	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1													Calculation Method		Minimum Curvature		
2	SourceEnergy			Well: Neisis Trust 4-11-4-14 H				Declination Corr.:		4.14 degrees			Proposed Azimuth		180	From True North	
3				Location: Sec. 4 - T32S - R2E				Grid Corr.:					Depth Reference		15' KB		
4				Rig: HWD Rig #7				Total Corr.:					Tie Into:				
5																	
6	Survey	Survey	Inclina-			Course	True Vertica	Vertical	Coordinates				Closure		Dogleg	Build	Walk
7	Tool	Depth	tion	Azimuth		Length	Depth	Section	N/S		E/W		Distance	Angle	Severity	Rate	Rate
8	Type	(ft)	(deg)	(deg)		(ft)	(ft)	(ft)	(ft)		(ft)		(ft)	(deg)	(d/100')	(d/100')	(d/100')
9	**Tie In Coordinates**																
10	**Surface**	0	0	0			0	0									
11		0	0	0			0	0									
12	MWD	15	0.00	175.88		15	15	0.00	0.00	N	0.00	E	0.00	#DIV/0!	0.00	0.00	1172.53
13	**Surface Casing 9-5/8" Set @ +/- 300' KB**	343	0.75	175.88		328	343	2.14	2.14	S	0.15	E	2.15	175.88	0.23	0.23	0.00
14	MWD	387	0.45	200.20		44	387	2.59	2.59	S	0.12	E	2.59	177.45	0.88	-0.68	55.27
15	MWD	430	1.31	307.62		43	430	2.45	2.45	S	0.33	W	2.47	187.73	3.51	2.00	249.81
16	MWD	473	3.66	319.78		43	473	1.12	1.10	S	1.61	W	1.95	235.61	5.57	5.47	28.28
17	MWD	517	6.03	323.01		44	517	-1.77	1.82	N	3.91	W	4.31	294.96	5.42	5.39	7.34
18	MWD	558	7.63	326.32		41	557	-5.72	5.80	N	6.71	W	8.87	310.85	4.02	3.90	8.07
19	MWD	602	8.83	325.56		44	601	-10.89	11.02	N	10.24	W	15.04	317.10	2.74	2.73	-1.73
20	MWD	645	9.98	323.42		43	643	-16.56	16.73	N	14.33	W	22.03	319.43	2.79	2.67	-4.98
21	MWD	688	10.86	321.58		43	686	-22.66	22.90	N	19.07	W	29.80	320.22	2.19	2.05	-4.28
22	MWD	732	11.94	320.11		44	729	-29.34	29.64	N	24.56	W	38.49	320.35	2.54	2.45	-3.34
23	MWD	775	13.04	322.05		43	771	-36.50	36.88	N	30.40	W	47.79	320.50	2.74	2.56	4.51
24	MWD	818	13.34	326.78		43	813	-44.41	44.85	N	36.10	W	57.58	321.17	2.60	0.70	11.00
25	MWD	862	13.64	333.54		44	**856**	-53.24	53.75	N	41.19	W	67.71	322.53	3.65	0.68	15.36
26	MWD	905	13.88	339.86		43	**897**	-62.57	63.13	N	45.23	W	77.66	324.38	3.54	0.56	14.70
27	MWD	948	14.31	346.61		43	939	-72.54	73.14	N	48.23	W	87.61	326.60	3.95	1.00	15.70
28	MWD	1009	14.52	354.83		61	998	-87.47	88.09	N	50.67	W	101.62	330.09	3.37	0.34	13.48
29	MWD	1070	15.30	358.76		61	1057	-103.12	103.75	N	51.53	W	115.85	333.59	2.09	1.28	6.44
30	MWD	1132	15.18	357.99		62	1117	-119.40	120.04	N	51.99	W	130.82	336.58	0.38	-0.19	-1.24
31	MWD	1193	15.34	357.51		61	1176	-135.43	136.09	N	52.62	W	145.91	338.86	0.33	0.26	-0.79
32	MWD	1254	14.79	357.04		61	**1235**	-151.26	151.92	N	53.38	W	161.03	340.64	0.92	-0.90	-0.77
33	MWD	1316	14.87	357.40		62	1295	-167.10	167.77	N	54.15	W	176.29	342.11	0.20	0.13	0.58
34	MWD	1377	14.82	0.53		61	1353	-182.72	183.39	N	54.43	W	191.30	343.47	1.32	-0.08	5.13
