TECHNICAL EXHIBIT
PROOF-OF-PERFORMANCE
JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA

March 18, 1991

790 KHZ 25 KW-U DA-2

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Technical Narrative

The technical exhibit of which this narrative is part was prepared on behalf of Jefferson-Pilot Communications Company, licensee of AM broadcast station WMRZ, South Miami, Florida. It consists of a proof-of-performance with WMRZ operating with increased power of 25 kilowatts both daytime and nighttime, as permitted under Special Temporary Authority (STA) (Ref. 8910-JBS, May 17, 1990 and 8900-LDE, December 23, 1981). Per the STA, the adjusted night pattern complies with that submitted on April 19, 1990, and the day pattern complies with that submitted in December 1981.

Antenna Sampling System

The antenna monitor employed is a Potomac Instruments AM-19D(210). The sampling devices for the towers are Delta Electronics, type TCT-1 shielded torodial transformers. The TCT-1 transformers have a sensitivity of 0.5 volt per ampere of RF current.

The sampling line coaxial cables are 9.5 millimeters in outside diameter, are constructed of a copper-clad aluminum conductor, low-loss polyethylene foam dielectric, solid copper corrugated outer conductor, and a

protective black polyethylene jacket. Connectors employed are the type recommended by the manufacturer. The outdoor portions of the sampling lines are buried. The sampling lines are of equal length.

Ground System

The ground system is in accordance with the details outlined in the STA (8910-JBS). About the base of the towers there are 120 evenly spaced buried #10 AWG copper wire radials, each 310 feet (94.5 meters) long, except where shortened between the towers.

System Adjustment

The directional antenna pattern was initially adjusted to calculated parameters, then minor adjustments were made based on field strength measurement data. All adjustments were made by or under the direction of Ronald D. Rackley.

Field Strength Measurements

Field strength measurements were made along sufficient radials so as to define the shape of the specified directional antenna radiation pattern and to meet the requirements of the STA. Nondirectional measurements were made with a power level of 6250 watts employing the number 2 tower, with the other towers floated.

Measurements were made out to distances of approximately 37 to 40 kilometers on each of the sixteen radials at intervals conforming as closely to the recommendations of the FCC rules and regulations as physical conditions permitted. Due to access restrictions, most of the measurements were made from a helicopter. Directional pattern measurements were omitted at points close to the antenna where proper formation of the directional patterns would not be expected. In all cases, field strength measurements were made with the meter oriented toward the transmitter site.

A tabulation of meter readings for the measured pattern is included herein as Figure 1, while Figure 2 is a summary of the measured field strength data. A tabulation of the measured field strength data is included herein as Figure 3 and graphs of measured field strength data are included as Figure 4. The field strength measurement locations are shown on a series of maps included as Figure 5. Field strength measurements were made by Timothy Z. Sawyer.

The following field strength meters were used in conducting the proof-of-performance:

Meter Type	Serial Number	Date of Last Calibration
FIM-41	1113	December 17, 1982
FIM-41	208	August 8, 1990

Readings with the two meters were compared prior to the field strength measurement program and they were found to be in agreement.

Helicopter Field Strength Methodology

The helicopter field strength measurements shown herein were made utilizing the Potomac Instruments type FIM-41, serial number 1113, field strength meter which was factory modified for use with the external loop antenna employed. The field strength measurements were recorded on a Soltec Model 6723 chart recorder, serial number A21143, which was most recently calibrated in December of 1982. A Bell Jet Ranger II jet-powered helicopter was employed for the measurements. The altitude above ground during the measurements was maintained between 61-91 meters (200 to 300 feet). The externally mounted field strength meter loop antenna was supported a distance of approximately 1.2 meters (4 feet) in front of the fiberglass nose of the helicopter on a rectangular wooden pole stabilized by nylon rope. The detached loop antenna was connected to the field strength meter with two coaxial cables approximately 4.6 meters (15 feet) in length utilizing BNC connectors as provided for by the manufacturer, Potomac Instruments. The loop mount was adjustable to maintain loop antenna orientation toward the station in order to compensate for the "crab" angle of the aircraft due to crosswind conditions.

Each radial was flown from the end point toward the transmitter site with distances and bearing information being determined by way of a Loran navigation receiver. The Loran receiver was periodically calibrated for zero error while hovering over the WMRZ transmitter site. Spot-checks of the Loran receiver calibration at

intermediate points on the radials revealed excellent agreement with identifiable ground locations.

The accuracy of the helicopter field strength measurement apparatus is obvious from measurements made on the radials where sufficient ground measurements for a meaningful comparison were possible. For instance, the ground and helicopter measurements for nondirectional operation along the 117.9 degree radial, as shown on Sheet 12 of Figure 4, show excellent agreement.

Field Strength Measurement Analysis

Field strength measurements were analyzed in accordance with the "best fit" method outlined in 47 CFR 73.186. Graph 8-A was utilized to determine unattenuated fields and conductivity values. As an aid in analysis of radial field strength measurement data, the ratios of directional to nondirectional fields were averaged for each radial. The radial averages were multiplied by the corresponding radial nondirectional unattenuated fields to determine directional radiation values. Figure 6 is a polar plot of the measured nondirectional horizontal plane radiation pattern. The daytime directional horizontal plane standard radiation pattern is shown as Figure 7, while Figure 8 is the plot of the daytime directional horizontal plane measured radiation pattern. The nighttime directional horizontal plane modified standard radiation pattern is shown as Figure 9, while Figure 10 is the plot of the nighttime directional horizontal plane measured radiation pattern.

Monitor Points

An accessible monitor point has been selected on each of the radials specified in the authorization (18.5, 117.9, 128.0, 143.5, 156.5, 171.0, 218.0, 272.5, 321.5, and 351.2 degrees true). Photographs, descriptions of, and routing to the monitor points are included herein as Figure 11. A map showing the routes from the transmitter site to the monitor points is included herein as Figure 12.

Normally, monitor points are established at locations between one and four miles distant from their respective transmitter site. As can be seen from the measurement maps herein, most of the required monitor point radials do not have ground-accessible measurement locations within this range of distance. Every effort has been made to select the best point on each of these radials to serve as its monitor point, considering the local electromagnetic environment as well as accessibility. Three of the monitor points selected are closer than one mile to the antenna, while six are farther than four miles from it. Given the relatively high effective ground conductivity in the vicinity of the site, as well as the climatological stability of the area, the monitor points shown herein are expected to be good indicators of array performance.

Direct Measurement of Power

For the purpose of the determination of nondirectional power, the impedance of the number 2 (NW)

tower was measured on the tower side of the base current meter with the other towers floated. The common point impedance measurements were made on the phasing equipment side of the common point meter. In order to compensate for the series reactance of the RF contactor between the transmitter output and the common point impedance measurement location so the actual transmitter load may be nonreactive, the common point matching networks were adjusted to provide 5.1 ohms capacitive reactance at the common point for each pattern.

Tabulations and graphs of the measured impedance data are included as Figure 13. A block diagram of the impedance measuring equipment is included herein as Figure 14. The accuracy of the bridge used for impedance measurements was checked with a precision resistor prior to its use and was found to be within the manufacturer's specifications. The frequency of 790 kilohertz was verified by zero-beating the generator to the transmitter's carrier. Frequencies at 5 kilohertz intervals as shown on Figure 13 were determined by employing the calibrated dial of the Potomac Instruments generator. Impedance measurements were made by Ronald D. Rackley.

David E. Dickmann

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March 18, 1991

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Tabulation of Meter Readings

Daytime Directional	Tower 1 (SW)	Tower 2 (NW)	Tower 3 (NE)	Tower 4 (SE)
Theoretical Field Ratio	0.450	1.000	---	---
Theoretical Phase (degrees)	+45.0	0	---	---
Antenna Monitor Ratio	0.460	1.000	---	---
Antenna Monitor Phase (degrees)	+42.0	0	---	---
Base Current (amperes)	10.15	22.5	---	---
Base Current Ratio	0.451	1.000	---	---
Nighttime Directional				
Theoretical Field Ratio	1.000	1.073	0.785	0.808
Theoretical Phase (degrees)	0	-20.9	-158.8	-137.5
Antenna Monitor Ratio	1.000	1.070	0.904	0.983
Antenna Monitor Phase (degrees)	0	-26.8	-152.4	-127.0
Base Current (amperes)	16.40	17.60	15.00	16.25
Base Current Ratio	1.000	1.073	0.915	0.991

Tabulation of Meter Readings
South Miami, Florida

	25 kW DA-Day	25 kW DA-Night
Common Point Resistance (ohms)	50.0	50.0
Common Point Current (amperes)	22.9	22.9
Antenna Input Power (watts)	26,325	26,325

Nondirectional Test Operation

Tower #2 (NW) Base Resistance (ohms)	45.5
Tower #2 (NW) Base Current (amperes)	11.72
Antenna Input Power (watts)	6,250

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Summary of Measured Field Strength Data

Radial (deg. T.)	Unattenuated Field Strength at One Kilometer (mV/m) Measured ND (6.25 kW)	Measured Day-DA (25 kW)	Standard Day-DA (25 kW)	Measured Night-DA (25 kW)	Standard Night-DA (25 kW)
18.5	750	---	---	149	179*/1
45.0	775	1692	1783	2079	2329
73.0	770	2286	2303	3867	4002
100.0	705	1402	1408	2152	2378
117.9	710	866	880*	---	---
128.0	690	---	---	221	265*/1
143.5	750	1359	1444	293	351*
156.5	740	---	---	179	289*
171.0	750	1675	1752*	---	---
190.0	730	---	---	622	790
218.0	700	920	945	168	202*/1
254.0	755	1925	1940	1070	1606
272.5	780	2265	2317*	766	1152
300.0	780	1638	1675	206	339
321.5	800	---	---	89.2	107*/1
351.2	775	863	880*	653	774

*Monitored radial
/1Modified standard field for augmented nighttime pattern submitted with application for modification of special temporary authority.

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Tabulation of Measured Field Strength Data

18.5° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-17-90					12-5-90		
1(MP)	0.52	1406	1500	---	---	---	0933	1418	0.9453
2	0.56	*	1250	---	---	---	---	---	---
3	0.74	*	975	---	---	---	---	---	---
4	0.93	*	715	---	---	---	---	---	---
5	1.11	*	630	---	---	---	---	---	---
6	1.30	*	540	---	---	---	---	---	---
7	1.48	*	500	---	---	---	---	---	---
8	1.67	*	440	---	---	---	---	---	---
9	1.85	*	390	---	---	---	*	157	0.4026
10	2.04	*	360	---	---	---	*	115	0.3194
11	2.22	*	320	---	---	---	*	105	0.3281
12	2.41	*	300	---	---	---	*	100	0.3333
13	2.59	*	275	---	---	---	*	90.0	0.3273
14	2.78	*	262	---	---	---	*	80.0	0.3053
15	2.96	*	245	---	---	---	*	65.0	0.2653

18.5° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
16	3.15	*	221	---	---	---	*	54.5	0.2466
17	3.33	*	205	---	---	---	*	46.0	0.2244
18	3.52	*	198	---	---	---	*	40.0	0.2020
19	3.70	*	188	---	---	---	*	35.5	0.1888
20	4.63	*	148	---	---	---	*	33.5	0.2264
21	5.56	*	125	---	---	---	*	31.0	0.2480
22	6.48	*	110	---	---	---	*	28.4	0.2582
23	7.41	*	91.5	---	---	---	*	15.8	0.1727
24	8.33	*	78.0	---	---	---	*	10.1	0.1295
25	9.26	*	71.5	---	---	---	*	10.2	0.1427
26	10.19	*	65.0	---	---	---	*	10.5	0.1615
27	11.11	*	59.0	---	---	---	*	10.5	0.1780
28	12.04	*	54.5	---	---	---	*	8.20	0.1505
29	12.96	*	51.0	---	---	---	*	5.60	0.1098
30	13.89	*	47.2	---	---	---	*	3.40	0.0720
31	14.82	*	44.5	---	---	---	*	4.50	0.1011
32	15.74	*	40.5	---	---	---	*	5.00	0.1235
33	16.67	*	38.0	---	---	---	*	2.00	0.0526
34	17.59	*	36.0	---	---	---	*	2.20	0.0611
35	18.52	*	34.0	---	---	---	*	1.60	0.0471
36	22.22	*	23.8	---	---	---	*	1.55	0.0651
37	25.93	*	21.2	---	---	---	*	1.25	0.0590
38	29.63	*	19.8	---	---	---	*	0.60	0.0303

18.5° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
39	33.34	*	17.2	---	---	---	*	0.63	0.0366
40	37.04	*	15.8	---	---	---	*	0.70	0.0443

Average Ratio 0.1987

*Helicopter measurements; Non-directional points 2-40 taken on 11-15-90 between 0900-0920, Night-directional points 9-40 taken on 12-3-90 between 1423-1437.

Figure 3
Sheet 3 of 40

45° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-15-90							
1	0.56	*	1180	---	---	---	---	---	---
		11-17-90							
2	0.72	1410	1180	---	---	---	---	---	---
3	0.74	*	930	---	---	---	---	---	---
4	0.93	*	750	---	---	---	---	---	---
5	1.11	*	620	---	---	---	---	---	---
6	1.30	*	530	---	---	---	---	---	---
7	1.48	*	460	---	---	---	---	---	---
8	1.67	*	430	---	---	---	---	---	---
9	1.85	*	380	*	840	2.2105	*	998	2.6263
10	2.04	*	338	*	740	2.1893	*	935	2.7663
11	2.22	*	310	*	688	2.2194	*	830	2.6774
12	2.41	*	282	*	670	2.3759	*	767	2.7199
13	2.59	*	260	*	578	2.2231	*	720	2.7692
14	2.78	*	240	*	546	2.2750	*	670	2.7917
15	2.96	*	230	*	523	2.2739	*	615	2.6739
16	3.15	*	218	*	498	2.2844	*	578	2.6514
17	3.33	*	210	*	448	2.1333	*	568	2.7048
18	3.52	*	200	*	457	2.2850	*	550	2.7500
19	3.70	*	190	*	425	2.2368	*	525	2.7632
20	4.63	*	155	*	334	2.1548	*	415	2.6774
21	5.56	*	125	*	268	2.1440	*	334	2.6720
22	6.48	*	112	*	223	1.9911	*	273	2.4375
23	7.41	*	90.0	*	200	2.2222	*	250	2.7778
24	8.33	*	79.0	*	178	2.2532	*	229	2.8987

45° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
25	9.26	*	72.5	*	158	2.1793	*	205	2.8276
26	10.19	*	66.0	*	145	2.1970	*	189	2.8636
27	11.11	*	60.0	*	128	2.1333	*	155	2.5833
28	12.04	*	55.0	*	122	2.2182	*	137	2.4909
29	12.96	*	50.0	*	110	2.2000	*	128	2.5600
30	13.89	*	47.5	*	101	2.1263	*	118	2.4842
31	14.82	*	42.8	*	95.7	2.2360	*	113	2.6402
32	15.74	*	40.8	*	89.0	2.1814	*	105	2.5735
33	16.67	*	37.5	*	84.0	2.2400	*	99.8	2.6613
34	17.59	*	35.0	*	80.0	2.2857	*	96.1	2.7457
35	18.52	*	33.0	*	74.5	2.2576	*	91.4	2.7697
36	22.22	*	26.2	*	57.2	2.1832	*	69.8	2.6641
		11-18-90					12-5-90		
37	24.08	0907	13.5	*	25.2	1.8667	1212	29.4	2.1778
38	25.93	*	22.0	*	47.7	2.1682	*	56.7	2.5773
		11-18-90					12-5-90		
39	26.25	0914	19.5	*	37.8	1.9385	1220	55.6	2.8513
40	29.15	0921	20.2	*	41.0	2.0297	1228	54.6	2.7030
41	29.63	*	19.5	*	38.8	1.9897	*	47.8	2.4513

45° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-18-90					12-5-90		
42	32.50	0945	15.0	*	34.7	2.3133	1243	46.2	3.0800
43	33.34	*	15.5	*	33.8	2.1806	*	40.4	2.6065
44	37.04	*	12.0	*	26.2	2.1833	*	34.7	2.8917
					Average Ratio	2.1828		Average Ratio	2.6822

*Helicopter measurements; Non-directional points 3-44 taken on 11-15-90 between 0937-0957, Day-directional points 9-44 taken on 11-19-90 between 0948-1000, Night-directional points 9-44 taken on 12-4-90 between 1435-1455.

73° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1180	---	---	---	---	---	---
2	0.74	*	975	---	---	---	---	---	---
3	0.93	*	708	---	---	---	---	---	---
4	1.11	*	590	---	---	---	---	---	---
5	1.30	*	538	---	---	---	---	---	---
6	1.48	*	480	---	---	---	---	---	---
7	1.67	*	420	---	---	---	---	---	---
		11-17-90							
8	1.70	1416	450	---	---	---	---	---	---
9	1.85	*	375	*	1418	3.7813	*	2048	5.4613
10	2.04	*	362	*	1260	3.4807	*	1890	5.2210
11	2.22	*	328	*	955	2.9116	*	1680	5.1220
12	2.41	*	308	*	872	2.8312	*	1470	4.7727
13	2.59	*	280	*	820	2.9286	*	1344	4.8000
14	2.78	*	260	*	767	2.9500	*	1260	4.8462
15	2.96	*	242	*	735	3.0372	*	1240	5.1240
16	3.15	*	220	*	682	3.1000	*	1156	5.2545
17	3.33	*	210	*	625	2.9762	*	1134	5.4000
18	3.52	*	195	*	578	2.9641	*	1040	5.3333
19	3.70	*	188	*	562	2.9894	*	985	5.2394
20	4.63	*	150	*	440	2.9333	*	767	5.1133
21	5.56	*	120	*	360	3.0000	*	650	5.4167
22	6.48	*	110	*	310	2.8182	*	536	4.8727
23	7.41	*	91.0	*	257	2.8242	*	452	4.9670
24	8.33	*	82.0	*	231	2.8171	*	399	4.8659
25	9.26	*	71.0	*	210	2.9577	*	362	5.0986
26	10.19	*	65.2	*	189	2.8988	*	325	4.9847

73° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
27	11.11	*	59.5	*	176	2.9580	*	300	5.0420
28	12.04	*	55.8	*	160	2.8674	*	273	4.8925
29	12.96	*	51.0	*	147	2.8824	*	247	4.8431
30	13.89	*	47.5	*	128	2.6947	*	231	4.8632
31	14.82	*	42.0	*	126	3.0000	*	208	4.9524
32	15.74	*	39.8	*	115	2.8894	*	189	4.7487
		11-18-90		11-20-90			12-5-90		
33	16.12	0852	37.0	0827	113	3.0541	1159	184	4.9730
34	16.67	*	36.0	*	107	2.9722	*	178	4.9444
35	17.59	*	35.0	*	103	2.9429	*	168	4.8000
36	18.52	*	33.8	*	91.4	2.7041	*	163	4.8225
37	22.22	*	24.5	*	62.0	2.5306	*	121	4.9388
38	25.93	*	18.0	*	58.8	3.2667	*	94.0	5.2222
		11-18-90		11-20-90			12-5-90		
39	25.98	1032	15.8	1022	50.4	3.1899	1113	86.1	5.4494
40	29.58	1040	16.0	1012	46.2	2.8875	1120	74.5	4.6563
41	29.63	*	15.8	*	41.2	2.6076	*	70.9	4.4873
		11-18-90		11-20-90			12-5-90		
42	31.61	1050	12.2	1002	42.0	3.4426	1130	69.3	5.6803

Figure 3
Sheet 8 of 40

73° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
43	33.34	*	14.2	*	41.0	2.8873	*	66.2	4.6620
44	37.04	*	13.0	*	37.8	2.9077	*	64.1	4.9308
					Average Ratio	2.9690		Average Ratio	5.0223

*Helicopter measurements; Non-directional points 1-44 taken on 11-16-90 between 1019-1035, Day-directional points 9-44 taken on 11-26-90 between 1010-1028, Night-directional points 9-44 taken on 12-4-90 between 1604-1620.

100° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1120	---	---	---	---	---	---
2	0.74	*	950	---	---	---	---	---	---
3	0.93	*	700	---	---	---	---	---	---
4	1.11	*	580	---	---	---	---	---	---
5	1.30	*	525	---	---	---	---	---	---
6	1.48	*	475	---	---	---	---	---	---
7	1.67	*	400	---	---	---	---	---	---
8	1.85	*	375	*	1050	2.8000	*	1450	3.8667
9	2.04	*	360	*	950	2.6389	*	1300	3.6111
10	2.22	*	330	*	825	2.5000	*	1180	3.5758
11	2.41	*	310	*	735	2.3710	*	1100	3.5484
12	2.59	*	275	*	650	2.3636	*	950	3.4545
13	2.78	*	258	*	610	2.3643	*	890	3.4496
14	2.96	*	245	*	560	2.2857	*	820	3.3469
15	3.15	*	225	*	535	2.3778	*	770	3.4222
16	3.33	*	210	*	545	2.5952	*	720	3.4286
17	3.52	*	195	*	485	2.4872	*	680	3.4872
18	3.70	*	190	*	445	2.3421	*	618	3.2526
19	4.63	*	145	*	315	2.1724	*	478	3.2966
20	5.56	*	125	*	250	2.0000	*	375	3.0000
21	6.48	*	115	*	218	1.8957	*	305	2.6522
22	7.41	*	90.0	*	178	1.9778	*	270	3.0000
23	8.33	*	80.0	*	155	1.9375	*	225	2.8125
24	9.26	*	72.0	*	140	1.9444	*	210	2.9167
25	10.19	*	66.0	*	110	1.6667	*	185	2.8030
26	11.11	*	58.0	*	108	1.8621	*	170	2.9310
27	12.04	*	54.5	*	100	1.8349	*	150	2.7523
28	12.96	*	52.0	*	95.0	1.8269	*	142	2.7308
29	13.89	*	46.5	*	85.0	1.8280	*	130	2.7957
30	14.82	*	40.0	*	76.0	1.9000	*	120	3.0000

100° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
31	15.74	*	38.0	*	72.0	1.8947	*	110	2.8947
		11-18-90		11-19-90			12-3-90		
32	15.92	0824	31.0	0900	54.0	1.7419	1243	100	3.2258
33	16.67	*	35.0	*	67.0	1.9143	*	100	2.8571
34	17.59	*	32.5	*	59.0	1.8154	*	96.0	2.9538
35	18.52	*	35.0	*	55.5	1.5857	*	92.0	2.6286
		11-18-90		11-19-90			12-3-90		
36	18.85	0852	25.0	0923	46.0	1.8400	1304	76.0	3.0400
37	19.90	0900	24.0	0931	45.0	1.8750	1310	70.0	2.9167
38	21.40	0914	22.8	0937	40.0	1.7544	1315	68.0	2.9825
39	22.22	*	25.8	*	46.2	1.7907	*	72.0	2.7907
		11-18-90		11-19-90			12-3-90		
40	23.33	0924	17.5	0943	32.0	1.8286	1320	53.0	3.0286
41	25.00	0933	17.0	0950	31.0	1.8235	1327	50.5	2.9706
42	25.93	*	20.0	*	35.0	1.7500	*	57.0	2.8500
		11-18-90		11-19-90			12-3-90		
43	26.65	0945	16.0	0957	31.0	1.9375	1333	51.5	3.2188
44	28.65	0955	10.0	1003	17.8	1.7800	1340	29.5	2.9500

100° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
45	29.63	*	15.0	*	25.0	1.6667	*	54.0	3.6000
		11-18-90		11-19-90			12-3-90		
46	30.38	1003	13.0	1009	22.2	1.7077	1345	37.0	2.8462
47	31.60	1012	11.0	1016	19.0	1.7273	1352	31.5	2.8636
48	33.34	*	14.5	*	23.5	1.6207	*	37.0	2.5517
49	37.04	*	12.8	*	19.0	1.4844	*	24.0	1.8750
					Average Ratio	1.9883		Average Ratio	3.0519

*Helicopter measurements; Non-directional points 1-49 taken on 11-16-90 between 1245-1305, Day-directional points 8-49 taken on 11-26-90 between 1045-1102, Night-directional points 8-49 taken on 12-4-90 between 1535-1550.

Figure 3
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117.9° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	880	---	---	---	---	---	---
2	0.74	*	690	---	---	---	---	---	---
3	0.93	*	618	---	---	---	---	---	---
4	1.11	*	555	---	---	---	---	---	---
5	1.30	*	472	---	---	---	---	---	---
6	1.48	*	408	---	---	---	---	---	---
7	1.67	*	362	---	---	---	---	---	---
8	1.85	*	345	*	378	1.0957	---	---	---
9	2.04	*	310	*	347	1.1194	---	---	---
10	2.22	*	288	*	323	1.1215	---	---	---
11	2.41	*	270	*	313	1.1593	---	---	---
12	2.59	*	255	*	310	1.2157	---	---	---
13	2.78	*	240	*	300	1.2500	---	---	---
14	2.96	*	235	*	289	1.2298	---	---	---
15	3.15	*	212	*	271	1.2783	---	---	---
16	3.33	*	208	*	252	1.2115	---	---	---
17	3.52	*	200	*	239	1.1950	---	---	---
18	3.70	*	190	*	226	1.1895	---	---	---
19	4.63	*	150	*	178	1.1867	---	---	---
20	5.56	*	122	*	147	1.2049	---	---	---
21	6.48	*	95.0	*	126	1.3263	---	---	---
22	7.41	*	85.8	*	115	1.3403	---	---	---
23	8.33	*	74.5	*	95.6	1.2832	---	---	---
24	9.26	*	66.0	*	86.1	1.3045	---	---	---
25	10.19	*	58.5	*	78.2	1.3368	---	---	---
26	11.11	*	54.0	*	68.7	1.2722	---	---	---
27	12.04	*	50.5	*	63.0	1.2475	---	---	---
28	12.96	*	45.0	*	59.8	1.3289	---	---	---
29	13.89	*	42.0	*	52.5	1.2500	---	---	---
30	14.82	*	38.0	*	48.3	1.2711	---	---	---

117.9° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
31	15.74	*	35.5	*	47.3	1.3324	---	---	---
32	16.67	*	31.2	*	42.5	1.3622	---	---	---
33	17.59	*	31.0	*	39.4	1.2710	---	---	---
		11-18-90		11-19-90					
34(MP)	17.87	1215	29.8	1137	33.6	1.1275	---	---	---
35	18.52	*	30.0	*	36.7	1.2233	---	---	---
		11-18-90		11-19-90					
36	20.80	1200	26.5	1126	30.4	1.1472	---	---	---
37	21.22	1155	25.5	1122	30.4	1.1922	---	---	---
38	22.22	*	22.0	*	29.4	1.3364	---	---	---
		11-18-90		11-19-90					
39	22.30	1150	23.2	1118	27.1	1.1681	---	---	---
40	23.20	1145	22.0	1114	25.5	1.1591	---	---	---
41	24.07	1135	18.0	1106	21.0	1.1667	---	---	---
42	25.75	1122	17.0	1059	18.4	1.0824	---	---	---
43	25.93	*	19.0	*	23.6	1.2421	---	---	---

117.9° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-18-90		11-19-90					
44	28.82	1110	16.8	1048	19.3	1.1488	---	---	---
45	29.63	*	15.2	*	20.5	1.3487	---	---	---
		11-18-90		11-19-90					
46	30.50	1058	13.0	1042	14.7	1.1308	---	---	---
47	33.34	*	13.5	*	16.3	1.2074	---	---	---
48	37.04	*	11.5	*	10.7	0.9304	---	---	---
					Average Ratio	1.2194			

*Helicopter measurements; Non-directional points 1-48 taken on 11-16-90 between 1320-1338, Day-directional points 8-48 taken on 11-26-90 between 1120-1135.

Figure 3
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128° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1180	---	---	---	---	---	---
2	0.74	*	765	---	---	---	---	---	---
3	0.93	*	630	---	---	---	---	---	---
4	1.11	*	530	---	---	---	---	---	---
5	1.30	*	460	---	---	---	---	---	---
6	1.48	*	420	---	---	---	---	---	---
7	1.67	*	380	---	---	---	---	---	---
8	1.85	*	350	---	---	---	*	368	1.0514
9	2.04	*	320	---	---	---	*	294	0.9188
10	2.22	*	298	---	---	---	*	263	0.8826
11	2.41	*	268	---	---	---	*	205	0.7649
12	2.59	*	255	---	---	---	*	173	0.6784
13	2.78	*	235	---	---	---	*	168	0.7149
14	2.96	*	220	---	---	---	*	163	0.7409
15	3.15	*	202	---	---	---	*	137	0.6782
16	3.33	*	198	---	---	---	*	100	0.5051
17	3.52	*	190	---	---	---	*	87.1	0.4584
18	3.70	*	180	---	---	---	*	76.6	0.4256
19	4.63	*	146	---	---	---	*	44.6	0.3055
20	5.56	*	122	---	---	---	*	30.5	0.2500
21	6.48	*	98.5	---	---	---	*	23.1	0.2345
22	7.41	*	85.0	---	---	---	*	17.8	0.2094
23	8.33	*	74.0	---	---	---	*	12.6	0.1703
24	9.26	*	66.0	---	---	---	*	10.5	0.1591
25	10.19	*	60.5	---	---	---	*	8.70	0.1438
26	11.11	*	52.0	---	---	---	*	8.00	0.1538
27	12.04	*	49.0	---	---	---	*	6.10	0.1245
28	12.96	*	45.5	---	---	---	*	6.50	0.1429
29	13.89	*	41.5	---	---	---	*	6.70	0.1614
30	14.82	*	38.0	---	---	---	*	6.90	0.1816

128° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
31	15.74	*	33.5	---	---	---	*	6.70	0.2000
32	16.67	*	32.0	---	---	---	*	3.30	0.1031
		11-18-90					12-1-90		
33	16.70	1149	25.5	---	---	---	1200	4.70	0.1843
34	17.59	*	30.0	---	---	---	*	3.70	0.1233
35	18.52	*	27.5	---	---	---	*	5.00	0.1818
		11-18-90					12-1-90		
36(MP)	19.85	1226	24.8	---	---	---	1147	4.30	0.1734
37	21.30	1233	19.0	---	---	---	1214	2.70	0.1421
38	22.22	*	23.0	---	---	---	*	6.50	0.2826
		11-18-90					12-1-90		
39	24.95	1253	16.5	---	---	---	1227	2.25	0.1364
40	25.93	*	17.8	---	---	---	*	3.15	0.1770
		11-18-90					12-1-90		
41	26.28	1300	14.8	---	---	---	1233	1.38	0.0932
42	28.82	1312	15.5	---	---	---	1238	2.42	0.1561

128° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
43	29.63	*	14.5	---	---	---	*	0.95	0.0655
		11-18-90					12-1-90		
44	29.93	1322	14.4	---	---	---	1242	2.10	0.1458
45	33.34	*	13.5	---	---	---	*	1.37	0.1015
46	37.04	*	11.8	---	---	---	*	2.10	0.1780
								Average Ratio	0.3205

*Helicopter measurements; Non-directional points 1-46 taken on 11-16-90 between 1350-1408, Night-directional points 8-46 taken on 12-4-90 between 1510-1524.

Figure 3
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143.5° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1150	---	---	---	---	---	---
2	0.74	*	860	---	---	---	---	---	---
3	0.93	*	748	---	---	---	---	---	---
4	1.11	*	655	---	---	---	---	---	---
5	1.30	*	530	---	---	---	---	---	---
6	1.48	*	460	---	---	---	---	---	---
7	1.67	*	405	---	---	---	---	---	---
8	1.85	*	368	*	688	1.8696	*	166	0.4511
9	2.04	*	325	*	640	1.9692	*	155	0.4769
10	2.22	*	300	*	598	1.9933	*	147	0.4900
11	2.41	*	282	*	552	1.9574	*	145	0.5142
12	2.59	*	270	*	520	1.9259	*	134	0.4963
13	2.78	*	250	*	506	2.0240	*	124	0.4960
14	2.96	*	240	*	456	1.9000	*	102	0.4250
15	3.15	*	230	*	420	1.8261	*	94.0	0.4087
16	3.33	*	211	*	410	1.9431	*	91.3	0.4327
17	3.52	*	200	*	380	1.9000	*	89.0	0.4450
18	3.70	*	182	*	355	1.9505	*	84.0	0.4615
19	4.63	*	150	*	271	1.8067	*	67.7	0.4513
20	5.56	*	125	*	231	1.8480	*	49.4	0.3952
21	6.48	*	118	*	189	1.6017	*	36.8	0.3119
22	7.41	*	90.0	*	163	1.8111	*	29.2	0.3244
23	8.33	*	78.8	*	142	1.8020	*	25.0	0.3173
24	9.26	*	69.0	*	126	1.8261	*	21.5	0.3116
25	10.19	*	61.2	*	116	1.8954	*	20.5	0.3350
26	11.11	*	56.5	*	90.8	1.6071	*	17.0	0.3009
27	12.04	*	51.0	*	85.6	1.6784	*	16.2	0.3176
28	12.96	*	45.0	*	77.2	1.7156	*	16.6	0.3689
29	13.89	*	42.0	*	72.5	1.7262	*	15.2	0.3619
30	14.82	*	39.0	*	66.2	1.6974	*	13.1	0.3359

143.5° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-18-90		11-19-90			12-3-90		
31	14.82	1213	35.2	1410	71.4	2.0284	1537	14.5	0.4119
32	15.74	*	35.8	*	61.4	1.7151	*	12.6	0.3520
		11-18-90		11-19-90			12-3-90		
33(MP)	16.45	1221	34.0	1405	59.9	1.7618	1544	11.6	0.3412
34	16.67	*	32.5	*	56.7	1.7446	*	10.7	0.3292
		11-18-90		11-19-90			12-3-90		
35	17.42	1229	30.5	1402	56.7	1.8590	1552	12.6	0.4131
36	17.59	*	29.8	*	52.5	1.7617	*	11.6	0.3893
37	18.52	*	28.2	*	48.8	1.7305	*	10.7	0.3794
		11-18-90		11-19-90			12-3-90		
38	18.90	1247	25.0	1348	47.8	1.9120	1517	9.00	0.3600
39	20.40	1256	21.0	1300	31.5	1.5000	1512	9.45	0.4500
40	21.14	1300	19.0	1320	38.9	2.0474	1508	8.40	0.4421
41	22.22	*	21.8	*	35.7	1.6376	*	8.80	0.4037

143.5° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-18-90		11-19-90			12-3-90		
42	22.55	1305	19.8	1332	38.9	1.9646	1501	7.20	0.3636
43	23.90	1423	19.5	1422	35.7	1.8308	1453	6.10	0.3128
44	25.93	*	18.5	*	30.5	1.6486	*	6.30	0.3405
		11-18-90		11-19-90			12-3-90		
45	26.38	1412	14.8	1427	26.8	1.8108	1447	5.00	0.3378
46	29.45	1348	12.0	1437	21.5	1.7917	1442	3.90	0.3250
47	29.63	*	13.5	*	23.1	1.7111	*	5.60	0.4148
		11-18-90		11-19-90			12-3-90		
48	30.82	1345	11.5	1442	20.8	1.8087	1435	3.30	0.2870
49	33.34	*	8.60	*	14.5	1.6860	*	4.20	0.4884
50	37.04	*	7.80	*	13.1	1.6795	*	3.10	0.3974
					Average Ratio	1.8117		Average Ratio	0.3900

*Helicopter measurements; Non-directional points 1-50 taken on 11-16-90 between 1038-1048, Day-directional points 8-50 taken on 11-26-90 between 1145-1205, Night-directional points 8-50 taken on 12-3-90 between 1545-1555.

156.5° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1100	---	---	---	---	---	---
2	0.74	*	750	---	---	---	---	---	---
3	0.93	*	625	---	---	---	---	---	---
4	1.11	*	550	---	---	---	---	---	---
5	1.30	*	478	---	---	---	---	---	---
6	1.48	*	435	---	---	---	---	---	---
7	1.67	*	382	---	---	---	---	---	---
8	1.85	*	350	---	---	---	*	116	0.3314
9	2.04	*	317	---	---	---	*	110	0.3470
10	2.22	*	295	---	---	---	*	107	0.3627
11	2.41	*	282	---	---	---	*	104	0.3688
12	2.59	*	260	---	---	---	*	89.0	0.3423
13	2.78	*	250	---	---	---	*	75.6	0.3024
14	2.96	*	235	---	---	---	*	68.3	0.2906
15	3.15	*	215	---	---	---	*	59.3	0.2758
16	3.33	*	200	---	---	---	*	57.8	0.2890
17	3.52	*	192	---	---	---	*	53.0	0.2760
18	3.70	*	185	---	---	---	*	48.8	0.2638
19	4.63	*	148	---	---	---	*	46.2	0.3122
20	5.56	*	128	---	---	---	*	34.1	0.2664
21	6.48	*	118	---	---	---	*	28.4	0.2407
22	7.41	*	89.5	---	---	---	*	22.6	0.2525
23	8.33	*	76.0	---	---	---	*	17.9	0.2355
24	9.26	*	68.0	---	---	---	*	15.8	0.2324
25	10.19	*	60.0	---	---	---	*	13.9	0.2317
26	11.11	*	55.8	---	---	---	*	11.6	0.2079
27	12.04	*	50.2	---	---	---	*	10.5	0.2092
28	12.96	*	45.8	---	---	---	*	10.4	0.2271
29	13.89	*	41.0	---	---	---	*	7.80	0.1902
30	14.82	*	34.8	---	---	---	*	7.60	0.2184

156.5° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-17-90					12-4-90		
31(MP)	15.28	1559	37.0	---	---	---	1320	6.10	0.1649
32	15.74	*	33.8	---	---	---	*	6.80	0.2012
33	16.67	*	30.8	---	---	---	*	6.60	0.2143
34	17.59	*	28.5	---	---	---		7.70	0.2702
		11-17-90					12-4-90		
35	17.90	1554	28.0	---	---	---	1326	4.50	0.1607
36	18.52	*	26.8	---	---	---	*	7.20	0.2687
37	22.22	*	20.5	---	---	---	*	5.70	0.2780
		11-17-90					12-4-90		
38	23.55	1537	20.4	---	---	---	1349	3.70	0.1814
39	24.92	1532	17.3	---	---	---	1342	2.10	0.1214
40	25.93	*	17.2	---	---	---	*	5.50	0.3198
		11-17-90					12-4-90		
41	26.74	1524	16.2	---	---	---	1357	1.68	0.1037
42	28.48	1516	14.2	---	---	---	1408	1.70	0.1197
43	29.63	*	13.8	---	---	---	*	3.60	0.2609

156.5° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-17-90					12-4-90		
44	30.20	1512	13.5	---	---	---	1415	2.00	0.1481
		11-18-90					12-4-90		
45	31.20	1328	14.0	---	---	---	1421	2.20	0.1571
46	32.86	1334	12.5	---	---	---	1426	1.20	0.0960
47	33.34	*	11.8	---	---	---	*	4.00	0.3390
		11-18-90					12-4-90		
48	34.18	1340	9.00	---	---	---	1434	1.10	0.1222
49	37.04	*	9.15	---	---	---	*	3.10	0.3388
								Average Ratio	0.2414

*Helicopter measurements; Non-directional points 1-49 taken on 11-15-90 between 1013-1038, Night-directional points 8-49 taken on 12-3-90 between 1518-1538.

Figure 3
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171° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1280	---	---	---	---	---	---
2	0.74	*	770	---	---	---	---	---	---
3	0.93	*	660	---	---	---	---	---	---
4	1.11	*	570	---	---	---	---	---	---
5	1.30	*	505	---	---	---	---	---	---
6	1.48	*	440	---	---	---	---	---	---
7	1.67	*	390	---	---	---	---	---	---
8	1.85	*	360	*	893	2.4806	---	---	---
9	2.04	*	335	*	819	2.4448	---	---	---
10	2.22	*	300	*	754	2.5133	---	---	---
11	2.41	*	290	*	688	2.3724	---	---	---
12	2.59	*	275	*	646	2.3491	---	---	---
13	2.78	*	260	*	609	2.3423	---	---	---
14	2.96	*	242	*	572	2.3636	---	---	---
15	3.15	*	230	*	533	2.3174	---	---	---
16	3.33	*	218	*	481	2.2064	---	---	---
17	3.52	*	202	*	470	2.3267	---	---	---
18	3.70	*	195	*	441	2.2615	---	---	---
19	4.63	*	152	*	336	2.2105	---	---	---
20	5.56	*	128	*	284	2.2188	---	---	---
21	6.48	*	112	*	236	2.1071	---	---	---
22	7.41	*	95.0	*	210	2.2105	---	---	---
23	8.33	*	82.0	*	178	2.1707	---	---	---
24	9.26	*	72.5	*	158	2.1793	---	---	---
25	10.19	*	65.0	*	141	2.1692	---	---	---
26	11.11	*	59.5	*	126	2.1176	---	---	---
27	12.04	*	53.5	*	113	2.1121	---	---	---
28	12.96	*	48.0	*	105	2.1875	---	---	---
29	13.89	*	44.0	*	95.0	2.1591	---	---	---
30	14.82	*	39.5	*	87.7	2.2203	---	---	---

171° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-29-90		11-20-90					
31(MP)	15.03	1210	37.0	1402	88.2	2.3838	---	---	---
32	15.74	*	38.0	*	81.9	2.1553	---	---	---
33	16.67	*	36.0	*	77.5	2.1528	---	---	---
34	17.59	*	32.5	*	71.4	2.1969	---	---	---
35	18.52	*	30.2	*	67.2	2.2252	---	---	---
36	22.22	*	23.5	*	53.0	2.2553	---	---	---
37	25.93	*	17.5	*	38.3	2.1886	---	---	---
38	29.63	*	15.0	*	31.5	2.1000	---	---	---
39	33.34	*	11.8	*	26.3	2.2288	---	---	---
40	37.04	*	10.5	*	18.9	1.8000	---	---	---
		11-29-90		11-20-90					
41	40.25	1258	7.80	1510	17.2	2.2051	---	---	---
					Average Ratio	2.2333			

*Helicopter measurements; Non-directional points 1-40 taken on 11-15-90 between 1404-1425, Day-directional points 8-40 taken on 11-19-90 between 1345-1402.

Figure 3
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190.0° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1050	---	---	---	---	---	---
2	0.74	*	842	---	---	---	---	---	---
3	0.93	*	665	---	---	---	---	---	---
4	1.11	*	555	---	---	---	---	---	---
5	1.30	*	490	---	---	---	---	---	---
6	1.48	*	440	---	---	---	---	---	---
7	1.67	*	400	---	---	---	---	---	---
8	1.85	*	360	---	---	---	*	347	0.9639
9	2.04	*	318	---	---	---	*	315	0.9906
10	2.22	*	282	---	---	---	*	289	1.0248
11	2.41	*	265	---	---	---	*	257	0.9698
12	2.59	*	255	---	---	---	*	220	0.8627
13	2.78	*	232	---	---	---	*	200	0.8621
14	2.96	*	220	---	---	---	*	191	0.8682
15	3.15	*	218	---	---	---	*	184	0.8440
16	3.33	*	200	---	---	---	*	166	0.8300
17	3.52	*	190	---	---	---	*	158	0.8316
18	3.70	*	180	---	---	---	*	147	0.8167
19	4.63	*	148	---	---	---	*	124	0.8378
20	5.56	*	122	---	---	---	*	104	0.8525
21	6.48	*	108	---	---	---	*	93.5	0.8657
22	7.41	*	94.0	---	---	---	*	78.8	0.8383
23	8.33	*	73.5	---	---	---	*	71.4	0.9714
24	9.26	*	71.0	---	---	---	*	63.5	0.8944
25	10.19	*	62.0	---	---	---	*	54.4	0.8774
26	11.11	*	56.0	---	---	---	*	51.2	0.9143
27	12.04	*	51.8	---	---	---	*	45.2	0.8726
28	12.96	*	47.0	---	---	---	*	37.8	0.8043
29	13.89	*	42.5	---	---	---	*	33.6	0.7906
30	14.82	*	40.8	---	---	---	*	33.4	0.8186

190.0° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
31	15.74	*	37.5	---	---	---	*	29.2	0.7787
32	16.67	*	34.2	---	---	---	*	27.3	0.7982
33	17.59	*	31.8	---	---	---	*	25.7	0.8082
34	18.52	*	28.0	---	---	---	*	24.2	0.8643
35	22.22	*	23.0	---	---	---	*	17.8	0.7739
36	25.93	*	17.5	---	---	---	*	13.7	0.7829
37	29.63	*	14.2	---	---	---	*	10.3	0.7254
38	33.34	*	11.8	---	---	---	*	9.60	0.8136
39	37.04		9.00	---	---	---	*	6.40	0.7111
								Average Ratio	0.8518

*Helicopter measurements; Non-directional points 1-39 taken on 11-15-90 between 1525-1545, Night-directional points 8-39 taken on 12-3-90 between 1452-1505.

