

# **APPENDIX A**

TABULATION OF DISTANCES TO PROPOSED GROUNDWAVE CONTOURS  
WTJZ - NEWPORT NEWS, VIRGINIA  
1270 kHz - 15.0 kW D/1.8 kW N, U, DA-2

AZ (deg T)	Dist. to 1000 mV/m (km)	Dist. to 25 mV/m (km)	Dist. to 5 mV/m (km)	Dist. to 2 mV/m (km)	Dist. to 0.5 mV/m (km)	Dist. to 0.25 mV/m (km)	Dist. to 0.025 mV/m (km)
0	0.50	14.20	41.76	48.55	73.54	91.65	302.84
5	0.40	12.37	38.01	44.25	101.30	157.92	299.85
10	0.30	6.16	26.42	38.95	101.57	147.46	230.30
15	0.20	4.82	12.22	43.57	147.52	157.01	229.54
20	0.20	4.02	10.63	49.89	135.80	144.17	203.89
25	0.20	5.15	20.08	81.61	119.93	129.87	195.35
30	0.30	6.96	48.86	120.15	135.70	148.12	243.65
35	0.40	8.64	69.27	76.39	97.06	111.74	209.81
40	0.60	10.12	66.31	74.43	95.59	112.23	473.05
45	0.70	12.77	54.74	63.78	93.72	181.02	>500.00
50	1.00	19.96	51.51	64.49	258.51	379.94	>500.00
55	1.20	26.28	49.23	162.38	393.05	>500.00	>500.00
60	1.30	38.43	93.46	228.92	461.74	>500.00	>500.00
65	1.40	38.66	138.41	276.34	>500.00	>500.00	>500.00
70	1.50	38.97	175.20	314.98	>500.00	>500.00	>500.00
75	1.60	39.39	205.05	346.19	>500.00	>500.00	>500.00
80	1.80	73.22	250.86	392.94	>500.00	>500.00	>500.00
85	1.90	75.47	255.46	398.16	>500.00	>500.00	>500.00
90	1.90	76.69	257.90	400.91	>500.00	>500.00	>500.00
95	1.90	76.86	258.25	401.30	>500.00	>500.00	>500.00
100	1.90	76.05	256.62	399.46	>500.00	>500.00	>500.00
105	1.30	27.85	161.89	304.27	>500.00	>500.00	>500.00
110	1.30	27.34	156.64	298.31	>500.00	>500.00	>500.00
115	1.30	26.68	149.78	290.48	>500.00	>500.00	>500.00
120	1.40	23.02	77.68	217.14	452.58	>500.00	>500.00
125	1.30	22.23	42.90	168.29	402.72	>500.00	>500.00
130	1.20	21.35	41.83	109.27	342.48	465.38	>500.00
135	1.10	20.41	40.69	62.94	294.72	417.24	>500.00
140	1.10	18.97	33.57	47.40	226.47	348.52	>500.00
145	0.80	17.15	26.74	39.96	64.55	87.46	459.02
150	0.70	16.18	25.49	38.09	61.50	83.46	438.66
155	0.70	11.35	24.25	36.25	66.69	79.50	380.11
160	0.60	10.69	31.65	34.47	63.41	75.58	304.08
165	0.60	10.06	30.07	32.77	60.27	71.79	298.93
170	0.60	17.17	30.84	35.00	42.22	57.99	278.36
175	0.50	16.00	29.42	34.50	40.26	55.35	238.66
180	0.50	15.03	28.21	34.00	38.62	53.13	232.68
185	0.50	14.29	27.27	33.50	37.36	51.41	199.79
190	0.50	13.80	20.47	30.79	50.00	67.80	179.76
195	0.50	13.56	20.24	30.47	49.48	67.10	175.40
200	0.50	13.59	20.27	30.51	49.54	67.18	173.99

