

MAVERICK

SURVEY REPORT

UNIVERSITY CACTUS A35 #1

ICD 3

10/17/2019



The **Ultimate Partner** In Wellbore Placement

CUSTOMER **Maverick**
PROJECT **University Cactus A35 #1 Whipstock**
FIELD **N/A**

SDI JOB NO. **OP.021665**
SDI DISTRICT **Midland**
SDI KIT/UNIT

SITE INFORMATION

Site Name **Hudspeth County, Texas**
Lat/Long **31.9183616° N , 105.8093613° W**
Northing **10,703,290.07 ft**
Easting **598,093.07 ft**

Section
Township
Range

MAP INFORMATION

North Reference **Grid North**
Grid Correction **2.49 deg**
System **US State Plane 1983**
Datum **North American Datum 1983 (GRS 1980)**
Map Zone **Texas Central: 4203**



WELL INFORMATION

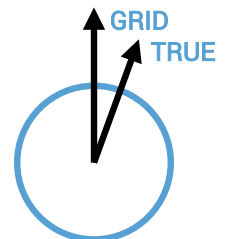
Lat/Long **31.9183616° N , 105.8093613° W**
Northing
Easting
UWI **42-229-30235**

DEPTH AND ELEVATION REFERENCE

Ground Level **5051.2 ft above Mean Sea Level**
Reference Datum **RKB**
Reference Height **17 ft above G.L.**
Reference Elevation **5068.2 ft**

VERTICAL SECTION REFERENCE

+N/-S **0 ft**
+E/-W **0 ft**
Proposal Direction **250.00°**
Calculation Method **Minimum Curvature**



LOCAL GRAVITY REFERENCE INFORMATION

Local Gravity **998.319 mG [computed]**
True to Grid **add 2.49°**

WELL NOTES

University Cactus A35 #1 Whipstock Orientation

OPERATORS

Jeffrey Loyd

SDI Operator Name (Printed)

SIGNATURE

DATE

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.46	345.08	100.00	-0.04	0.39	-0.10	0.46	0.40	345.08
125.00	0.46	344.36	125.00	-0.05	0.58	-0.16	0.02	0.60	344.96
150.00	0.45	345.22	150.00	-0.07	0.77	-0.21	0.06	0.80	344.92
175.00	0.44	349.14	175.00	-0.09	0.96	-0.25	0.13	0.99	345.35
200.00	0.52	347.09	200.00	-0.12	1.16	-0.29	0.32	1.20	345.82
225.00	0.49	347.53	224.99	-0.15	1.38	-0.34	0.09	1.42	346.05
250.00	0.49	350.16	249.99	-0.18	1.59	-0.38	0.09	1.63	346.42
275.00	0.51	348.85	274.99	-0.22	1.80	-0.42	0.09	1.85	346.78
300.00	0.58	342.64	299.99	-0.24	2.03	-0.48	0.34	2.09	346.64
325.00	0.63	346.89	324.99	-0.26	2.29	-0.55	0.28	2.35	346.44
350.00	0.70	343.58	349.99	-0.29	2.57	-0.63	0.34	2.64	346.30
375.00	0.75	342.36	374.99	-0.31	2.87	-0.72	0.18	2.96	345.94
400.00	0.78	339.33	399.98	-0.31	3.18	-0.83	0.21	3.29	345.43
425.00	0.81	339.61	424.98	-0.31	3.51	-0.95	0.12	3.63	344.86
450.00	0.75	346.02	449.98	-0.32	3.83	-1.05	0.42	3.97	344.67
475.00	0.73	338.70	474.98	-0.34	4.14	-1.15	0.38	4.29	344.50
500.00	0.68	338.58	499.98	-0.33	4.42	-1.26	0.21	4.60	344.11
525.00	0.72	339.04	524.97	-0.32	4.71	-1.37	0.16	4.90	343.78
550.00	0.59	342.34	549.97	-0.33	4.98	-1.46	0.51	5.19	343.61
575.00	0.48	335.97	574.97	-0.32	5.20	-1.55	0.51	5.42	343.43
600.00	0.44	343.08	599.97	-0.32	5.38	-1.62	0.29	5.62	343.28
625.00	0.45	342.12	624.97	-0.33	5.57	-1.67	0.07	5.81	343.26
650.00	0.39	340.67	649.97	-0.34	5.74	-1.73	0.26	6.00	343.20
675.00	0.40	339.87	674.97	-0.34	5.90	-1.79	0.05	6.17	343.12
700.00	0.34	346.14	699.97	-0.34	6.06	-1.84	0.30	6.33	343.11
725.00	0.25	358.01	724.97	-0.37	6.18	-1.86	0.42	6.46	343.27
750.00	0.25	10.43	749.97	-0.41	6.29	-1.85	0.22	6.56	343.61
775.00	0.25	14.41	774.97	-0.47	6.40	-1.83	0.07	6.65	344.06
800.00	0.17	43.97	799.97	-0.53	6.48	-1.79	0.54	6.72	344.57
825.00	0.27	67.34	824.97	-0.63	6.53	-1.71	0.54	6.75	345.33
850.00	0.26	48.27	849.97	-0.74	6.59	-1.61	0.35	6.78	346.25

