

Description of Antenna System

The directional Andrew ALP16L2-HSOC-29 antenna currently installed and in use for DTV STA operations at KSTF will be re-used with no structural changes to the existing antenna mounting height, or the supporting tower.

Page 2-5 of this exhibit detail the antenna's horizontal and vertical pattern as supplied from the manufacturer.

Page 6 shows the resulting pattern including calculated ERP values. This page includes rotation of the antenna to 180 degrees referenced to true north.

AZIMUTH PATTERN

TYPE:

ALP-OC

Directivity:

Numeric

1.70

dB

(2.30)

Peak(s) at:

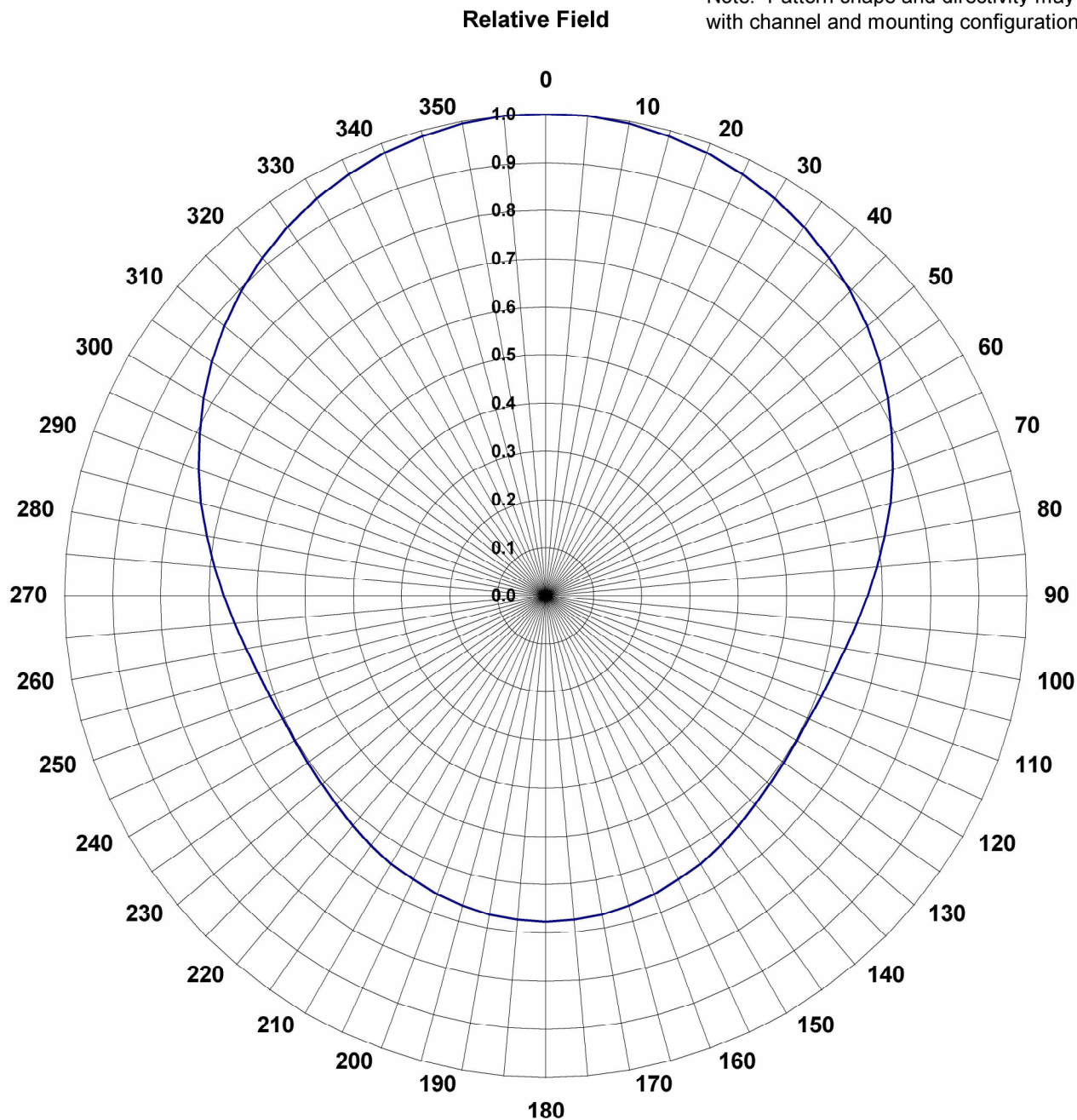
Polarization:

Horizontal

Channel:

Location:

Note: Pattern shape and directivity may vary with channel and mounting configuration.