AZ (deg T)	Dist. to 1000 mV/m (km)	Dist. to 25 mV/m (km)	Dist. to 5 mV/m (km)	Dist. to 2 mV/m (km)	Dist. to 0.5 mV/m (km)	Dist. to 0.25 mV/m (km)	Dist. to 0.025 mV/m (km)
205	0.50	13.88	20.54	30.90	50.18	68.04	157.22
210	0.50	9.19	30.97	38.26	51.35	69.62	>500.00
215	0.50	9.57	32.04	39.43	52.96	71.77	168.72
220	0.60	10.04	33.32	40.84	54.92	74.39	173.23
225	0.60	10.54	28.43	42.38	57.08	77.33	178.12
230	0.60	8.47	27.07	32.23	51.85	70.60	171.86
235	0.70	8.83	22.31	33.38	53.75	73.14	176.51
240	0.70	9.16	19.70	24.64	46.79	64.15	165.51
245	0.80	9.43	20.20	25.29	48.01	65.78	168.88
250	0.80	11.23	24.02	34.53	57.68	75.76	108.11
255	0.90	11.37	24.28	34.82	58.22	76.47	181.55
260	0.90	11.40	24.33	34.88	58.34	76.63	181.87
265	0.80	11.32	24.19	34.72	58.03	76.22	181.03
270	0.80	11.13	23.83	34.32	57.28	75.22	179.02
275	0.80	10.83	33.44	42.05	64.47	82.04	184.22
280	0.70	10.43	32.73	41.07	62.79	79.83	179.89
285	0.70	9.98	31.85	39.87	60.77	77.20	174.71
290	0.60	9.50	20.87	35.26	55.77	71.58	166.31
295	0.60	9.06	20.05	33.86	73.88	89.11	181.22
300	0.50	8.73	19.06	31.30	56.35	71.16	161.29
305	0.40	8.59	19.22	20.48	39.61	54.22	143.44
310	0.40	8.63	19.29	20.56	39.05	53.71	143.18
315	0.50	8.81	19.62	20.92	39.73	54.63	145.24
320	0.50	9.06	20.08	21.41	40.67	55.90	148.02
325	0.60	9.31	18.34	25.91	79.06	94.62	188.20
330	0.60	9.50	18.68	31.47	51.51	67.32	162.04
335	0.60	9.60	19.15	32.09	52.31	68.25	173.39
340	0.60	9.60	19.71	32.85	53.07	69.00	204.03
345	0.70	17.16	35.19	42.87	62.85	91.73	213.35
350	0.60	16.54	34.83	46.19	69.63	89.53	212.33
355	0.60	15.57	43.96	51.16	76.39	95.52	224.16

## **APPENDIX B**

TABULATION OF MEASURED CONDUCTIVITY DATA  
WTJZ - NEWPORT NEWS, VIRGINIA  
1270 kHz - 15.0 kW D/1.8 kW N, U, DA-N

Source/File #	AZ	$\sigma$ (mS/m)	Terminate (km)
BL-20011130AGD	36	1.5	1.0
		4.0	8.6
BL-20011130AGD	90	1.5	1.1
		6.0	5.6
		40.0	25.8
BL-20011130AGD	112	2.0	1.5
		5.0	13.0
		10.0	37.5
BL-20011130AGD	125	3.0	4.0
		8.0	35.4
Oct. 2003 Meas.	155	1.5	1.0
		4.0	12.0
		7.0	32.0
		4.0	70.0
		3.0	102.0
BL-20011130AGD	175	3.0	5.6
		15.0	24.0
Oct. 2003 Meas.		8.0	34.0
		2.0	66.0
		5.0	80.0
Oct. 2003 Meas.	195	4.0	3.4
		15.0	20.0
		10.0	24.0
		5.0	40.0
		4.0	81.0
Oct. 2003 Meas.	215	5.0	14.0
		10.0	34.0
		7.0	44.0
		4.0	110.0
Oct. 2003 Meas.	235	3.0	14.0
		6.0	28.0
		4.0	50.0
		3.0	108.0
BL-20011130AGD	238.5	3.0	21.0
		2.0	33.2

Source/File #	AZ	$\sigma$ (mS/m)	Terminate (km)
BL-20011130AGD	260	4.0	12.0
		8.0	27.0
		4.0	30.3
BL-20011130AGD	314	1.5	1.0
		10.0	6.0
		4.0	23.0
		2.0	32.0
BL-20011130AGD	355	8.0	5.0
		15.0	18.0
		20.0	30.1