218.0° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	870	---	---	---	---	---	---
2	0.74	*	725	---	---	---	---	---	---
3	0.93	*	610	---	---	---	---	---	---
4	1.11	*	530	---	---	---	---	---	---
5	1.30	*	455	---	---	---	---	---	---
6	1.48	*	390	---	---	---	---	---	---
7	1.67	*	350	---	---	---	---	---	---
8	1.85	*	320	*	441	1.3781	*	96.6	0.3019
9	2.04	*	292	*	399	1.3664	*	81.9	0.2805
10	2.22	*	270	*	359	1.3296	*	76.1	0.2819
11	2.41	*	250	*	336	1.3440	*	65.1	0.2604
12	2.59	*	238	*	305	1.2815	*	59.8	0.2513
13	2.78	*	212	*	289	1.3632	*	54.6	0.2575
14	2.96	*	200	*	273	1.3650	*	50.4	0.2520
15	3.15	*	188	*	252	1.3404	*	48.8	0.2596
16	3.33	*	180	*	239	1.3278	*	46.2	0.2567
17	3.52	*	172	*	231	1.3430	*	43.1	0.2506
18	3.70	*	162	*	215	1.3272	*	39.9	0.2463
19	4.63	*	135	*	168	1.2444	*	33.4	0.2474
20	5.56	*	108	*	132	1.2222	*	26.2	0.2426
		12-4-90					12-4-90		
21(MP)	5.78	1205	111	*	134	1.2072	1202	38.9	0.3505
22	6.48	*	93.5	*	123	1.3155	*	23.6	0.2524
23	7.41	*	74.5	*	103	1.3826	*	18.9	0.2537
24	8.33	*	65.0	*	89.0	1.3692	*	16.3	0.2508
25	9.26	*	58.0	*	80.8	1.3931	*	14.5	0.2500
26	10.19	*	54.0	*	73.0	1.3519	*	11.3	0.2093
27	11.11	*	50.5	*	66.1	1.3089	*	11.0	0.2178

218.0° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
28	12.04	*	46.0	*	60.9	1.3239	*	10.5	0.2283
29	12.96	*	40.5	*	57.8	1.4272	*	10.0	0.2469
30	13.89	*	38.0	*	55.6	1.4632	*	7.67	0.2018
31	14.82	*	36.5	*	47.3	1.2959	*	6.60	0.1808
32	15.74	*	33.5	*	44.3	1.3224	*	5.80	0.1731
33	16.67	*	30.0	*	39.7	1.3233	*	7.00	0.2333
34	17.59	*	30.5	*	38.8	1.2721	*	8.20	0.2689
35	18.52	*	29.0	*	37.8	1.3034	*	6.40	0.2207
36	22.22	*	24.0	*	29.6	1.2333	*	4.60	0.1917
37	25.93	*	19.5	*	23.6	1.2103	*	3.40	0.1744
38	29.63	*	18.0	*	20.8	1.1556	*	3.70	0.2056
39	33.34	*	14.0	*	18.1	1.2929	*	3.30	0.2357
40	37.04	*	12.2	*	14.2	1.1639	*	2.20	0.1803
					Average Ratio	1.3136		Average Ratio	0.2398

*Helicopter measurements; Non-directional points 1-40 taken on 11-16-90 between 0848-0910, Day-directional points 8-40 taken on 11-19-90 between 1015-1035, Night-directional points 8-40 taken on 12-3-90 between 0955-1010.

Figure 3
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254.0° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1180	---	---	---	---	---	---
2	0.74	*	958	---	---	---	---	---	---
3	0.93	*	675	---	---	---	---	---	---
4	1.11	*	580	---	---	---	---	---	---
5	1.30	*	500	---	---	---	---	---	---
6	1.48	*	450	---	---	---	---	---	---
7	1.67	*	395	---	---	---	---	---	---
8	1.85	*	358	*	856	2.3911	*	536	1.4972
9	2.04	*	320	*	782	2.4438	*	473	1.4781
10	2.22	*	295	*	714	2.4203	*	439	1.4881
11	2.41	*	270	*	651	2.4111	*	404	1.4963
12	2.59	*	248	*	609	2.4556	*	368	1.4839
13	2.78	*	230	*	572	2.4870	*	336	1.4609
14	2.96	*	217	*	535	2.4654	*	317	1.4608
15	3.15	*	202	*	506	2.5050	*	294	1.4554
16	3.33	*	195	*	473	2.4256	*	281	1.4410
17	3.52	*	180	*	460	2.5556	*	273	1.5167
18	3.70	*	170	*	430	2.5294	*	254	1.4941
19	4.63	*	140	*	346	2.4714	*	194	1.3857
20	5.56	*	117	*	292	2.4957	*	163	1.3932
21	6.48	*	94.0	*	252	2.6809	*	128	1.3617
22	7.41	*	82.5	*	212	2.5697	*	110	1.3333
23	8.33	*	72.2	*	187	2.5900	*	101	1.3989
24	9.26	*	63.8	*	168	2.6332	*	91.0	1.4263
25	10.19	*	56.0	*	148	2.6429	*	80.9	1.4446
26	11.11	*	50.8	*	138	2.7165	*	73.5	1.4469
27	12.04	*	45.5	*	126	2.7692	*	67.0	1.4725
28	12.96	*	42.0	*	122	2.9048	*	60.9	1.4500
29	13.89	*	38.0	*	95.3	2.5079	*	55.1	1.4500
30	14.82	*	34.5	*	83.0	2.4058	*	49.4	1.4319

254.0° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
31	15.74	*	31.0	*	78.8	2.5419	*	44.6	1.4387
32	16.67	*	29.5	*	73.5	2.4915	*	40.4	1.3695
33	17.59	*	27.5	*	69.1	2.5127	*	38.9	1.4145
34	18.52	*	26.0	*	67.2	2.5846	*	36.2	1.3923
35	22.22	*	20.2	*	51.5	2.5495	*	28.4	1.4059
36	25.93	*	16.2	*	43.9	2.7099	*	22.6	1.3951
37	29.63	*	14.0	*	35.5	2.5357	*	17.9	1.2786
38	33.34	*	11.8	*	29.4	2.4915	*	13.7	1.1610
39	37.04	*	9.50	*	25.7	2.7053	*	11.6	1.2211
					Average Ratio	2.5500		Average Ratio	1.4170

*Helicopter measurements; Non-directional points 1-39 taken on 11-14-90 between 1619-1645, Day-directional points 8-39 taken on 11-17-90 between 1207-1225, Night-directional points 8-39 taken on 12-4-90 between 1251-1306.

272.5° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1350	---	---	---	---	---	---
2	0.74	*	1050	---	---	---	---	---	---
3	0.93	*	805	---	---	---	---	---	---
4	1.11	*	670	---	---	---	---	---	---
5	1.30	*	570	---	---	---	---	---	---
6	1.48	*	500	---	---	---	---	---	---
7	1.67	*	440	---	---	---	---	---	---
8	1.85	*	400	*	1155	2.8875	*	430	1.0750
9	2.04	*	350	*	1034	2.9543	*	389	1.1114
10	2.22	*	320	*	945	2.9531	*	336	1.0500
11	2.41	*	300	*	872	2.9067	*	315	1.0500
12	2.59	*	270	*	819	3.0333	*	294	1.0889
13	2.78	*	248	*	756	3.0484	*	268	1.0806
14	2.96	*	235	*	714	3.0383	*	242	1.0298
15	3.15	*	220	*	651	2.9591	*	221	1.0045
16	3.33	*	205	*	620	3.0244	*	208	1.0146
17	3.52	*	195	*	593	3.0410	*	194	0.9949
18	3.70	*	182	*	546	3.0000	*	184	1.0110
19	4.63	*	150	*	425	2.8333	*	142	0.9467
20	5.56	*	122	*	347	2.8443	*	116	0.9508
21	6.48	*	99.0	*	294	2.9697	*	98.0	0.9899
22	7.41	*	84.2	*	250	2.9691	*	83.0	0.9857
23	8.33	*	75.5	*	210	2.8188	*	75.0	1.0067
24	9.26	*	66.0	*	189	2.8636	*	64.1	0.9712
25	10.19	*	59.0	*	168	2.8475	*	57.2	0.9695
26	11.11	*	53.0	*	148	2.7925	*	52.0	0.9811

272.5° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-17-90		11-20-90			12-4-90		
27(MP)	11.50	1320	58.0	1137	179	3.0862	1542	49.4	0.8517
28	12.04	*	48.5	*	134	2.7629	*	45.7	0.9423
29	12.96	*	45.5	*	126	2.7692	*	44.1	0.9692
30	13.89	*	43.2	*	118	2.7315	*	39.9	0.9236
31	14.82	*	39.0	*	107	2.7436	*	35.7	0.9154
32	15.74	*	35.5	*	104	2.9296	*	42.5	1.1972
33	16.67	*	32.0	*	96.6	3.0188	*	30.5	0.9531
34	17.59	*	31.0	*	89.3	2.8806	*	28.4	0.9161
35	18.52	*	27.0	*	79.8	2.9556	*	27.3	1.0111
		11-17-90		11-20-90			12-4-90		
36	19.50	1333	24.5	1152	80.9	3.3020	1532	25.2	1.0286
37	22.22	*	22.0	*	64.0	2.9091	*	20.5	0.9318
38	25.93	*	18.5	*	52.5	2.8378	*	16.8	0.9081
39	29.63	*	15.2	*	40.4	2.6579	*	13.1	0.8618
40	33.34	*	12.0	*	32.3	2.6917	*	10.5	0.8750
41	37.04	*	11.0	*	29.2	2.6545	*	8.90	0.8091
					Average Ratio	2.9034		Average Ratio	0.9825

*Helicopter measurements; Non-directional points 1-41 taken on 11-14-90 between 1540-1605, Day-directional points 8-41 taken on 11-19-90 between 1446-1505, Night-directional points 8-41 taken on 12-4-90 between 1318-1330.

Figure 3
Sheet 34 of 40

300.0° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1300	---	---	---	---	---	---
2	0.74	*	950	---	---	---	---	---	---
3	0.93	*	795	---	---	---	---	---	---
		11-17-90							
4	0.96	1357	950	---	---	---	---	---	---
5	1.11	*	635	---	---	---	---	---	---
6	1.30	*	560	---	---	---	---	---	---
7	1.48	*	505	---	---	---	---	---	---
8	1.67	*	450	---	---	---	---	---	---
9	1.85	*	400	*	840	2.1000	*	82.4	0.2060
10	2.04	*	370	*	695	1.8784	*	73.5	0.1986
11	2.22	*	330	*	651	1.9727	*	68.2	0.2067
12	2.41	*	300	*	578	1.9267	*	64.6	0.2153
13	2.59	*	280	*	546	1.9500	*	60.9	0.2175
14	2.78	*	252	*	520	2.0635	*	57.8	0.2294
15	2.96	*	242	*	502	2.0744	*	54.6	0.2256
16	3.15	*	220	*	472	2.1455	*	51.5	0.2341
17	3.33	*	208	*	446	2.1442	*	49.9	0.2399
18	3.52	*	200	*	425	2.1250	*	45.2	0.2260
19	3.70	*	190	*	412	2.1684	*	43.1	0.2268
20	4.63	*	150	*	315	2.1000	*	34.2	0.2280
21	5.56	*	122	*	263	2.1557	*	23.1	0.1893
22	6.48	*	117	*	218	1.8632	*	21.0	0.1795
23	7.41	*	86.5	*	189	2.1850	*	22.5	0.2601
24	8.33	*	77.0	*	166	2.1558	*	23.6	0.3065
25	9.26	*	68.5	*	147	2.1460	*	21.5	0.3139
26	10.19	*	62.2	*	137	2.2026	*	18.7	0.3006
27	11.11	*	56.0	*	113	2.0179	*	15.8	0.2821

300.0° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
28	12.04	*	51.2	*	102	1.9922	*	13.6	0.2656
29	12.96	*	47.0	*	101	2.1489	*	12.6	0.2681
30	13.89	*	44.5	*	97.6	2.1933	*	11.6	0.2607
31	14.82	*	41.0	*	89.3	2.1780	*	11.8	0.2878
32	15.74	*	38.0	*	83.0	2.1842	*	12.4	0.3263
33	16.67	*	35.5	*	76.7	2.1606	*	10.7	0.3014
34	17.59	*	33.8	*	71.9	2.1272	*	10.5	0.3107
35	18.52	*	30.8	*	68.3	2.2175	*	9.80	0.3182
36	22.22	*	23.8	*	52.0	2.1849	*	7.80	0.3277
37	25.93	*	19.5	*	43.0	2.2051	*	6.40	0.3282
38	29.63	*	16.5	*	32.6	1.9758	*	5.60	0.3394
39	33.34	*	14.8	*	29.4	1.9865	*	4.30	0.2905
40	37.04	*	11.0	*	25.2	2.2909	*	3.70	0.3364
					Average Ratio	2.1006		Average Ratio	0.2640

*Helicopter measurements; Non-directional points 1-40 taken on 11-15-90 between 1322-1340, Day-directional points 9-40 taken on 11-19-90 between 1418-1435, Night-directional points 9-40 taken on 12-3-90 between 1025-1040.

321.5° True Radial

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
1	0.56	*	1400	---	---	---	---	---	---
		11-17-90					12-5-90		
2(MP)	0.65	1400	1300	---	---	---	0852	651	0.5008
3	0.74	*	1200	---	---	---	---	---	---
4	0.93	*	790	---	---	---	---	---	---
5	1.11	*	622	---	---	---	---	---	---
6	1.30	*	550	---	---	---	---	---	---
7	1.48	*	488	---	---	---	---	---	---
8	1.67	*	440	---	---	---	---	---	---
9	1.85	*	380	---	---	---	*	37.8	0.0995
10	2.04	*	328	---	---	---	*	30.5	0.0930
11	2.22	*	300	---	---	---	*	25.7	0.0857
12	2.41	*	290	---	---	---	*	22.1	0.0762
13	2.59	*	268	---	---	---	*	17.9	0.0668
14	2.78	*	250	---	---	---	*	15.8	0.0632
15	2.96	*	235	---	---	---	*	15.2	0.0647
16	3.15	*	220	---	---	---	*	15.8	0.0718
17	3.33	*	208	---	---	---	*	18.5	0.0889
18	3.52	*	198	---	---	---	*	18.7	0.0944
19	3.70	*	182	---	---	---	*	18.7	0.1027
20	4.63	*	145	---	---	---	*	18.9	0.1303
21	5.56	*	112	---	---	---	*	15.8	0.1411
22	6.48	*	99.0	---	---	---	*	13.4	0.1354
23	7.41	*	87.0	---	---	---	*	10.3	0.1184
24	8.33	*	76.0	---	---	---	*	9.20	0.1211
25	9.26	*	68.0	---	---	---	*	7.90	0.1162
26	10.19	*	64.2	---	---	---	*	6.90	0.1075
27	11.11	*	58.5	---	---	---	*	5.00	0.0855

321.5° True Radial
(Continued)

Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
28	12.04	*	51.5	---	---	---	*	3.60	0.0699
29	12.96	*	48.0	---	---	---	*	3.20	0.0667
30	13.89	*	42.2	---	---	---	*	5.80	0.1374
31	14.82	*	42.0	---	---	---	*	5.90	0.1405
32	15.74	*	40.0	---	---	---	*	3.80	0.0950
33	16.67	*	38.0	---	---	---	*	4.50	0.1184
34	17.59	*	36.0	---	---	---	*	4.10	0.1139
35	18.52	*	35.0	---	---	---	*	3.90	0.1114
36	22.22	*	28.0	---	---	---	*	3.00	0.1071
37	25.93	*	23.0	---	---	---	*	1.80	0.0783
38	29.63	*	19.0	---	---	---	*	2.30	0.1211
39	33.34	*	16.0	---	---	---	*	1.00	0.0625
40	37.04	*	14.0	---	---	---	*	1.30	0.0929
								Average Ratio	0.1115

*Helicopter measurements; Non-directional points 1-40 taken on 11-15-90 between 1053-1118, Night-directional points 9-40 taken on 12-3-90 between 1052-1107.

351.2° True Radial

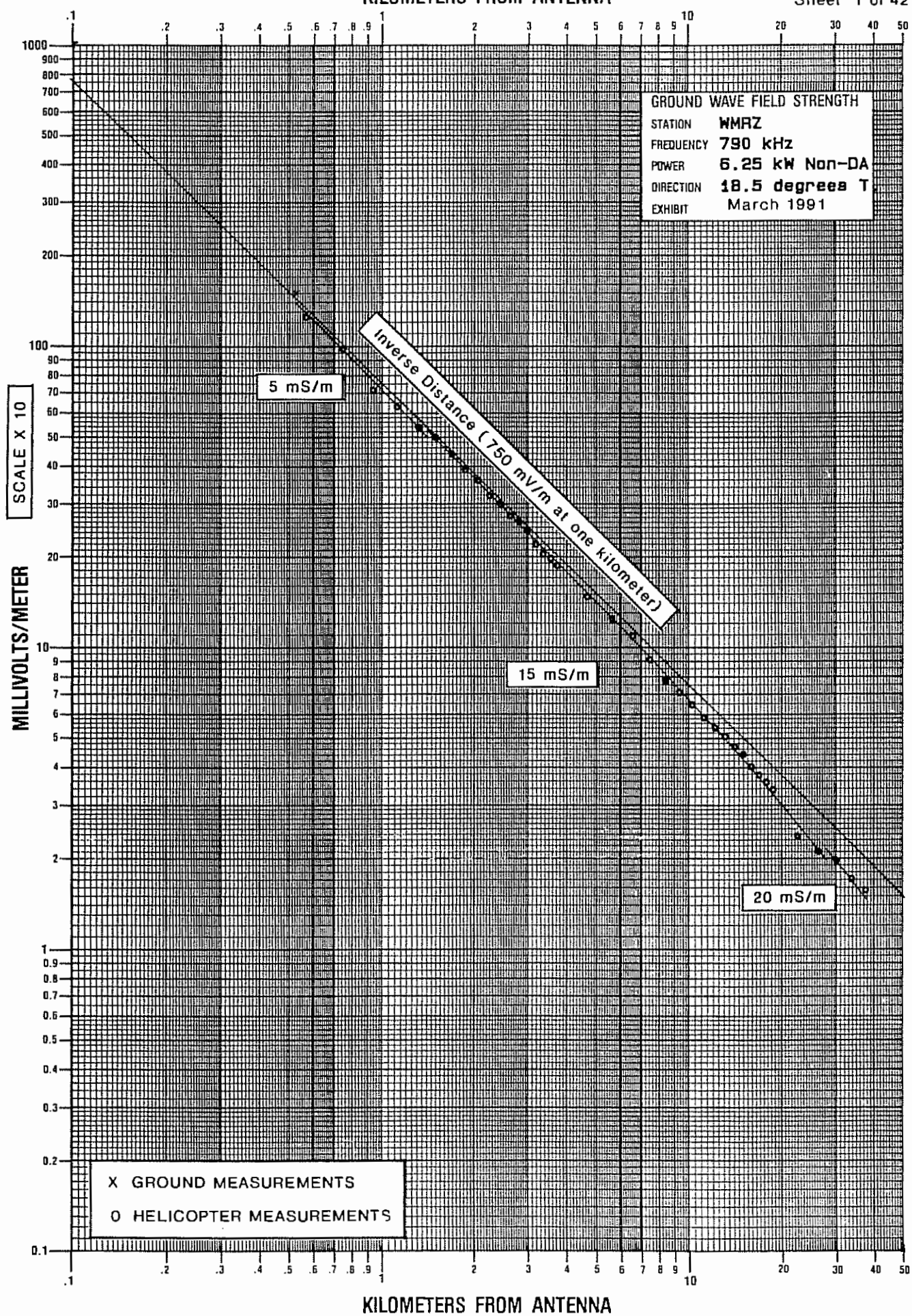
Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
		11-17-90		11-20-90					
1(MP)	0.50	1404	1550	1242	2260	1.4581	---	---	---
2	0.56	*	1300	---	---	---	---	---	---
3	0.74	*	1000	---	---	---	---	---	---
4	0.93	*	860	---	---	---	---	---	---
5	1.11	*	705	---	---	---	---	---	---
6	1.30	*	600	---	---	---	---	---	---
7	1.48	*	515	---	---	---	---	---	---
8	1.67	*	450	---	---	---	---	---	---
9	1.85	*	425	*	462	1.0871	*	317	0.7459
10	2.04	*	375	*	420	1.1200	*	281	0.7493
11	2.22	*	338	*	378	1.1183	*	263	0.7781
12	2.41	*	300	*	357	1.1900	*	236	0.7867
13	2.59	*	278	*	325	1.1691	*	229	0.8237
14	2.78	*	255	*	302	1.1843	*	221	0.8667
15	2.96	*	240	*	273	1.1375	*	205	0.8542
16	3.15	*	220	*	252	1.1455	*	191	0.8682
17	3.33	*	208	*	236	1.1346	*	183	0.8798
18	3.52	*	198	*	220	1.1111	*	170	0.8586
19	3.70	*	190	*	208	1.0947	*	152	0.8000
20	4.63	*	142	*	157	1.1056	*	116	0.8169
21	5.56	*	128	*	134	1.0469	*	105	0.8203
22	6.48	*	115	*	113	0.9826	*	86.6	0.7530
23	7.41	*	88.5	*	97.6	1.1028	*	79.6	0.8994
24	8.33	*	79.5	*	87.7	1.1031	*	67.7	0.8516
25	9.26	*	70.0	*	79.8	1.1400	*	63.0	0.9000
26	10.19	*	60.0	*	71.2	1.1867	*	56.5	0.9417
27	11.11	*	55.0	*	60.9	1.1073	*	49.8	0.9055

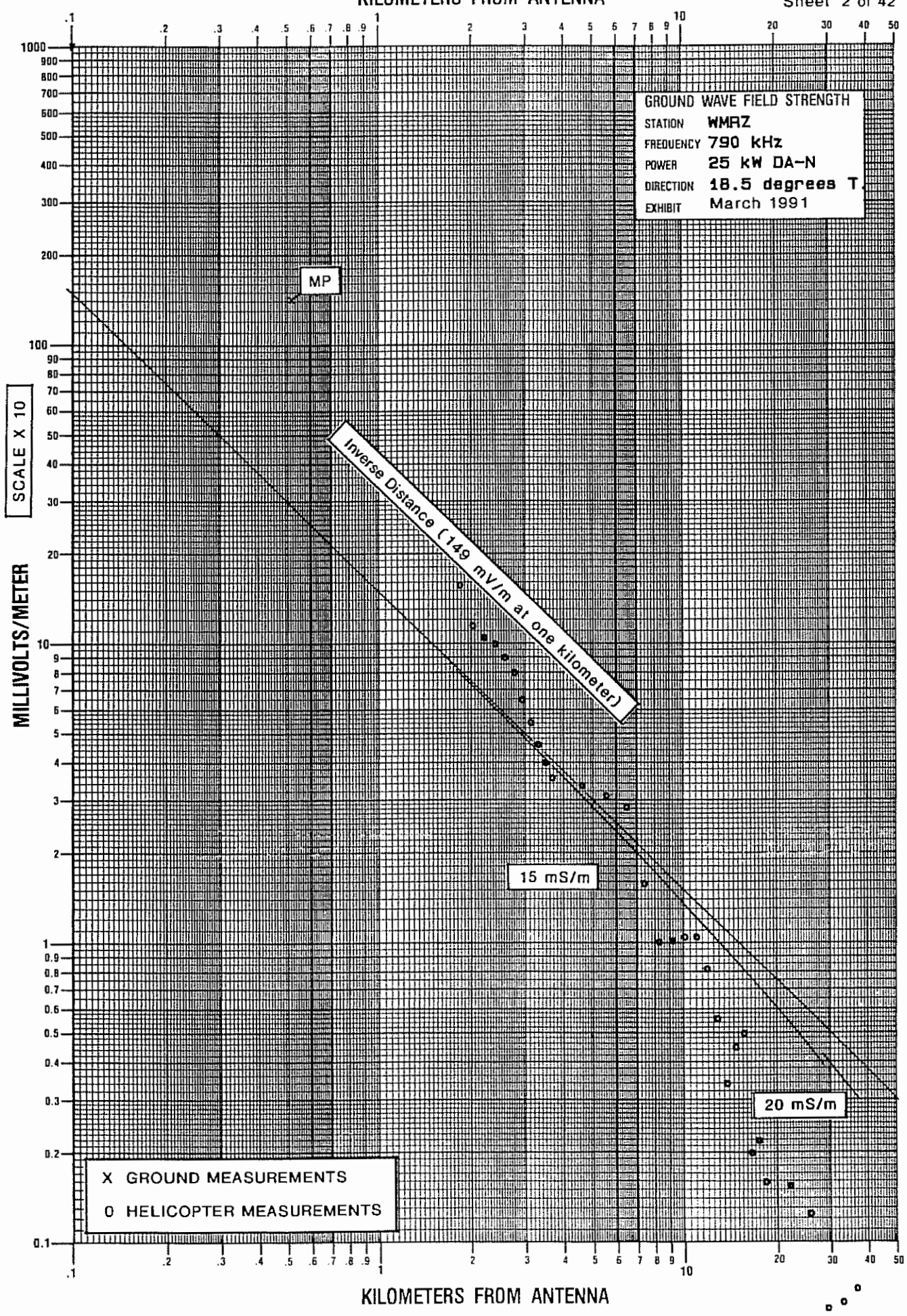
351.2° True Radial
(Continued)

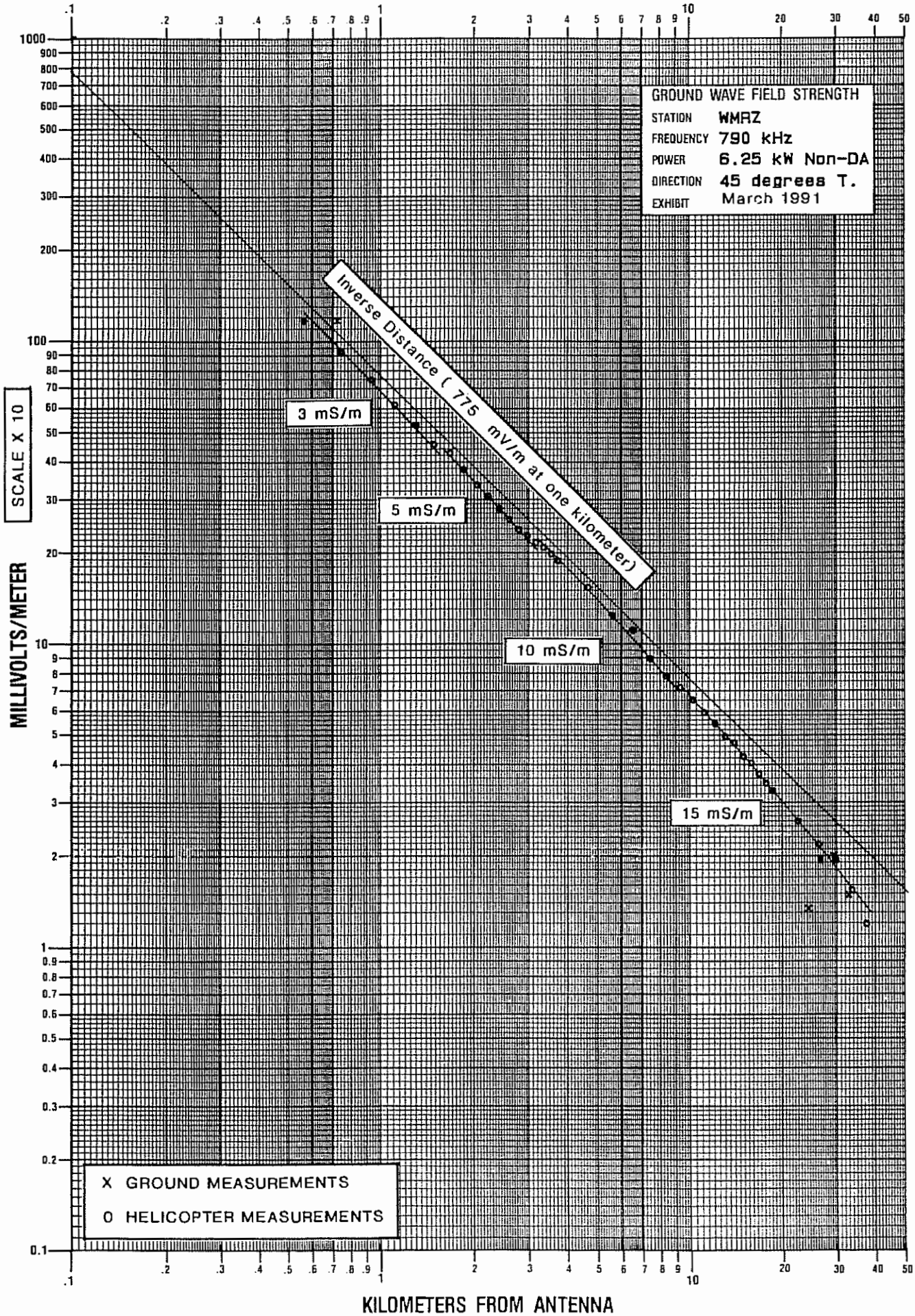
Point Number	Distance (km)	6.25 kW, Non-DA Date & Time (local)	6.25 kW, Non-DA Field Strength (mV/m)	25 kW, Day-DA Date & Time (local)	25 kW, Day-DA Field Strength (mV/m)	25 kW, Day-DA Ratio (DA-D/ND)	25 kW, Night-DA Date & Time (local)	25 kW, Night-DA Field Strength (mV/m)	25 kW, Night-DA Ratio (DA-N/ND)
28	12.04	*	50.5	*	56.7	1.1228	*	46.2	0.9149
29	12.96	*	48.0	*	54.6	1.1375	*	44.6	0.9292
30	13.89	*	46.0	*	49.6	1.0783	*	40.4	0.8783
31	14.82	*	41.8	*	43.1	1.0311	*	36.2	0.8660
32	15.74	*	39.2	*	41.5	1.0587	*	33.4	0.8520
33	16.67	*	36.0	*	39.9	1.1083	*	31.5	0.8750
34	17.59	*	34.5	*	37.8	1.0957	*	29.4	0.8522
35	18.52	*	31.0	*	32.6	1.0516	*	27.3	0.8806
36	22.22	*	26.0	*	27.8	1.0692	*	21.0	0.8077
37	25.93	*	21.0	*	23.1	1.1000	*	17.3	0.8238
38	29.63	*	18.4	*	19.7	1.0707	*	13.9	0.7554
39	33.34	*	15.0	*	16.6	1.1067	*	13.1	0.8733
40	37.04	*	14.2	*	14.2	1.0000	*	11.0	0.7746
					Average Ratio	1.1138		Average Ratio	0.8432

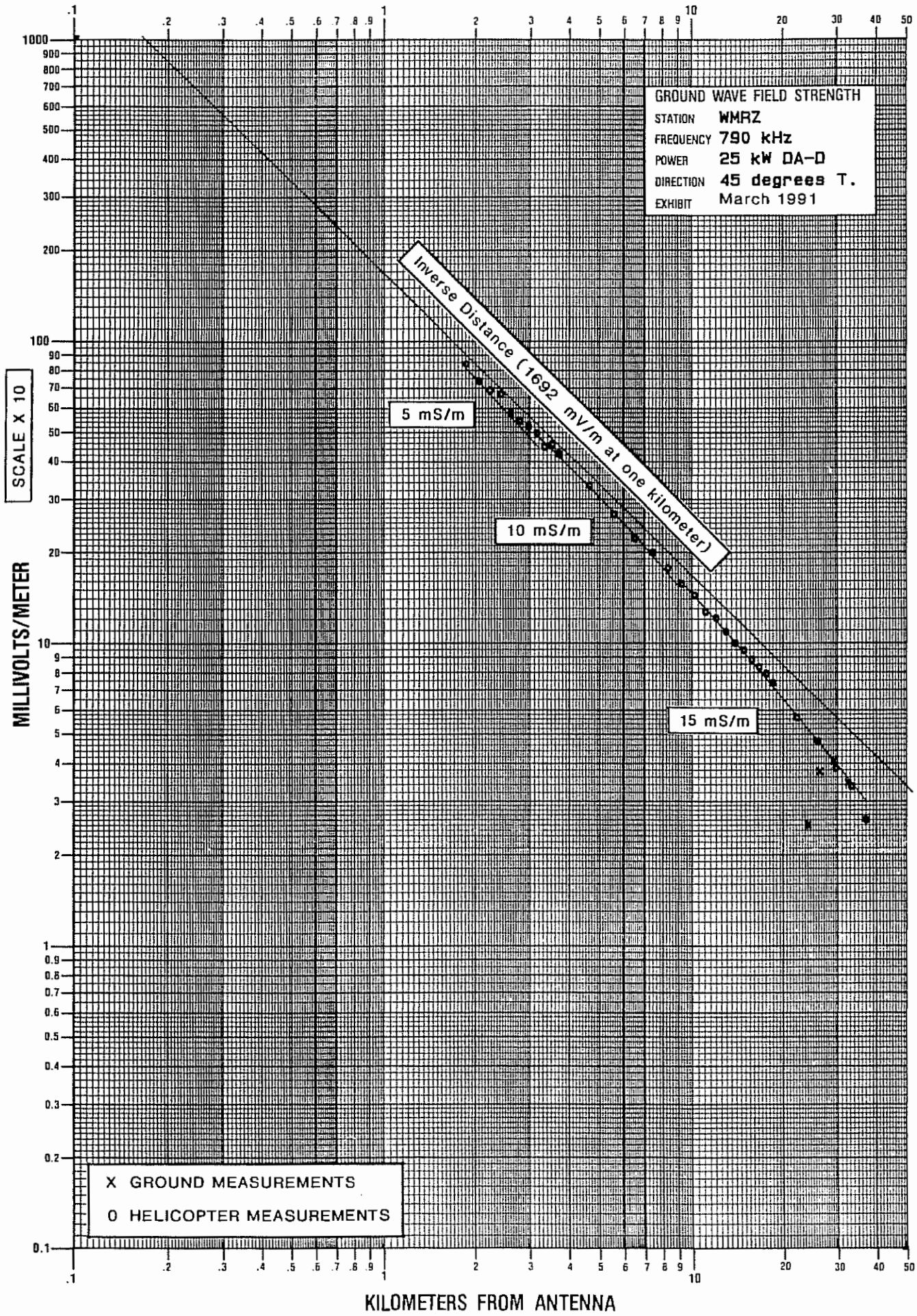
*Helicopter measurements; Non-directional points 2-40 taken on 11-15-90 between 1452-1510, Day-directional points 9-40 taken on 11-19-90 between 1048-1115, Night-directional points 9-40 taken on 12-3-90 between 1123-1140.

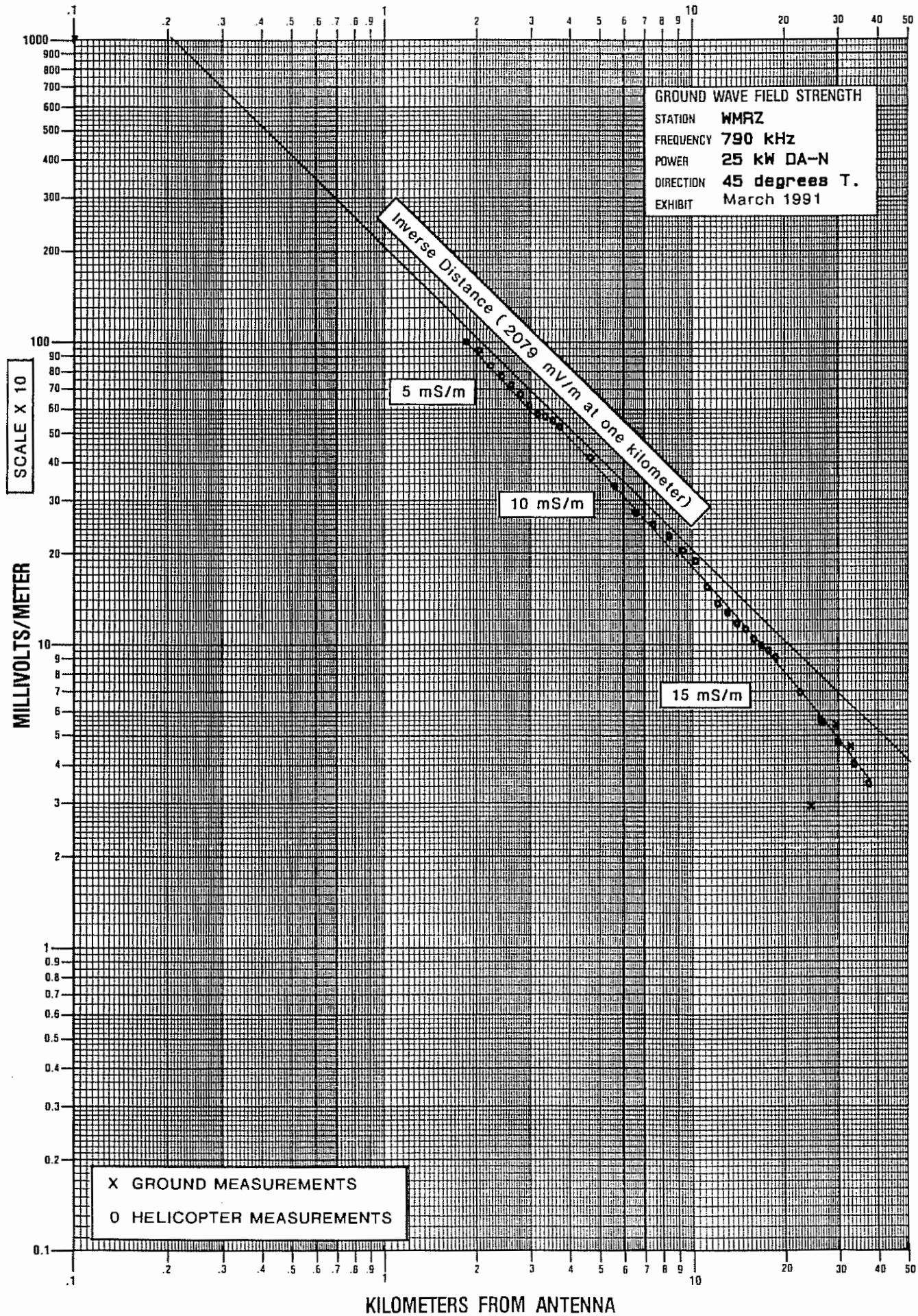
Figure 3
Sheet 40 of 40

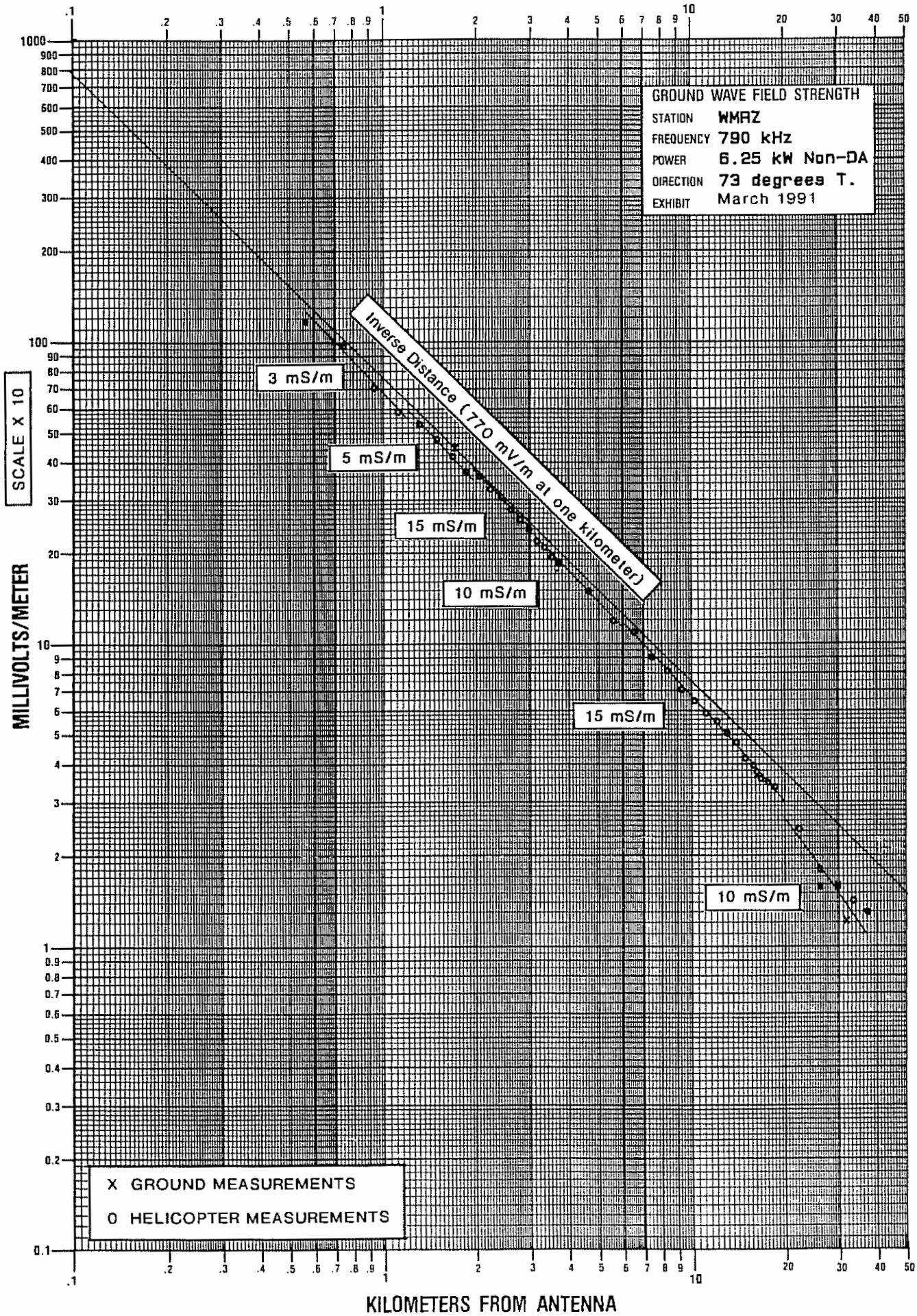

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 18.5 degrees T
EXHIBIT March 1991
SCALE X 10
MILLIVOLTS/METER
5 mS/m
15 mS/m
20 mS/m
Inverse Distance (750 mV/m at one kilometer)
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

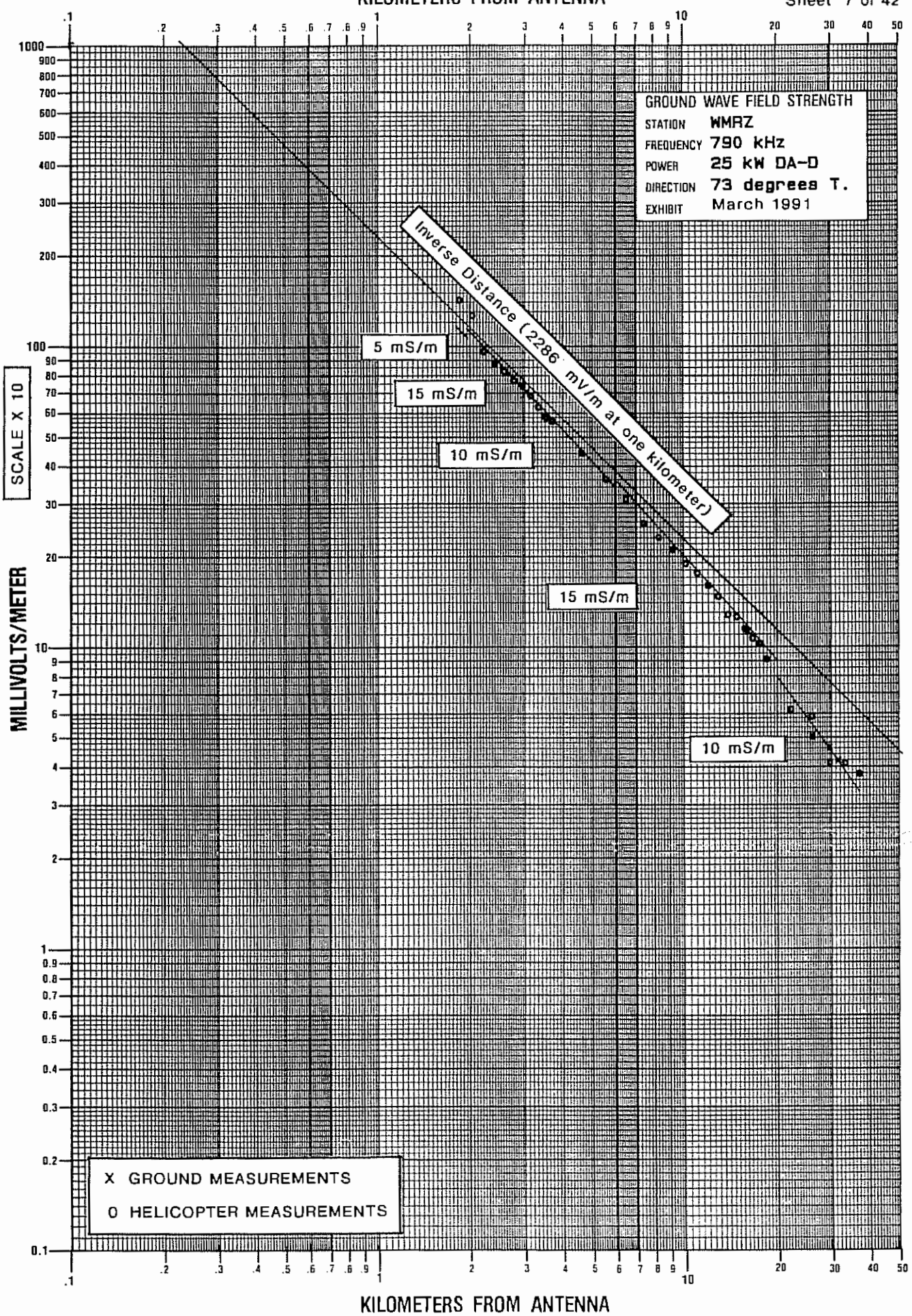

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 18.5 degrees T.
EXHIBIT March 1991
MP
Inverse Distance (149 mV/m at one kilometer)
SCALE X 10
MILLIVOLTS/METER
15 mS/m
20 mS/m
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

