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COPY

July 27, 2007

Mark Lipp
202.719.7503
mlipp@wileyrein.com

VIA MESSENGER

Marlene H. Dortch, Esq.
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

FILED/ACCEPTED

JUL 27 2007

Federal Communications Commission
Office of the Secretary

Re: **Supplement to Application for AM Broadcast Station License**
Brantley Broadcast Associates, LLC
Station WZFN(AM), Dilworth, Minnesota
Facility Identifier Number: 135930
File Number: BL-20070601BTB

Dear Ms. Dortch:

Transmitted herewith on behalf of Brantley Broadcast Associates, LLC ("Brantley"), the permittee of Station WZFN(AM), Dilworth, Minnesota, are an original and two copies of a Supplement to its application for an AM broadcast station license to cover construction permit BMP- 20060824AAM. This Supplement is responsive to special operating condition number one on the WZFN construction permit which asks for a complete proof on the nighttime directional system before program tests are authorized. The non-directional proof-of-performance was submitted as part of the license application on June 1, 2007. The technical portion of this Supplement includes the original exhibits for the non-directional proof (Exhibits A-D) as well as the new exhibits (Exhibits E-I) for the nighttime directional proof-of-performance.

If there are any questions about this Supplement, please contact undersigned counsel for Brantley Broadcast Associates, LLC.

Sincerely,


Mark Lipp

ML/dmk

Enclosure

Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0627
Expires 01/31/98

FOR
FCC
USE
ONLY

FCC 302-AM
APPLICATION FOR AM
BROADCAST STATION LICENSE

(Please read instructions before filling out form.)

FOR COMMISSION USE ONLY

FILE NO.

SECTION I - APPLICANT FEE INFORMATION

1. PAYOR NAME (Last, First, Middle Initial)

Wiley Rein LLP

FILED/ACCEPTED

JUL 27 2007

MAILING ADDRESS (Line 1) (Maximum 35 characters)

1776 K Street, NW

Federal Communications Commission
Office of the Secretary

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY

Washington

STATE OR COUNTRY (if foreign address)

DC

ZIP CODE

20006

TELEPHONE NUMBER (include area code)

202.719.7000

CALL LETTERS

WZFN(AM)

OTHER FCC IDENTIFIER (if applicable)

135930

2. A. Is a fee submitted with this application?

☐ Yes ☒ No

B. If No, indicate reason for fee exemption (see 47 C.F.R. Section

☐

Governmental Entity

☐

Noncommercial educational licensee

☒

Other (Please explain): **Supplement**

C. If Yes, provide the following information:

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter fee amount due in Column (C).

(A)

FEE TYPE CODE		

(B)

FEE MULTIPLE			
0	0	0	1

(C)

FEE DUE FOR FEE TYPE CODE IN COLUMN (A)
\$

FOR FCC USE ONLY

To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

(A)

--	--	--

(B)

0	0	0	1
---	---	---	---

(C)

\$

FOR FCC USE ONLY

ADD ALL AMOUNTS SHOWN IN COLUMN C,
AND ENTER THE TOTAL HERE.
THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED
REMITTANCE.

TOTAL AMOUNT
REMITTED WITH THIS
APPLICATION

\$

FOR FCC USE ONLY

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT Brantley Broadcast Associates, LLC		
MAILING ADDRESS 6930 Cahaba Valley Road, Suite 202		
CITY Birmingham	STATE Alabama	ZIP CODE 35242

2. This application is for:

- ☒ Commercial
 ☐ Noncommercial
☒ AM Directional
 ☐ AM Non-Directional

Call letters WZFN	Community of License Dilworth, MN	Construction Permit File No. BNP-20010709ACD	Modification of Construction Permit File No(s). BMP-20060824AAM	Expiration Date of Last Construction Permit 6/1/2007
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3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620?

☐ Yes ☒ No

If No, explain in an Exhibit.

Exhibit No.
1

4. Have all the terms, conditions, and obligations set forth in the above described construction permit been fully met?

☒ Yes ☐ No

If No, state exceptions in an Exhibit.

Exhibit No.

5. Apart from the changes already reported, has any cause or circumstance arisen since the grant of the underlying construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect?

☒ Yes ☐ No

If Yes, explain in an Exhibit.

Exhibit No.

6. Has the permittee filed its Ownership Report (FCC Form 323) or ownership certification in accordance with 47 C.F.R. Section 73.3615(b)?

☒ Yes ☐ No

If No, explain in an Exhibit.

☐ Does not apply

Exhibit No.

7. Has an adverse finding been made or an adverse final action been taken by any court or administrative body with respect to the applicant or parties to the application in a civil or criminal proceeding, brought under the provisions of any law relating to the following: any felony; mass media related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination?

☐ Yes ☒ No

If the answer is Yes, attach as an Exhibit a full disclosure of the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and the disposition of the litigation. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 U.S.C. Section 1.65(c), the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter.

Exhibit No.

8. Does the applicant, or any party to the application, have a petition on file to migrate to the expanded band (1605-1705 kHz) or a permit or license either in the existing band or expanded band that is held in combination (pursuant to the 5 year holding period allowed) with the AM facility proposed to be modified herein?

☐ Yes ☒ No

If Yes, provide particulars as an Exhibit.

Exhibit No.

The APPLICANT hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because use of the same, whether by license or otherwise, and requests and authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended).

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

CERTIFICATION

☒ Yes ☐ No

1. By checking Yes, the applicant certifies, that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b).

2. I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Name <i>Joan Reynolds</i>	Signature <i>Joan Reynolds</i>	Telephone Number 205.618.2020
Title Managing Member	Date 7/27/2007	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION

FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT AND THE PAPERWORK REDUCTION ACT

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The Commission will use the information provided in this form to determine whether grant of the application is in the public interest. In reaching that determination, or for law enforcement purposes, it may become necessary to refer personal information contained in this form to another government agency. In addition, all information provided in this form will be available for public inspection. If information requested on the form is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Your response is required to obtain the requested authorization.

Public reporting burden for this collection of information is estimated to average 639 hours and 53 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, can be sent to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3060-0627), Washington, D. C. 20554. Do NOT send completed forms to this address.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

Exhibit 1
WZFN(AM) License Application

Response to question 3 in Section II of 302-AM

Station WZFN(AM), Dilworth, Minnesota, will operate directionally during nighttime hours. Special operating condition number one on the WZFN construction permit requires the submission of a complete, non-directional proof-of-performance as well as a directional proof-of-performance before program tests are authorized.

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

BRANTLEY BROADCAST ASSOCIATES, LLC

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)



Station License



Direct Measurement of Power

1. Facilities authorized in construction permit					
Call Sign WZFN	File No. of Construction Permit (if applicable) BMP-20060824AAM	Frequency (kHz) 1100	Hours of Operation UNLIMITED	Power in kilowatts	
				Night 0.44	Day 50.0
2. Station location					
State MINNESOTA			City or Town DILWORTH		
3. Transmitter location					
State MN	County CLAY	City or Town SABIN		Street address (or other identification) 6062 90TH AVE. SOUTH	
4. Main studio location					
State	County AS ABOVE	City or Town		Street address (or other identification)	
5. Remote control point location (specify only if authorized directional antenna)					
State	County AS ABOVE	City or Town		Street address (or other identification)	

6. Has type-approved stereo generating equipment been installed?



Yes



No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68?



Yes



No



Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed.

Exhibit No.

8. Operating constants:					
RF common point or antenna current (in amperes) without modulation for night system SEE NARRATIVE			RF common point or antenna current (in amperes) without modulation for day system		
Measured antenna or common point resistance (in ohms) at operating frequency Night Day			Measured antenna or common point reactance (in ohms) at operating frequency Night Day		
Antenna indications for directional operation					
Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents
	Night	Day	Night	Day	Night Day
SEE NARRATIVE					
Manufacturer and type of antenna monitor:					

SECTION III - Page 2

9. Description of antenna system ((f directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator SEE NARRATIVE	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit. Exhibit No.
------------------------------------	--	--	--	--

Excitation ☐ Series ☒ Shunt

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

North Latitude SEE ° NARR "	West Longitude ° ' "
-----------------------------	----------------------

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits.

Exhibit No.

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system.

Exhibit No.

