

Oilfield Services, Central U.S. Land  
Schlumberger Drilling and Measurements  
Drilling Group  
Geo Market Area: South West Texas Basin  
7220 W I-H 20  
Midland, Texas 79706  
Phone : (432) 742-5400 (Main)  
Fax : (432) 742-5606 (Shared)



January 15, 2019

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

Attention: Pam Johns

Re:

CLIENT: FELIX ENERGY HOLDINGS II, LLC  
WELL: UL Independence 1718-17 A 1H  
FIELD: Phantom (Wolfcamp)  
  
RIG: ICD 321  
COUNTY: Ward  
API NO: 42-475-37717  
PERMIT: 846191  
JOB NO: 18MLD1518

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements, 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>
Juan Estrada FS	UL Independence 1718-17 A 1H Original Hole	100.00 Ft to 22772.00 Ft	November 16, 2018 to January 1, 2019	TelePacer/SlimPulse Third Party Corrected

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,

Dustin Barlow  
Field Service Manager

CC: FELIX ENERGY HOLDINGS II, LLC  
Enclosures: [2]  
County of Ward  
State of Texas

**UL Independence 1718-17 A 1H MWD 0' to 22823' Definitive Survey**  
**Geodetic Report**  
 (Def Survey)



**Report Date:** January 02, 2019 - 11:18 AM  
**Client:** Felix Energy  
**Field:** TX Ward County (NAD 27 CZ) - 2018  
**Structure / Slot:** Felix Energy/UL Independence 1718-17 Pad) / UL Independence 1718-17 A 1H  
**Well:** UL Independence 1718-17 A 1H - ICD 321  
**Borehole:**  
**UWI / API#:** Unknown / Unknown  
**Survey Name:** UL Independence 1718-17 A 1H MWD 0' to 22823' Definitive  
**Survey Date:** November 14, 2018  
**Tort / AHD / DDI / ERD Ratio:** 285.832 \* 11648.802 ft / 6.808 / 0.985  
**Coordinate Reference System:** NAD27 Texas State Plane, Central Zone, US Feet  
**Location Lat / Long:** N 31° 34' 58.17656", W 103° 10' 4.33278"  
**Location Grid N/E/Y/X:** N 708137.530 fTUS, E 1117428.040 fTUS  
**CRS Grid Convergence Angle:** -1.4600 \*  
**Grid Scale Factor:** 0.99993309  
**Version / Patch:** 2.10.753.0