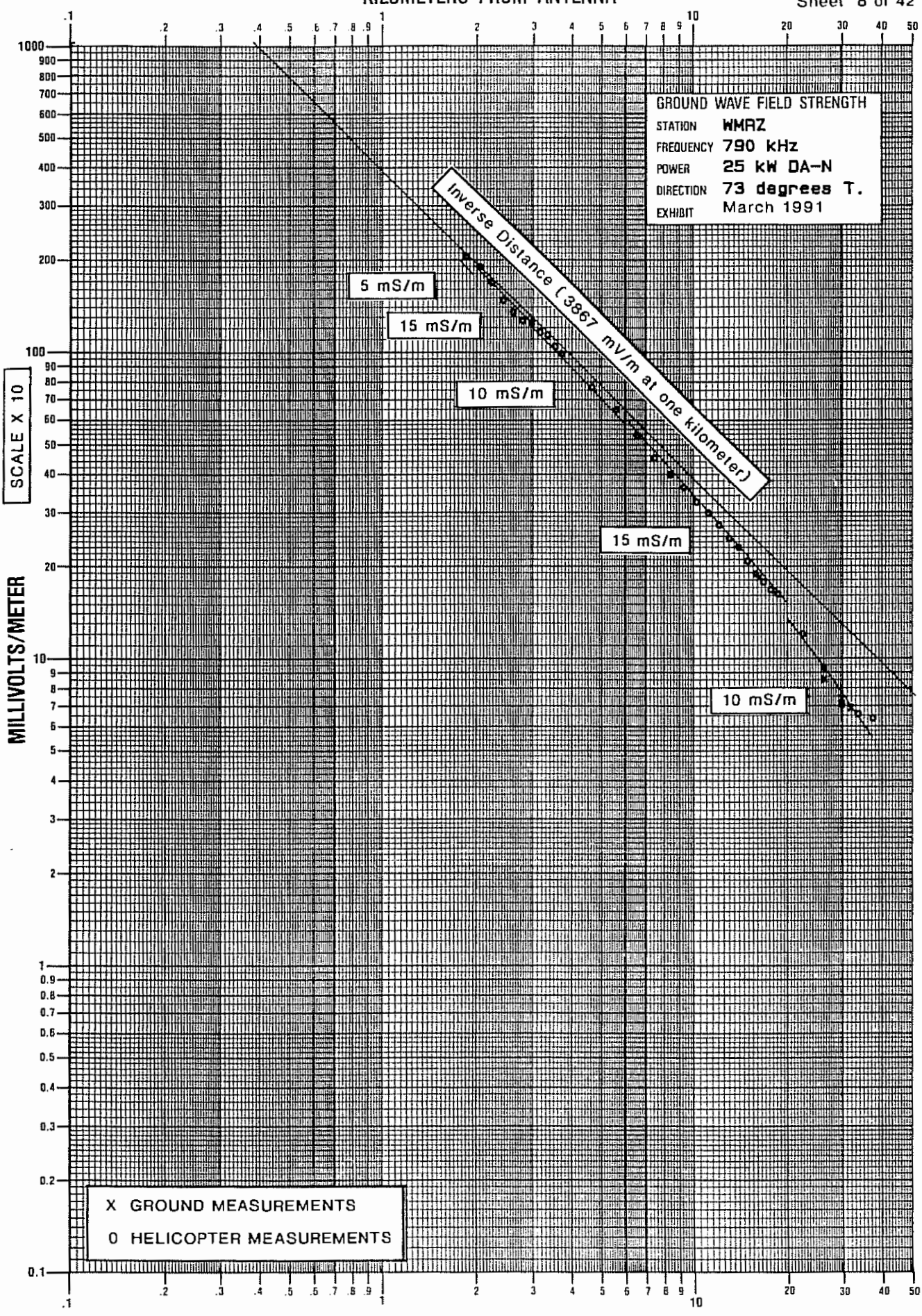

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 45 degrees T.
EXHIBIT March 1991
Inverse Distance (775 mV/m at one kilometer)
3 mS/m
5 mS/m
10 mS/m
15 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

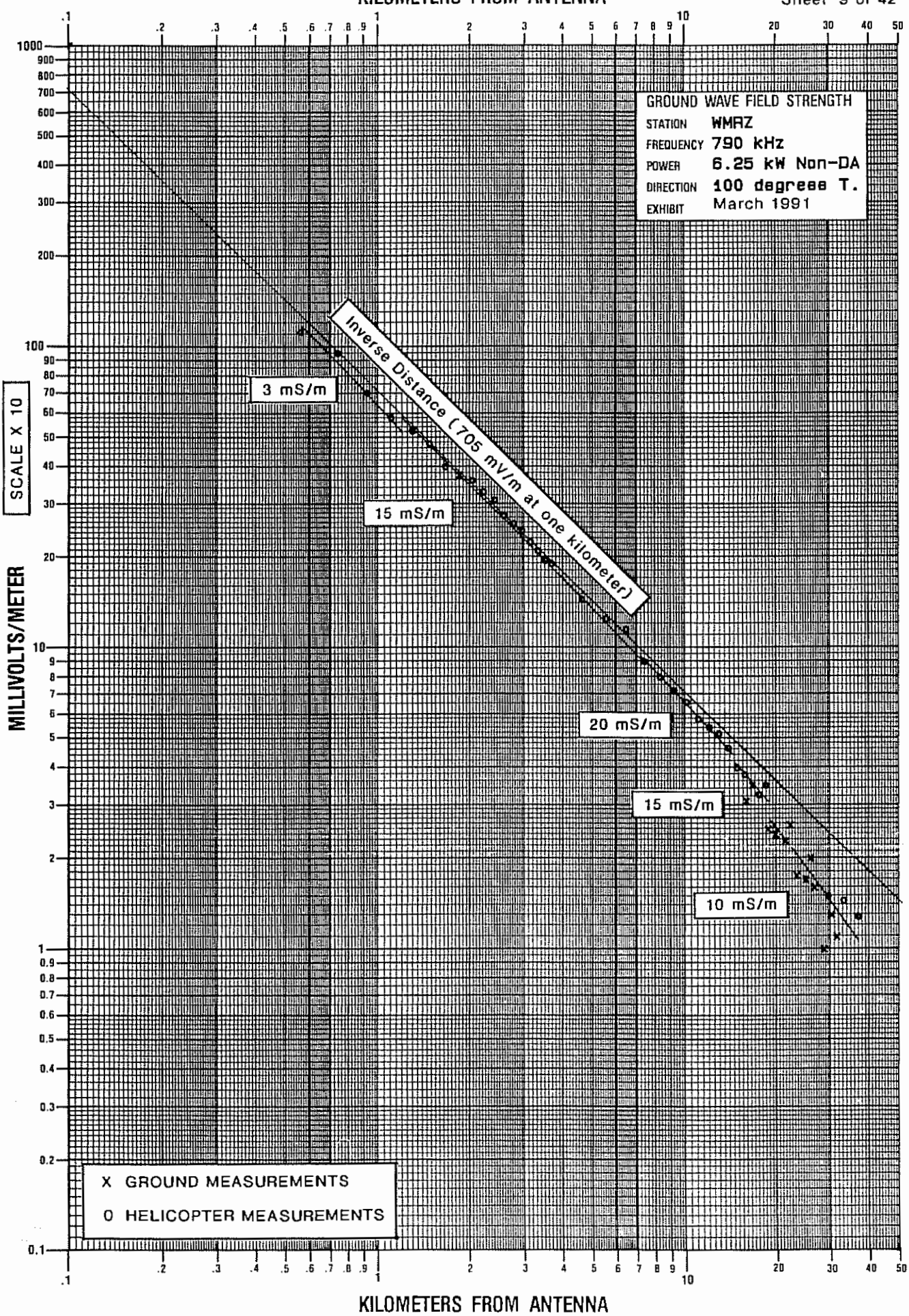

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 45 degrees T.
EXHIBIT March 1991
Inverse Distance (1692 mV/m at one kilometer)
5 mS/m
10 mS/m
15 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

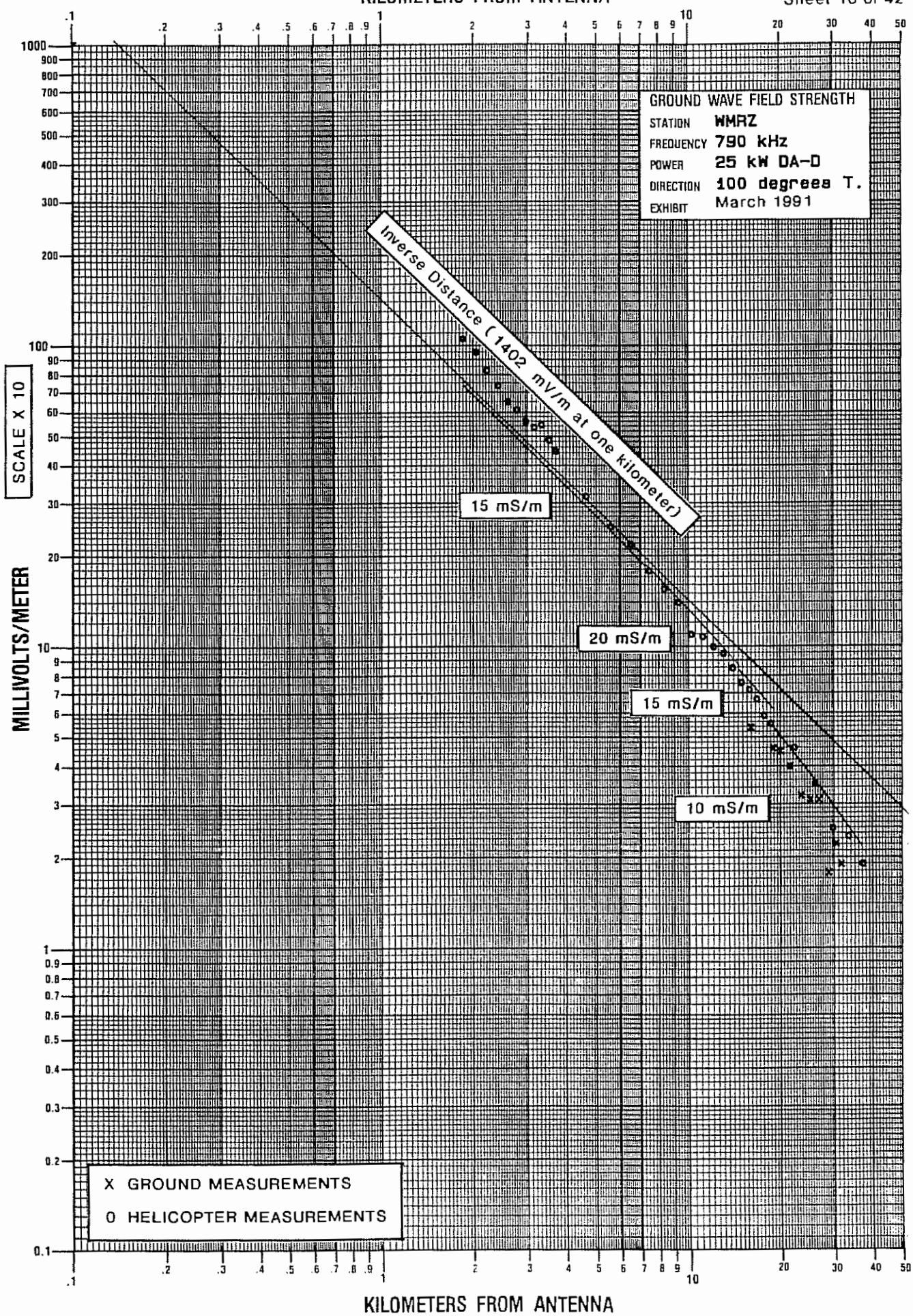

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 45 degrees T.
EXHIBIT March 1991
Inverse Distance (2079 mV/m at one kilometer)
5 mS/m
10 mS/m
15 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

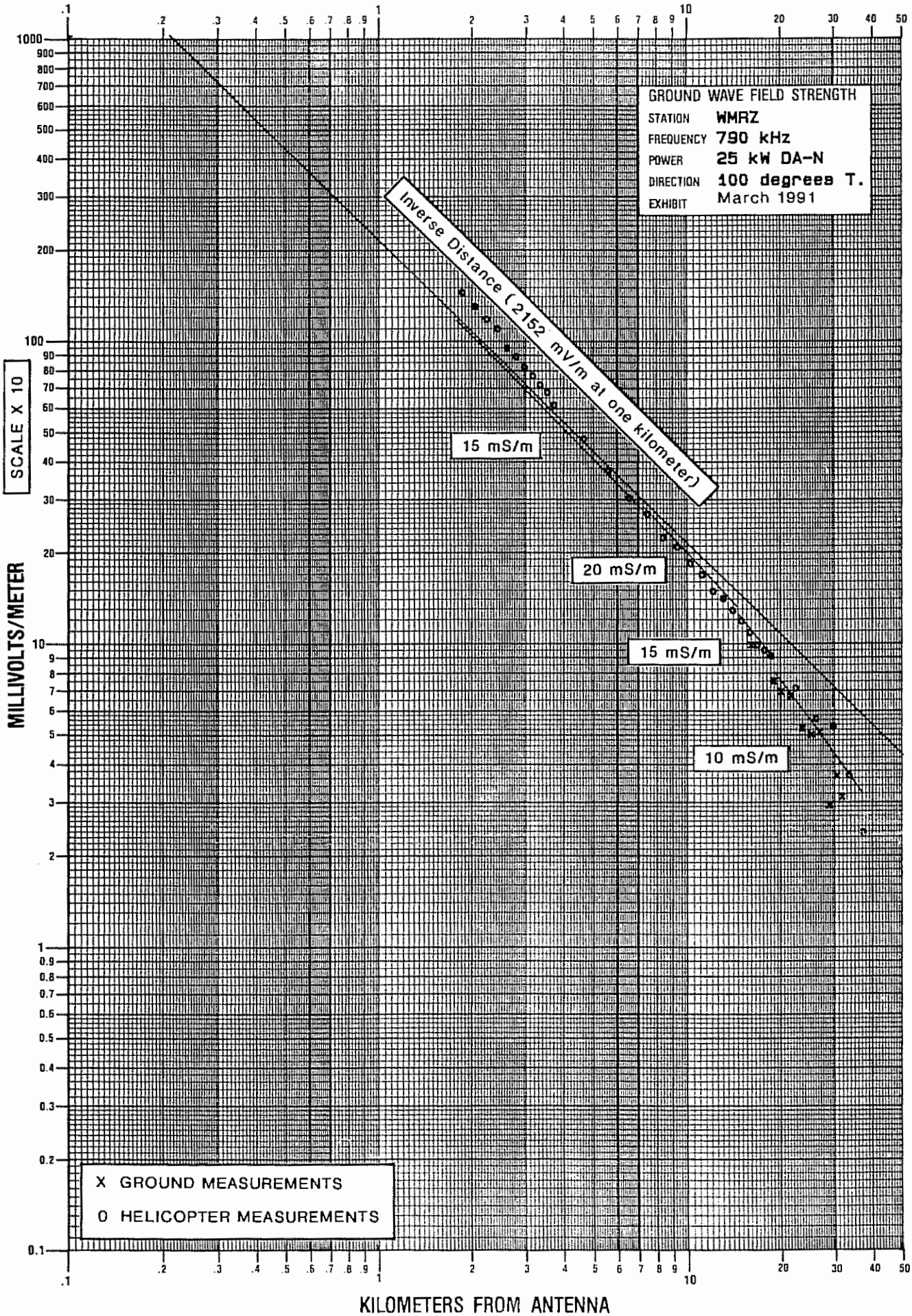

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 73 degrees T.
EXHIBIT March 1991
Inverse Distance (770 mV/m at one kilometer)
3 mS/m
5 mS/m
15 mS/m
10 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

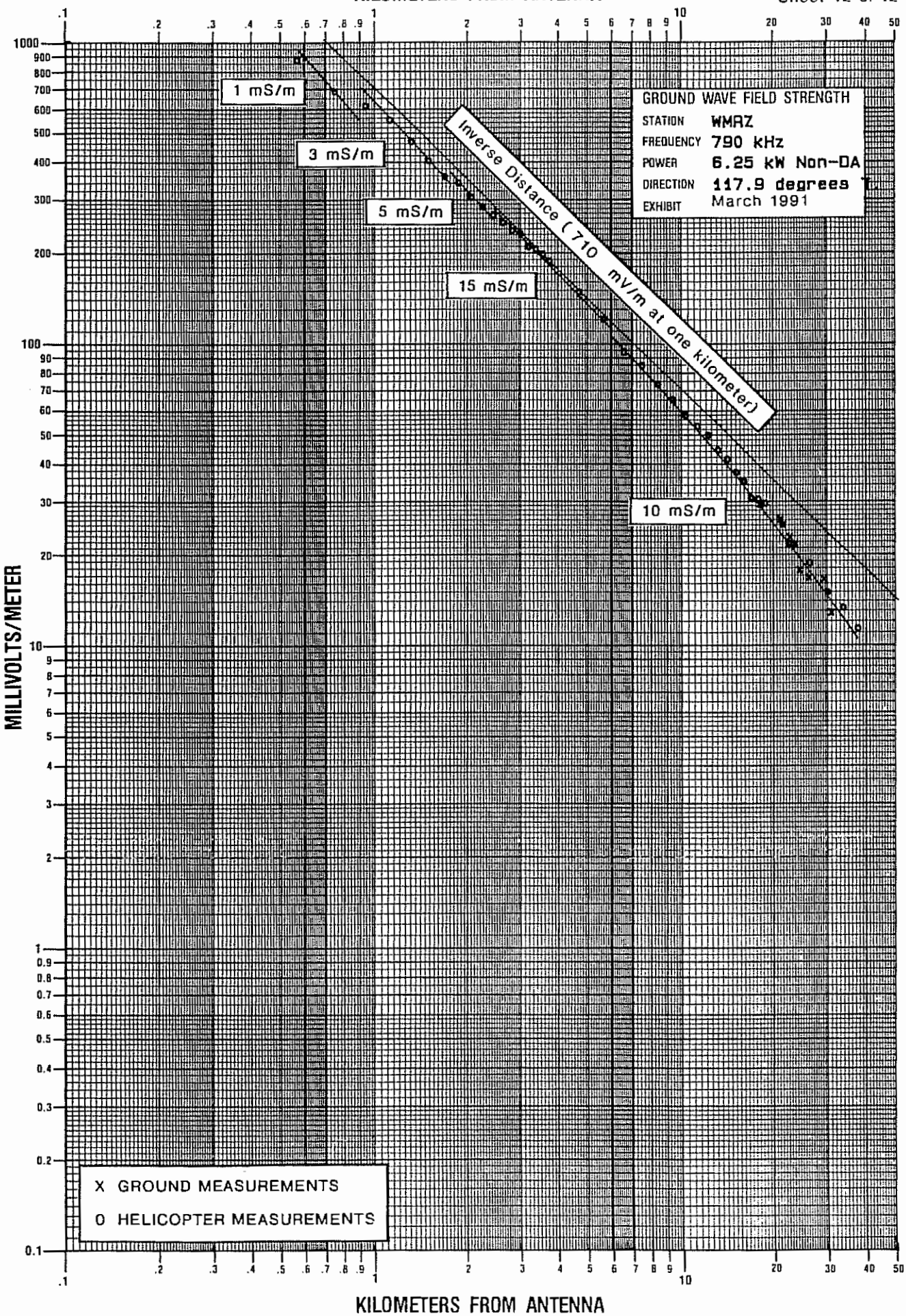

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 73 degrees T.
EXHIBIT March 1991
Inverse Distance (2286 mV/m at one kilometer)
5 mS/m
15 mS/m
10 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

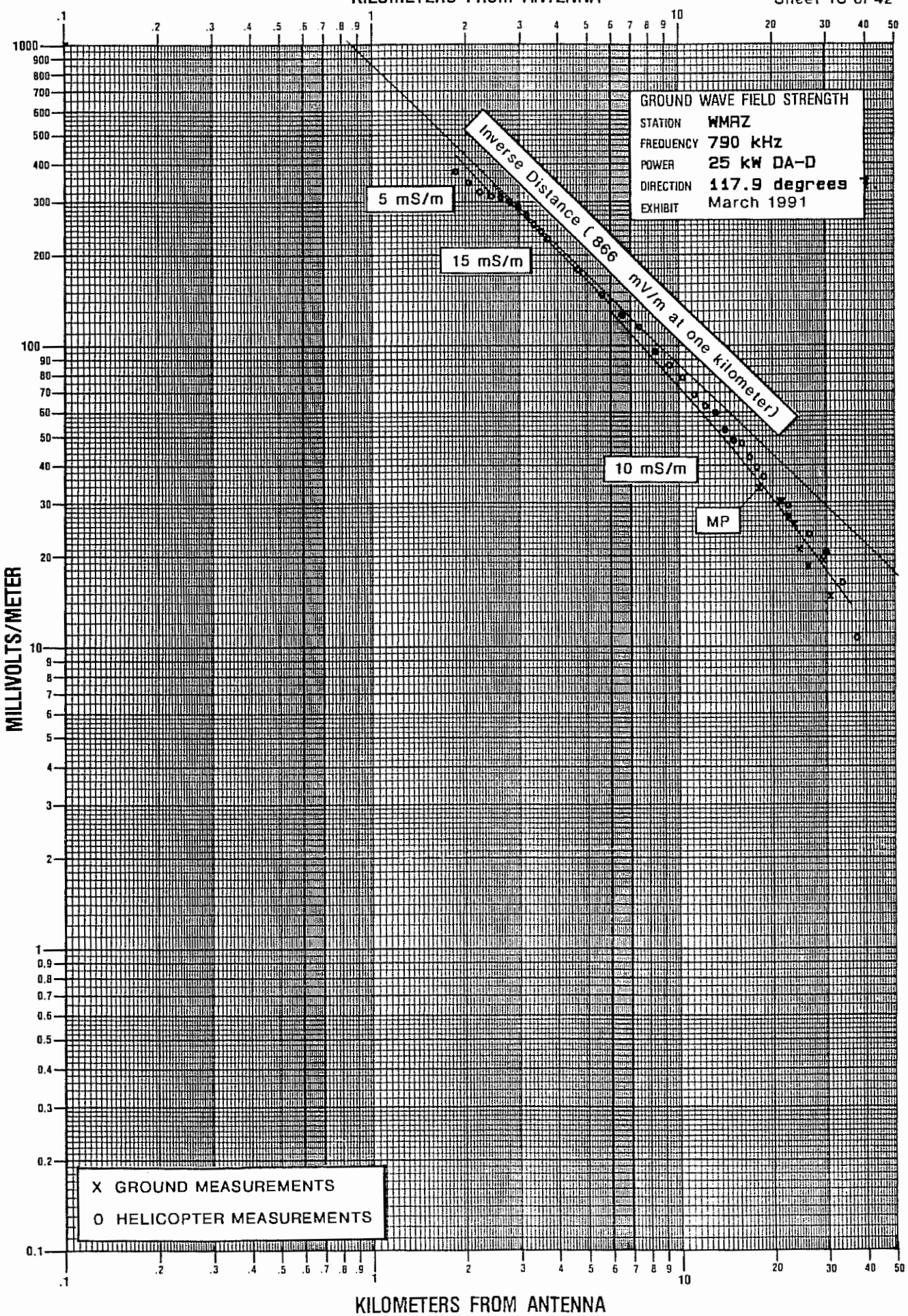

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 73 degrees T.
EXHIBIT March 1991
Inverse Distance (3867 mV/m at one kilometer)
5 mS/m
15 mS/m
10 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

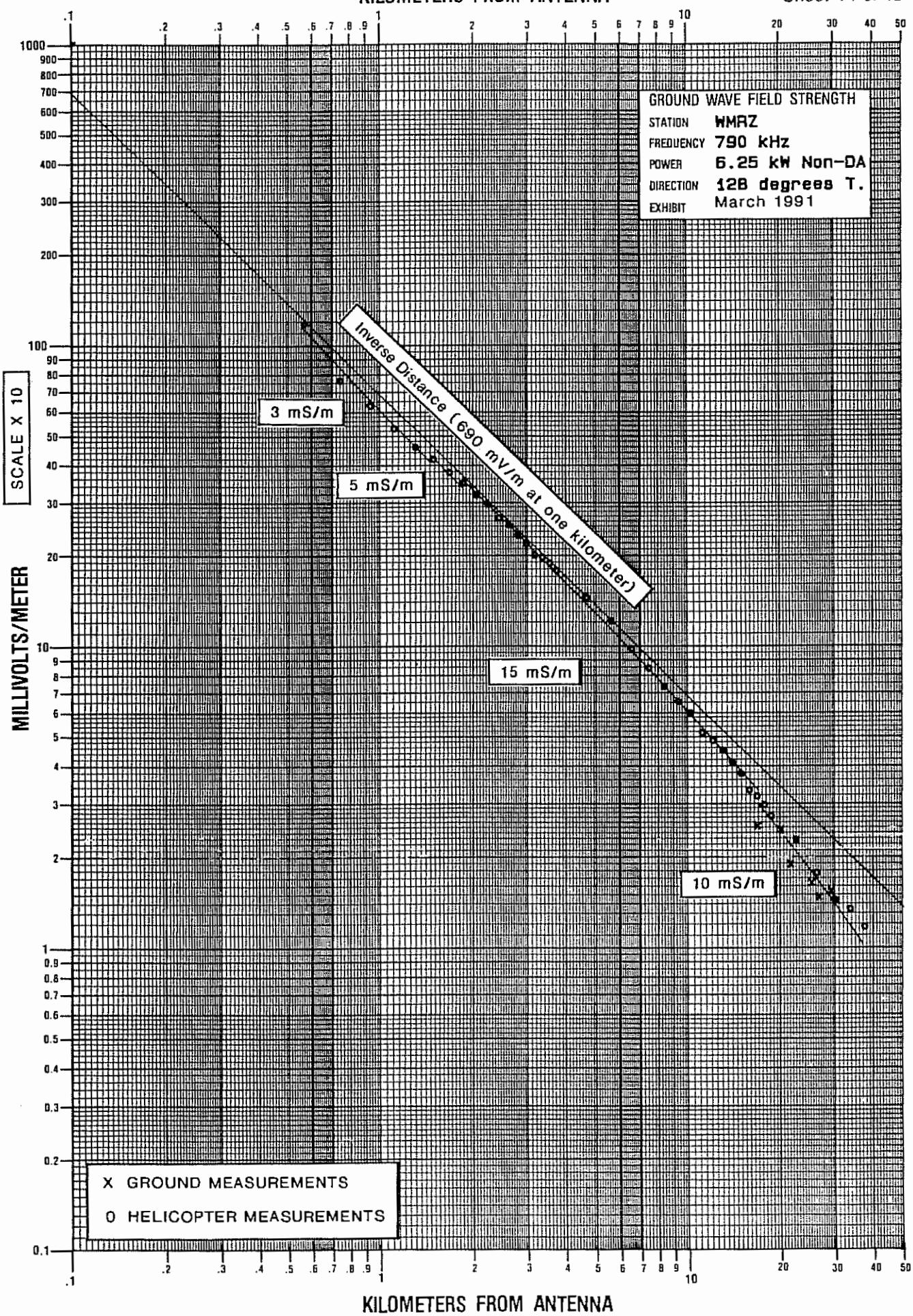

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 100 degrees T.
EXHIBIT March 1991
Inverse Distance (705 mV/m at one kilometer)
3 mS/m
15 mS/m
20 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

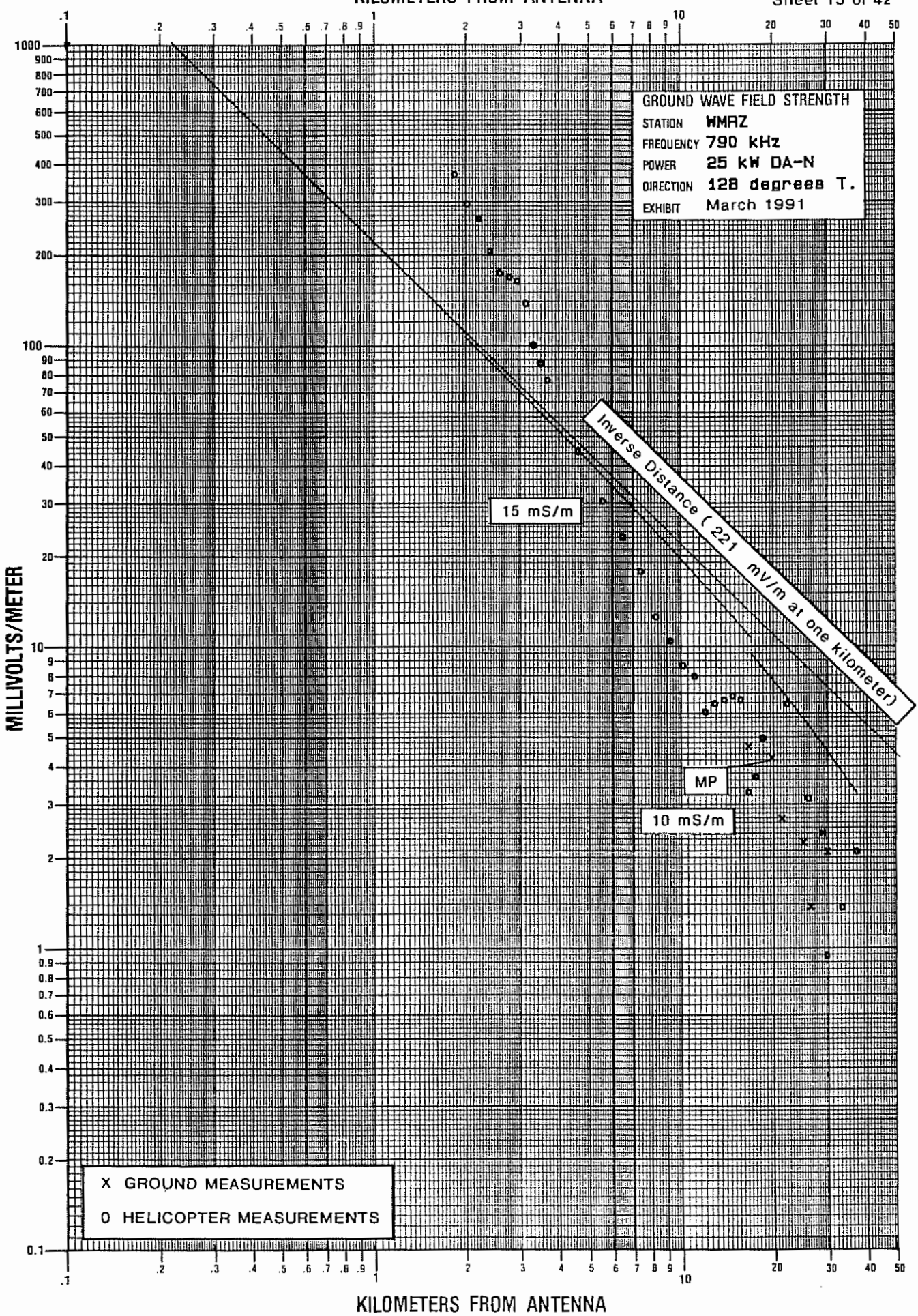

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 100 degrees T.
EXHIBIT March 1991
Inverse Distance (1402 mV/m at one kilometer)
15 mS/m
20 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

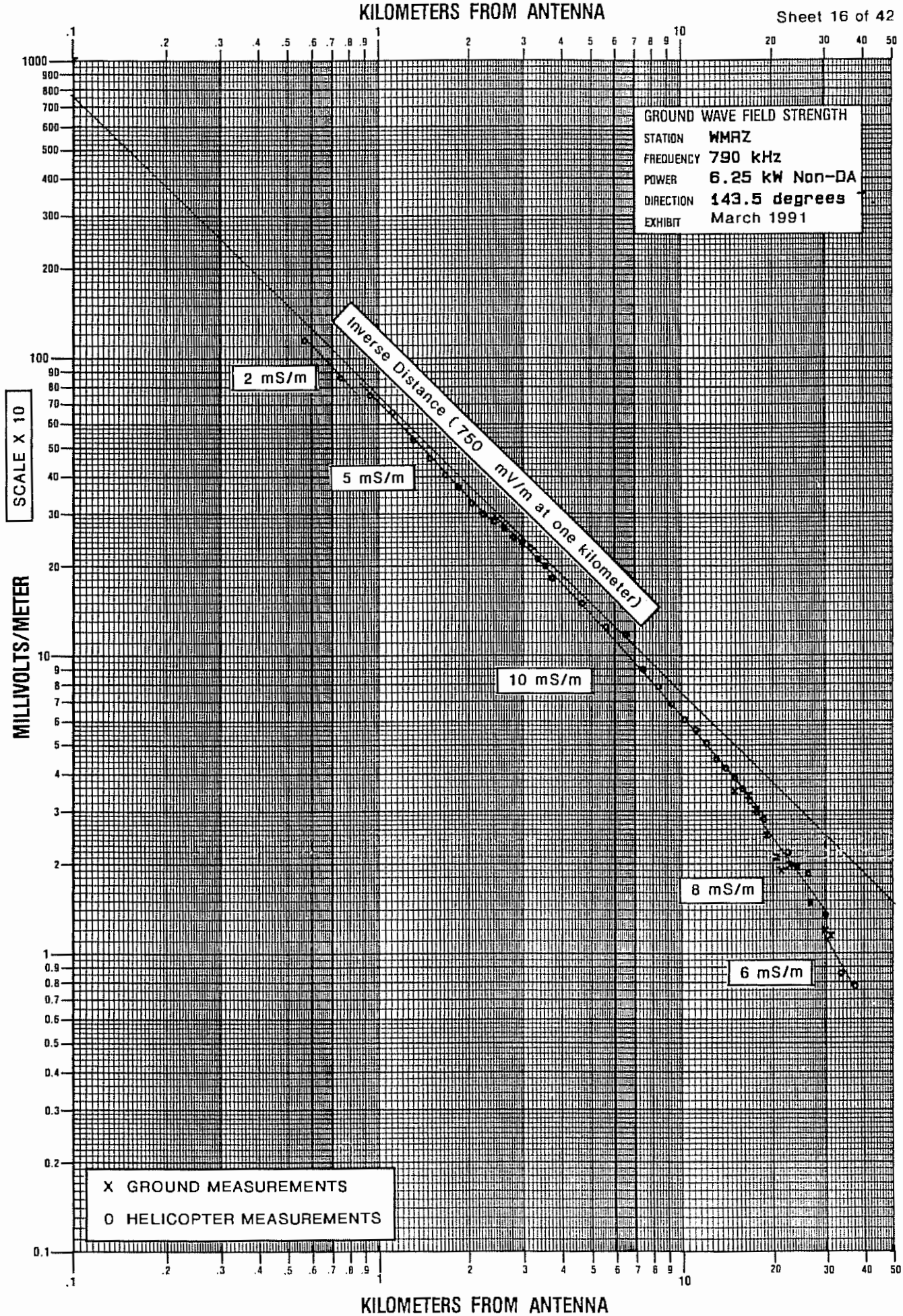

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 100 degrees T.
EXHIBIT March 1991
Inverse Distance (2152 mV/m at one kilometer)
15 mS/m
20 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

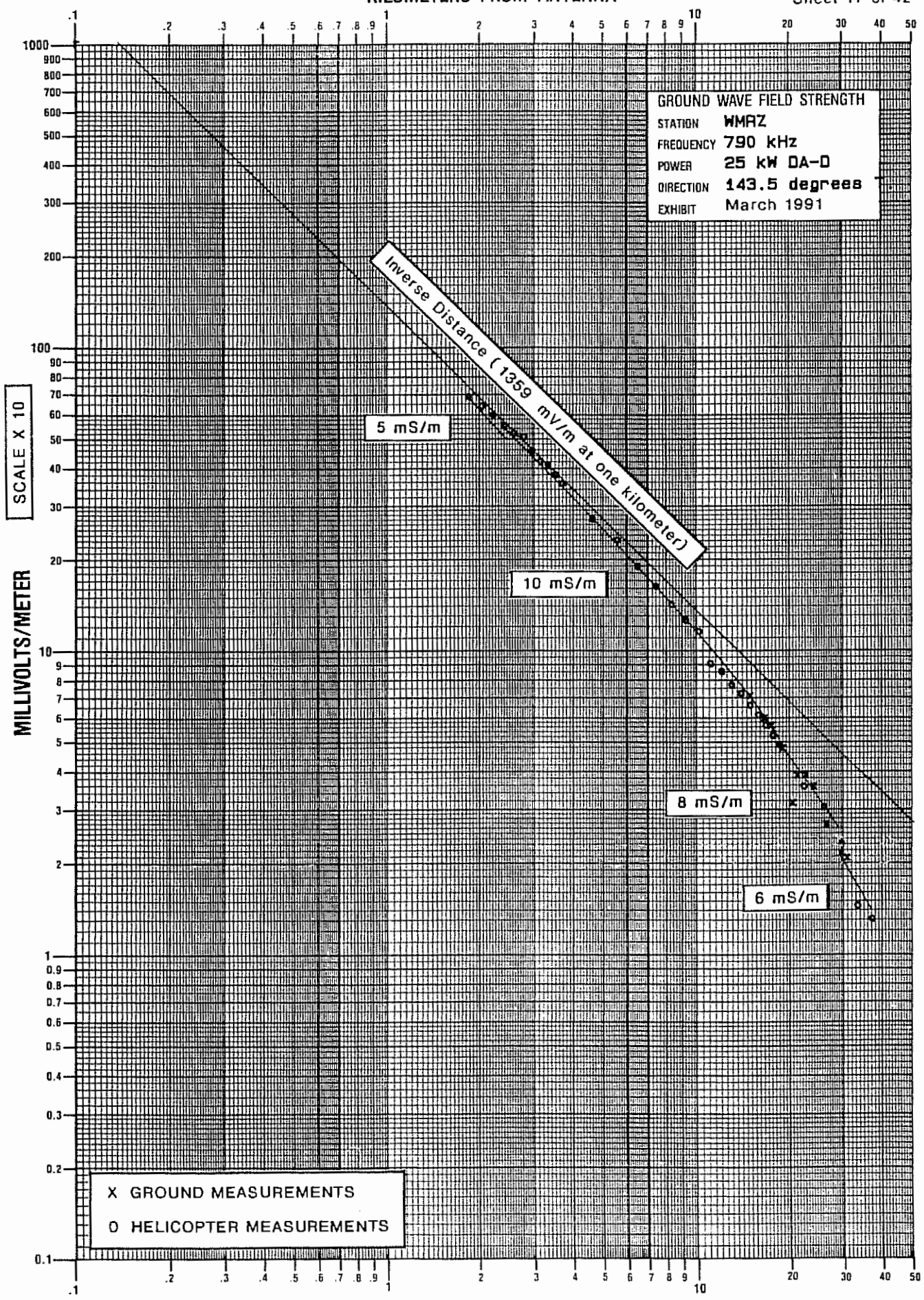

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
1 mS/m
3 mS/m
5 mS/m
15 mS/m
10 mS/m
Inverse Distance (710 mV/m at one kilometer)
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 117.9 degrees T.
EXHIBIT March 1991
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

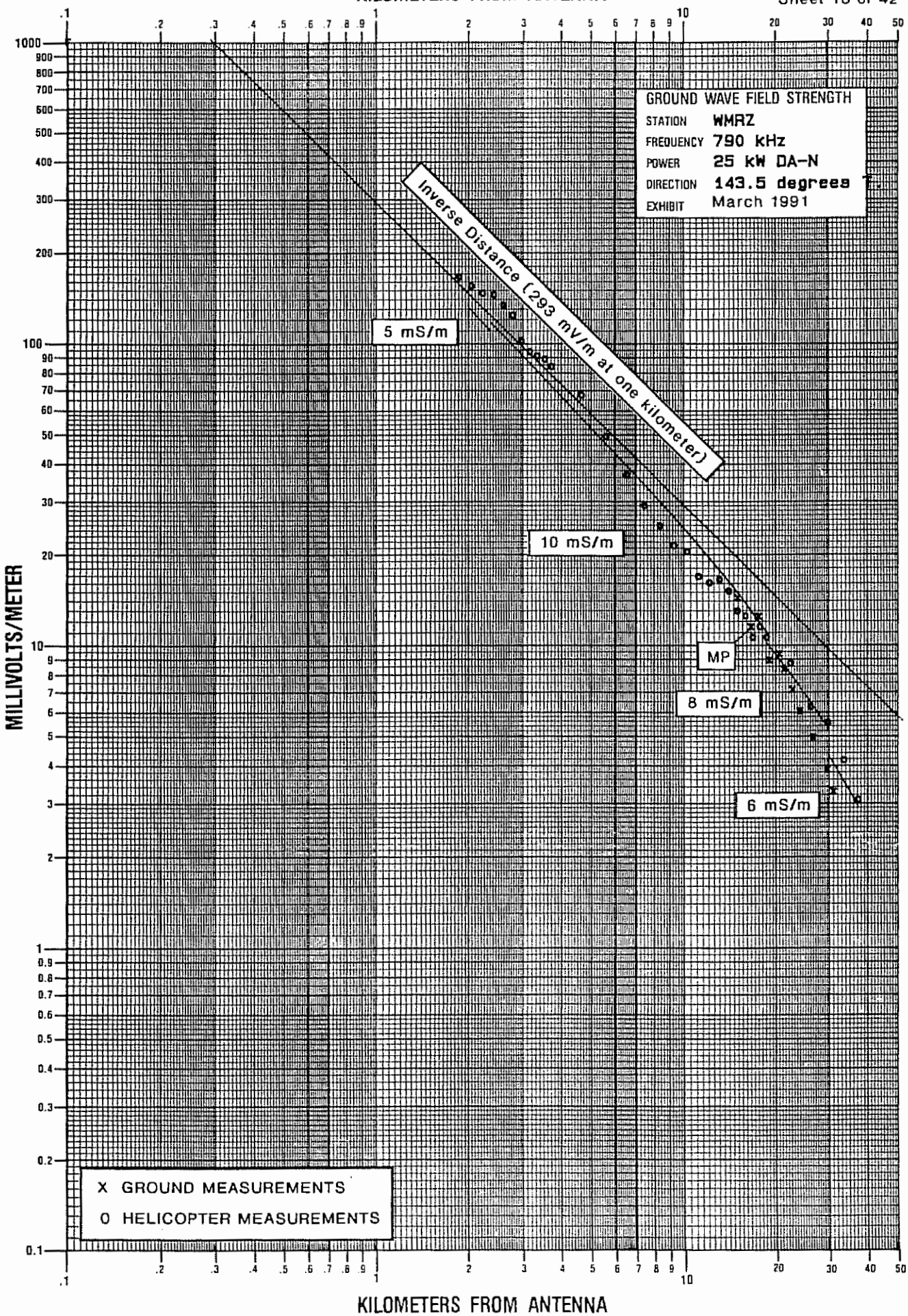

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMAZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 117.9 degrees T.
EXHIBIT March 1991
Inverse Distance (866 mV/m at one kilometer)
5 mS/m
15 mS/m
10 mS/m
MP
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

