ENGINEERING EXHIBIT
IN SUPPORT OF AN APPLICATION FOR
MODIFICATION OF CONSTRUCTION PERMIT
FCC FILE NO. BP-20150730ACM
WNTN(AM) – CAMBRIDGE, MASSACHUSETTS
1550 kHz – 6.7 kW DAY/0.003 kW NIGHT - ND-2
FACILITY ID: 48781

Applicant: Delta Communications, LLC

October, 2017

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TABLE OF CONTENTS

FCC Form 301 - Section III

ENGINEERING STATEMENT OF CYNTHIA M. JACOBSON, P.E.

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STATEMENT OF CYNTHIA M. JACOBSON
IN SUPPORT OF AN APPLICATION FOR
MODIFICATION OF CONSTRUCTION PERMIT
FCC FILE NO. BP-20150730ACM
WNTN – CAMBRIDGE, MASSACHUSETTS
1550 kHz – 6.7 kW DAY/0.003 kW NIGHT - ND-2
FACILITY ID: 48781

Applicant: Delta Communications, LLC

I am a Radio Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia.

My education and experience are a matter of record with the Federal Communications Commission. I am a Registered Professional Engineer in the Commonwealth of Virginia, Registration No. 027914.

GENERAL

This office has been authorized by Delta Communications, LLC ("Delta"), licensee of Standard Broadcast Station WNTN, Newton, Massachusetts, to prepare this statement, FCC Form 301 (Section III), and the attached engineering exhibits in support of an Application for Modification of Construction Permit, FCC File No. BP-20150730ACM.

WNTN is licensed to operate on 1550 kHz with a power of 10.0 kilowatts daytime and 0.003 kilowatts nighttime, employing a non-directional antenna system (ND-2).

The WNTN outstanding construction permit authorizes operation from the licensed transmitter site of WJIB, Cambridge, Massachusetts, at a nondirectional power of 0.75

kW day and 0.003 kW night with a change in the community of license from Newton, Massachusetts to Cambridge, Massachusetts.

The modification described herein proposes to increase the daytime power level to 6.7 kW at the construction permit location. No changes are proposed for the night operation.

PROPOSED TRANSMITTER SITE AND VICINITY

The NAD-27 geographic coordinates of the non-directional antenna, as determined by FCC records are:

42 - 23 - 13 North Latitude
71 - 08 - 21 West Longitude

The site elevation was obtained from data on file with the FCC. The antenna/transmitter site photographs are contained in the WJIB files at the FCC, and therefore not supplied herein.

ANTENNA SYSTEM

The proposed antenna system consists of an existing single guyed tower. At a frequency of 1550 kHz, the electrical height is 158.8 degrees. The Theoretical Efficiency is 356.4 mV/m/kW at 1 kilometer.

GROUND SYSTEM

The existing ground system consists of 120 buried copper wire radials. The maximum length of the radials is 97.5 meters (0.504 wavelengths at 1550 kHz).

FAA NOTIFICATION AND TOWER REGISTRATION

The existing structure is 86.9 meters AGL (91.9 meters AMSL). Since the tower is not being altered physically, it is believed that no notification to the Federal Aviation Administration (FAA) is necessary.

The Tower Registration Number for this structure is #1009551.

BLANKETING AND STATION INTERACTION

The present 1000 mV/m daytime contour is depicted in Figure 1. The proposed 1000 mV/m daytime contour is depicted in Figure 2. The population within the proposed WNTN 1000 mV/m daytime contour is greater than 300 persons, but less than 1.0 percent of the population within the proposed 25 mV/m daytime contour. In response to all complaints of blanketing interference, the applicant will undertake steps to mitigate the blanketing effects in accordance with the requirements of Section 73.88 of the Rules.

With the exception of the co-located facility of WJIB(AM), there are no other AM stations located within 3.2 kilometers of the proposed WNTN antenna site. There are several FM facilities located within 10 kilometers. There are three TV facilities located

within 10 kilometers. It is expected that no detrimental interaction will occur with any station.

COVERAGE CONTOURS

The present and proposed 25.0 mV/m daytime contours are shown in Figure 3.

The present and proposed 5.0 mV/m contours are shown in Figure 4. The proposed 5.0 mV/m daytime service contour will encompass 100% of the new city of license, Cambridge, Massachusetts.

Figure 5 depicts the present and proposed 2.0 mV/m and 0.5 mV/m daytime contours.

DAYTIME ALLOCATION STUDY

The results of the daytime allocation study are shown in Figure 6. Five stations were considered in detail regarding the daytime allocation. These stations are:

WVBF	1530 kHz	Middleborough, Massachusetts;
WXEX	1540 kHz	Exeter, New Hampshire;
WADK	1540 kHz	Newport, Rhode Island;
WSDK	1550 kHz	Bloomfield, Connecticut; and
WCCM	1570 kHz	Methuen, Massachusetts.

The distances to all groundwave contours were calculated using the equivalent distance method, with the exception of the measurement data as tabulated in Appendix

A and B. Contours were calculated at 5 degree intervals using ground conductivity values shown on the M-3 soil map. Tabulations of distances to groundwave contours and conductivity profiles are not included herein but can be provided upon request.

Figure 6 depicts the entire daytime allocation picture. A further breakdown of each channel relationship follows.

CO-CHANNEL PROTECTION

As depicted on the map of Figure 7, there is current overlap of the licensed WNTN 0.025 mV/m interfering contour with the 0.5 mV/m protected contour of WSDK. The modification proposal will reduce the caused overlap to WSDK when compared to the WNTN licensed 10.0 kW facility.

FIRST-ADJACENT CHANNEL PROTECTION

The map of Figure 8 depicts the 0.25 mV/m and 0.5 mV/m contours of WNTN along with WXEX and WADK. In both instances, overlap of the 0.25 mV/m and the 0.5 mV/m contours currently exists with WXEX and WADK. The proposal of WNTN will greatly reduce, but not entirely eliminate the overlap of the 0.25 mV/m and 0.5 mV/m contours with WADK. With the use of measurement data, no overlap to/from WXEX occurs with the herein proposed with the exception of a small area of caused overlap to WXEX occurring along the coastline. Figure 8A is an expanded view of this overlap area. A waiver of Section 73.37 is requested if deemed necessary.

SECOND-ADJACENT CHANNEL PROTECTION

The map of Figure 9 shows no overlap of the WNTN licensed or proposed 5.0 mV/m contours with the 5.0 mV/m contours of WCCM and WVBF. Figure 9A is an expanded version of Figure 9, showing in greater detail that no overlap is predicted to occur.

WAIVER REQUEST

The WNTN proposal will have a small area of overlap with first-adjacent station WXEX. The proposed 0.25 mV/m interfering contour will overlap the WXEX 0.5 mV/m protected contour. The majority of the overlap area falls within the Parker River National Wildlife Reserve ("NWR") located on Plum Island. Parker River NWR was established in 1941 to protect migratory birds. This overlap area, as shown in greater detail in Figure 8A, can be considered as "de minimus"[1] with a population of 236 persons in an area of 4.2 square kilometers. A waiver of Section 73.37 is respectfully requested.

ENVIRONMENTAL IMPACT

The proposal described herein does not involve high intensity lighting as specified in Section 1.1307(a)(8) of the Rules, nor will it result in human exposure to radiofrequency

1 *Larson-Erwin Enterprises (KOAG), Arroyo Grande, Calif.,* Memorandum Opinion and Order, 6 FCC 2d 13 (1967) (Granting a waiver of §73.37 of the Commission's rules based on "unique circumstances," including the fact that the total population included in the areas of overlap was less than 300 persons).

radiation in excess of the standards specified in Section 1.1307(b). The applicant has determined that under the provisions of Section 1.1306, the proposal is excluded from environmental processing because no new construction will occur.

RADIOFREQUENCY IMPACT

On January 1, 1986, the FCC amended its Rules to implement the National Environmental Policy Act of 1969 (NEPA). This amendment established RF radiation protection guidelines to be used to determine if potentially harmful RF exposure is possible from an FCC-regulated transmission facility. Effective October 15, 1997, the FCC adopted revised guidelines and procedures for evaluating environmental effects of RF emissions. These revised guidelines incorporate two tiers of exposure limits based on whether exposure occurs in a "controlled" (occupational) situation or an "uncontrolled" (general population) situation. The FCC has also revised OET Bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," to aid the radiation exposure analysis. This bulletin, as well as other current literature, provides detailed information for conducting an analysis including mathematical equations that can be used to determine compliance with the Commission's guidelines.

The proposed WNTN facility is co-located with the WJIB(AM) facility, thus the proposed site is considered a multiple-use site.

CALCULATION METHODS

Verification of compliance with FCC-specified guidelines for human exposure to RF radiation was obtained from OET Bulletin No. 65. To obtain distance to compliance with the guidelines, Tables 2 and 3, Section 1 of Supplement A was used. The proposed WNTN facility will operate on 1550 kHz with a daytime power of 6.7 kW. The WJIB facility will operate on 740 kHz with a daytime power of 0.25 kW (In both instances, the daytime modes represent a worst-case scenario.) Assuming a worst case scenario of 7.0 kW of total power, a fence of at least 2.4 meters from the base of the tower is necessary.

A 2.4 meter fence will satisfy both the occupational/controlled and the general population/uncontrolled MPE limits. Any existing fencing will be modified as necessary. The fences will be locked to preclude public access to the towers and appropriate warning signs will also be posted.

It is submitted that the proposed WNTN station and the WJIB station will not constitute a potential hazard to the quality of the human environment. Accordingly, the WNTN proposal, as described herein, should be categorically excluded from RF environmental processing under Section 73.1307(b) of the Rules.

OCCUPATIONAL SAFTEY

Access to the WNTN/WJIB supporting tower base will be restricted to authorized maintenance personnel only. WNTN ensures protection to station personnel or tower

contractors working in the vicinity of the antenna. WNTN will initiate joint procedures with WJIB to be followed during times of service or maintenance of the transmission systems when necessary to avoid potentially harmful exposure to personnel.

CONCLUSION

This statement, Section III of FCC Form 301, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct.

It is submitted that the proposed operation described herein complies with the technical standards of the Rules and Regulations of the Commission.

DATED: October 11, 2017

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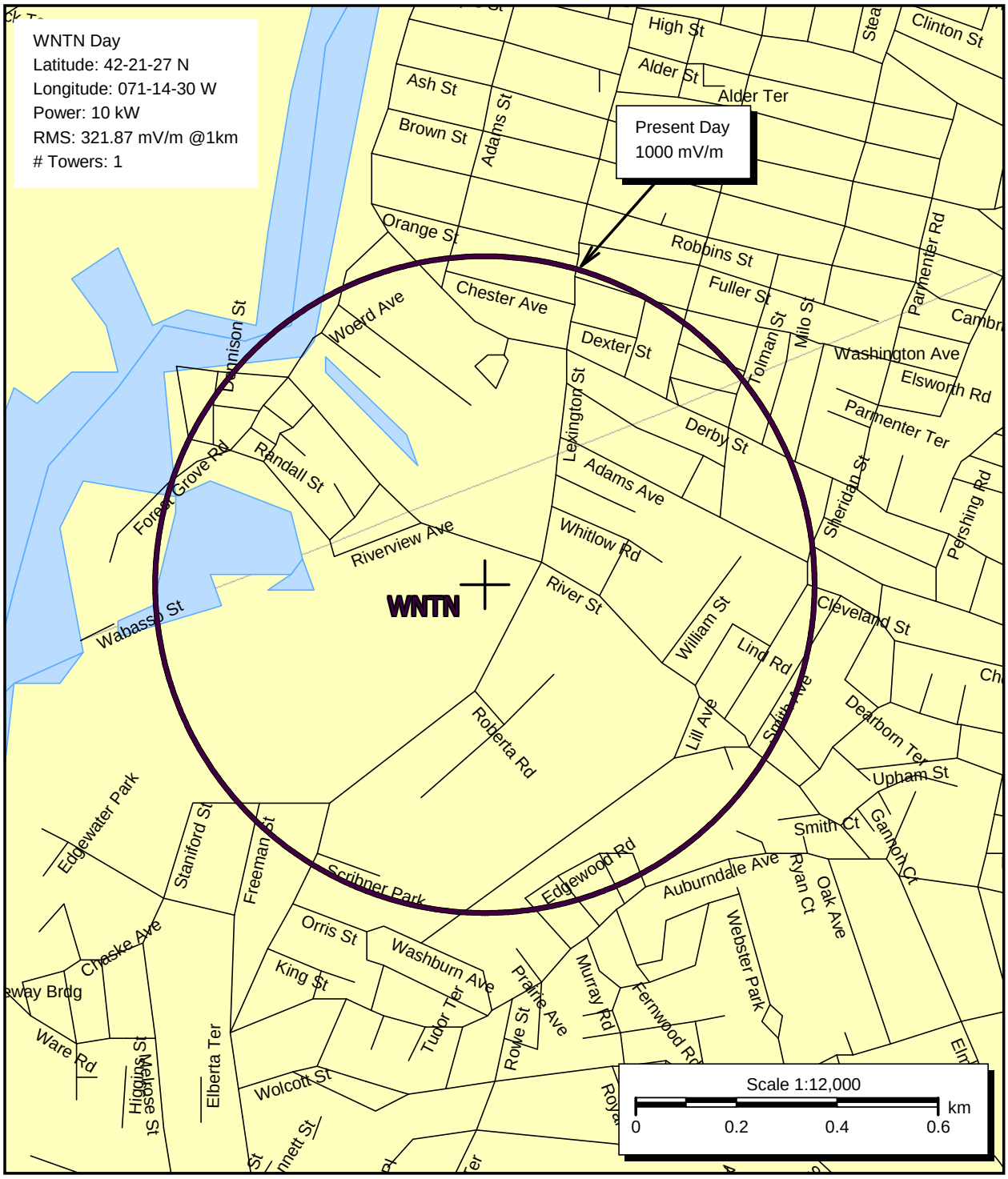
FIGURE 1



PRESENT 1000 MV/M DAYTIME CONTOUR
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
PRESENT: 10 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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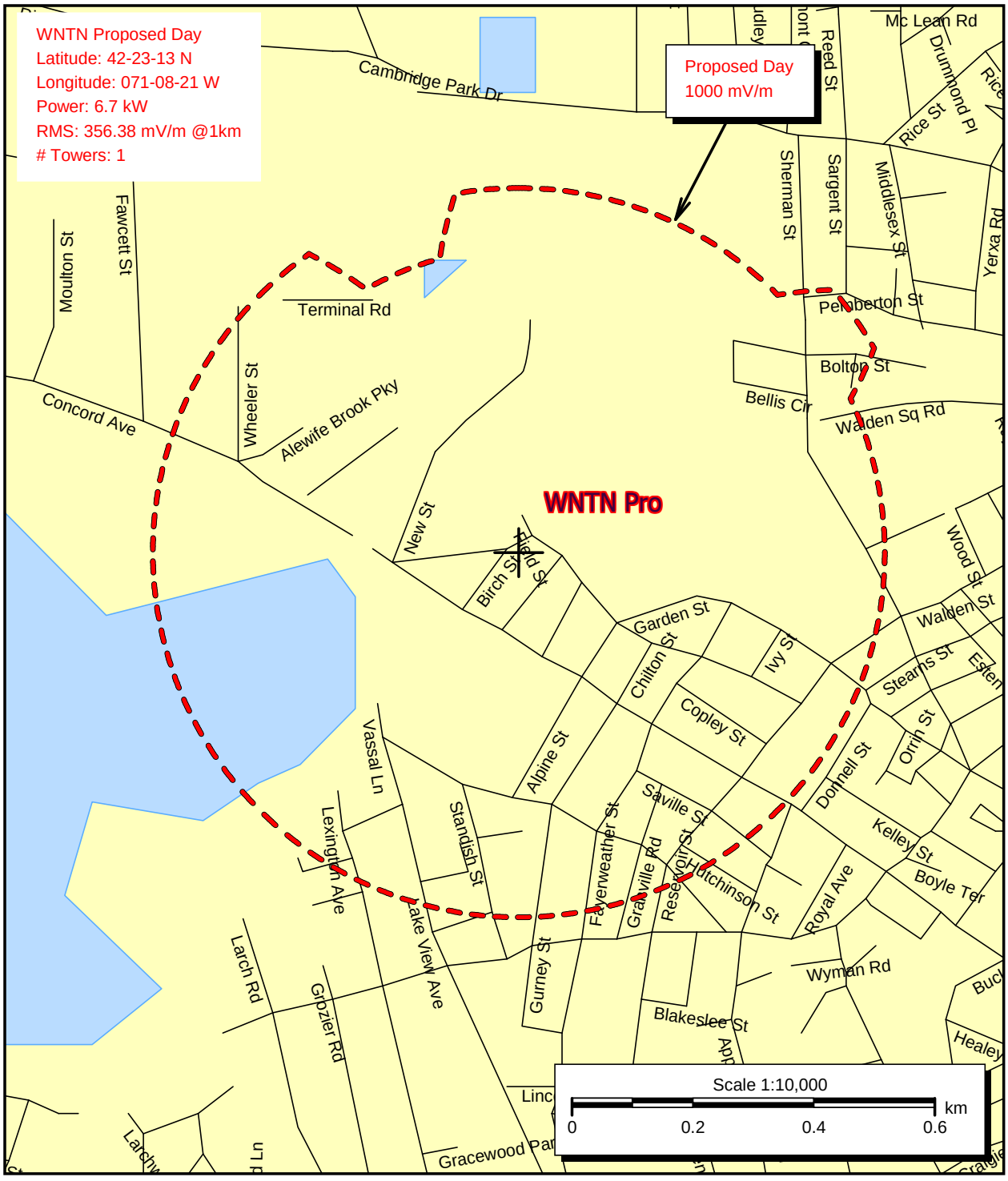
FIGURE 2