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 161.939 \* (Grid North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** RKB=25  
**TVD Reference Elevation:** 2689.000 ft above MSL  
**Seabed / Ground Elevation:** 2664.000 ft above MSL  
**Magnetic Declination:** 7.095 \*  
**Total Gravity Field Strength:** 998.4893mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 47486.791 nT  
**Magnetic Dip Angle:** 59.511 \*  
**Declination Date:** November 14, 2018  
**Magnetic Declination Model:** HDGM 2018  
**North Reference:** Grid North  
**Grid Convergence Used:** -1.4600 \*  
**Total Corr Mag North->Grid North:** 8.5545 \*  
**Local Coord Referenced To:** Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	Closure (ft)	Closure Azimuth (°)
Surface Begin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	708137.53	1117428.00	31.582827	-103.167870	0.00	0.00
SLB_MWD Survey	100.00	0.11	202.94	100.00	0.07	-0.09	-0.04	0.11	708137.44	1117428.00	31.582827	-103.167870	0.10	202.94
	200.00	0.08	357.87	200.00	0.08	-0.11	-0.08	0.19	708137.42	1117427.96	31.582827	-103.167870	0.13	215.88
	236.00	0.18	128.29	236.00	0.10	-0.12	-0.03	0.67	708137.41	1117428.01	31.582826	-103.167870	0.12	196.20
	328.00	0.44	235.00	328.00	0.32	-0.41	-0.21	0.57	708137.12	1117427.83	31.582826	-103.167871	0.46	207.16
	390.00	1.08	216.24	389.99	0.73	-1.02	-0.75	1.09	708136.51	1117427.29	31.582824	-103.167873	1.26	216.42
	453.00	1.15	232.66	452.98	1.29	-1.88	-1.60	0.52	708135.65	1117426.44	31.582822	-103.167875	2.47	220.48
	513.00	0.85	240.33	512.97	1.58	-2.46	-2.47	0.55	708135.07	1117425.57	31.582820	-103.167878	3.49	225.05
	603.00	0.51	300.86	602.97	1.41	-2.59	-3.39	0.83	708134.94	1117424.65	31.582819	-103.167881	4.27	232.65
	694.00	1.13	298.27	693.96	0.46	-1.96	-4.53	0.68	708135.57	1117423.51	31.582821	-103.167885	4.94	246.64
	787.00	1.50	292.00	786.93	-0.99	-1.07	-6.47	0.43	708136.46	1117421.57	31.582823	-103.167891	6.55	260.64
	876.00	2.13	280.40	877.89	-2.57	-0.31	-9.23	0.80	708137.22	1117418.81	31.582825	-103.167900	9.24	268.06
	896.00	2.17	281.96	895.97	-2.90	-0.18	-9.90	0.39	708137.35	1117418.14	31.582826	-103.167902	9.90	268.95
13 3/8" Casing	960.00	0.98	289.67	959.85	-3.84	0.25	-11.60	1.88	708137.78	1117416.44	31.582827	-103.167907	11.60	271.25
	1060.00	0.96	81.40	1059.84	-4.22	0.67	-11.58	1.88	708138.20	1117416.47	31.582828	-103.167907	11.60	273.30
	1151.00	3.29	82.14	1150.77	-3.64	1.14	-8.24	2.56	708138.67	1117419.81	31.582829	-103.167897	8.31	277.87
	1241.00	5.50	85.59	1240.50	-2.16	1.82	-1.38	2.47	708139.35	1117426.66	31.582832	-103.167875	2.28	322.96
	1332.00	5.68	73.83	1331.07	-0.98	3.41	7.30	1.27	708140.94	1117435.34	31.582837	-103.167847	8.06	64.94
	1512.00	5.26	68.87	1510.26	-1.12	8.85	23.55	0.35	708146.38	1117451.59	31.582853	-103.167795	25.16	69.40
	1606.00	6.24	86.54	1603.79	-0.05	10.71	32.68	2.13	708148.24	1117460.71	31.582859	-103.167786	34.39	71.85
	1699.00	6.36	80.54	1696.23	1.99	11.86	42.80	0.72	708149.39	1117470.84	31.582862	-103.167734	44.42	74.51
	1794.00	6.03	81.80	1790.67	3.64	13.44	52.93	0.38	708150.97	1117480.97	31.582867	-103.167701	54.61	75.76
	1887.00	6.39	72.19	1883.13	4.49	15.72	62.69	1.18	708153.25	1117490.73	31.582874	-103.167670	64.63	75.93
	1981.00	6.59	71.05	1976.53	4.43	19.07	72.78	0.25	708156.60	1117500.81	31.582884	-103.167638	75.23	75.32
	2075.00	6.52	74.39	2069.91	4.58	22.26	83.02	0.41	708159.78	1117511.05	31.582894	-103.167606	85.95	74.99
	2167.00	6.33	75.17	2161.34	5.09	24.96	92.95	0.23	708162.49	1117520.98	31.582902	-103.167574	96.24	74.97
	2262.00	6.36	75.57	2255.75	5.72	27.81	103.11	0.06	708165.14	1117531.14	31.582910	-103.167541	106.74	75.01
	2356.00	6.13	75.86	2349.20	6.39	30.13	113.02	0.25	708167.66	1117541.05	31.582918	-103.167510	116.97	75.07
	2451.00	6.04	72.40	2443.66	6.78	32.89	122.70	0.40	708170.41	1117550.73	31.582926	-103.167479	127.03	75.00
	2545.00	5.71	70.76	2537.17	6.72	35.92	131.83	0.39	708173.45	1117559.86	31.582935	-103.167450	136.64	74.76
	2639.00	5.86	68.84	2630.69	6.36	39.19	140.72	0.26	708176.72	1117568.75	31.582944	-103.167422	146.08	74.44
	2733.00	6.40	73.44	2724.15	6.24	42.42	150.22	0.78	708179.95	1117578.25	31.582954	-103.167391	156.09	74.23
	2828.00	6.29	73.40	2818.57	6.51	45.42	160.28	0.12	708182.94	1117588.31	31.582963	-103.167359	166.59	74.18
	2923.00	6.27	73.43	2913.00	6.78	48.38	170.24	0.02	708185.91	1117598.27	31.582972	-103.167328	176.98	74.13
	3017.00	6.48	75.73	3006.42	7.27	51.15	180.30	0.35	708188.68	1117608.33	31.582980	-103.167296	187.42	74.16
	3111.00	6.37	71.89	3099.83	7.61	54.08	190.40	0.47	708191.61	1117618.42	31.582989	-103.167263	197.93	74.14
	3206.00	5.86	76.32	3194.32	8.11	56.64	199.86	0.15	708194.17	1117627.89	31.582996	-103.167233	207.74	74.18
	3300.00	5.66	77.70	3287.87	9.08	59.60	208.80	0.18	708196.87	1117636.83	31.583003	-103.167205	216.86	74.34
	3395.00	5.57	78.00	3382.42	10.04	60.50	217.89	0.10	708198.02	1117645.92	31.583008	-103.167176	226.13	74.48
	3488.00	5.47	75.44	3474.99	10.78	62.55	226.60	0.29	708200.08	1117654.62	31.583015	-103.167148	235.07	74.57
	3582.00	5.66	75.43	3568.54	11.34	64.84	235.42	0.20	708202.37	1117663.44	31.583022	-103.167120	244.19	74.60
	3675.00	5.45	75.96	3661.11	11.93	67.07	244.14	0.23	708204.59	1117672.17	31.583028	-103.167092	253.19	74.64
	3769.00	5.39	74.77	3754.69	12.46	69.31	252.73	0.14	708206.84	1117680.76	31.583035	-103.167065	262.06	74.66
	3864.00	5.41	71.58	3849.26	12.65	71.90	261.29	0.32	708209.42	1117689.31	31.583043	-103.167037	271.00	74.61
	3957.00	5.73	74.31	3941.83	12.82	74.54	269.92	0.45	708212.06	1117697.94	31.583051	-103.167010	280.02	74.56
	4051.00	5.85	74.87	4035.38	13.24	76.98	278.73	0.27	708214.50	1117706.79	31.583058	-103.166982	289.20	74.56
	4145.00	5.67	73.92	4128.93	13.63	79.44	287.56	0.22	708216.96	1117715.58	31.583065	-103.166954	298.33	74.56
	4334.00	6.14	73.85	4316.93	14.29	84.83	306.24	0.25	708222.36	1117734.26	31.583081	-103.166894	317.77	74.52
	4429.00	4.63	71.08	4411.51	14.40	87.49	314.75	1.61	708225.02	1117742.77	31.583089	-103.166867	326.68	74.47
	4522.00	3.49	64.07	4504.27	13.96	89.95	320.85	1.33	708227.47	1117748.86	31.583096	-103.166848	333.21	74.34
	4616.00	2.19	63.73	4598.15	13.31	91.99	325.03	1.38	708229.52	1117753.05	31.583102	-103.166834	337.80	74.20
	4710.00	1.02	122.96	4692.12	13.70	92.33	327.34	2.00	708229.86	1117755.36	31.583103	-103.166827	340.11	74.25
	4804.00	1.09	116.31	4786.11	14.98	91.48	328.85	0.15	708229.00	1117756.86	31.583101	-103.166822	341.33	74.45
	4898.00	1.45	117.85	4881.09	16.25	90.60	330.57	0.17	708228.12	1117758.59	31.583099	-103.166816	342.76	74.67
	4993.00	1.18	117.67	4975.06	17.78	89.67	332.34	0.07	708227.20	1117760.36	31.583097	-103.166811	344.22	74.90
	5036.00	1.24	114.39	5018.05	18.41	89.28	333.15	0.17	708226.80	1117761.17	31.583095	-103.166808	344.91	75.00
10 3/4" Casing	5084.00	1.26	114.88	5066.04	19.12	88.84	334.11	0.06	708226.36	1117762.12	31.583094	-103.166805	345.72	75.11
	5115.00	1.28	115.18	5097.04	19.59	88.55	334.73	0.06	708226.07	1117762.75	31.583094	-103.166803	346.24	75.18
	5209.00	1.15	108.28	5191.01	20.87	87.80	336.58	0.21	708225.33	1117764.59	31.583092	-103.166797	347.84	75.38
	5303.00	1.15	111.30	5285.00	22.03	87.17	338.35	0.06	708224.69	1117766.37	31.583090	-103.166791	349.40	75