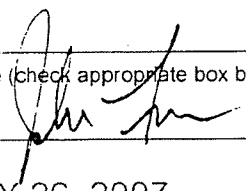
10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

N/A

11. 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) JOHN R. FURR	Signature (check appropriate box below) 
Address (include ZIP Code) PARADIGM ASSOCIATES, INC. 8918 TESORO DRIVE, SUITE 501 SAN ANTONIO, TX 78217	Date JULY 26, 2007 Telephone No. (Include Area Code) 210-828-4555

☐ Technical Director

☐ Registered Professional Engineer

☐ Chief Operator

☒ Technical Consultant

☐ Other (specify)

ENGINEERING STATEMENT

Brantley Broadcast Associates, LLC ("Brantley") holds a permit to construct a new AM broadcast station at Dilworth, Minnesota (WZFN(CP), BMP-20060824AAM, BNP-20010709ACD, FCC ID number 135930). Construction of this facility is complete. Brantley has completed adjustment of the nighttime directional array, as well as the required non-directional and directional field measurements. Brantley is filing the instant application for a license to cover the cited permit pursuant to a tolling waiver that was issued earlier.

The WZFN array consists of two self-supporting towers, each 60.7 meters high overall. The radiator height of each of these towers is 60.2 meters, or 79.5 electrical degrees at 1100 kHz. Each tower is driven by a folded unipole adjusted so that the electrical resistance at the feed point is exactly 50 ohms. Each tower is connected by copper strap to a radial system consisting of 120 equally-spaced copper wires 68.2 meters in length (90 electrical degrees), except where foreshortened at the intersection of the two radial patterns. At that point, the radials are soldered to copper strap. 120 additional wires 9.5 meters in length (12.5 electrical degrees) are interspersed between these longer wires. This ground system is buried approximately 15 centimeters (6 inches) below grade level. The coordinates of the northwest tower are 46-45-44 NL and 96-40-19 WL. The coordinates of the southeast tower are 46-45-42 NL and 96-40-17 WL. The coordinates of the geometric center of the array are 46-45-43 NL and 96-40-18 WL. All coordinates are NAD 27.

The northwest tower (the day/critical hours tower) was driven for the non-directional measurements, the southwest tower having first been detuned with an isolation network at the base. The feed point impedance of this tower was measured and found to be $50.0 + j106$ ohms. The drive current was adjusted to 4.47 amperes, as indicated on a Delta Electronics TCT 1-HVm, serial number 296, for an input power of 0.999 kW. This current was maintained closely during the non-directional measurements. For the directional measurements, the array was driven normally, the common point impedance having been adjusted for $50.0 + j0$ ohms. The drive current was adjusted to the proper operating current, 3.08 amperes, as measured on a thermocouple ammeter. This current was calculated pursuant to the requirements of 47 CFR §73.51(b)(1), which requires that the actual input power of a directional antenna exceed the nominal power by 8 percent for stations with a nominal power of 5.0 kW or less. In this case the nominal nighttime directional power is 0.44 kW, and the nominal power increased by 8 percent is 0.4752 kW, which is 3.08 amperes into 50 ohms. This current was maintained closely during the directional measurements.



Paradigm Associates, Inc.

NARRATIVE

WZFN
DILWORTH, MN

The antenna monitor readings obtained once correct adjustment was confirmed were:

	Phase, degrees	Sample Current Ratio
Tower 1 (NW)	0.0	1.000
Tower 2 (SE)	+30.0	0.900

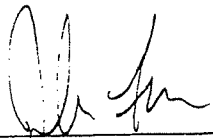
The antenna monitor installed is a Potomac Instruments AM-19 (204).

The day and critical hours (tower 1) antenna current was measured utilizing a Delta Electronics TCA-40 TCT. The day (50.0 kW) antenna current obtained was 31.6 amperes. The critical hours (5.0 kW) antenna current obtained was 10.0 amperes.

The test equipment utilized for the impedance measurements consisted of a Delta Electronics OIB-3, serial number 929. This instrument was driven by the transmitter operating on low power. The field intensity measurements were conducted utilizing two Potomac Instruments FIM-41 units. Serial number 1391 was last factory calibrated on May 10, 2007. Serial number 898 was factory calibrated on May 25, 1999. This meter had been previously compared to an FIM-21, last factory calibrated on February 13, 2006, and was also compared to serial number 1391. It was found to agree closely with both meters (within approximately two percent). These meters were calibrated by the operators according to the manufacturer's instructions at each measurement location. The measurements were conducted by Mr. Lee Reynolds, with the assistance of Mr. Virgil Leon Strickland and Mr. Robert Williams. All of these individuals are experienced in making such measurements, and with the test equipment utilized.

The above and attached information is true and correct as to my knowledge and belief.

July 26, 2007



John R. Furr



Paradigm Associates, Inc.

NARRATIVE

**WZFN
DILWORTH, MN**

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EXHIBIT D - NON-DIRECTIONAL FIELD INTENSITY TABULATIONS

EXHIBIT E - POLAR PLOT OF DIRECTIONAL INVERSE DISTANCE FIELDS

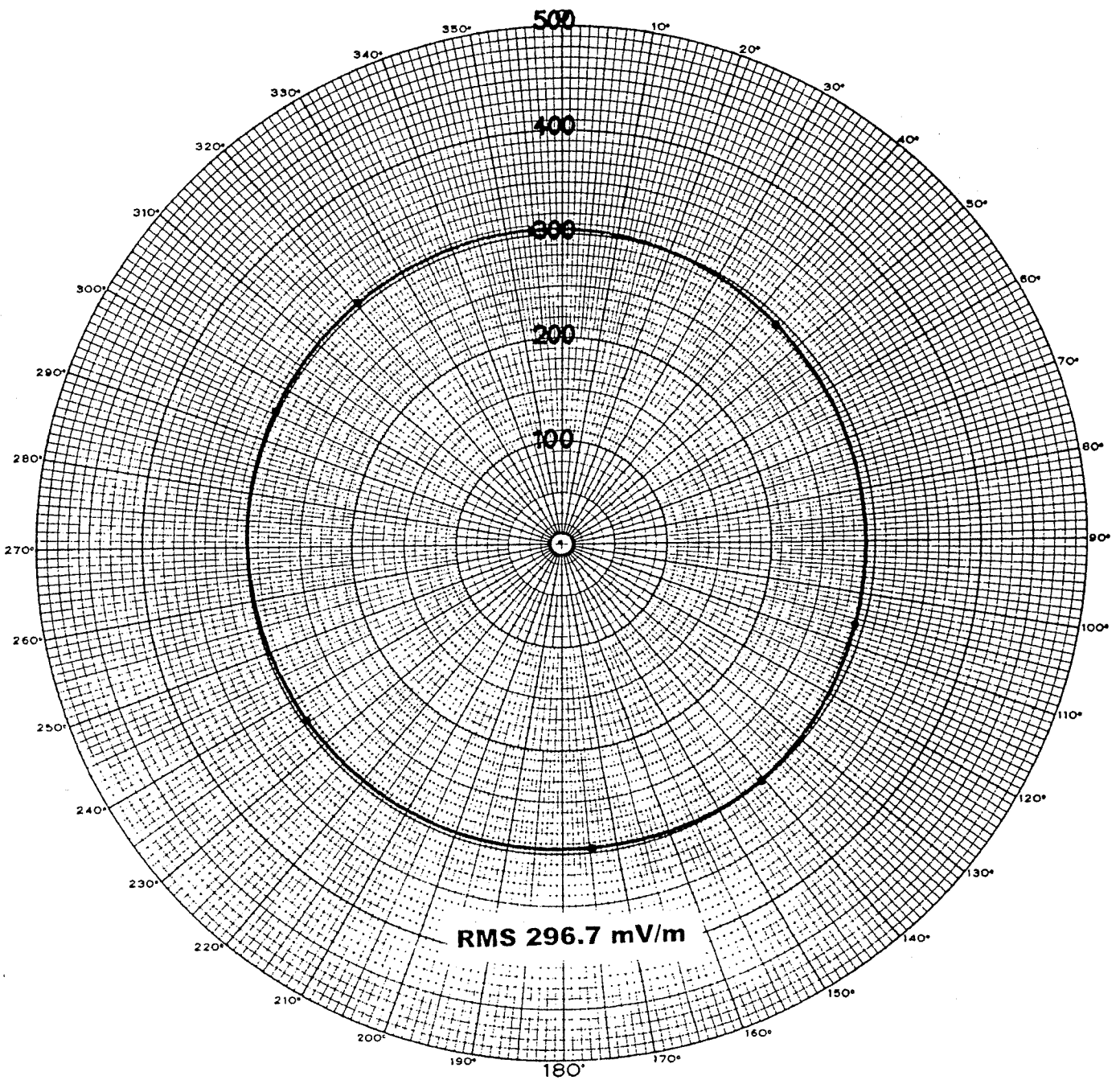
EXHIBIT F - TABULATION OF DIRECTIONAL INVERSE DISTANCE FIELDS

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CURVES, 1040 - 1100 kHz**

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**EXHIBIT I - MONITORING POINT LOCATIONS - MAP, PICTURES, ROUTE
DESCRIPTIONS**





Paradigm Associates, Inc.