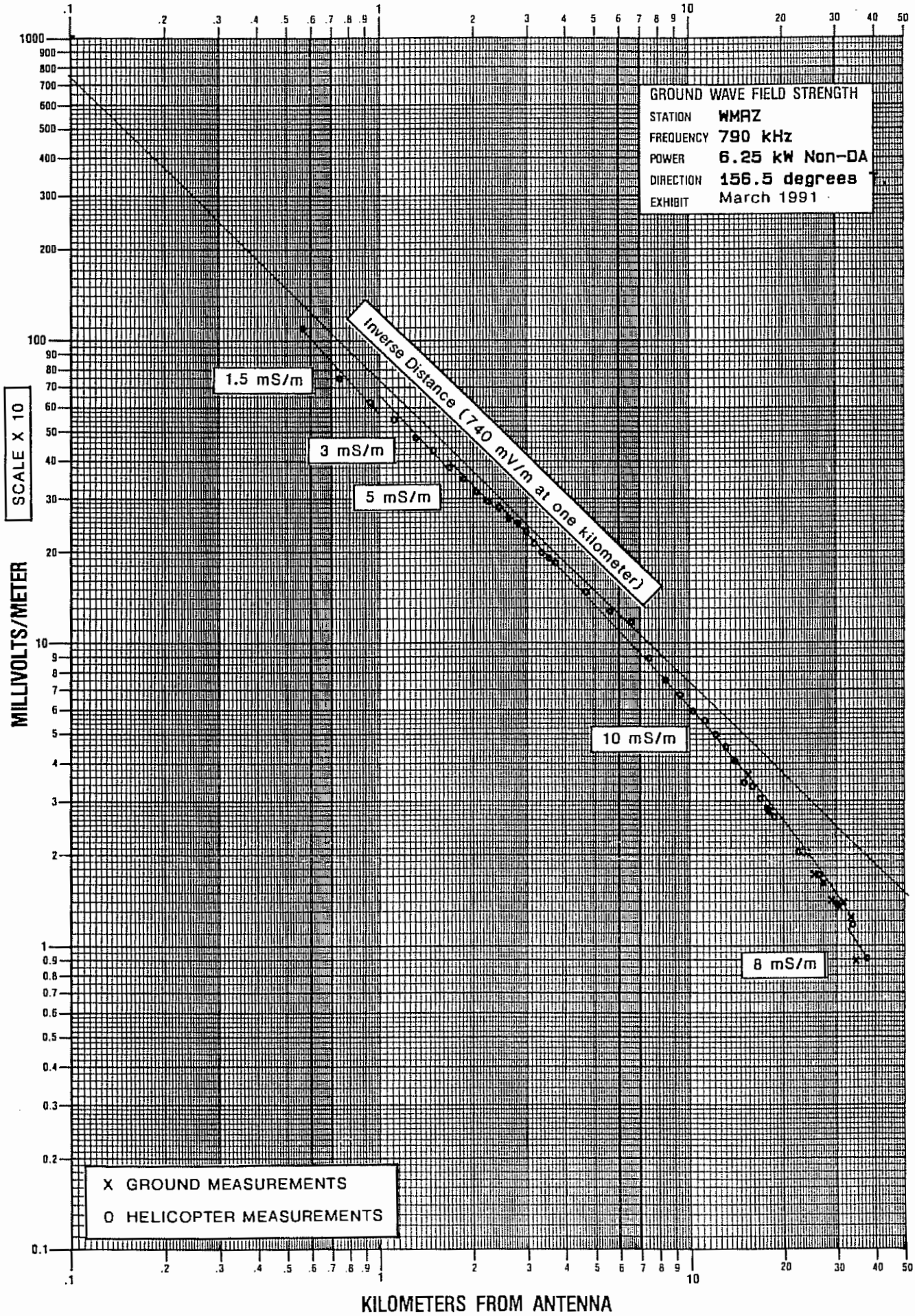

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 128 degrees T.
EXHIBIT March 1991
Inverse Distance (690 mV/m at one kilometer)
3 mS/m
5 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

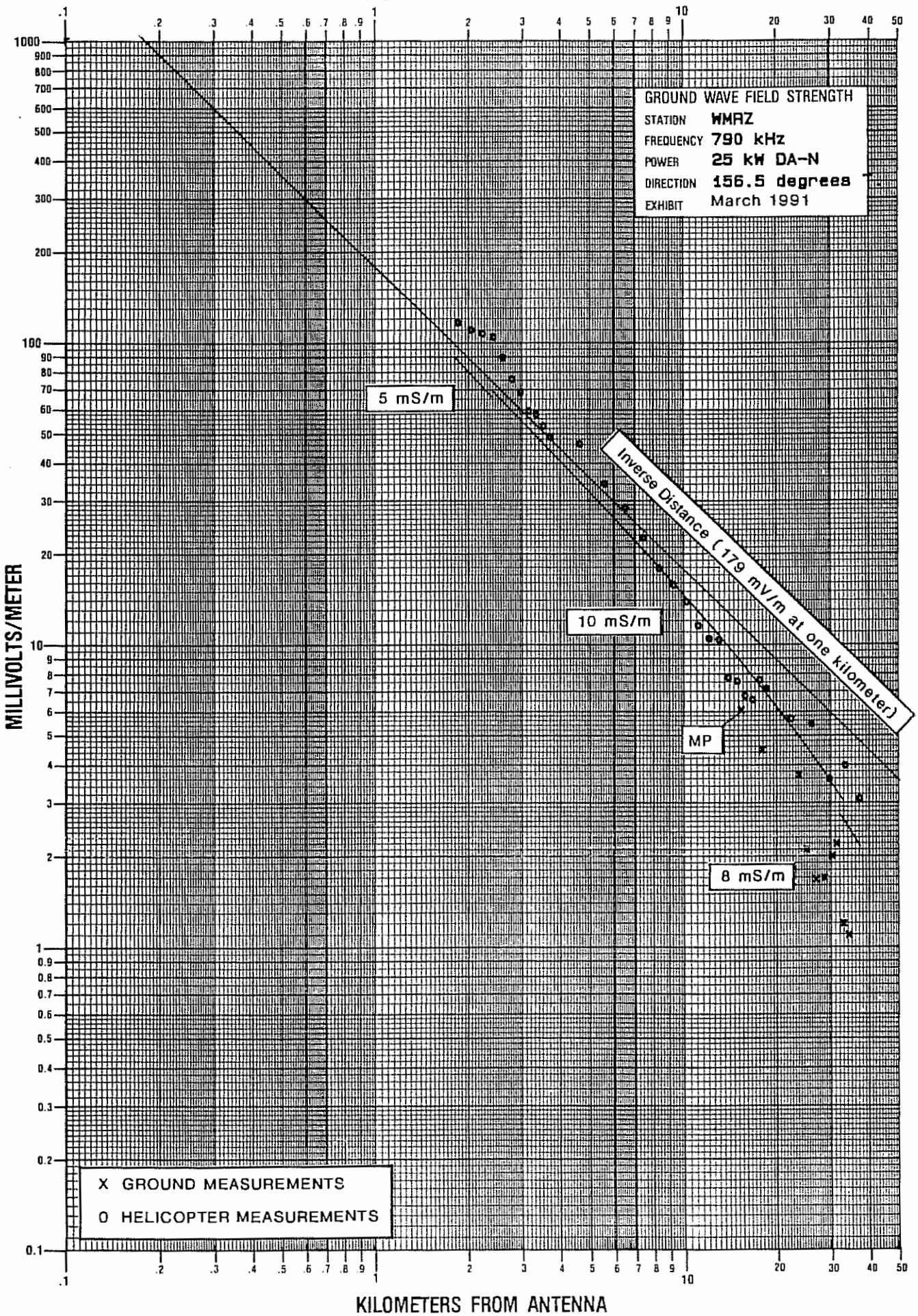

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 128 degrees T.
EXHIBIT March 1991
15 mS/m
Inverse Distance (221 mV/m at one kilometer)
MP
10 mS/m
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

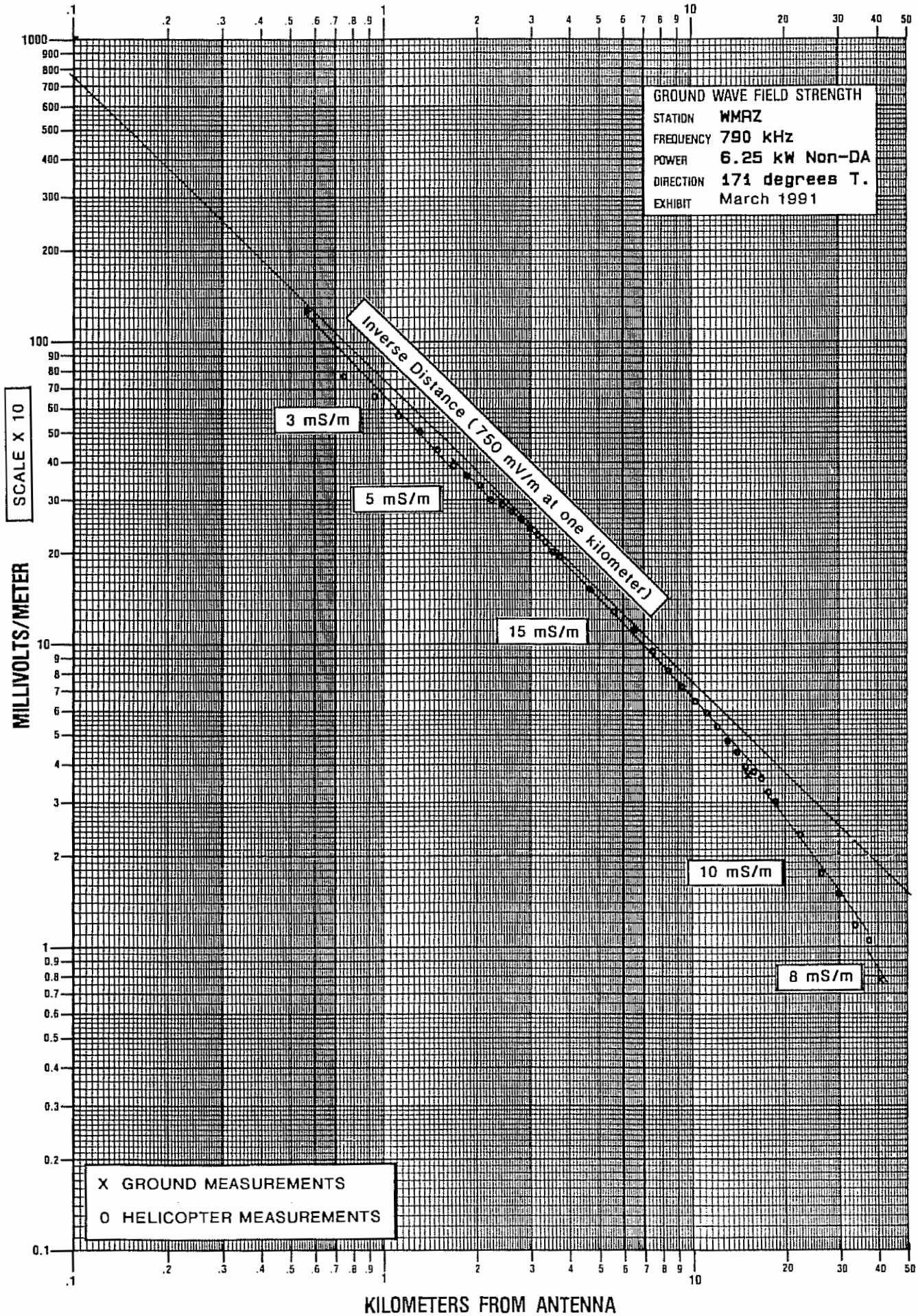

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 143.5 degrees
EXHIBIT March 1991
Inverse Distance (750 mV/m at one kilometer)
2 mS/m
5 mS/m
10 mS/m
8 mS/m
6 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

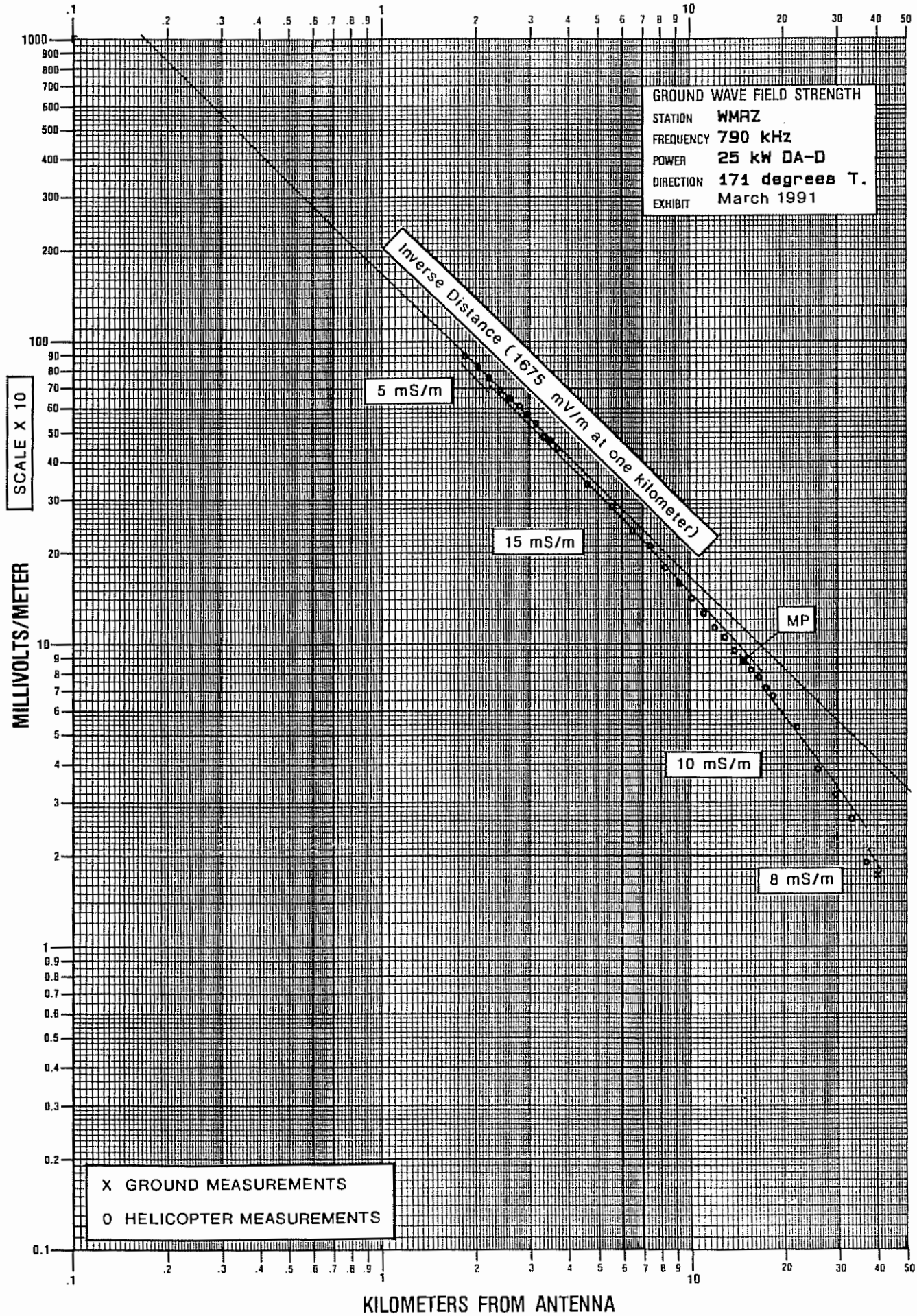

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMAZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 143.5 degrees
EXHIBIT March 1991
Inverse Distance (1359 mV/m at one kilometer)
5 mS/m
10 mS/m
8 mS/m
6 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

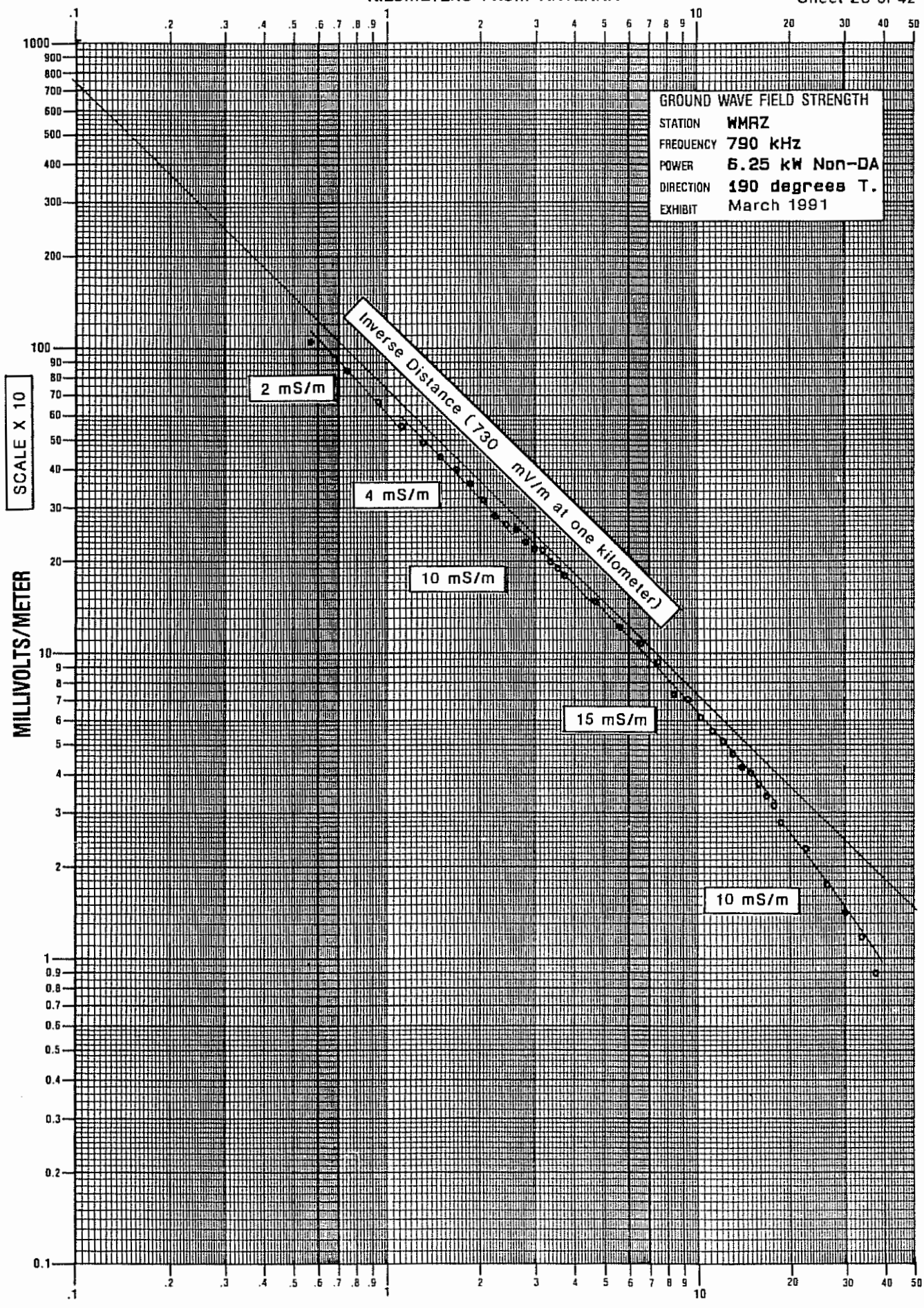

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 143.5 degrees T.
EXHIBIT March 1991
Inverse Distance (293 mV/m at one kilometer)
5 mS/m
10 mS/m
MP
8 mS/m
6 mS/m
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

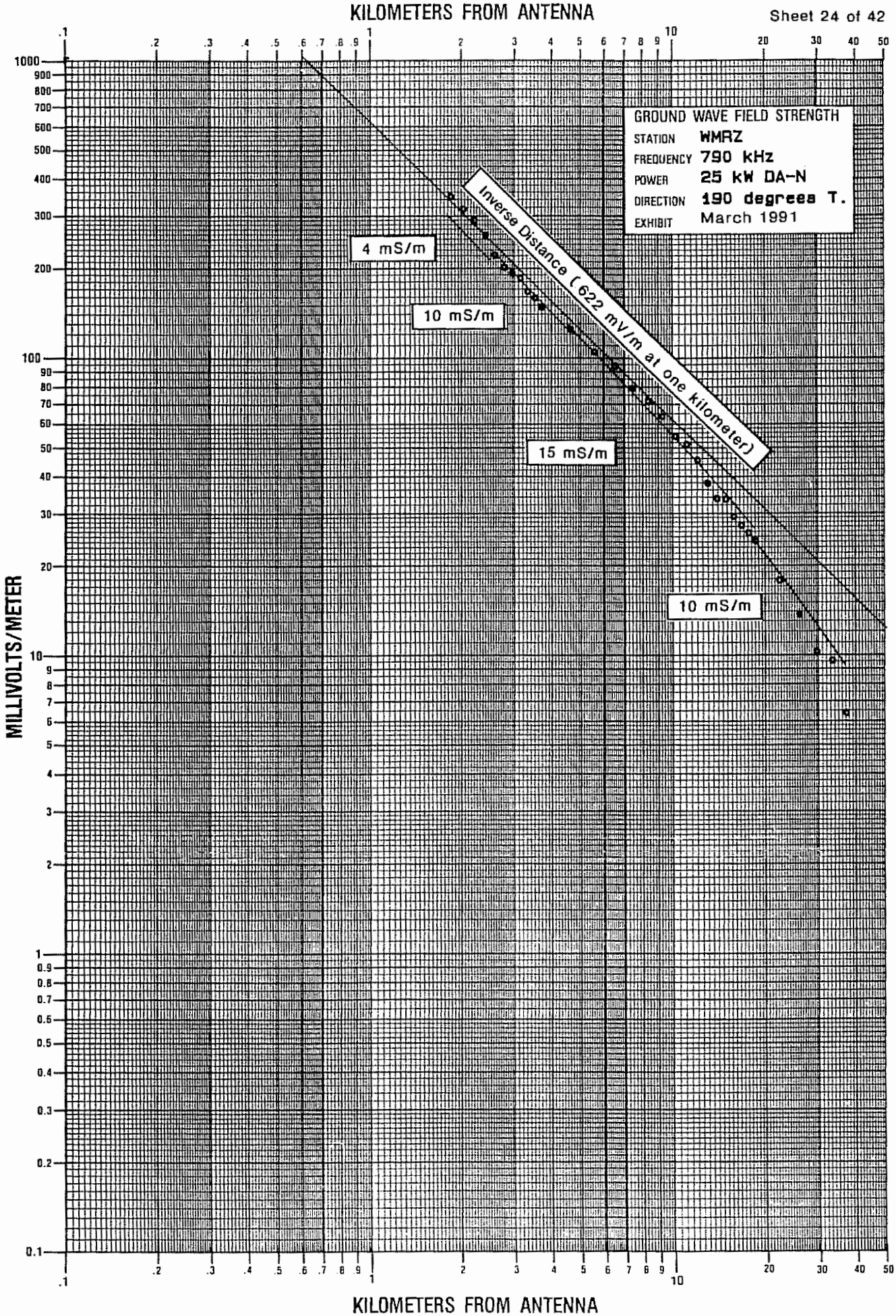

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMAZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 156.5 degrees
EXHIBIT March 1991
Inverse Distance (740 mV/m at one kilometer)
1.5 mS/m
3 mS/m
5 mS/m
10 mS/m
8 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

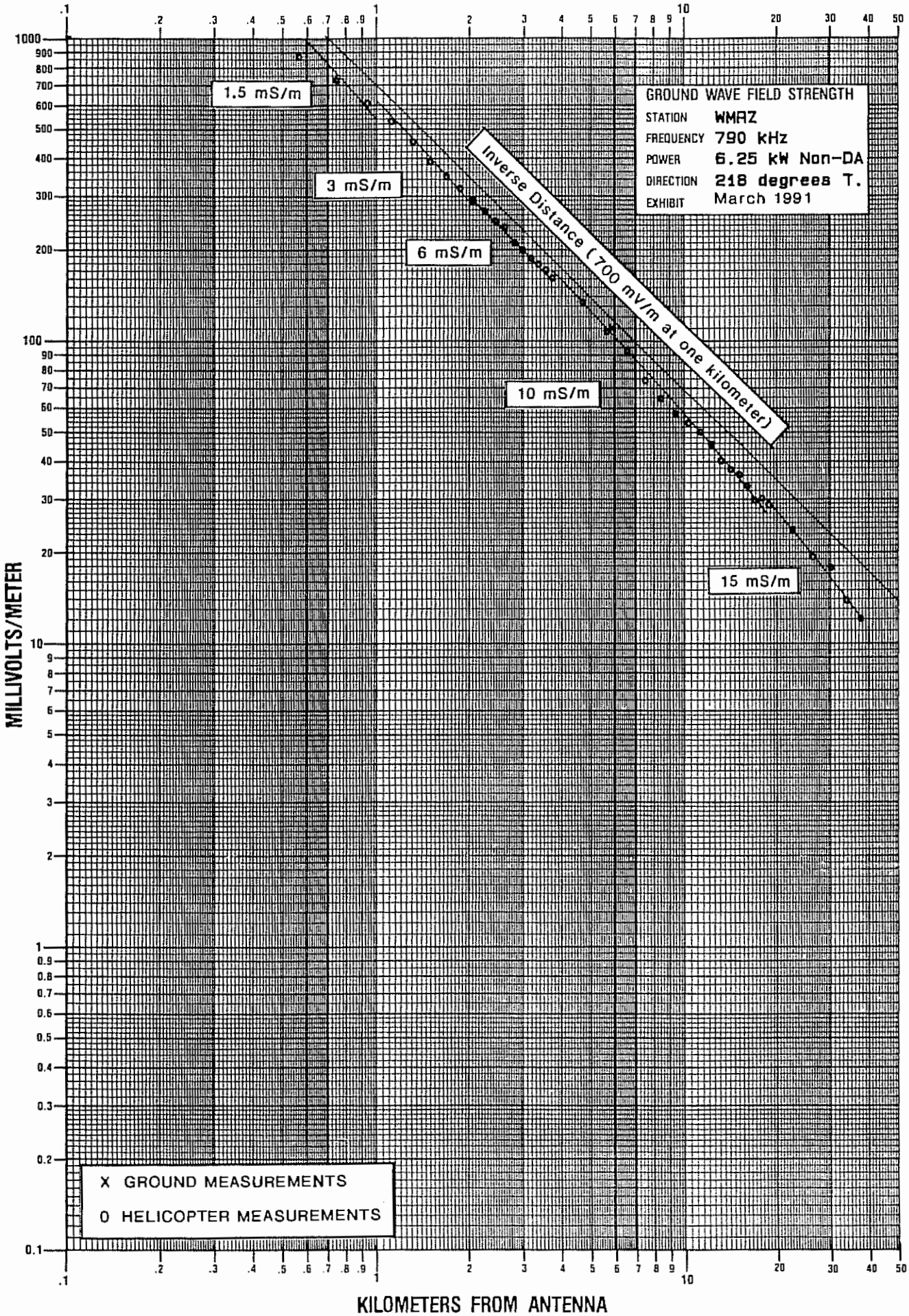

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 156.5 degrees
EXHIBIT March 1991
5 mS/m
10 mS/m
8 mS/m
MP
Inverse Distance (179 mV/m at one kilometer)
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

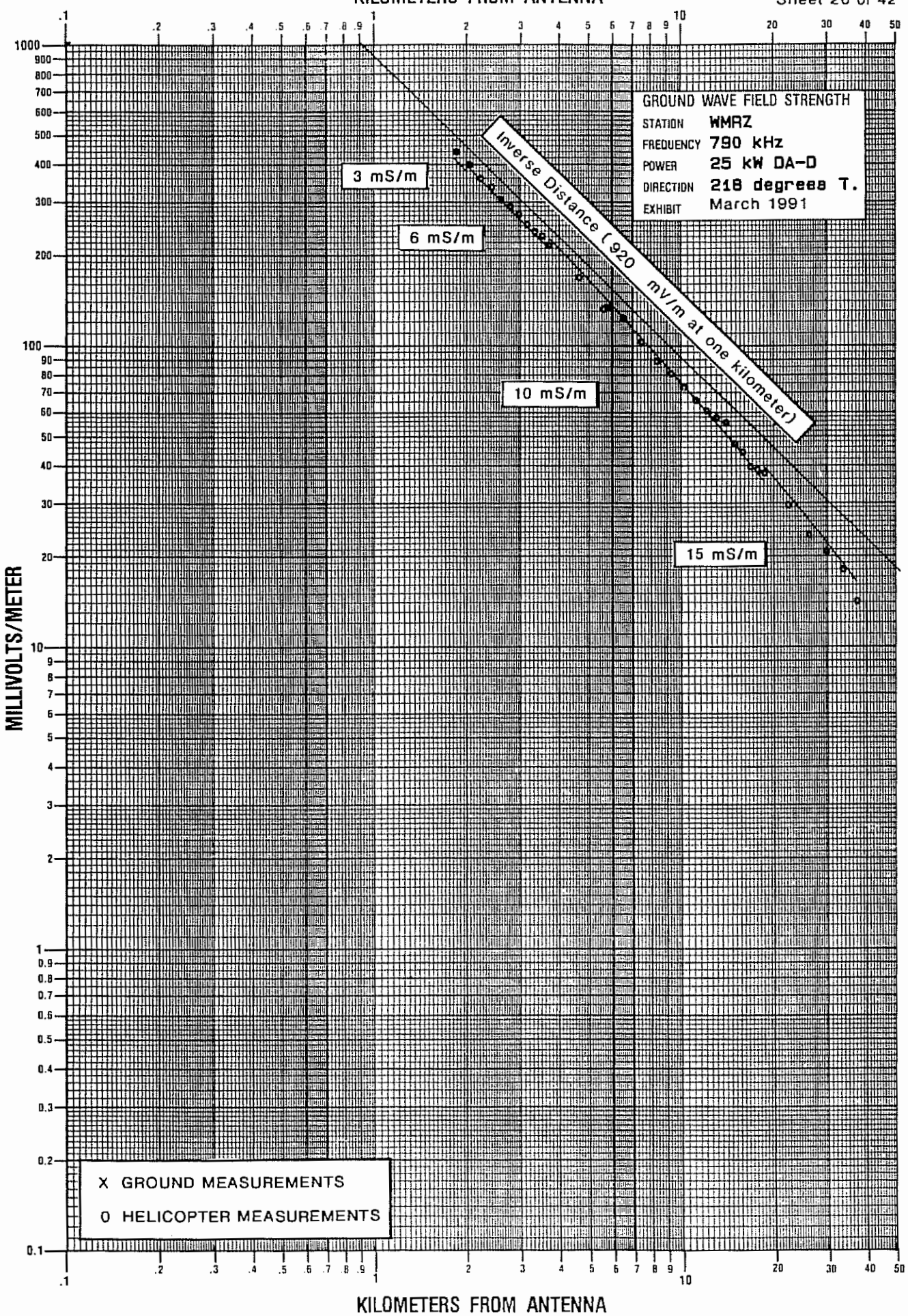

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 171 degrees T.
EXHIBIT March 1991
Inverse Distance (750 mV/m at one kilometer)
3 mS/m
5 mS/m
15 mS/m
10 mS/m
8 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

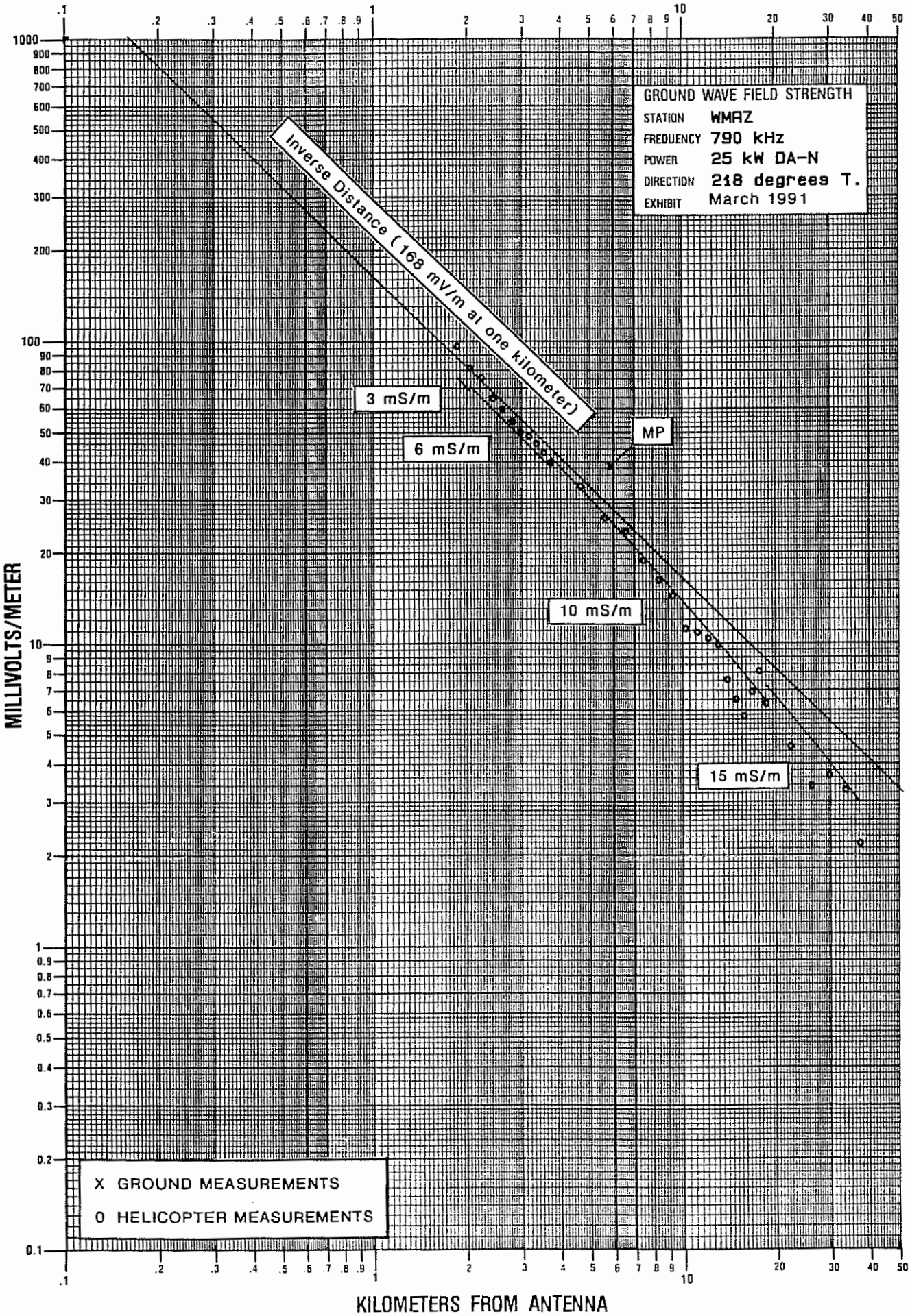

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 171 degrees T.
EXHIBIT March 1991
Inverse Distance (1675 mV/m at one kilometer)
5 mS/m
15 mS/m
MP
10 mS/m
8 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

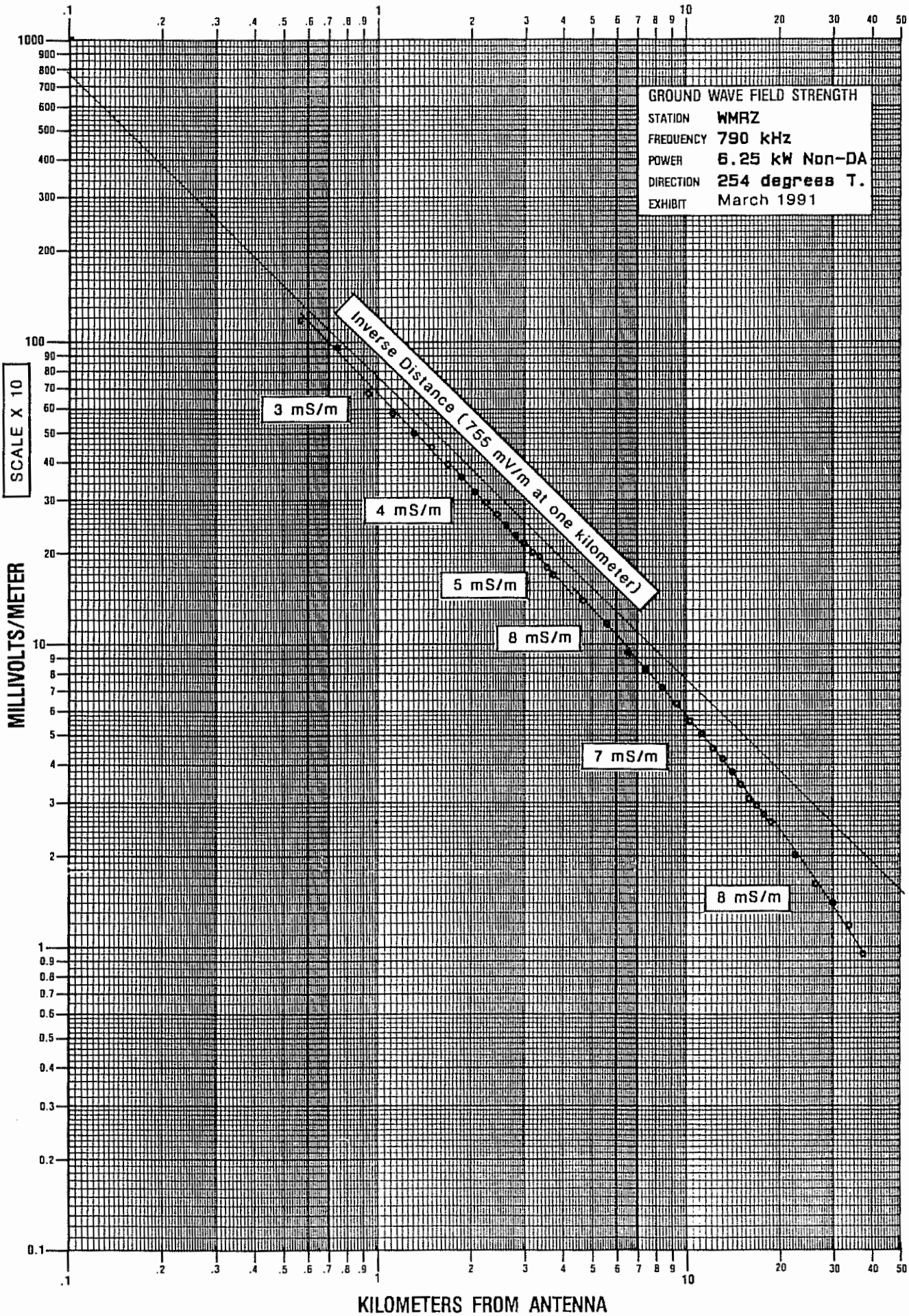

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 190 degrees T.
EXHIBIT March 1991
Inverse Distance (730 mV/m at one kilometer)
2 mS/m
4 mS/m
10 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
KILOMETERS FROM ANTENNA

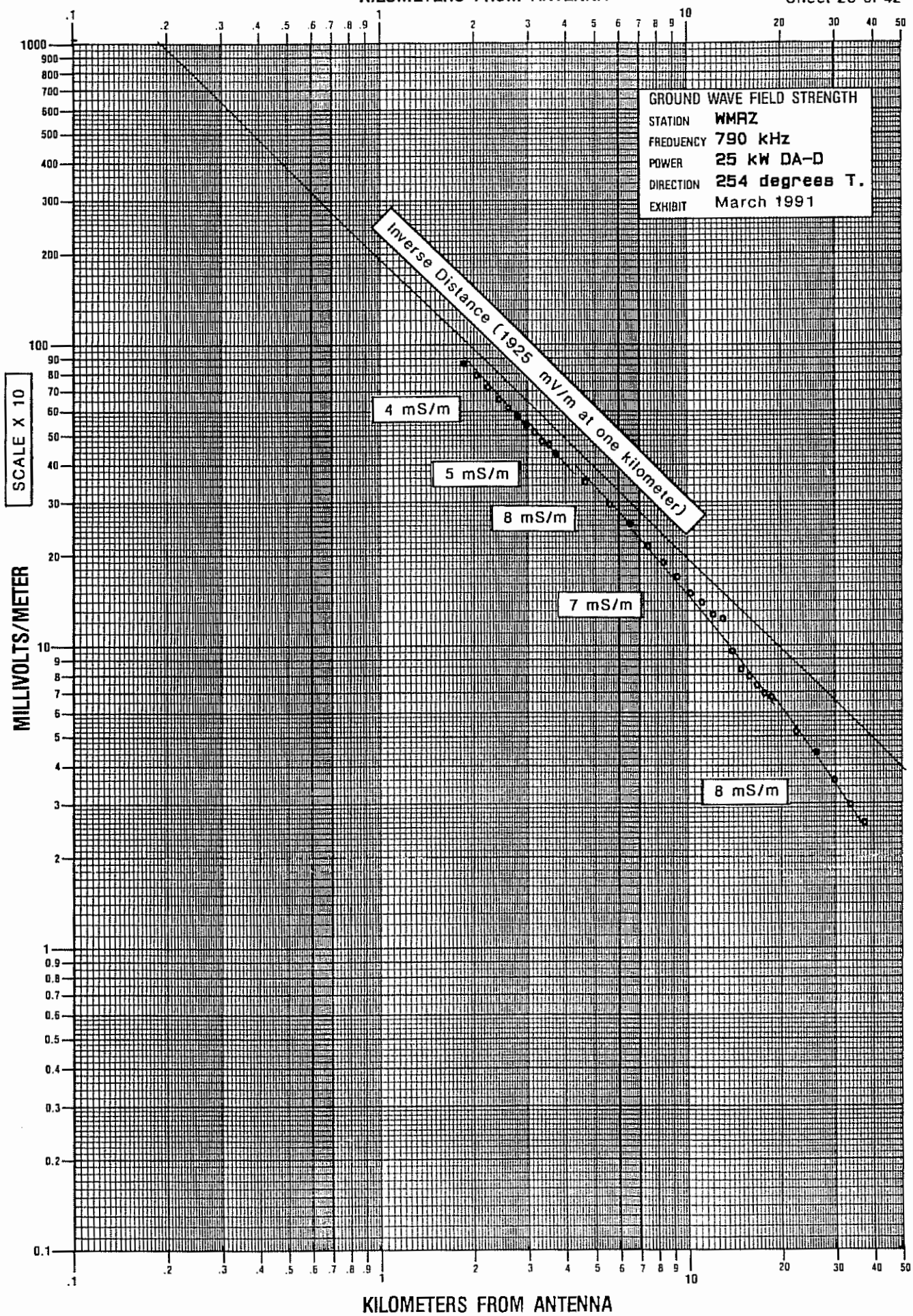

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 190 degrees T.
EXHIBIT March 1991
Inverse Distance (622 mV/m at one kilometer)
4 mS/m
10 mS/m
15 mS/m
10 mS/m
KILOMETERS FROM ANTENNA

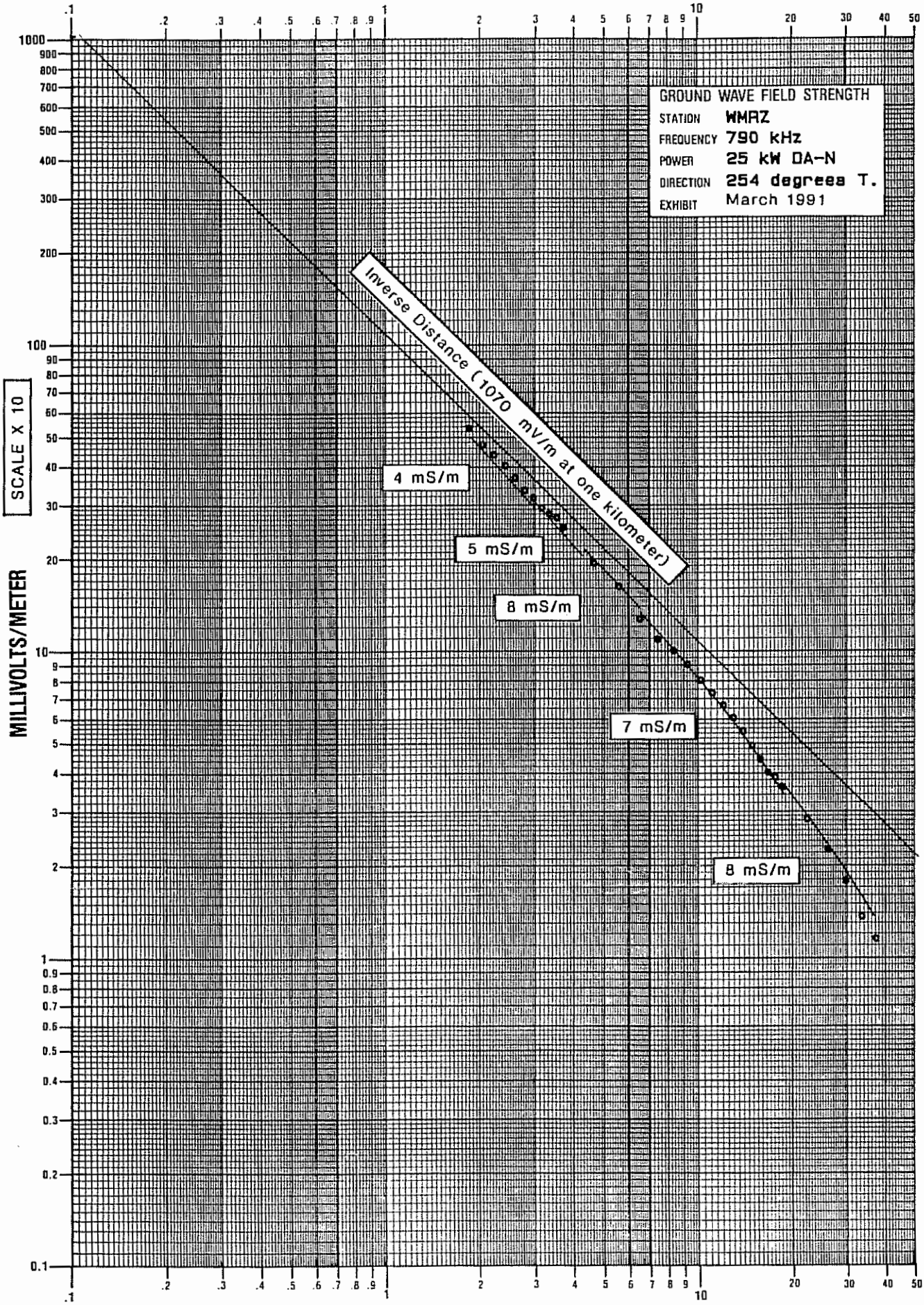

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
1.5 mS/m
3 mS/m
6 mS/m
10 mS/m
15 mS/m
Inverse Distance (700 mV/m at one kilometer)
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 218 degrees T.
EXHIBIT March 1991
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