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
875.00	0.22	62.28	874.97	-0.84	6.65	-1.53	0.29	6.82	347.08
900.00	0.24	77.50	899.97	-0.94	6.68	-1.43	0.25	6.83	347.91
925.00	0.27	74.19	924.97	-1.05	6.71	-1.32	0.13	6.84	348.83
950.00	0.30	85.43	949.97	-1.17	6.73	-1.20	0.26	6.84	349.86
975.00	0.41	102.48	974.97	-1.31	6.72	-1.05	0.59	6.80	351.10
1000.00	0.53	111.44	999.96	-1.47	6.65	-0.86	0.57	6.71	352.66
1025.00	0.57	108.37	1024.96	-1.65	6.57	-0.63	0.21	6.60	354.51
1050.00	0.62	110.34	1049.96	-1.86	6.49	-0.39	0.21	6.50	356.59
1075.00	0.71	114.35	1074.96	-2.07	6.38	-0.12	0.41	6.38	358.93
1100.00	0.65	110.89	1099.96	-2.29	6.26	0.16	0.29	6.26	1.42
1125.00	0.73	111.01	1124.96	-2.51	6.15	0.44	0.31	6.17	4.06
1150.00	0.79	113.11	1149.95	-2.76	6.03	0.74	0.28	6.07	7.03
1175.00	0.70	114.80	1174.95	-2.99	5.90	1.04	0.37	5.99	10.01
1200.00	0.64	110.79	1199.95	-3.21	5.78	1.31	0.31	5.93	12.77
1225.00	0.56	100.62	1224.95	-3.42	5.71	1.56	0.53	5.92	15.28
1250.00	0.58	108.50	1249.95	-3.62	5.65	1.80	0.32	5.93	17.67
1275.00	0.64	106.29	1274.95	-3.83	5.57	2.05	0.29	5.94	20.24
1300.00	0.68	107.50	1299.94	-4.06	5.49	2.33	0.14	5.96	23.01
1325.00	0.71	105.96	1324.94	-4.31	5.40	2.62	0.16	6.00	25.88
1350.00	0.71	98.23	1349.94	-4.57	5.33	2.92	0.39	6.08	28.72
1375.00	0.75	95.88	1374.94	-4.86	5.29	3.24	0.19	6.21	31.47
1400.00	0.81	100.89	1399.94	-5.15	5.24	3.58	0.37	6.35	34.30
1425.00	0.97	101.62	1424.93	-5.49	5.17	3.96	0.62	6.51	37.44
1450.00	1.28	94.36	1449.93	-5.92	5.10	4.44	1.38	6.77	41.04
1475.00	1.66	92.30	1474.92	-6.51	5.07	5.08	1.54	7.18	45.09
1500.00	1.99	84.21	1499.91	-7.27	5.10	5.88	1.67	7.78	49.07
1525.00	2.25	86.92	1524.89	-8.16	5.17	6.80	1.09	8.54	52.77
1550.00	2.40	94.96	1549.87	-9.10	5.15	7.81	1.45	9.36	56.61
1575.00	2.53	100.86	1574.85	-10.05	5.00	8.88	1.12	10.19	60.61
1600.00	2.43	100.35	1599.82	-10.98	4.80	9.94	0.38	11.04	64.22
1625.00	2.07	94.56	1624.80	-11.85	4.67	10.91	1.70	11.87	66.83
1650.00	1.97	88.75	1649.79	-12.67	4.64	11.79	0.92	12.67	68.51