PROPOSED 1000 MV/M DAYTIME CONTOUR
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
PRESENT: 10 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
OCTOBER, 2017

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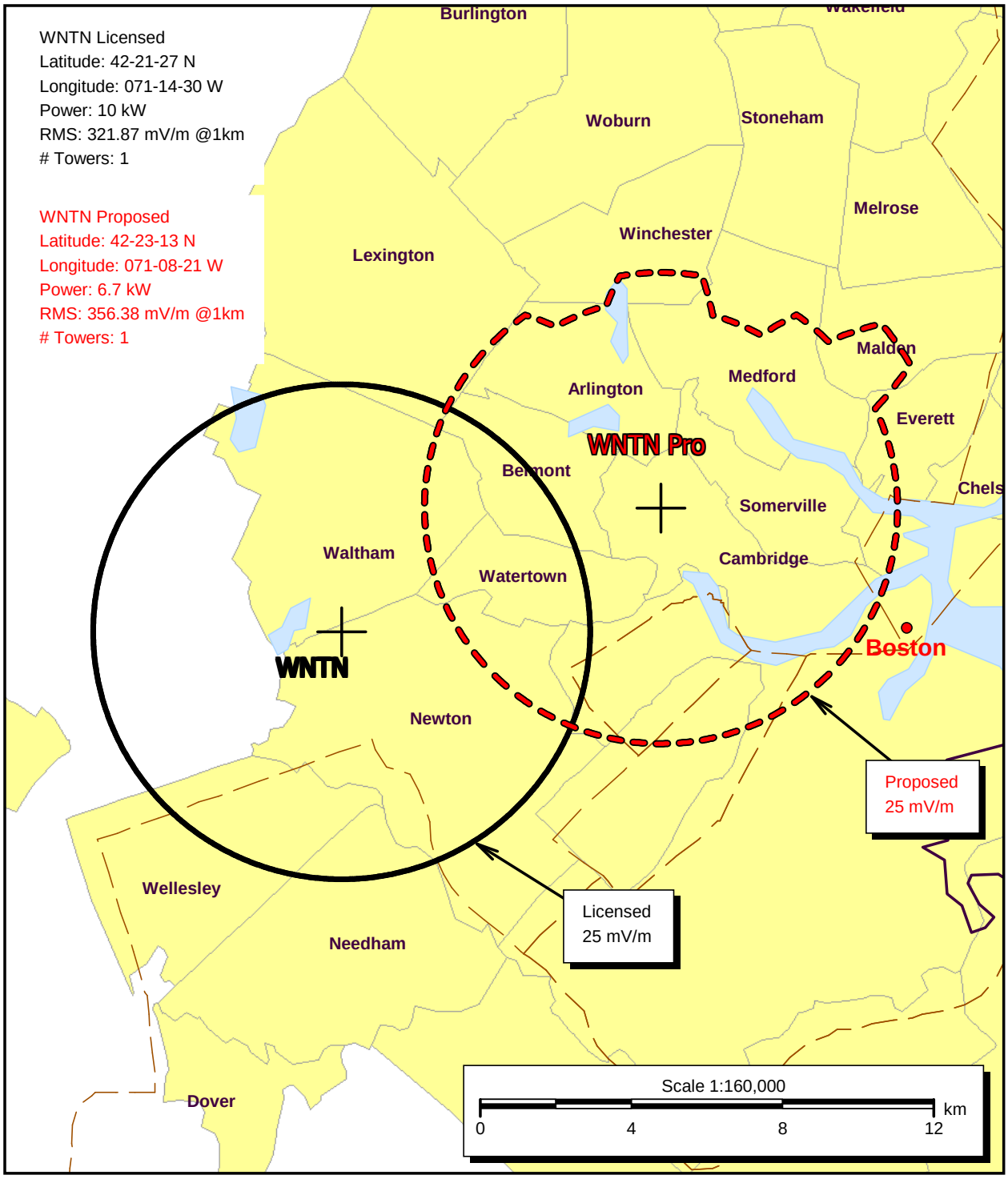
FIGURE 3



PRESENT AND PROPOSED 25.0 MV/M
DAYTIME COVERAGE CONTOURS
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
LICENSE: 10 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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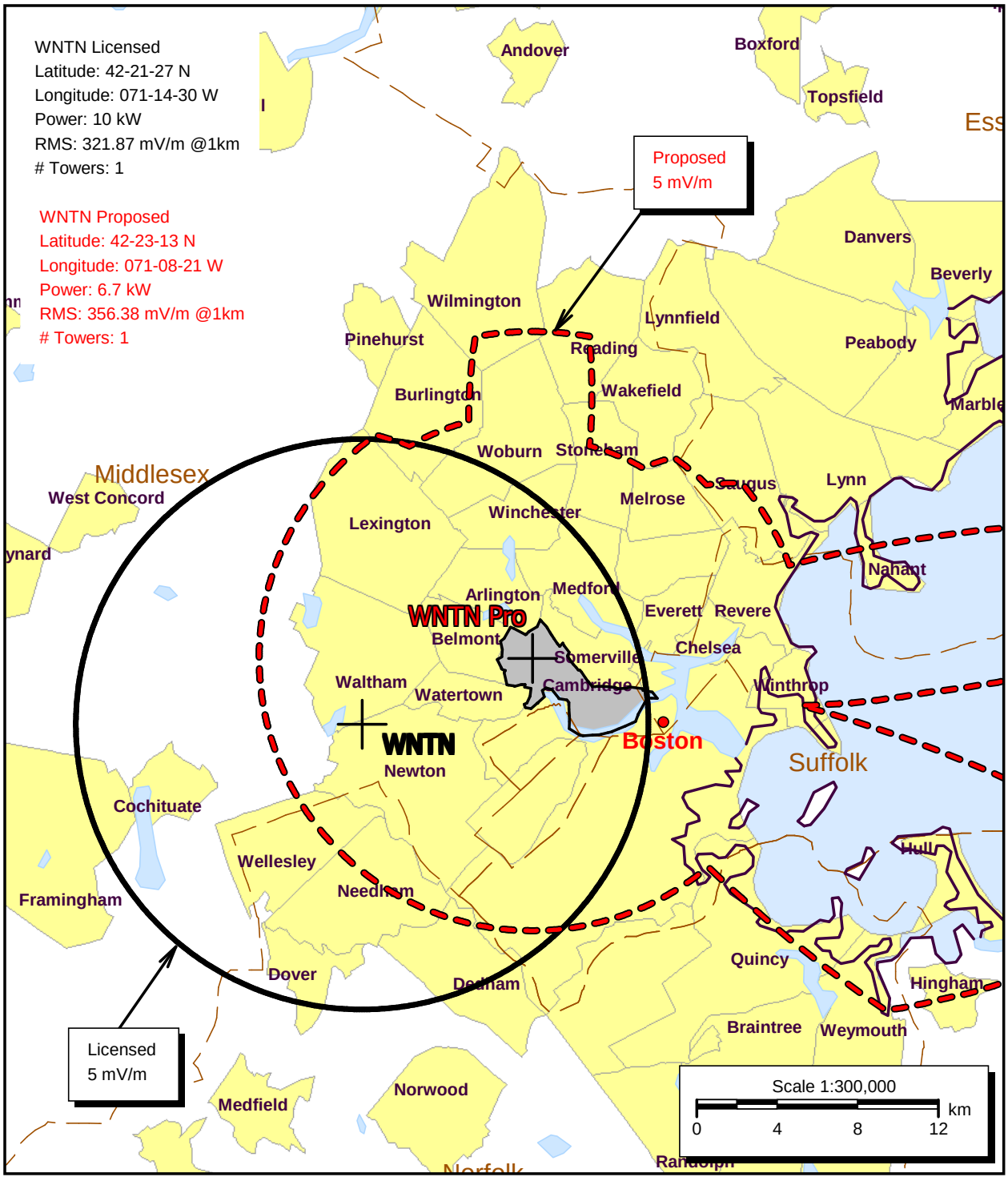
FIGURE 4



PRESENT AND PROPOSED 5.0 MV/M
DAYTIME COVERAGE CONTOURS
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
LICENSE: 10 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
OCTOBER, 2017

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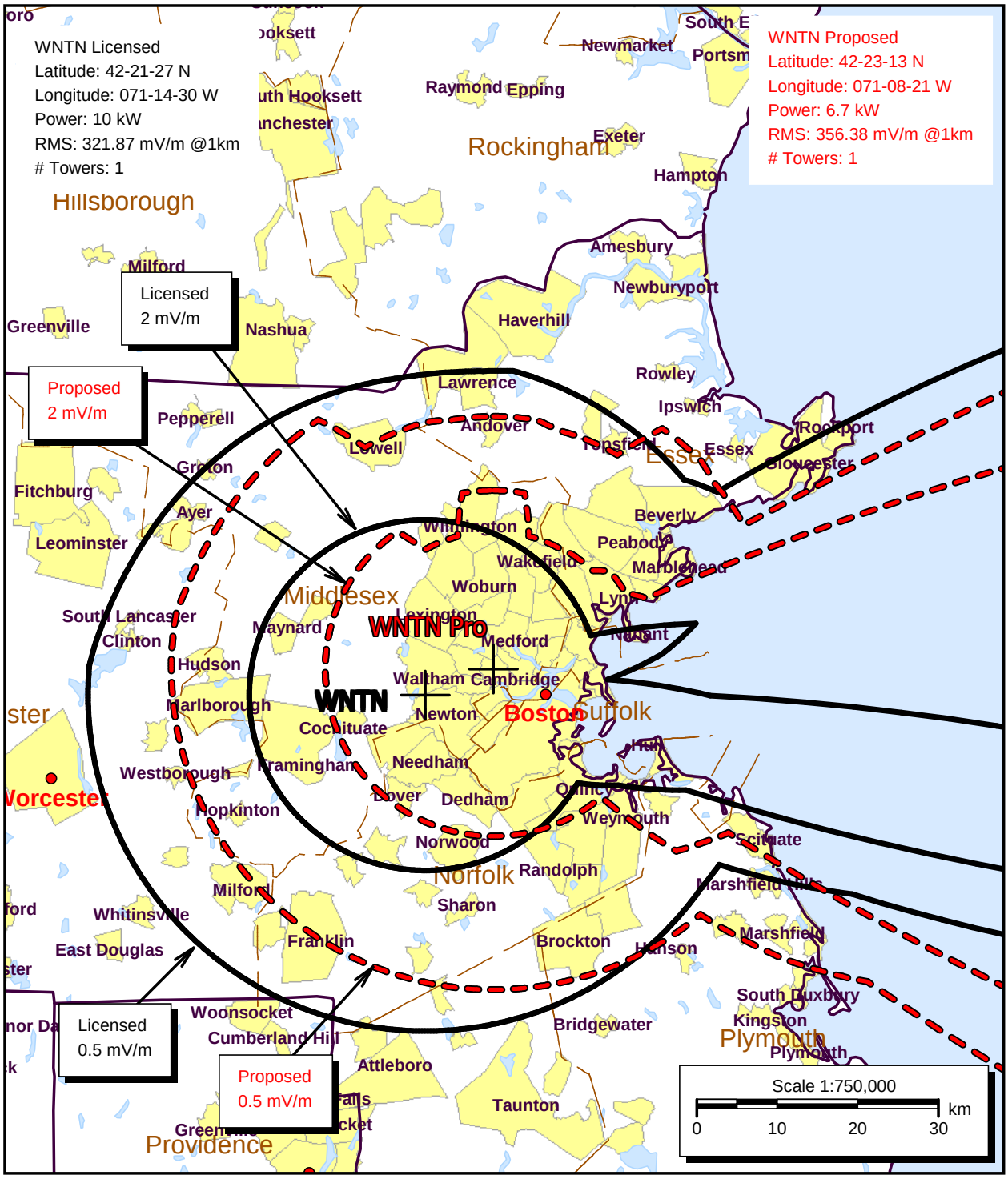
FIGURE 5



PRESENT AND PROPOSED 2.0 & 0.5 MV/M
DAYTIME COVERAGE CONTOURS
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
LICENSE: 10 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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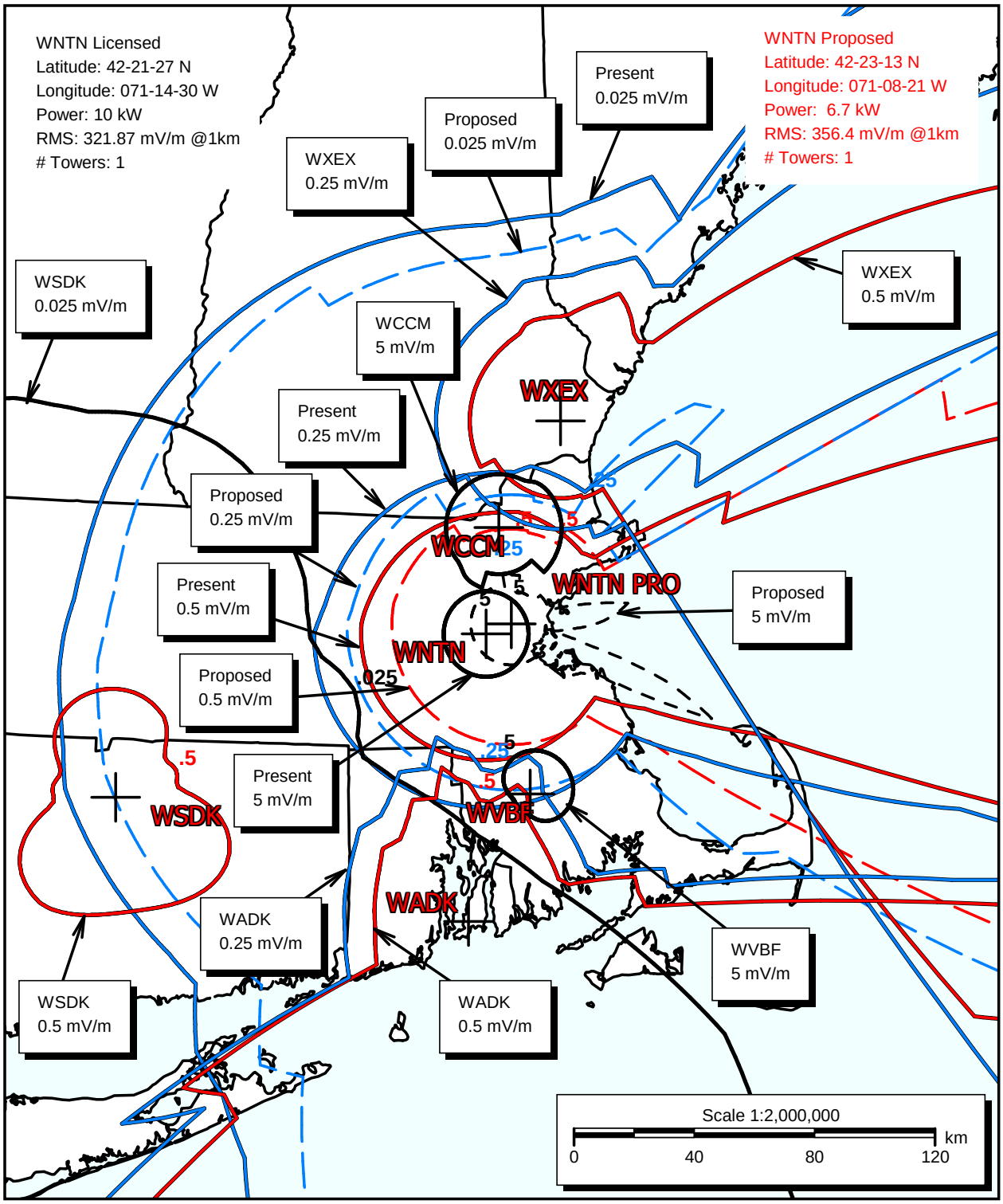
FIGURE 6