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	Closure (ft)	Closure Azimuth (°)
	8504.00	0.48	171.13	8485.84	19.50	90.10	339.52	0.24	708227.62	1117767.53	31.583098	-103.166786	351.27	75.14
	8593.00	0.41	150.44	8674.94	21.05	88.74	340.02	0.07	708226.28	1117768.03	31.583094	-103.166787	351.40	75.26
	8787.00	0.28	153.20	8768.84	21.61	88.24	340.28	0.14	708225.76	1117768.30	31.583093	-103.166785	351.54	75.37
	8882.00	0.11	169.38	8863.84	21.93	87.94	340.41	0.19	708225.47	1117768.42	31.583092	-103.166785	351.58	75.46
	8976.00	1.40	2.09	8957.83	20.94	89.00	340.46	1.60	708226.53	1117768.48	31.583095	-103.166785	351.91	75.35
	9070.00	1.05	359.05	9051.80	19.04	91.01	340.49	0.38	708228.53	1117768.51	31.583101	-103.166785	352.45	75.04
	9165.00	0.83	332.71	9146.79	17.53	92.49	340.16	0.50	708230.02	1117768.18	31.583105	-103.166786	352.51	74.79
	9259.00	0.91	262.76	9240.78	16.71	93.00	339.11	1.06	708230.53	1117767.13	31.583106	-103.166789	351.63	74.60
	9354.00	0.45	237.28	9335.78	16.03	93.08	338.03	0.63	708230.60	1117766.05	31.583106	-103.166793	350.60	74.60
	9448.00	0.50	149.79	9429.78	16.45	92.89	337.91	0.97	708230.42	1117765.93	31.583106	-103.166793	350.44	74.63
	9542.00	0.76	105.31	9523.77	17.19	92.38	338.72	0.57	708229.90	1117766.73	31.583104	-103.166790	351.09	74.75
	9635.00	1.79	81.95	9616.75	17.78	92.42	340.75	1.22	708229.94	1117768.77	31.583105	-103.166794	353.06	74.83
	9730.00	0.85	65.97	9711.72	17.97	92.91	342.86	1.05	708230.43	1117770.88	31.583106	-103.166777	355.23	74.84
	9824.00	1.12	48.52	9805.71	17.53	93.80	344.19	0.43	708231.33	1117772.20	31.583109	-103.166773	356.74	74.76
	9918.00	0.65	126.99	9899.70	17.60	94.09	345.30	1.25	708231.61	1117773.32	31.583110	-103.166769	357.89	74.76
	10012.00	0.98	264.99	9993.69	17.86	93.70	344.93	1.62	708231.22	1117772.94	31.583108	-103.166771	357.43	74.80
	10104.00	1.20	275.59	10085.68	17.29	93.72	343.18	0.32	708231.25	1117771.20	31.583108	-103.166776	355.75	74.72
	10199.00	0.79	300.12	10180.66	16.40	94.15	341.63	0.61	708231.67	1117778.64	31.583109	-103.166781	354.36	74.59
	10293.00	1.68	323.35	10274.64	14.61	95.58	340.24	1.07	708233.10	1117768.26	31.583113	-103.166786	353.41	74.31
	10388.00	0.78	288.91	10369.62	12.91	96.91	338.80	1.19	708234.43	1117766.82	31.583117	-103.166791	352.39	74.04
	10483.00	0.83	249.17	10464.61	12.55	96.87	337.55	0.58	708234.40	1117765.56	31.583117	-103.166795	351.17	73.99
	10575.00	1.67	205.98	10556.59	13.55	95.43	336.34	1.31	708232.95	1117764.35	31.583113	-103.166798	349.61	74.16
	10670.00	1.93	212.97	10651.54	15.55	92.84	334.86	0.36	708230.37	1117762.88	31.583105	-103.166803	347.49	74.50
	10765.00	1.97	222.60	10746.49	17.35	90.30	332.88	0.35	708227.82	1117760.90	31.583098	-103.166809	344.91	74.82
	10860.00	0.75	233.06	10841.46	18.35	88.72	331.28	1.31	708226.25	1117759.30	31.583094	-103.166814	342.96	75.01
	10954.00	0.83	235.27	10936.45	18.66	88.15	330.50	0.34	708225.68	1117758.52	31.583092	-103.166817	342.05	75.07
	11048.00	0.53	241.95	11029.45	18.83	87.75	329.83	0.12	708225.27	1117757.84	31.583091	-103.166819	341.30	75.10
	11142.00	0.58	224.52	11123.45	19.13	87.20	329.11	0.19	708224.73	1117757.13	31.583090	-103.166821	340.47	75.16
	11193.00	0.67	213.43	11117.44	19.43	86.77	328.76	0.29	708224.30	1117756.78	31.583088	-103.166822	340.02	75.21
	11244.00	0.51	159.79	11225.44	19.84	86.31	328.68	1.08	708223.83	1117756.70	31.583087	-103.166822	339.82	75.29
	11313.00	0.99	112.29	11294.44	20.54	85.79	329.34	1.12	708223.32	1117757.35	31.583086	-103.166820	340.33	75.40
	11361.00	2.02	116.74	11342.42	21.40	85.26	330.48	2.16	708222.78	1117758.49	31.583084	-103.166816	341.29	75.53
	11408.00	6.06	152.79	11389.30	24.44	82.67	332.35	9.75	708220.20	1117760.37	31.583077	-103.166810	342.48	76.03
	11456.00	11.27	114.36	11436.89	31.86	75.88	335.45	12.17	708213.40	1117763.47	31.583057	-103.166800	343.92	77.25
	11503.00	18.06	160.63	11482.08	43.97	68.55	339.77	13.32	708202.07	1117767.79	31.583028	-103.166785	345.85	79.24