## **APPENDIX C**

FIELD STRENGTH MEASUREMENT DATA  
WTJZ - NEWPORT NEWS, VIRGINIA  
1270 kHz - 1.5 kW D/0.9 kW N, U, DA-N

155 DEGREES TRUE RADIAL

1.5 kW, ND

Point Number	Distance (km)	Date	Time (local)	Field Strength (mV/m)
1	0.64	10/7/2003	1040	370
2	1.61	10/7/2003	1048	168
3	2.57	10/7/2003	1057	90
4	10.65	10/8/2003	1035	11.5
5	14.08	10/7/2003	1400	11.2
6	15.26	10/8/2003	1050	9.6
7	16.66	10/7/2003	1526	7.4
8	17.70	10/7/2003	1518	6.8
9	19.44	10/8/2003	1100	6.3
10	20.36	10/8/2003	1120	4.5
11	22.13	10/8/2003	1135	5.4
12	24.04	10/8/2003	1150	3.25
13	25.75	10/8/2003	1215	3.02
14	28.40	10/8/2003	1230	2.1
15	30.58	10/8/2003	1310	1.55
16	32.03	10/8/2003	1320	1.2
17	33.80	10/8/2003	1335	0.99
18	37.63	10/8/2003	1348	0.71
19	41.78	10/8/2003	1403	0.38
20	46.46	10/8/2003	1412	0.5
21	50.53	10/8/2003	1422	0.38
22	55.36	10/8/2003	1435	0.3
23	58.26	10/8/2003	1446	0.24
24	60.70	10/8/2003	1454	0.26
25	66.14	10/8/2003	1600	0.25
26	70.60	10/8/2003	1550	0.185
27	75.85	10/8/2003	1612	0.11
28	79.02	10/8/2003	1620	0.07
29	101.55	10/8/2003	1648	0.052