35	MWD	1438	14.91	0.71		61	1412	-198.36	199.04	N	54.26	W	206.31	344.75	0.17	0.15	0.30
36	MWD	1500	14.89	0.60		62	1472	-214.31	214.98	N	54.08	W	221.68	345.88	0.06	-0.03	-0.18
37	MWD	1561	14.83	359.69		61	1531	-229.95	230.63	N	54.04	W	236.87	346.81	0.40	-0.10	-1.49
38	MWD	1622	14.92	358.66		61	1590	-245.60	246.28	N	54.26	W	252.19	347.57	0.46	0.15	-1.69
39	MWD	1684	14.78	358.71		62	1650	-261.48	262.17	N	54.63	W	267.80	348.23	0.23	-0.23	0.08
40	MWD	1745	14.85	359.10		61	1709	-277.07	277.76	N	54.93	W	283.14	348.81	0.20	0.11	0.64
41	MWD	1806	14.90	0.53		61	1768	-292.73	293.42	N	54.98	W	298.53	349.39	0.61	0.08	2.34
42	MWD	1866	15.10	0.65		60	1826	-308.26	308.95	N	54.82	W	313.78	349.94	0.34	0.33	0.20
43	MWD	1909	15.04	359.89		43	1868	-319.44	320.13	N	54.76	W	324.78	350.29	0.48	-0.14	-1.77
44	MWD	1953	15.08	359.22		44	1910	-330.87	331.56	N	54.85	W	336.07	350.61	0.41	0.09	-1.52
45	MWD	1996	15.26	358.83		43	1952	-342.12	342.81	N	55.04	W	347.20	350.88	0.48	0.42	-0.91
46	MWD	2039	14.98	359.19		43	1993	-353.33	354.03	N	55.24	W	358.31	351.13	0.69	-0.65	0.84
47	MWD	2082	15.00	0.64		43	2035	-364.45	365.15	N	55.25	W	369.31	351.40	0.87	0.05	3.37
48	MWD	2126	14.95	1.24		44	2077	-375.82	376.52	N	55.07	W	380.52	351.68	0.37	-0.11	1.36
49	MWD	2169	15.05	0.56		43	2119	-386.94	387.64	N	54.89	W	391.51	351.94	0.47	0.23	-1.58

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
50	MWD	2212	15.14	0.03		43	2160	**-398.14**	398.84	N	54.84	W	402.59	352.17	0.38	0.21	-1.23
51	MWD	2256	15.13	0.57		44	2,203	-409.63	410.33	N	54.78	W	413.97	352.40	0.32	-0.02	1.23
52	MWD	2299	15.04	1.49		43	2,244	-420.82	421.52	N	54.57	W	425.04	352.62	0.59	-0.21	2.14
53	MWD	2342	14.55	2.22		43	**2,286**	**-431.80**	432.49	N	54.22	W	435.88	352.85	1.22	-1.14	1.70
54	MWD	2386	14.66	1.33		44	2,328	-442.89	443.58	N	53.88	W	446.84	353.07	0.57	0.25	-2.02
55	MWD	2429	14.93	0.45		43	2,370	-453.87	454.56	N	53.71	W	457.72	353.26	0.82	0.63	-2.05
56	MWD	2472	14.59	359.72		43	2,412	-464.83	465.52	N	53.69	W	468.60	353.42	0.90	-0.79	-1.70
57	MWD	2516	14.97	359.09		44	2,454	-476.05	476.74	N	53.81	W	479.77	353.56	0.94	0.86	-1.43
58	MWD	2559	15.21	359.26		43	2,496	-487.24	487.93	N	53.97	W	490.91	353.69	0.57	0.56	0.40
59	MWD	2602	15.08	358.29		43	2,537.08	-498.47	499.16	N	54.21	W	502.10	353.80	0.66	-0.30	-2.26
60	MWD	2646	15.02	356.89		44	2,579.57	-509.87	510.58	N	54.69	W	513.50	353.89	0.84	-0.14	-3.18
61	MWD	2690	15.03	357.93		44	2,622.07	-521.26	521.97	N	55.20	W	524.88	353.96	0.61	0.02	2.36
62	MWD	2733	15.03	359.58		43	2,663.60	-532.40	533.12	N	55.45	W	536.00	354.06	1.00	0.00	3.84
63	MWD	2776	14.97	0.51		43	2,705.13	-543.53	544.25	N	55.44	W	547.07	354.18	0.58	-0.14	2.16
64	MWD	2820	15.06	0.34		44	2,747.63	-554.93	555.65	N	55.35	W	558.40	354.31	0.23	0.20	-0.39