DAYTIME ALLOCATION STUDY
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
PRESENT: 10.0 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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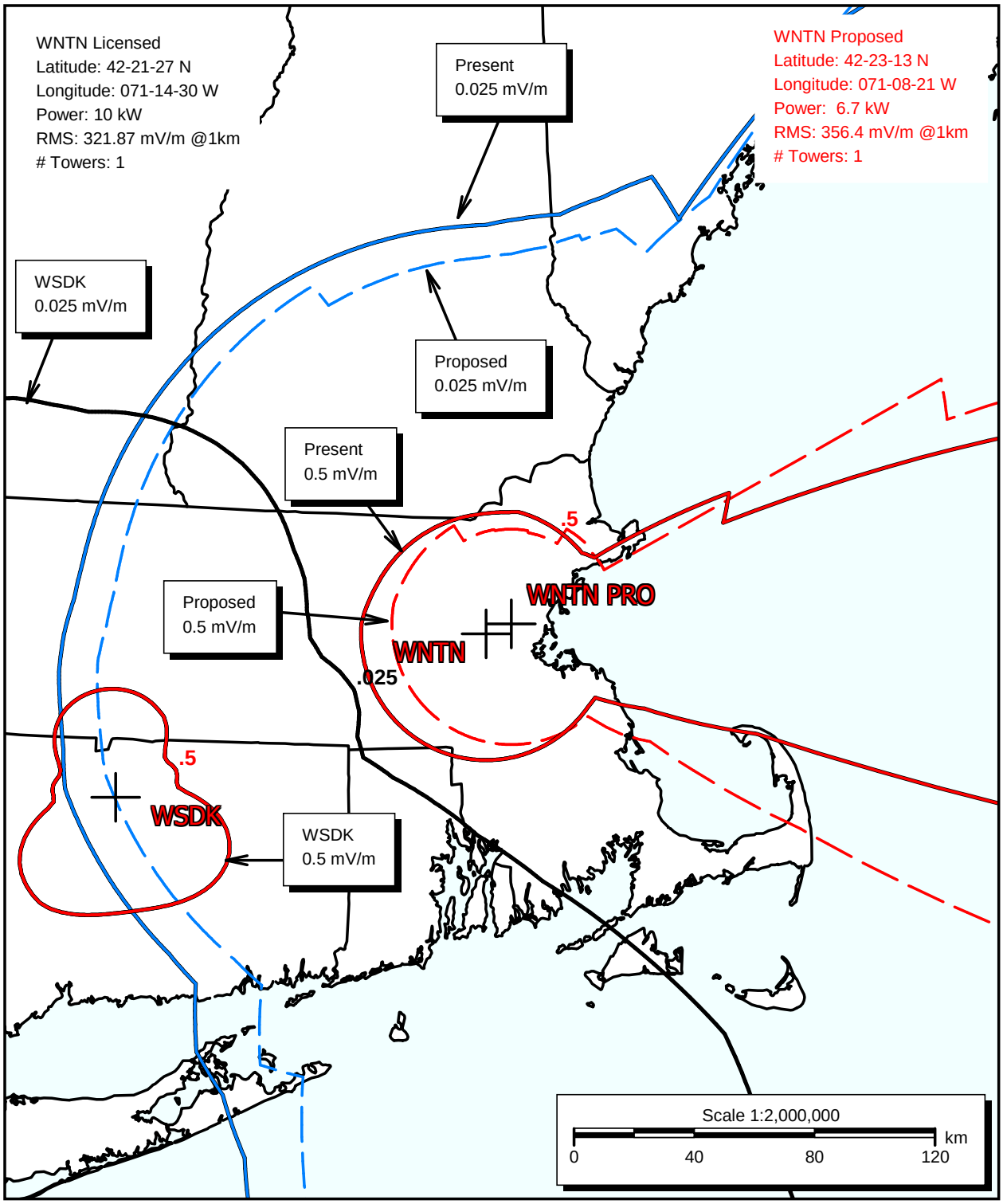
FIGURE 7



DAYTIME ALLOCATION STUDY
CO-CHANNEL STATIONS
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
PRESENT: 10.0 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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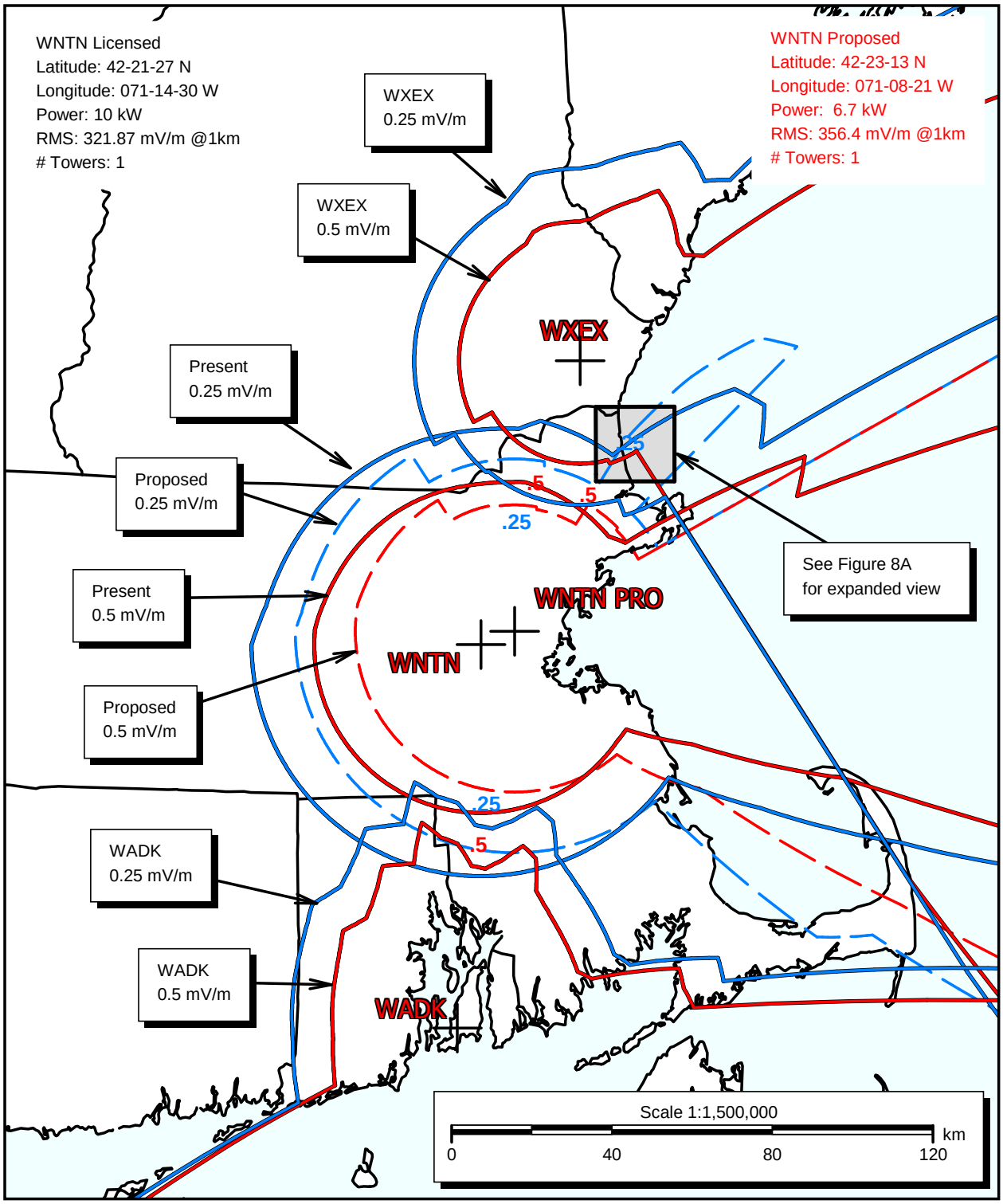
FIGURE 8



DAYTIME ALLOCATION STUDY
FIRST ADJACENT CHANNEL STATIONS
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
PRESENT: 10.0 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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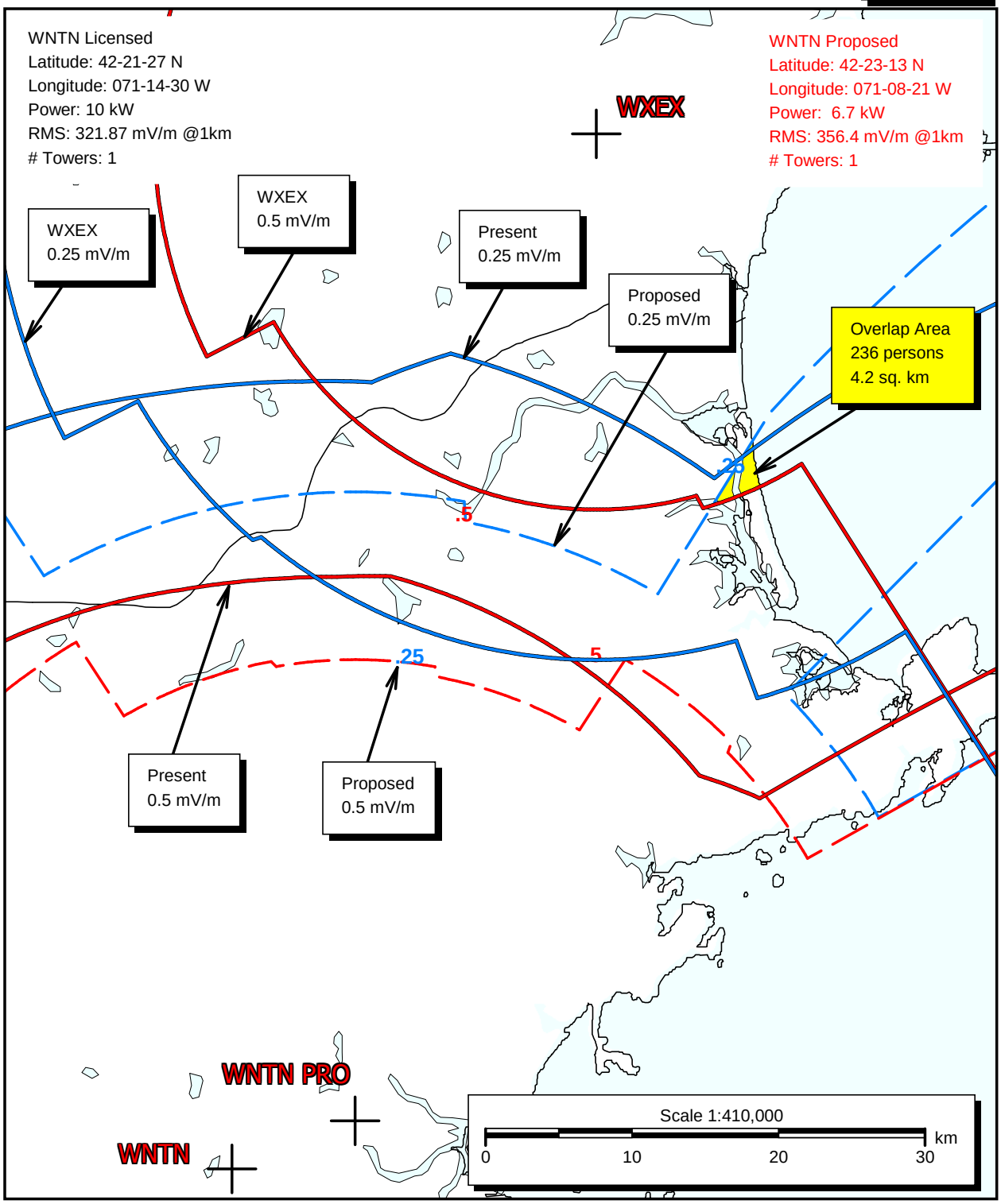
FIGURE 8A



DAYTIME ALLOCATION STUDY
FIRST ADJACENT CHANNEL STATIONS (EXPANDED)
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
PRESENT: 10.0 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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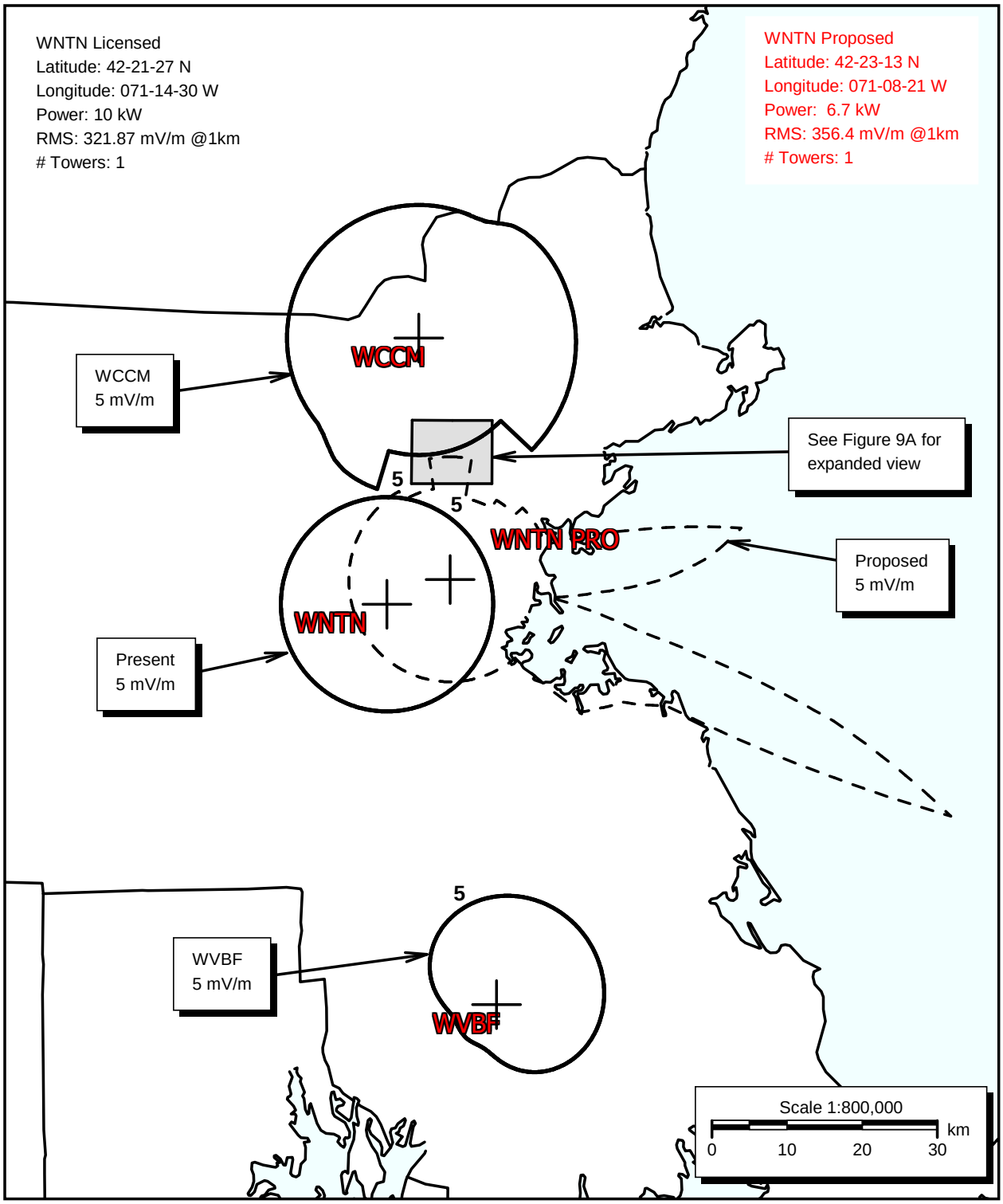
FIGURE 9



