
10,128.00	89.60	3.40	8,259.51	2,141.82	-83.85	10,417,097.5819	1,925,439.0731	31.241093	-101.520986	
10,218.00	89.40	1.50	8,260.29	2,231.73	-80.00	10,417,187.4917	1,925,442.9246	31.241340	-101.520977	

<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,308.00	89.30	3.20	8,261.31	2,321.65	-76.31	10,417,277.4065	1,925,446.6191	31.241587	-101.520968
10,399.00	90.70	3.90	8,261.31	2,412.47	-70.67	10,417,368.2286	1,925,452.2582	31.241837	-101.520953
10,491.00	90.50	3.70	8,260.35	2,504.26	-64.57	10,417,460.0208	1,925,458.3597	31.242090	-101.520937
10,584.00	88.10	1.60	8,261.49	2,597.14	-60.26	10,417,552.9020	1,925,462.6638	31.242345	-101.520927
10,675.00	88.60	2.50	8,264.11	2,688.05	-57.00	10,417,643.8044	1,925,465.9223	31.242595	-101.520919
10,768.00	90.90	3.70	8,264.51	2,780.90	-51.97	10,417,736.6591	1,925,470.9559	31.242850	-101.520906
10,859.00	88.30	2.80	8,265.15	2,871.74	-46.81	10,417,827.5013	1,925,476.1190	31.243100	-101.520893
10,948.00	88.40	3.80	8,267.71	2,960.56	-41.68	10,417,916.3154	1,925,481.2445	31.243345	-101.520879
11,037.00	91.30	3.50	8,267.94	3,049.37	-36.01	10,418,005.1245	1,925,486.9142	31.243589	-101.520864
11,127.00	89.90	1.30	8,267.00	3,139.28	-32.24	10,418,095.0325	1,925,490.6868	31.243836	-101.520855
11,218.00	90.50	1.20	8,266.68	3,230.25	-30.25	10,418,186.0096	1,925,492.6765	31.244086	-101.520852
11,310.00	89.50	0.00	8,266.68	3,322.25	-29.28	10,418,278.0014	1,925,493.6446	31.244339	-101.520852
11,399.00	89.10	359.50	8,267.77	3,411.24	-29.67	10,418,366.9933	1,925,493.2608	31.244584	-101.520856
11,489.00	88.90	359.50	8,269.34	3,501.22	-30.45	10,418,456.9760	1,925,492.4801	31.244831	-101.520862
11,579.00	89.10	359.00	8,270.91	3,591.20	-31.62	10,418,546.9541	1,925,491.3067	31.245079	-101.520869
11,671.00	89.60	358.50	8,271.96	3,683.17	-33.62	10,418,638.9257	1,925,489.3045	31.245332	-101.520878
11,763.00	89.10	359.80	8,273.00	3,775.15	-34.98	10,418,730.9072	1,925,487.9444	31.245584	-101.520886
11,852.00	88.50	0.40	8,274.86	3,864.13	-34.82	10,418,819.8866	1,925,488.1042	31.245829	-101.520888
11,942.00	91.80	2.60	8,274.63	3,954.08	-32.46	10,418,909.8372	1,925,490.4641	31.246076	-101.520884
12,032.00	91.20	1.90	8,272.27	4,043.98	-28.93	10,418,999.7357	1,925,494.0007	31.246324	-101.520876
12,122.00	91.30	1.30	8,270.31	4,133.92	-26.41	10,419,089.6784	1,925,496.5175	31.246571	-101.520871
12,212.00	92.50	1.40	8,267.32	4,223.85	-24.28	10,419,179.6021	1,925,498.6412	31.246818	-101.520867
12,303.00	92.10	1.10	8,263.67	4,314.75	-22.30	10,419,270.5065	1,925,500.6293	31.247068	-101.520864
12,395.00	90.90	0.50	8,261.26	4,406.71	-21.01	10,419,362.4637	1,925,501.9179	31.247321	-101.520863
12,486.00	87.20	0.30	8,262.77	4,497.68	-20.37	10,419,453.4329	1,925,502.5577	31.247571	-101.520864
12,576.00	87.40	1.30	8,267.01	4,587.57	-19.11	10,419,543.3228	1,925,503.8175	31.247818	-101.520863