	11551.00	25.84	161.12	11526.56	61.90	47.60	345.63	16.21	708185.13	1117773.65	31.582982	-103.166785	348.89	82.16
	11598.00	31.64	160.27	11567.76	84.48	26.29	353.11	12.37	708163.82	1117781.13	31.582924	-103.166739	354.09	85.74
	11646.00	37.77	158.78	11607.20	111.77	0.71	362.69	12.89	708138.24	1117790.71	31.582854	-103.166706	362.69	89.89
	11694.00	42.96	157.64	11643.76	142.78	-28.14	374.25	12.92	708109.39	1117802.26	31.582776	-103.166667	375.30	94.30
	11742.00	48.75	157.67	11677.18	177.11	-59.98	387.33	10.06	708077.55	1117815.35	31.582689	-103.166622	391.95	98.80
	11790.00	55.26	159.75	11706.71	214.86	-95.22	401.03	13.98	708052.32	1117829.05	31.582593	-103.166575	412.18	103.36
	11838.00	61.91	162.23	11731.72	255.79	-133.93	414.34	14.54	708030.61	1117842.35	31.582488	-103.166529	435.44	107.91
	11885.00	67.82	171.44	11757.42	297.17	-175.74	426.74	13.32	708019.30	1117859.79	31.582397	-103.166486	460.79	112.21
	11933.00	66.88	162.05	11771.67	341.93	-216.23	439.82	3.45	707921.32	1117867.83	31.582263	-103.166441	490.10	116.18
	11980.00	71.73	164.02	11788.28	385.64	-258.27	452.64	11.04	707879.28	1117880.64	31.582149	-103.166396	521.13	119.71
	12028.00	76.28	165.63	11801.50	431.94	-302.79	464.70	10.01	707834.76	1117892.71	31.582027	-103.166354	554.64	123.09
	12076.00	80.08	164.79	11811.33	478.84	-348.21	476.70	8.10	707789.35	1117904.70	31.581903	-103.166312	590.33	126.15
	12130.00	84.97	163.41	11818.36	532.33	-399.68	491.36	9.40	707737.88	1117919.37	31.581763	-103.166260	633.39	129.13
	12177.00	85.66	162.18	11821.71	573.18	-438.71	503.45	3.43	707688.85	1117931.46	31.581656	-103.166218	667.78	131.07
	12242.12	91.64	163.38	11823.38	644.25	-506.60	524.49	8.58	707630.96	1117952.49	31.581477	-103.166145	729.20	134.01
	12266.00	93.65	163.78	11822.28	688.09	-529.48	531.23	6.58	707608.09	1117959.24	31.581409	-103.166122	750.04	134.91
	12334.00	95.96	164.27	11816.58	735.80	-594.62	549.88	3.47	707542.96	1117977.88	31.581231	-103.166056	809.90	137.24
	12342.34	95.76	164.26	11815.73	744.09	-602.60	552.13	2.39	707534.97	1117980.13	31.581209	-103.166049	817.30	137.50
	12399.00	94.41	164.23	11810.71	800.48	-656.92	567.45	2.39	707480.66	1117995.45	31.581061	-103.165995	868.07	139.18
	12490.00	92.51	164.76	11805.22	891.22	-744.44	591.73	2.17	707393.14	1118019.73	31.580822	-103.165910	950.97	141.52
	12582.00	92.27	165.33	11801.38	983.00	-833.25	615.45	0.67	707304.34	1118043.45	31.580580	-103.165826	1035.90	143.55
	12674.00	92.03	165.51	11797.93	1074.77	-922.22	638.60	0.33	707215.37	1118066.59	31.580337	-103.165745	1121.74	145.30
	12765.00	91.96	165.46	11794.73	1166.53	-1011.23	661.84	0.09	707126.37	1118089.63	31.580094	-103.165664	1208.45	146.80
	12857.00	91.87	165.42	11792.35	1257.35	-1099.19	684.81	0.12	707038.41	1118112.90	31.579852	-103.165582	1295.08	148.08
	12948.00	93.10	165.49	11789.69	1348.12	-1187.13	707.94	2.07	706950.48	1118135.93	31.579614	-103.165501	1382.20	149.19
	13043.00	92.75	164.79	11783.84	1442.85	-1278.83	732.27	0.82	706868.78	1118160.26	31.579364	-103.165415	1473.65	150.20
	13138.00	92.24	165.00	11779.71	1537.63	-1370.46	757.01	0.58	706767.16	1118185.00	31.579114	-103.165328	1565.64	151.08
	13234.00	92.00	165.08	11776.16	1633.43	-1463.15	781.77	0.26	706674.48	1118209.76	31.578861	-103.165241	1658.91	151.88
	13329.00	92.13	165.47	11772.73	1728.20	-1554.97	805.90	0.43	706582.67	1118233.89	31.578610	-103.165156	1751.40	152.60
	13425.00	91.44	165.03	11769.74	1824.00	-1647.76	830.33	0.85	706489.89	1118258.32	31.578357	-103.165070	1845.14	153.26
	13520.00	93.10	164.13	11765.98	1918.82	-1739.26	855.57	1.99	706398.39	1118283.55	31.578107	-103.164982	1938.31	153.81
	13616.00	91.86	163.07	11761.83	2014.68	-1831.27	882.85	1.70	706306.39	1118310.63	31.577856	-103.164887	2032.88	154.27
	13712.00	91.82	163.04	11758.94	2110.54	-1923.28	910.89	1.19	706214.77	1118337.71	31.577612	-103.164789	2126.63	154.63
	13805.00	91.99	161.58	11755.19	2203.56	-2011.08	940.45	0.50	706126.58	1118368.43	31.577366	-103.164687	2220.11	154.94
	13901.00	92.27	161.36	1										