DAYTIME ALLOCATION STUDY
SECOND ADJACENT CHANNEL STATIONS
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
PRESENT: 10.0 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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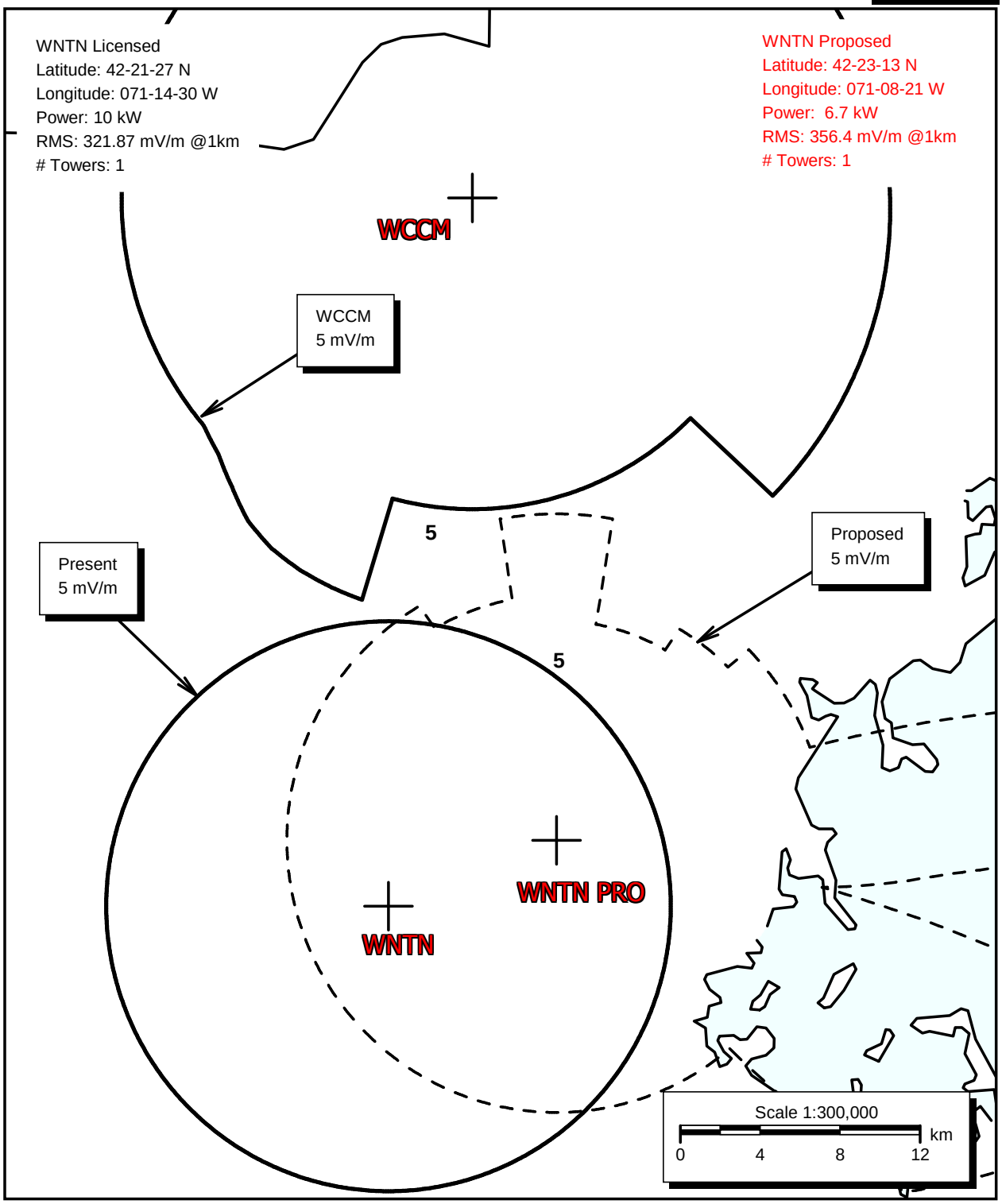
FIGURE 9A



DAYTIME ALLOCATION STUDY
SECOND ADJACENT CHANNEL STATIONS (EXPANDED)
WNTN - 1550 KHZ - CAMBRIDGE, MASSACHUSETTS
PRESENT: 10.0 KW DAY/0.003 KW NIGHT - ND-2
PROPOSED: 6.7 KW DAY/0.003 KW NIGHT - ND-2
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APPENDIX A

Summary of Measurement Data

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TABULATION OF MEASURED CONDUCTIVITY DATA
WNTN – CAMBRIDGE, MASSACHUSETTS
1550 kHz – 6.7 kW DAY/0.003 kW NIGHT - ND-2

STATION WJIB – 740 kHz, CAMBRIDGE, MASSACHUSETTS

Source	Azimuth (deg. T.)	σ (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix B	0.0	2.0	12.40
		3.0	15.50
		2.5	22.13
		1.5	31.31
		0.5	49.73
See Appendix B	20.0	2.0	5.28
		1.0	25.51
		0.5	35.70
		0.1	49.41
See Appendix B	40.0	2.0	9.51
		1.5	17.22
		1.0	24.95
		1.5	42.95
See Appendix B	50.0	3.0	8.50
		2.0	17.94
		1.5	35.73
		0.1	46.67
See Appendix B	340.0	1.0	2.44
		3.0	3.91
		1.5	15.27
		1.0	31.71
		0.5	48.44

TABULATION OF MEASURED CONDUCTIVITY DATA
WNTN – CAMBRIDGE, MASSACHUSETTS
1550 kHz – 6.7 kW DAY/0.003 kW NIGHT - ND-2

STATION WXEX – 1540 kHz, EXETER, NEW HAMPSHIRE

Source	Azimuth (deg. T.)	σ (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix B	158.0	1.5	9.73
		0.5	31.39
		1.0	49.73
See Appendix B	170.0	2.0	2.82
		0.1	41.20
See Appendix B	190.0	1.5	4.27
		1.0	8.08
		0.1	49.89
See Appendix B	210.0	1.0	0.99
		2.0	3.28
		1.0	10.31
		0.1	50.05
See Appendix B	230.0	0.5	7.58
		0.1	30.42

TABULATION OF MEASURED CONDUCTIVITY DATA
WNTN – CAMBRIDGE, MASSACHUSETTS
1550 kHz – 6.7 kW DAY/0.003 kW NIGHT - ND-2

STATION WCCM – 1570 kHz, METHUEN, MASSACHUSETTS

Source	Azimuth (deg. T.)	σ (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix B	145.0	0.1	24.94
See Appendix B	165.0	0.1	23.66
See Appendix B	185.0	1.5	2.42
		0.5	6.42
		0.1	24.78

APPENDIX B

Measurement Data and Graphs

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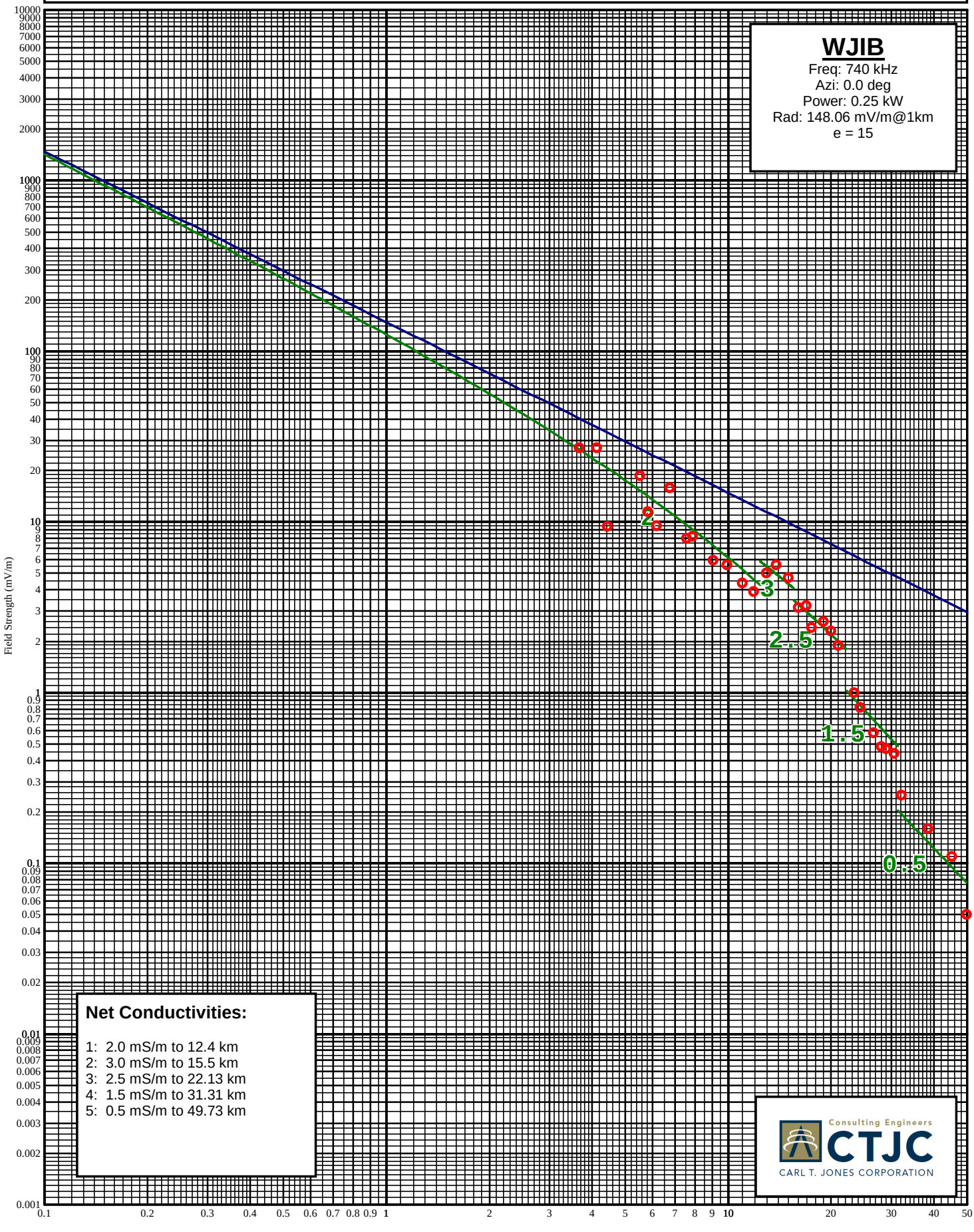
WJIB AM Measured Field Strength

Shown With Matching Conductivity Curves

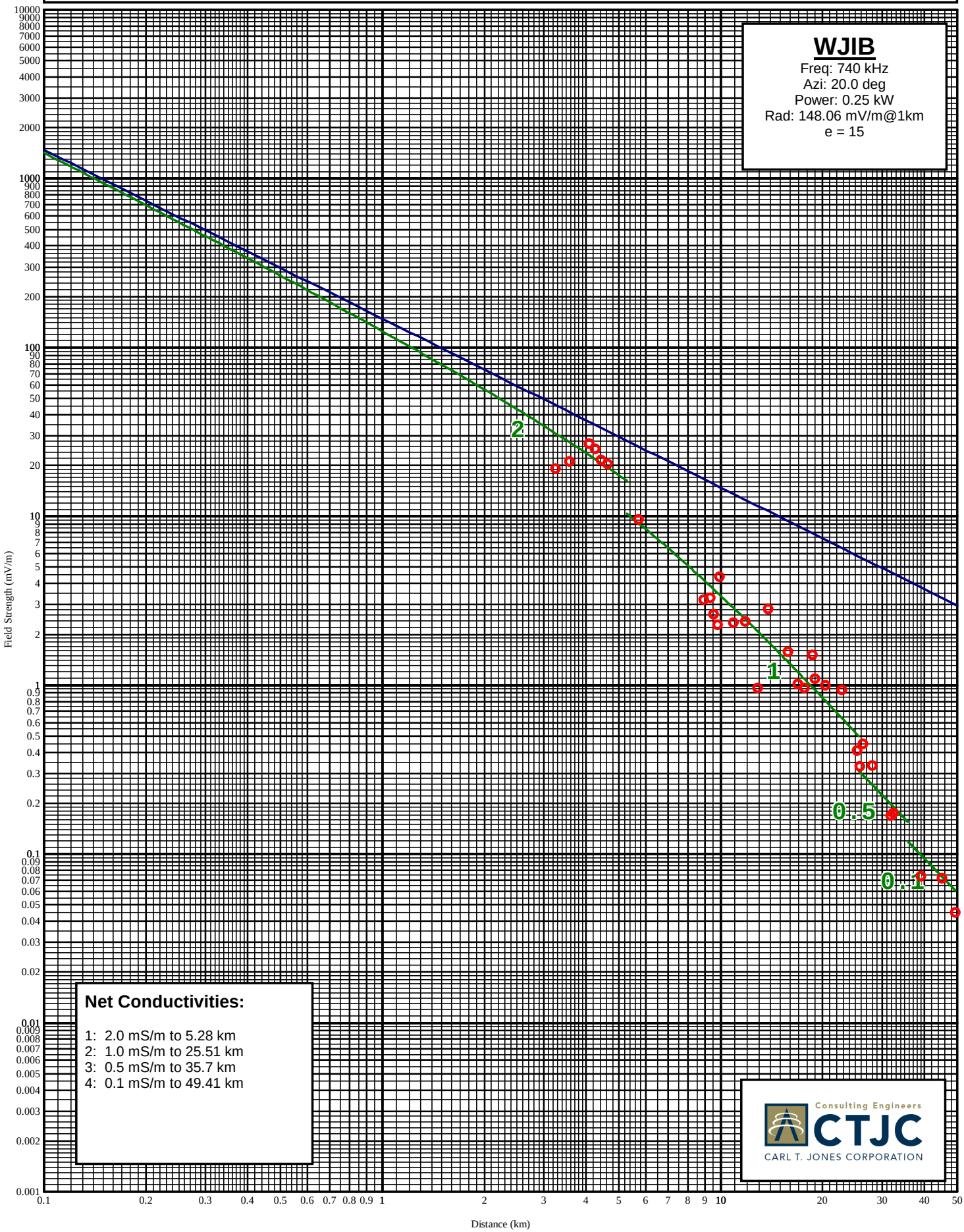


Measurements for WJIB 0.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	3.67	2.28	27.200		7/1/2017	1029
2	4.12	2.56	27.200		7/1/2017	1040
3	4.43	2.75	9.400		7/1/2017	1052
4	5.52	3.43	18.700		7/1/2017	1105
5	5.83	3.62	11.500		7/1/2017	1114
6	6.18	3.84	9.500		7/1/2017	1121
7	6.74	4.19	15.900		7/1/2017	1139
8	7.53	4.68	8.000		7/1/2017	1203
9	7.87	4.89	8.200		7/1/2017	1214
10	9.01	5.60	5.950		7/1/2017	1233
11	9.93	6.17	5.600		7/1/2017	1248
12	10.98	6.82	4.400		7/1/2017	1301
13	11.86	7.37	3.900		7/1/2017	1319
14	12.94	8.04	5.000		7/1/2017	1334
15	13.79	8.57	5.600		7/1/2017	1401
16	14.97	9.30	4.700		7/1/2017	1425
17	16.03	9.96	3.150		7/1/2017	1443
18	16.90	10.50	3.240		7/1/2017	1458
19	17.54	10.90	2.400		7/1/2017	1517
20	18.99	11.80	2.600		7/1/2017	1536
21	19.96	12.40	2.300		7/1/2017	1544
22	20.92	13.00	1.880		7/1/2017	1614
23	23.34	14.50	1.000		7/1/2017	1631
24	24.30	15.10	0.820		7/1/2017	1645
25	26.55	16.50	0.580		7/1/2017	1719
26	28.00	17.40	0.480		7/1/2017	1735
27	28.97	18.00	0.470		7/1/2017	1749
28	30.58	19.00	0.440		7/1/2017	1759
29	32.03	19.90	0.250		7/1/2017	1816
30	38.46	23.90	0.160		7/2/2017	0945
31	45.06	28.00	0.110		7/2/2017	0957
32	49.73	30.90	0.050		7/2/2017	1017