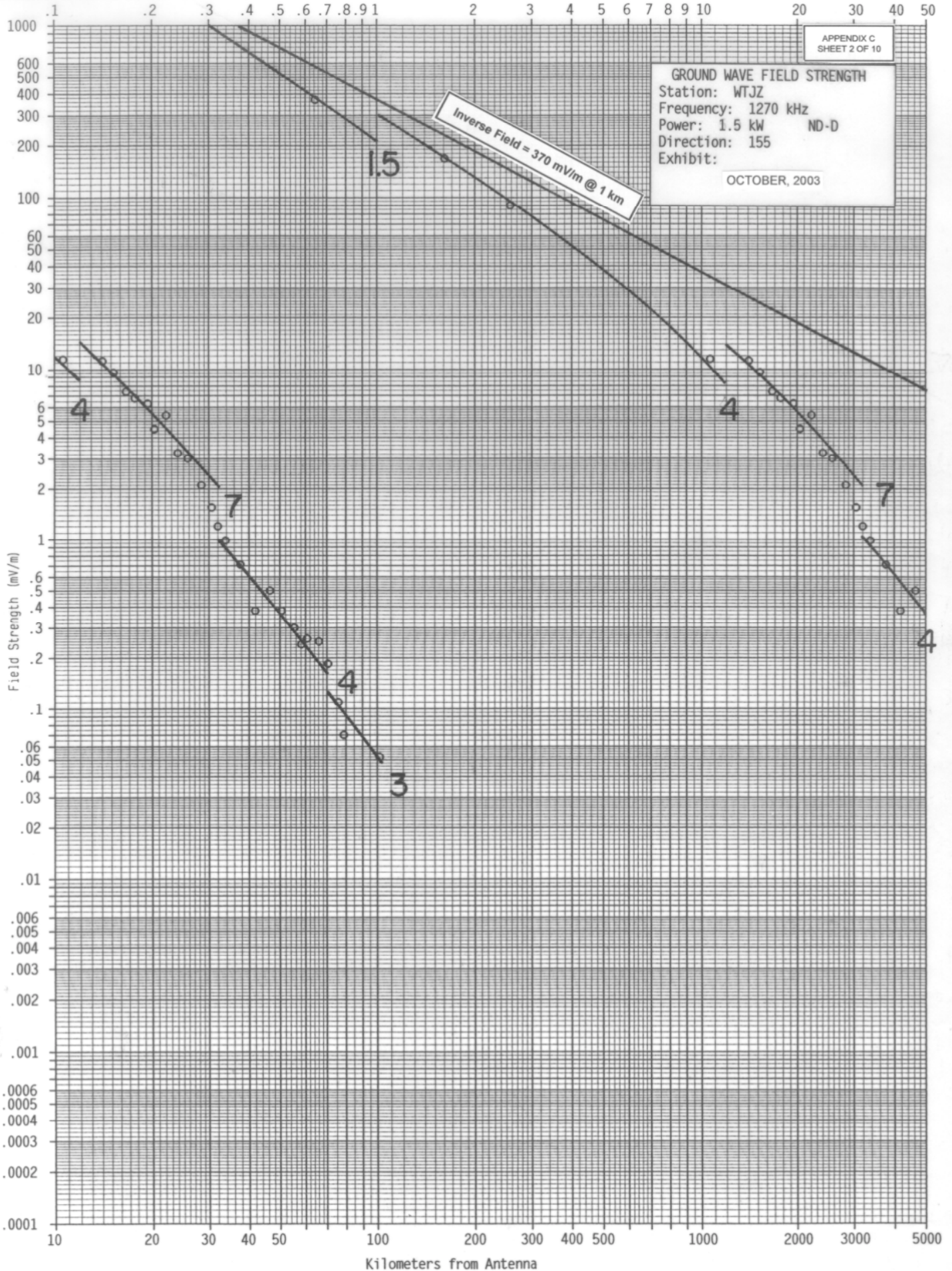


GROUND WAVE FIELD STRENGTH

Station: WTJZ  
Frequency: 1270 kHz  
Power: 1.5 kW ND-D  
Direction: 155  
Exhibit:

OCTOBER, 2003

Inverse Field = 370 mV/m @ 1 km



FIELD STRENGTH MEASUREMENT DATA  
WTJZ - NEWPORT NEWS, VIRGINIA  
1270 kHz - 1.5 kW D/0.9 kW N, U, DA-N

175 DEGREES TRUE RADIAL

1.5 kW, ND

Point Number	Distance (km)	Date	Time (local)	Field Strength (mV/m)
1	0.80	10/7/2003	1115	430
2	1.83	10/7/2003	1122	104.8
3	2.59	10/7/2003	1132	94
4	3.22	10/7/2003	1138	82
5	18.70	10/9/2003	929	15
6	21.08	10/9/2003	915	5.4
7	22.85	10/9/2003	1107	5.2
8	24.22	10/9/2003	1115	4.6
9	26.01	10/9/2003	1130	4.1
10	28.08	10/9/2003	1143	3.4
11	30.69	10/9/2003	1217	2.1
12	32.19	10/9/2003	1229	1.48
13	35.76	10/9/2003	1240	1.18
14	28.08	10/9/2003	1254	1.1
15	30.69	10/9/2003	1306	0.62
16	32.19	10/9/2003	1315	0.4
17	35.76	10/9/2003	1346	0.31
18	38.19	10/9/2003	1355	0.27
19	45.32	10/9/2003	1401	0.34
20	48.44	10/9/2003	1417	0.19
21	60.77	10/9/2003	1555	0.12
22	65.21	10/9/2003	1548	0.12
23	66.16	10/9/2003	1542	0.18
24	68.27	10/9/2003	1533	0.19
25	73.90	10/9/2003	1503	0.15
26	76.78	10/9/2003	1455	0.21
27	78.71	10/9/2003	1446	0.17