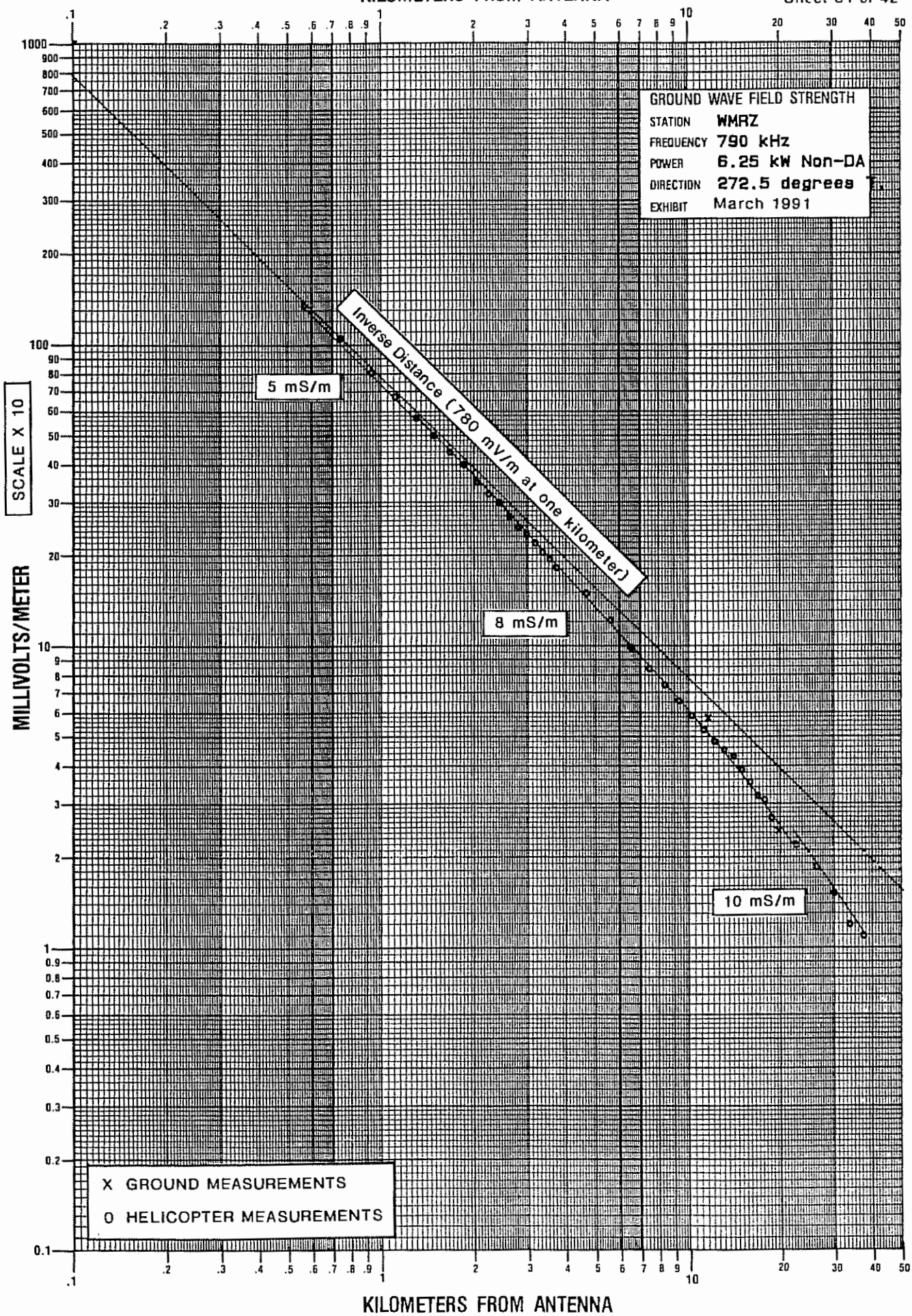

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 218 degrees T.
EXHIBIT March 1991
3 mS/m
6 mS/m
10 mS/m
15 mS/m
Inverse Distance (920 mV/m at one kilometer)
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

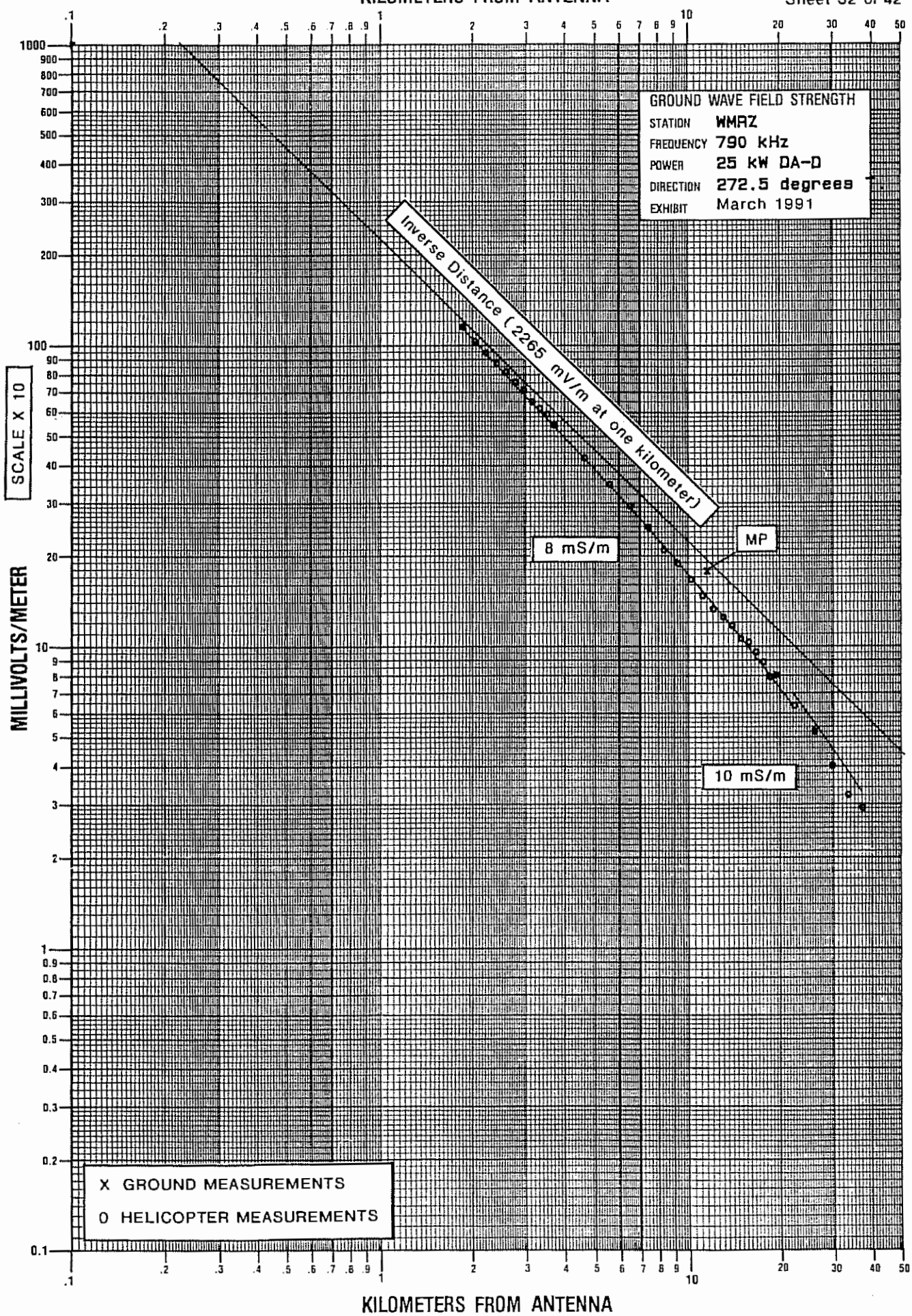

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMAZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 218 degrees T.
EXHIBIT March 1991
Inverse Distance (168 mV/m at one kilometer)
3 mS/m
6 mS/m
10 mS/m
15 mS/m
MP
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

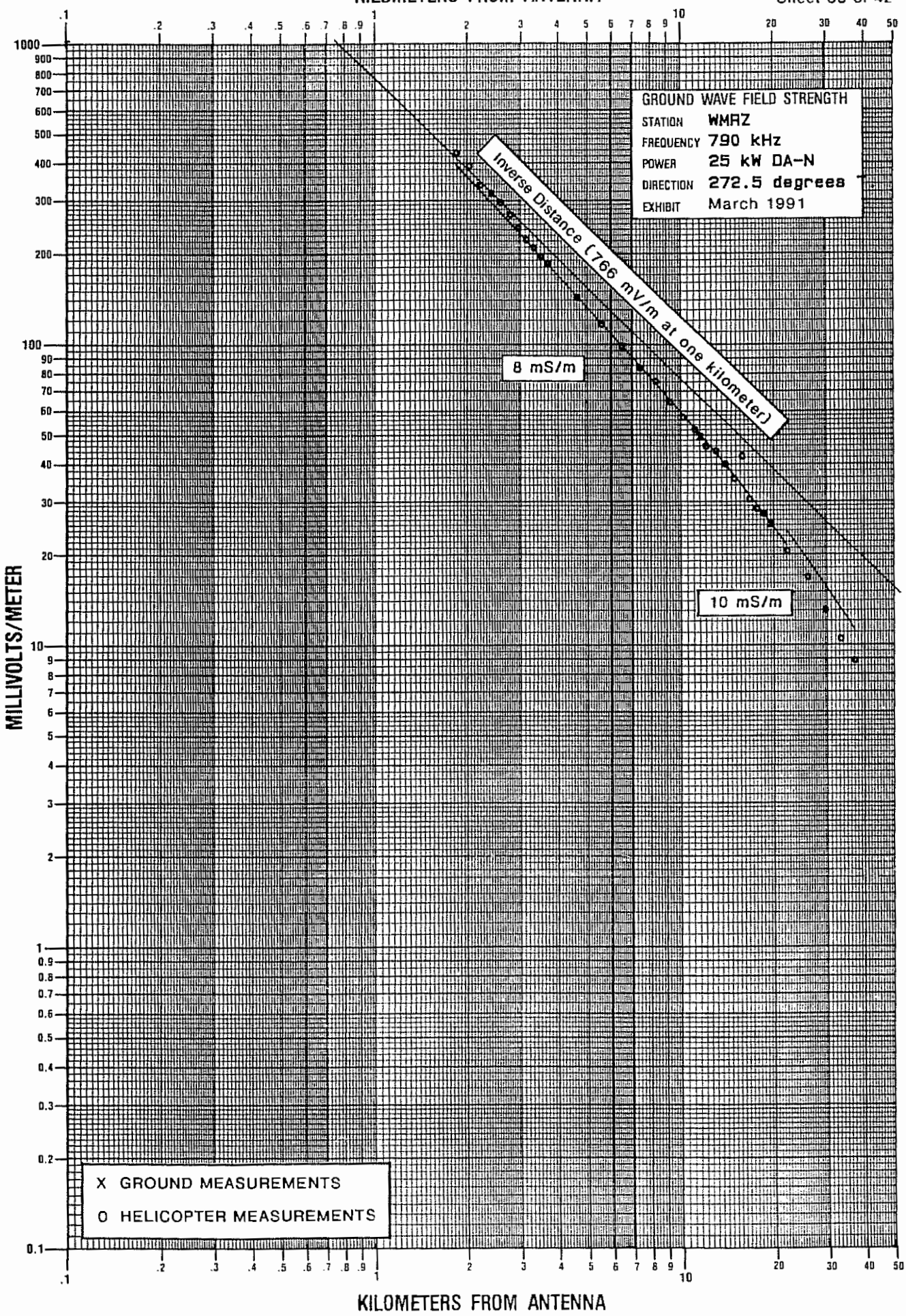

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 254 degrees T.
EXHIBIT March 1991
Inverse Distance (755 mV/m at one kilometer)
3 mS/m
4 mS/m
5 mS/m
8 mS/m
7 mS/m
8 mS/m
SCALE X 10
MILLIVOLTS/METER
KILOMETERS FROM ANTENNA

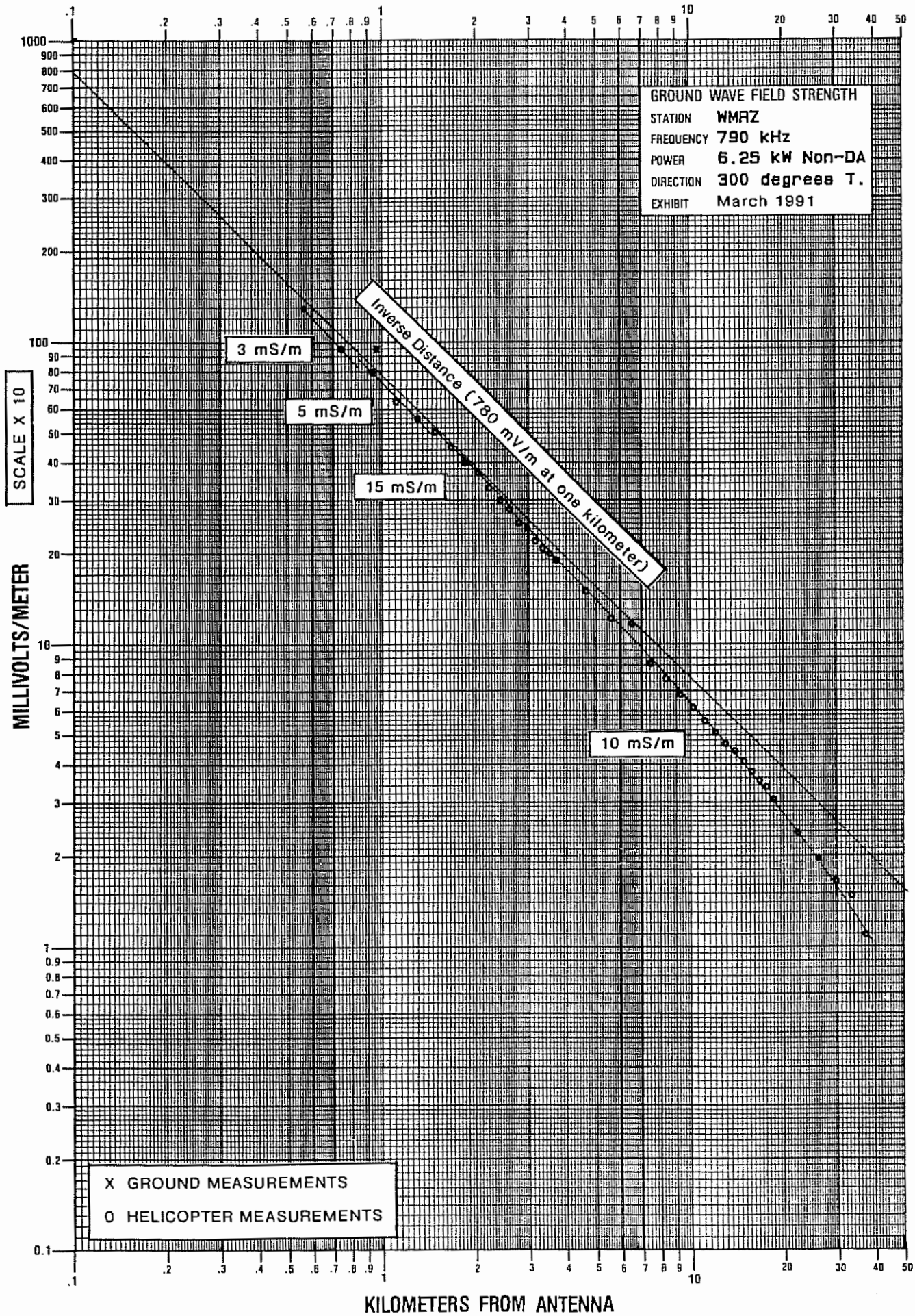

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 254 degrees T.
EXHIBIT March 1991
Inverse Distance (1925 mV/m at one kilometer)
4 mS/m
5 mS/m
8 mS/m
7 mS/m
8 mS/m
SCALE X 10
MILLIVOLTS/METER
KILOMETERS FROM ANTENNA

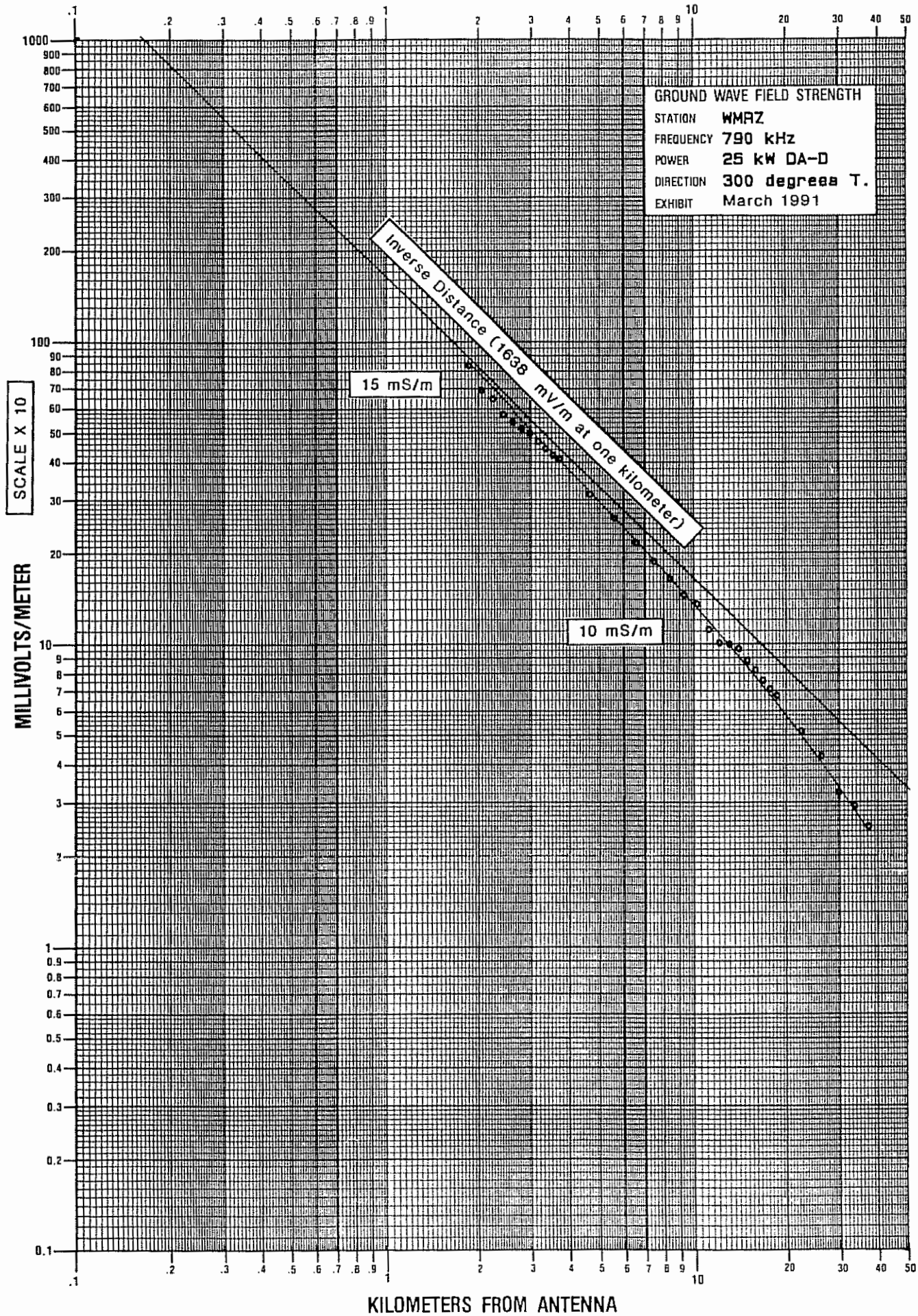

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 254 degrees T.
EXHIBIT March 1991
Inverse Distance (1070 mV/m at one kilometer)
4 mS/m
5 mS/m
8 mS/m
7 mS/m
8 mS/m
SCALE X 10
MILLIVOLTS/METER
KILOMETERS FROM ANTENNA

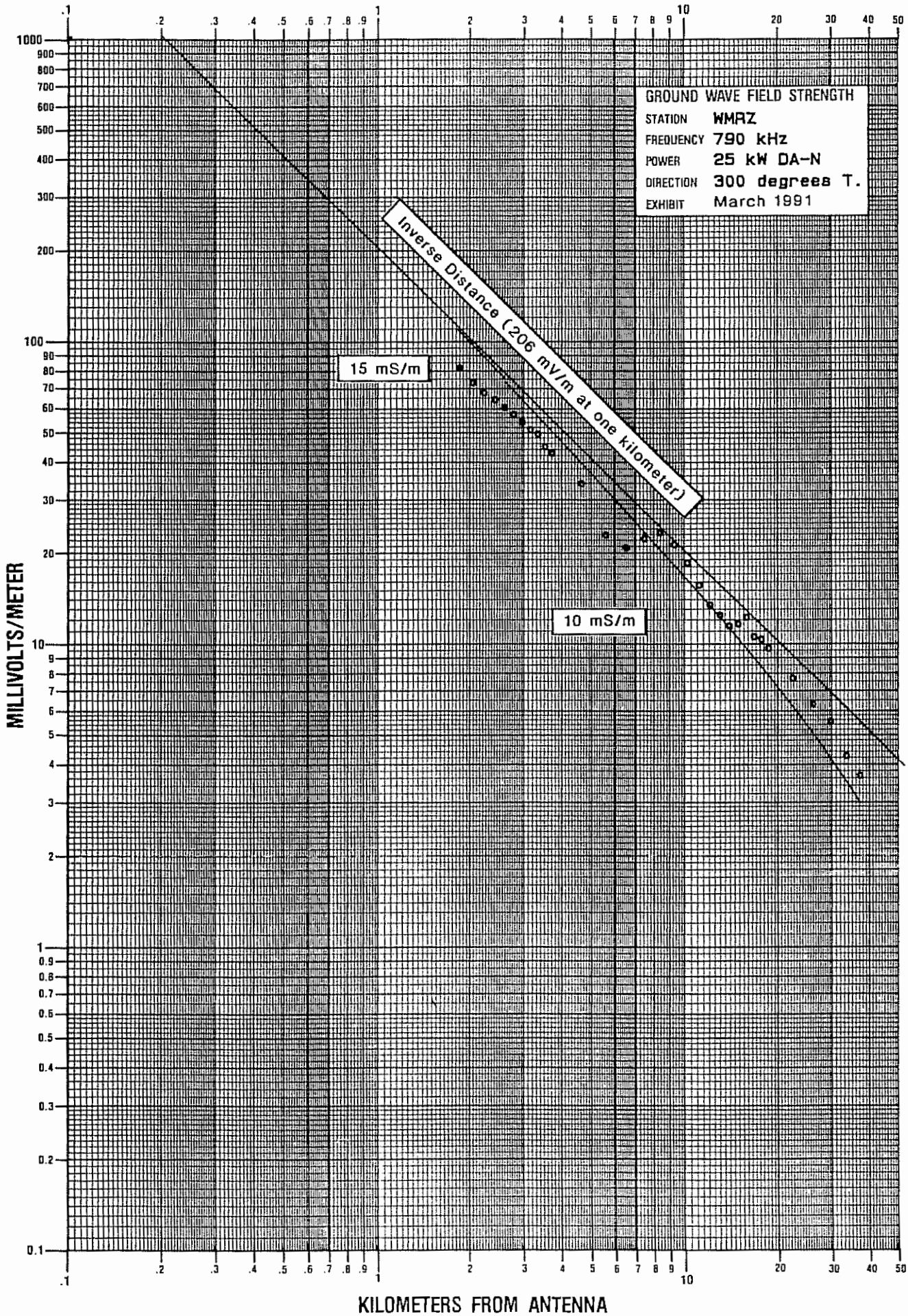

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 272.5 degrees T
EXHIBIT March 1991
Inverse Distance (780 mV/m at one kilometer)
5 mS/m
8 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

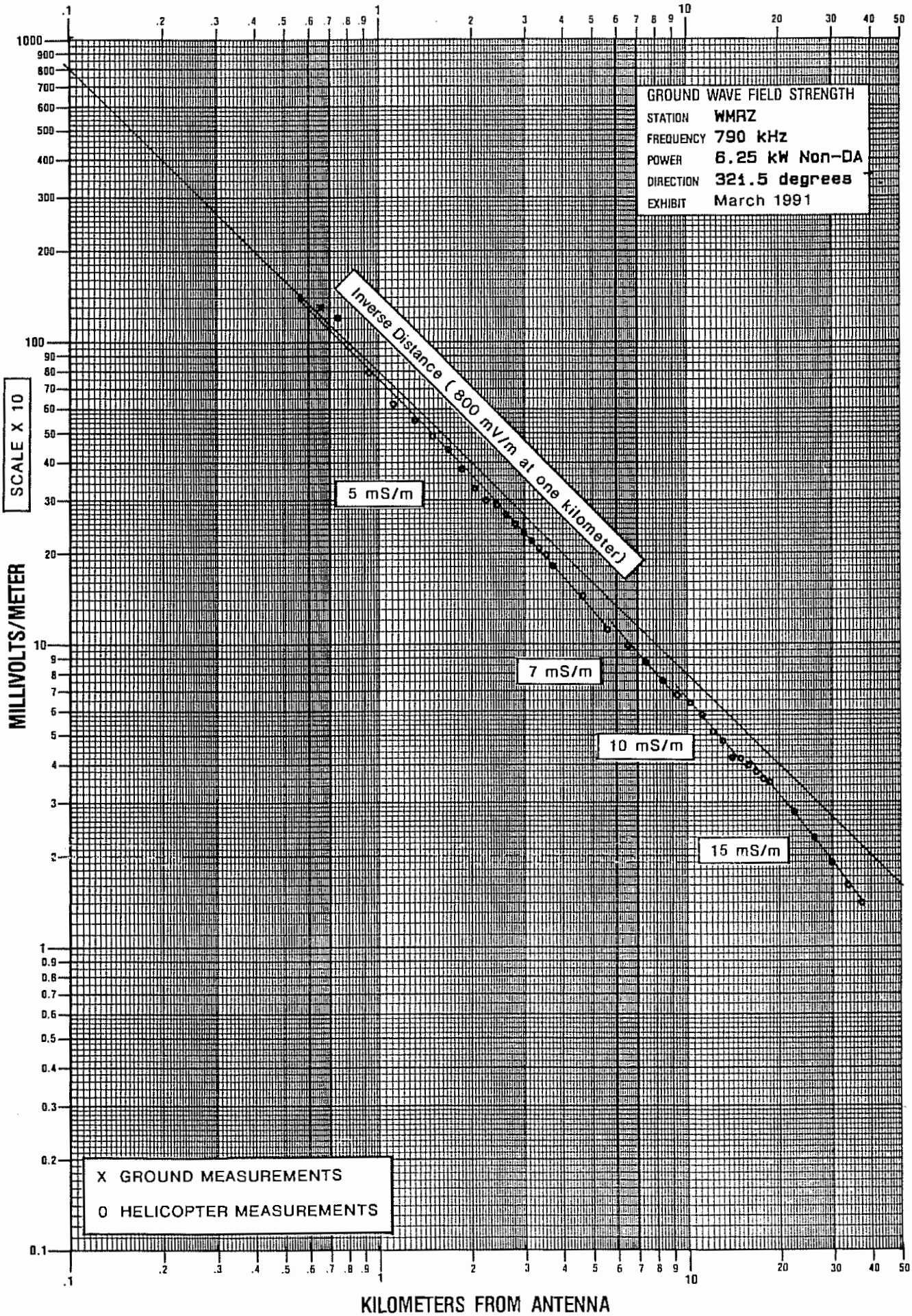

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 272.5 degrees T
EXHIBIT March 1991
Inverse Distance (2265 mV/m at one kilometer)
8 mS/m
MP
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

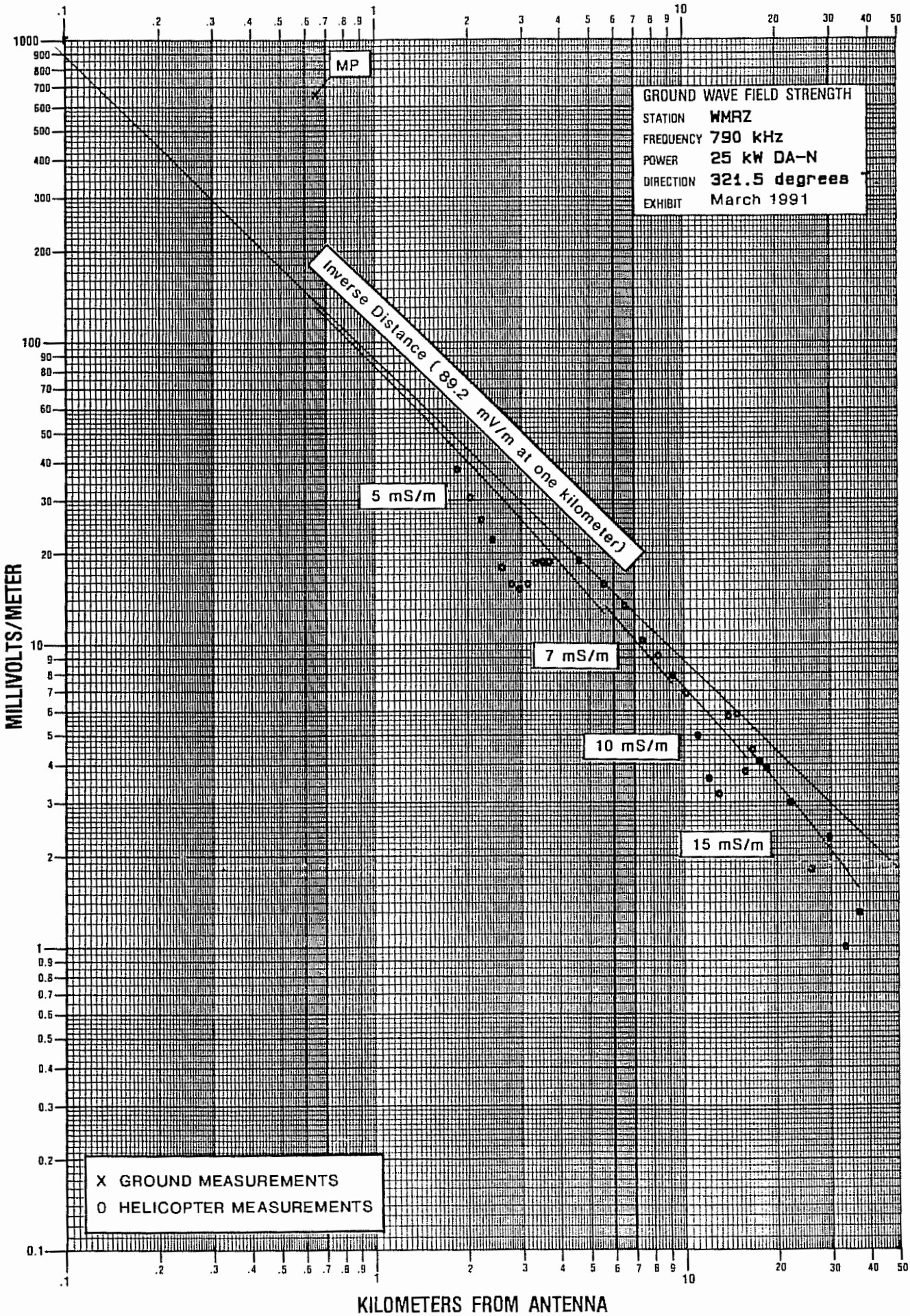

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 272.5 degrees
EXHIBIT March 1991
Inverse Distance (766 mV/m at one kilometer)
8 mS/m
10 mS/m
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

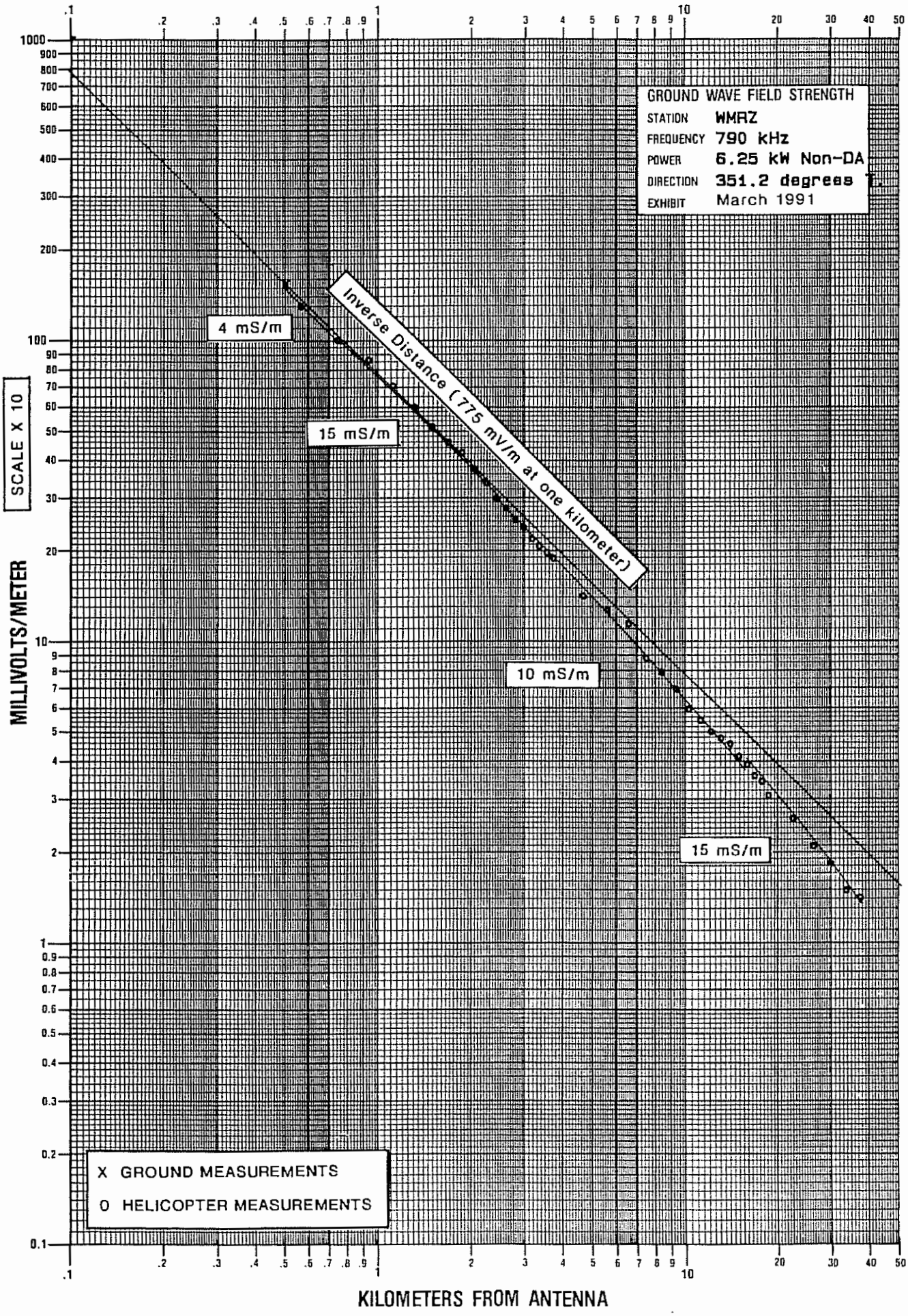

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 300 degrees T.
EXHIBIT March 1991
Inverse Distance (780 mV/m at one kilometer)
3 mS/m
5 mS/m
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

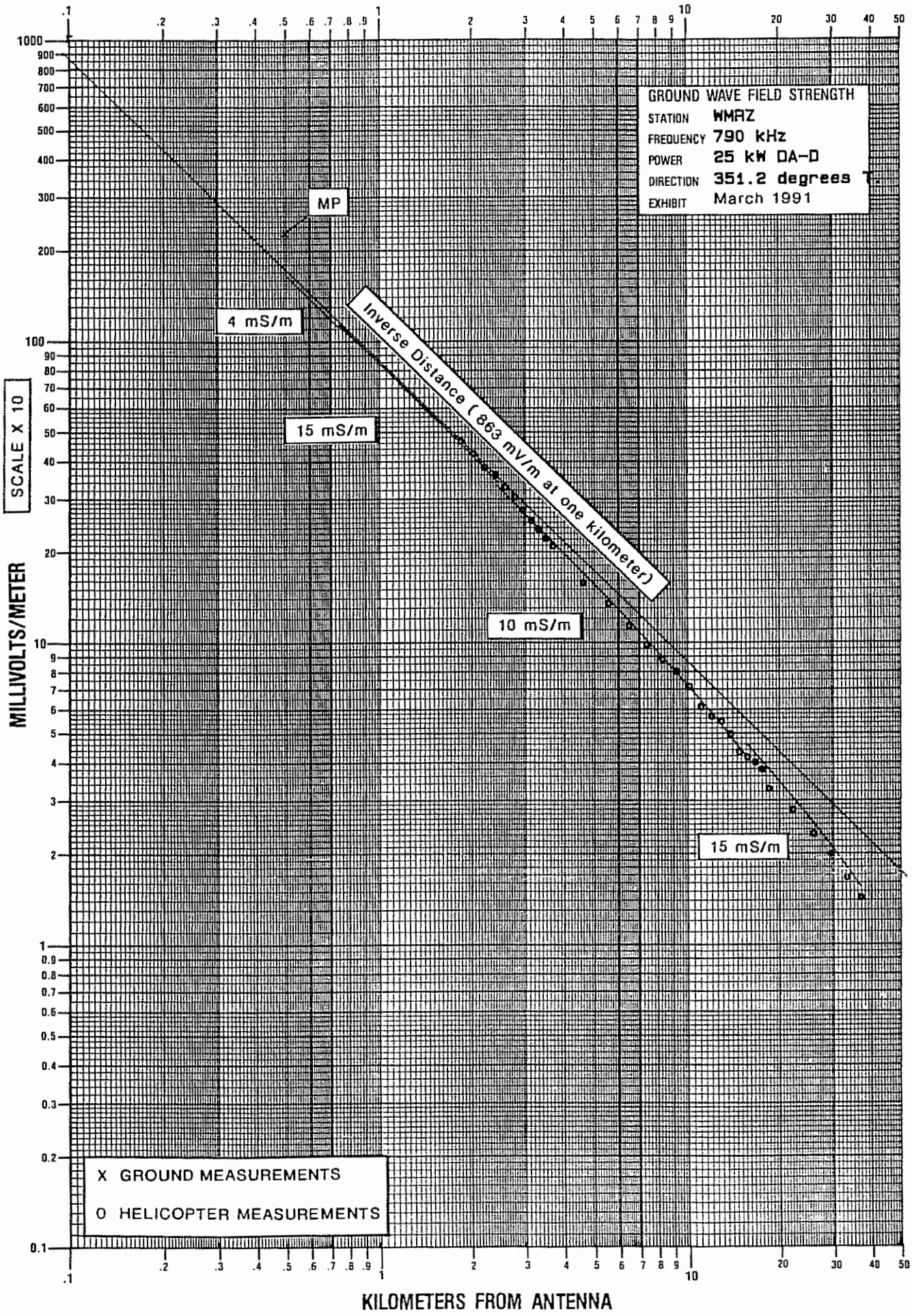

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 300 degrees T.
EXHIBIT March 1991
Inverse Distance (1638 mV/m at one kilometer)
15 mS/m
10 mS/m
SCALE X 10
MILLIVOLTS/METER
KILOMETERS FROM ANTENNA

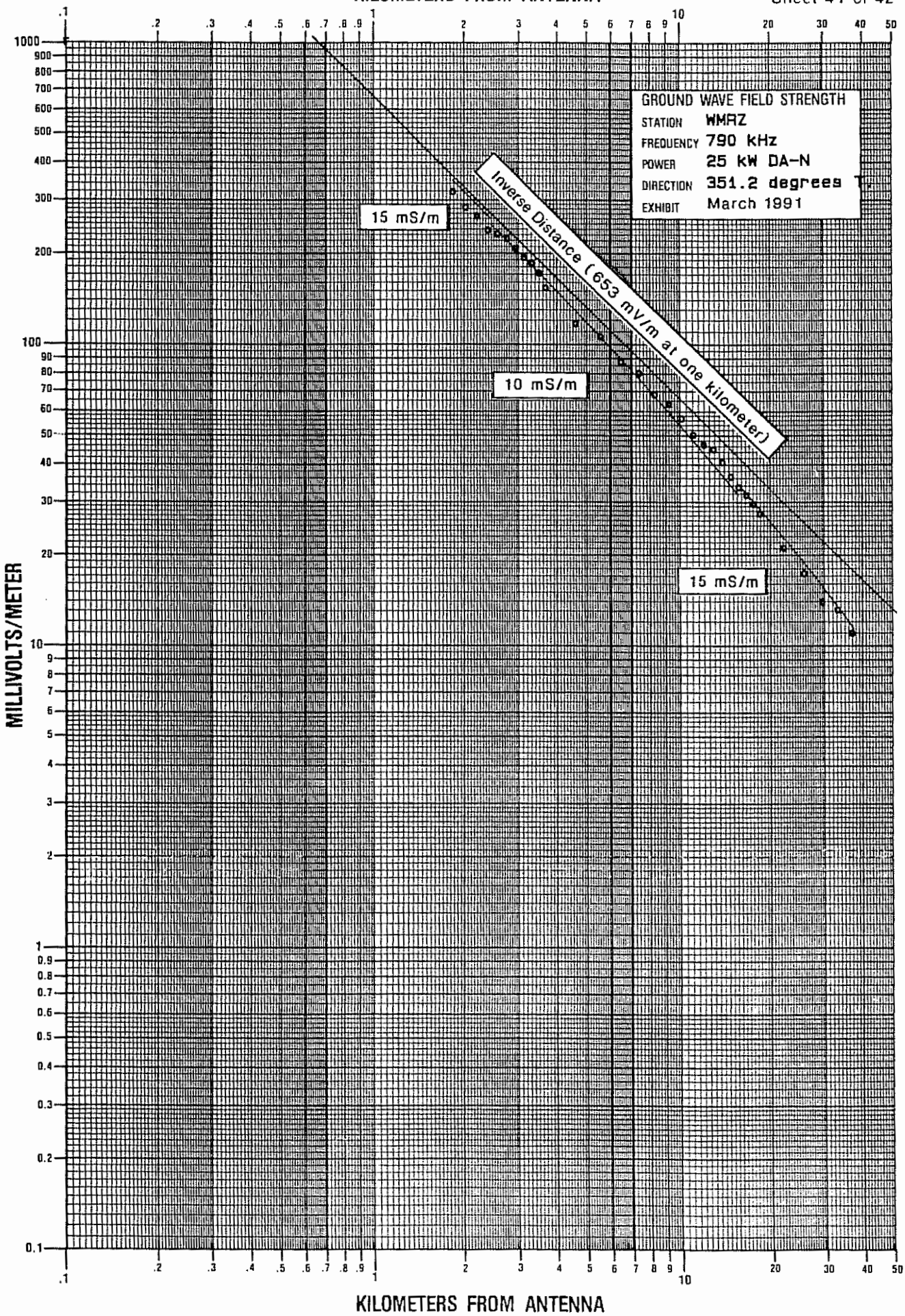

KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMAZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 300 degrees T.
EXHIBIT March 1991
Inverse Distance (206 mV/m at one kilometer)
15 mS/m
10 mS/m
KILOMETERS FROM ANTENNA