12,667.00	89.70	3.60	8,269.32	4,678.44	-15.21	10,419,634.1979	1,925,507.7113	31.248068	-101.520853
12,757.00	90.80	3.90	8,268.92	4,768.25	-9.32	10,419,724.0024	1,925,513.6019	31.248315	-101.520838
12,847.00	90.90	2.20	8,267.59	4,858.11	-4.53	10,419,813.8613	1,925,518.3944	31.248563	-101.520825
12,938.00	89.40	0.00	8,267.35	4,949.08	-2.78	10,419,904.8357	1,925,520.1458	31.248813	-101.520823
13,028.00	88.00	359.70	8,269.39	5,039.06	-3.01	10,419,994.8097	1,925,519.9148	31.249060	-101.520827
13,120.00	87.20	359.30	8,273.24	5,130.97	-3.81	10,420,086.7245	1,925,519.1174	31.249313	-101.520832
13,212.00	87.20	0.10	8,277.74	5,222.86	-4.28	10,420,178.6125	1,925,518.6410	31.249565	-101.520837
13,305.00	91.30	2.90	8,278.95	5,315.79	-1.85	10,420,271.5432	1,925,521.0802	31.249821	-101.520832
13,398.00	92.20	2.80	8,276.11	5,408.63	2.78	10,420,364.3835	1,925,525.7068	31.250076	-101.520821
13,488.00	90.40	2.20	8,274.07	5,498.52	6.71	10,420,454.2702	1,925,529.6357	31.250323	-101.520811
13,581.00	88.70	1.20	8,274.80	5,591.47	9.47	10,420,547.2215	1,925,532.3992	31.250579	-101.520806
13,671.00	89.50	1.50	8,276.22	5,681.43	11.60	10,420,637.1843	1,925,534.5239	31.250826	-101.520802
13,761.00	88.80	1.90	8,277.55	5,771.38	14.27	10,420,727.1337	1,925,537.1981	31.251074	-101.520796
13,851.00	90.70	3.60	8,277.94	5,861.27	18.59	10,420,817.0213	1,925,541.5203	31.251321	-101.520786
13,941.00	89.70	1.50	8,277.63	5,951.17	22.60	10,420,906.9251	1,925,545.5287	31.251568	-101.520776
14,031.00	90.00	1.90	8,277.87	6,041.13	25.28	10,420,996.8846	1,925,548.2032	31.251816	-101.520770
14,120.00	89.60	2.20	8,278.18	6,130.08	28.47	10,421,085.8264	1,925,551.3914	31.252060	-101.520763
14,212.00	89.50	2.30	8,278.90	6,222.00	32.08	10,421,177.7523	1,925,555.0078	31.252313	-101.520755
14,303.00	89.60	2.20	8,279.61	6,312.93	35.66	10,421,268.6789	1,925,558.5849	31.252563	-101.520746
14,394.00	90.70	2.10	8,279.38	6,403.86	39.08	10,421,359.6128	1,925,562.0034	31.252813	-101.520739
14,485.00	90.60	1.80	8,278.34	6,494.80	42.18	10,421,450.5538	1,925,565.1043	31.253064	-101.520732
14,576.00	90.80	1.80	8,277.23	6,585.75	45.04	10,421,541.5017	1,925,567.9670	31.253314	-101.520726
14,668.00	89.40	0.10	8,277.07	6,677.73	46.57	10,421,633.4830	1,925,569.4969	31.253567	-101.520724
14,760.00	89.70	0.90	8,277.79	6,769.73	47.38	10,421,725.4756	1,925,570.3044	31.253819	-101.520725
14,850.00	92.10	3.10	8,276.38	6,859.65	50.52	10,421,815.3973	1,925,573.4485	31.254067	-101.520718
14,942.00	90.10	2.10	8,274.61	6,951.53	54.70	10,421,907.2794	1,925,577.6252	31.254320	-101.520707
15,035.00	90.00	3.30	8,274.53	7,044.43	59.09	10,422,000.1740	1,925,582.0107	31.254575	-101.520697
15,128.00	89.70	2.90	8,274.78	7,137.29	64.12	10,422,093.0369	1,925,587.0447	31.254830	-101.520684
15,217.00	90.20	2.20	8,274.85	7,226.20	68.08	10,422,181.9475	1,925,591.0089	31.255075	-101.520674