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
1675.00	2.08	84.77	1674.77	-13.51	4.69	12.67	0.72	13.51	69.68
1700.00	2.31	81.01	1699.75	-14.45	4.81	13.62	1.07	14.45	70.54
1725.00	2.55	80.32	1724.73	-15.49	4.99	14.67	0.97	15.49	71.23
1750.00	2.67	80.85	1749.71	-16.60	5.17	15.79	0.49	16.61	71.86
1775.00	2.60	79.65	1774.68	-17.73	5.37	16.92	0.36	17.75	72.41
1800.00	2.48	81.09	1799.66	-18.82	5.55	18.01	0.54	18.85	72.87
1825.00	2.36	81.40	1824.63	-19.86	5.71	19.05	0.49	19.89	73.31
1850.00	2.24	81.60	1849.61	-20.84	5.86	20.04	0.46	20.88	73.70
1875.00	2.11	81.00	1874.60	-21.77	6.00	20.98	0.52	21.83	74.03
1900.00	2.03	80.88	1899.58	-22.66	6.15	21.88	0.35	22.72	74.31
1925.00	1.96	81.91	1924.56	-23.51	6.28	22.74	0.30	23.59	74.57
1950.00	1.86	83.33	1949.55	-24.33	6.38	23.56	0.44	24.41	74.84
1975.00	1.81	82.30	1974.54	-25.11	6.48	24.36	0.23	25.21	75.10
2000.00	1.69	81.26	1999.53	-25.86	6.59	25.11	0.51	25.97	75.29
2025.00	1.54	85.96	2024.52	-26.54	6.67	25.81	0.80	26.66	75.51
2050.00	1.37	96.63	2049.51	-27.13	6.66	26.45	1.27	27.27	75.86
2075.00	1.27	124.29	2074.50	-27.56	6.47	26.97	2.56	27.74	76.51
2100.00	1.64	152.32	2099.49	-27.77	6.00	27.37	3.18	28.02	77.64
2125.00	1.87	162.28	2124.48	-27.80	5.29	27.66	1.51	28.16	79.17
2150.00	2.02	164.63	2149.47	-27.75	4.48	27.90	0.67	28.26	80.88
2175.00	1.95	165.38	2174.45	-27.67	3.64	28.12	0.30	28.36	82.62
2200.00	1.84	166.34	2199.44	-27.59	2.84	28.33	0.43	28.47	84.27
2225.00	1.78	167.95	2224.43	-27.49	2.07	28.50	0.31	28.58	85.85
2250.00	1.70	171.95	2249.41	-27.36	1.32	28.64	0.59	28.67	87.36
2275.00	1.53	175.72	2274.40	-27.19	0.62	28.71	0.81	28.72	88.76
2300.00	1.50	177.61	2299.40	-27.01	-0.04	28.75	0.24	28.75	90.07
2325.00	1.50	173.59	2324.39	-26.83	-0.69	28.80	0.42	28.81	91.36
2350.00	1.51	165.03	2349.38	-26.72	-1.33	28.92	0.90	28.95	92.63
2375.00	1.63	155.66	2374.37	-26.72	-1.97	29.15	1.12	29.22	93.87
2400.00	1.83	150.26	2399.36	-26.82	-2.64	29.50	1.03	29.62	95.12
2425.00	1.92	147.33	2424.34	-26.98	-3.34	29.92	0.53	30.11	96.37
2450.00	1.81	148.13	2449.33	-27.15	-4.03	30.36	0.44	30.62	97.56

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
2475.00	1.79	152.29	2474.32	-27.28	-4.71	30.75	0.53	31.10	98.71
2500.00	1.90	151.93	2499.31	-27.39	-5.42	31.12	0.42	31.59	99.88
2525.00	1.94	162.16	2524.29	-27.43	-6.19	31.45	1.38	32.05	101.13
2550.00	1.92	182.82	2549.28	-27.26	-7.01	31.56	2.78	32.33	102.53
2575.00	1.93	188.42	2574.26	-26.89	-7.85	31.47	0.75	32.44	104.00
2600.00	2.00	191.14	2599.25	-26.47	-8.69	31.33	0.46	32.51	105.51
2625.00	1.97	192.42	2624.23	-26.01	-9.54	31.15	0.21	32.58	107.03
2650.00	1.94	194.11	2649.22	-25.54	-10.37	30.96	0.27	32.65	108.52
2675.00	1.94	195.05	2674.21	-25.06	-11.19	30.74	0.13	32.72	110.00
2700.00	1.87	196.58	2699.19	-24.58	-11.99	30.52	0.37	32.79	111.44
2725.00	1.74	197.41	2724.18	-24.10	-12.74	30.29	0.50	32.86	112.81
2750.00	1.67	198.45	2749.17	-23.65	-13.45	30.06	0.32	32.93	114.10
2775.00	1.61	198.46	2774.16	-23.20	-14.12	29.83	0.25	33.01	115.34
2800.00	1.40	192.91	2799.15	-22.82	-14.76	29.65	1.00	33.12	116.45
2825.00	1.29	191.33	2824.14	-22.51	-15.33	29.53	0.47	33.27	117.44
2850.00	1.22	196.46	2849.14	-22.20	-15.86	29.40	0.54	33.41	118.35
2875.00	1.17	205.69	2874.13	-21.86	-16.35	29.21	0.79	33.48	119.23
2900.00	1.16	213.25	2899.13	-21.48	-16.79	28.97	0.61	33.48	120.09
2925.00	1.17	211.08	2924.12	-21.08	-17.21	28.70	0.18	33.46	120.96
2950.00	1.23	210.76	2949.12	-20.67	-17.66	28.43	0.26	33.47	121.86
2975.00	1.25	213.14	2974.11	-20.25	-18.12	28.14	0.21	33.47	122.78
3000.00	1.43	206.76	2999.10	-19.80	-18.63	27.85	0.95	33.51	123.78
3025.00	1.60	204.64	3024.09	-19.33	-19.23	27.56	0.70	33.61	124.89
3050.00	1.69	204.10	3049.08	-18.82	-19.88	27.27	0.38	33.75	126.09
3075.00	1.69	205.97	3074.07	-18.30	-20.55	26.96	0.22	33.90	127.32
3100.00	1.75	204.58	3099.06	-17.77	-21.23	26.64	0.27	34.06	128.55
3125.00	1.80	205.03	3124.05	-17.22	-21.93	26.31	0.21	34.25	129.81
3150.00	1.84	206.57	3149.04	-16.65	-22.64	25.97	0.27	34.45	131.09
3175.00	1.80	205.17	3174.02	-16.08	-23.36	25.62	0.26	34.67	132.36
3200.00	1.85	202.65	3199.01	-15.53	-24.09	25.30	0.39	34.93	133.60
3225.00	2.12	209.60	3224.00	-14.91	-24.86	24.91	1.45	35.20	134.94
3250.00	2.50	213.19	3248.98	-14.12	-25.72	24.38	1.61	35.44	136.53