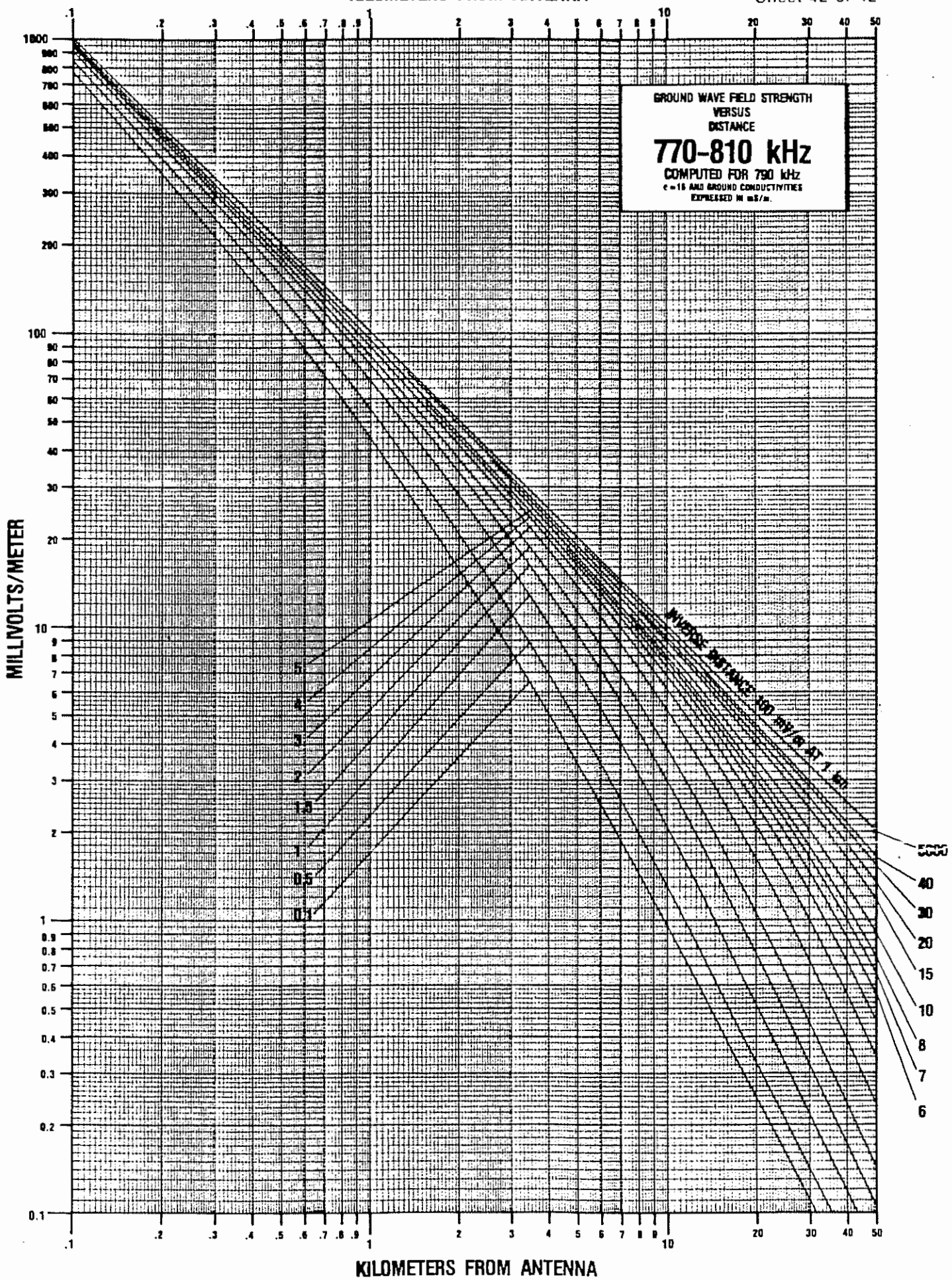

KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 321.5 degrees
EXHIBIT March 1991
Inverse Distance (800 mV/m at one kilometer)
5 mS/m
7 mS/m
10 mS/m
15 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA


KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
MP
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 321.5 degrees
EXHIBIT March 1991
Inverse Distance (89.2 mV/m at one kilometer)
5 mS/m
7 mS/m
10 mS/m
15 mS/m
X GROUND MEASUREMENTS
0 HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA

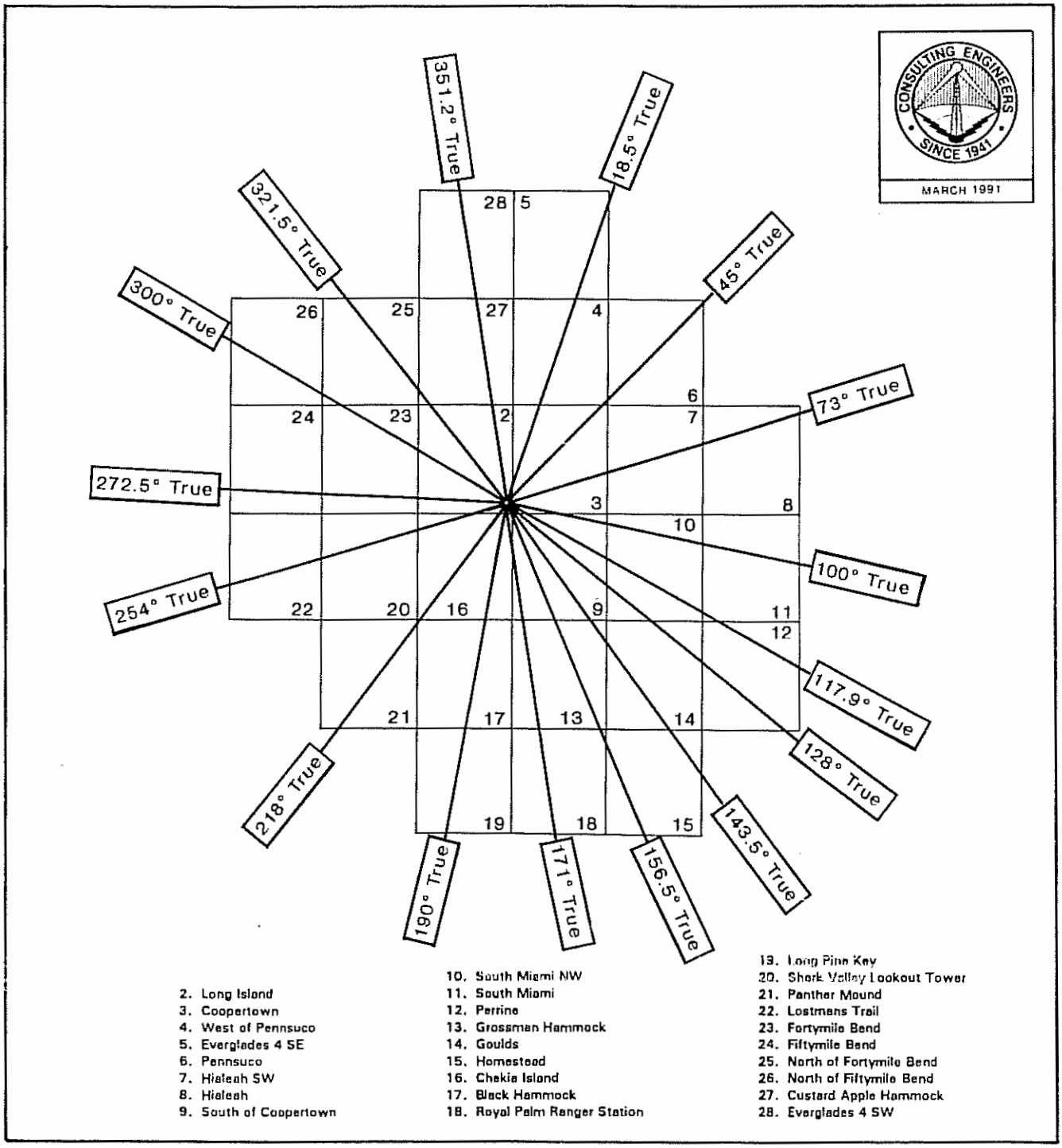

KILOMETERS FROM ANTENNA
.1 .2 .3 .4 .5 .6 .7 .8 .9 1 2 3 4 5 6 7 8 9 10 20 30 40 50
1000 900 800 700 600 500 400 300 200 100 90 80 70 60 50 40 30 20 10 9 8 7 6 5 4 3 2 1 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1
MILLIVOLTS/METER
SCALE X 10
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 6.25 kW Non-DA
DIRECTION 351.2 degrees T.
EXHIBIT March 1991
4 mS/m
15 mS/m
Inverse Distance (775 mV/m at one kilometer)
10 mS/m
15 mS/m
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA


KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-D
DIRECTION 351.2 degrees T
EXHIBIT March 1991
MP
4 mS/m
15 mS/m
Inverse Distance (863 mV/m at one kilometer)
10 mS/m
15 mS/m
SCALE X 10
MILLIVOLTS/METER
X GROUND MEASUREMENTS
O HELICOPTER MEASUREMENTS
KILOMETERS FROM ANTENNA


KILOMETERS FROM ANTENNA
MILLIVOLTS/METER
GROUND WAVE FIELD STRENGTH
STATION WMRZ
FREQUENCY 790 kHz
POWER 25 kW DA-N
DIRECTION 351.2 degrees T
EXHIBIT March 1991
Inverse Distance (653 mV/m at one kilometer)
15 mS/m
10 mS/m
15 mS/m
KILOMETERS FROM ANTENNA


KILOMETERS FROM ANTENNA
GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
770-810 kHz
COMPUTED FOR 790 kHz
ε = 15 AND GROUND CONDUCTIVITIES
EXPRESSED IN mS/m.
MILLIVOLTS/METER
INVERSE DISTANCE 600 mV/m AT 1 km
5000
40
30
20
15
10
8
7
6
KILOMETERS FROM ANTENNA

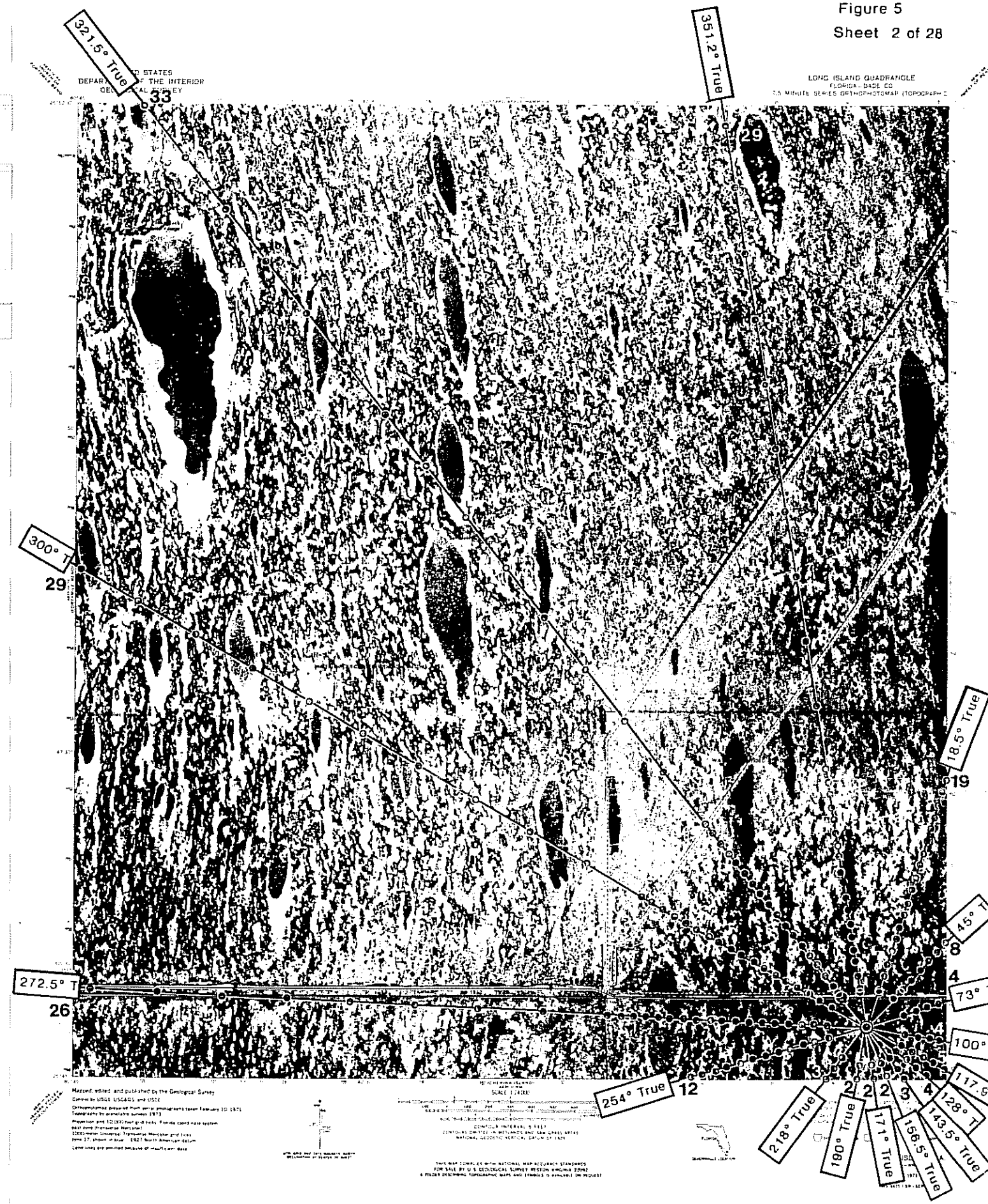
GRAPH 8.A



MAPS SHOWING FIELD STRENGTH MEASUREMENT LOCATIONS

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

duTreil, Lundin & Rackley, Inc. Washington, D.C.


321.5° True
351.2° True
300° T
29
18.5° True
19
272.5° T
26
254° True
12
45° T
8
4
73°
100°
117.9
128° T
143.5° True
156.5° True
171° True
180° True
218° True
33
29
2
2
2
3
4

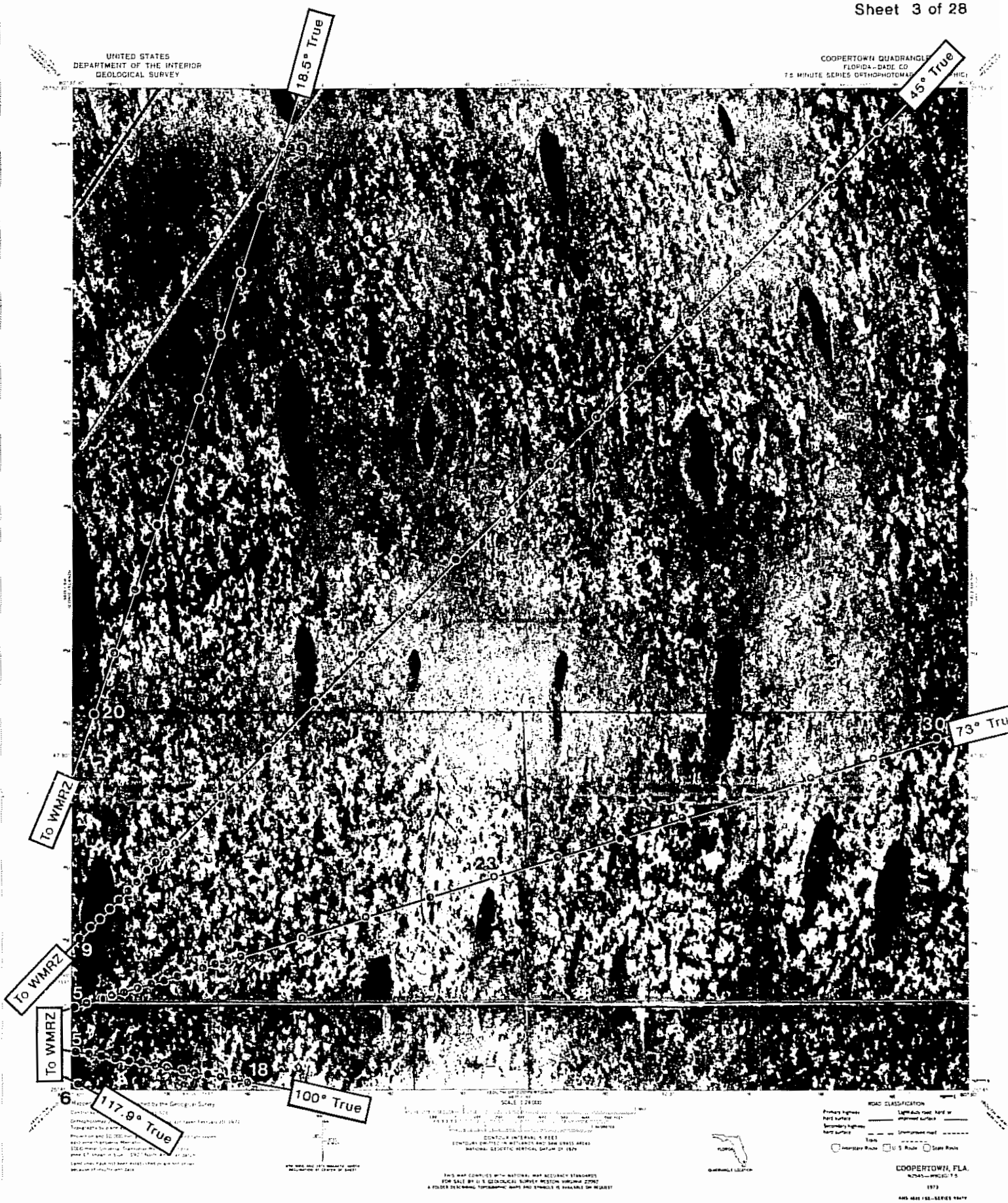
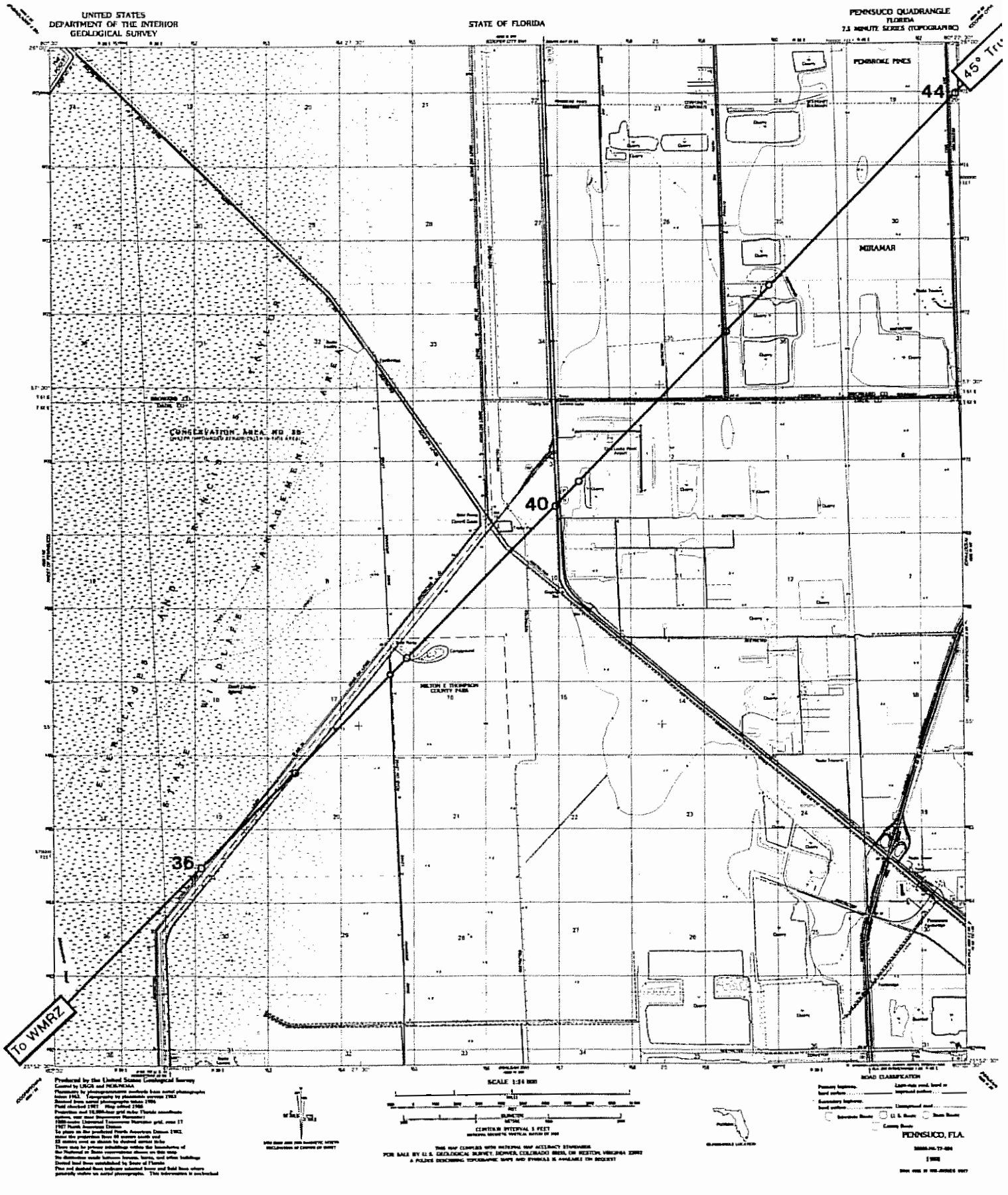

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COOPERTOWN QUADRANGLE
FLORIDA-DADE CO
7.5 MINUTE SERIES ORTHOPHOTOMAP
18.5° True
45° True
73° Tru
To WMRZ
To WMRZ
To WMRZ
117.9° True
100° True
20
30
23
9
5
5
18
6
SCALE 1:24000
CONTOUR INTERVAL 5 FEET
ROAD CLASSIFICATION
COOPERTOWN, FLA.
1973

Figure 5

Sheet 4 of 28

Figure 5

Sheet 5 of 28


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF FLORIDA
PEMBROKE PINES
MIRAMAR
CONSERVATION AREA NO 3B
HILTON E THOMPSON COUNTY PARK
44
40
36
45° Tru
To WMRZ
SCALE 1:24 000
CONTOUR INTERVAL 5 FEET
ROAD CLASSIFICATION
PEMBROKE PINES, FLA.

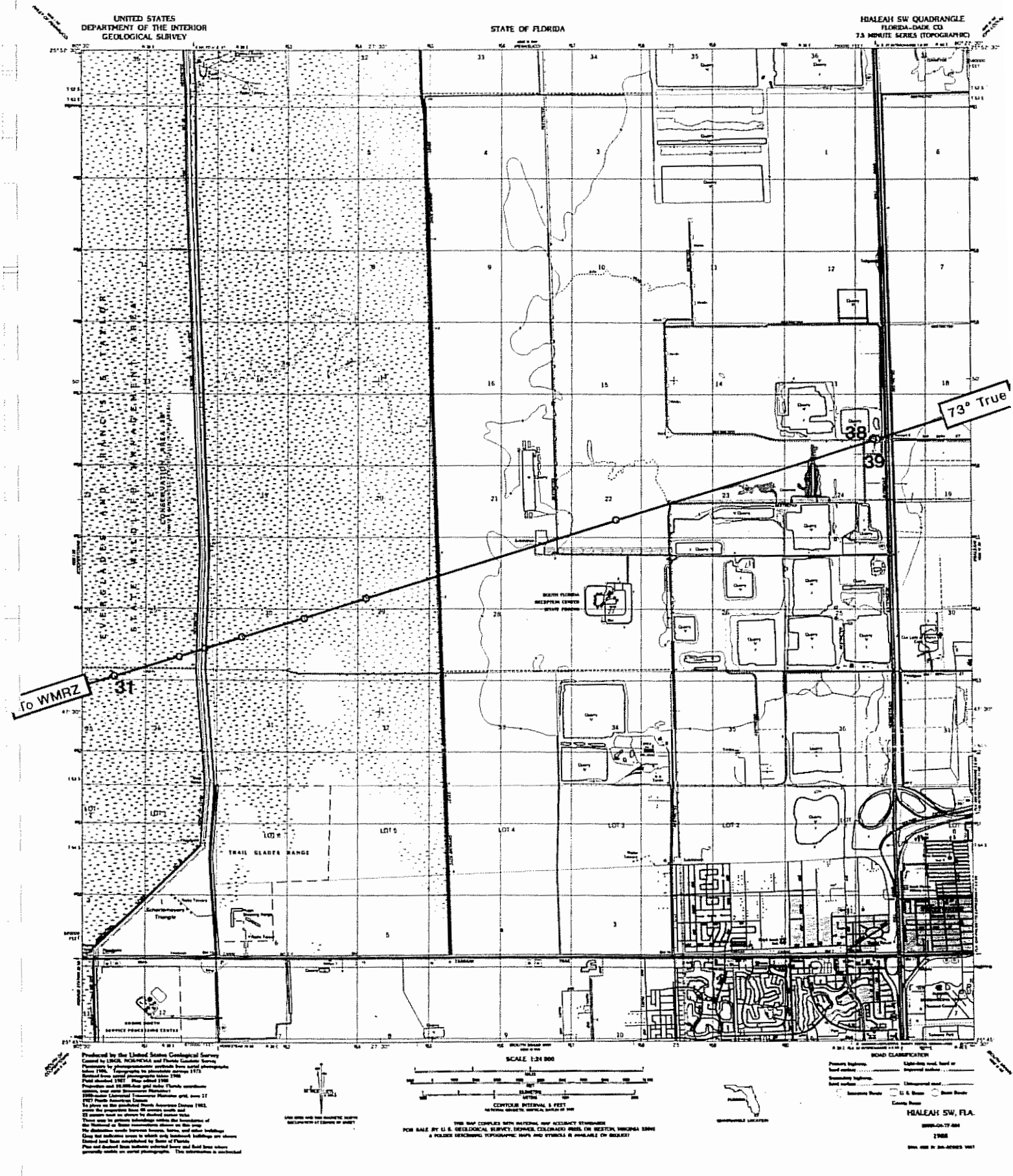
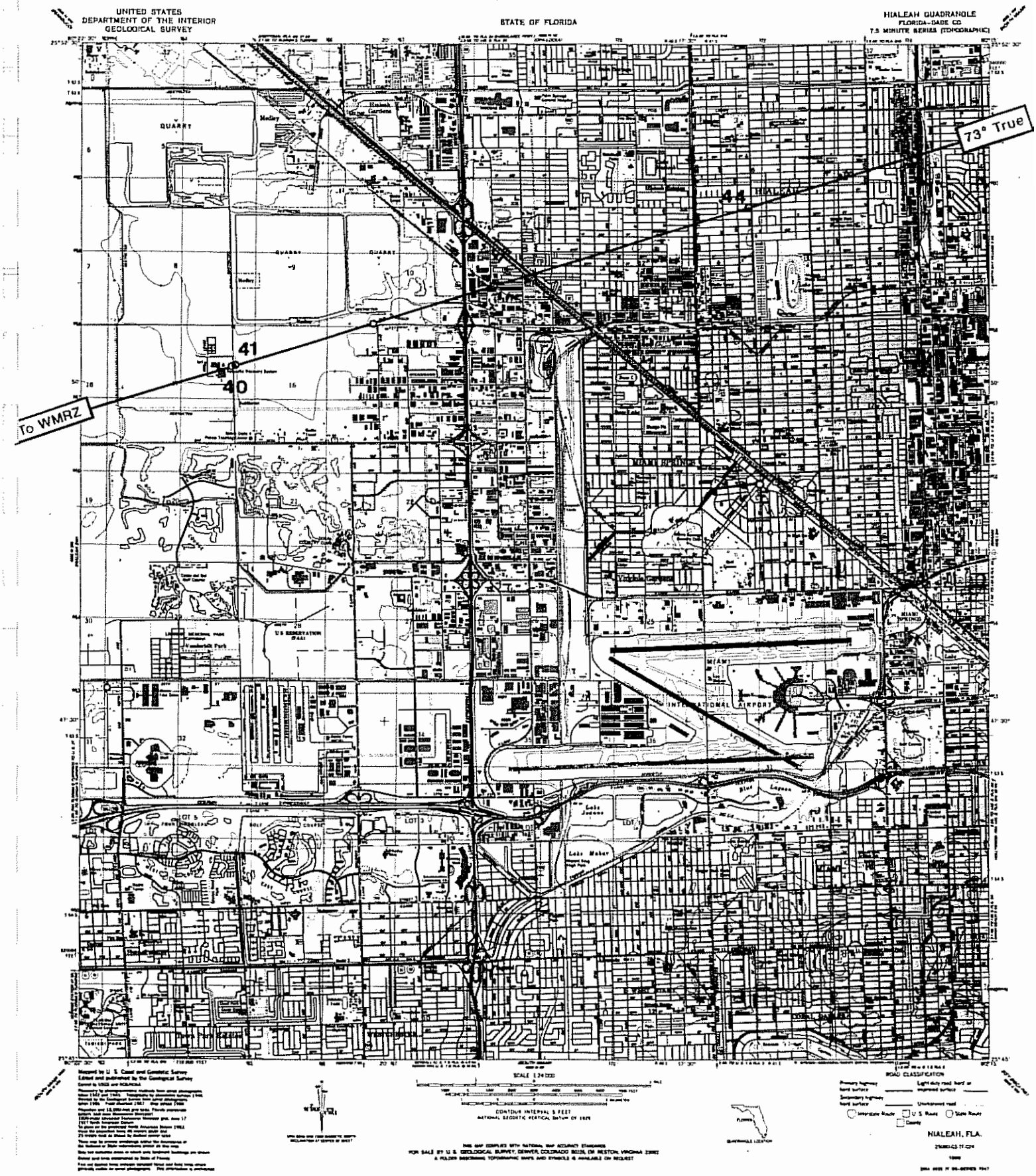

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF FLORIDA
HIALEAH SW QUADRANGLE
FLORIDA-DADE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
EVERGLADES AND FRANCIS S. TAYLOR WILDLIFE MANAGEMENT AREA
73° True
To WMRZ
31
38
39
TRAIL GLADES RANGE
SCALE 1:24 000
CONTOUR INTERVAL 5 FEET
ROAD CLASSIFICATION
HIALEAH SW, FLA.

Figure 5

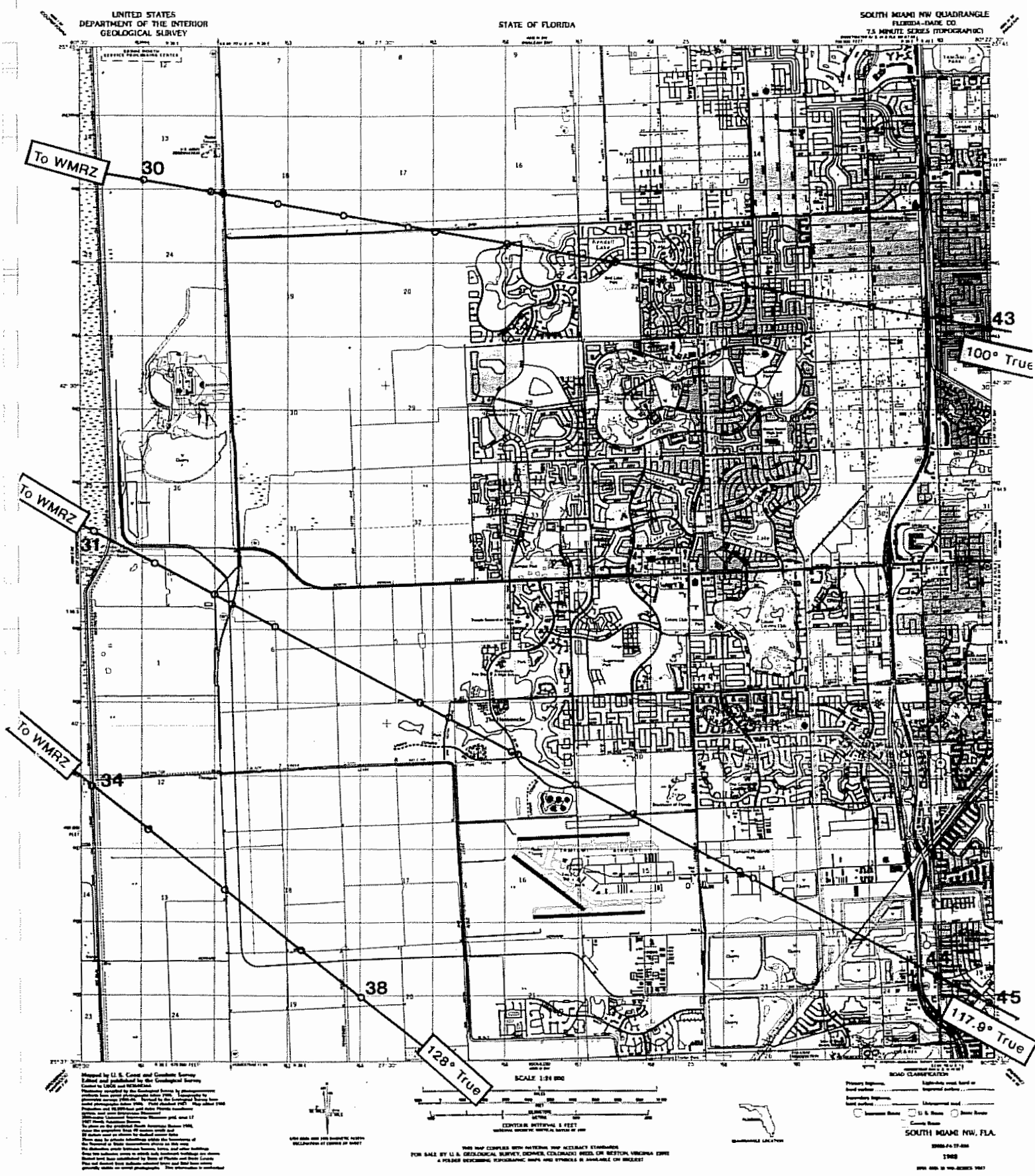
Sheet 8 of 28

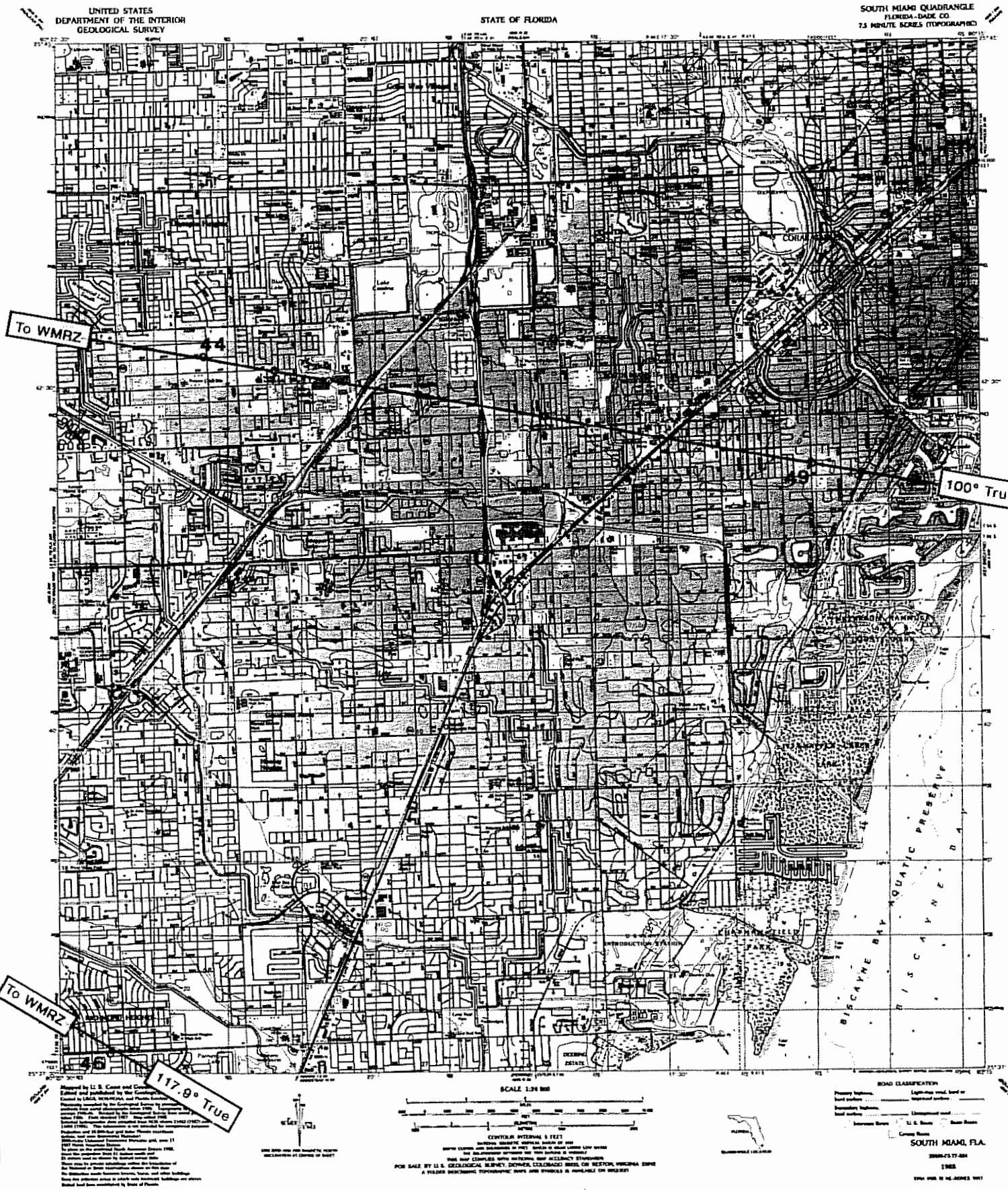


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SOUTH OF COOPERTOWN QUADRANGLE
FLORIDA - DADE CO.
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
To WMRZ
To WMRZ
To WMRZ
To WMRZ
To WMRZ
7
9
15
19
23
29
30
33
29
32
100° True
117.8° True
128° True
143.5° True
158.5° True
171° True
SCALE 1:24 000
CONTOUR INTERVAL 5 FEET
ROAD CLASSIFICATION
SOUTH OF COOPERTOWN, FLA.

Figure 5

Sheet 10 of 28




UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF FLORIDA
SOUTH MIAMI QUADRANGLE
FLORIDA-DADE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
To WMRZ
100° True
To WMRZ
117.9° True
SCALE 1:24 000
CONTOUR INTERVAL 5 FEET
SOUTH MIAMI, FLA.
1965