<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM 5000.1 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,309.00	89.70	1.80	8,274.93	7,318.14	71.30	10,422,273.8906	1,925,594.2242	31.255328	-101.520667
15,398.00	89.30	2.00	8,275.71	7,407.09	74.25	10,422,362.8378	1,925,597.1794	31.255573	-101.520660
15,490.00	91.00	3.00	8,275.47	7,499.00	78.27	10,422,454.7450	1,925,601.1968	31.255825	-101.520651
15,581.00	90.70	2.10	8,274.12	7,589.90	82.32	10,422,545.6434	1,925,605.2496	31.256075	-101.520641
Last OH MWD Svy 15581 MD/8274.12 TVD 7589.9 N 82.32 E N: 10422545.6 E: 1925605.2 - PBHL University 10 2702H Plan #2 - PBHL Unive									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
738.00	737.99	0.35	-3.97	Tie-On Survey
859.00	858.98	0.08	-3.68	1st OH MWD Survey
15,581.00	8,274.12	7,589.90	82.32	Last OH MWD Svy 15581 MD/8274.12 TVD 7589.9 N 82.32 E N: 10422545.6 E

Checked By: _____	Approved By: _____	Date: _____
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# Block 10, University Land Survey Reagan County, Texas

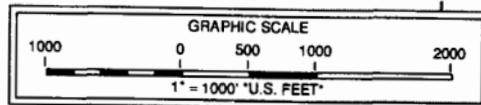
Last MWD Survey  
15581 MD/8274.12 TVD  
7589.9 N 82.32 E  
N: 10422545.6 E: 1925605.2

Surface Hole Location (SHL)  
GRID N: (Y)572378.884  
GRID E: (X)1629054.903  
NAD'83 Lat/Long  
Lat: +31°14'06.744" N  
Lon: -101°31'14.321" W

Penetration Point (PP)/  
First Take Point (FTP)  
GRID N: (Y)572681.071  
GRID E: (X)1628982.591  
NAD'83 Lat/Long  
Lat: +31°14'09.727" N  
Lon: -101°31'15.191" W

Last Take Point (LTP)/  
Bottom Hole Location (BHL)  
GRID N: (Y)580702.179  
GRID E: (X)1629145.424  
NAD'83 Lat/Long  
Lat: +31°15'29.131" N  
Lon: -101°31'14.301" W

Driving Directions To Location: From the  
intersection of Highway 137 and U.S. Highway 67 in  
Big Lake, Texas; Drive West on U.S. Hwy 67 5.6  
miles to trail road at Lat: 31°12'44.95", Long: 101°  
33'52.98"; Turn right (North) on to trail road, drive  
2.9 miles to lease road at Lat: 31°14'04.77", Long:  
101°31'44.13";  
Turn right (East) on to lease road, drive 0.5 miles to  
Lat: 31°14'04.60", Long: 101°31'  
14.24"; Location is left (North) 220 feet.



Note: Well is located 4.7 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: Latitudes and Longitudes shown are on NAD'83 Datum.  
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: 02/07/2017-KRM  
USGS Quadrangle Sheet: Gardener Draw, Tex.  
USGS Quadrangle Sheet: Best, Tex.  
Railroad Commission Permit Plat

FDL OPERATING, LLC  
University 10 #2702H  
2234' FROM SOUTH LINE  
911' FROM EAST LINE  
Sections 22 & 27, Block 10  
University Lands Survey  
Reagan County, Texas

January 26, 2017

170126JR-NRL

Scale: 1" = 1000'



## **Fleur De Lis Energy, LLC**

Reagan CountyTx  
Sec 22 & 27, BLK 10, U.L.S  
University 10 2702H

**Sidetrack**

**Survey: ST Surveys**

## **Survey Report - Geographic**

17 October, 2017





<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Sidetrack	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Sidetrack	<b>Database:</b>	EDM 5000.1 Multi User Db

<b>Project</b>	Reagan CountyTx		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Texas Central Zone		

Site		Sec 22 & 27, BLK 10, U.L.S			
Site Position:		Northing:	10,414,955.9140 usft	Latitude:	31.235207
From:	Lat/Long	Easting:	1,925,522.8406 usft	Longitude:	-101.520645
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.61 °

Well		University 10 2702H				
Well Position	+N/-S	0.00 ft	Northing:	10,414,955.7626 usft	Latitude:	31.235207
	+E/-W	0.00 ft	Easting:	1,925,522.9258 usft	Longitude:	-101.520645
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	2,715.00 ft

