

30.015-44602



Company: Mesquite SWD, Inc Job Number: 01-1-18-1170 Calculation Method Minimum Curvature
Well: VL SWD #1 Mag (Grid): 6.79 Proposed Azimuth 0.0
Location: Eddy County, NM Dir Driller: N/A Depth Reference 26'
Rlg: McVay 2 FST: L. Stewart Tie Into: Assumed Vertical
Job Date: 1/25/18 - 2/17/18

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
Tie In	2569.00	2.30	79.40	0	2567.96	27.71	27.71 N	34.54 E					
1	2688	1.40	72.82	119	2686.90	28.58	28.58 N	38.28 E	47.77	53.25	0.78	-0.76	-5.53
2	2778	1.80	80.39	90	2776.86	29.14	29.14 N	40.72 E	50.07	54.41	0.50	0.44	8.41
3	2875	1.40	64.09	97	2873.82	29.91	29.91 N	43.29 E	52.62	55.36	0.62	-0.41	-16.80
4	2971	1.50	90.00	96	2969.79	30.42	30.42 N	45.60 E	54.82	56.29	0.68	0.10	26.99
5	3065	1.10	91.61	94	3063.77	30.40	30.40 N	47.73 E	56.59	57.51	0.43	-0.43	1.71
6	3158	1.10	77.80	93	3156.75	30.56	30.56 N	49.50 E	58.17	58.31	0.28	0.00	-14.85
7	3250	0.80	51.05	92	3248.74	31.15	31.15 N	50.86 E	59.64	58.51	0.57	-0.33	-29.08
8	3438	1.20	63.66	188	3436.71	32.85	32.85 N	53.64 E	62.90	58.52	0.24	0.21	6.71
9	3532	0.40	366.71	94	3530.70	33.61	33.61 N	54.56 E	64.09	58.37	1.10	-0.85	322.39
10	3718	0.90	12.13	186	3716.69	35.69	35.69 N	54.95 E	65.52	57.00	0.27	0.27	-190.63
11	3905	0.30	7.27	187	3903.68	37.61	37.61 N	55.32 E	66.89	55.79	0.32	-0.32	-2.60
12	4000	0.30	347.21	95	3998.68	38.10	38.10 N	55.29 E	67.15	55.43	0.11	0.00	357.83
13	4184	0.80	335.83	184	4182.67	39.74	39.74 N	54.66 E	67.58	53.98	0.28	0.27	-6.18
14	4279	0.80	356.54	95	4277.66	41.01	41.01 N	54.35 E	68.08	52.97	0.30	0.00	21.80
15	4373	0.60	297.23	94	4371.65	41.89	41.89 N	53.87 E	68.24	52.13	0.76	-0.21	-63.10
16	4466	0.40	264.48	93	4464.65	42.08	42.08 N	53.12 E	67.76	51.61	0.37	-0.22	-35.22
17	4560	0.50	276.65	94	4558.65	42.09	42.09 N	52.38 E	67.20	51.22	0.15	0.11	12.95
18	4842	0.70	145.40	282	4840.64	40.82	40.82 N	52.14 E	66.22	51.94	0.39	0.07	-46.54
19	4943	0.20	304.85	101	4941.64	40.41	40.41 N	52.34 E	66.13	52.33	0.88	-0.50	157.87
20	5028	0.30	25.84	85	5026.64	40.70	40.70 N	52.32 E	66.28	52.12	0.39	0.12	-328.25
21	5121	0.70	184.02	93	5119.64	40.35	40.35 N	52.39 E	66.12	52.40	1.06	0.43	170.09
22	5212	0.90	133.73	91	5210.63	39.30	39.30 N	52.86 E	65.87	53.37	0.77	0.22	-55.26
23	5305	0.80	96.83	93	5303.62	38.72	38.72 N	54.04 E	66.48	54.38	0.59	-0.11	-39.68
24	5398	0.70	178.92	93	5396.61	38.07	38.07 N	54.69 E	66.64	55.16	1.06	-0.11	88.27
25	5491	0.80	92.86	93	5489.61	37.47	37.47 N	55.35 E	66.84	55.90	1.10	0.11	-92.54
26	5586	0.50	179.24	95	5584.60	37.02	37.02 N	56.02 E	67.15	56.54	0.96	-0.32	90.93
27	5679	0.90	87.35	93	5677.60	36.65	36.65 N	56.75 E	67.56	57.14	1.12	0.43	-98.81
28	5773	0.70	176.58	94	5771.59	36.11	36.11 N	57.53 E	67.92	57.88	1.21	-0.21	94.93
29	5867	1.10	144.22	94	5865.58	34.81	34.81 N	58.09 E	67.72	59.07	0.67	0.43	-34.43
30	5959	1.10	146.43	92	5957.56	33.36	33.36 N	59.09 E	67.86	60.56	0.05	0.00	2.40
31	6051	0.30	130.50	92	6049.56	32.46	32.46 N	59.76 E	68.01	61.49	0.89	-0.87	-17.32
32	6144	0.80	224.87	93	6142.55	31.85	31.85 N	59.49 E	67.48	61.84	0.94	0.54	101.47
33	6224	1.00	210.76	80	6222.54	30.85	30.85 N	58.74 E	66.35	62.29	0.37	0.25	-17.64
34	6305	1.10	222.78	81	6303.53	29.67	29.67 N	57.85 E	65.02	62.85	0.30	0.12	14.84
35	6491	0.50	278.13	186	6489.51	28.48	28.48 N	55.83 E	62.68	62.98	0.49	-0.32	29.76
36	6587	0.30	204.67	96	6585.51	28.31	28.31 N	55.31 E	62.14	62.90	0.53	-0.21	-76.52

