

ENSIGN

United States Drilling Inc.

 Company: St. James

 Field: WATTENBERG

 Cty/Blk/Par: Weld

 Well Name: DYER 1-2

 Rig: CADE 25

 Job Number: 207-25-1

 Magnetic Decl.: 8.64

 Grid Corr.: 8.64

 Total Survey Corr.: 8.64

 Target Info: 1175.9' NORTH, 471.3' EAST @ 6000' TVD

Calculation Method

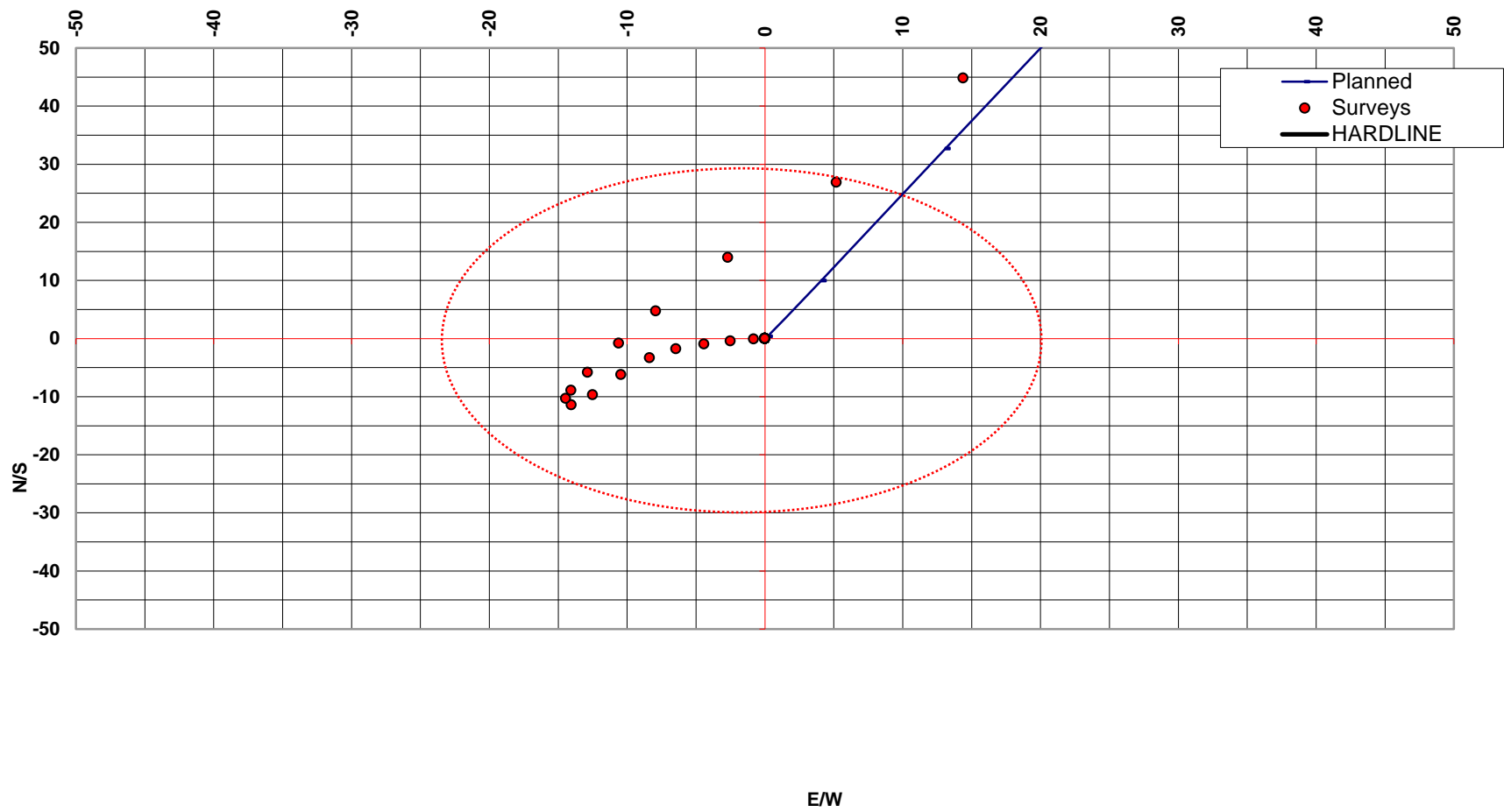
 Proposed Azimuth 21.84

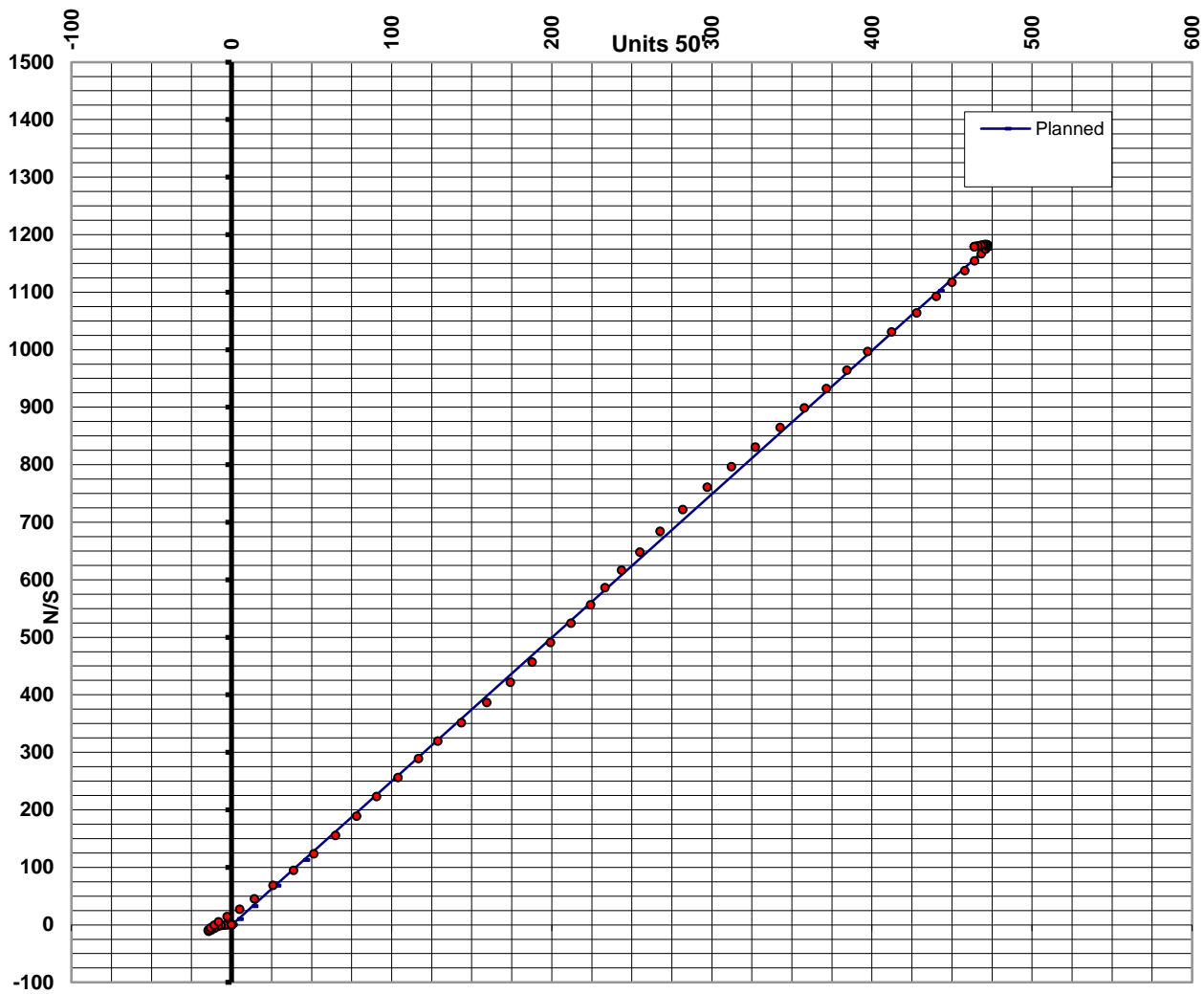
 Depth Reference KB

 Tie Into WELL HEAD

Minimum Curvature

No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates		DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')	Remarks
0	Tie In	0	0.00	0.00		0.00	0.00	0.00	0.00				TIE IN TO WELL HEAD
1	MWD	86	1.10	262.90	86	85.99	-0.40	0.10	S 0.82 W	1.28	1.3	305.7	DIP 68.1
2	MWD	176	1.10	254.80	90	175.98	-1.34	0.44	S 2.51 W	0.17	0.0	-9.0	DIP 67.4
3	MWD	267	1.40	255.30	91	266.96	-2.53	0.95	S 4.43 W	0.33	0.3	0.5	DIP 67.1
4	MWD	358	1.40	239.70	91	357.93	-4.07	1.79	S 6.46 W	0.42	0.0	-17.1	DIP 67.1
5	MWD	450	1.70	223.70	92	449.90	-6.22	3.34	S 8.38 W	0.57	0.3	-17.4	DIP 67.1
6	MWD	541	2.80	210.50	91	540.83	-9.67	6.23	S 10.44 W	1.33	1.2	-14.5	DIP 67.3
7	MWD	635	2.10	211.60	94	634.74	-13.64	9.68	S 12.51 W	0.75	-0.7	1.2	DIP 67.1
8	MWD	728	0.90	244.20	93	727.71	-15.86	11.45	S 14.06 W	1.53	-1.3	35.1	DIP 67.3
9	MWD	822	1.80	10.50	94	821.69	-14.95	10.32	S 14.45 W	2.60	1.0	-248.6	DIP 67.14
10	MWD	859	2.70	19.10	37	858.66	-13.51	8.92	S 14.06 W	2.59	2.4	23.2	DIP 67.14