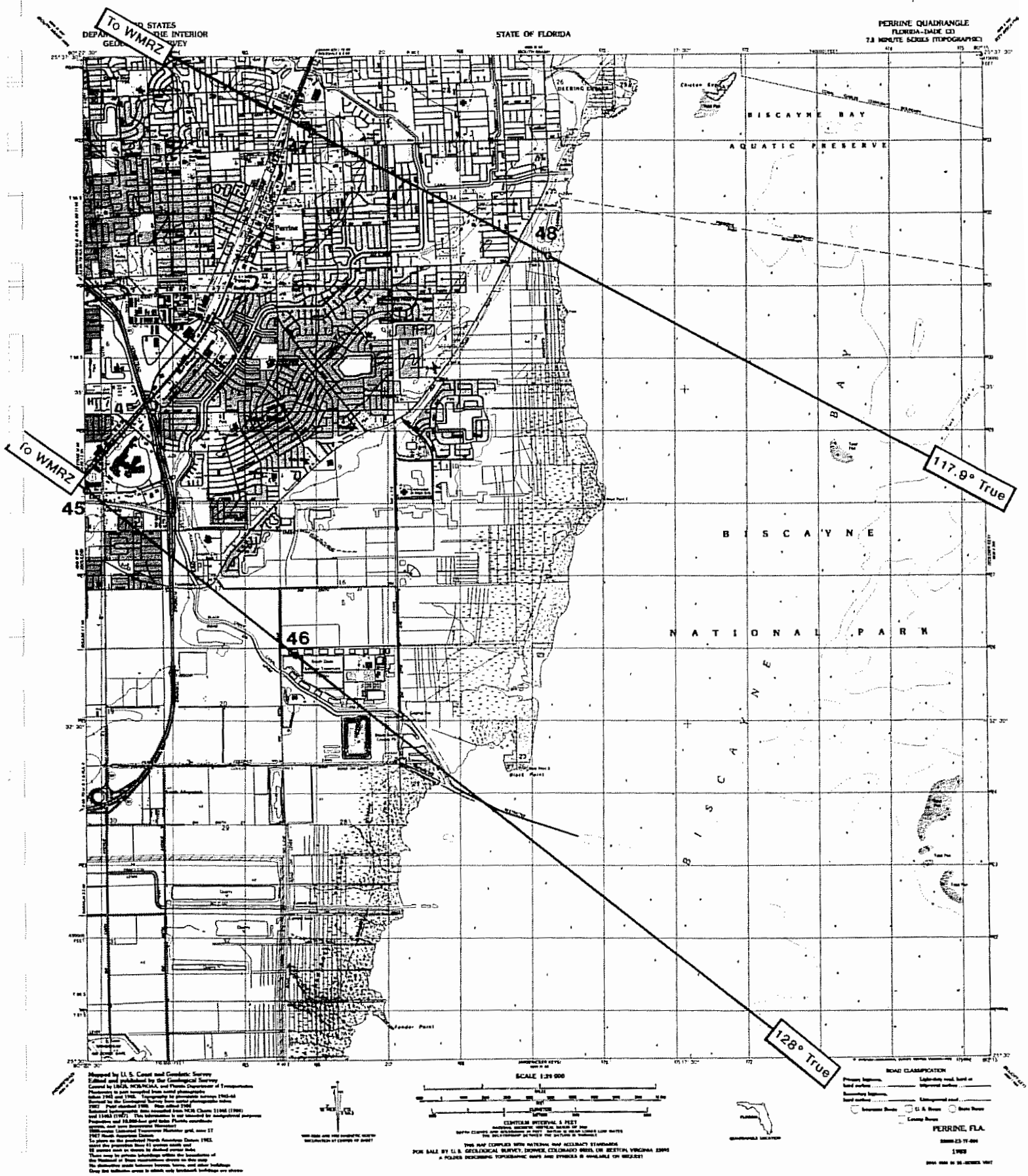
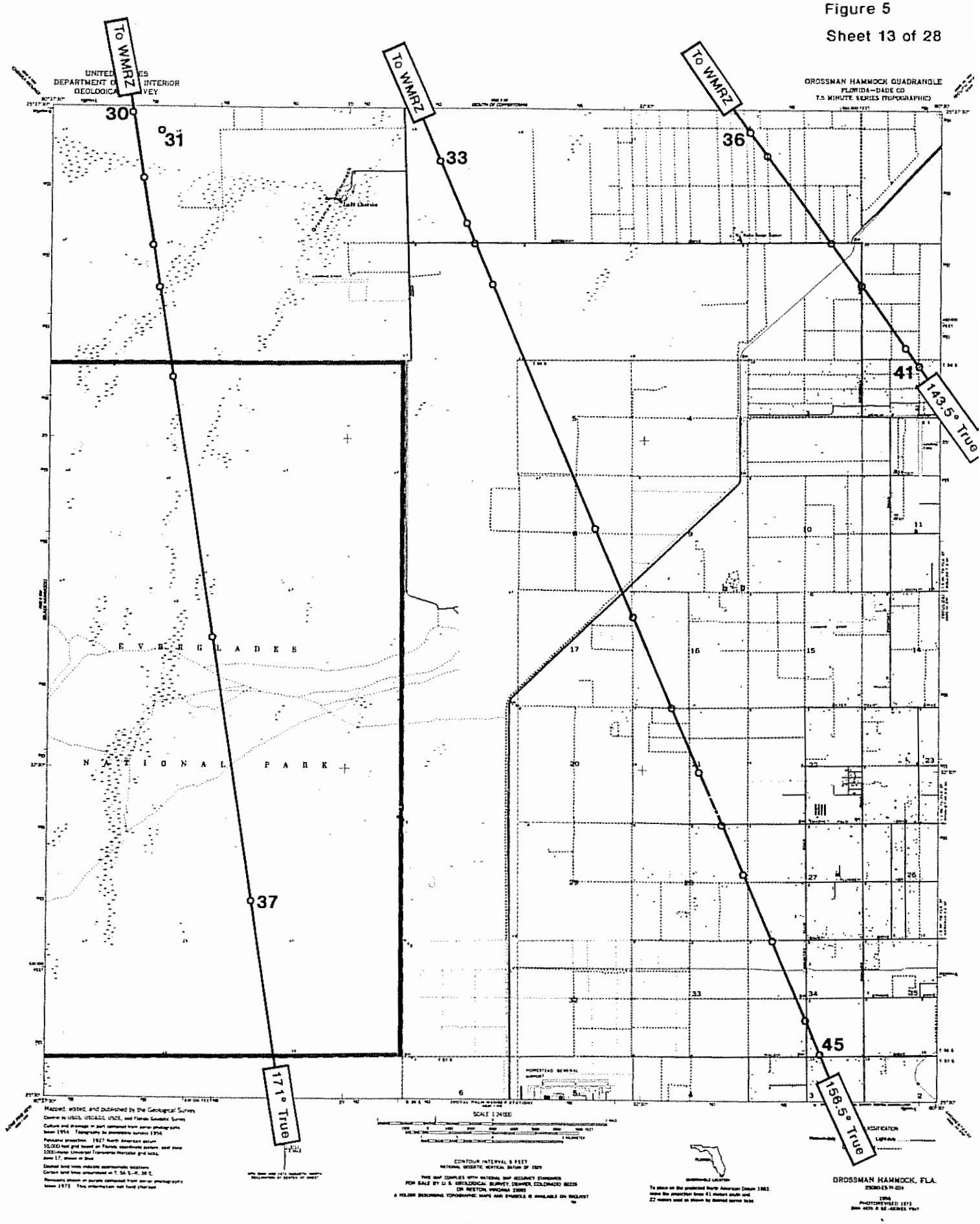
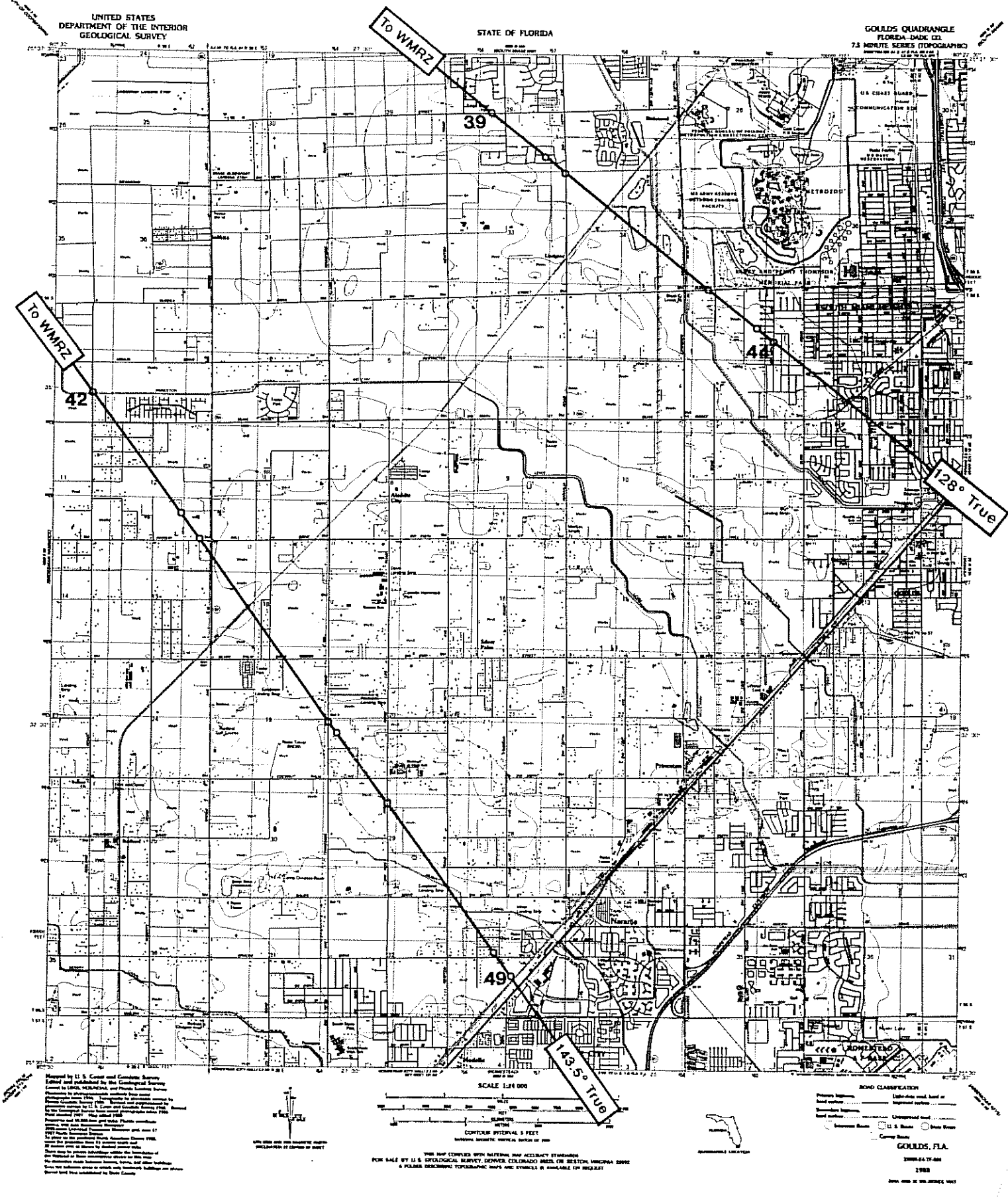
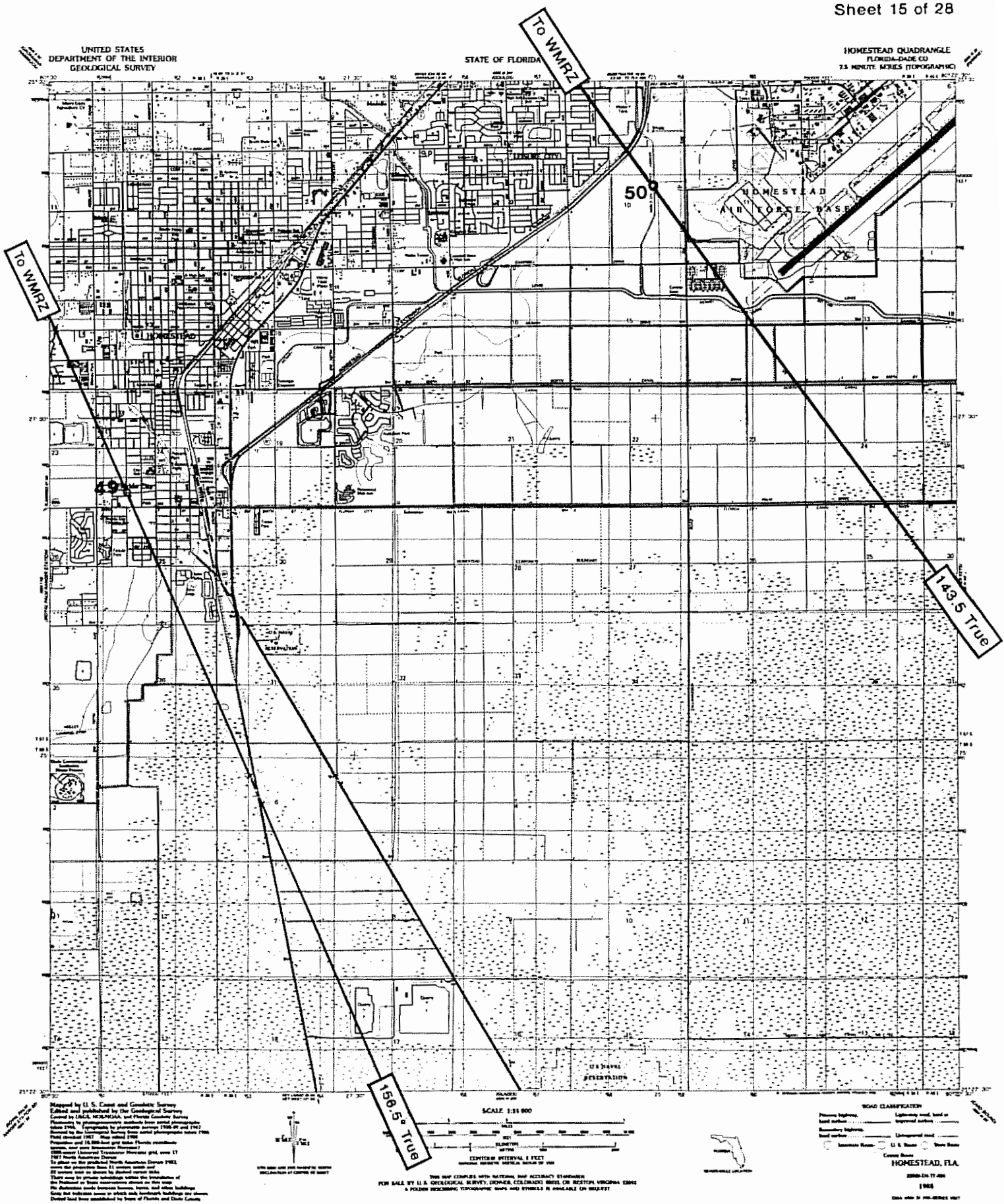

To WMRZ
STATE OF FLORIDA
PERRINE QUADRANGLE
FLORIDA-DADE CO
7.5 MINUTE SERIES (TOPOGRAPHIC)
BISCAYNE BAY
AQUATIC PRESERVE
48
117.9° True
To WMRZ
45
BISCAYNE
NATIONAL PARK
46
128° True
BISCAYNE BAY
Perrine
Black Point
Snapper Point
SCALE 1:24 000
CONTOUR INTERVAL 5 FEET
ROAD CLASSIFICATION
PERRINE, FLA.
1969

Figure 5

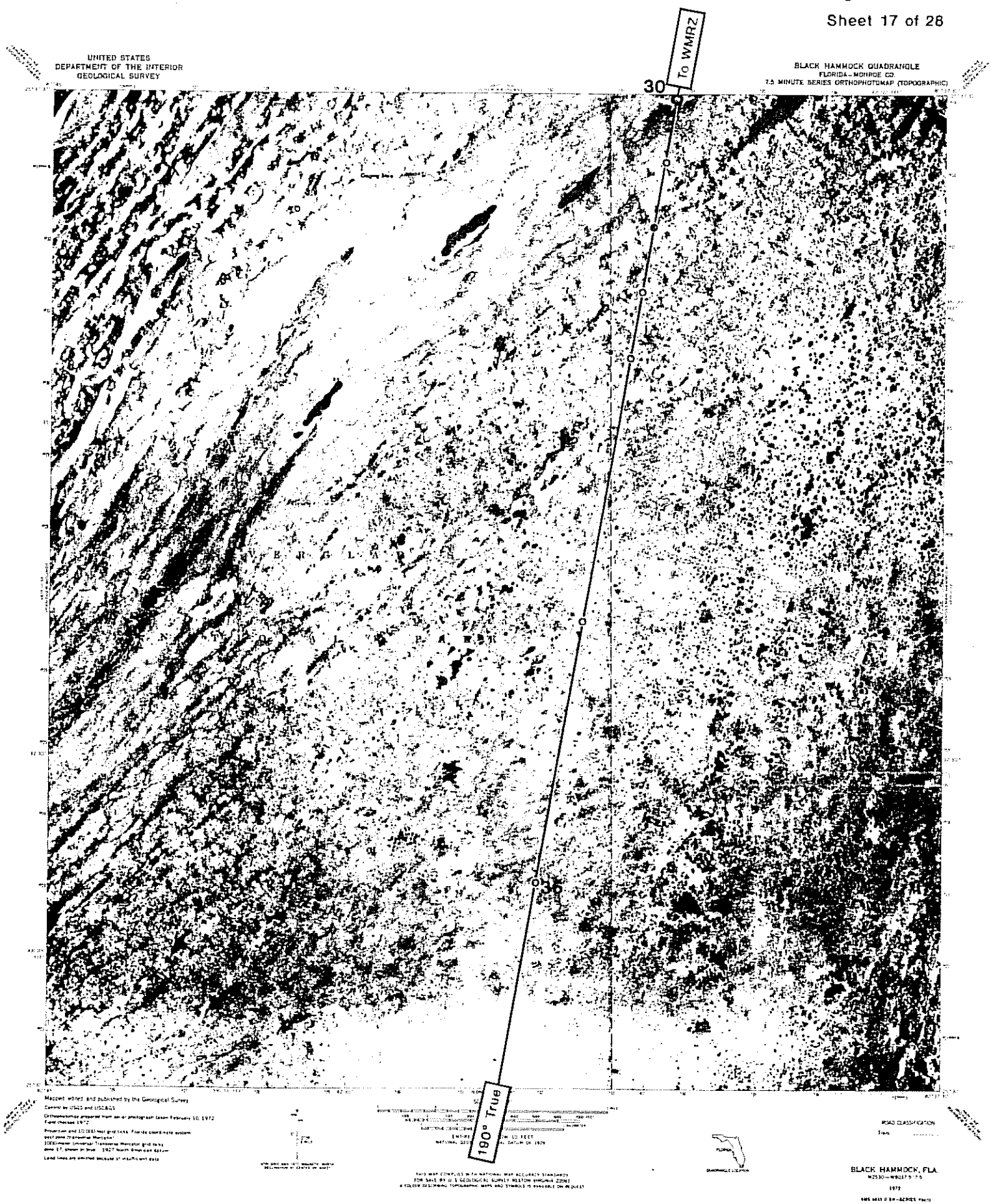
Sheet 13 of 28

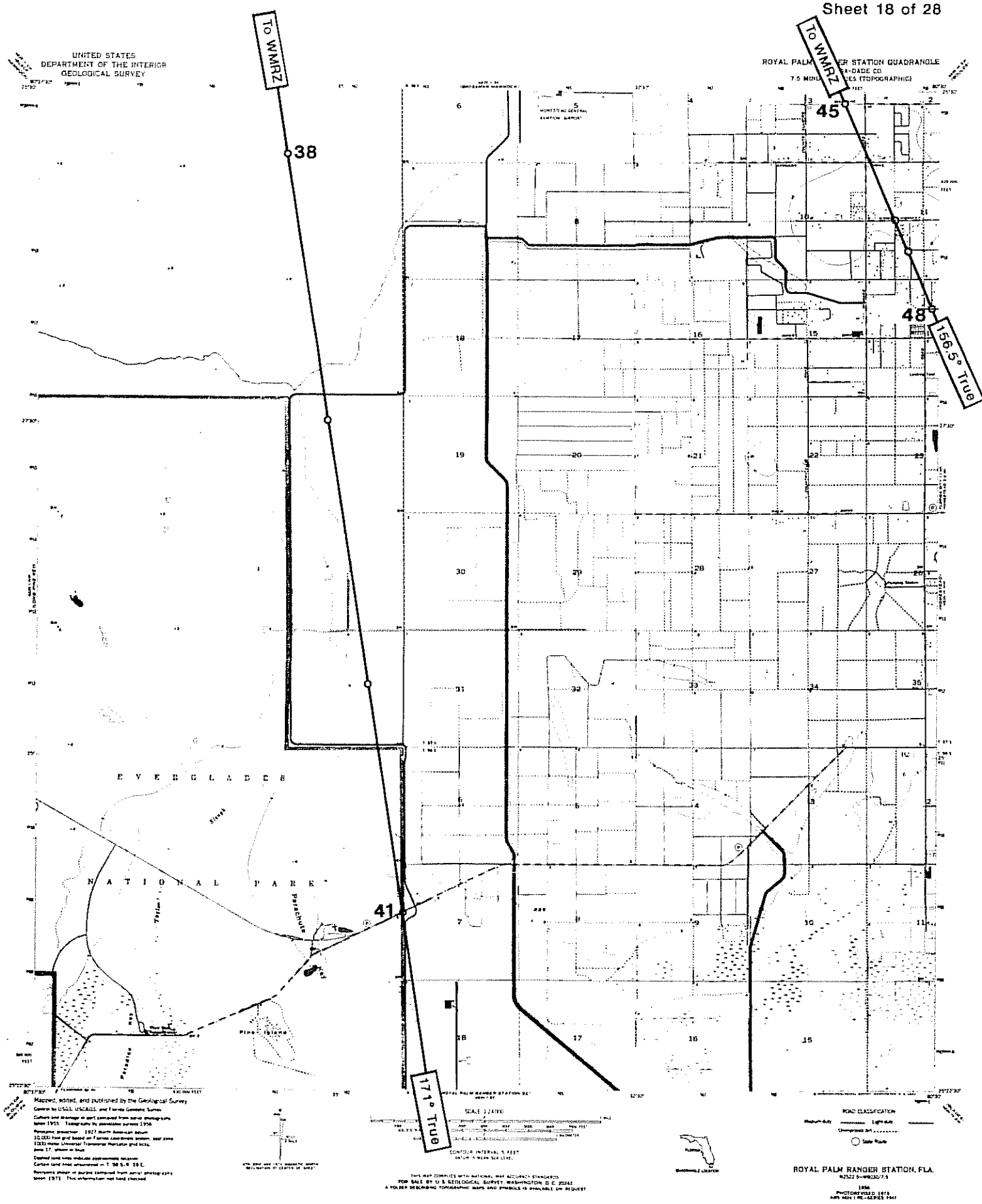



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF FLORIDA
GOULDS QUADRANGLE
FLORIDA-DADE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
To WMRZ
39
To WMRZ
42
44
128° True
49
143.5° True
SCALE 1:24 000
CONTOUR INTERVAL 5 FEET
GOULDS, FLA.
1988

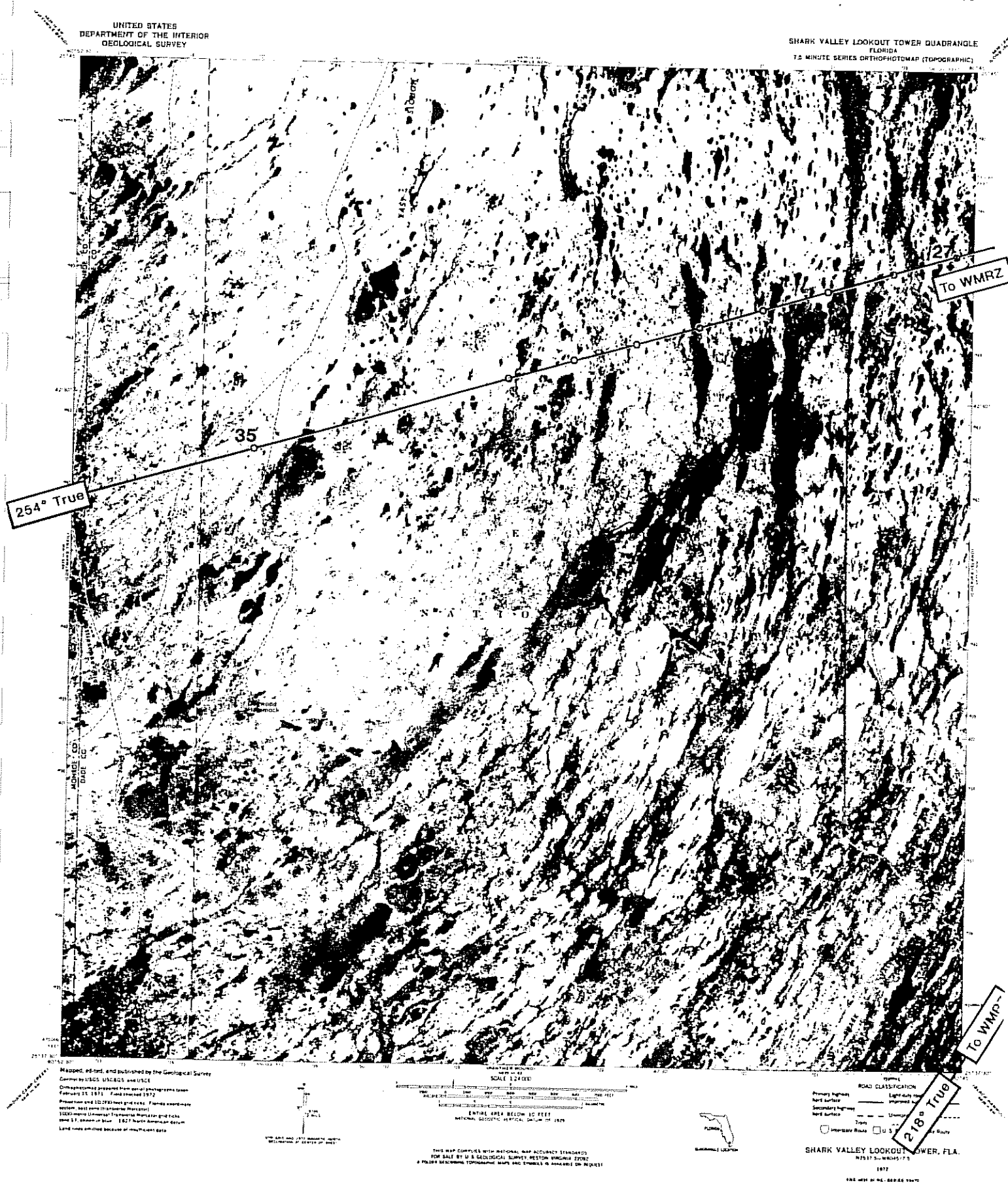

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF FLORIDA
HOMESTEAD QUADRANGLE
FLORIDA-DADE CO
7.5 MINUTE SERIES (TOPOGRAPHIC)
To WMRZ
To WMRZ
143.5 True
156.5° True
50
69
HOMESTEAD
AIR FORCE BASE
SCALE 1:31 680
CONTOUR INTERVAL 5 FEET
ROAD CLASSIFICATION
HOMESTEAD, FLA.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
To WMRZ
To WMRZ
13
5
4
3
3
3
4
6
128°
143.5° T
14
156.5° T
254° True
26
22
171° True
34
29
218° True
190° True
SCALE 1:24000
ROAD CLASSIFICATION
CHEKIKA ISLAND, FLA.
1972


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
BLACK HAMMOCK QUADRANGLE
FLORIDA—MONROE CO.
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
To WMRZ
30
190° True
Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Orthophotomap prepared from aerial photographs taken February 10, 1972
Field checked 1972
Projection and 10,000-foot grid ticks: Florida coordinate system
east zone (Transverse Mercator)
1000-meter Universal Transverse Mercator grid ticks
zone 17, shown in blue
1927 North American datum
Land lines are omitted because of insufficient data
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
ROAD CLASSIFICATION
BLACK HAMMOCK, FLA.
1972

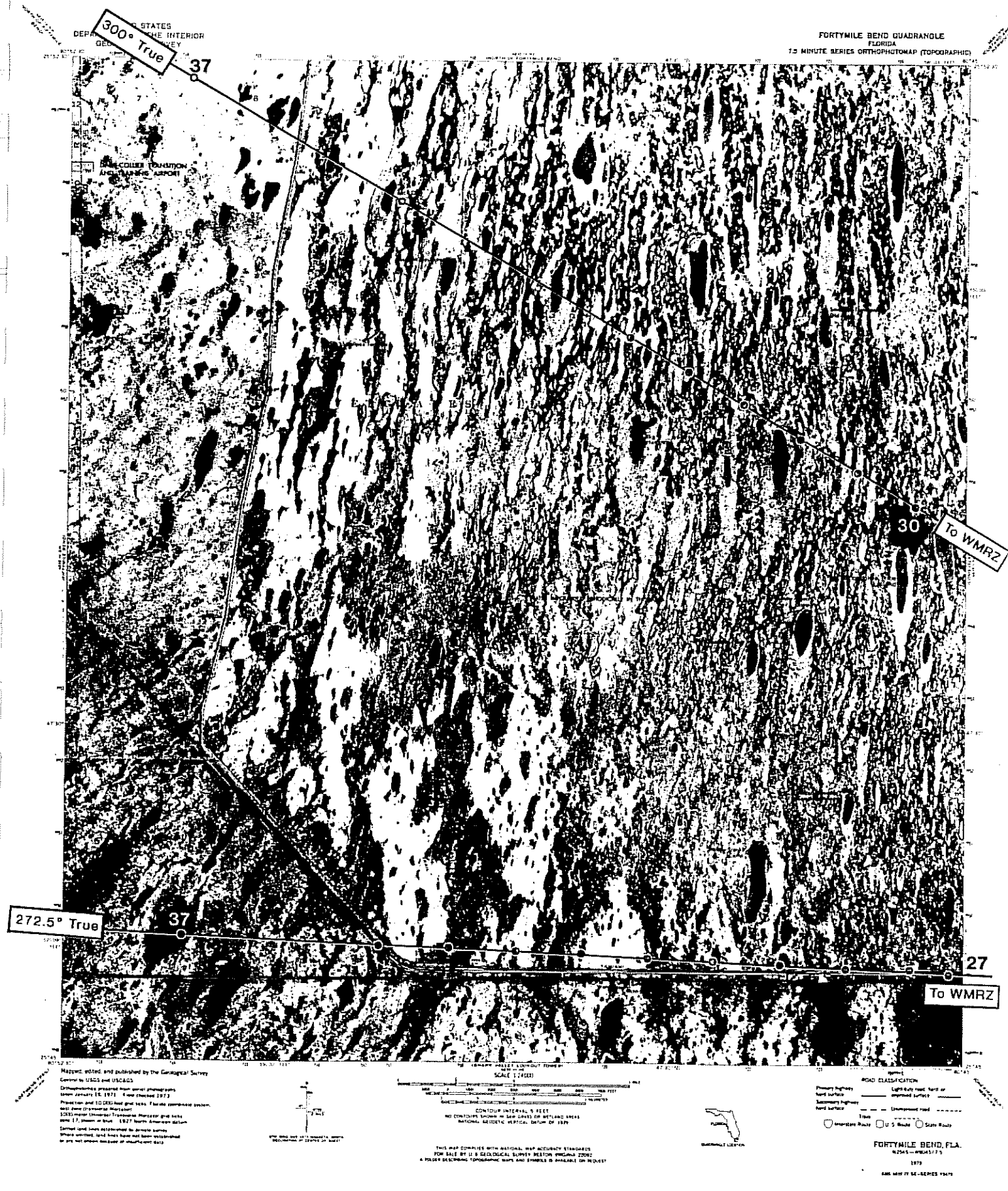

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
ROYAL PALM RANGER STATION QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)
To WMRZ
38
To WMRZ
45
48
156.5° True
171° True
41
EVERGLADES
NATIONAL PARK
Pine Island
ROYAL PALM RANGER STATION, FLA.

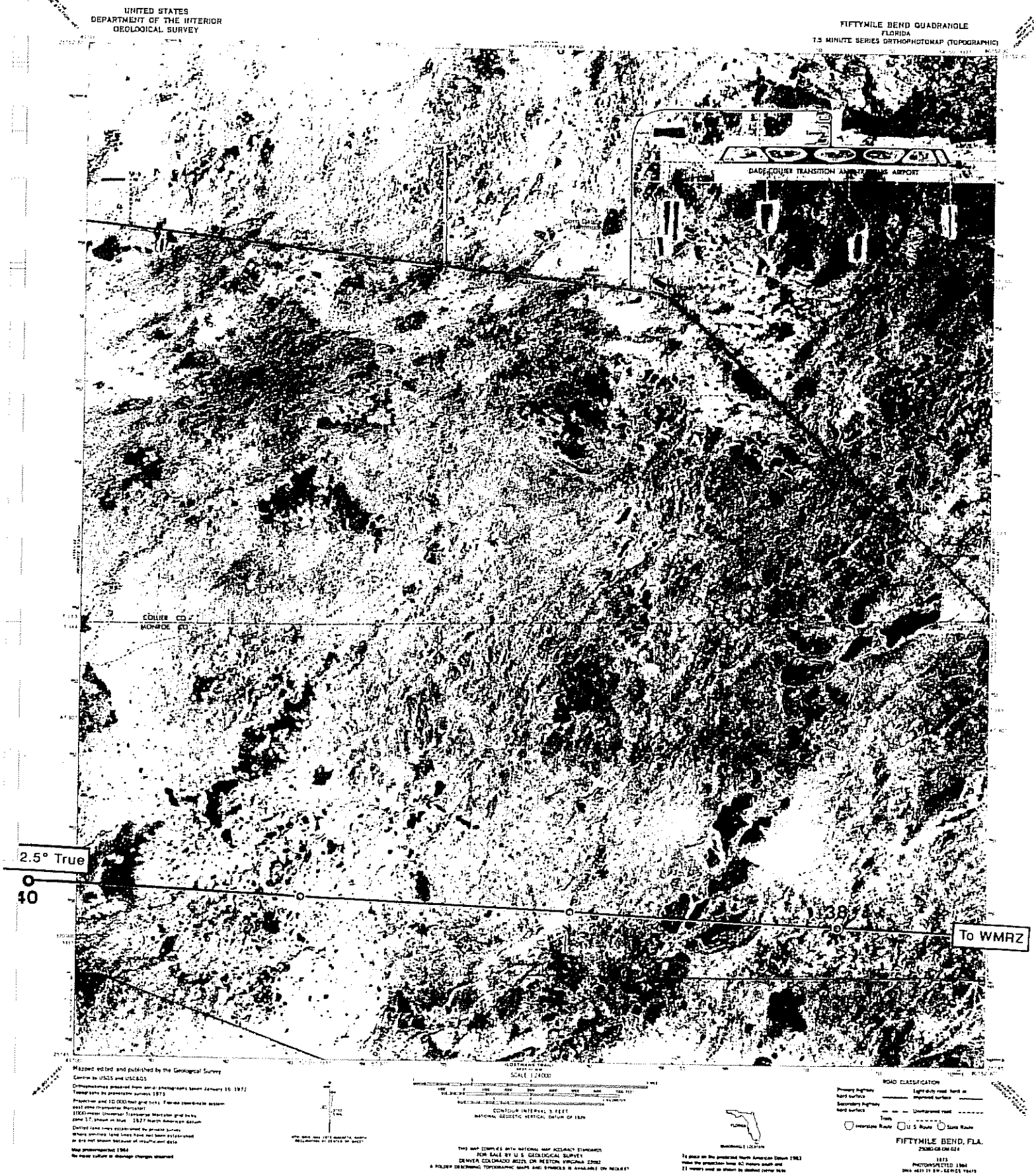
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
LONG PINE KEY QUADRANGLE
FLORIDA-DADE CO
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
To WMRZ
37
39
180° True
SCALE 1:24,000
CONTOUR INTERVAL 5 FEET
ROAD CLASSIFICATION
LONG PINE KEY, FLA.
1972

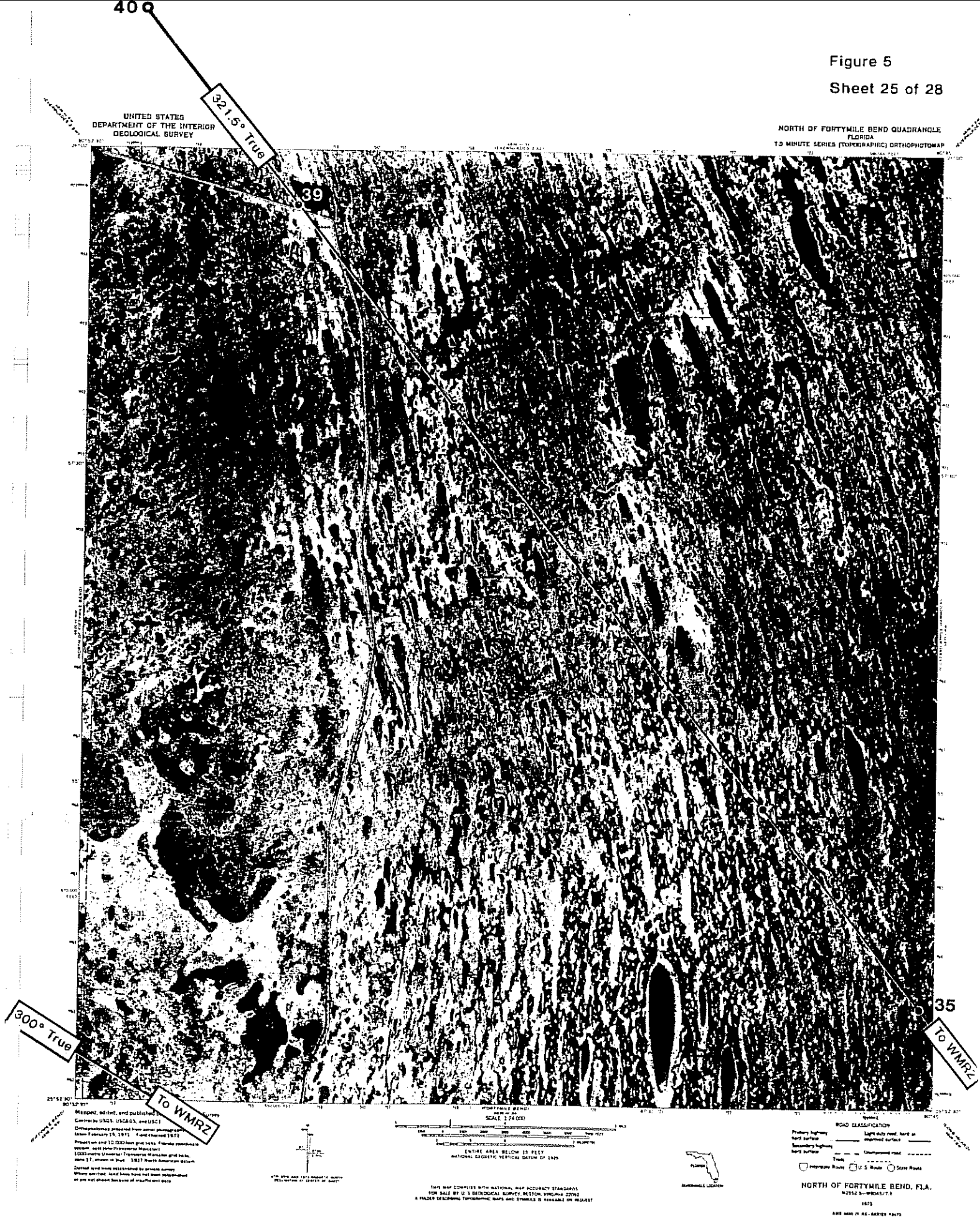

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SHARK VALLEY LOOKOUT TOWER QUADRANGLE
FLORIDA
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
254° True
35
27
To WMRZ
218° True
To WMP-
SCALE 1:24 000
SHARK VALLEY LOOKOUT TOWER, FLA.
1972

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
PANTHER MOUND QUADRANGLE
FLORIDA
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPH
To WMP
35
R K
940
218° True
SCALE 1:24000
ROAD CLASSIFICATION
PANTHER MOUND, FLA.
1972

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
LOSTMANS TRAIL QUADRANGLE
FLORIDA-MONROE CO.
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
To WMRZ
54° True
39
36
SCALE 1:24000
ROAD CLASSIFICATION
LOSTMANS TRAIL FLA.
1972

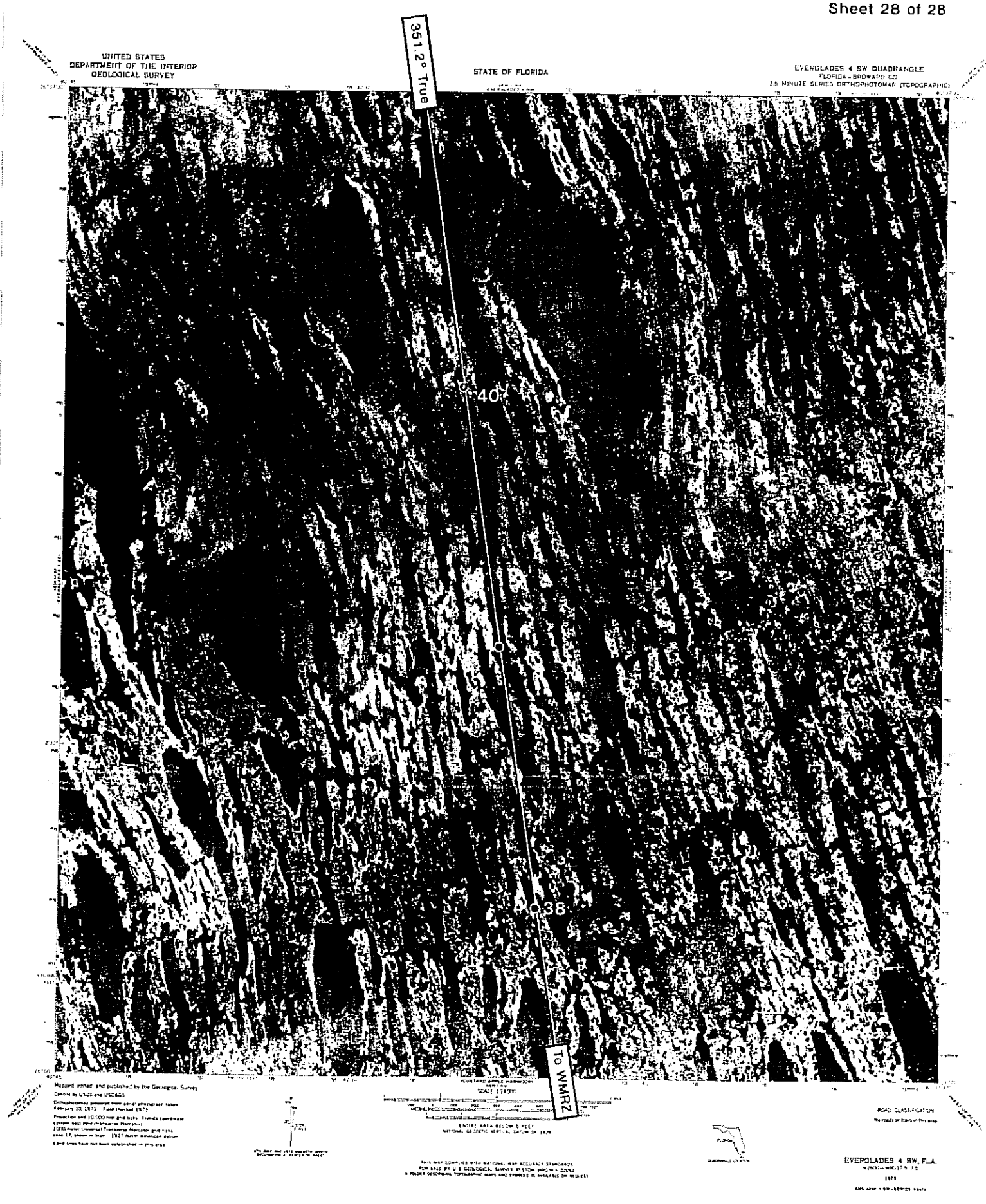

300° True
37
FORTYMILE BEND QUADRANGLE
FLORIDA
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
30
To WMRZ
272.5° True
37
27
To WMRZ
SCALE 1:24000
CONTOUR INTERVAL 5 FEET
ROAD CLASSIFICATION
FORTYMILE BEND, FLA.

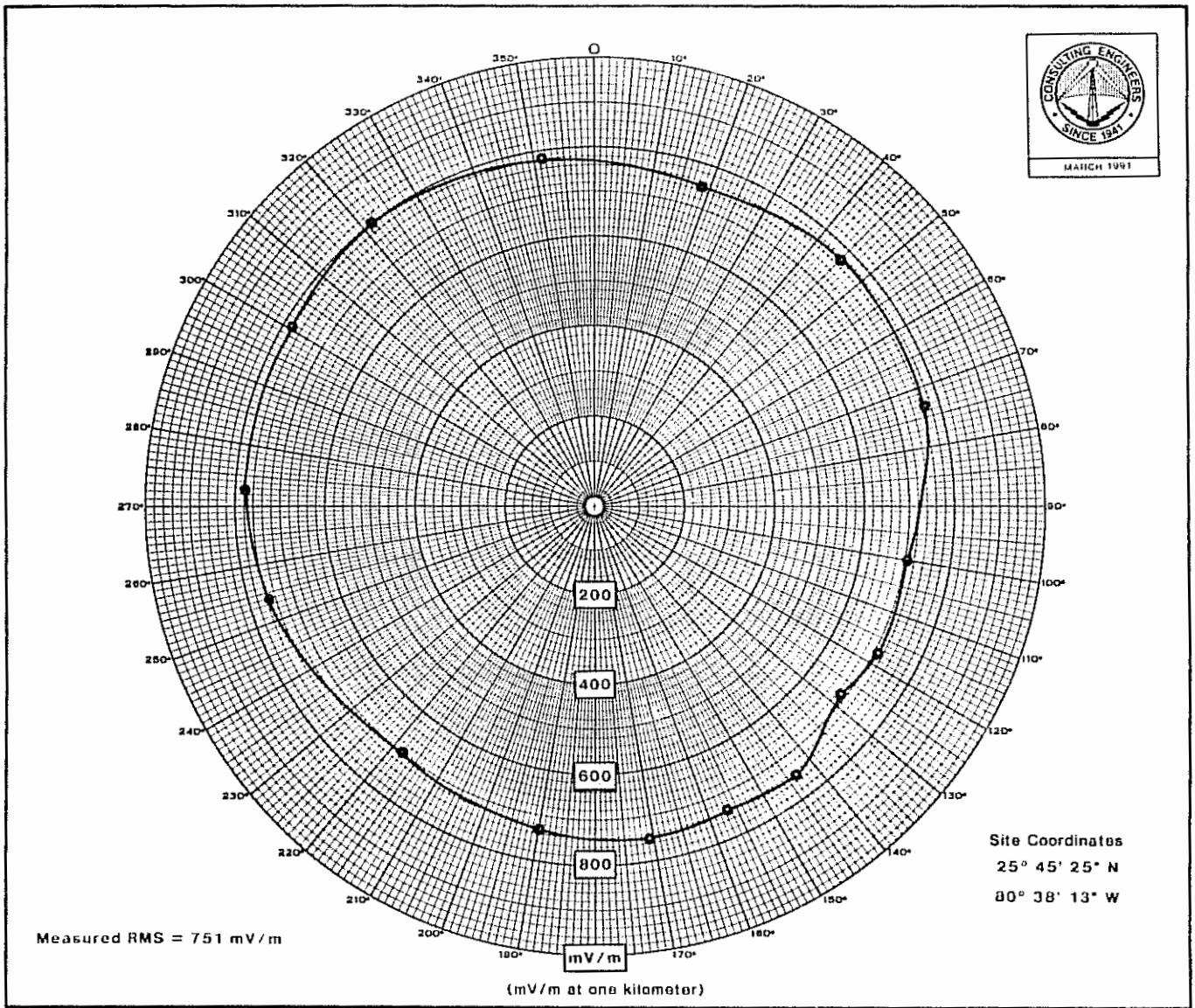

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FIFTYMILE BEND QUADRANGLE
FLORIDA
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
DADE-COLLIER TRANSITION AIRPORT
COLLIER CO.
MONROE CO.
2.5° True
40
38
To WMRZ
SCALE 1:24000
CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
FIFTYMILE BEND, FLA.