TD 15215'

Survey does not go to total depth!

Provide Signature Page for Directional Survey



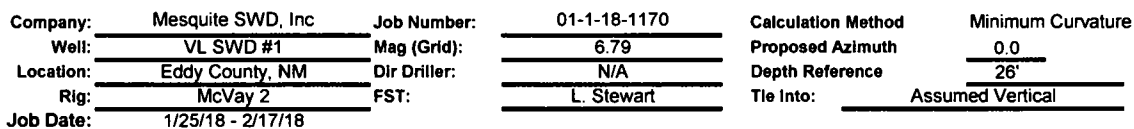
Company: Mesquite SWD, Inc Job Number: 01-1-18-1170
 Well: VL SWD #1 Mag (Grid): 6.79
 Location: Eddy County, NM Dir Driller: N/A
 Rig: McVay 2 FST: L. Stewart
 Job Date: 1/25/18 - 2/17/18
 Calculation Method: Minimum Curvature
 Proposed Azimuth: 0.0
 Depth Reference: 26'
 Tie Into: Assumed Vertical

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
37	6681	0.40	310.69	94	6679.51	28.30	28.30 N	54.96 E	61.82	62.76	0.60	0.11	112.79
38	6777	1.20	318.11	96	6775.50	29.26	29.26 N	54.04 E	61.45	61.56	0.84	0.83	7.73
39	6871	1.60	272.33	94	6869.47	30.05	30.05 N	52.07 E	60.12	60.01	1.22	0.43	-48.70
40	7056	1.40	235.54	185	7054.41	28.88	28.88 N	47.62 E	55.70	58.77	0.52	-0.11	-19.89
41	7151	2.10	237.70	95	7149.37	27.29	27.29 N	45.20 E	52.80	58.88	0.74	0.74	2.27
42	7244	1.90	233.57	93	7242.31	25.46	25.46 N	42.52 E	49.56	59.08	0.26	-0.22	-4.44
43	7339	1.90	258.13	95	7337.26	24.20	24.20 N	39.71 E	46.50	58.63	0.85	0.00	25.85
44	7433	3.00	257.51	94	7431.18	23.35	23.35 N	35.78 E	42.73	56.87	1.17	1.17	-0.66
45	7527	3.90	267.78	94	7525.00	22.70	22.70 N	30.18 E	37.77	53.06	1.16	0.96	10.93
46	7611	3.00	272.40	84	7608.85	22.68	22.68 N	25.13 E	33.85	47.94	1.12	-1.07	5.50
47	7686	3.60	262.00	75	7683.73	22.43	22.43 N	20.84 E	30.62	42.89	1.13	0.80	-13.87
48	7761	3.20	259.80	75	7758.60	21.73	21.73 N	16.45 E	27.26	37.12	0.56	-0.53	-2.93
49	7858	2.80	254.70	97	7855.46	20.63	20.63 N	11.50 E	23.62	29.14	0.50	-0.41	-5.26
50	7999	2.90	230.50	141	7996.29	17.45	17.45 N	5.42 E	18.28	17.27	0.85	0.07	-17.16
51	8091	3.30	239.10	92	8088.16	14.61	14.61 N	1.36 E	14.67	5.31	0.67	0.43	9.35
52	8187	2.40	237.50	96	8184.04	12.11	12.11 N	2.71 W	12.41	347.39	0.94	-0.94	-1.67
53	8283	2.10	210.90	96	8279.97	9.52	9.52 N	5.31 W	10.90	330.87	1.12	-0.31	-27.71