11	MWD	922	3.30	22.90	63	921.58	-10.22	5.85	S 12.87 W	1.00	1.0	6.0	DIP= 67.31°
12	MWD	1015	3.50	25.60	93	1014.41	-4.71	0.82	S 10.60 W	0.28	0.2	2.9	
13	MWD	1109	4.00	25.90	94	1108.21	1.42	4.71	N 7.93 W	0.53	0.5	0.3	
14	MWD	1232	5.90	32.10	123	1230.75	11.93	13.93	N 2.70 W	1.60	1.5	5.0	
15	MWD	1358	7.90	30.80	126	1355.83	26.85	26.85	N 5.18 E	1.59	1.6	-1.0	
16	MWD	1483	10.70	24.50	125	1479.18	46.93	44.79	N 14.39 E	2.38	2.2	-5.0	
17	MWD	1610	13.00	28.00	127	1603.46	72.92	68.14	N 25.99 E	1.90	1.8	2.8	
18	MWD	1736	13.90	24.20	126	1726.01	102.13	94.46	N 38.85 E	1.00	0.7	-3.0	
19	MWD	1861	15.20	23.50	125	1847.00	133.51	123.18	N 51.54 E	1.05	1.0	-0.6	
20	MWD	1987	16.60	23.10	126	1968.17	168.02	154.89	N 65.19 E	1.11	1.1	-0.3	
21	MWD	2112	17.20	19.10	125	2087.78	204.33	188.78	N 78.24 E	1.05	0.5	-3.2	
22	MWD	2237	16.30	21.40	125	2207.48	240.34	222.57	N 90.69 E	0.89	-0.7	1.8	
23	MWD	2363	16.40	22.80	126	2328.38	275.80	255.43	N 104.03 E	0.32	0.1	1.1	
24	MWD	2493	15.20	19.80	130	2453.47	311.19	288.39	N 116.92 E	1.12	-0.9	-2.3	
25	MWD	2618	15.30	23.30	125	2574.07	344.05	318.95	N 128.99 E	0.74	0.1	2.8	
26	MWD	2743	17.50	25.90	125	2693.98	379.29	351.01	N 143.73 E	1.85	1.8	2.1	
27	MWD	2870	17.90	22.90	127	2814.97	417.85	386.17	N 159.66 E	0.78	0.3	-2.4	
28	MWD	2995	17.40	22.80	125	2934.08	455.74	421.09	N 174.38 E	0.40	-0.4	-0.1	