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	Closure (ft)	Closure Azimuth (°)
	19253.00	89.52	162.15	11650.28	7643.41	-7235.17	2466.86	1.93	700802.86	1119894.53	31.563116	-103.159362	7644.09	161.17
	19349.00	90.93	163.76	11649.90	7739.39	-7326.95	2494.80	2.23	700811.09	1119922.66	31.562866	-103.159264	7740.03	161.20
	19443.00	90.65	164.04	11648.58	7835.32	-7419.17	2521.41	0.41	700718.87	1119949.28	31.562614	-103.159171	7835.92	161.23
	19540.00	90.34	164.55	11647.76	7930.24	-7510.62	2547.13	0.63	700627.43	1119974.99	31.562365	-103.159081	7930.78	161.27
	19636.00	88.59	162.41	11648.66	8026.19	-7602.65	2574.42	2.88	700535.41	1120002.29	31.562114	-103.158986	8026.70	161.29
	19732.00	89.66	163.76	11650.12	8122.15	-7694.48	2602.35	1.79	700443.58	1120030.21	31.561863	-103.158889	8122.64	161.31
	19827.00	88.93	163.15	11651.29	8217.11	-7785.54	2629.40	1.00	700352.53	1120057.26	31.561615	-103.158795	8217.56	161.34
	19923.00	88.59	163.16	11653.37	8313.07	-7877.40	2657.21	0.35	700260.68	1120085.07	31.561364	-103.158698	8313.49	161.36
	20018.00	88.31	163.00	11655.94	8408.01	-7968.25	2684.85	0.34	700169.83	1120112.71	31.561117	-103.158602	8408.41	161.38
	20114.00	88.18	163.59	11658.88	8503.94	-8060.16	2712.43	0.63	700077.93	1120140.29	31.560866	-103.158506	8504.32	161.40
	20210.00	87.83	163.00	11662.22	8599.86	-8152.05	2740.01	0.71	699986.04	1120167.86	31.560615	-103.158410	8600.21	161.42
	20305.00	89.11	163.62	11664.76	8694.79	-8243.01	2767.28	1.50	699895.09	1120195.13	31.560367	-103.158315	8695.12	161.44
	20401.00	89.28	163.23	11666.11	8790.75	-8335.01	2794.67	0.44	699803.09	1120222.51	31.560116	-103.158220	8791.05	161.46
	20497.00	89.38	163.07	11667.23	8886.72	-8426.88	2822.49	0.20	699711.23	1120250.34	31.559866	-103.158123	8887.00	161.48
	20592.00	88.93	162.73	11668.63	8981.70	-8517.67	2850.42	0.59	699620.44	1120278.27	31.559616	-103.158026	8981.96	161.50
	20688.00	89.86	162.96	11669.64	9077.68	-8609.40	2878.74	1.00	699528.73	1120306.58	31.559368	-103.157927	9077.93	161.51
	20783.00	90.41	163.36	11669.42	9172.66	-8700.32	2906.26	0.72	699437.81	1120334.10	31.559120	-103.157832	9172.89	161.53
	20879.00	91.14	162.78	11668.12	9268.63	-8792.15	2934.21	0.97	699345.98	1120362.05	31.558870	-103.157734	9268.85	161.54
	20975.00	89.52	163.33	11667.57	9364.61	-8883.98	2962.19	1.78	699254.16	1120390.02	31.558619	-103.157637	9364.81	161.56
	21070.00	89.86	163.27	11668.08	9459.58	-8974.97	2989.49	0.36	699163.18	1120417.32	31.558371	-103.157542	9459.77	161.58
	21166.00	88.90	164.08	11669.12	9555.53	-9067.09	3016.47	1.31	699071.06	1120444.30	31.558120	-103.157448	9555.69	161.60
	21262.00	90.76	166.66	11669.41	9651.34	-9159.97	3040.71	3.31	698978.19	1120468.54	31.557866	-103.157353	9651.48	161.64
	21357.00	89.38	164.55	11669.29	9746.14	-9251.98	3064.33	2.65	698886.19	1120492.16	31.557615	-103.157259	9746.24	161.67
	21453.00	89.48	164.73	11670.24	9842.03	-9344.55	3089.76	0.21	698793.63	1120517.58	31.557363	-103.157160	9842.11	161.70
	21546.00	89.52	164.26	11671.06	9934.93	-9434.16	3114.62	0.51	698704.02	1120542.44	31.557118	-103.157103	9935.00	161.73
	21642.00	87.04	163.39	11673.94	10030.83	-9526.31	3141.34	2.74	698611.88	1120569.17	31.556867	-103.157010	10030.88	161.75
	21737.00	86.28	163.85	11679.47	10125.82	-9617.30	3168.09	0.93	698520.90	1120595.91	31.556619	-103.156917	10125.87	161.77
	21833.00	86.83	164.44	11685.24	10221.38	-9709.48	3194.27	0.84	698428.72	1120622.09	31.556367	-103.156825	10221.41	161.79
	21929.00	86.28	164.64	11691.01	10317.11	-9801.84	3219.81	0.61	698336.37	1120647.63	31.556115	-103.156736	10317.13	161.82
	22024.00	89.24	165.18	11694.72	10411.89	-9893.48	3244.52	3.17	698244.73	1120672.34	31.555865	-103.156649	10411.91	161.84
	22120.00	90.14	165.08	11695.24	10507.74	-9986.26	3269.16	0.94	698151.96	1120696.97	31.555612	-103.156562	10507.75	161.87
	22215.00	91.17	164.24	11694.16	10602.63	-10077.87	3294.29	1.40	698060.36	1120722.10	31.555362	-103.156474	10602.63	161.90
	22311.00	91.00	161.54	11692.34	10698.59	-10169.80	3322.52	2.82	697968.64	1120750.34	31.555112	-103.156376	10698.59	161.91
	22406.00	90.93	162.52	11690.74	10793.57	-10259.95	3351.83	1.03	697878.29	1120779.64	31.554865	-103.156275	10793.58	161.91
	22502.00	90.72	162.25	11689.36	10889.56	-10351.44	3380.88	0.36	697786.81	1120808.68	31.554616	-103.156174	10889.56	161.91
	22597.00	90.62	162.44	11688.24	10984.55	-10441.96	3409.69	0.23	697696.29	1120837.49	31.554369	-103.156074	10984.55	161.92
	22693.00	90.76	162.50	11687.09	11080.54	-10533.49	3438.60	0.16	697604.77	1120866.40	31.554120	-103.155974	11080.54	161.92
Cross HL Toe	22725.32	90.87	162.38	11686.63	11172.85	-10624.30	3468.35	0.50	697513.96	1120895.92	31.554036	-103.155940	11172.86	161.92
Last SLB_MWD Survey	22772.00	91.03	162.21	11685.85	11159.53	-10608.76	3462.54	0.50	697529.50	1120890.35	31.553914	-103.155891	11159.53	161.92
Projection to Bit	22823.00	91.03	162.21	11684.94	11210.52	-10657.32	3478.12	0.00	697480.95	1120905.92	31.553782	-103.155837	11210.52	161.93