54	8376	2.00	208.40	93	8372.91	6.63	6.63 N	6.95 W	9.61	313.65	0.14	-0.11	-2.69
55	8469	2.30	204.40	93	8465.84	3.51	3.51 N	8.50 W	9.19	292.42	0.36	0.32	-4.30
56	8564	1.40	184.00	95	8560.79	0.61	0.61 N	9.37 W	9.39	273.74	1.16	-0.95	-21.47
57	8658	2.20	217.30	94	8654.75	-1.97	1.97 S	10.54 W	10.72	259.42	1.37	0.85	35.43
58	8847	2.00	185.20	189	8843.63	-8.14	8.14 S	13.04 W	15.37	238.03	0.62	-0.11	-16.98
59	8941	1.90	186.40	94	8937.57	-11.32	11.32 S	13.36 W	17.51	229.72	0.11	-0.11	1.28
60	9036	2.00	161.90	95	9032.52	-14.46	14.46 S	13.02 W	19.46	222.00	0.88	0.11	-25.79
61	9130	1.80	200.50	94	9126.47	-17.40	17.40 S	13.03 W	21.74	216.82	1.35	-0.21	41.06
62	9225	1.20	164.20	95	9221.44	-19.76	19.76 S	13.28 W	23.81	213.90	1.15	-0.63	-38.21
63	9320	1.90	183.80	95	9316.41	-22.29	22.29 S	13.11 W	25.86	210.47	0.91	0.74	20.63
64	9413	0.70	177.40	93	9409.38	-24.39	24.39 S	13.19 W	27.73	208.40	1.30	-1.29	-6.88
65	9508	0.80	162.70	95	9504.37	-25.61	25.61 S	12.97 W	28.70	206.86	0.23	0.11	-15.47
66	9603	0.60	218.00	95	9599.37	-26.63	26.63 S	13.07 W	29.67	206.15	0.71	-0.21	58.21
67	9697	1.50	176.50	94	9693.35	-28.25	28.25 S	13.30 W	31.22	205.22	1.20	0.96	-44.15
68	9794	2.00	213.70	97	9790.31	-30.92	30.92 S	14.16 W	34.01	204.61	1.25	0.52	38.35
69	9956	2.10	239.90	162	9952.21	-34.76	34.76 S	18.30 W	39.29	207.76	0.58	0.06	16.17
70	10094	2.90	250.70	138	10090.08	-37.18	37.18 S	23.78 W	44.14	212.60	0.67	0.58	7.83
71	10187	2.80	258.20	93	10182.96	-38.43	38.43 S	28.23 W	47.68	216.30	0.41	-0.11	8.06
72	10281	2.10	249.20	94	10276.88	-39.51	39.51 S	32.08 W	50.89	219.08	0.85	-0.74	-9.57
73	10379	2.80	254.60	98	10374.79	-40.78	40.78 S	36.07 W	54.44	221.49	0.75	0.71	5.51
74	10473	2.30	240.70	94	10468.69	-42.31	42.31 S	39.93 W	58.18	223.34	0.84	-0.53	-14.79



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Location: Eddy County, NM Dir Driller: N/A Depth Reference 26'
Rig: McVay 2 FST: L. Stewart Tie Into: Assumed Vertical
Job Date: 1/25/18 - 2/17/18