<b>Wellbore</b>	Sidetrack				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	6/19/2017	5.83	59.58	47,691

<b>Design</b>	Sidetrack				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	7,400.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00		0.62

<b>Survey Program</b>	<b>Date</b>	10/17/2017			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
77.00	738.00	Halliburton Surveys (Wellbore #1)	MWD	MWD - Standard	
859.00	7,400.00	IDS MWD Surveys (Wellbore #1)	MWD	MWD - Standard	
7,742.00	16,315.00	ST Surveys (Sidetrack)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
7,400.00	1.52	343.72	7,398.99	4.59	16.37	10,414,960.3513	1,925,539.2945	31.235220	-101.520593	
PP University 10 2702H ST										
7,742.00	13.00	32.20	7,737.80	41.63	35.67	10,414,997.3926	1,925,558.5915	31.235322	-101.520532	
1st ST Survey										
7,788.00	17.10	41.30	7,782.22	51.09	42.89	10,415,006.8568	1,925,565.8161	31.235348	-101.520509	
7,835.00	19.90	32.70	7,826.79	63.02	51.78	10,415,018.7838	1,925,574.7015	31.235381	-101.520481	
7,879.00	22.60	24.40	7,867.81	77.03	59.32	10,415,032.7904	1,925,582.2427	31.235420	-101.520458	
7,923.00	27.40	25.40	7,907.67	93.88	67.16	10,415,049.6454	1,925,590.0826	31.235467	-101.520433	
7,969.00	31.40	18.90	7,947.75	114.80	75.58	10,415,070.5579	1,925,598.5098	31.235524	-101.520407	
8,014.00	34.30	12.30	7,985.57	138.29	82.09	10,415,094.0494	1,925,605.0116	31.235589	-101.520387	