WJIB AM Measured Field Strength

Shown With Matching Conductivity Curves

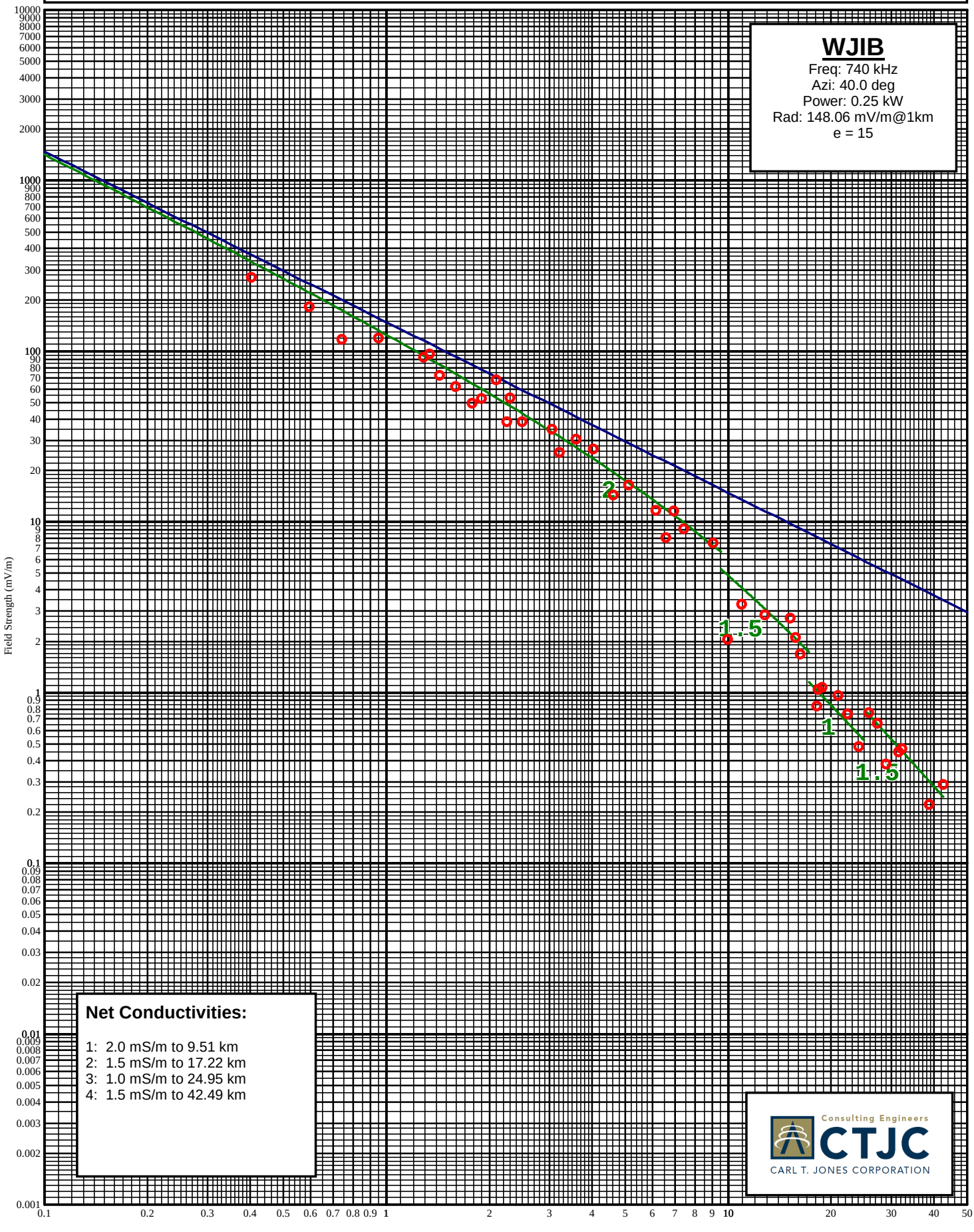


Measurements for WJIB 20.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	3.25	2.02	19.200		7/5/2017	1252
2	3.57	2.22	21.200		7/5/2017	1302
3	4.09	2.54	26.800		7/5/2017	1317
4	4.25	2.64	25.100		7/5/2017	1326
5	4.43	2.75	21.500		7/5/2017	1352
6	4.63	2.88	20.400		7/5/2017	1402
7	5.71	3.55	9.600		7/5/2017	1425
8	8.92	5.54	3.200		7/5/2017	1458
9	9.32	5.79	3.290		7/5/2017	1507
10	9.51	5.91	2.620		7/5/2017	1514
11	9.80	6.09	2.270		7/5/2017	1523
12	9.93	6.17	4.400		7/5/2017	1532
13	10.90	6.77	2.350		7/5/2017	1544
14	11.81	7.34	2.390		7/5/2017	1601
15	12.84	7.98	0.960		7/5/2017	1611
16	13.82	8.59	2.820		7/5/2017	1626
17	15.79	9.81	1.580		7/5/2017	1701
18	16.90	10.50	1.020		7/5/2017	1713
19	17.70	11.00	0.960		7/5/2017	1726
20	18.67	11.60	1.510		7/5/2017	1744
21	18.99	11.80	1.090		7/5/2017	1756
22	20.44	12.70	1.000		7/8/2017	1142
23	22.85	14.20	0.940		7/8/2017	1214
24	25.27	15.70	0.410		7/8/2017	1239
25	25.75	16.00	0.330		7/8/2017	1304
26	26.39	16.40	0.450		7/8/2017	1317
27	28.00	17.40	0.335		7/8/2017	1336
28	31.87	19.80	0.168		7/8/2017	1414
29	32.35	20.10	0.174		7/8/2017	1423
30	39.11	24.30	0.074		7/8/2017	1502
31	45.06	28.00	0.072		7/8/2017	1535
32	49.41	30.70	0.045		7/8/2017	1616

WJIB AM Measured Field Strength

Shown With Matching Conductivity Curves

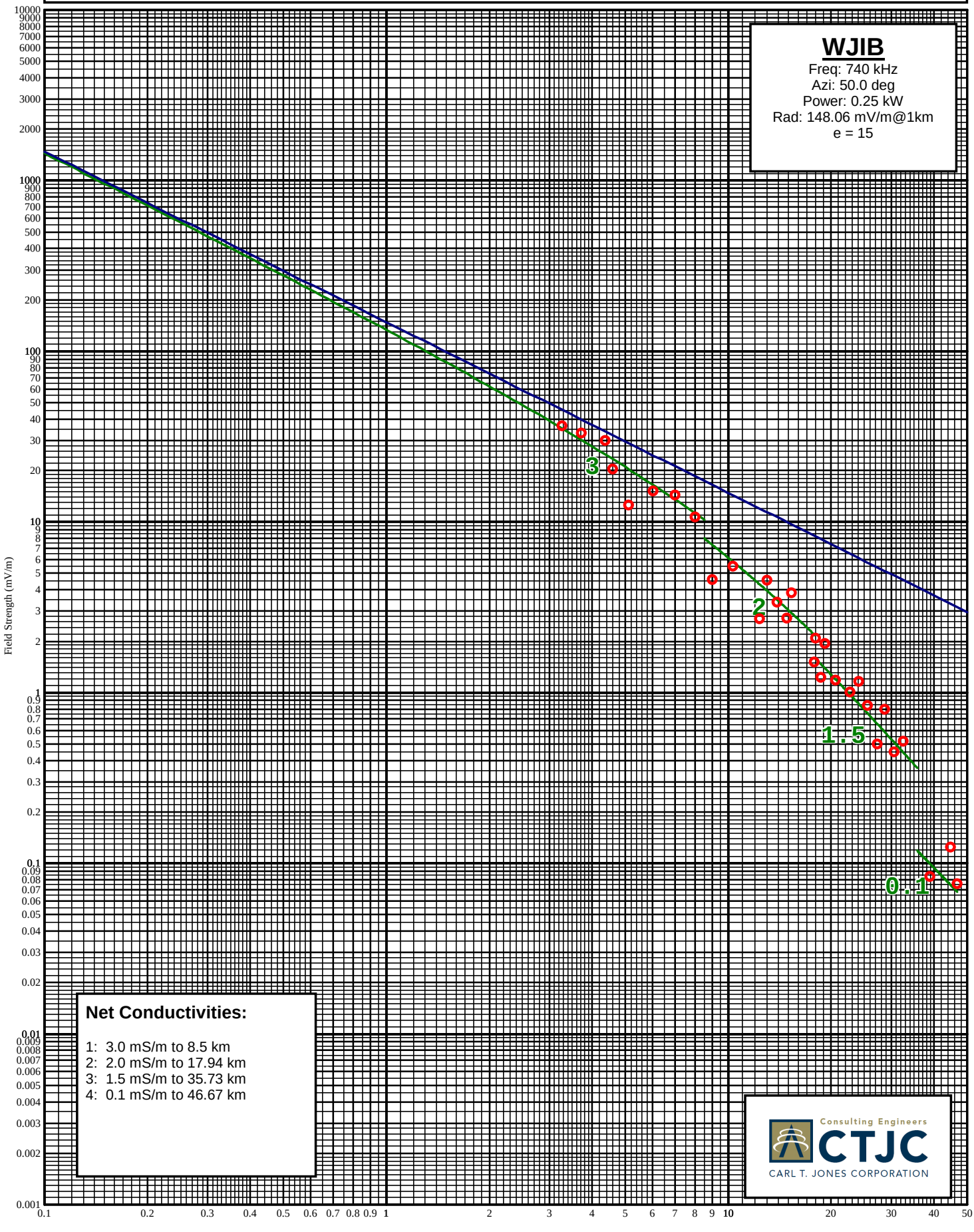


Measurements for WJIB 40.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	0.40	0.25	271.000		7/16/2017	0724
2	0.60	0.37	183.000		7/16/2017	0751
3	0.74	0.46	117.000		7/16/2017	0801
4	0.95	0.59	120.000		7/16/2017	0813
5	1.29	0.80	92.000		7/16/2017	0827
6	1.34	0.83	96.000		7/16/2017	0840
7	1.43	0.89	72.000		7/16/2017	0851
8	1.59	0.99	62.000		7/16/2017	0912
9	1.79	1.11	49.500		7/16/2017	0924
10	1.90	1.18	53.000		7/16/2017	0939
11	2.09	1.30	68.000		7/16/2017	0951
12	2.25	1.40	38.600		7/16/2017	1001
13	2.30	1.43	53.500		7/16/2017	1012
14	2.49	1.55	38.500		7/16/2017	1022
15	3.06	1.90	35.000		7/16/2017	1104
16	3.20	1.99	25.600		7/16/2017	1118
17	3.59	2.23	30.500		7/16/2017	1131
18	4.04	2.51	26.700		7/16/2017	1142
19	4.62	2.87	14.400		7/16/2017	1222
20	5.12	3.18	16.400		7/16/2017	1233
21	6.13	3.81	11.700		7/16/2017	1258
22	6.58	4.09	8.100		7/16/2017	1318
23	6.94	4.31	11.600		7/16/2017	1331
24	7.40	4.60	9.100		7/16/2017	1343
25	9.03	5.61	7.500		7/16/2017	1509
26	9.98	6.20	2.050		7/16/2017	1530
27	10.94	6.80	3.300		7/16/2017	1545
28	12.78	7.94	2.850		7/16/2017	1619
29	15.19	9.44	2.720		7/16/2017	1643
30	15.77	9.80	2.100		7/16/2017	1658
31	16.25	10.10	1.680		7/16/2017	1710
32	18.19	11.30	0.830		7/16/2017	1727
33	18.35	11.40	1.040		7/16/2017	1745
34	18.83	11.70	1.070		7/16/2017	1758
35	20.92	13.00	0.960		7/17/2017	0921
36	22.37	13.90	0.750		7/17/2017	0940
37	24.14	15.00	0.480		7/17/2017	1003
38	25.75	16.00	0.760		7/17/2017	1019
39	27.36	17.00	0.660		7/17/2017	1048
40	28.97	18.00	0.380		7/17/2017	1104
41	31.54	19.60	0.450		7/17/2017	1128
42	32.19	20.00	0.470		7/17/2017	1137
43	38.79	24.10	0.220		7/17/2017	1207
44	42.49	26.40	0.290		7/17/2017	1242

WJIB AM Measured Field Strength

Shown With Matching Conductivity Curves

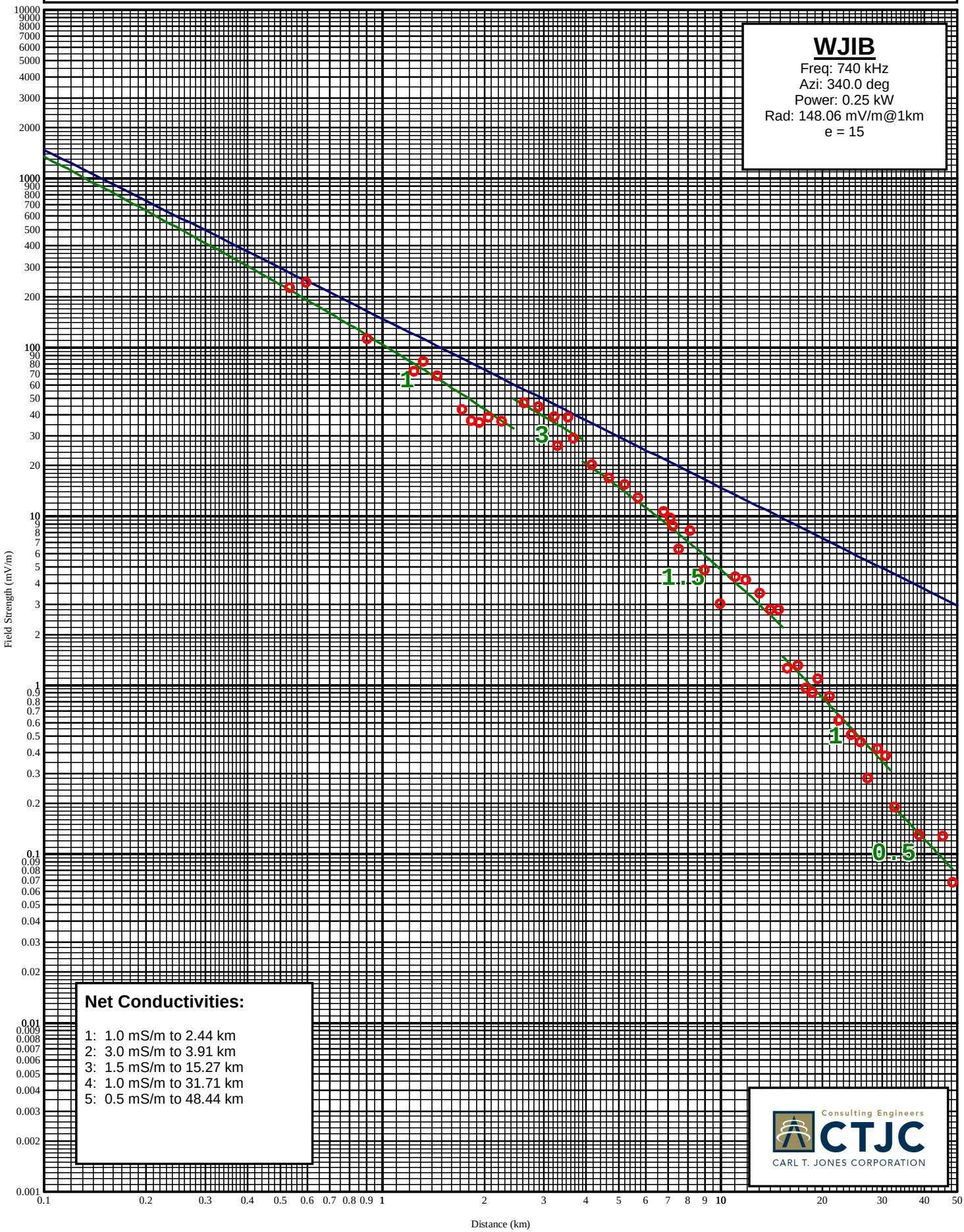


Measurements for WJIB 50.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	3.27	2.03	36.500		8/21/2017	1000
2	3.72	2.31	33.200		8/21/2017	1033
3	4.36	2.71	30.000		8/21/2017	1118
4	4.59	2.85	20.300		8/21/2017	1125
5	5.12	3.18	12.600		8/21/2017	1133
6	6.04	3.75	15.100		8/21/2017	1210
7	7.00	4.35	14.300		8/21/2017	1254
8	8.00	4.97	10.700		8/21/2017	1322
9	9.00	5.59	4.600		8/21/2017	1339
10	10.35	6.43	5.500		8/21/2017	1407
11	12.33	7.66	2.710		8/21/2017	1425
12	12.97	8.06	4.550		8/21/2017	1437
13	13.87	8.62	3.380		8/21/2017	1452
14	14.82	9.21	2.730		8/21/2017	1503
15	15.30	9.51	3.850		8/21/2017	1516
16	17.86	11.10	1.510		8/21/2017	1554
17	18.02	11.20	2.080		8/21/2017	1604
18	18.67	11.60	1.230		8/21/2017	1615
19	19.15	11.90	1.940		8/21/2017	1628
20	20.60	12.80	1.180		8/22/2017	1326
21	22.69	14.10	1.010		8/22/2017	1342
22	24.14	15.00	1.160		8/22/2017	1400
23	25.59	15.90	0.840		8/22/2017	1412
24	27.36	17.00	0.500		8/22/2017	1430
25	28.65	17.80	0.800		8/22/2017	1444
26	30.58	19.00	0.450		8/22/2017	1456
27	32.51	20.20	0.520		8/22/2017	1521
28	38.95	24.20	0.084		8/22/2017	1641
29	44.74	27.80	0.124		8/22/2017	1709
30	46.67	29.00	0.076		8/22/2017	1733