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
3275.00	2.68	213.33	3273.95	-13.21	-26.67	23.76	0.74	35.72	138.29
3300.00	2.78	215.73	3298.92	-12.24	-27.65	23.09	0.60	36.02	140.13
3325.00	2.92	216.30	3323.89	-11.21	-28.65	22.36	0.57	36.34	142.04
3350.00	3.19	216.30	3348.86	-10.10	-29.73	21.57	1.08	36.73	144.04
3375.00	3.31	216.49	3373.82	-8.92	-30.87	20.73	0.49	37.18	146.12
3400.00	3.42	215.62	3398.77	-7.70	-32.06	19.86	0.48	37.71	148.22
3425.00	3.65	213.85	3423.72	-6.44	-33.33	18.98	1.01	38.35	150.33
3450.00	3.76	212.53	3448.67	-5.15	-34.68	18.10	0.56	39.12	152.44
3475.00	3.68	210.41	3473.62	-3.88	-36.06	17.25	0.64	39.98	154.43
3500.00	3.69	208.23	3498.57	-2.66	-37.46	16.47	0.56	40.92	156.27
3525.00	3.71	206.49	3523.52	-1.47	-38.90	15.72	0.45	41.95	157.99
3550.00	3.69	206.15	3548.46	-0.31	-40.34	15.01	0.12	43.04	159.59
3575.00	3.58	203.25	3573.41	0.81	-41.78	14.35	0.87	44.18	161.05
3600.00	3.52	200.68	3598.37	1.84	-43.21	13.77	0.68	45.35	162.33
3625.00	3.45	198.56	3623.32	2.81	-44.64	13.26	0.58	46.57	163.46
3650.00	3.39	196.36	3648.27	3.72	-46.07	12.81	0.57	47.81	164.46
3675.00	3.27	194.26	3673.23	4.56	-47.47	12.43	0.68	49.07	165.33
3700.00	3.22	190.92	3698.19	5.32	-48.85	12.12	0.78	50.33	166.07
3725.00	3.17	186.86	3723.15	5.99	-50.22	11.90	0.92	51.61	166.67
3750.00	3.18	183.97	3748.12	6.59	-51.60	11.77	0.64	52.93	167.15
3775.00	3.21	180.08	3773.08	7.11	-52.99	11.72	0.88	54.27	167.53
3800.00	3.12	177.93	3798.04	7.56	-54.37	11.75	0.59	55.63	167.81
3825.00	3.12	175.92	3823.00	7.95	-55.73	11.82	0.44	56.97	168.03
3850.00	3.09	174.35	3847.96	8.31	-57.08	11.93	0.36	58.31	168.19
3875.00	2.98	174.06	3872.93	8.63	-58.40	12.07	0.43	59.63	168.32
3900.00	2.81	173.30	3897.90	8.93	-59.65	12.21	0.69	60.89	168.44
3925.00	2.73	171.20	3922.87	9.19	-60.85	12.37	0.53	62.10	168.51
3950.00	2.63	167.88	3947.84	9.38	-62.00	12.58	0.74	63.26	168.53
3975.00	2.55	165.60	3972.82	9.52	-63.10	12.84	0.52	64.39	168.50
4000.00	2.56	161.93	3997.79	9.59	-64.17	13.15	0.66	65.50	168.42
4025.00	2.62	161.95	4022.76	9.63	-65.24	13.50	0.24	66.63	168.31
4050.00	2.67	159.04	4047.74	9.64	-66.33	13.89	0.58	67.77	168.18