<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Sidetrack	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Sidetrack	<b>Database:</b>	EDM 5000.1 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
8,059.00	37.70	5.90	8,021.98	164.38	86.20	10,415,120.1412	1,925,609.1297	31.235661	-101.520375	
8,103.00	42.00	4.60	8,055.75	192.45	88.77	10,415,148.2105	1,925,611.6945	31.235738	-101.520368	
8,148.00	46.50	4.00	8,087.98	223.75	91.12	10,415,179.5148	1,925,614.0416	31.235824	-101.520361	
8,193.00	51.40	2.80	8,117.52	257.62	93.11	10,415,213.3805	1,925,616.0404	31.235918	-101.520356	
8,238.00	55.80	1.10	8,144.22	293.81	94.33	10,415,249.5690	1,925,617.2572	31.236017	-101.520353	
8,244.92	56.87	1.12	8,148.06	299.57	94.44	10,415,255.3286	1,925,617.3687	31.236033	-101.520353	
PP University 10 2702H										
8,244.97	56.88	1.12	8,148.08	299.61	94.44	10,415,255.3724	1,925,617.3695	31.236033	-101.520353	
PP University 10 2702H ST Plan #2A										
8,282.00	62.60	1.20	8,166.74	331.57	95.09	10,415,287.3334	1,925,618.0165	31.236121	-101.520352	
8,327.00	68.40	1.00	8,185.39	372.49	95.88	10,415,328.2565	1,925,618.8006	31.236234	-101.520351	
8,373.00	75.40	1.40	8,199.67	416.18	96.79	10,415,371.9432	1,925,619.7188	31.236354	-101.520349	
8,418.00	82.60	1.30	8,208.25	460.31	97.83	10,415,416.0751	1,925,620.7583	31.236475	-101.520348	
8,509.00	90.20	0.30	8,213.96	551.06	99.10	10,415,506.8188	1,925,622.0221	31.236725	-101.520347	
8,600.00	91.50	359.90	8,212.61	642.04	99.26	10,415,597.8063	1,925,622.1810	31.236975	-101.520349	
8,690.00	89.70	0.30	8,211.67	732.04	99.41	10,415,687.7972	1,925,622.3381	31.237222	-101.520352	
8,781.00	89.70	359.60	8,212.15	823.03	99.33	10,415,778.7951	1,925,622.2587	31.237472	-101.520355	
8,872.00	90.90	359.90	8,211.67	914.03	98.94	10,415,869.7911	1,925,621.8616	31.237722	-101.520360	
8,964.00	91.60	359.50	8,209.66	1,006.01	98.45	10,415,961.7670	1,925,621.3801	31.237975	-101.520364	
9,054.00	89.10	358.80	8,209.11	1,095.99	97.12	10,416,051.7475	1,925,620.0450	31.238223	-101.520372	
9,145.00	90.40	359.80	8,209.51	1,186.98	96.01	10,416,142.7366	1,925,618.9333	31.238473	-101.520378	
9,235.00	90.30	359.20	8,208.96	1,276.97	95.22	10,416,232.7309	1,925,618.1480	31.238720	-101.520384	
9,324.00	90.80	354.70	8,208.11	1,365.82	90.49	10,416,321.5774	1,925,613.4141	31.238964	-101.520402	
9,414.00	93.40	357.00	8,204.81	1,455.51	83.98	10,416,411.2671	1,925,606.9049	31.239211	-101.520426	
9,505.00	93.50	356.60	8,199.33	1,546.20	78.91	10,416,501.9602	1,925,601.8344	31.239460	-101.520445	
9,594.00	93.00	358.50	8,194.29	1,634.97	75.11	10,416,590.7313	1,925,598.0365	31.239704	-101.520460	
9,684.00	92.10	358.40	8,190.28	1,724.85	72.68	10,416,680.6082	1,925,595.6045	31.239951	-101.520471	