29	MWD	3123	17.00	18.90	128	3056.36	493.57	456.44	N 187.86 E	0.95	-0.3	-3.0	
30	MWD	3245	17.10	18.50	122	3173.00	529.29	490.32	N 199.33 E	0.13	0.1	-0.3	
31	MWD	3369	16.70	23.50	124	3291.65	565.30	523.95	N 212.22 E	1.22	-0.3	4.0	
32	MWD	3496	14.50	18.00	127	3413.97	599.40	555.81	N 224.41 E	2.09	-1.7	-4.3	
33	MWD	3620	14.90	15.60	124	3533.92	630.74	585.93	N 233.49 E	0.59	0.3	-1.9	
34	MWD	3747	14.10	21.90	127	3656.88	662.44	616.02	N 243.65 E	1.39	-0.6	5.0	
35	MWD	3872	17.20	18.50	125	3777.23	696.13	647.68	N 255.20 E	2.59	2.5	-2.7	
36	MWD	3997	18.20	20.50	125	3896.31	734.10	683.49	N 267.90 E	0.94	0.8	1.6	
37	MWD	4122	19.70	20.30	125	4014.54	774.68	721.54	N 282.05 E	1.20	1.2	-0.2	
38	MWD	4249	18.60	22.90	127	4134.51	816.33	760.27	N 297.36 E	1.10	-0.9	2.0	
39	MWD	4376	17.10	22.40	127	4255.39	855.25	796.19	N 312.35 E	1.19	-1.2	-0.4	
40	MWD	4503	17.10	24.70	127	4376.78	892.57	830.42	N 327.27 E	0.53	0.0	1.8	
41	MWD	4631	16.60	25.00	128	4499.28	929.62	864.09	N 342.86 E	0.40	-0.4	0.2	
42	MWD	4757	18.00	22.60	126	4619.58	967.06	898.38	N 357.95 E	1.25	1.1	-1.9	
43	MWD	4882	15.50	21.90	125	4739.27	1003.08	931.71	N 371.61 E	2.01	-2.0	-0.6	
44	MWD	5007	16.50	22.20	125	4859.42	1037.53	963.64	N 384.54 E	0.80	0.8	0.2	
45	MWD	5131	16.40	21.40	124	4978.35	1072.65	996.24	N 397.58 E	0.20	-0.1	-0.6	
46	MWD	5257	17.90	25.40	126	5098.75	1109.76	1030.30	N 412.38 E	1.51	1.2	3.2	
47	MWD	5384	15.60	25.40	127	5220.35	1146.29	1063.36	N 428.08 E	1.81	-1.8	0.0	