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
4075.00	2.73	155.59	4072.71	9.58	-67.42	14.34	0.68	68.93	167.99
4100.00	2.70	154.23	4097.68	9.48	-68.49	14.84	0.27	70.08	167.77
4125.00	2.73	154.62	4122.65	9.36	-69.56	15.35	0.14	71.23	167.55
4150.00	2.82	153.49	4147.63	9.24	-70.65	15.88	0.42	72.41	167.33
4175.00	2.74	152.97	4172.60	9.09	-71.73	16.43	0.35	73.59	167.10
4200.00	2.75	152.85	4197.57	8.95	-72.80	16.98	0.05	74.75	166.87
4225.00	2.86	153.09	4222.54	8.80	-73.88	17.53	0.44	75.94	166.65
4250.00	2.96	152.90	4247.50	8.64	-75.01	18.11	0.39	77.17	166.43
4275.00	2.97	149.98	4272.47	8.45	-76.15	18.73	0.61	78.42	166.19
4300.00	2.92	151.23	4297.44	8.24	-77.27	19.36	0.33	79.66	165.94
4325.00	2.83	150.89	4322.41	8.04	-78.36	19.96	0.37	80.87	165.71
4350.00	2.70	150.40	4347.38	7.85	-79.41	20.55	0.50	82.03	165.49
4375.00	2.57	150.79	4372.35	7.66	-80.42	21.12	0.54	83.14	165.29
4400.00	2.50	153.49	4397.33	7.51	-81.39	21.63	0.56	84.22	165.12
4425.00	2.46	151.91	4422.30	7.37	-82.35	22.13	0.31	85.27	164.96
4450.00	2.34	152.14	4447.28	7.23	-83.28	22.62	0.48	86.29	164.80
4475.00	2.36	152.93	4472.26	7.09	-84.19	23.09	0.15	87.30	164.66
4500.00	2.30	156.40	4497.24	7.00	-85.11	23.53	0.60	88.30	164.55
4525.00	2.35	155.18	4522.22	6.92	-86.03	23.94	0.26	89.30	164.45
4550.00	2.41	154.61	4547.20	6.83	-86.97	24.38	0.27	90.32	164.34
4575.00	2.48	155.16	4572.18	6.74	-87.94	24.84	0.31	91.38	164.23
4600.00	2.51	155.89	4597.15	6.65	-88.93	25.29	0.17	92.45	164.13
4625.00	2.54	157.22	4622.13	6.59	-89.94	25.73	0.25	93.55	164.04
4650.00	2.64	158.11	4647.10	6.54	-90.98	26.16	0.45	94.67	163.96
4675.00	2.74	156.49	4672.07	6.48	-92.06	26.61	0.49	95.83	163.88
4700.00	2.85	155.24	4697.04	6.40	-93.18	27.11	0.51	97.04	163.78
4725.00	2.98	153.21	4722.01	6.27	-94.32	27.66	0.66	98.29	163.66
4750.00	2.96	152.94	4746.98	6.11	-95.47	28.25	0.11	99.57	163.52
4775.00	2.83	155.19	4771.95	5.98	-96.61	28.80	0.68	100.81	163.40
4800.00	2.86	156.05	4796.92	5.89	-97.74	29.31	0.21	102.04	163.31
4825.00	2.76	155.60	4821.89	5.80	-98.86	29.81	0.43	103.25	163.22
4850.00	2.85	159.73	4846.86	5.75	-99.99	30.28	0.89	104.47	163.15

MD ft	INC deg	AZIM deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	CLOSURE DIST ft	CLOSURE DIR deg
4875.00	2.83	159.86	4871.83	5.74	-101.15	30.70	0.09	105.71	163.11
4900.00	2.91	160.27	4896.79	5.74	-102.33	31.13	0.35	106.96	163.08
4925.00	2.93	161.01	4921.76	5.76	-103.53	31.55	0.18	108.23	163.05
4950.00	3.02	163.00	4946.73	5.81	-104.76	31.95	0.55	109.53	163.04
4975.00	3.04	163.71	4971.69	5.88	-106.03	32.33	0.17	110.85	163.04
5000.00	3.22	162.55	4996.66	5.96	-107.34	32.73	0.76	112.22	163.04
5025.00	3.40	159.58	5021.61	5.98	-108.70	33.20	0.97	113.66	163.02
5050.00	3.37	158.52	5046.57	5.96	-110.08	33.73	0.27	115.13	162.97
5071.23	3.24	160.28	5067.77	5.95	-111.23	34.16	0.77	116.35	162.93



Scientific Drilling

Scientific Drilling International, Inc.