9,773.00	91.30	358.60	8,187.64	1,813.78	70.35	10,416,769.5376	1,925,593.2758	31.240195	-101.520482	
9,864.00	92.50	358.50	8,184.62	1,904.70	68.05	10,416,860.4565	1,925,590.9745	31.240445	-101.520492	
9,955.00	90.90	358.90	8,181.92	1,995.63	65.99	10,416,951.3897	1,925,588.9110	31.240695	-101.520502	
10,045.00	89.90	359.40	8,181.30	2,085.62	64.65	10,417,041.3760	1,925,587.5760	31.240942	-101.520509	
10,134.00	89.00	1.80	8,182.15	2,174.60	65.58	10,417,130.3594	1,925,588.5077	31.241187	-101.520509	
10,224.00	88.60	2.40	8,184.04	2,264.52	68.88	10,417,220.2785	1,925,591.8049	31.241434	-101.520502	
10,316.00	90.00	3.10	8,185.16	2,356.40	73.29	10,417,312.1626	1,925,596.2185	31.241687	-101.520491	
10,409.00	90.00	0.70	8,185.16	2,449.35	76.38	10,417,405.1045	1,925,599.3017	31.241943	-101.520484	
10,498.00	87.60	358.50	8,187.02	2,538.31	75.76	10,417,494.0707	1,925,598.6813	31.242187	-101.520489	
10,587.00	87.80	358.20	8,190.59	2,627.20	73.20	10,417,582.9618	1,925,596.1207	31.242432	-101.520500	
10,677.00	88.20	358.10	8,193.74	2,717.10	70.29	10,417,672.8597	1,925,593.2170	31.242679	-101.520513	
10,768.00	88.70	358.60	8,196.20	2,808.03	67.67	10,417,763.7879	1,925,590.5978	31.242929	-101.520524	
10,857.00	89.20	358.40	8,197.83	2,896.99	65.34	10,417,852.7420	1,925,588.2684	31.243173	-101.520535	
10,948.00	89.10	357.70	8,199.18	2,987.92	62.25	10,417,943.6785	1,925,585.1723	31.243423	-101.520548	
11,039.00	89.30	359.20	8,200.45	3,078.88	59.79	10,418,034.6336	1,925,582.7112	31.243673	-101.520559	
11,058.50	89.78	359.50	8,200.61	3,098.38	59.56	10,418,054.1316	1,925,582.4905	31.243727	-101.520560	
Cross Sec Line 11058.5 MD/8200.61 TVD 3098.38 N 59.56 E N: 10418054.1 E: 1925582.49										
11,129.00	91.50	0.60	8,199.82	3,168.87	59.63	10,418,124.6233	1,925,582.5540	31.243920	-101.520562	
11,218.00	91.80	0.00	8,197.26	3,257.83	60.09	10,418,213.5845	1,925,583.0198	31.244165	-101.520564	
11,308.00	92.20	359.40	8,194.12	3,347.77	59.62	10,418,303.5276	1,925,582.5489	31.244412	-101.520569	
11,399.00	91.20	359.90	8,191.42	3,438.73	59.07	10,418,394.4843	1,925,581.9934	31.244662	-101.520573	
11,490.00	90.00	359.70	8,190.46	3,529.72	58.75	10,418,485.4768	1,925,581.6757	31.244912	-101.520578	
11,579.00	90.40	359.50	8,190.15	3,618.72	58.13	10,418,574.4737	1,925,581.0544	31.245157	-101.520583	
11,670.00	91.40	359.50	8,188.72	3,709.70	57.33	10,418,665.4577	1,925,580.2604	31.245407	-101.520588	
11,761.00	89.60	359.70	8,187.93	3,800.69	56.70	10,418,756.4480	1,925,579.6252	31.245657	-101.520593	
11,852.00	90.20	359.20	8,188.09	3,891.69	55.83	10,418,847.4428	1,925,578.7517	31.245907	-101.520599	
11,941.00	87.30	357.90	8,190.03	3,980.63	53.58	10,418,936.3816	1,925,576.5009	31.246152	-101.520610	
12,032.00	87.80	0.40	8,193.92	4,071.53	52.23	10,419,027.2807	1,925,575.1527	31.246402	-101.520617	