NON-DIRECTIONAL POLAR PLOT

WZFN
DILWORTH, MN
EXHIBIT A

WZFN

Summary of Radials and Inverse Distance Fields

No.	Radial (degree)	Inverse (mV/m)
1.	45.0	293.0
2.	106.0	295.0
3.	140.0	300.0
4.	174.0	295.0
5.	235.0	295.0
6.	295.0	300.0
7.	320.0	300.0
8.	355.0	300.0

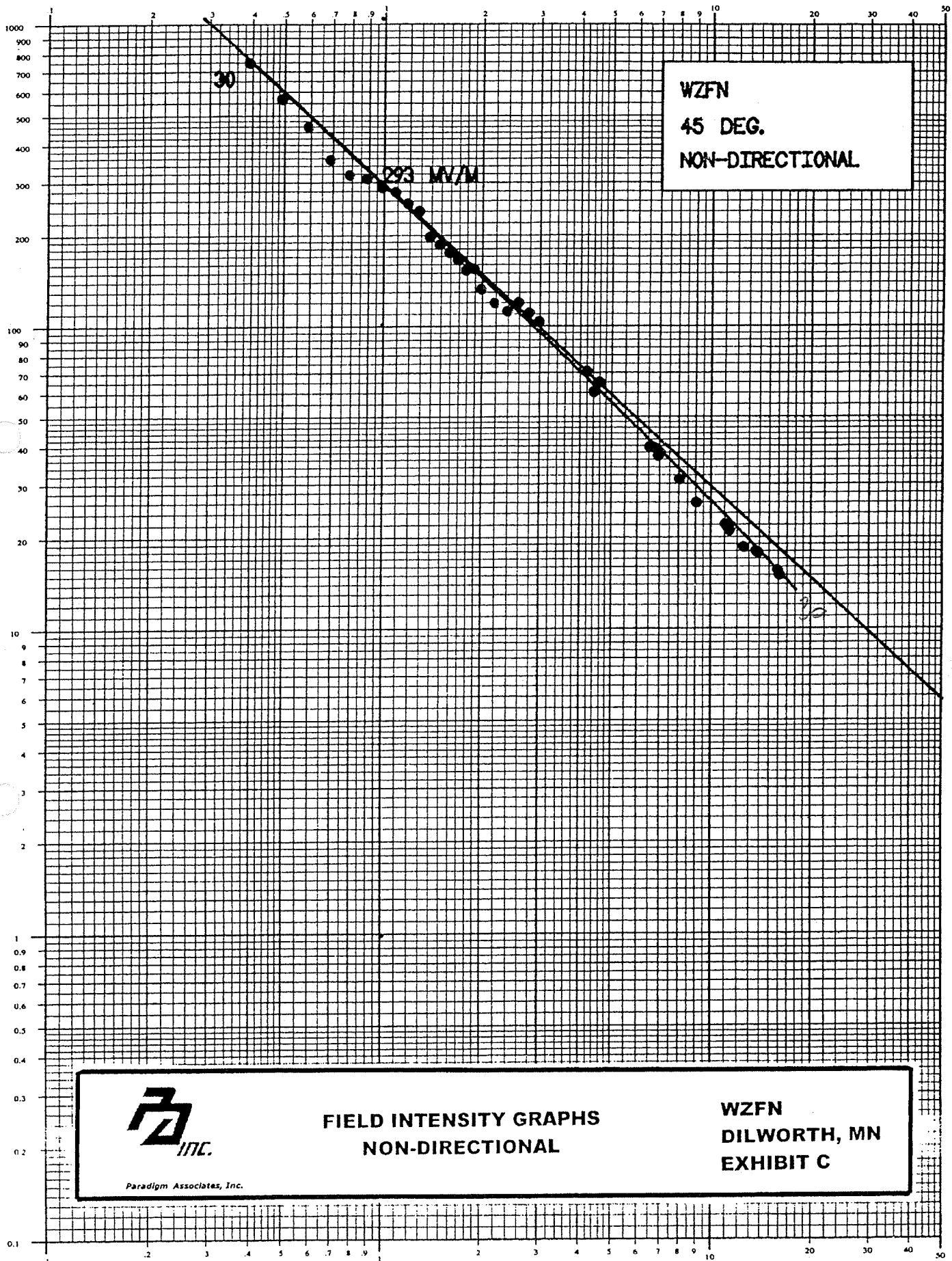
Measured RMS is 296.7 mV/m by use of sectoring

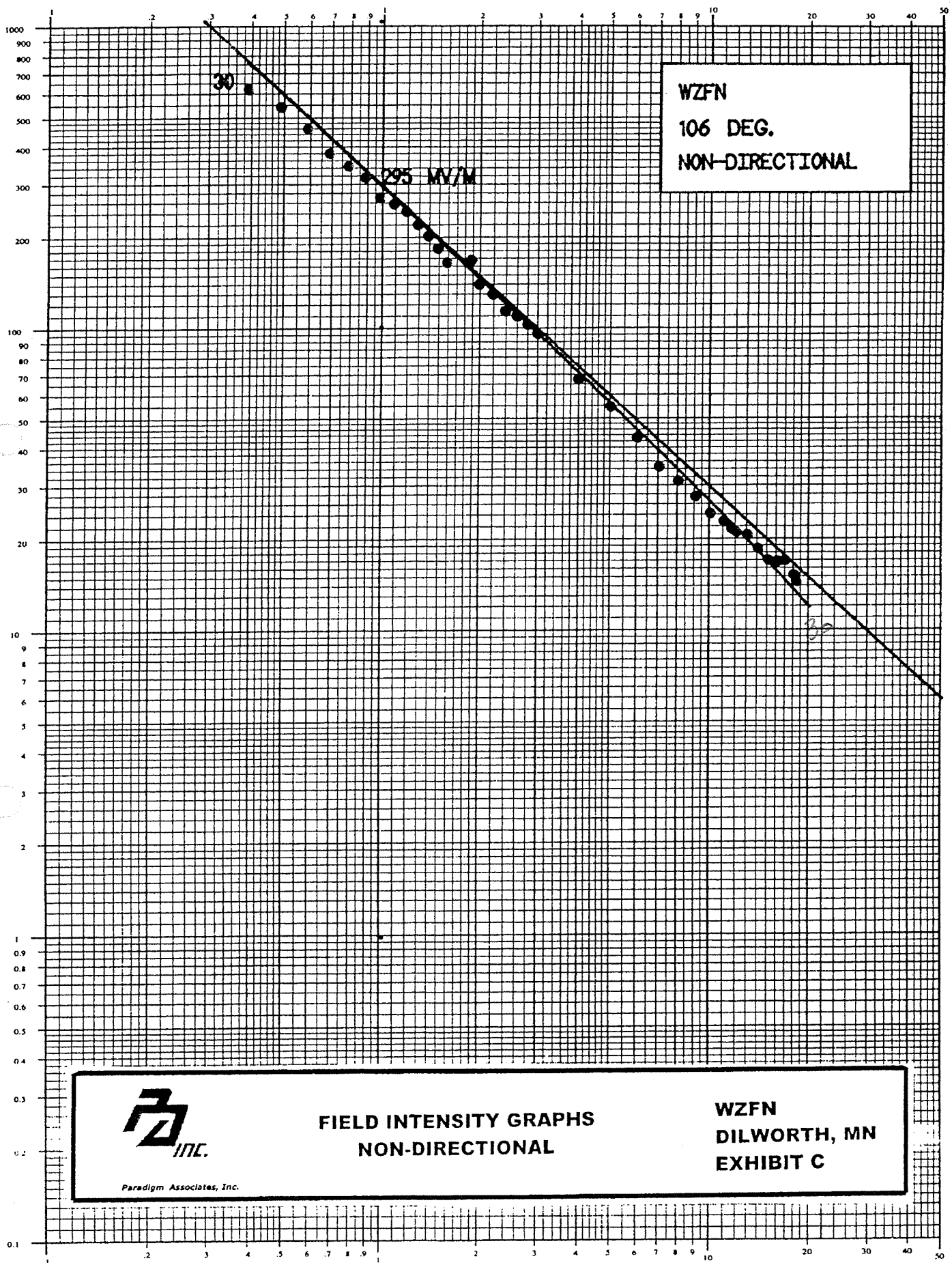


Paradigm Associates, Inc.