65	MWD	2863	15.00	359.94		43	2,789.16	-566.08	566.80	N	55.33	W	569.49	354.42	0.28	-0.14	-0.93
66	MWD	2906	15.09	359.63		43	2,830.69	-577.24	577.96	N	55.37	W	580.61	354.53	0.28	0.21	-0.72
67	MWD	2950	14.20	359.93		44	2,873.26	-588.36	589.08	N	55.41	W	591.69	354.63	2.03	-2.02	0.68
68	MWD	2993	11.53	2.31		43	2,915.17	-597.94	598.65	N	55.24	W	601.20	354.73	6.33	-6.21	5.53
69	MWD	3037	8.40	5.75		44	2,958.51	-605.53	606.25	N	54.75	W	608.71	354.84	7.24	-7.11	7.82
70	MWD	3080	5.19	11.14		43	3,001.20	-610.58	611.28	N	54.05	W	613.67	354.95	7.60	-7.47	12.53
71	**KOP @ 3140' MD**	3123	1.45	60.82		43	3,044.12	-612.76	613.46	N	53.20	W	615.76	355.04	10.22	-8.70	115.53
72	MWD	3167	3.56	151.37		44	3,088.09	-611.85	612.53	N	52.06	W	614.74	355.14	8.76	4.80	205.80
73	MWD	3210	7.60	164.58		43	3,130.88	-607.95	608.61	N	50.67	W	610.72	355.24	9.80	9.40	30.72
74	MWD	3253	12.38	169.14		43	3,173.22	-600.70	601.34	N	49.04	W	603.34	355.34	11.26	11.12	10.60
75	MWD	3296	17.41	172.04		43	3,214.76	-589.82	590.44	N	47.28	W	592.33	355.42	11.82	11.70	6.74
76	MWD	3340	21.57	175.71		44	3,256.23	-575.24	575.85	N	45.76	W	577.66	355.46	9.85	9.45	8.34
77	MWD	3383	25.13	177.88		43	3,295.70	-558.24	558.83	N	44.83	W	560.63	355.41	8.52	8.28	5.05
78	MWD	3426	28.71	182.92		43	3,334.04	-538.80	539.39	N	45.02	W	541.26	355.23	9.87	8.33	11.72
79	MWD	3470	31.86	184.40		44	3,372.03	-516.64	517.25	N	46.45	W	519.33	354.87	7.36	7.16	3.36
80	MWD	3513	37.33	184.29		43	3,407.42	-492.29	492.91	N	48.30	W	495.27	354.40	12.72	12.72	-0.26
81	MWD	3556	42.44	184.18		43	3,440.40	-464.77	465.42	N	50.33	W	468.14	353.83	11.88	11.88	-0.26
82	MWD	3600	47.00	183.82		44	3,471.66	-433.87	434.55	N	52.49	W	437.70	353.11	10.38	10.36	-0.82
83	MWD	3643	50.72	183.15		43	3,499.94	-401.53	402.23	N	54.45	W	405.90	352.29	8.73	8.65	-1.56
84	MWD	3687	55.15	181.45		44	3,526.46	-366.45	367.16	N	55.84	W	371.38	351.35	10.53	10.07	-3.86
85	MWD	3729	59.84	179.58		42	3,549.02	-331.04	331.75	N	56.15	W	336.47	350.39	11.78	11.17	-4.45
86	MWD	3773	64.63	179.02		44	3,569.51	-292.13	292.83	N	55.67	W	298.07	349.24	10.94	10.89	-1.27
87	**ESP Placement 100' tangent**	3817	69.09	178.67		44	3,586.80	-251.70	252.39	N	54.85	W	258.28	347.74	10.16	10.14	-0.80
88	MWD	3860	69.66	178.68		43	3,601.95	-212.11	212.16	N	53.92	W	218.90	345.74	1.33	1.33	0.02
89	**Top of Liner Hanger Set @ 3891' MD**	3903	69.66	179.58		43	3,616.89	-171.18	171.84	N	53.31	W	179.92	342.77	1.96	0.00	2.09
90	MWD	3947	70.55	179.80		44	3,631.87	-129.81	130.47	N	53.08	W	140.85	337.86	2.08	2.02	0.50
91	MWD	3990	73.16	179.22		43	3,645.26	-88.96	89.61	N	52.73	W	103.98	329.52	6.20	6.07	-1.35
92	MWD	4033	76.33	179.34		43	3,656.57	-47.49	48.14	N	52.21	W	71.02	312.67	7.38	7.37	0.28