<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Sidetrack	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Sidetrack	<b>Database:</b>	EDM 5000.1 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
12,122.00	90.00	4.10	8,195.65	4,161.42	55.76	10,419,117.1734	1,925,578.6857	31.246649	-101.520609	
12,212.00	90.50	3.70	8,195.26	4,251.21	61.88	10,419,206.9635	1,925,584.8069	31.246896	-101.520592	
12,302.00	89.10	2.00	8,195.57	4,341.09	66.36	10,419,296.8459	1,925,589.2816	31.247143	-101.520581	
12,394.00	88.50	0.50	8,197.50	4,433.05	68.36	10,419,388.8006	1,925,591.2882	31.247396	-101.520578	
12,484.00	90.20	2.40	8,198.52	4,523.00	70.64	10,419,478.7584	1,925,593.5655	31.247643	-101.520573	
12,574.00	90.70	1.40	8,197.81	4,612.95	73.62	10,419,568.7045	1,925,596.5494	31.247891	-101.520567	
12,665.00	90.70	1.40	8,196.70	4,703.92	75.85	10,419,659.6704	1,925,598.7725	31.248141	-101.520563	
12,754.00	88.50	359.30	8,197.32	4,792.90	76.39	10,419,748.6559	1,925,599.3163	31.248386	-101.520564	
12,842.00	90.80	1.60	8,197.86	4,880.89	77.08	10,419,836.6396	1,925,600.0076	31.248628	-101.520565	
12,932.00	88.30	358.50	8,198.57	4,970.87	77.16	10,419,926.6185	1,925,600.0865	31.248875	-101.520568	
13,022.00	91.30	0.40	8,198.88	5,060.85	76.30	10,420,016.5992	1,925,599.2229	31.249122	-101.520574	
13,111.00	91.90	0.30	8,196.39	5,149.81	76.84	10,420,105.5622	1,925,599.7664	31.249367	-101.520575	
13,201.00	91.50	0.10	8,193.73	5,239.77	77.15	10,420,195.5217	1,925,600.0804	31.249614	-101.520577	
13,292.00	90.10	0.00	8,192.45	5,330.76	77.23	10,420,286.5103	1,925,600.1597	31.249864	-101.520580	
13,382.00	90.00	0.20	8,192.38	5,420.76	77.39	10,420,376.5099	1,925,600.3168	31.250112	-101.520582	
13,473.00	89.20	359.90	8,193.01	5,511.76	77.47	10,420,467.5066	1,925,600.3962	31.250362	-101.520585	
13,562.00	87.10	358.00	8,195.88	5,600.68	75.84	10,420,556.4361	1,925,598.7672	31.250606	-101.520594	
13,653.00	87.40	357.40	8,200.25	5,691.51	72.19	10,420,647.2574	1,925,595.1194	31.250856	-101.520608	
13,743.00	89.30	358.60	8,202.84	5,781.41	69.05	10,420,737.1593	1,925,591.9804	31.251103	-101.520621	
13,833.00	89.80	358.50	8,203.55	5,871.38	66.78	10,420,827.1271	1,925,589.7031	31.251350	-101.520632	
13,922.00	89.30	0.10	8,204.25	5,960.36	65.69	10,420,916.1144	1,925,588.6158	31.251595	-101.520638	
14,014.00	90.70	0.80	8,204.25	6,052.36	66.41	10,421,008.1085	1,925,589.3383	31.251848	-101.520639	
14,106.00	89.20	1.00	8,204.33	6,144.34	67.86	10,421,100.0943	1,925,590.7834	31.252101	-101.520638	
14,197.00	89.30	1.10	8,205.52	6,235.32	69.53	10,421,191.0710	1,925,592.4508	31.252351	-101.520635	
14,288.00	90.40	1.40	8,205.76	6,326.30	71.51	10,421,282.0474	1,925,594.4359	31.252601	-101.520632	
14,378.00	89.30	1.30	8,205.99	6,416.27	73.63	10,421,372.0205	1,925,596.5562	31.252849	-101.520629	
14,468.00	88.80	0.60	8,207.49	6,506.25	75.12	10,421,461.9947	1,925,598.0482	31.253096	-101.520627	
14,559.00	90.40	0.60	8,208.12	6,597.24	76.08	10,421,552.9844	1,925,599.0011	31.253346	-101.520627	
14,648.00	89.20	0.50	8,208.43	6,686.23	76.93	10,421,641.9779	1,925,599.8554	31.253591	-101.520627	
14,738.00	87.80	359.90	8,210.79	6,776.19	77.24	10,421,731.9437	1,925,600.1696	31.253838	-101.520629	
14,830.00	88.40	0.00	8,213.84	6,868.14	77.16	10,421,823.8925	1,925,600.0894	31.254091	-101.520633	
14,921.00	90.50	0.80	8,214.71	6,959.13	77.80	10,421,914.8801	1,925,600.7247	31.254341	-101.520634	
15,011.00	90.90	0.90	8,213.61	7,049.11	79.13	10,422,004.8631	1,925,602.0597	31.254589	-101.520633	
15,101.00	88.80	0.70	8,213.85	7,139.10	80.39	10,422,094.8487	1,925,603.3163	31.254836	-101.520632	
15,191.00	89.10	0.30	8,215.50	7,229.08	81.18	10,422,184.8297	1,925,604.1015	31.255083	-101.520632	
15,283.00	90.00	0.80	8,216.22	7,321.07	82.06	10,422,276.8212	1,925,604.9846	31.255336	-101.520632	
15,374.00	89.30	1.40	8,216.77	7,412.05	83.81	10,422,367.8016	1,925,606.7315	31.255586	-101.520630	
15,464.00	88.40	0.60	8,218.58	7,502.02	85.38	10,422,457.7679	1,925,608.3020	31.255834	-101.520628	
15,554.00	88.30	0.20	8,221.17	7,591.98	86.00	10,422,547.7281	1,925,608.9300	31.256081	-101.520629	
15,644.00	87.40	0.40	8,224.55	7,681.92	86.48	10,422,637.6623	1,925,609.4009	31.256328	-101.520631	
15,734.00	90.00	2.20	8,226.59	7,771.86	88.52	10,422,727.6044	1,925,611.4427	31.256576	-101.520627	
15,824.00	90.30	3.00	8,226.36	7,861.76	92.60	10,422,817.5104	1,925,615.5253	31.256823	-101.520617	
15,914.00	89.10	2.70	8,226.83	7,951.65	97.07	10,422,907.3959	1,925,620.0001	31.257070	-101.520606	
16,005.00	91.00	4.30	8,226.75	8,042.47	102.63	10,422,998.2189	1,925,625.5550	31.257320	-101.520591	
16,096.00	89.50	1.40	8,226.35	8,133.35	107.15	10,423,089.0930	1,925,630.0789	31.257570	-101.520580	
16,187.00	89.00	1.40	8,227.54	8,224.31	109.38	10,423,180.0576	1,925,632.3020	31.257820	-101.520576	
16,264.00	88.50	1.40	8,229.22	8,301.27	111.26	10,423,257.0159	1,925,634.1828	31.258032	-101.520572	
Last ST Survey 16264 MD/8229.22 TVD 8301.27 N 111.26 E N: 10423257.0 E: 1925634.1 - PBHL University 10 2702H Plan #6 - PBHL Univer										
16,315.00	88.50	1.40	8,230.56	8,352.24	112.50	10,423,307.9831	1,925,635.4284	31.258172	-101.520570	
PTB 16315 MD/8230.56 TVD 8352.24 N 112.5 E N: 10423307.9 E: 1925635.42										