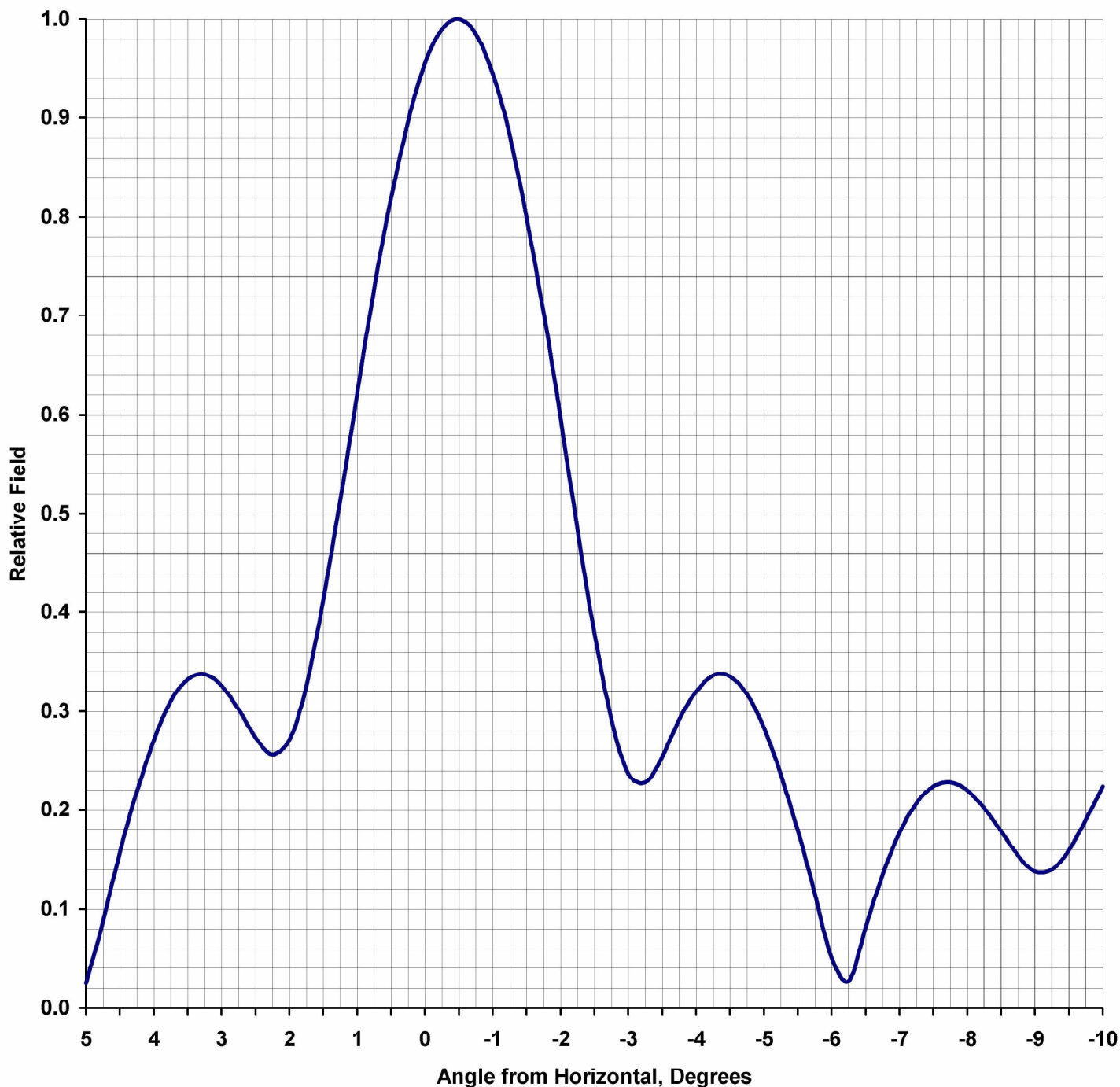
TABULATED DATA FOR AZIMUTH PATTERN**TYPE: ALP-OC**

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	1.000	0.00	92	0.660	-3.61	184	0.675	-3.41	276	0.695	-3.16
2	1.000	0.00	94	0.652	-3.72	186	0.674	-3.43	278	0.705	-3.04
4	0.999	-0.01	96	0.644	-3.82	188	0.673	-3.44	280	0.715	-2.91
6	0.998	-0.02	98	0.638	-3.90	190	0.672	-3.45	282	0.725	-2.79
8	0.996	-0.03	100	0.631	-4.00	192	0.670	-3.48	284	0.735	-2.67
10	0.994	-0.05	102	0.626	-4.07	194	0.668	-3.50	286	0.746	-2.55
12	0.992	-0.07	104	0.621	-4.14	196	0.665	-3.54	288	0.756	-2.43
14	0.989	-0.10	106	0.616	-4.21	198	0.662	-3.58	290	0.767	-2.30
16	0.986	-0.12	108	0.612	-4.26	200	0.659	-3.62	292	0.778	-2.18
18	0.982	-0.16	110	0.609	-4.31	202	0.656	-3.66	294	0.788	-2.07
20	0.978	-0.19	112	0.606	-4.35	204	0.653	-3.70	296	0.799	-1.95
22	0.974	-0.23	114	0.604	-4.38	206	0.649	-3.76	298	0.810	-1.83
24	0.969	-0.27	116	0.603	-4.39	208	0.646	-3.80	300	0.820	-1.72
26	0.963	-0.33	118	0.602	-4.41	210	0.642	-3.85	302	0.831	-1.61
28	0.957	-0.38	120	0.602	-4.41	212	0.638	-3.90	304	0.841	-1.50
30	0.951	-0.44	122	0.602	-4.41	214	0.634	-3.96	306	0.851	-1.40
32	0.945	-0.49	124	0.603	-4.39	216	0.630	-4.01	308	0.861	-1.30
34	0.938	-0.56	126	0.604	-4.38	218	0.627	-4.05	310	0.871	-1.20
36	0.931	-0.62	128	0.606	-4.35	220	0.623	-4.11	312	0.880	-1.11
38	0.923	-0.70	130	0.608	-4.32	222	0.619	-4.17	314	0.889	-1.02
40	0.915	-0.77	132	0.610	-4.29	224	0.616	-4.21	316	0.898	-0.93
42	0.907	-0.85	134	0.613	-4.25	226	0.613	-4.25	318	0.907	-0.85