WJIB AM Measured Field Strength

Shown With Matching Conductivity Curves

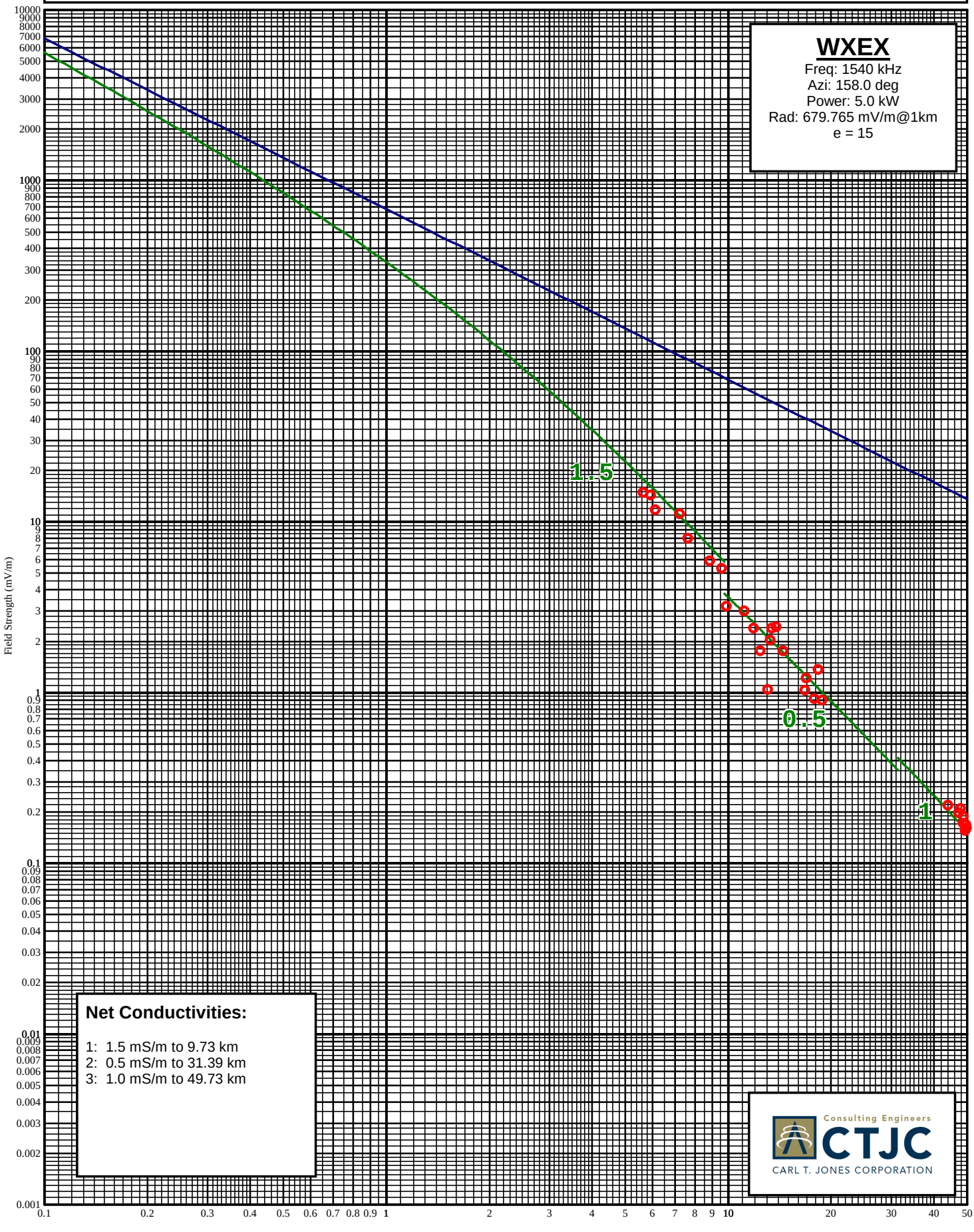


Measurements for WJIB 340.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	0.53	0.33	226.000		7/3/2017	0721
2	0.60	0.37	242.000		7/3/2017	0739
3	0.90	0.56	112.000		7/3/2017	0800
4	1.24	0.77	72.000		7/3/2017	0825
5	1.32	0.82	83.000		7/3/2017	0842
6	1.45	0.90	68.000		7/3/2017	0852
7	1.72	1.07	43.000		7/3/2017	0907
8	1.83	1.14	37.000		7/3/2017	0913
9	1.93	1.20	36.000		7/3/2017	0919
10	2.06	1.28	38.500		7/3/2017	0925
11	2.25	1.40	36.600		7/3/2017	0940
12	2.62	1.63	47.000		7/3/2017	0951
13	2.90	1.80	44.500		7/3/2017	1012
14	3.22	2.00	39.000		7/3/2017	1021
15	3.30	2.05	26.300		7/3/2017	1037
16	3.54	2.20	38.500		7/3/2017	1104
17	3.67	2.28	29.000		7/3/2017	1112
18	4.15	2.58	20.200		7/3/2017	1124
19	4.67	2.90	16.900		7/3/2017	1136
20	5.21	3.24	15.400		7/3/2017	1148
21	5.68	3.53	12.900		7/3/2017	1157
22	6.79	4.22	10.700		7/3/2017	1209
23	7.08	4.40	9.800		7/3/2017	1216
24	7.23	4.49	8.800		7/3/2017	1222
25	7.50	4.66	6.400		7/3/2017	1231
26	8.10	5.03	8.200		7/3/2017	1239
27	8.96	5.57	4.800		7/3/2017	1258
28	9.95	6.18	3.050		7/3/2017	1315
29	11.02	6.85	4.400		7/3/2017	1333
30	11.89	7.39	4.200		7/3/2017	1345
31	13.05	8.11	3.500		7/3/2017	1403
32	14.02	8.71	2.800		7/3/2017	1421
33	14.82	9.21	2.800		7/3/2017	1437
34	15.72	9.77	1.260		7/3/2017	1452
35	16.90	10.50	1.300		7/3/2017	1510
36	17.86	11.10	0.960		7/3/2017	1522
37	18.67	11.60	0.900		7/3/2017	1539
38	19.31	12.00	1.090		7/3/2017	1600
39	20.92	13.00	0.860		7/3/2017	1627
40	22.37	13.90	0.620		7/3/2017	1645
41	24.30	15.10	0.510		7/3/2017	1706
42	25.91	16.10	0.460		7/3/2017	1718
43	27.20	16.90	0.280		7/3/2017	1734
44	29.13	18.10	0.420		7/3/2017	1752
45	30.74	19.10	0.380		7/3/2017	1807
46	32.67	20.30	0.190		7/4/2017	0759
47	38.62	24.00	0.130		7/4/2017	0839
48	45.38	28.20	0.128		7/4/2017	0906
49	48.44	30.10	0.068		7/4/2017	0939

WXEX AM Measured Field Strength

Shown With Matching Conductivity Curves

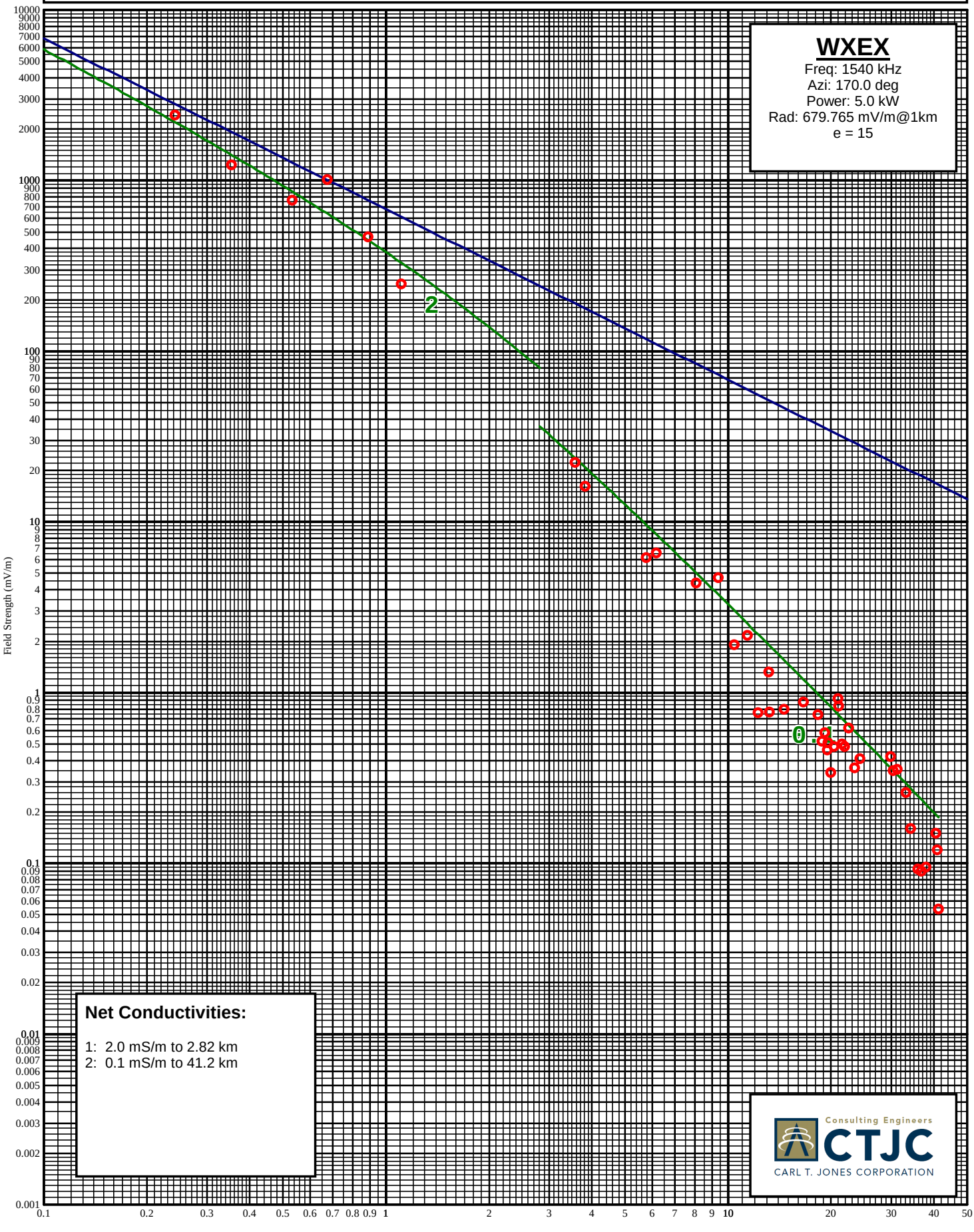


Measurements for WXEX 158.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	5.65	3.51	14.900		8/18/2017	1042
2	5.94	3.69	14.300		8/18/2017	1048
3	6.12	3.80	11.800		8/18/2017	1055
4	7.21	4.48	11.200		8/18/2017	1112
5	7.63	4.74	8.000		8/18/2017	1127
6	8.84	5.49	5.900		8/18/2017	1136
7	9.59	5.96	5.350		8/18/2017	1151
8	9.87	6.13	3.200		8/18/2017	1200
9	11.15	6.93	3.000		8/18/2017	1209
10	11.86	7.37	2.380		8/18/2017	1219
11	12.39	7.70	1.760		8/18/2017	1237
12	13.02	8.09	1.040		8/18/2017	1252
13	13.28	8.25	2.030		8/18/2017	1300
14	13.42	8.34	2.390		8/18/2017	1307
15	13.82	8.59	2.420		8/18/2017	1316
16	14.47	8.99	1.750		8/18/2017	1330
17	16.74	10.40	1.030		8/18/2017	1348
18	16.90	10.50	1.220		8/18/2017	1354
19	17.86	11.10	0.920		8/18/2017	1407
20	18.35	11.40	1.370		8/18/2017	1445
21	18.83	11.70	0.900		8/18/2017	1455
22	43.94	27.30	0.218		8/19/2017	1110
23	47.15	29.30	0.198		8/19/2017	1131
24	47.80	29.70	0.210		8/19/2017	1144
25	48.60	30.20	0.172		8/19/2017	1205
26	48.76	30.30	0.188		8/19/2017	1216
27	49.25	30.60	0.156		8/19/2017	1235
28	49.57	30.80	0.168		8/19/2017	1301
29	49.73	30.90	0.161		8/19/2017	1312

WXEX AM Measured Field Strength

Shown With Matching Conductivity Curves

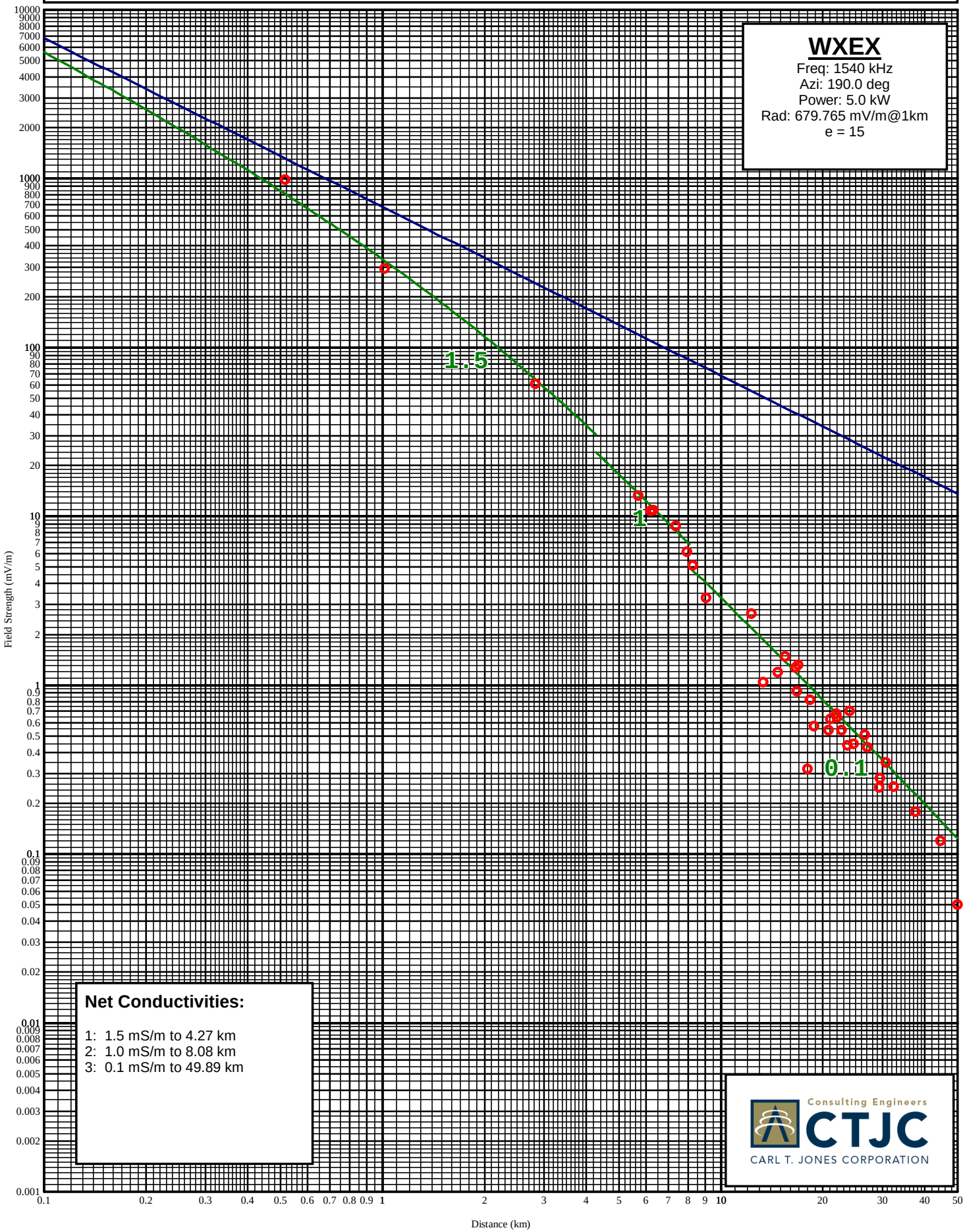


Measurements for WXEX 170.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	0.24	0.15	2430.000		7/22/2017	1151
2	0.35	0.22	1230.000		7/22/2017	1204
3	0.53	0.33	770.000		7/22/2017	1218
4	0.68	0.42	1010.000		7/22/2017	1242
5	0.89	0.55	470.000		7/22/2017	1254
6	1.11	0.69	248.000		7/22/2017	1315
7	3.57	2.22	22.300		7/22/2017	1355
8	3.81	2.37	16.100		7/22/2017	1404
9	5.76	3.58	6.200		7/22/2017	1424
10	6.16	3.83	6.600		7/22/2017	1434
11	8.08	5.02	4.400		7/22/2017	1449
12	9.37	5.82	4.700		7/22/2017	1504
13	10.43	6.48	1.900		7/22/2017	1521
14	11.38	7.07	2.150		7/22/2017	1533
15	12.23	7.60	0.760		7/22/2017	1542
16	13.13	8.16	1.320		7/22/2017	1600
17	13.23	8.22	0.770		7/22/2017	1621
18	14.61	9.08	0.800		7/22/2017	1649
19	16.58	10.30	0.880		7/22/2017	1707
20	18.35	11.40	0.740		7/22/2017	1724
21	18.83	11.70	0.520		7/22/2017	1739
22	19.15	11.90	0.580		7/23/2017	1037
23	19.47	12.10	0.460		7/23/2017	1046
24	19.63	12.20	0.510		7/23/2017	1102
25	19.96	12.40	0.340		7/23/2017	1055
26	20.44	12.70	0.480		7/22/2017	1751
27	20.92	13.00	0.920		7/23/2017	1111
28	21.08	13.10	0.830		7/23/2017	1120
29	21.57	13.40	0.500		7/23/2017	1135
30	21.89	13.60	0.480		7/23/2017	1153
31	22.53	14.00	0.620		7/23/2017	1202
32	23.50	14.60	0.360		7/23/2017	1213
33	24.30	15.10	0.410		7/23/2017	1220
34	29.93	18.60	0.420		7/23/2017	1304
35	30.42	18.90	0.350		7/23/2017	1329
36	31.22	19.40	0.355		7/23/2017	1341
37	33.15	20.60	0.260		7/23/2017	1356
38	34.12	21.20	0.160		7/23/2017	1408
39	35.89	22.30	0.092		7/23/2017	1444
40	36.69	22.80	0.090		7/23/2017	1501
41	37.82	23.50	0.095		7/23/2017	1516
42	40.56	25.20	0.150		7/23/2017	1537
43	40.88	25.40	0.120		7/23/2017	1559
44	41.20	25.60	0.054		7/23/2017	1607