<b>Company:</b>	Fleur De Lis Energy, LLC	<b>Local Co-ordinate Reference:</b>	Well University 10 2702H
<b>Project:</b>	Reagan CountyTx	<b>TVD Reference:</b>	Well @ 2740.00ft
<b>Site:</b>	Sec 22 & 27, BLK 10, U.L.S	<b>MD Reference:</b>	Well @ 2740.00ft
<b>Well:</b>	University 10 2702H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Sidetrack	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Sidetrack	<b>Database:</b>	EDM 5000.1 Multi User Db

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,742.00	7,737.80	41.63	35.67	1st ST Survey
11,058.50	8,200.61	3,098.38	59.56	Cross Sec Line 11058.5 MD/8200.61 TVD 3098.38 N 59.56 E N: 10418054.1 E:
16,264.00	8,229.22	8,301.27	111.26	Last ST Survey 16264 MD/8229.22 TVD 8301.27 N 111.26 E N: 10423257.0 E:
16,315.00	8,230.56	8,352.24	112.50	PTB 16315 MD/8230.56 TVD 8352.24 N 112.5 E N: 10423307.9 E: 1925635.42

Checked By: _____	Approved By: _____	Date: _____
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# Block 10, University Land Survey Reagan County, Texas

GRID N: (Y) 580888.980  
GRID E: (X) 1624862.764

GRID N: 580782.102  
GRID E: 1630137.235

Last ST MWD Survey  
16264 MD/8229.22 TVD  
8301.27 N 111.26 E  
N: 10423257.0 E: 1925634.1  
PTB ST Survey  
16315 MD/8230.56 TVD  
8352.24 N 112.5 E  
N: 10423307.9 E: 1925635.42

Surface Hole Location (SHL)  
GRID N: (Y) 572378.884  
GRID E: (X) 1629054.903  
NAD'83 Lat/Long  
Lat: +31°14'06.744" N  
Lon: -101°31'14.321" W

Penetration Point (PP)/  
First Take Point (FTP)  
GRID N: (Y) 572681.071  
GRID E: (X) 1628982.591  
NAD'83 Lat/Long  
Lat: +31°14'09.727" N  
Lon: -101°31'15.191" W

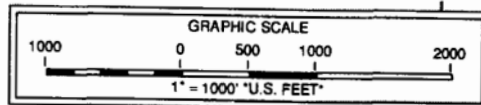
Last Take Point (LTP)/  
Bottom Hole Location (BHL)  
GRID N: (Y) 580702.179  
GRID E: (X) 1629145.424  
NAD'83 Lat/Long  
Lat: +31°15'29.131" N  
Lon: -101°31'14.301" W

GRID N: (Y) 575562.573  
GRID E: (X) 1624755.489

GRID N: 575455.244  
GRID E: 1630029.959

GRID N: 570233.302  
GRID E: 1624644.819

GRID N: 570126.586  
GRID E: 1629920.170



Note: Well is located 4.7 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: Latitudes and Longitudes shown are on NAD'83 Datum.  
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: 02/07/2017-KRM  
USGS Quadrangle Sheet: Gardener Draw, Tex.  
USGS Quadrangle Sheet: Best, Tex.  
Railroad Commission Permit Plat



FDL OPERATING, LLC  
University 10 #2702H  
2234' FROM SOUTH LINE  
911' FROM EAST LINE  
Sections 22 & 27, Block 10  
University Lands Survey  
Reagan County, Texas

January 26, 2017

170126JR-NRL

P.O. Box 51887, Midland, Texas 79710 (432) 262-0901 Fax (432) 262-0679 Firm #100201-00

Scale: 1" = 1000'



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## 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 **10/04/2017** through **10/16/2017** conduct or supervise the taking of MWD surveys from a depth of **7742 feet** to a depth of **16264 feet** & PTB of **16315 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 10 #2702H ST**, API # **42-383-38227** 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*

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Christina Myers  
Well Planner