44	0.898	-0.93	136	0.616	-4.21	228	0.610	-4.29	320	0.915	-0.77
46	0.889	-1.02	138	0.619	-4.17	230	0.608	-4.32	322	0.923	-0.70
48	0.880	-1.11	140	0.623	-4.11	232	0.606	-4.35	324	0.931	-0.62
50	0.871	-1.20	142	0.627	-4.05	234	0.604	-4.38	326	0.938	-0.56
52	0.861	-1.30	144	0.630	-4.01	236	0.603	-4.39	328	0.945	-0.49
54	0.851	-1.40	146	0.634	-3.96	238	0.602	-4.41	330	0.951	-0.44
56	0.841	-1.50	148	0.638	-3.90	240	0.602	-4.41	332	0.957	-0.38
58	0.831	-1.61	150	0.642	-3.85	242	0.602	-4.41	334	0.963	-0.33
60	0.820	-1.72	152	0.646	-3.80	244	0.603	-4.39	336	0.969	-0.27
62	0.810	-1.83	154	0.649	-3.76	246	0.604	-4.38	338	0.974	-0.23
64	0.799	-1.95	156	0.653	-3.70	248	0.606	-4.35	340	0.978	-0.19
66	0.788	-2.07	158	0.656	-3.66	250	0.609	-4.31	342	0.982	-0.16
68	0.778	-2.18	160	0.659	-3.62	252	0.612	-4.26	344	0.986	-0.12
70	0.767	-2.30	162	0.662	-3.58	254	0.616	-4.21	346	0.989	-0.10
72	0.756	-2.43	164	0.665	-3.54	256	0.621	-4.14	348	0.992	-0.07
74	0.746	-2.55	166	0.668	-3.50	258	0.626	-4.07	350	0.994	-0.05
76	0.735	-2.67	168	0.670	-3.48	260	0.631	-4.00	352	0.996	-0.03
78	0.725	-2.79	170	0.672	-3.45	262	0.638	-3.90	354	0.998	-0.02
80	0.715	-2.91	172	0.673	-3.44	264	0.644	-3.82	356	0.999	-0.01
82	0.705	-3.04	174	0.674	-3.43	266	0.652	-3.72	358	1.000	0.00
84	0.695	-3.16	176	0.675	-3.41	268	0.660	-3.61	360	1.000	0.00
86	0.686	-3.27	178	0.676	-3.40	270	0.668	-3.50			
88	0.677	-3.39	180	0.676	-3.40	272	0.677	-3.39			
90	0.668	-3.50	182	0.676	-3.40	274	0.686	-3.27			