93	MWD	4077	80.89	178.43		44	3,665.26	-4.40	5.02	N	51.37	W	51.62	275.58	10.56	10.36	-2.07
94	**7" Casing set @ 4154'**	4120	87.32	178.50		43	3,669.67	38.32	37.71	S	50.23	W	62.81	233.10	14.95	14.95	0.16
95	MWD	4175	89.23	178.53		55	3,671.33	93.25	92.67	S	48.80	W	104.73	207.77	3.47	3.47	0.05
96	MWD	4262	87.91	179.32		87	3,673.50	180.18	179.62	S	47.17	W	185.71	194.71	1.77	-1.52	0.91
97	MWD	4348	90.77	181.06		86	3,674.49	266.16	265.60	S	47.45	W	269.81	190.13	3.89	3.33	2.02
98	MWD	4434	90.95	180.49		86	3,673.20	352.16	351.58	S	48.62	W	354.93	187.87	0.69	0.21	-0.66

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
99	MWD	4520	90.92	180.73		86	3,671.79	438.14	437.57	S	49.53	W	440.36	186.46	0.28	-0.03	0.28
100	MWD	4607	91.14	182.06		87	3,670.23	525.12	524.53	S	51.65	W	527.06	185.62	1.55	0.25	1.53
101	MWD	4694	90.37	182.41		87	3,669.08	612.08	611.45	S	55.04	W	613.92	185.14	0.97	-0.89	0.40
102	MWD	4779	91.08	182.19		85	3,668.01	697.04	696.38	S	58.45	W	698.82	184.80	0.87	0.84	-0.26
103	MWD	4865	91.14	181.60		86	3,666.34	783.00	782.31	S	61.30	W	784.71	184.48	0.69	0.07	-0.69
104	MWD	4908	91.35	181.83		43	3,665.41	825.99	825.28	S	62.58	W	827.65	184.34	0.72	0.49	0.53
105	MWD	5000	91.23	180.89		92	3,663.34	917.95	917.23	S	64.77	W	919.52	184.04	1.03	-0.13	-1.02
106	MWD	5092	90.92	179.48		92	3,661.61	1,009.93	1,009.21	S	65.06	W	1,011.31	183.69	1.57	-0.34	-1.53
107	MWD	5184	90.77	179.31		92	3,660.25	1,101.90	1,101.20	S	64.09	W	1,103.06	183.33	0.25	-0.16	-0.18
108	MWD	5276	90.95	178.33		92	3,658.87	1,193.84	1,193.17	S	62.20	W	1,194.79	182.98	1.08	0.20	-1.07
109	MWD	5368	90.89	176.94		92	3,657.39	1,285.69	1,285.07	S	58.40	W	1,286.40	182.60	1.51	-0.07	-1.51
110	MWD	5460	90.68	175.88		92	3,656.13	1,377.42	1,376.88	S	52.64	W	1,377.89	182.19	1.17	-0.23	-1.15
111	MWD	5552	90.83	176.39		92	3,654.92	1,469.12	1,468.67	S	46.44	W	1,469.40	181.81	0.58	0.16	0.55
112	MWD	5644	90.40	178.26		92	3,653.93	1,560.95	1,560.56	S	42.15	W	1,561.13	181.55	2.09	-0.47	2.03
113	MWD	5736	90.46	179.77		92	3,653.24	1,652.91	1,652.54	S	40.57	W	1,653.04	181.41	1.64	0.07	1.64
114	MWD	5828	90.15	180.08		92	3,652.75	1,744.90	1,744.54	S	40.45	W	1,745.01	181.33	0.48	-0.34	0.34
115	MWD	5920	89.94	180.22		92	3,652.68	1,836.90	1,836.54	S	40.69	W	1,836.99	181.27	0.27	-0.23	0.15
116	MWD	6012	89.60	181.67		92	3,653.05	1,855.98	1,928.52	S	42.20	W	1,928.98	181.25	1.62	-0.37	1.58
117	MWD	6103	90.00	183.26		91	3,653.37	2,019.84	2,019.43	S	46.12	W	2,019.96	181.31	1.80	0.44	1.75
118	MWD	6176	90.03	184.51		73	3,653.35	2,092.73	2,092.26	S	51.06	W	2,092.89	181.40	1.71	0.04	1.71
119	MWD	6263	90.95	183.94		87	3,652.61	2,179.56	2,179.02	S	57.47	W	2,179.78	181.51	1.24	1.06	-0.66
120	MWD	6349	90.92	182.52		86	3,651.20	2,265.46	2,264.87	S	62.32	W	2,265.73	181.58	1.65	-0.03	-1.65