**INVERSE DISTANCE FIELDS
NON-DIRECTIONAL**

**WZFN
DILWORTH, MN
EXHIBIT B**

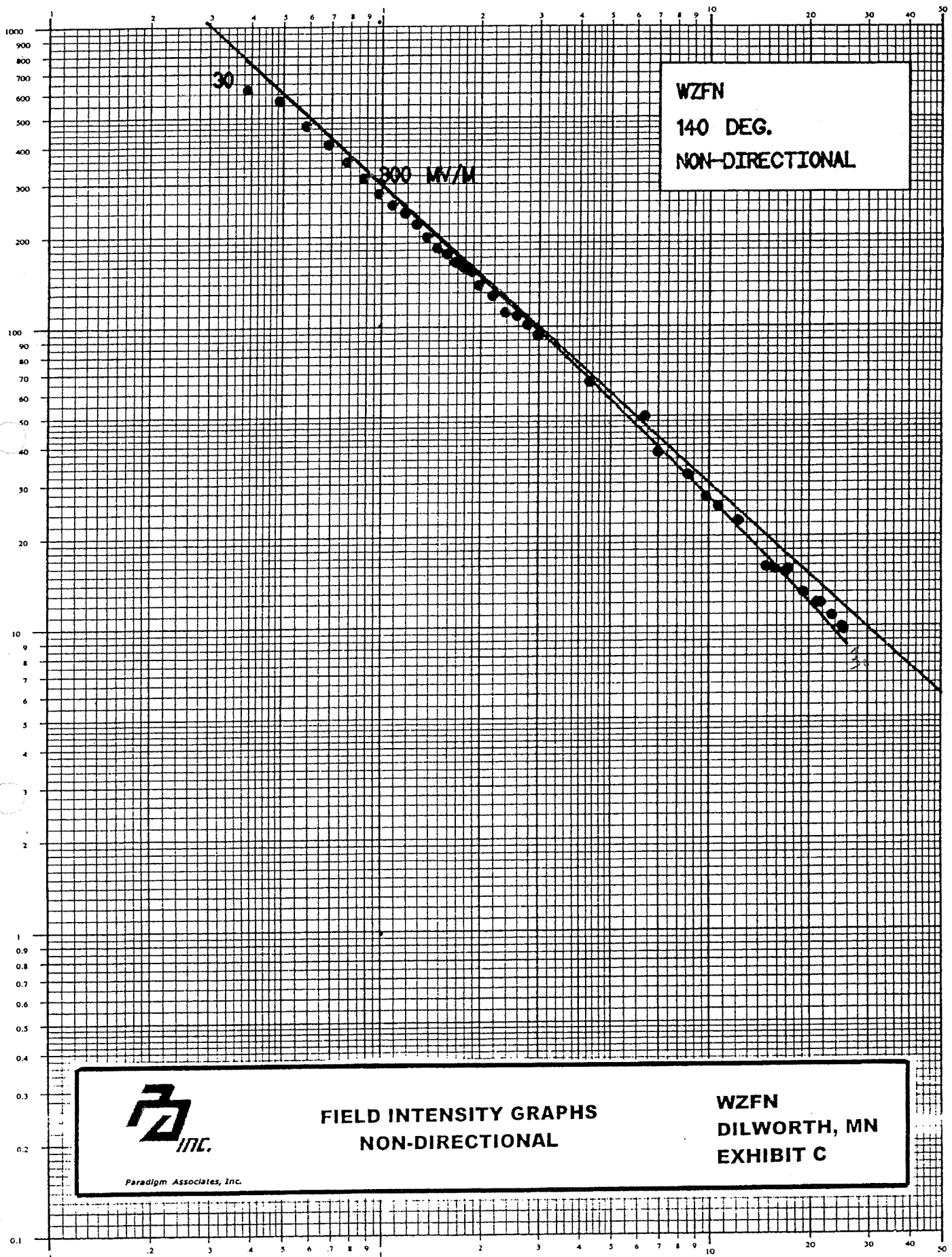


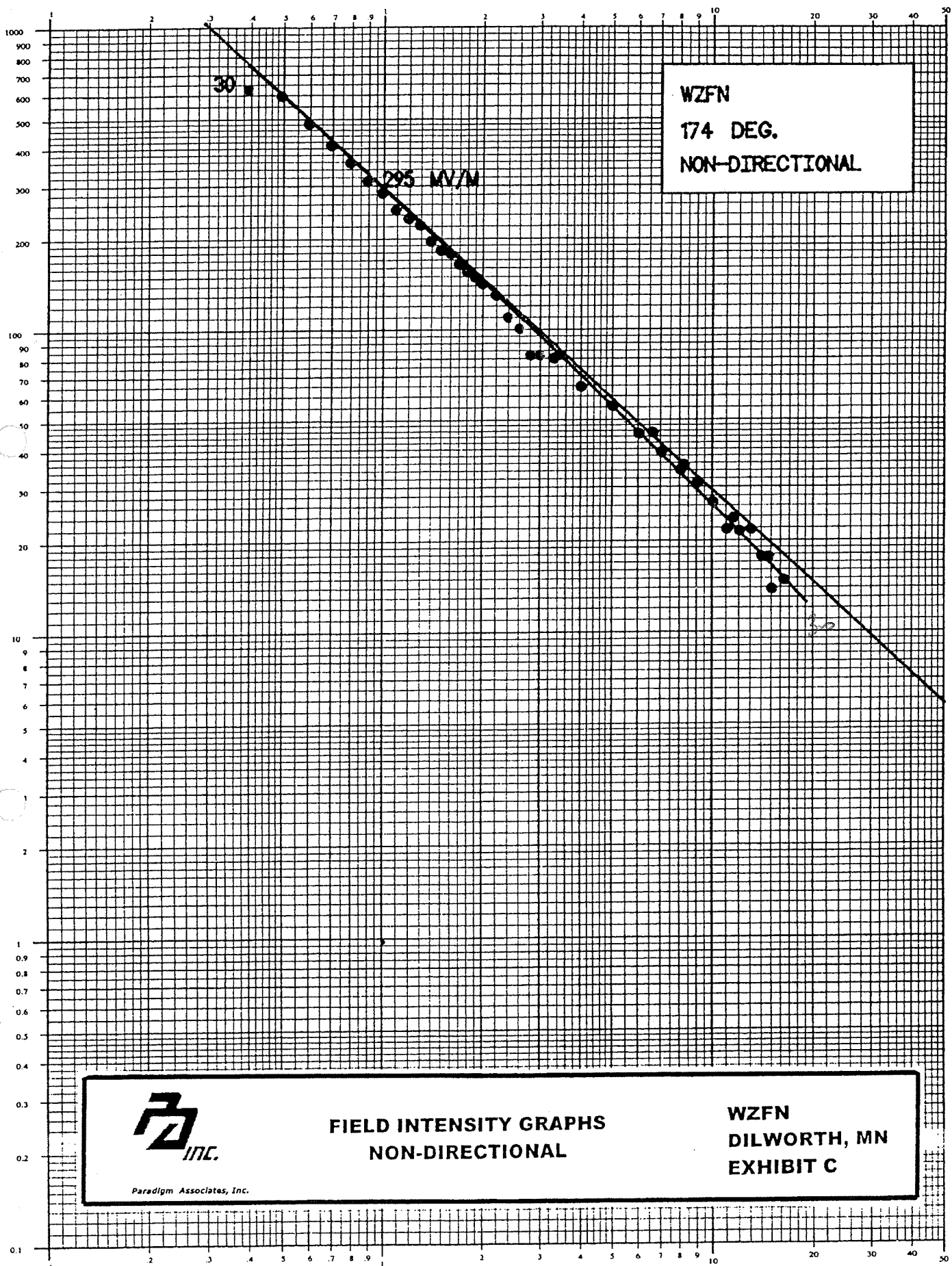


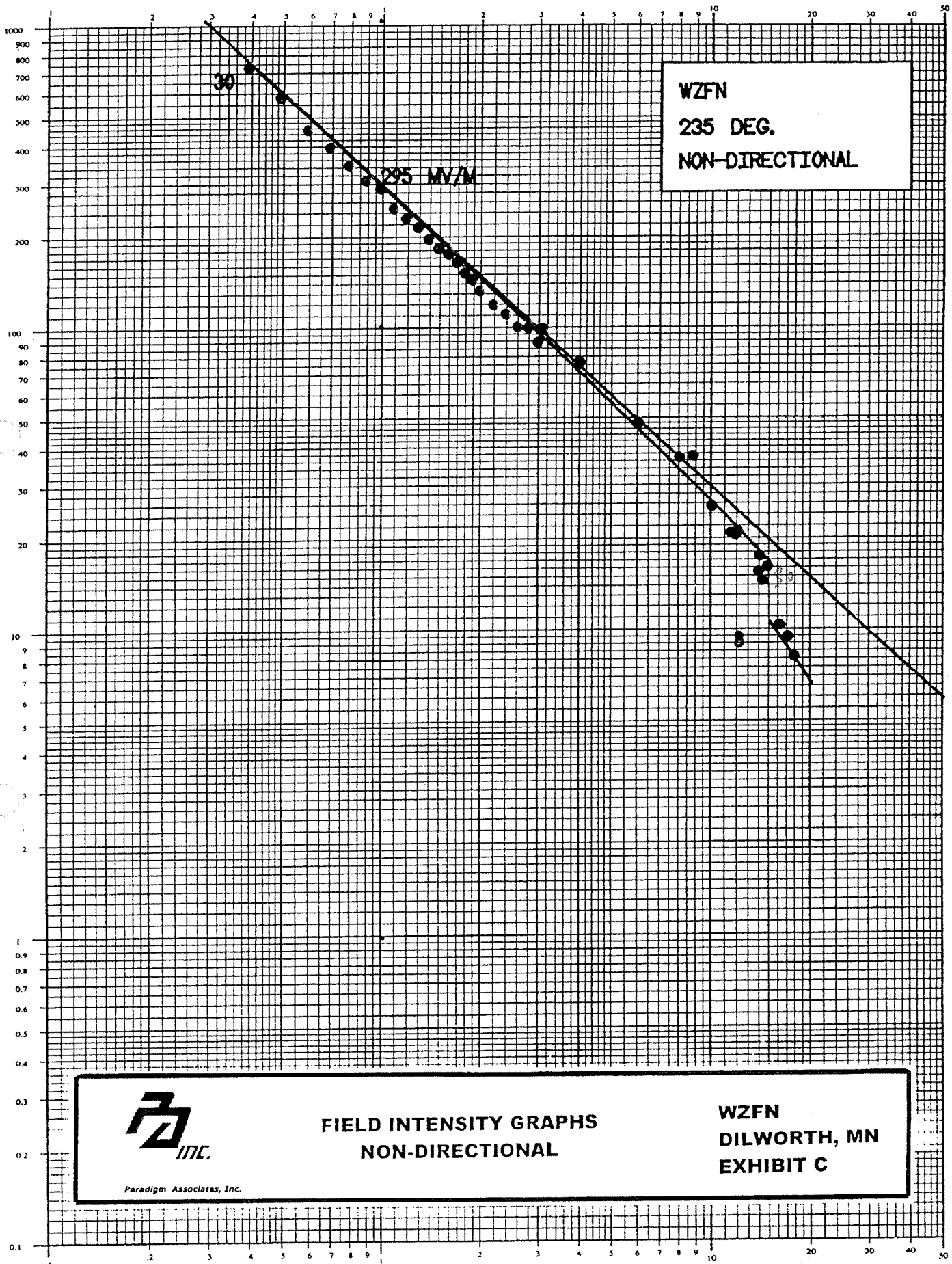
Paradigm Associates, Inc.