ELEVATION PATTERN

TYPE:	ALP16L2	
Directivity:	Numeric	dBd
Main Lobe:	16.59	(12.20)
Horizontal:	15.13	(11.80)
Beam Tilt:	-0.50 Degrees	
Polarization:	Horizontal	
Channel:		
Location:		

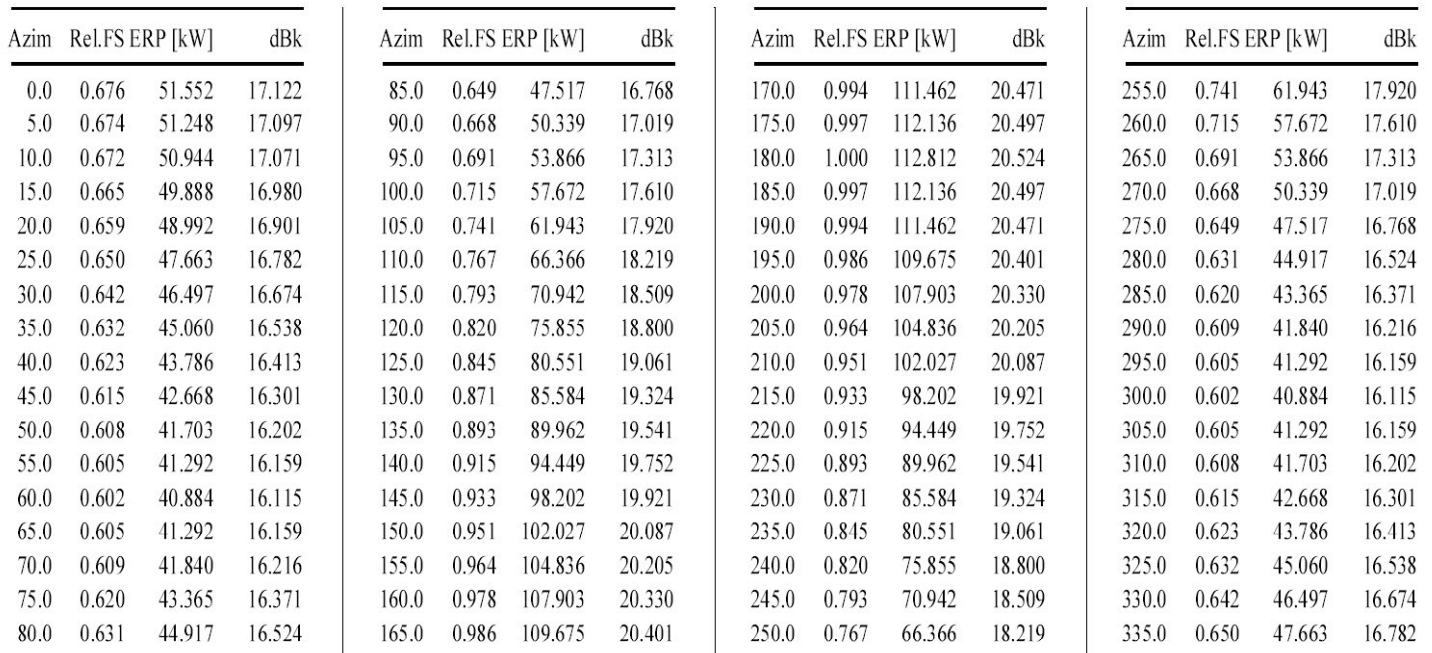


TABULATED DATA FOR ELEVATION PATTERN**TYPE: ALP16L2****-5 to 10 degrees in 0.25 increments****10 to 90 degrees in 0.50 increments**