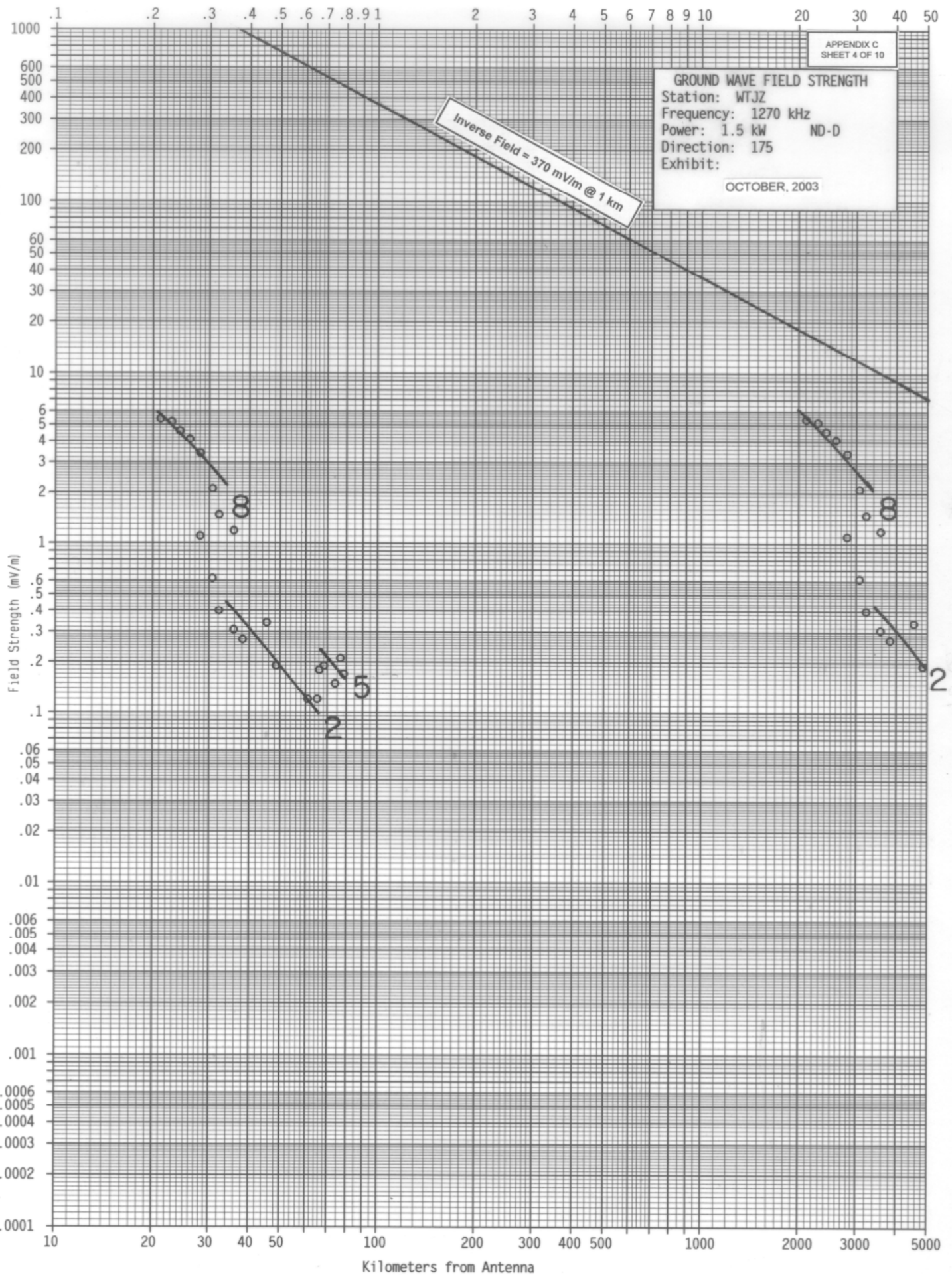
Kilometers from Antenna

APPENDIX C  
SHEET 4 OF 10

GROUND WAVE FIELD STRENGTH  
Station: WTJZ  
Frequency: 1270 kHz  
Power: 1.5 kW ND-D  
Direction: 175  
Exhibit:

OCTOBER, 2003

Inverse Field = 370 mV/m @ 1 km



FIELD STRENGTH MEASUREMENT DATA  
WTJZ - NEWPORT NEWS, VIRGINIA  
1270 kHz - 1.5 kW D/0.9 kW N, U, DA-N

195 DEGREES TRUE RADIAL

1.5 kW, ND

Point Number	Distance (km)	Date	Time (local)	Field Strength (mV/m)
1	1.69	10/10/2003	1638	155
2	3.35	10/11/2003	1001	65
3	3.62	10/10/2003	1630	81
4	3.83	10/10/2003	1628	72
5	15.42	10/10/2003	1419	16.5
6	16.82	10/10/2003	1425	14
7	19.07	10/10/2003	1409	9.4
8	21.07	10/10/2003	1350	5.4
9	22.37	10/10/2003	1335	5.6
10	24.14	10/10/2003	1315	2.35
11	25.85	10/10/2003	1306	2.3
12	27.41	10/10/2003	1253	1.65
13	29.45	10/10/2003	1235	2.1
14	64.78	10/9/2003	1632	0.15
15	65.85	10/9/2003	1625	0.16
16	67.72	10/10/2003	1050	0.19
17	72.31	10/10/2003	1036	0.14
18	76.27	10/10/2003	1018	0.13
19	78.86	10/10/2003	1008	0.14
20	80.47	10/10/2003	958	0.165