WXEX AM Measured Field Strength

Shown With Matching Conductivity Curves

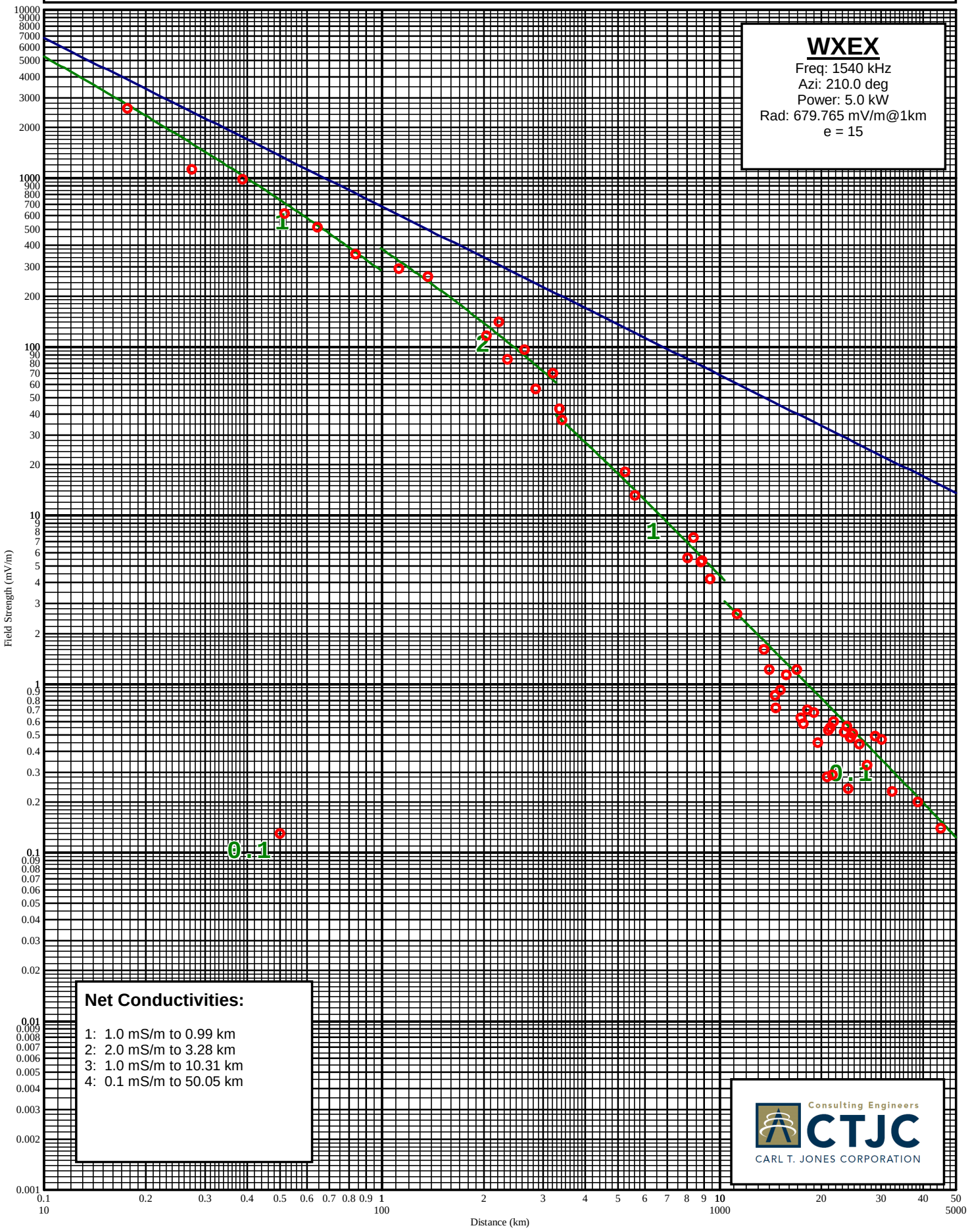


Measurements for WXEX 190.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	0.51	0.32	990.000		7/25/2017	0741
2	1.01	0.63	293.000		7/25/2017	0820
3	2.83	1.76	61.000		7/25/2017	0854
4	5.70	3.54	13.200		7/25/2017	0944
5	6.20	3.85	10.800		7/25/2017	0954
6	6.31	3.92	10.900		7/25/2017	1002
7	7.35	4.57	8.800		7/25/2017	1021
8	7.92	4.92	6.200		7/25/2017	1053
9	8.24	5.12	5.100		7/25/2017	1100
10	9.01	5.60	3.300		7/25/2017	1114
11	12.31	7.65	2.650		7/25/2017	1153
12	13.36	8.30	1.040		7/25/2017	1220
13	14.69	9.13	1.190		7/25/2017	1232
14	15.47	9.61	1.480		7/25/2017	1251
15	16.58	10.30	1.270		7/25/2017	1305
16	16.74	10.40	0.920		7/25/2017	1311
17	16.90	10.50	1.320		7/25/2017	1318
18	18.02	11.20	0.320		7/25/2017	1332
19	18.35	11.40	0.820		7/25/2017	1345
20	18.83	11.70	0.570		7/25/2017	1411
21	20.76	12.90	0.540		7/25/2017	1426
22	21.08	13.10	0.630		7/25/2017	1435
23	21.89	13.60	0.680		7/25/2017	1444
24	22.05	13.70	0.640		7/25/2017	1451
25	22.69	14.10	0.540		7/25/2017	1457
26	23.66	14.70	0.440		7/25/2017	1506
27	23.98	14.90	0.700		7/25/2017	1517
28	24.62	15.30	0.450		7/25/2017	1526
29	26.55	16.50	0.510		7/25/2017	1559
30	27.04	16.80	0.430		7/25/2017	1641
31	29.29	18.20	0.248		7/25/2017	1624
32	29.45	18.30	0.280		7/25/2017	1708
33	30.74	19.10	0.350		7/25/2017	1729
34	32.35	20.10	0.250		7/25/2017	1739
35	37.50	23.30	0.178		7/26/2017	1128
36	44.42	27.60	0.120		7/26/2017	1148
37	49.89	31.00	0.050		7/26/2017	1211

WXEX AM Measured Field Strength

Shown With Matching Conductivity Curves



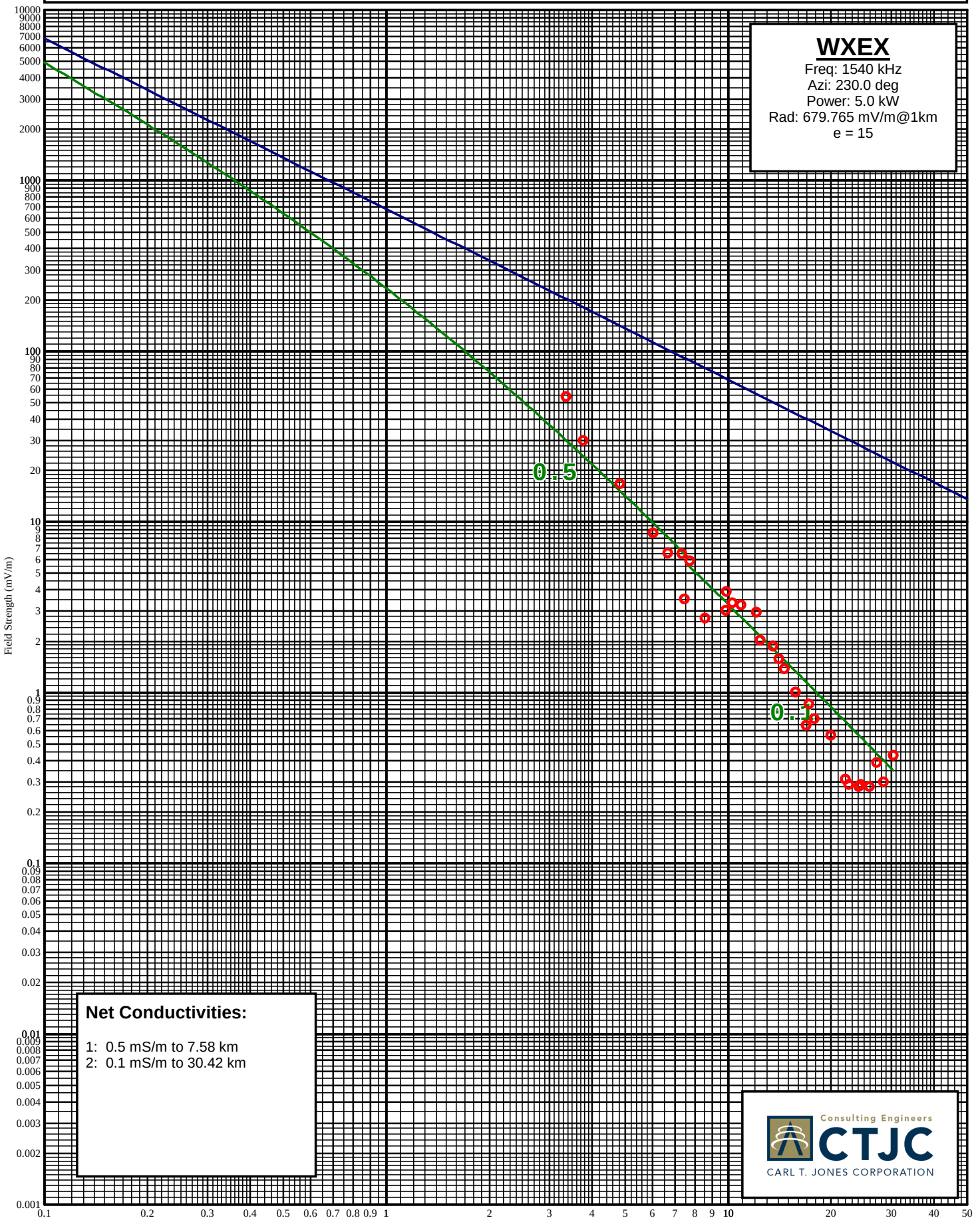
Measurements for WXEX 210.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	0.18	0.11	2590.000		7/27/2017	0747
2	0.27	0.17	1130.000		7/27/2017	0800
3	0.39	0.24	990.000		7/27/2017	0811
4	0.51	0.32	620.000		7/27/2017	0820
5	0.64	0.40	510.000		7/27/2017	0829
6	0.84	0.52	355.000		7/27/2017	0838
7	1.13	0.70	290.000		7/27/2017	0850
8	1.37	0.85	262.000		7/27/2017	0859
9	2.04	1.27	116.000		7/27/2017	0911
10	2.22	1.38	140.000		7/27/2017	0926
11	2.35	1.46	84.000		7/27/2017	0933
12	2.64	1.64	96.000		7/27/2017	0939
13	2.85	1.77	56.000		7/27/2017	0947
14	3.20	1.99	70.000		7/27/2017	0954
15	3.35	2.08	43.000		7/27/2017	1009
16	3.41	2.12	37.000		7/27/2017	1015
17	5.25	3.26	18.100		7/27/2017	1026
18	5.62	3.49	13.100		7/27/2017	1039
19	8.05	5.00	5.600		7/27/2017	1051
20	8.38	5.21	7.400		7/27/2017	1059
21	8.77	5.45	5.300		7/27/2017	1108
22	8.85	5.50	5.400		7/27/2017	1114
23	9.35	5.81	4.200		7/27/2017	1123
24	11.27	7.00	2.610		7/27/2017	1141
25	13.49	8.38	1.610		7/27/2017	1157
26	13.99	8.69	1.220		7/27/2017	1208
27	14.61	9.08	0.860		7/27/2017	1226
28	14.66	9.11	0.720		7/27/2017	1238
29	15.10	9.38	0.920		7/27/2017	1251
30	15.72	9.77	1.130		7/27/2017	1306
31	16.90	10.50	1.210		7/27/2017	1323
32	17.38	10.80	0.630		7/27/2017	1330
33	17.70	11.00	0.580		7/27/2017	1339
34	18.19	11.30	0.700		7/27/2017	1348
35	18.99	11.80	0.680		7/27/2017	1357
36	19.47	12.10	0.450		7/27/2017	1408
37	20.76	12.90	0.280		7/27/2017	1421
38	20.92	13.00	0.530		7/27/2017	1429
39	21.24	13.20	0.550		7/27/2017	1439
40	21.57	13.40	0.290		7/27/2017	1450
41	21.73	13.50	0.600		7/27/2017	1456
42	23.34	14.50	0.520		7/27/2017	1515
43	23.82	14.80	0.560		7/27/2017	1524
44	23.98	14.90	0.240		7/27/2017	1533
45	24.30	15.10	0.480		7/27/2017	1541
46	24.46	15.20	0.480		7/27/2017	1551
47	24.78	15.40	0.510		7/27/2017	1600
48	25.91	16.10	0.440		7/27/2017	1623
49	27.36	17.00	0.330		7/27/2017	1633
50	28.81	17.90	0.490		7/27/2017	1702
51	30.09	18.70	0.470		7/27/2017	1715

52	32.35	20.10	0.230	7/27/2017	1741
53	38.62	24.00	0.200	7/28/2017	1912
54	45.06	28.00	0.140	7/28/2017	1550
55	50.05	31.10	0.130	7/28/2017	1507

WXEX AM Measured Field Strength

Shown With Matching Conductivity Curves

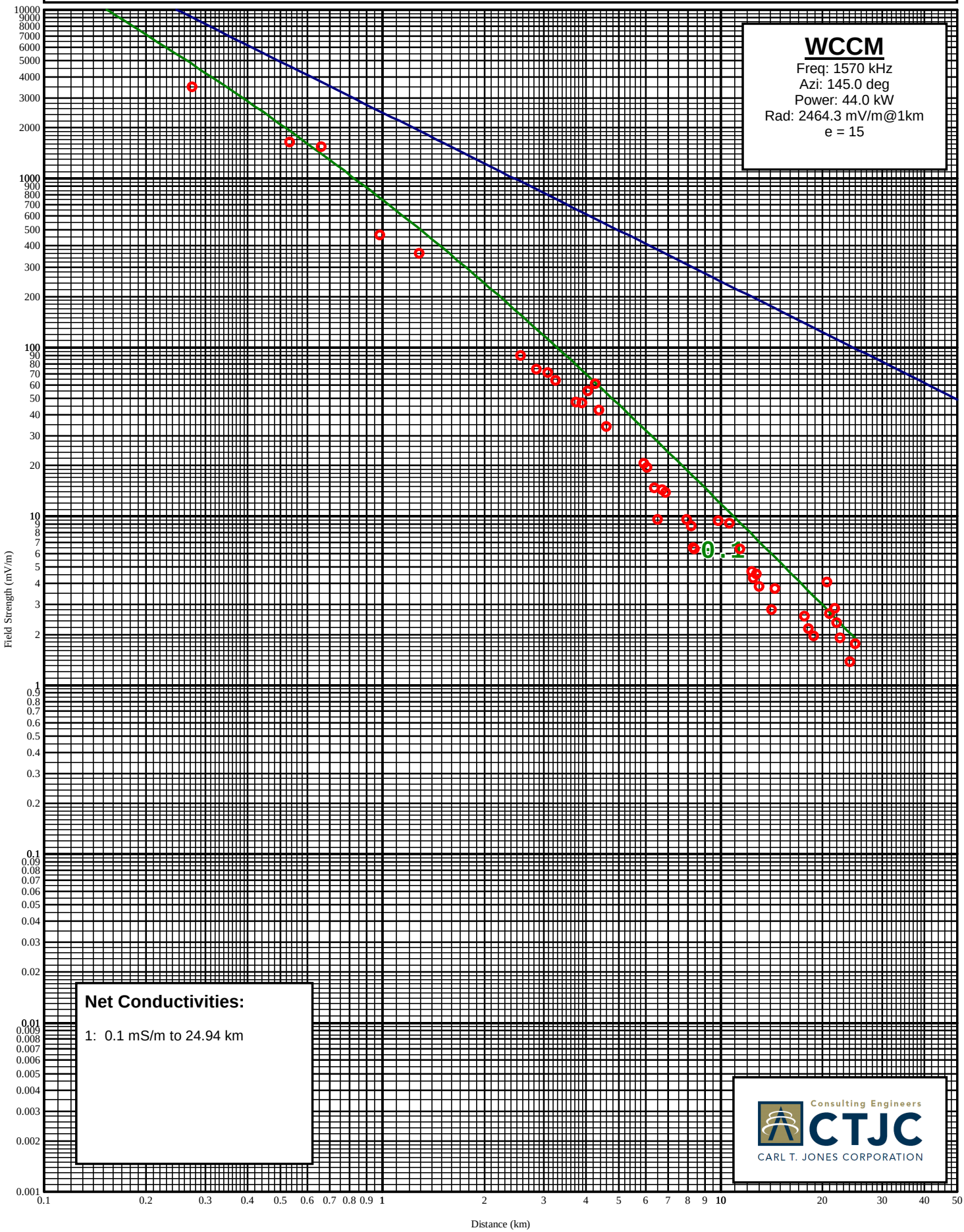


Measurements for WXEX 230.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	3.35	2.08	54.000		7/30/2017	0743
2	3.77	2.34	30.000		7/30/2017	0809
3	4.83	3.00	16.700		7/30/2017	0832
4	6.04	3.75	8.600		7/30/2017	0853
5	6.65	4.13	6.600		7/30/2017	0902
6	7.32	4.55	6.500		7/30/2017	0915
7	7.45	4.63	3.550		7/30/2017	0922
8	7.71	4.79	5.900		7/30/2017	0928
9	8.56	5.32	2.730		7/30/2017	0941
10	9.82	6.10	3.050		7/30/2017	0953
11	9.90	6.15	3.900		7/30/2017	1000
12	10.30	6.40	3.350		7/30/2017	1018
13	10.91	6.78	3.250		7/30/2017	1028
14	12.09	7.51	2.950		7/30/2017	1051
15	12.41	7.71	2.030		7/30/2017	1105
16	13.50	8.39	1.870		7/30/2017	1112
17	14.10	8.76	1.580		7/30/2017	1124
18	14.60	9.07	1.380		7/30/2017	1136
19	15.76	9.79	1.010		7/30/2017	1147
20	16.90	10.50	0.640		7/30/2017	1204
21	17.22	10.70	0.860		7/30/2017	1211
22	17.86	11.10	0.700		7/30/2017	1219
23	19.96	12.40	0.560		7/30/2017	1244
24	22.05	13.70	0.310		7/30/2017	1304
25	22.53	14.00	0.290		7/30/2017	1314
26	24.14	15.00	0.280		7/30/2017	1329
27	24.46	15.20	0.290		7/30/2017	1337
28	25.91	16.10	0.280		7/30/2017	1401
29	27.20	16.90	0.390		7/30/2017	1420
30	28.49	17.70	0.300		7/30/2017	1530
31	30.42	18.90	0.430		7/30/2017	1445