325 Faudree Road

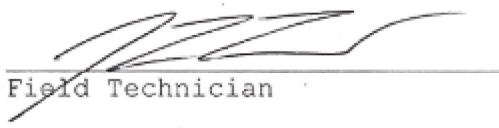
Odessa, Texas 79765

Tel: 432.689.5600 Fax: 432.563.6255

www.scientificdrilling.com

State of Texas
County of Midland

I, Jeffrey Loyd, certify that; I am employed by Scientific Drilling International; that I did on the day(s) of 10/15/2019 through 10/17/2019 conduct or supervise the taking of a Keeper Gyro survey from a depth of 100 feet to a depth of 5071 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Scientific Drilling International; that I am authorized and qualified to make this report; that this survey was conducted at the request of Maverick for the University Cactus A35 #1 Well, API# 42-229-30235 in Hudspeth County, Texas; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Scientific Drilling International.


Field Technician



· Directional Drilling · Horizontal Drilling · MWD/LWD · Mud Motors

December 14, 2019

Railroad Commission of Texas
Oil and Gas Division
P.O. Box 12967
Capitol Station
Austin, Texas 78711

Attention: Pamela Johns

Re: Maverick Operating, LLC
 University Cactus A35 #1
 Hudspeth County, Texas
 API No. 42-229-30235

Enclosed, please find the original and one copy of the survey performed on the referenced well by Aim Directional Services, LLC (P-5 No. 009134). Other information required by your office is as follows:

<u>Name & Title</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Date Performed</u>	<u>Type of Survey</u>
<u>of Surveyor</u> Allison Reinert VP Engineering	Original Hole	6052' – 6449'	10/17/19 – 10/22/19	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and the lease line (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Allison Reinert
VP Engineering

Enclosures
cc:



· Directional Drilling · Horizontal Drilling · MWD/LWD · Mud Motors

December 14, 2019

State of Texas
County of Hudspeth

I, Allison Reinert, certify that; I am employed by Aim Directional Services, LLC; that I did on the day(s) of October 17, 2019 through October 22, 2019 conduct or supervise the taking of a directional MWD survey from a depth of 6052 feet to a depth of 6449 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Aim Directional Services, LLC; that I am authorized and qualified to make this report; that this survey was conducted at the request of Maverick Operating, LLC for University Cactus A35 #1 API No. 42-229-30235 in Hudspeth County, Texas; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Aim Directional Services, LLC.

Allison Reinert
VP Engineering

Survey Report

Company:	Maverick Operating	Local Co-ordinate Reference:	Site University Cactus A 35 #1
Project:	Hudspeth County, Texas	TVD Reference:	Well @ 5068.00usft (United 42)
Site:	University Cactus A 35 #1	MD Reference:	Well @ 5068.00usft (United 42)
Well:	#1	North Reference:	Grid
Wellbore:	Drilling	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDMRESTORED

Project	Hudspeth County, Texas		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Texas Central Zone		

Site	University Cactus A 35 #1				
Site Position:		Northing:	10,703,290.07 usft	Latitude:	31° 55' 6.102 N
From:	Map	Easting:	598,093.07 usft	Longitude:	105° 48' 33.700 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-2.82 °

Well	#1					
Well Position	+N/-S	0.00 usft	Northing:	10,703,290.07 usft	Latitude:	31° 55' 6.102 N
	+E/-W	0.00 usft	Easting:	598,093.07 usft	Longitude:	105° 48' 33.700 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,051.00 usft

Wellbore	Drilling				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	9/25/2019	8.00	59.51	47,250.03713351

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	250.00	

Survey Program	Date	10/23/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	5,071.23	SDI Gyro Svys (Drilling)	SDI_C505Ga_Keeper_WI	SDI Keeper static gyrocompass with continuous s	
5,133.00	6,022.00	SDI MWD Svys (Drilling)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	
6,052.00	6,449.00	Aim MWD Svys (Drilling)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,022.00	85.67	260.49	5,741.62	-190.46	-443.09	481.51	0.000	0.000	0.000	
Tie on SDI MWD										
6,052.00	88.35	258.84	5,743.19	-195.83	-472.56	511.04	10.486	8.933	-5.500	
First Aim Svy										
6,083.00	90.73	255.23	5,743.44	-202.78	-502.76	541.80	13.947	7.677	-11.645	
6,115.00	90.24	254.88	5,743.16	-211.04	-533.68	573.67	1.882	-1.531	-1.094	
6,147.00	89.54	254.71	5,743.23	-219.43	-564.56	605.56	2.251	-2.187	-0.531	
6,178.00	89.14	254.35	5,743.58	-227.70	-594.43	636.46	1.736	-1.290	-1.161	

Survey Report

Company:	Maverick Operating	Local Co-ordinate Reference:	Site University Cactus A 35 #1
Project:	Hudspeth County, Texas	TVD Reference:	Well @ 5068.00usft (United 42)
Site:	University Cactus A 35 #1	MD Reference:	Well @ 5068.00usft (United 42)
Well:	#1	North Reference:	Grid
Wellbore:	Drilling	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDMRESTORED