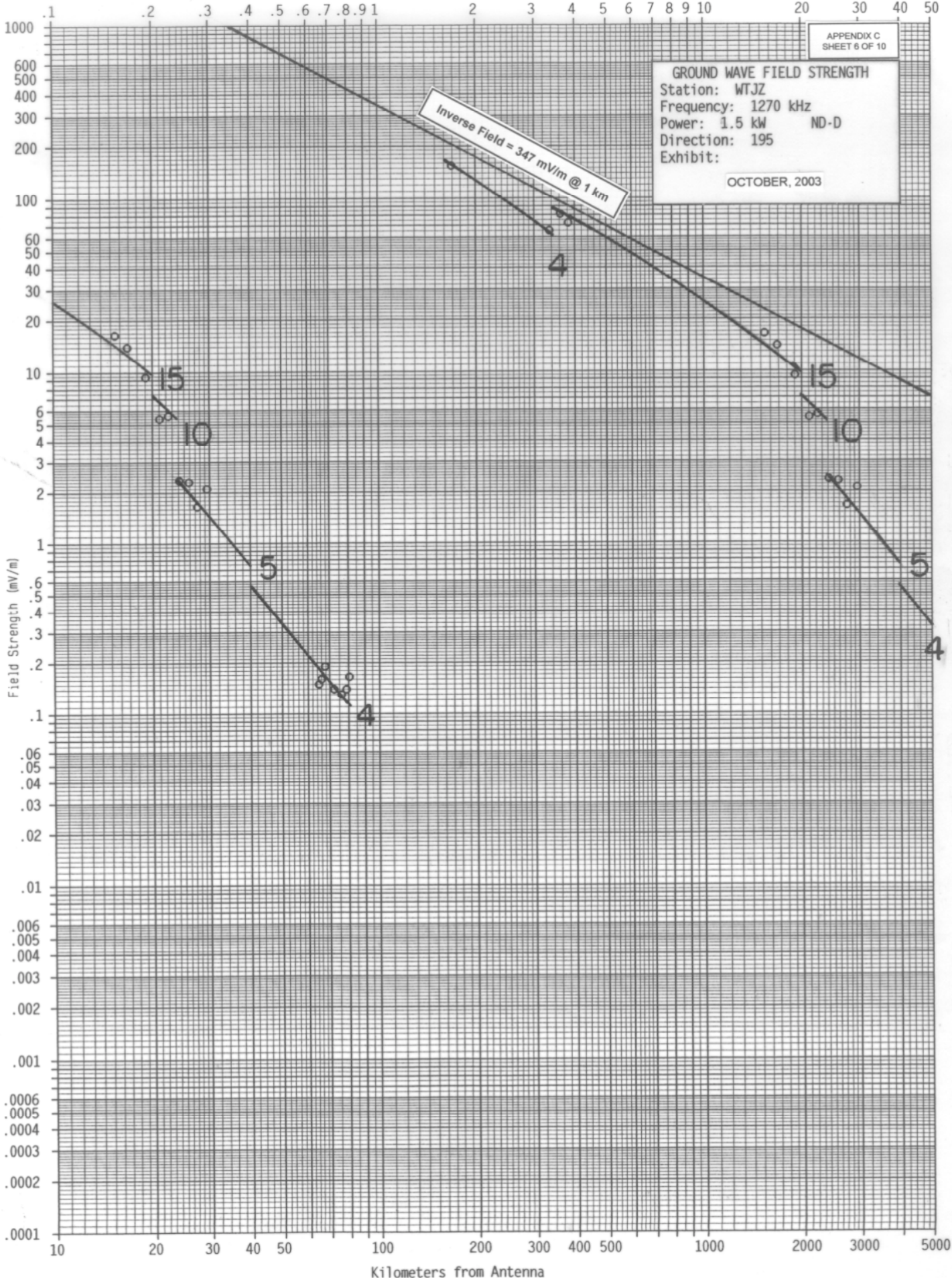
Kilometers from Antenna

APPENDIX C  
SHEET 6 OF 10

GROUND WAVE FIELD STRENGTH  
Station: WTJZ  
Frequency: 1270 kHz  
Power: 1.5 kW ND-D  
Direction: 195  
Exhibit:

OCTOBER, 2003

Inverse Field = 347 mV/m @ 1 km



FIELD STRENGTH MEASUREMENT DATA  
WTJZ - NEWPORT NEWS, VIRGINIA  
1270 kHz - 1.5 kW D/0.9 kW N, U, DA-N

215 DEGREES TRUE RADIAL

1.5 kW, ND

Point Number	Distance (km)	Date	Time (local)	Field Strength (mV/m)
1	0.29	10/10/2003	1556	740
2	0.64	10/10/2003	1600	500
3	0.77	10/10/2003	1543	440
4	1.05	10/10/2003	1610	400
5	1.29	10/11/2003	1050	230
6	1.90	10/11/2003	1104	70
7	2.57	10/11/2003	1110	76
8	2.82	10/11/2003	1118	90
9	3.27	10/11/2003	1126	70
10	4.39	10/11/2003	1216	38
11	4.89	10/10/2003	1507	51
12	6.41	10/10/2003	1458	28
13	7.40	10/11/2003	1230	18.1
14	7.76	10/10/2003	1440	28
15	25.96	10/11/2003	1358	5
16	27.36	10/11/2003	1351	4.4
17	30.48	10/11/2003	1423	3.3
18	31.06	10/11/2003	1430	3.1
19	31.38	10/11/2003	1434	3.2
20	33.59	10/11/2003	1458	2.7
21	36.61	10/11/2003	1520	1.35
22	38.70	10/11/2003	1537	1.29
23	42.33	10/11/2003	1613	0.98
24	46.03	10/11/2003	1623	0.49
25	51.18	10/12/2003	910	0.3
26	56.17	10/12/2003	915	0.38
27	63.09	10/12/2003	1045	0.115
28	67.59	10/12/2003	1047	0.155
29	71.29	10/12/2003	1112	0.15
30	75.00	10/12/2003	1120	0.168
31	78.86	10/12/2003	1128	0.158
32	88.51	10/12/2003	1140	0.08
33	96.56	10/12/2003	1211	0.06
34	103.48	10/12/2003	1259	0.07
35	109.44	10/12/2003	1310	0.055