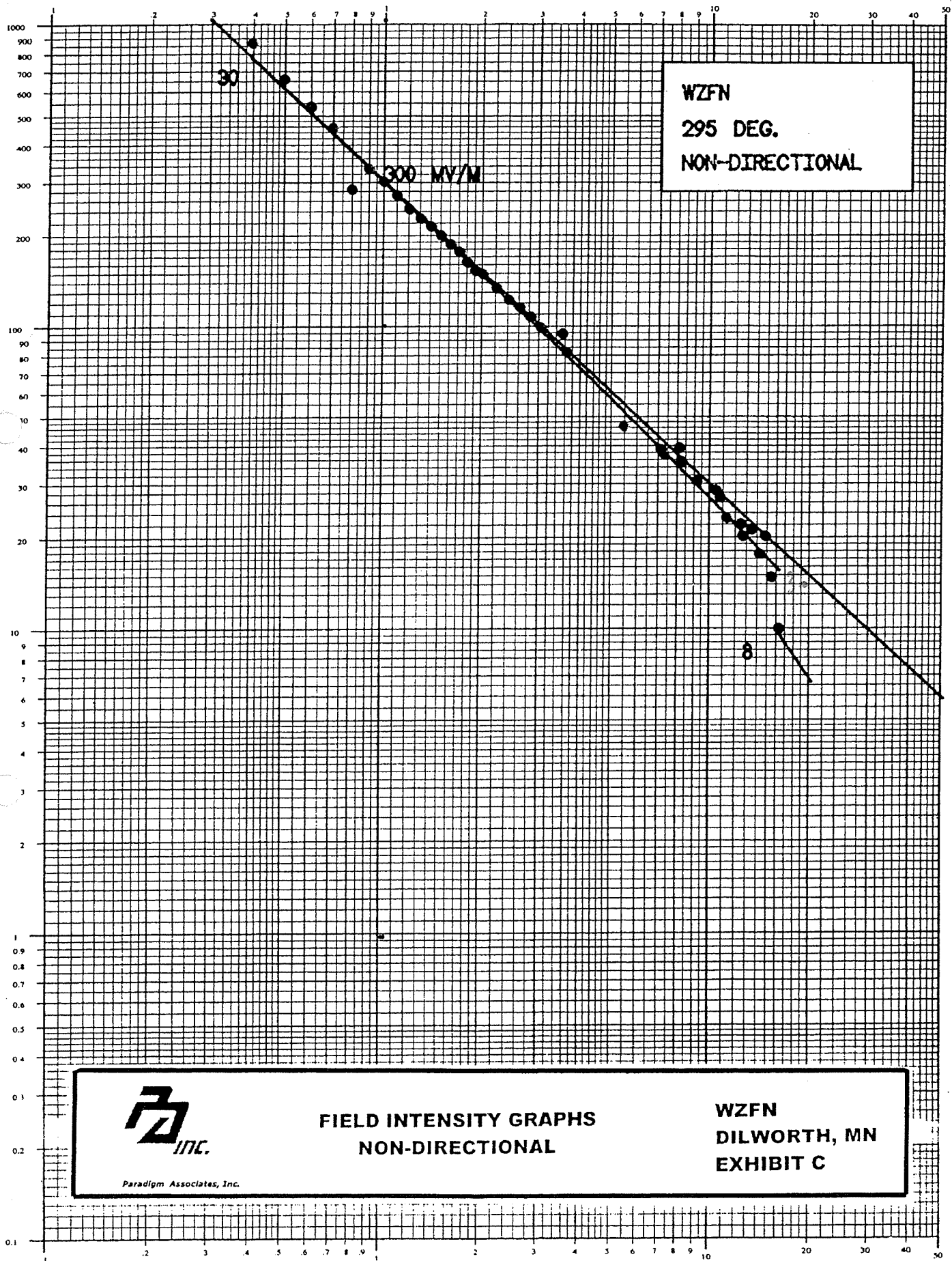
FIELD INTENSITY GRAPHS
NON-DIRECTIONAL

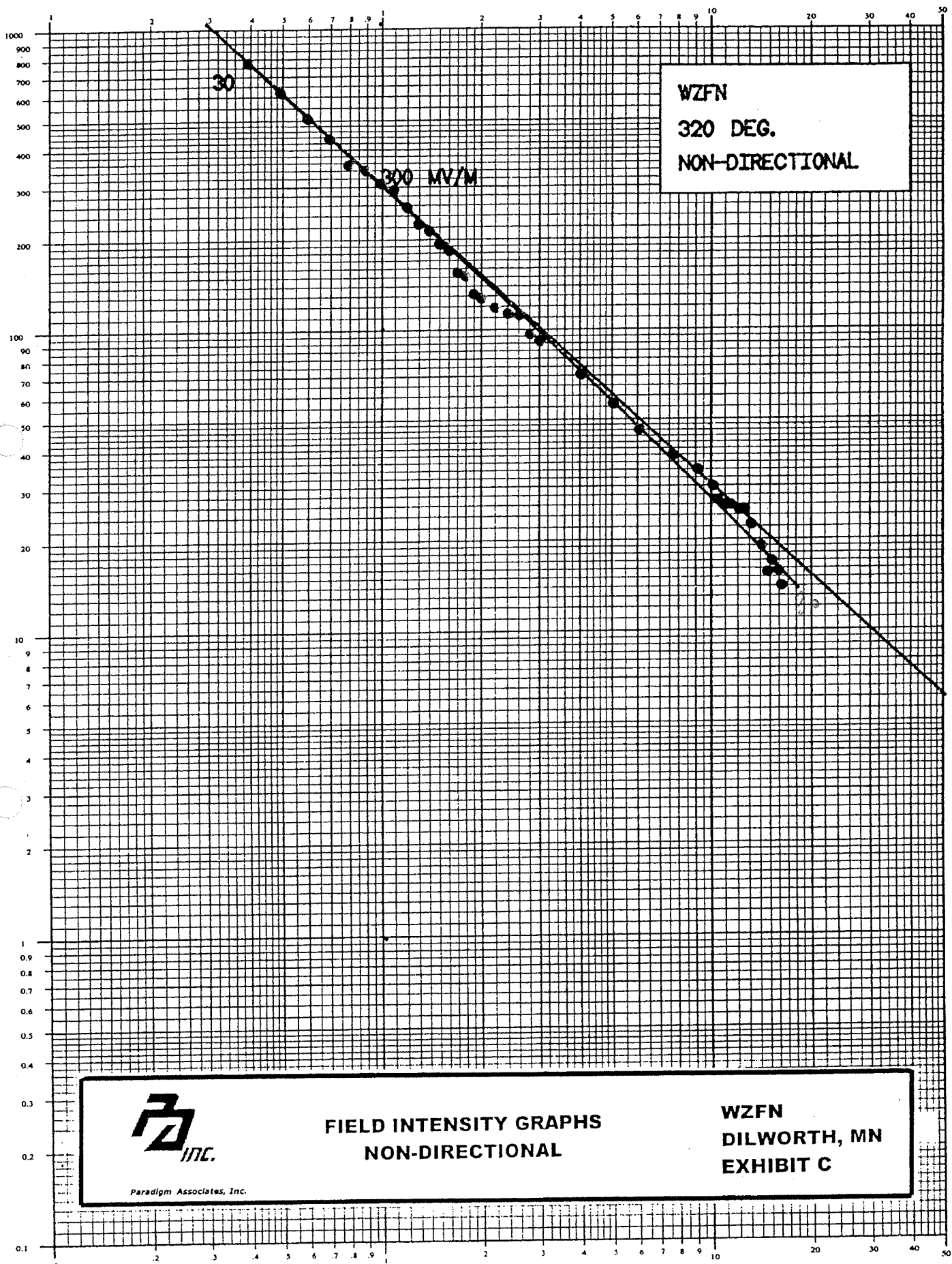
WZFN
DILWORTH, MN
EXHIBIT C

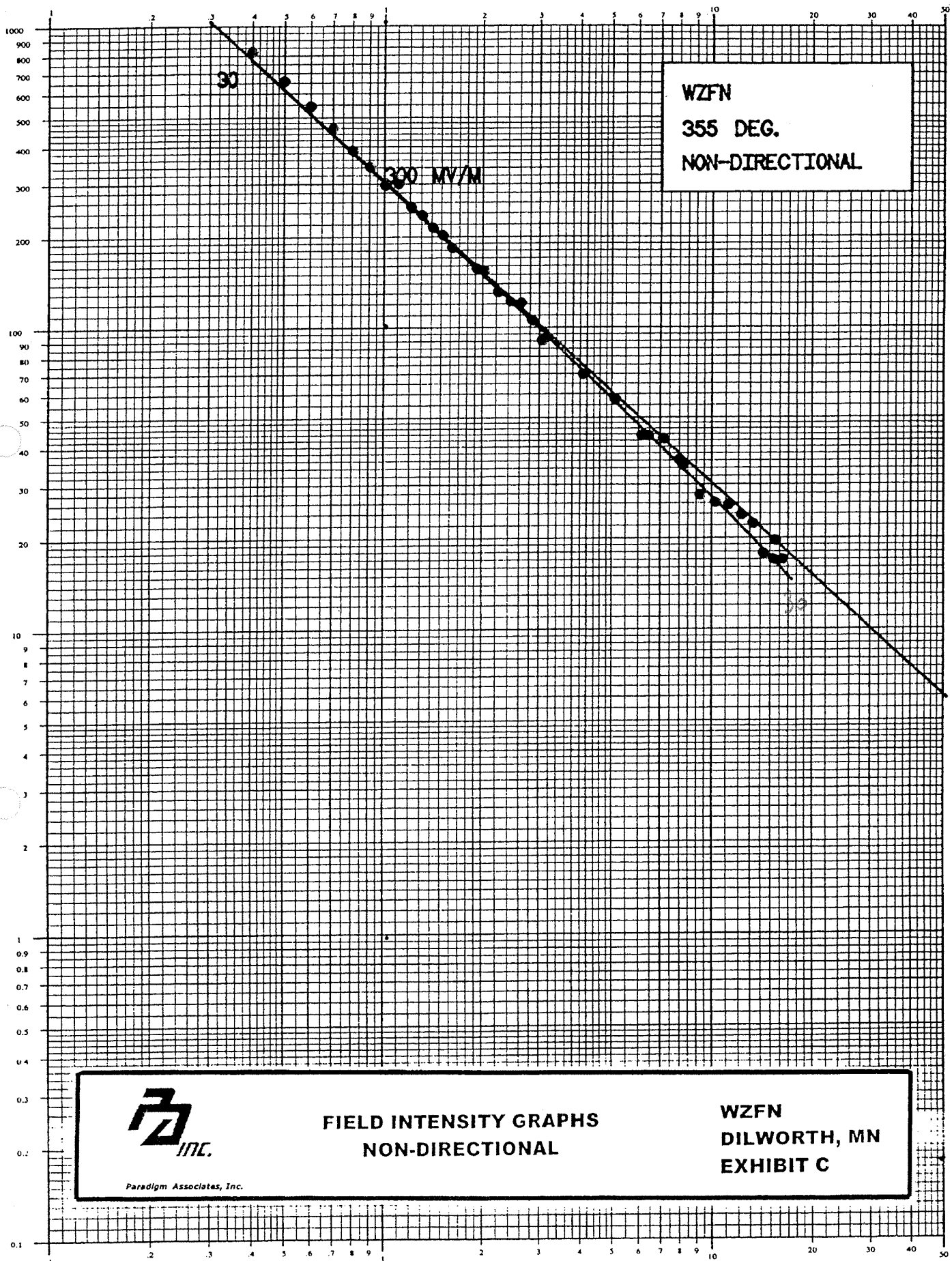












WZFN

YEAR: 2007
Non-D RADIAL 45.0

POINT	DISTANCE (km)	N-DA (mV/m)	TIME (CDT)	DATE
1	0.40	715	1415	5-29
2	0.50	545	1414	5-29
3	0.60	442	1413	5-29
4	0.70	345	1411	5-29
5	0.80	308	1410	5-29
6	0.90	300	1409	5-29
7	1.00	280	1408	5-29
8	1.10	271	1406	5-29
9	1.20	248	1403	5-29
10	1.30	235	1400	5-29
11	1.40	193	1357	5-29
12	1.50	182	1342	5-29
13	1.60	171	1338	5-29
14	1.70	162	1335	5-29
15	1.80	150	1333	5-29
16	1.90	152	1329	5-29
17	2.00	130	1327	5-29
18	2.20	117	1321	5-29
19	2.40	110	1315	5-29
20	2.60	118	1309	5-29
21	2.80	109	1305	5-29
22	3.00	102	1302	5-29
23	4.20	70	0950	5-29
24	4.40	60	1353	5-30
25	4.60	65	0953	5-31
26	6.50	40	1011	5-30
27	6.70	40	1406	5-30
28	6.90	37	1017	5-30
29	7.00	38	1416	5-30
30	8.00	31	1340	5-30
31	9.00	26	1240	5-30
32	11.00	22	1025	5-31
33	11.20	22	1420	5-30
34	11.30	21	1031	5-30
35	12.50	19	1249	5-30
36	13.60	18	1045	5-30
37	13.80	18	1051	5-30
38	15.80	16	1106	5-31
39	16.00	15	1314	5-30

Radial Inverse: 293 mV/m



Paradigm Associates, Inc.