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 \*\*\* 3-D 95.000% Confidence 2.7955 sigma  
 Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	25.000	1/98.425	17.500	13.375	NAL_MWD_PLUS_0.5_DEG-Depth Only	Original Borehole / UL Independence 1718-17 A 1H MWD 0' to 22823' Definitive
	1	25.000	25.000	Act Stns	17.500	13.375	NAL_MWD_PLUS_0.5_DEG-Depth Only	Original Borehole / UL Independence 1718-17 A 1H MWD 0' to 22823' Definitive
	1	25.000	960.000	Act Stns	17.500	13.375	NAL_MWD_PLUS_0.5_DEG	Original Borehole / UL Independence 1718-17 A 1H
	1	960.000	5084.000	Act Stns	12.250	10.750	NAL_MWD_PLUS_0.5_DEG	Original Borehole / UL Independence 1718-17 A 1H
	1	5084.000	11244.000	Act Stns	9.875	7.625	NAL_MWD_PLUS_0.5_DEG	Original Borehole / UL Independence 1718-17 A 1H
	1	11244.000	22823.000	Act Stns	6.750	5.500	NAL_MWD_IFR1+MS	Original Borehole / UL Independence 1718-17 A 1H

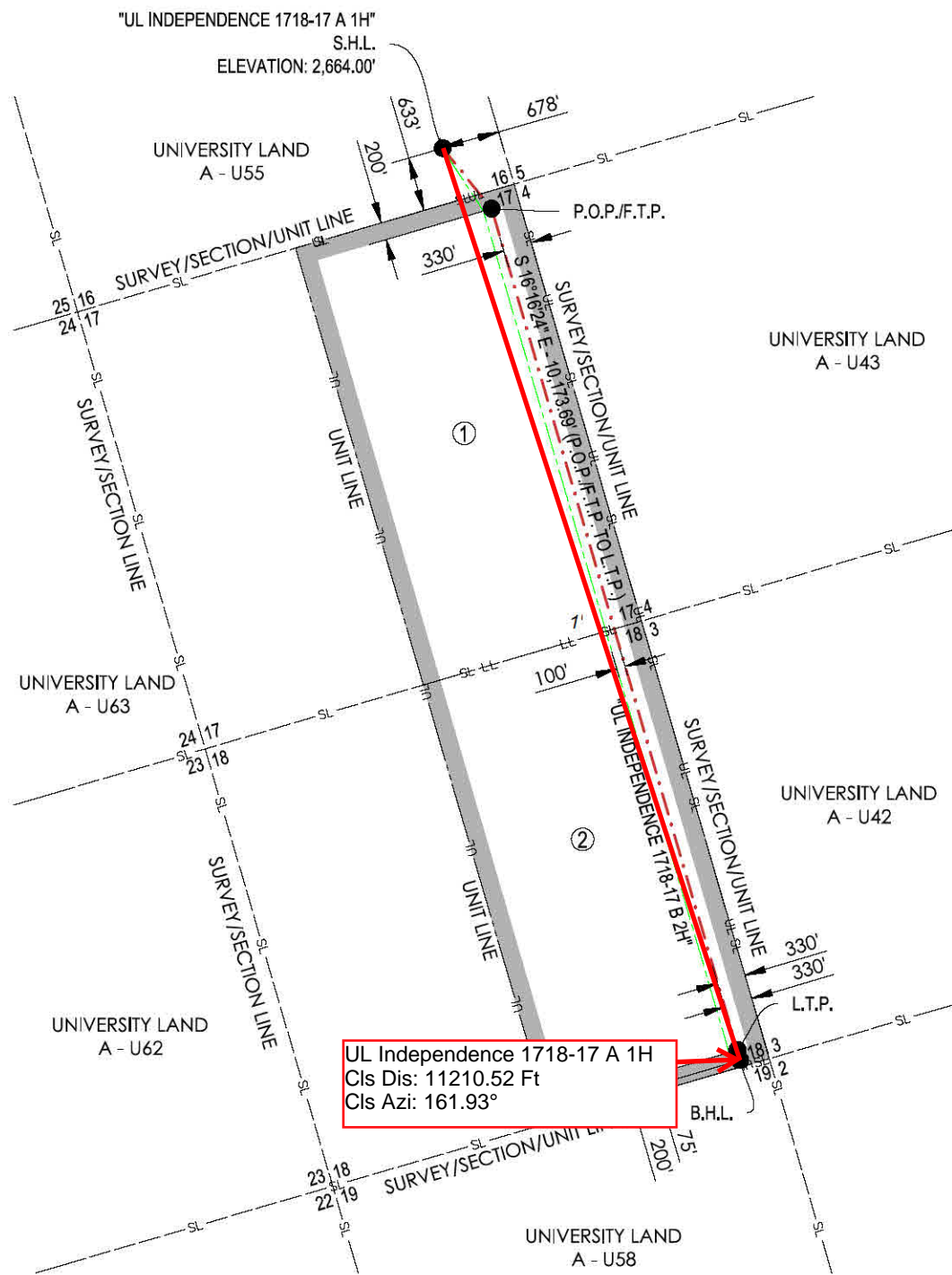
...Original Borehole\UL Independence 1718-17 A 1H MWD 0' to 22823' Definitive