WCCM AM Measured Field Strength

Shown With Matching Conductivity Curves

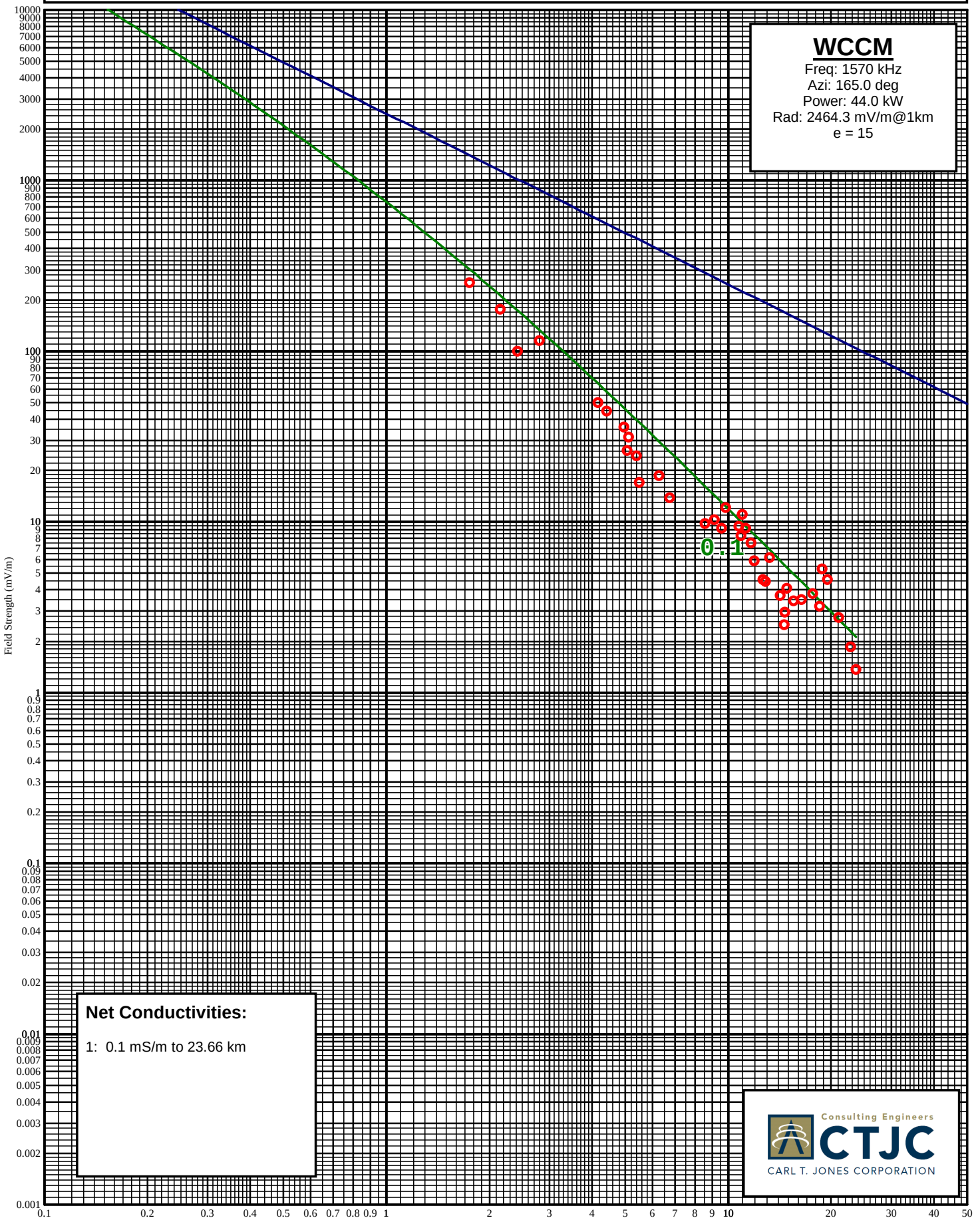


Measurements for WCCM 145.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	0.27	0.17	3500.000		6/24/2017	0708
2	0.53	0.33	1650.000		6/24/2017	0716
3	0.66	0.41	1540.000		6/24/2017	0735
4	0.98	0.61	465.000		6/24/2017	0759
5	1.29	0.80	360.000		6/24/2017	0814
6	2.56	1.59	90.000		6/24/2017	0847
7	2.85	1.77	74.500		6/24/2017	0856
8	3.07	1.91	71.000		6/24/2017	0902
9	3.25	2.02	64.000		6/24/2017	0914
10	3.73	2.32	47.500		6/24/2017	0928
11	3.89	2.42	47.000		6/24/2017	0932
12	4.06	2.52	55.000		6/24/2017	0940
13	4.25	2.64	61.000		6/24/2017	0949
14	4.36	2.71	42.500		6/24/2017	0959
15	4.59	2.85	34.000		6/24/2017	1010
16	5.94	3.69	20.600		6/24/2017	1041
17	6.07	3.77	19.400		6/24/2017	1047
18	6.36	3.95	14.700		6/24/2017	1059
19	6.52	4.05	9.600		6/24/2017	1110
20	6.73	4.18	14.300		6/24/2017	1120
21	6.87	4.27	13.800		6/24/2017	1134
22	7.92	4.92	9.600		6/24/2017	1146
23	8.18	5.08	8.800		6/24/2017	1159
24	8.30	5.16	6.500		6/24/2017	1204
25	8.38	5.21	6.400		6/25/2017	1210
26	9.83	6.11	9.400		6/25/2017	0819
27	10.61	6.59	9.100		6/25/2017	0829
28	11.39	7.08	6.400		6/25/2017	0846
29	12.33	7.66	4.700		6/25/2017	0858
30	12.49	7.76	4.300		6/25/2017	0908
31	12.73	7.91	4.550		6/25/2017	0913
32	13.00	8.08	3.850		6/25/2017	0925
33	14.16	8.80	2.800		6/25/2017	0953
34	14.44	8.97	3.750		6/25/2017	1004
35	17.70	11.00	2.570		6/25/2017	1058
36	18.19	11.30	2.150		6/25/2017	1116
37	18.83	11.70	1.950		6/25/2017	1125
38	20.60	12.80	4.100		6/25/2017	1155
39	20.92	13.00	2.650		6/25/2017	1207
40	21.73	13.50	2.860		6/25/2017	1223
41	22.05	13.70	2.350		6/25/2017	1237
42	22.53	14.00	1.900		6/25/2017	1247
43	24.14	15.00	1.380		6/25/2017	1305
44	24.94	15.50	1.750		6/25/2017	1317

WCCM AM Measured Field Strength

Shown With Matching Conductivity Curves

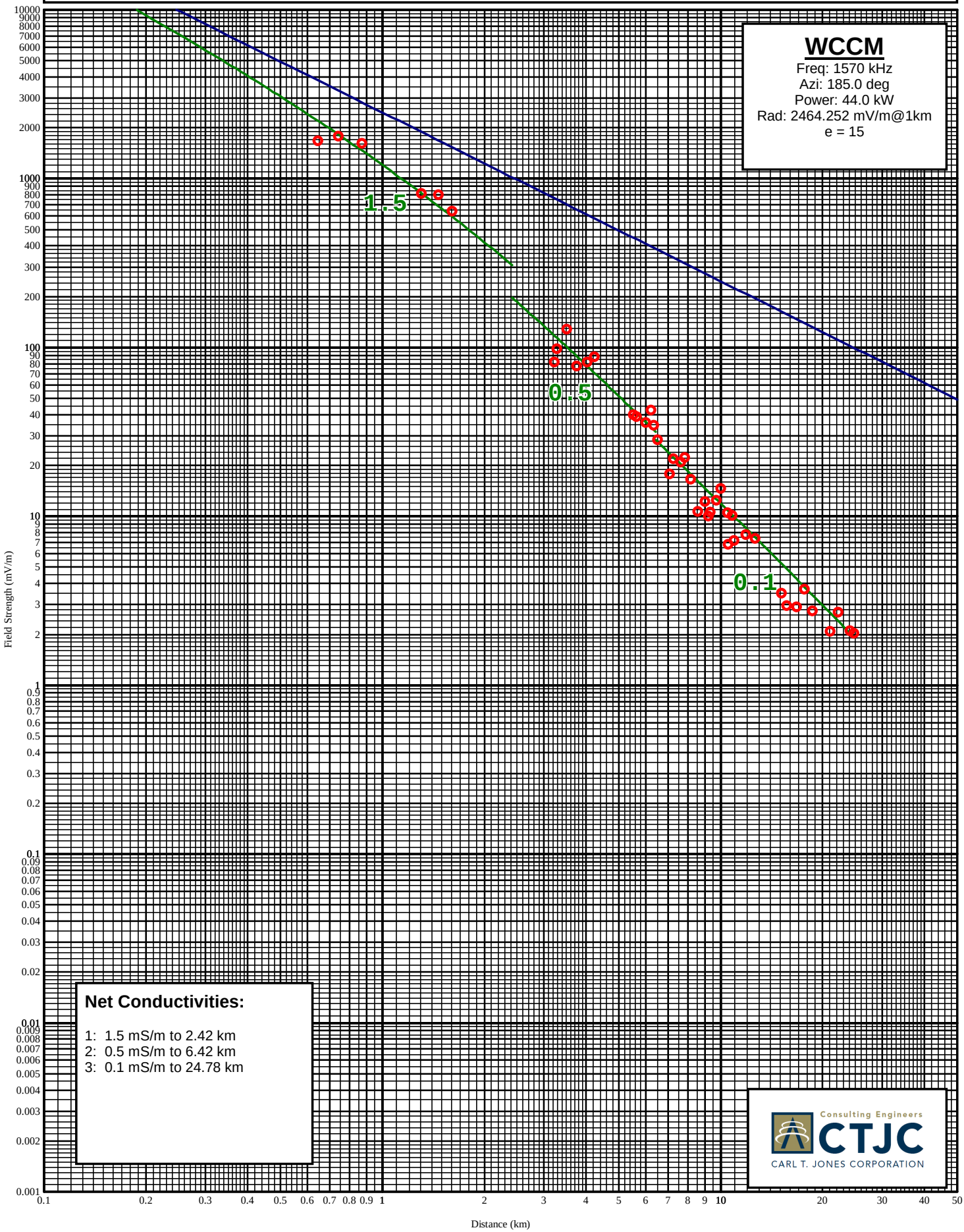


Measurements for WCCM 165.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	1.75	1.09	251.000		6/20/2017	1521
2	2.16	1.34	176.000		6/20/2017	1554
3	2.41	1.50	100.000		6/20/2017	1621
4	2.80	1.74	115.000		6/20/2017	1655
5	4.15	2.58	50.000		6/20/2017	1722
6	4.41	2.74	44.500		6/20/2017	1727
7	4.96	3.08	36.000		6/20/2017	1754
8	5.07	3.15	26.200		6/20/2017	1731
9	5.10	3.17	31.300		6/21/2017	0911
10	5.39	3.35	24.300		6/21/2017	0924
11	5.49	3.41	17.000		6/21/2017	0932
12	6.29	3.91	18.600		6/21/2017	0948
13	6.74	4.19	13.900		6/21/2017	1011
14	8.56	5.32	9.800		6/21/2017	1030
15	9.09	5.65	10.300		6/21/2017	1039
16	9.56	5.94	9.200		6/21/2017	1057
17	9.83	6.11	12.100		6/21/2017	1112
18	10.77	6.69	9.400		6/21/2017	1121
19	10.88	6.76	8.300		6/21/2017	1127
20	10.98	6.82	11.100		6/21/2017	1136
21	11.25	6.99	9.200		6/22/2017	0943
22	11.65	7.24	7.500		6/22/2017	0956
23	11.94	7.42	5.900		6/22/2017	1012
24	12.62	7.84	4.600		6/22/2017	1023
25	12.84	7.98	4.450		6/22/2017	1026
26	13.20	8.20	6.200		6/22/2017	1031
27	14.19	8.82	3.700		6/22/2017	1102
28	14.60	9.07	2.490		6/22/2017	1109
29	14.65	9.10	2.950		6/22/2017	1133
30	14.85	9.23	4.100		6/22/2017	1122
31	15.51	9.64	3.450		6/22/2017	1143
32	16.42	10.20	3.500		6/22/2017	1222
33	17.70	11.00	3.800		6/22/2017	1239
34	18.51	11.50	3.200		6/22/2017	1304
35	18.83	11.70	5.300		6/22/2017	1316
36	19.47	12.10	4.600		6/22/2017	1337
37	21.08	13.10	2.740		6/22/2017	1404
38	22.85	14.20	1.850		6/22/2017	1422
39	23.66	14.70	1.360		6/22/2017	1454

WCCM AM Measured Field Strength

Shown With Matching Conductivity Curves



Measurements for WCCM 185.0 degrees.

Point Number	Distance (km)	Distance (mi)	Field (mV/m)	Notes	Date	Time
1	0.64	0.40	1680.000		6/27/2017	1527
2	0.74	0.46	1780.000		6/27/2017	1500
3	0.87	0.54	1610.000		6/27/2017	1550
4	1.30	0.81	820.000		6/27/2017	1530
5	1.46	0.91	805.000		6/27/2017	1549
6	1.61	1.00	640.000		6/27/2017	1558
7	3.22	2.00	82.000		6/27/2017	1613
8	3.28	2.04	98.000		6/27/2017	1626
9	3.51	2.18	128.000		6/27/2017	1638
10	3.75	2.33	78.000		6/27/2017	1652
11	4.02	2.50	82.000		6/27/2017	1700
12	4.23	2.63	88.000		6/27/2017	1714
13	5.50	3.42	40.000		6/29/2017	1226
14	5.65	3.51	39.000		6/29/2017	1239
15	6.02	3.74	36.000		6/29/2017	1251
16	6.21	3.86	42.500		6/29/2017	1306
17	6.34	3.94	34.500		6/29/2017	1320
18	6.50	4.04	28.400		6/29/2017	1335
19	7.05	4.38	17.800		6/29/2017	1347
20	7.24	4.50	21.800		6/29/2017	1401
21	7.61	4.73	20.900		6/29/2017	1414
22	7.82	4.86	22.200		6/29/2017	1423
23	8.16	5.07	16.600		6/29/2017	1438
24	8.56	5.32	10.700		6/29/2017	1452
25	9.00	5.59	12.200		6/29/2017	1505
26	9.19	5.71	10.000		6/29/2017	1516
27	9.30	5.78	10.600		6/29/2017	1527
28	9.72	6.04	12.400		6/29/2017	1539
29	10.03	6.23	14.600		6/29/2017	1553
30	10.46	6.50	10.500		6/29/2017	1607
31	10.49	6.52	6.800		6/29/2017	1618
32	10.81	6.72	10.100		6/29/2017	1635
33	10.94	6.80	7.200		6/29/2017	1652
34	11.89	7.39	7.800		6/29/2017	1721
35	12.63	7.85	7.400		6/29/2017	1737
36	15.13	9.40	3.500		6/29/2017	1814
37	15.69	9.75	2.950		7/1/2017	0711
38	16.74	10.40	2.900		7/1/2017	0720
39	17.70	11.00	3.700		7/1/2017	0736
40	18.67	11.60	2.750		7/1/2017	0759
41	21.08	13.10	2.080		7/1/2017	0829
42	22.21	13.80	2.700		7/1/2017	0845
43	24.14	15.00	2.100		7/1/2017	0902
44	24.78	15.40	2.030		7/1/2017	0915