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,209.00	88.57	254.35	5,744.20	-236.06	-624.28	667.36	1.839	-1.839	0.000	
6,241.00	88.26	254.35	5,745.09	-244.69	-655.08	699.26	0.969	-0.969	0.000	
6,273.00	88.35	254.00	5,746.03	-253.41	-685.85	731.16	1.129	0.281	-1.094	
6,303.00	88.88	254.00	5,746.76	-261.68	-714.68	761.08	1.767	1.767	0.000	
6,334.00	88.48	253.92	5,747.47	-270.24	-744.47	792.00	1.316	-1.290	-0.258	
6,365.00	88.31	253.56	5,748.34	-278.92	-774.21	822.92	1.284	-0.548	-1.161	
Last Aim Svy										
6,449.00	88.31	253.56	5,750.82	-302.68	-854.75	906.72	0.000	0.000	0.000	
Projection to BHL										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
6,022.00	5,741.62	-190.46	-443.09	Tie on SDI MWD	
6,052.00	5,743.19	-195.83	-472.56	First Aim Svy	
6,365.00	5,748.34	-278.92	-774.21	Last Aim Svy	
6,449.00	5,750.82	-302.68	-854.75	Projection to BHL	

Checked By: _____	Approved By: _____	Date: _____
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· Directional Drilling · Horizontal Drilling · MWD/LWD · Mud Motors