**FELIX ENERGY HOLDINGS II, LLC**  
**WARD COUNTY, TEXAS**  
**S.H.L. 633' FSL - 678' FEL, SECTION 16, BLOCK 17**

**LEGEND**

- UL — UNIT LINE
- - - SL - SECTION LINE
- - - - - PROPOSED WELL PATH
- - - - - NEAREST PROPOSED WELL PATH
- 200' UNIT OFFSET
- S.H.L. SURFACE HOLE LOCATION
- P.O.P. POINT OF PENETRATION
- F.T.P. FIRST TAKE POINT
- T.P. TURNING POINT
- L.T.P. LAST TAKE POINT
- B.H.L. BOTTOM HOLE LOCATION

GRID NORTH (NAD 83)  
 TEXAS - CENTRAL ZONE



- ①  
 E/2 SEC. 17 - BLOCK 17  
 320.08 ACRES  
 UNIVERSITY LAND  
 A - U56  
 UL LEASE # 111458
- ②  
 E/2 SEC. 18 - BLOCK 17  
 320.57 ACRES  
 UNIVERSITY LAND  
 A - U57  
 UL LEASE # 105885

**UL Independence 1718-17 A 1H**  
 Cls Dis: 11210.52 Ft  
 Cls Azi: 161.93°

**OPERATOR:** FELIX ENERGY HOLDINGS II, LLC

**WELL NAME:** UL INDEPENDENCE 1718-17 **WELL NO:** A 1H

**TOPOGRAPHIC & VEGETATION:** FLAT LOCATION WITH LOW LYING BRUSH

**GOOD DRILL SITE:** YES **REFERENCE STAKES OR ALTERNATE LOCATION STAKES SET:** NONE

**BEST ACCESSIBILITY TO LOCATION:** FROM SOUTH

**DISTANCE & DIRECTION**

**FROM HWY JCT OR TOWN:** ±4.14 MILES NORTHWEST OF PYOTE, TX  
 FROM THE INTERSECTION OF 3RD STREET AND PYOTE STREET, HEAD WEST ON 3RD STREET AND CONTINUE FOR ±3.1 MILES, TURN RIGHT ONTO EXISTING LEASE ROAD AND FOLLOW FOR ±1.5 MILES, TURN RIGHT ONTO EXISTING LEASE ROAD AND CONTINUE FOR ±1.3 MILES TO PROPOSED ACCESS EASEMENT AND FOLLOW TO PAD.