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
75	10618	1.80	226.40	145	10613.60	-45.31	45.31 S	44.12 W	63.24	224.24	0.49	-0.34	-9.86
76	10712	1.50	220.60	94	10707.56	-47.26	47.26 S	45.98 W	65.94	224.22	0.36	-0.32	-6.17
77	10807	1.40	215.60	95	10802.53	-49.15	49.15 S	47.47 W	68.33	224.00	0.17	-0.11	-5.26
78	10900	1.30	208.10	93	10895.51	-51.00	51.00 S	48.63 W	70.47	223.63	0.22	-0.11	-8.06
79	10994	1.30	210.90	94	10989.48	-52.86	52.86 S	49.68 W	72.54	223.22	0.07	0.00	2.98
80	11088	1.40	209.40	94	11083.45	-54.77	54.77 S	50.79 W	74.70	222.84	0.11	0.11	-1.60
81	11183	1.40	208.30	95	11178.43	-56.81	56.81 S	51.91 W	76.95	222.42	0.03	0.00	-1.16
82	11277	1.40	209.40	94	11272.40	-58.82	58.82 S	53.02 W	79.19	222.03	0.03	0.00	1.17
83	11371	1.40	216.50	94	11366.37	-60.74	60.74 S	54.26 W	81.45	221.78	0.18	0.00	7.55
84	11461	1.40	213.20	90	11456.34	-62.54	62.54 S	55.52 W	83.63	221.59	0.09	0.00	-3.67
85	11557	1.10	214.10	96	11552.32	-64.29	64.29 S	56.68 W	85.71	221.40	0.31	-0.31	0.94
86	11651	1.20	212.40	94	11646.30	-65.87	65.87 S	57.71 W	87.57	221.22	0.11	0.11	-1.81
87	11746	1.10	207.20	95	11741.28	-67.52	67.52 S	58.66 W	89.44	220.98	0.15	-0.11	-5.47
88	11840	1.10	219.10	94	11835.27	-69.02	69.02 S	59.64 W	91.22	220.83	0.24	0.00	12.66
89	11935	0.90	229.10	95	11930.25	-70.22	70.22 S	60.78 W	92.87	220.88	0.28	-0.21	10.53
90	12028	0.80	236.30	93	12023.24	-71.06	71.06 S	61.87 W	94.22	221.05	0.16	-0.11	7.74
91	12122	0.60	233.00	94	12117.23	-71.72	71.72 S	62.81 W	95.33	221.21	0.22	-0.21	-3.51
92	12214	0.40	236.60	92	12209.23	-72.18	72.18 S	63.47 W	96.12	221.32	0.22	-0.22	3.91
93	12311	0.30	222.50	97	12306.23	-72.56	72.56 S	63.92 W	96.70	221.38	0.14	-0.10	-14.54
94	12406	0.30	216.50	95	12401.23	-72.94	72.94 S	64.24 W	97.19	221.37	0.03	0.00	-6.32
95	12500	0.60	173.20	94	12495.22	-73.63	73.63 S	64.32 W	97.77	221.14	0.46	0.32	-46.06
96	12624	1.00	195.40	124	12619.21	-75.31	75.31 S	64.54 W	99.18	220.59	0.40	0.32	17.90
97	12719	0.40	278.80	95	12714.21	-76.06	76.06 S	65.08 W	100.11	220.55	1.09	-0.63	87.79
98	12814	0.50	222.70	95	12809.20	-76.32	76.32 S	65.69 W	100.70	220.72	0.46	0.11	-59.05
99	12908	0.40	207.30	94	12903.20	-76.91	76.91 S	66.12 W	101.42	220.69	0.17	-0.11	-16.38
100	13002	0.40	132.30	94	12997.20	-77.42	77.42 S	66.03 W	101.75	220.46	0.52	0.00	-79.79
101	13097	0.40	83.10	95	13092.20	-77.61	77.61 S	65.45 W	101.52	220.14	0.35	0.00	-51.79
102	13286	0.30	18.50	189	13281.19	-77.06	77.06 S	64.64 W	100.58	219.99	0.20	-0.05	-34.18
103	13380	0.30	31.40	94	13375.19	-76.61	76.61 S	64.44 W	100.11	220.07	0.07	0.00	13.72
104	13474	0.40	136.90	94	13469.19	-76.64	76.64 S	64.08 W	99.90	219.90	0.60	0.11	112.23
105	13569	0.50	141.90	95	13564.19	-77.21	77.21 S	63.60 W	100.03	219.48	0.11	0.11	5.26
106	13663	0.50	165.90	94	13658.18	-77.93	77.93 S	63.25 W	100.37	219.06	0.22	0.00	25.53
107	13758	0.60	190.60	95	13753.18	-78.82	78.82 S	63.24 W	101.05	218.74	0.27	0.11	26.00
108	13852	0.30	185.30	94	13847.18	-79.55	79.55 S	63.35 W	101.69	218.53	0.32	-0.32	-5.64
109	13979	1.60	304.90	127	13974.16	-78.87	78.87 S	64.84 W	102.10	219.42	1.39	1.02	94.17
110	14159	1.20	263.90	180	14154.11	-77.63	77.63 S	68.77 W	103.71	221.54	0.58	-0.22	-22.78
111	14316	0.50	242.90	157	14311.09	-78.12	78.12 S	71.02 W	105.57	222.27	0.48	-0.45	-13.38
112	14411	0.50	221.20	95	14406.09	-78.62	78.62 S	71.66 W	106.38	222.35	0.20	0.00	-22.84

[illegible]