**NON-DIRECTIONAL
FIELD INTENSITY TABULATIONS**

**WZFN
DILWORTH, MN
EXHIBIT D**

WZFN

YEAR: 2007
Non-D RADIAL 106.0

POINT	DISTANCE (km)	N-DA (mV/m)	TIME (CDT)	DATE
1	0.40	600	1559	5-28
2	0.50	525	1604	5-28
3	0.60	445	1606	5-28
4	0.70	370	1613	5-28
5	0.80	335	1618	5-28
6	0.90	308	1621	5-28
7	1.00	265	1626	5-28
8	1.10	252	1630	5-28
9	1.20	238	1635	5-28
10	1.30	215	1639	5-28
11	1.40	197	1644	5-28
12	1.50	180	1648	5-28
13	1.60	162	1652	5-28
14	1.90	165	1711	5-28
15	2.00	137	1715	5-28
16	2.20	127	1718	5-28
17	2.40	112	1722	5-28
18	2.60	108	1727	5-28
19	2.80	101	1734	5-28
20	3.00	94	1022	5-28
21	4.00	67	1032	5-28
22	5.00	55	1042	5-28
23	6.00	43	1053	5-28
24	7.00	35	1153	5-28
25	8.00	31	1117	5-28
26	9.00	28	1138	5-28
27	10.00	24	1200	5-28
28	11.00	23	1218	5-28
29	11.60	22	1121	5-31
30	12.00	21	1231	5-28
31	13.00	21	1240	5-28
32	14.00	19	1306	5-28
33	15.00	17	1321	5-28
34	16.00	17	1337	5-28
35	16.90	17	1139	5-31
36	18.00	15	1145	5-31
37	18.30	14	1148	5-31

Radial Inverse: 295 mV/m



Paradigm Associates, Inc.

**NON-DIRECTIONAL
FIELD INTENSITY TABULATIONS**

**WZFN
DILWORTH, MN
EXHIBIT D**

WZFN

YEAR: 2007
Non-D RADIAL 140.0

POINT	DISTANCE (km)	N-DA (mV/m)	TIME (CDT)	DATE
1	0.40	600	1519	5-29
2	0.50	550	1522	5-29
3	0.60	455	1525	5-29
4	0.70	395	1528	5-29
5	0.80	345	1532	5-29
6	0.90	305	1538	5-29
7	1.00	272	1542	5-29
8	1.10	249	1547	5-29
9	1.20	235	1552	5-29
10	1.30	215	1557	5-29
11	1.40	195	1601	5-29
12	1.50	180	1605	5-29
13	1.60	172	1610	5-29
14	1.70	161	1614	5-29
15	1.80	155	1619	5-29
16	1.90	150	1625	5-29
17	2.00	135	1630	5-29
18	2.20	125	1634	5-29
19	2.40	110	1639	5-29
20	2.60	107	1643	5-29
21	2.80	100	1647	5-29
22	3.00	92	1651	5-29
23	4.30	65	1750	5-30
24	6.40	50	1325	5-31
25	7.00	38	1128	5-30
26	8.60	32	1317	5-31
27	9.80	27	1335	5-31
28	10.70	25	1114	5-30
29	12.30	23	1153	5-30
30	14.90	16	1310	5-31
31	15.80	16	1106	5-31
32	17.00	15	1306	5-31
33	17.40	16	1302	5-31
34	19.30	13	1240	5-31
35	21.20	12	1235	5-31
36	21.80	12	1231	5-31
37	23.50	11	1225	5-31
38	25.20	10	1209	5-31
39	25.40	9.8	1214	5-31

Radial Inverse: 300 mV/m



Paradigm Associates, Inc.

**NON-DIRECTIONAL
FIELD INTENSITY TABULATIONS****WZFN
DILWORTH, MN
EXHIBIT D**

WZFN

YEAR: 2007

Non-D RADIAL 174.0

POINT	DISTANCE (km)	N-DA (mV/m)	TIME (CDT)	DATE
1	0.40	610	1601	5-28
2	0.50	580	1605	5-28
3	0.60	470	1608	5-28
4	0.70	400	1610	5-28
5	0.80	350	1613	5-28
6	0.90	305	1615	5-28
7	1.00	279	1618	5-28
8	1.10	245	1621	5-28
9	1.20	230	1624	5-28
10	1.30	219	1626	5-28
11	1.40	194	1629	5-28
12	1.50	181	1632	5-28
13	1.60	177	1635	5-28
14	1.70	163	1638	5-28
15	1.80	154	1643	5-28
16	1.90	148	1646	5-28
17	2.00	141	1649	5-28
18	2.20	129	1653	5-28
19	2.40	109	1657	5-28
20	2.60	100	1702	5-28
21	2.80	82	1707	5-28
22	3.00	82	1023	5-28
23	3.30	80	1755	5-30
24	3.40	82	1330	5-31
25	4.00	65	1051	5-28
26	5.00	56	1120	5-28
27	6.00	46	1137	5-28
28	6.60	46	1257	5-31
29	7.00	40	1219	5-28
30	8.00	35	1235	5-28
31	8.20	36	1250	5-31
32	9.00	32	1251	5-28
33	10.00	27	1308	5-28
34	11.00	22	1324	5-28
35	11.50	24	1244	5-31
36	12.00	22	1338	5-28
37	13.00	22	1354	5-28
38	14.00	18	1405	5-28
39	14.70	18	1317	5-31
40	15.00	14	1420	5-28
41	16.30	15	1311	5-31

Radial Inverse: 295 mV/m



Paradigm Associates, Inc.

**NON-DIRECTIONAL
FIELD INTENSITY TABULATIONS****WZFN
DILWORTH, MN
EXHIBIT D**

WZFN

YEAR: 2007

Non-D RADIAL 235.0

POINT	DISTANCE (km)	N-DA (mV/m)	TIME (CDT)	DATE
1	0.40	700	1309	5-29
2	0.50	560	1312	5-29
3	0.60	440	1316	5-29
4	0.70	385	1325	5-29
5	0.80	335	1329	5-29
6	0.90	300	1333	5-29
7	1.00	282	1338	5-29
8	1.10	243	1443	5-29
9	1.20	225	1346	5-29
10	1.30	210	1350	5-29
11	1.40	192	1353	5-29
12	1.50	179	1356	5-29
13	1.60	172	1359	5-29
14	1.70	161	1401	5-29
15	1.80	149	1404	5-29
16	1.90	141	1407	5-29
17	2.00	130	1410	5-29
18	2.20	117	1419	5-29
19	2.40	109	1424	5-29
20	2.60	99	1429	5-29
21	2.80	98	1433	5-29
22	3.00	88	1438	5-29
23	3.10	98	1338	5-31
24	4.00	76	1338	5-30
25	6.00	48	1320	5-30
26	8.00	37	1311	5-30
27	8.80	37	1110	5-31
28	10.00	26	1305	5-30
29	11.40	21	1129	5-31
30	11.80	21	1130	5-31
31	12.00	21	1241	5-30
32	13.90	16	1150	5-31
33	14.00	18	1223	5-30
34	14.20	15	1145	5-31
35	14.80	16	1217	5-31
36	16.00	10	1205	5-30
37	17.00	9.5	1205	5-31
38	17.70	8.2	1209	5-31

Radial Inverse: 295 mV/m



Paradigm Associates, Inc.

**NON-DIRECTIONAL
FIELD INTENSITY TABULATIONS**

**WZFN
DILWORTH, MN
EXHIBIT D**

WZFN

YEAR: 2007
Non-D RADIAL 295.0

POINT	DISTANCE (km)	N-DA (mV/m)	TIME (CDT)	DATE
1	0.40	840	1006	5-30
2	0.50	640	1009	5-30
3	0.60	520	1012	5-30
4	0.70	445	1014	5-30
5	0.80	280	1017	5-30
6	0.90	328	1019	5-30
7	1.00	297	1022	5-30
8	1.10	268	1025	5-30
9	1.20	242	1028	5-30
10	1.30	225	1031	5-30
11	1.40	212	1037	5-30
12	1.50	198	1051	5-30
13	1.60	185	1055	5-30
14	1.70	175	1059	5-30
15	1.80	162	1103	5-30
16	1.90	152	1107	5-30
17	2.00	148	1111	5-30
18	2.20	133	1117	5-30
19	2.40	122	1123	5-30
20	2.60	115	1127	5-30
21	2.80	107	1133	5-30
22	3.00	99	1138	5-30
23	3.50	94	1816	5-30
24	3.60	82	1355	5-31
25	5.40	47	1023	5-30
26	7.00	40	1035	5-30
27	7.20	38	1104	5-31
28	8.00	40	1042	5-30
29	8.10	36	1057	5-31
30	9.00	31	1050	5-30
31	10.30	29	1048	5-31
32	10.60	27	1045	5-31
33	11.10	24	1038	5-31
34	12.30	22	1030	5-31
35	12.40	21	1059	5-30
36	13.20	22	1023	5-31
37	14.00	18	1107	5-30
38	14.60	21	1012	5-31
39	15.20	15	1113	5-30
40	16.00	10	1124	5-30

Radial Inverse: 300 mV/m



Paradigm Associates, Inc.