Kilometers from Antenna

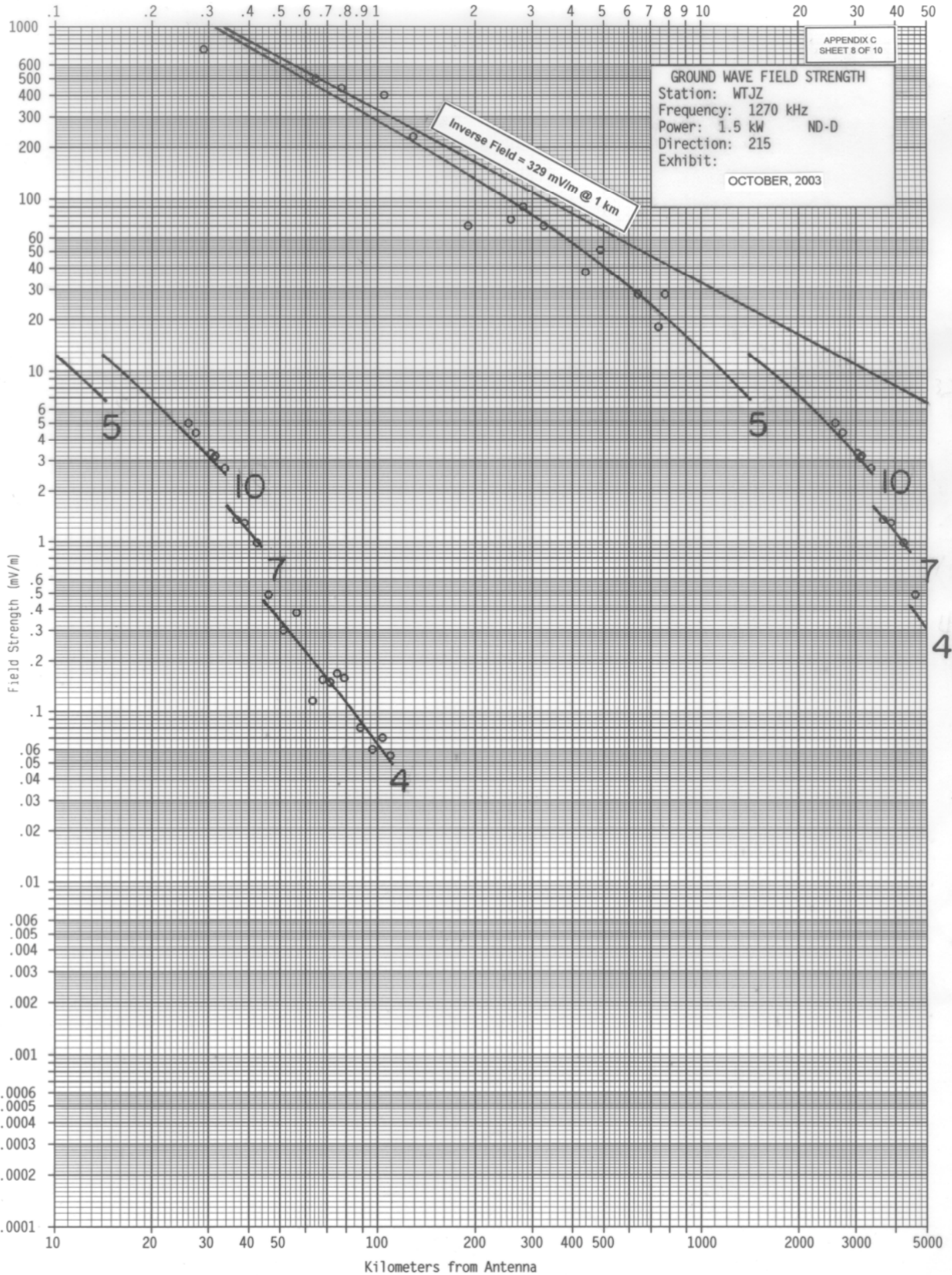
APPENDIX C  
SHEET 8 OF 10

GROUND WAVE FIELD STRENGTH

Station: WTJZ  
Frequency: 1270 kHz  
Power: 1.5 kW ND-D  
Direction: 215  
Exhibit:

OCTOBER, 2003

Inverse Field = 329 mV/m @ 1 km



FIELD STRENGTH MEASUREMENT DATA  
WTJZ - NEWPORT NEWS, VIRGINIA  
1270 kHz - 1.5 kW D/0.9 kW N, U, DA-N

235 DEGREES TRUE RADIAL

1.5 kW, ND

Point Number	Distance (km)	Date	Time (local)	Field Strength (mV/m)
1	0.69	10/11/2003	1016	410
2	3.22	10/11/2003	1153	47
3	3.96	10/11/2003	1145	37
4	4.99	10/11/2003	1248	35
5	5.86	10/11/2003	1254	25
6	6.89	10/11/2003	1259	16.5
7	7.64	10/11/2003	1311	14.4
8	16.25	10/13/2003	1223	9
9	16.70	10/13/2003	1217	6.8
10	17.94	10/13/2003	1212	4.4
11	19.63	10/13/2003	1204	3.6
12	21.52	10/13/2003	1154	3.7
13	24.43	10/13/2003	1132	2.05
14	26.02	10/13/2003	1126	2.35
15	31.01	10/13/2003	1107	0.81
16	32.28	10/13/2003	1054	0.7
17	34.17	10/13/2003	1040	0.8
18	36.36	10/13/2003	1034	0.58
19	39.11	10/13/2003	1027	0.45
20	44.26	10/13/2003	1011	0.59
21	47.96	10/13/2003	1004	0.38
22	52.46	10/13/2003	949	0.215
23	56.33	10/13/2003	939	0.21
24	59.06	10/13/2003	932	0.165
25	64.37	10/13/2003	916	0.1
26	67.91	10/13/2003	910	0.16
27	75.64	10/12/2003	1634	0.086
28	78.86	10/12/2003	1622	0.068
29	82.08	10/12/2003	1457	0.078
30	85.30	10/12/2003	1449	0.095
31	88.03	10/12/2003	1439	0.065
32	90.93	10/12/2003	1432	0.08
33	99.78	10/12/2003	1420	0.05
34	103.80	10/12/2003	1410	0.05
35	107.83	10/12/2003	1403	0.055



GROUND WAVE FIELD STRENGTH  
Station: WTJZ  
Frequency: 1270 kHz  
Power: 1.5 kW ND-D  
Direction: 235  
Exhibit:

OCTOBER, 2003

Inverse Field = 328 mV/m @ 1 km