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
5.00	0.025	-32.10	-6.75	0.134	-17.43	-27.00	0.049	-26.19	-50.50	0.031	-30.23	-74.00	0.119	-18.50
4.75	0.088	-21.12	-7.00	0.177	-15.05	-27.50	0.055	-25.23	-51.00	0.024	-32.33	-74.50	0.126	-17.98
4.50	0.157	-16.11	-7.25	0.207	-13.68	-28.00	0.052	-25.72	-51.50	0.015	-36.72	-75.00	0.132	-17.58
4.25	0.219	-13.19	-7.50	0.224	-12.99	-28.50	0.041	-27.82	-52.00	0.003	-49.97	-75.50	0.137	-17.28
4.00	0.271	-11.33	-7.75	0.228	-12.83	-29.00	0.025	-31.94	-52.50	0.009	-41.18	-76.00	0.140	-17.08
3.75	0.310	-10.18	-8.00	0.220	-13.14	-29.50	0.010	-39.92	-53.00	0.020	-34.08	-76.50	0.142	-16.97
3.50	0.332	-9.57	-8.25	0.202	-13.87	-30.00	0.002	-52.17	-53.50	0.029	-30.82	-77.00	0.142	-16.94
3.25	0.337	-9.44	-8.50	0.178	-14.98	-30.50	0.008	-42.21	-54.00	0.035	-29.15	-77.50	0.142	-16.98
3.00	0.326	-9.74	-8.75	0.154	-16.25	-31.00	0.008	-42.34	-54.50	0.038	-28.52	-78.00	0.140	-17.09
2.75	0.302	-10.41	-9.00	0.138	-17.20	-31.50	0.003	-50.10	-55.00	0.037	-28.70	-78.50	0.137	-17.27
2.50	0.273	-11.27	-9.25	0.140	-17.10	-32.00	0.003	-49.97	-55.50	0.033	-29.59	-79.00	0.133	-17.51
2.25	0.256	-11.83	-9.50	0.160	-15.94	-32.50	0.009	-41.40	-56.00	0.028	-30.98	-79.50	0.129	-17.80
2.00	0.271	-11.34	-9.75	0.190	-14.40	-33.00	0.012	-38.59	-56.50	0.025	-32.11	-80.00	0.124	-18.14
1.75	0.326	-9.73	-10.00	0.224	-12.98	-33.50	0.017	-35.59	-57.00	0.026	-31.62	-80.50	0.118	-18.54
1.50	0.412	-7.70	-10.50	0.281	-11.04	-34.00	0.029	-30.66	-57.50	0.033	-29.74	-81.00	0.112	-18.99
1.25	0.514	-5.77	-11.00	0.306	-10.30	-34.50	0.050	-26.04	-58.00	0.041	-27.75	-81.50	0.106	-19.49
1.00	0.622	-4.13	-11.50	0.295	-10.62	-35.00	0.075	-22.49	-58.50	0.049	-26.23	-82.00	0.100	-20.03
0.75	0.726	-2.79	-12.00	0.253	-11.95	-35.50	0.101	-19.93	-59.00	0.055	-25.24	-82.50	0.093	-20.63
0.50	0.819	-1.73	-12.50	0.192	-14.34	-36.00	0.123	-18.20	-59.50	0.058	-24.78	-83.00	0.086	-21.28
0.25	0.897	-0.94	-13.00	0.126	-17.97	-36.50	0.138	-17.20	-60.00	0.057	-24.83	-83.50	0.080	-21.98
0.00	0.955	-0.40	-13.50	0.069	-23.17	-37.00	0.144	-16.86	-60.50	0.054	-25.43	-84.00	0.073	-22.74
-0.25	0.990	-0.09	-14.00	0.030	-30.31	-37.50	0.138	-17.19	-61.00	0.046	-26.67	-84.50	0.066	-23.56
-0.50	1.000	0.00	-14.50	0.013	-37.71	-38.00	0.123	-18.23	-61.50	0.036	-28.78	-85.00	0.060	-24.46