40°
321.5° True
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
NORTH OF FORTYMILE BEND QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC) ORTHOPHOTOMAP
39
35
300° True
To WMRZ
To WMRZ
SCALE 1:24 000
ENTIRE AREA BELOW 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ROAD CLASSIFICATION
NORTH OF FORTYMILE BEND, FLA.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
NORTH OF FIFTYMILE BEND QUADRANGLE
FLORIDA—COLLIER CO.
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
300° True
40
38
To WMRZ
SCALE 1:24 000
ROAD CLASSIFICATION
NORTH OF FIFTYMILE BEND, FLA.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CUSTARD APPLE HAMMOCK QUADRANGLE
FLORIDA
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
351.2° True
321.5° True
To WMRZ
To WMRZ
34
30
SCALE 1:24000
ENTIRE AREA BELOW 15 FEET
ROAD CLASSIFICATION
CUSTARD APPLE HAMMOCK, FLA.
1973


351.2° True
40
38
To WMRZ
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
STATE OF FLORIDA
EVERGLADES 4 SW QUADRANGLE
FLORIDA—BROWARD CO.
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)
Mapped, edited, and published by the Geological Survey
SCALE 1:24 000
ROAD CLASSIFICATION
EVERGLADES 4 SW, FLA.
1973



Tower No. 2 driven, others floated

Power = 6250 Watts

Height = 72.4°

Top Loading = 7.2°

MEASURED NONDIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

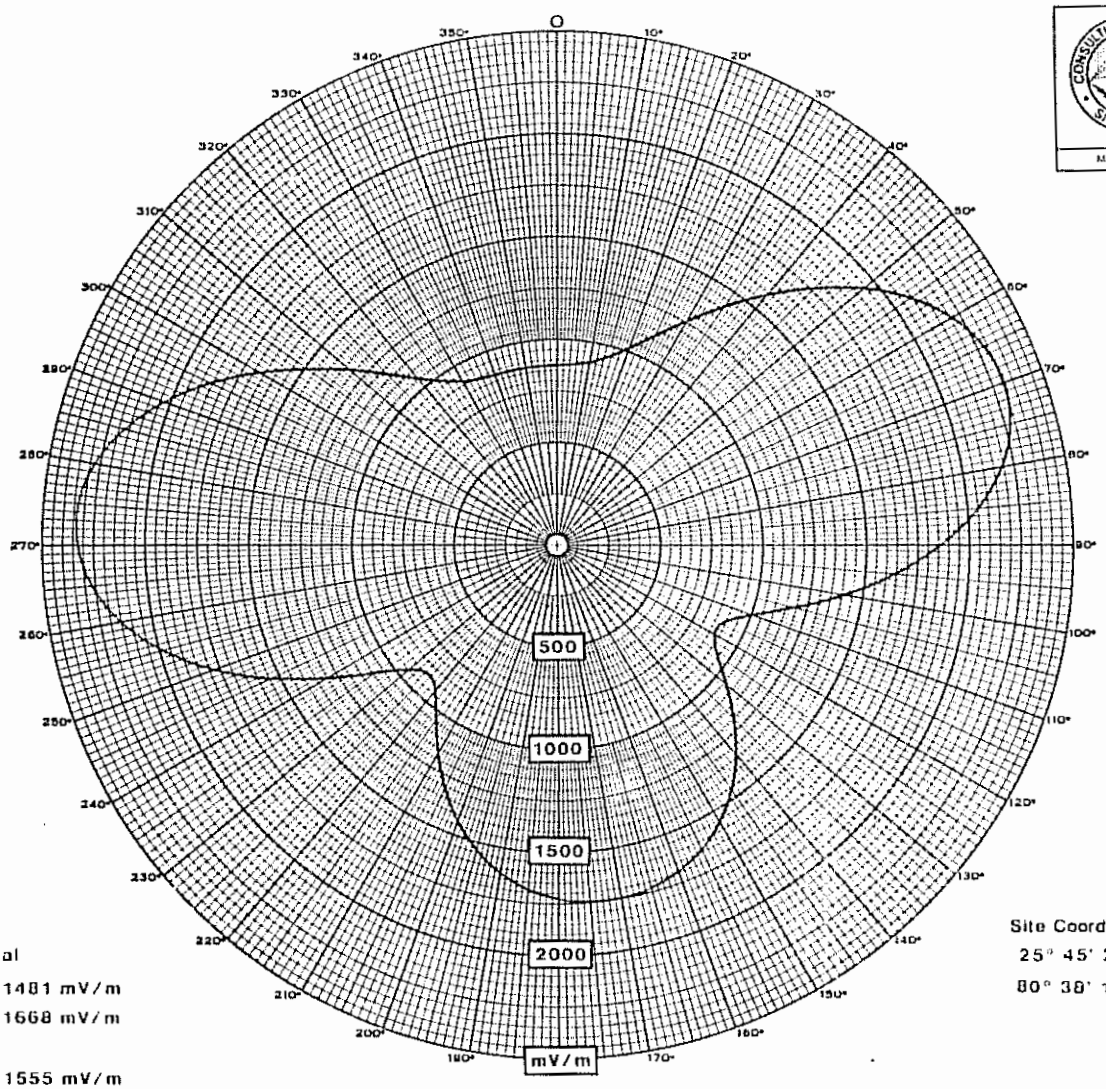
JEFFERSON-PILOT COMMUNICATIONS COMPANY

RADIO STATION WMRZ

SOUTH MIAMI, FLORIDA

790 KHZ 25 KW U DA-2

Figure 7



Directional Pattern Parameters

Tower	Field Ratio	Phase (Degrees)	Spacing (Degrees)	Orientation (Degrees T.)	Height (Degrees)	Top Loading (Degrees)
1	0.450	+45.0	0.0	0.0	72.4	7.2
2	1.000	0.0	225.0	351.0	72.4	7.2

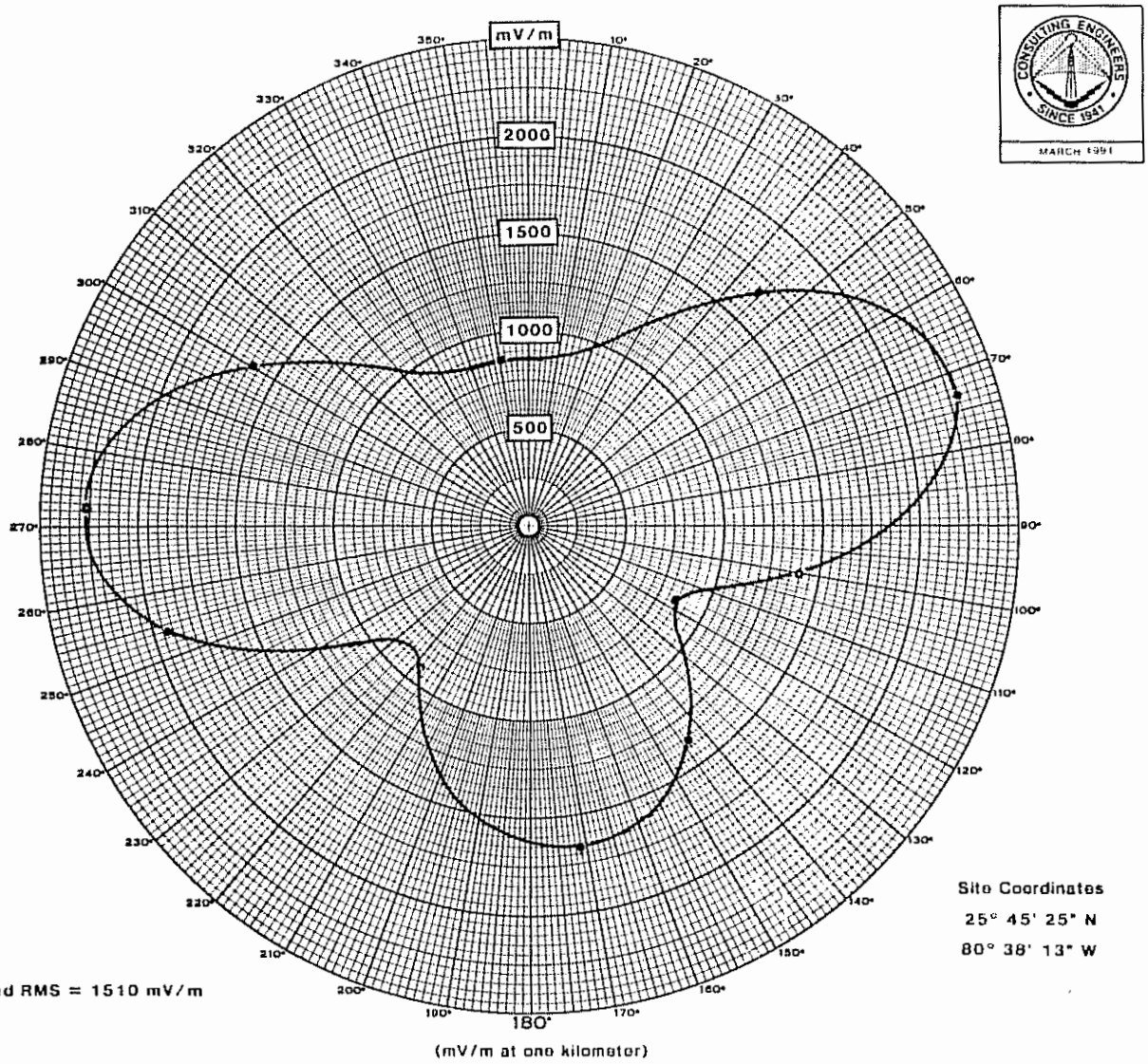
DAYTIME HORIZONTAL PLANE
STANDARD RADIATION PATTERN

JEFFERSON-PILOT COMMUNICATIONS COMPANY

RADIO STATION WMRZ

SOUTH MIAMI, FLORIDA

790 KHZ 25 KW U DA-2



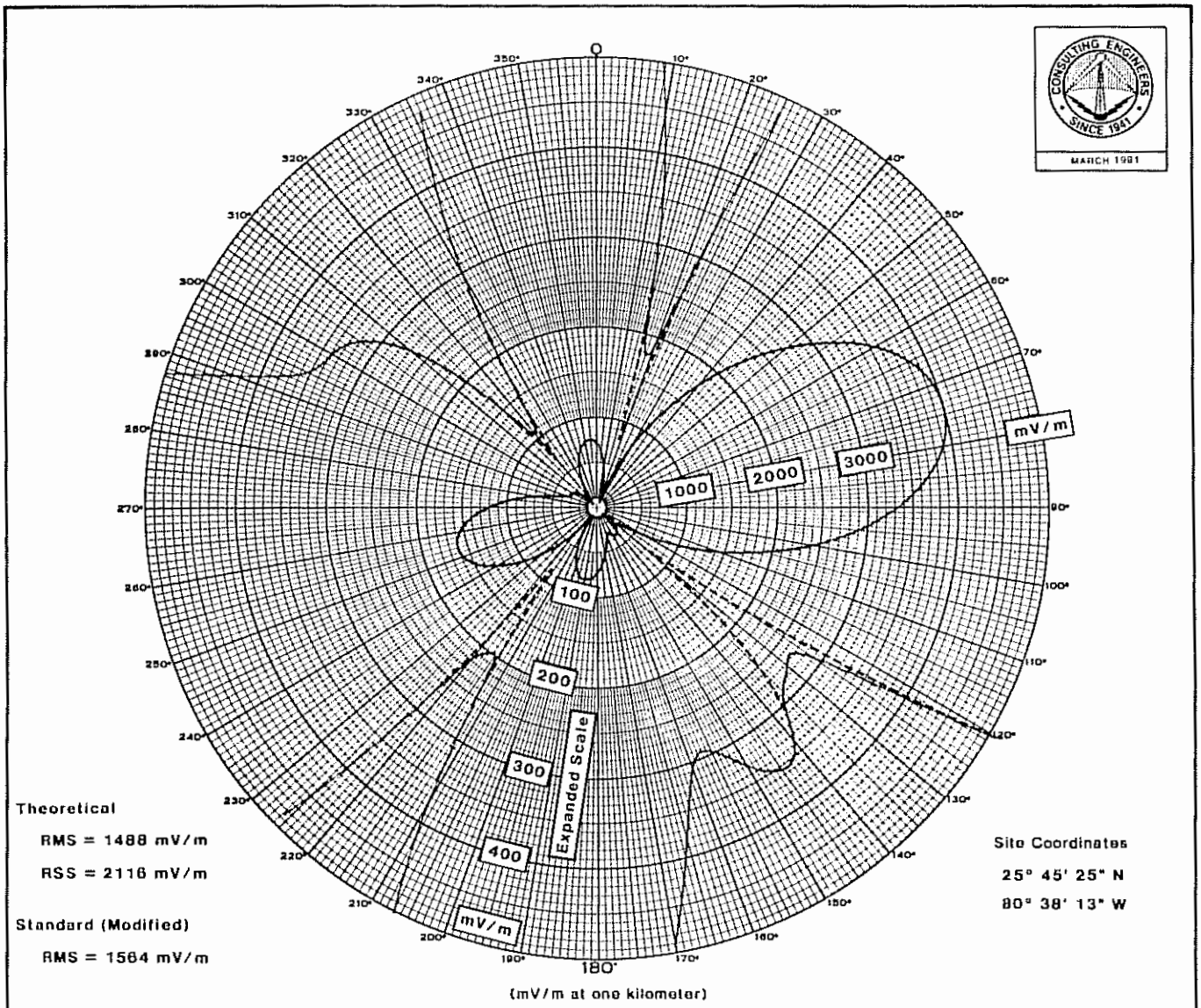
Directional Pattern Parameters

Tower	Field Ratio	Phase (Degrees)	Spacing (Degrees)	Orientation (Degrees T.)	Height (Degrees)	Top Loading (Degrees)
1	0.450	+45.0	0.0	0.0	72.4	7.2
2	1.000	0.0	225.0	351.0	72.4	7.2

DAYTIME HORIZONTAL PLANE
MEASURED RADIATION PATTERN

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW U DA-2

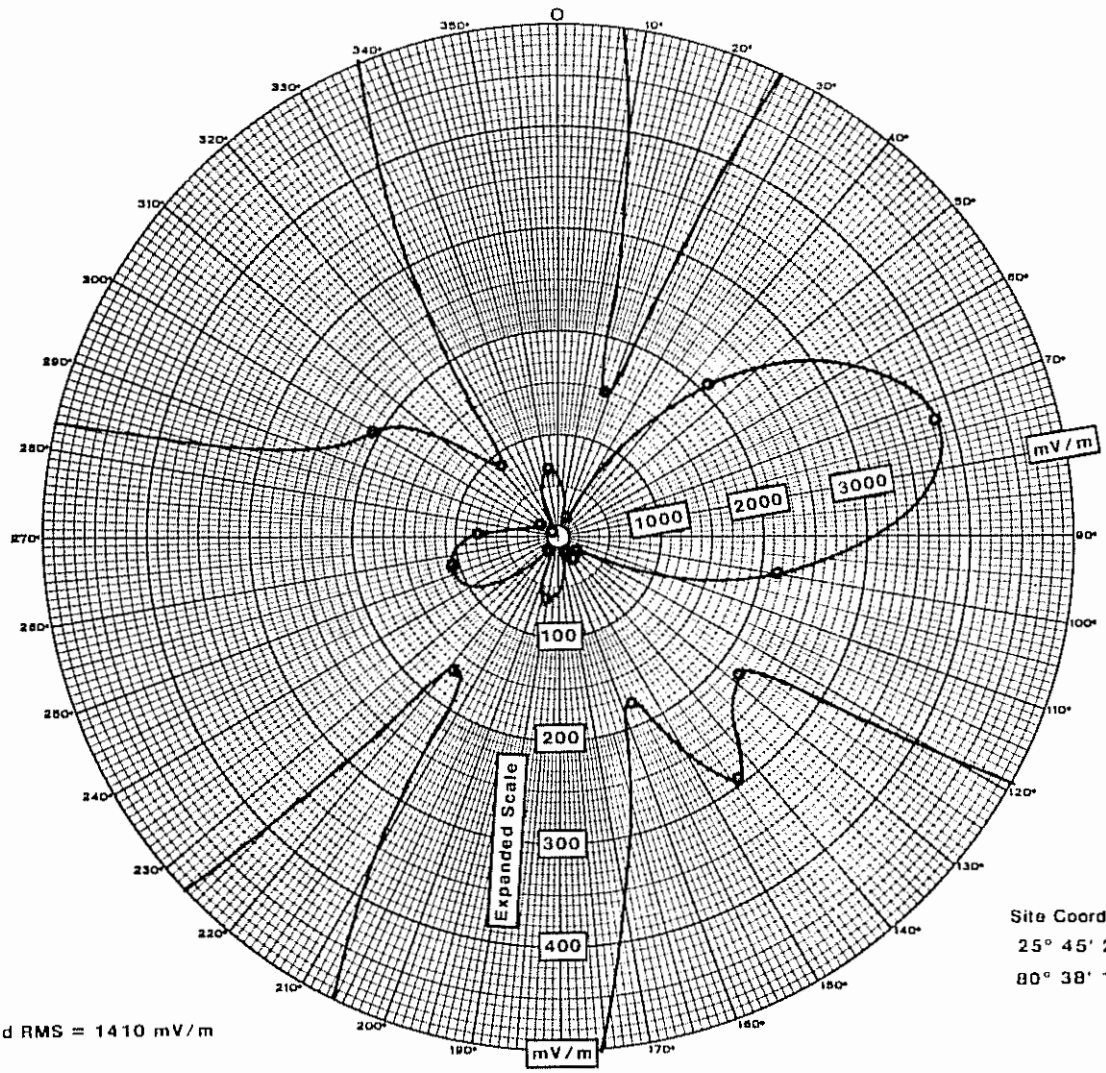
du Treil, Lundin & Rackley, Inc. Washington, D.C.



Directional Pattern Parameters							Augmentation Data			
Tower	Field Ratio	Phase (degrees)	Spacing (degrees)	Orientation (degrees T.)	Height (degrees)	Top Loading (degrees)	Number	Central Az. (degrees T.)	Span (degrees)	Radiation (mV/m)
1	1.000	0.0	0.0	0.0	72.4	7.2	1	18.5	10	178.8
2	1.073	-20.9	225.0	351.0	72.4	7.2	2	128.0	20	265.4
3	0.785	-158.8	294.0	7.2	72.4	7.2	3	218.0	10	201.5
4	0.808	-137.5	100.0	46.0	72.4	7.2	4	321.5	10	107.0

NIGHTTIME HORIZONTAL PLANE
MODIFIED STANDARD RADIATION PATTERN

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW U DA-2



Directional Pattern Parameters							Augmentation data			
Tower	Field Ratio	Phase (degrees)	Spacing (degrees)	Orientation (degrees T.)	Height (degrees)	Top Loading (degrees)	Number	Central Az. (degrees T.)	Span (degrees)	Radiation (mV/m)
1	1.000	0.0	0.0	0.0	72.4	7.2	1	10.5	10	178.8
2	1.073	-20.0	225.0	351.0	72.4	7.2	2	128.0	20	265.4
3	0.785	-158.8	294.0	7.2	72.4	7.2	3	218.0	10	201.5
4	0.808	-137.5	100.0	46.0	72.4	7.2	4	321.5	10	107.0

NIGHTTIME HORIZONTAL PLANE MEASURED RADIATION PATTERN

JEFFERSON-PILOT COMMUNICATIONS COMPANY

RADIO STATION WMRZ

SOUTH MIAMI, FLORIDA

790 KHZ 25 KW U DA-2

From the transmitter driveway turn left onto US 41 and proceed west for a distance of 3.60 kilometers to the Levee Control gate. Turn right and proceed across the canal. Turn right and proceed east along the upper levee road for a distance of 3.86 kilometers to the point. The point is located in the center of the levee and is marked with an orange painted steel stake directly south of the point.

Radial Point Number:	1
Distance From Transmitter:	0.52 kilometer
Nighttime Field Strength:	1418 mV/m

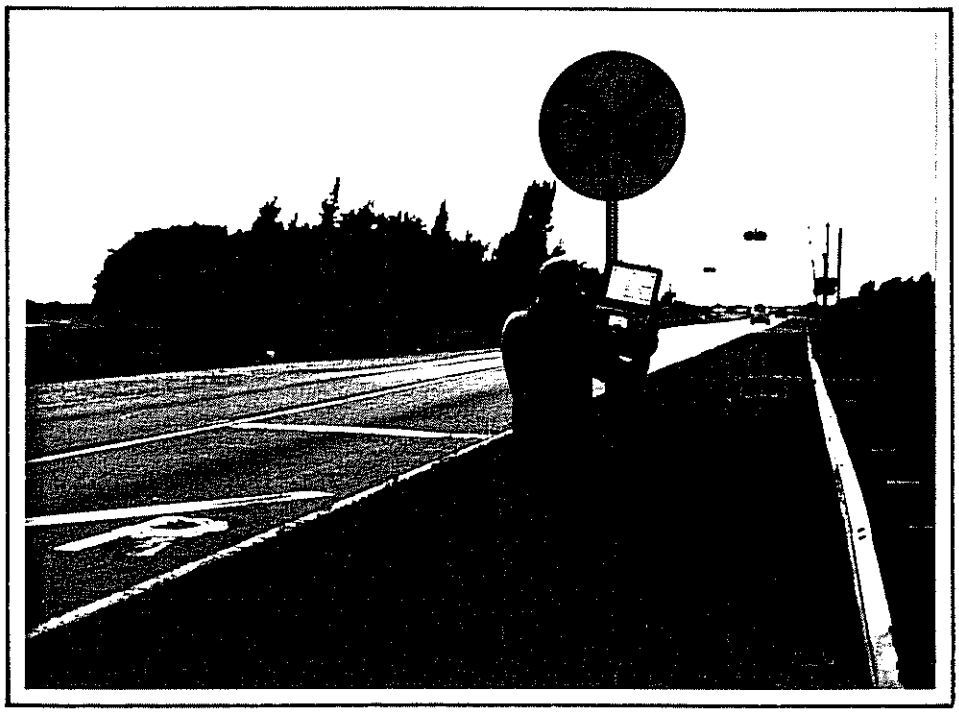
18.5° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY

RADIO STATION WMRZ

SOUTH MIAMI, FLORIDA

790 KHZ 25 KW-U DA-2



From the transmitter driveway turn right onto US 41 and proceed east to the intersection with Krome Avenue. Turn right onto Krome Avenue (Rt. 997) and proceed south to the intersection with North Kendall Drive. The point is located 0.89 kilometer south of this intersection on the west shoulder of Krome Avenue, 5 meters north of the Railroad Crossing sign.

Radial Point Number:	34
Distance From Transmitter:	17.87 kilometers
Daytime Field Strength:	33.6 mV/m

117.9° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

From the transmitter driveway turn right onto US 41 and proceed east to the intersection with Krome Avenue. Turn right onto Krome Avenue (Rt. 997) and proceed south to the intersection with Black Creek Canal. The point is located 1.69 kilometers south of this intersection on the west shoulder of Krome Avenue, 3 meters east of the painted orange mark on the pavement.

Radial Point Number:	36
Distance From Transmitter:	19.85 kilometers
Nighttime Field Strength:	4.30 mV/m

128° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

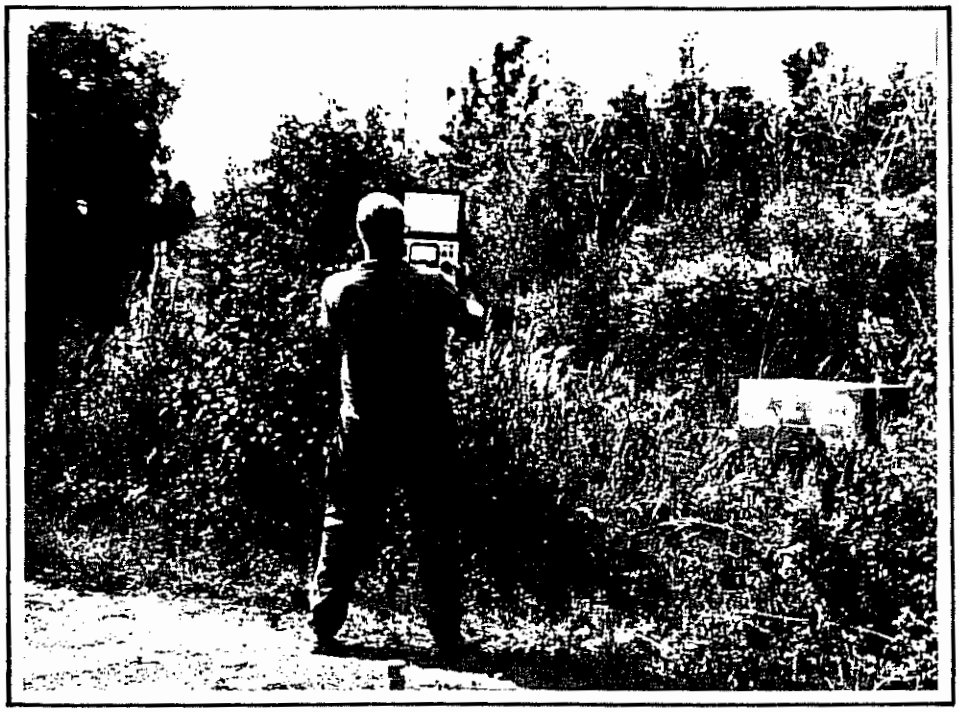
duTreil, Lundin & Rackley, Inc. Washington, D.C.

From the transmitter driveway turn right onto US 41 and proceed east to the intersection with Krome Avenue. Turn right onto Krome Avenue (Rt. 997) and proceed south to the intersection with Howard Drive. Turn right onto Howard Drive and proceed west for a distance of 5.95 kilometers to the point. The point is located on the north edge of the road and is marked by a large rock pile located directly north of the point.

Radial Point Number:	33
Distance From Transmitter:	16.45 kilometers
Nighttime Field Strength:	11.6 mV/m

143.5° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2



From the transmitter driveway turn right onto US 41 and proceed east to the intersection with Krome Avenue. Turn right onto Krome Avenue (Rt. 997) and proceed south to the intersection with Richmond Drive. Turn right and proceed west for a distance of 9.58 kilometers to the intersection of Grossman Drive and SW 237th Avenue. Turn right and proceed north on SW 237th Avenue for a distance of 2.38 kilometers to the point. The point is located on the west shoulder of SW 237th Avenue and is directly across from a water gauging station.

Radial Point Number:	31
Distance From Transmitter:	15.28 kilometers
Nighttime Field Strength:	6.10 mV/m

156.5° RADIAL MONITOR POINT

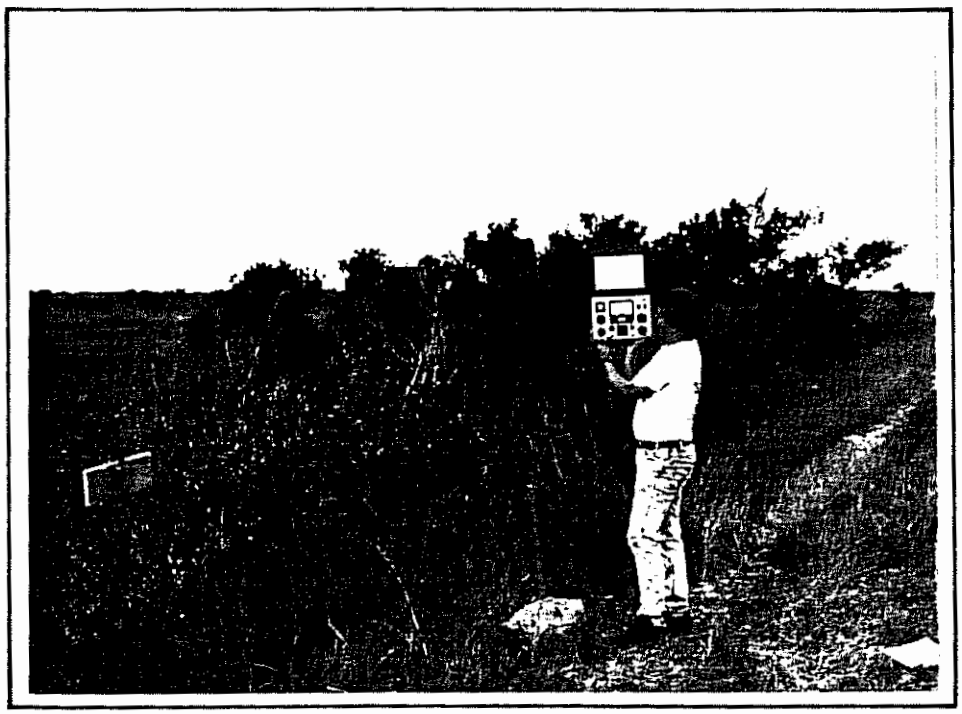
JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

From the transmitter driveway turn right onto US 41 and proceed east to the intersection with Krome Avenue. Turn right onto Krome Avenue (Rt. 997) and proceed south to the intersection with Richmond Drive. Turn right and proceed west for a distance of 9.58 kilometers to the intersection of Grossman Drive and SW 237th Avenue. Turn right and proceed north on SW 237th Avenue for a distance of 1.69 kilometers to the intersection with SW 152nd Street. Turn left onto SW 152nd Street and proceed west for a distance of 3.40 kilometers to the point. The point is located on the southwest corner at the curve in the road.

Radial Point Number:	31
Distance From Transmitter:	15.03 kilometers
Daytime Field Strength:	88.2 mV/m

171° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2



From the transmitter driveway turn left onto US 41 and proceed west for a distance of 3.60 kilometers to the Levee Control gate. Turn left and proceed south of the intersection of Old US 41 and the levee access road. The point is locate 4.9 kilometers south of this intersection on the upper levee road. The point is located on the east side of the levee road and is marked by a concrete marker and orange colored steel post directly east of the point.

Radial Point Number:	21
Distance From Transmitter:	5.78 kilometers
Nighttime Field Strength:	38.9 mV/m

218° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

From the transmitter driveway turn left onto US 41 and proceed west for a distance of 11.46 kilometers to the point. The point is located 3 meters south of the south shoulder of US 41 in the center of the driveway to the AT&T relay building.

Radial Point Number:	27
Distance From Transmitter:	11.50 kilometers
Daytime Field Strength:	179 mV/m

272.5° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

duTreil, Lundin & Rackley, Inc. Washington, D.C.

From the transmitter driveway turn left onto US 41 and proceed west for a distance of 3.60 kilometers to the Levee Control gate. Turn right and proceed across the canal. Turn right and proceed east along the upper levee road for a distance of 3.30 kilometers to the point. The point is located in the center of the levee and is marked with an orange painted spot on the levee road.

Radial Point Number:	2
Distance From Transmitter:	0.65 kilometer
Nighttime Field Strength:	651 mV/m

321.5° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

From the transmitter driveway turn left onto US 41 and proceed west for a distance of 3.60 kilometers to the Levee Control gate. Turn right and proceed across the canal. Turn right and proceed east along the upper levee road for a distance of 3.60 kilometers to the point. The point is located in the center of the levee and is marked with an orange painted spot on the levee road.

Radial Point Number:	1
Distance From Transmitter:	0.50 kilometer
Daytime Field Strength:	1242 mV/m

351.2° RADIAL MONITOR POINT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

du Treil, Lundin & Rackley, Inc. Washington, D.C.

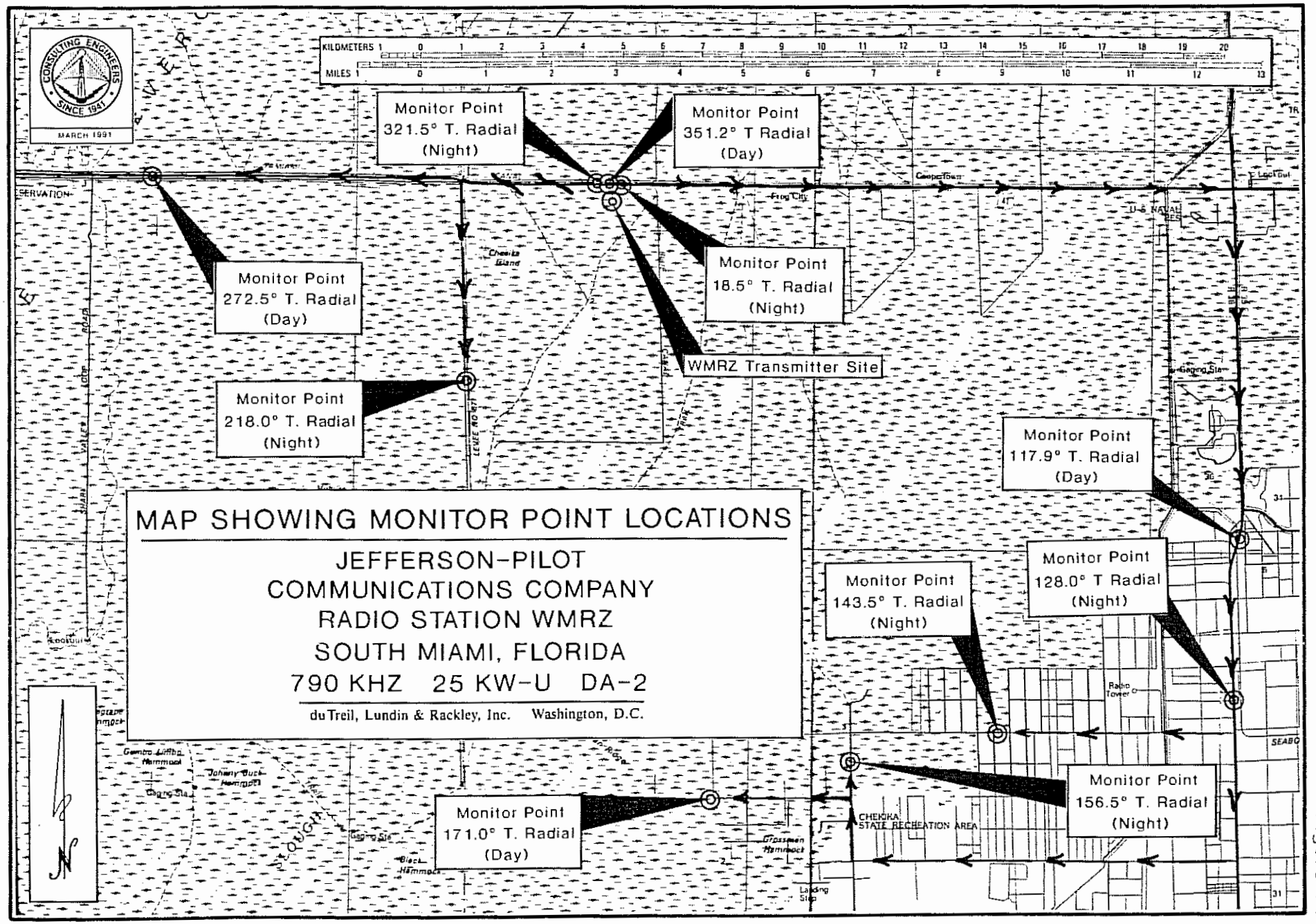
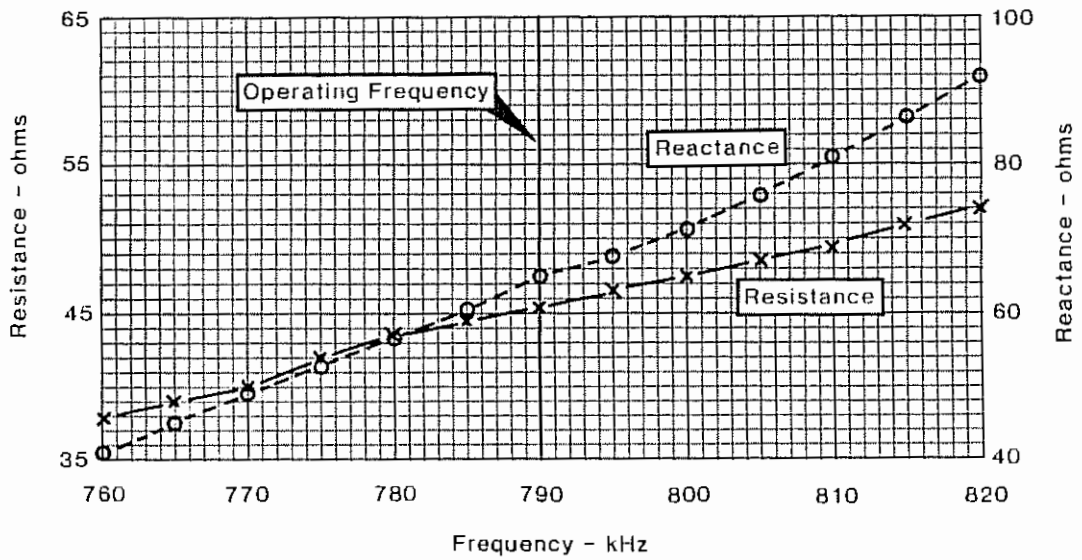

CONSULTING ENGINEERS SINCE 1941
MARCH 1991
KILOMETERS
MILES
Monitor Point
321.5° T. Radial
(Night)
Monitor Point
351.2° T Radial
(Day)
Monitor Point
272.5° T. Radial
(Day)
Monitor Point
18.5° T. Radial
(Night)
WMRZ Transmitter Site
Monitor Point
218.0° T. Radial
(Night)
Monitor Point
117.9° T. Radial
(Day)
MAP SHOWING MONITOR POINT LOCATIONS
JEFFERSON-PILOT
COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2
duTreil, Lundin & Rackley, Inc. Washington, D.C.
Monitor Point
143.5° T. Radial
(Night)
Monitor Point
128.0° T Radial
(Night)
Monitor Point
171.0° T. Radial
(Day)
Monitor Point
156.5° T. Radial
(Night)
CHEKIKA
STATE RECREATION AREA
Radio Tower
SEABO
N

Figure 12



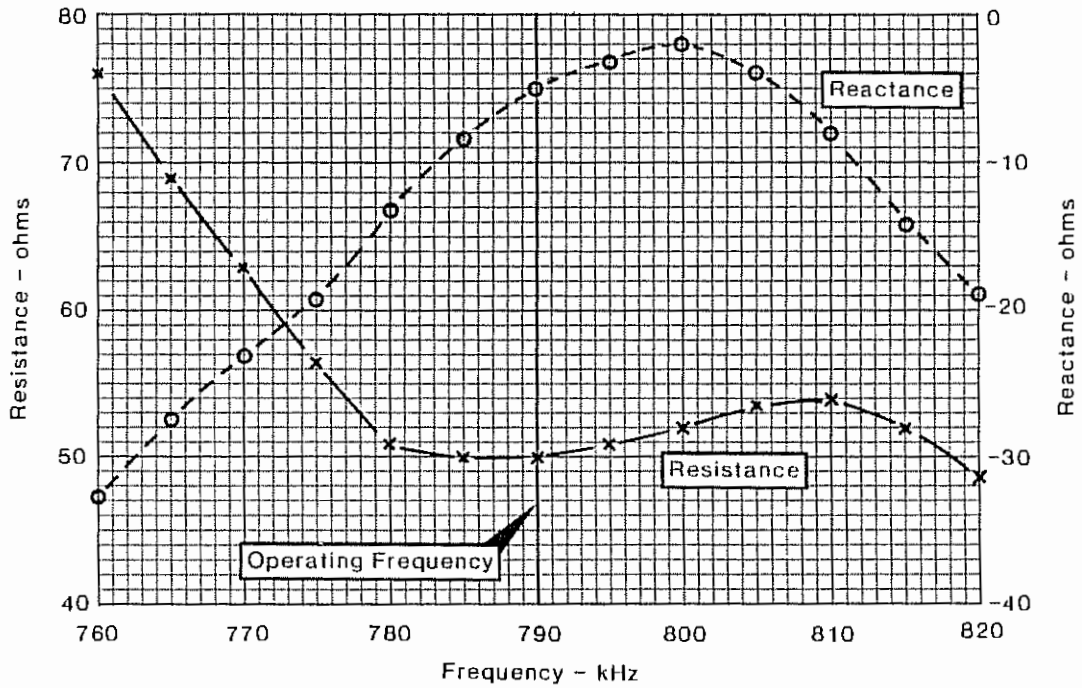
Frequency (kHz)	Resistance (ohms)	Reactance (ohms)
760	38.0	+j41.0
765	39.0	+j45.1
770	40.0	+j49.3
775	42.0	+j52.7
780	43.5	+j56.6
785	44.5	+j60.4
790	45.5	+j64.8
795	46.5	+j67.6
800	47.5	+j71.2
805	48.5	+j75.7
810	49.5	+j81.0
815	51.0	+j86.4
820	52.0	+j91.8

CONSULTING ENGINEERS SINCE 1941
MARCH 1991

NON-DIRECTIONAL BASE IMPEDANCE

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

du Treil, Lundin & Rackley, Inc. Washington, D.C.

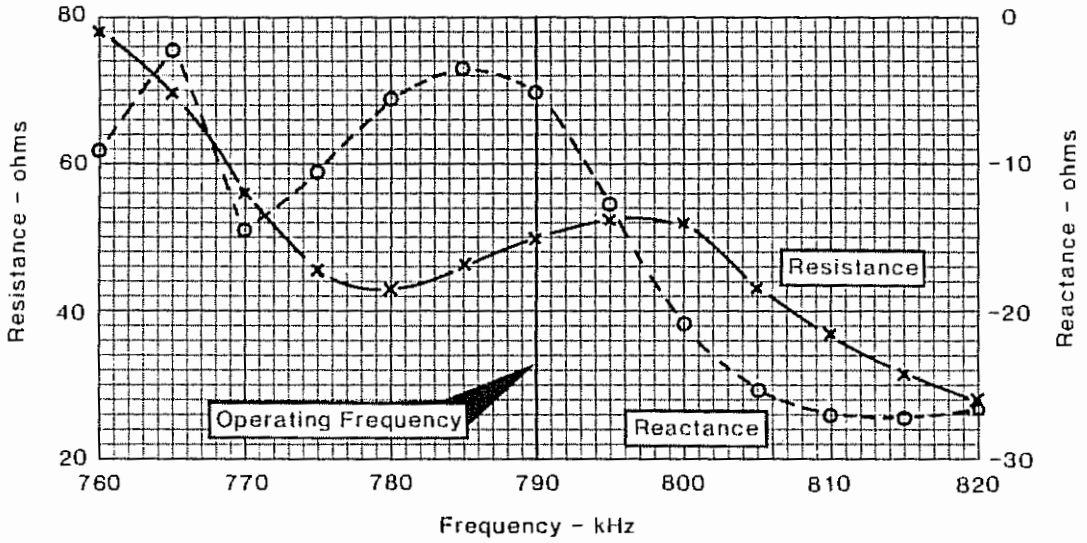


Frequency (kHz)	Resistance (ohms)	Reactance (ohms)
760	76.0	-j32.7
765	69.0	-j27.5
770	63.0	-j23.1
775	56.5	-j19.4
780	51.0	-j13.3
785	50.0	-j 8.6
790	50.0	-j 5.1
795	51.0	-j 3.2
800	52.0	-j 2.0
805	53.5	-j 4.0
810	54.0	-j 8.1
815	52.0	-j14.3
820	48.5	-j18.9

CONSULTING ENGINEERS SINCE 1941
MARCH 1981

DAYTIME COMMON POINT IMPEDANCE

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2



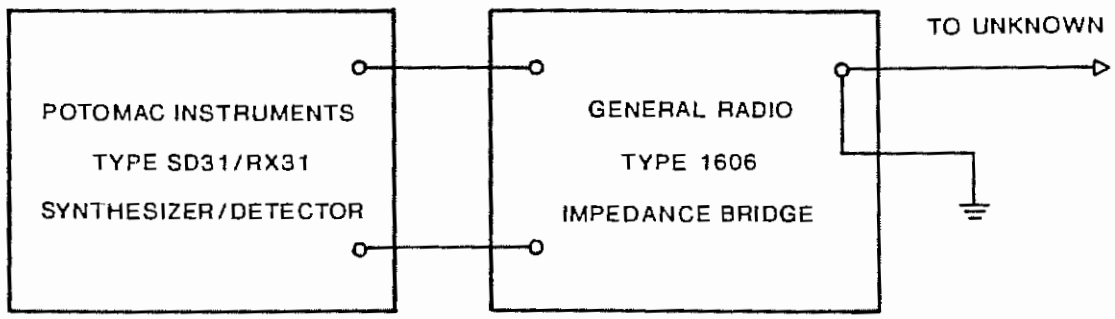
Frequency (kHz)	Resistance (ohms)	Reactance (ohms)
760	78.0	-j 9.1
765	69.5	-j 2.4
770	56.0	-j14.6
775	45.5	-j10.5
780	43.0	-j 5.5
785	46.5	-j 3.5
790	50.0	-j 5.1
795	52.5	-j12.7
800	52.0	-j20.8
805	43.0	-j25.4
810	37.0	-j27.1
815	31.5	-j27.3
820	28.0	-j26.7

CONSULTING ENGINEERS SINCE 1941
MARCH 1991

NIGHTTIME COMMON POINT IMPEDANCE

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-U DA-2

Figure 14



BLOCK DIAGRAM OF IMPEDANCE MEASURING EQUIPMENT

JEFFERSON-PILOT COMMUNICATIONS COMPANY
RADIO STATION WMRZ
SOUTH MIAMI, FLORIDA
790 KHZ 25 KW-D DA-2

Section II–A — License Application Engineering Data – AM Broadcast

Name of Applicant

Jefferson-Pilot Communications Company

PURPOSE OF AUTHORIZATION APPLIED FOR: *(check one)*

☐ Station License

☐ Direct measurement of power

Special Temporary Authority
(see Technical Narrative)

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit *(if applicable)*	Frequency *(kHz)*	Hours of operation	Power in kilowatts	
				Night	Day
WMRZ		790	Unlimited	25	25

2. Station location

State	City or Town
Florida	South Miami

3. Transmitter location

State	County	City or Town	Street address *(or other identification)*
On file			

4. Main Studio location

State	County	City or Town	Street Address *(or other identification)*
On file			

5. Remote control point location *(specify only if authorized directional antenna)*

State	County	City or Town	Street address *(or other identification)*
On file			

6. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system: 22.9

RF common point or antenna current (in amperes) without modulation for day system: 22.9

Measured antenna or common point **resistance** (in ohms) at operating frequency
Night 50.0 Day 50.0

Measured antenna or common point **reactance** (in ohms) at operating frequency
Night -j5.1 Day -j5.1

Antenna indications for directional operation

Tower	Antenna monitor Phase reading in degrees		Antenna monitor sample current ratio		Antenna base current	
	Night	Day	Night	Day	Night	Day
1 (SW)	0	+42.0	1.000	0.460	16.40	10.15
2 (NW)	-26.8	0	1.070	1.000	17.60	22.50
3 (NE)	-152.4		0.904		15.00	
4 (SE)	-127.0		0.983		16.25	

Manufacturer and type of antenna monitor:
Potomac Instruments AM-19D(210)

7. Description of antenna system

(If directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary. Height figures should not include obstruction lighting.)

Type radiator	Height in meters of complete radiator above base insulator, or above base if grounded.	Overall height in meters above ground *(without obstruction lighting)*	If antenna is either top loaded or sectionalized, describe fully in Exhibit No. Tech.
On file	On file	On file	

Excitation ☒ Series ☐ Shunt

Geographic coordinate to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North latitude	25	45	25	West longitude	80	38	13

If not fully described above, attach as Exhibit No. _____ further details and dimensions including any other antenna mounted on tower and associated isolation circuits. Also, if necessary for a complete description attach as Exhibit No. _____ a sketch of the details and dimensions of ground system.

8. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

None

9. Give reasons for the change in antenna or common point resistance.

N/A

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name *(Please Print or Type)*	Signature *(Check appropriate box below)*
David E. Dickmann	David E. Dickmann
Address *(Include ZIP Code)* du Treil, Lundin & Rackley, Inc. 1019 19th Street, N.W., 3rd Floor Washington, D.C. 20036	Date March 18, 1991 Telephone No. *(Include Area Code)* (202) 223-6700

- ☐ Technical Director
- ☐ Registered Professional Engineer
- ☐ Chief Operator
- ☒ Technical Consultant
- ☐ Other *(specify)*