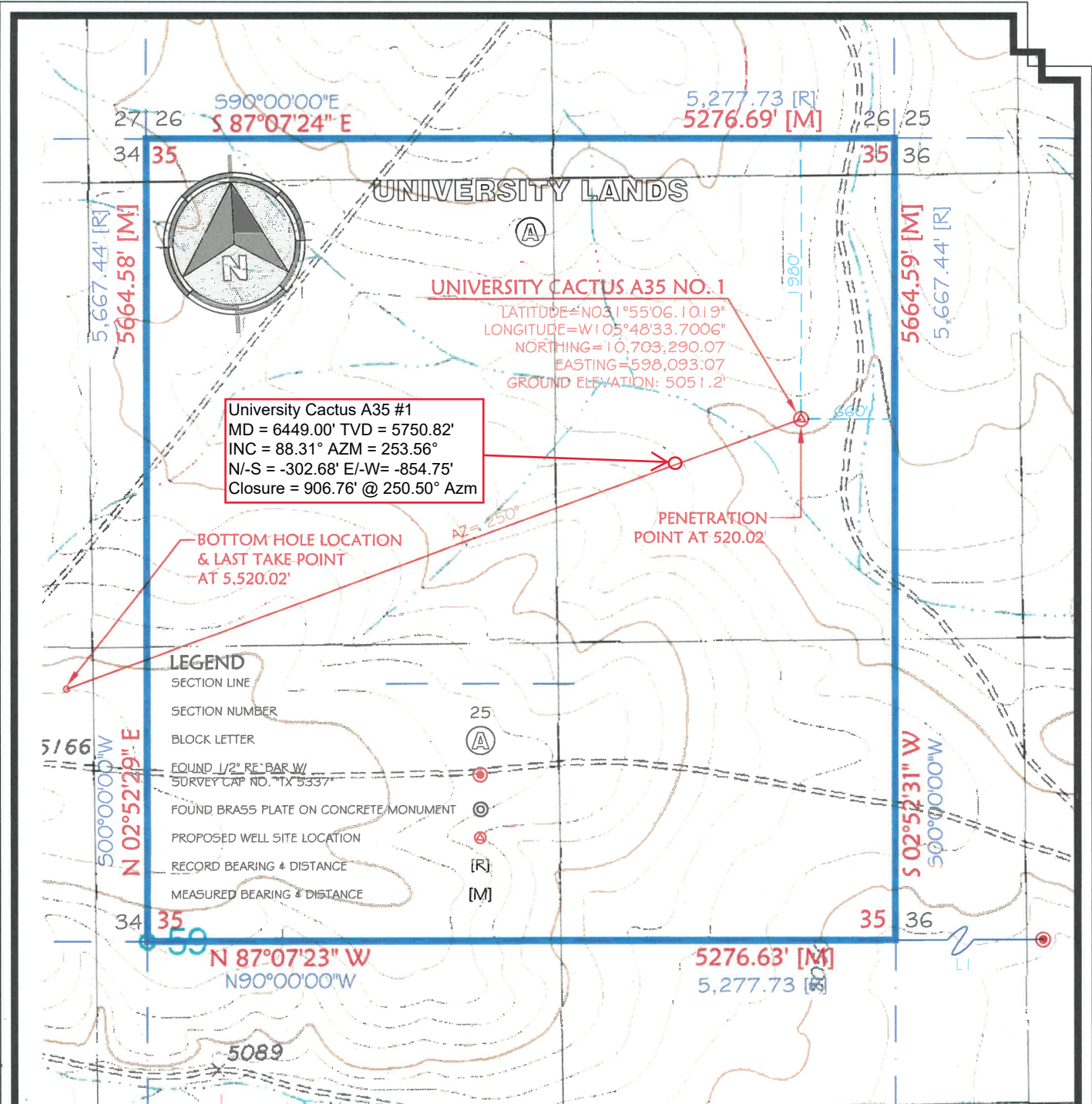
December 14, 2019

State of Texas
County of Hudspeth

I, Allison Reinert, certify that; I am employed by Aim Directional Services, LLC; that I did on the day(s) of October 17, 2019 through October 22, 2019 conduct or supervise the taking of a directional MWD survey from a depth of 6052 feet to a depth of 6449 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Aim Directional Services, LLC; that I am authorized and qualified to make this report; that this survey was conducted at the request of Maverick Operating, LLC for University Cactus A35 #1 API No. 42-229-30235 in Hudspeth County, Texas; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Aim Directional Services, LLC.

Allison Reinert
VP Engineering

Aug 22, 2019 - 8:46am
S:\Projects\07165-002-MAVERICK OIL AND GAS\002-MAVERICK UNIVERSITY WELLS\07165-002-C3D07165-002-CACTUS A35-1-5520.dwg
adortalez



SUPPLEMENTAL NOTES

1. BASIS OF BEARING IS NORTH AMERICAN HORIZONTAL DATUM OF 1983, OBTAINED BY G.P.S. OBSERVATION, AT PROJECT BASE STATION, A CHISELED "X" SET ON A ROCK AT LATITUDE 31°58'12.62" NORTH AND LONGITUDE 105°49'17.68" WEST, FIELD MEASUREMENTS WERE THEN TRANSLATED TO BASE STATION USING ON-LINE POSITIONING USER SERVICE [OPUS] AT WWW.NGS.NOAA.GOV.
2. BASIS OF ELEVATION IS NORTH AMERICAN VERTICAL DATUM OF 1988, OBTAINED BY G.P.S. OBSERVATION, AT THE PROJECT BASE STATION AS DESCRIBED ABOVE. (ELEVATION = 5229.18' ~ NAVD88 DATUM)
3. CONVERGENCE ANGLE FROM THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE 4203 TO TRUE NORTH IS -02°49'36" AT THE ABOVE DESCRIBED PROJECT BASE STATION.
4. COORDINATES SHOWN HEREON ARE EXPRESSED AS TEXAS STATE PLANE, CENTRAL ZONE 4203, BEARINGS ARE EXPRESSED AT GRID AND DISTANCES ARE EXPRESSED AT SURFACE VALUE.
5. SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT, EASEMENTS MAY EXIST WHERE NONE ARE SHOWN.
6. RECORD INFORMATION CONTAINED WITHIN BRACKETS AS PER FIELD NOTES FILED IN UNIVERSITY LAND VOLUME 5, PAGES 25, 26, 35 AND 36, HUDSPETH COUNTY, TEXAS.
7. UNIVERSITY FOUNDERS A25 NO. 1 IS LOCATED LOCATED APPROXIMATELY 21 MILES NORTHWEST OF CORNUDAS, TEXAS.
8. SURVEY FOR UNIVERSITY FOUNDERS A25 No. 1 WELL PREPARED BY BROCK & BUSTILLOS INC., DATED DECEMBER 23, 2015, JOB No. 07052-002.

CERTIFICATION

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY IS BASED ON AN ACTUAL SURVEY PERFORMED ON THE GROUND BY ME OR UNDER MY SUPERVISION AND THAT THE INFORMATION CONTAINED HEREON IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Aaron Alvarado 8/14/19
AARON ALVARADO, TX. R.P.L.S. NO. 6223

LINE TABLE		
LINE	BEARING	LENGTH
L1 [M]	N02°52'33"W	5,664.60'
L1 [R]	N00°00'00"W	5,667.44'



MAVERICK OIL & GAS

"UNIVERSITY CACTUS A35 No. 1 WELL"
LOCATED 660' FROM THE WEST LINE AND 1980' FROM THE NORTH LINE OF
SECTION 35, BLOCK A, UNIVERSITY LANDS, HUDSPETH COUNTY, TEXAS.

DRAWN BY: J.M. CHECKED BY: A.A. DATE: 08-14-2019 SCALE: 1" = 1000'



BROCK & BUSTILLOS INC.

CONSULTING CIVIL ENGINEERS
LAND SURVEYORS
TBPE REG. NO. F-737
TBPLS REG. NO. 101314-00

417 EXECUTIVE CENTER~EL PASO, TX 79902~PH (915) 542-4900
FAX (915) 542-2867~WWW.BROCKBUSTILLOS.COM

FILE NO: 07165-002