48	MWD	5509	13.50	20.70	125	5341.34	1177.66	1092.20	N 440.45 E	1.93	-1.7	-3.8	
49	MWD	5635	10.60	22.40	126	5464.55	1203.96	1116.67	N 450.06 E	2.32	-2.3	1.3	
50	MWD	5760	9.60	21.20	125	5587.61	1225.88	1137.02	N 458.22 E	0.82	-0.8	-1.0	
51	MWD	5882	7.20	17.80	122	5708.29	1243.68	1153.79	N 464.23 E	2.01	-2.0	-2.8	
52	MWD	6007	4.70	20.50	125	5832.61	1256.61	1166.05	N 468.42 E	2.01	-2.0	2.2	
53	MWD	6132	3.00	16.10	125	5957.32	1264.99	1173.99	N 471.12 E	1.38	-1.4	-3.5	
54	MWD	6256	1.90	10.50	124	6081.21	1270.23	1179.12	N 472.40 E	0.91	-0.9	-4.5	
55	MWD	6382	0.40	319.50	126	6207.18	1272.49	1181.51	N 472.49 E	1.33	-1.2	245.2	
56	MWD	6507	0.30	279.20	125	6332.18	1272.62	1181.90	N 471.88 E	0.21	-0.1	-32.2	
57	MWD	6633	0.40	298.90	126	6458.18	1272.60	1182.16	N 471.17 E	0.12	0.1	15.6	
58	MWD	6758	0.40	249.50	125	6583.17	1272.36	1182.22	N 470.38 E	0.27	0.0	-39.5	
59	MWD	6883	0.40	229.50	125	6708.17	1271.68	1181.78	N 469.64 E	0.11	0.0	-16.0	
60	MWD	7010	1.00	238.10	127	6835.16	1270.39	1180.91	N 468.36 E	0.48	0.5	6.8	
61	MWD	7136	1.10	252.20	126	6961.14	1268.73	1179.96	N 466.28 E	0.22	0.1	11.2	
62	MWD	7260	0.70	235.60	124	7085.13	1267.34	1179.17	N 464.52 E	0.38	-0.3	-13.4	
63	MWD	7324	0.50	188.20	64	7149.12	1266.75	1178.67	N 464.16 E	0.81	-0.3	-74.1	
64	PRJ	7369	0.50	188.20	45	7194.12	1266.37	1178.28	N 464.10 E	0.00	0.0	0.0	PRJ TO BIT





E/W

Units 50'

TVD