121	MWD	6436	91.29	181.73		87	3,649.52	2,352.42	2,351.79	S	65.54	W	2,352.71	181.60	1.00	0.43	-0.91
122	MWD	6522	90.59	181.21		86	3,648.11	2,438.40	2,437.75	S	67.75	W	2,438.70	181.59	1.01	-0.81	-0.60
123	MWD	6609	90.65	180.31		87	3,647.17	2,525.39	2,524.74	S	68.90	W	2,525.68	181.56	1.04	0.07	-1.03
124	MWD	6695	90.62	180.02		86	3,646.22	2,611.38	2,610.73	S	69.15	W	2,611.65	181.52	0.34	-0.03	-0.34
125	MWD	6785	90.55	179.15		90	3,645.30	2,701.36	2,700.73	S	68.50	W	2,701.60	181.45	0.97	-0.08	-0.97
126	MWD	6861	90.15	180.50		76	3,644.84	2,777.35	2,776.72	S	68.27	W	2,777.56	181.41	1.85	-0.53	1.78
127	MWD	6952	90.62	181.40		91	3,644.22	2,868.35	2,867.71	S	69.78	W	2,868.56	181.39	1.12	0.52	0.99
128	MWD	7043	90.74	180.31		91	3,643.14	2,959.34	2,958.69	S	71.13	W	2,959.54	181.38	1.20	0.13	-1.20
129	MWD	7134	90.12	180.64		91	3,642.46	3,050.33	3,049.68	S	71.89	W	3,050.53	181.35	0.77	-0.68	0.36
130	MWD	7224	90.77	179.91		90	3,641.76	3,140.33	3,139.68	S	72.32	W	3,140.51	181.32	1.09	0.72	-0.81
131	MWD	7316	90.34	178.56		92	3,640.87	3,232.29	3,231.66	S	71.09	W	3,232.45	181.26	1.54	-0.47	-1.47
132	MWD	7407	89.60	179.19		91	3,640.92	3,323.24	3,322.64	S	69.31	W	3,323.37	181.19	1.07	-0.81	0.69
133	MWD	7468	89.82	179.76		61	3,641.23	3,384.23	3,383.64	S	68.75	W	3,384.34	181.16	1.00	0.36	0.93
134	MWD	7554	90.40	180.97		86	3,641.06	3,470.22	3,469.64	S	69.29	W	3,470.33	181.14	1.56	0.67	1.41
135	MWD	7641	90.58	181.78		87	3,640.32	3,557.21	3,556.61	S	71.38	W	3,557.32	181.15	0.95	0.21	0.93
136	MWD	7728	90.03	181.00		87	3,639.86	3,644.21	3,643.58	S	73.49	W	3,644.32	181.16	1.10	-0.63	-0.90
137	MWD	7814	90.65	179.92		86	3,639.35	3,730.20	3,729.57	S	74.18	W	3,730.31	181.14	1.45	0.72	-1.26
138	MWD	7901	90.62	178.25		87	3,638.38	3,817.16	3,816.56	S	72.79	W	3,817.25	181.09	1.92	-0.03	-1.92
139	MWD	7987	90.89	176.54		86	3,637.25	3,903.01	3,902.46	S	68.88	W	3,903.06	181.01	2.01	0.31	-1.99
140	MWD	8073	90.49	175.19		86	3,636.21	3,988.69	3,988.22	S	62.68	W	3,988.72	180.90	1.64	-0.47	-1.57
141	MWD	8160	90.00	175.23		87	3,635.84	4,075.29	4,074.92	S	55.42	W	4,075.30	180.78	0.57	-0.56	0.05
142	MWD	8245	90.31	175.09		85	3,635.61	4,159.89	4,159.61	S	48.25	W	4,159.89	180.66	0.40	0.36	-0.16
143	MWD	8331	90.68	175.39		86	3,634.87	4,245.50	4,245.31	S	41.11	W	4,245.51	180.55	0.55	0.43	0.35
144	MWD	8418	90.52	175.82		87	3,633.96	4,332.15	4,332.05	S	34.45	W	4,332.19	180.46	0.53	-0.18	0.49
145	MWD	8511	90.40	175.33		93	3,633.21	4,424.78	4,424.77	S	27.27	W	4,424.86	180.35	0.54	-0.13	-0.53
146	PROJ	8565	90.40	175.33		54	3,632.83	4,478.59	4,478.59	S	22.87	W	4,478.65	180.29	0.00	0.00	0.00
147	**Total Depth**	8,581	90.4	175.3		16	3,632.72	4,494.54	4,494.54	S	21.57	W	4,494.59	180.27	0.00	0.00	0.00