-0.75	0.985	-0.13	-15.00	0.005	-45.54	-38.50	0.099	-20.07	-62.00	0.024	-32.34	-85.50	0.053	-25.45
-1.00	0.945	-0.49	-15.50	0.006	-44.33	-39.00	0.073	-22.79	-62.50	0.011	-39.29	-86.00	0.047	-26.54
-1.25	0.882	-1.09	-16.00	0.018	-34.66	-39.50	0.050	-25.96	-63.00	0.007	-42.85	-86.50	0.041	-27.77
-1.50	0.800	-1.93	-16.50	0.025	-31.95	-40.00	0.044	-27.05	-63.50	0.021	-33.69	-87.00	0.035	-29.17
-1.75	0.703	-3.06	-17.00	0.022	-33.32	-40.50	0.054	-25.30	-64.00	0.035	-29.23	-87.50	0.029	-30.81
-2.00	0.595	-4.50	-17.50	0.007	-43.15	-41.00	0.066	-23.63	-64.50	0.047	-26.52	-88.00	0.023	-32.79
-2.25	0.485	-6.29	-18.00	0.018	-34.88	-41.50	0.071	-22.96	-65.00	0.058	-24.75	-88.50	0.017	-35.33
-2.50	0.379	-8.42	-18.50	0.044	-27.15	-42.00	0.068	-23.33	-65.50	0.066	-23.58	-89.00	0.011	-38.88
-2.75	0.291	-10.72	-19.00	0.065	-23.77	-42.50	0.057	-24.85	-66.00	0.072	-22.86	-89.50	0.006	-44.91
-3.00	0.237	-12.52	-19.50	0.074	-22.57	-43.00	0.040	-27.90	-66.50	0.075	-22.50	-90.00	0.000	-99.99
-3.25	0.228	-12.82	-20.00	0.071	-23.02	-43.50	0.020	-34.00	-67.00	0.075	-22.46			
-3.50	0.254	-11.89	-20.50	0.061	-24.27	-44.00	0.005	-46.47	-67.50	0.073	-22.69			
-3.75	0.291	-10.74	-21.00	0.071	-22.98	-44.50	0.021	-33.39	-68.00	0.069	-23.16			
-4.00	0.320	-9.89	-21.50	0.109	-19.22	-45.00	0.036	-28.84	-68.50	0.064	-23.81			
-4.25	0.336	-9.47	-22.00	0.158	-16.03	-45.50	0.045	-26.87	-69.00	0.059	-24.54			
-4.50	0.335	-9.49	-22.50	0.201	-13.93	-46.00	0.048	-26.29	-69.50	0.055	-25.14			
-4.75	0.317	-9.98	-23.00	0.230	-12.78	-46.50	0.046	-26.74	-70.00	0.054	-25.34			
-5.00	0.283	-10.96	-23.50	0.238	-12.47	-47.00	0.039	-28.08	-70.50	0.056	-24.98			
-5.25	0.236	-12.54	-24.00	0.225	-12.96	-47.50	0.031	-30.07	-71.00	0.062	-24.13			
-5.50	0.179	-14.96	-24.50	0.193	-14.28	-48.00	0.026	-31.86	-71.50	0.071	-23.03			
-5.75	0.115	-18.78	-25.00	0.149	-16.52	-48.50	0.025	-31.90	-72.00	0.080	-21.90			
-6.00	0.051	-25.93	-25.50	0.102	-19.86	-49.00	0.029	-30.66	-72.50	0.091	-20.84			
-6.25	0.027	-31.25	-26.00	0.061	-24.26	-49.50	0.033	-29.64	-73.00	0.101	-19.92			
-6.50	0.082	-21.68	-26.50	0.044	-27.21	-50.00	0.034	-29.43	-73.50	0.110	-19.14			



Exhibit 42 - Page 6



Note - Includes Rotation to 180 Degrees true north.