**WELL PATH DATA**

LINE	BEARING	DISTANCE
S.H.L. TO P.O.P./F.T.P.	S 38°55'04" E	902.70'
P.O.P./F.T.P. TO L.T.P.	S 16°16'24" E	10,173.69'
L.T.P. TO B.H.L.	S 16°16'24" E	125.00'

**CALLS FROM SECTION LINE**

S.H.L.	633' FSL, 678' FEL (SEC. 16)
P.O.P./F.T.P.	200' FNL, 330' FEL (SEC. 17)
L.T.P.	200' FSL, 330' FEL (SEC. 18)
B.H.L.	75' FSL, 330' FEL (SEC. 18)

**LAST TAKE POINT:**

200' FSL & 330' FEL (SEC. 18)  
**NAD 27 TEXAS CENTRAL ZONE**  
 NORTHING: 697669.23, EASTING: 1120845.85  
 LATITUDE: N 31.55429536°, LONGITUDE: W 103.15604516°

**BOTTOM HOLE LOCATION:**

75' FSL & 330' FEL (SEC. 18)  
**NAD 27 TEXAS CENTRAL ZONE**  
 NORTHING: 697549.24, EASTING: 1120880.88  
 LATITUDE: N 31.55396803°, LONGITUDE: W 103.15592297°

**SURFACE HOLE LOCATION:**

633' FSL & 678' FEL (SEC. 16)  
 GROUND ELEVATION: 2,664.00'  
**NAD 27 TEXAS CENTRAL ZONE**  
 NORTHING: 708137.53, EASTING: 1117428.04  
 LATITUDE: N 31.58282686°, LONGITUDE: W 103.16787028°  
**NAD 83 TEXAS CENTRAL ZONE**  
 NORTHING: 10550713.18, EASTING: 1413893.84  
 LATITUDE: N 31.58295893°, LONGITUDE: W 103.16831151°

**POINT OF PENETRATION/FIRST TAKE POINT:**

200' FNL & 330' FEL (SEC. 17)  
**NAD 27 TEXAS CENTRAL ZONE**  
 NORTHING: 707435.20, EASTING: 1117995.10  
 LATITUDE: N 31.58093632°, LONGITUDE: W 103.16599242°

**UNIT CORNERS**

LOCATION	NAD27	
	STATE PLANE TEXAS CENTRAL (32039)	GEOGRAPHIC (4267)
NE CORNER SEC. 17-BLK. 17	N = 707719.78 E = 1118255.79	LAT: 31.58173670° LONG: -103.16517879°
SE CORNER SEC. 18-BLK. 17	N = 697569.76 E = 1121218.65	LAT: 31.55404800° LONG: -103.15484062°
SW CORNER OF UNIT	N = 696829.78 E = 1118685.25	LAT: 31.55183738° LONG: -103.16291068°
NW CORNER OF UNIT	N = 706979.08 E = 1115722.26	LAT: 31.57952347° LONG: -103.17325134°



9/13/2018

**CONTACT INFORMATION:**

Shannon D. Ozment  
 Crafton Tull (10193715)  
 1000 LedgeLawn Dr.  
 Conway, AR 72034

**GENERAL NOTES**

- THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON REASONABLE VISUAL OBSERVATION. LOCATIONS OF UNDERGROUND UTILITIES/ STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREIN. ADDITIONAL BURIED UTILITIES/ STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/ STRUCTURES. BEFORE EXCAVATIONS ARE BEGUN, THE OFFICES OF THE VARIOUS UTILITIES SERVICING THIS AREA SHOULD BE CONTACTED FOR THEIR UTILITY LOCATION.
- BASIS OF BEARINGS: TEXAS STATE PLANE GRID, CENTRAL ZONE, NAD83 AS DETERMINED BY GPS OBSERVATION.
- COMBINED SCALE FACTOR AT S.H.L. - 0.999805704
- VERTICAL DATUM IS NAVD 88
- AREAS, DISTANCES, AND COORDINATES ARE "GRID" BASED ON U.S. SURVEY FEET.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY.

1000 LedgeLawn Dr  
 Conway, Arkansas 72034



501.328.3316 t 501.328.3325 f  
 www.craftontull.com

REVISION	"UL INDEPENDENCE 1718-17 A 1H"		
	E/2 SECTION 17, BLOCK 17 - 320.08 ACRES E/2 SECTION 18, BLOCK 17 - 320.57 ACRES PROPOSED DRILL SITE WARD COUNTY, TEXAS	SCALE: 1" = 2000'	CHECKED BY: A.LILEY
		PLOT DATE: 09-13-2018	DRAWN BY: HFD
			APPROVED BY: MN
			SHEET NO.: 1 OF 1



Oilfield Services, Central U.S. Land  
**Schlumberger Drilling and Measurements**  
Drilling Group  
Geo Market Area: South West Texas Basin  
7220 W I-H 20  
Midland, Texas 79706  
Phone : (432) 742-5400 (Main)  
Fax : (432) 742-5606 (Shared)

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**Schlumberger**

I, Juan Estrada certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 16, 2018 through January 01, 2019, conduct or supervise the taking of the TelePacer/SlimPulse & Third Party Corrected surveys from a depth of 100.00 feet to a depth of 22772.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of FELIX ENERGY HOLDINGS II, LLC for the UL Independence 1718-17 A 1H Well (Original Hole) API No. 42-475-37717 in Texas; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.



Juan Estrada  
FS