**NON-DIRECTIONAL
FIELD INTENSITY TABULATIONS**

**WZFN
DILWORTH, MN
EXHIBIT D**

WZFN

YEAR: 2007

Non-D RADIAL 320.0

POINT	DISTANCE (km)	N-DA (mV/m)	TIME (CDT)	DATE
1	0.40	745	1853	5-28
2	0.50	595	1901	5-28
3	0.60	490	1904	5-28
4	0.70	420	1911	5-28
5	0.80	344	1915	5-28
6	0.90	330	1919	5-28
7	1.00	300	1922	5-28
8	1.10	285	1928	5-28
9	1.20	250	1933	5-28
10	1.30	220	1942	5-28
11	1.40	209	1945	5-28
12	1.50	189	1949	5-28
13	1.60	180	1954	5-28
14	1.70	152	2008	5-28
15	1.80	148	2012	5-28
16	1.90	129	2015	5-28
17	2.00	125	2017	5-28
18	2.20	116	2032	5-28
19	2.40	111	2035	5-28
20	2.60	110	2045	5-28
21	2.80	95	2047	5-28
22	3.00	90	2050	5-28
23	4.00	70	1517	5-27
24	5.00	56	1523	5-27
25	6.00	46	1529	5-27
26	7.60	38	1828	5-30
27	9.00	34	1533	5-27
28	10.00	30	1544	5-27
29	10.30	27	1852	5-30
30	11.00	26	1613	5-27
31	11.30	26	1856	5-30
32	12.00	25	1626	5-27
33	12.40	25	1902	5-30
34	13.00	22	1643	5-27
35	14.00	19	1653	5-27
36	14.50	16	1910	5-30
37	15.00	17	1704	5-27
38	15.70	16	1918	5-30
39	16.00	14	1716	5-27

Radial Inverse: 300 mV/m



Paradigm Associates, Inc.

**NON-DIRECTIONAL
FIELD INTENSITY TABULATIONS****WZFN
DILWORTH, MN
EXHIBIT D**

WZFN

YEAR: 2007

Non-D. RADIAL 355.0

POINT	DISTANCE (km)	N-DA (mV/m)	TIME (CDT)	DATE
1	0.40	800	1845	5-29
2	0.50	640	1850	5-29
3	0.60	530	1853	5-29
4	0.70	450	1858	5-29
5	0.80	380	1901	5-29
6	0.90	335	1904	5-29
7	1.00	292	1907	5-29
8	1.10	295	1911	5-29
9	1.20	248	1915	5-29
10	1.30	233	1920	5-29
11	1.40	212	1923	5-29
12	1.50	200	1928	5-29
13	1.60	182	1931	5-29
14	1.90	155	1945	5-29
15	2.00	153	1949	5-29
16	2.20	130	1953	5-29
17	2.40	121	1957	5-29
18	2.60	120	2002	5-29
19	2.80	105	2008	5-29
20	3.00	90	1519	5-27
21	4.00	70	1537	5-27
22	5.00	58	1559	5-27
23	6.00	44	1619	5-27
24	6.30	44	1835	5-30
25	7.00	43	1626	5-27
26	7.80	37	1843	5-30
27	8.00	35	1640	5-27
28	9.00	28	1654	5-27
29	10.00	27	1717	5-27
30	11.00	26	1745	5-27
31	12.00	24	1848	5-27
32	13.00	23	1833	5-27
33	14.00	18	1918	5-27
34	15.00	17	1948	5-27
35	15.20	20	1700	5-30
36	16.00	17	1956	5-27

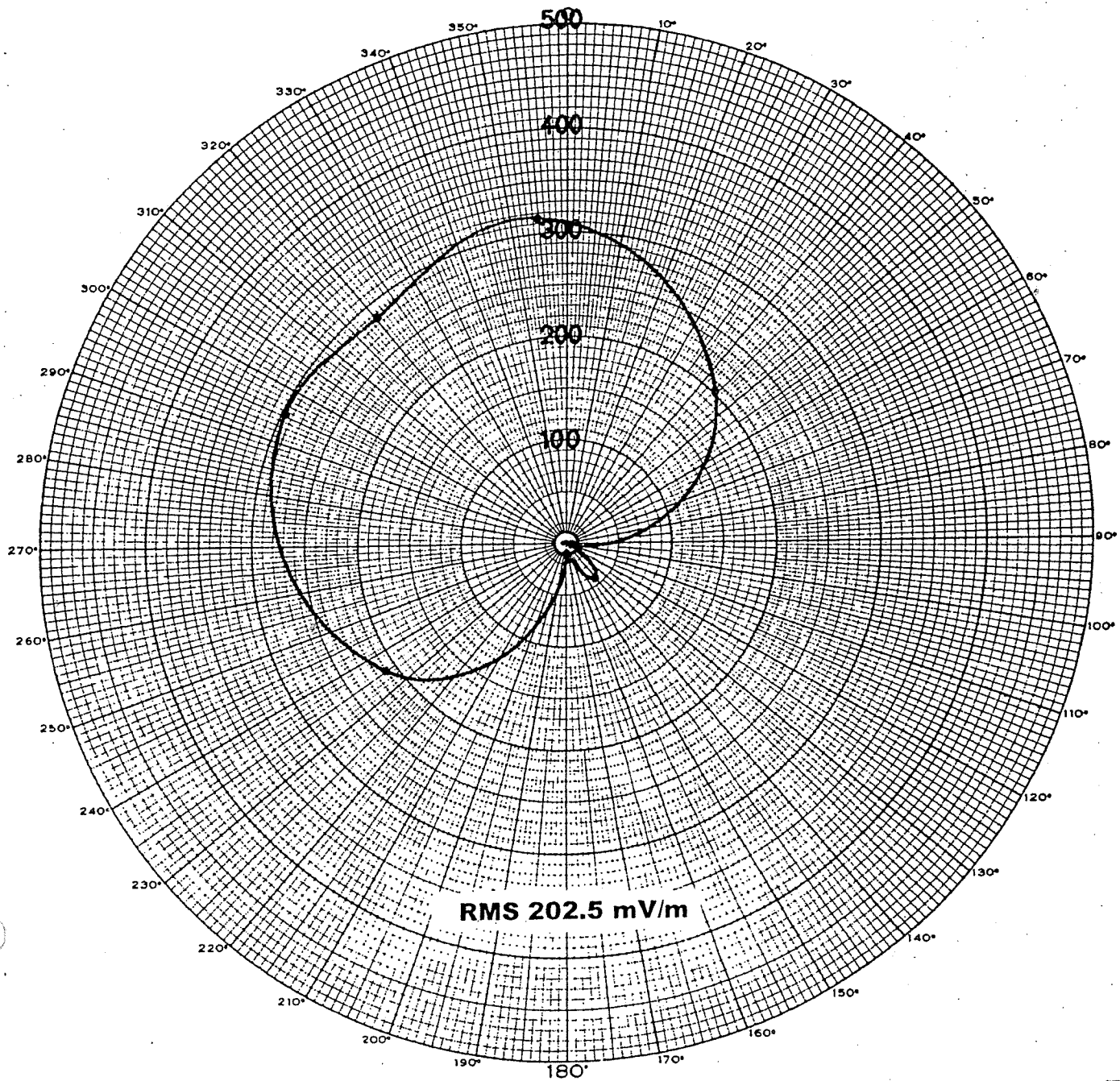
Radial Inverse: 300 mV/m



Paradigm Associates, Inc.

**NON-DIRECTIONAL
FIELD INTENSITY TABULATIONS**

**WZFN
DILWORTH, MN
EXHIBIT D**



Paradigm Associates, Inc.

DIRECTIONAL POLAR PLOT

WZFN
DILWORTH, MN
EXHIBIT E

WZFN-N

Summary of NIGHT Proof of Performance

No.	Radial (degree)	Average Ratio	Reference Inverse (mV/m)	*DA Inverse (mV/m)	Maximum Permitted Inverse (mV/m)	Percent
1.	45.0	0.687	293.0	201.4	213.8	94.2%
2.	106.0	0.020	295.0	5.9	10.5	56.5%
3.	140.0	0.147	300.0	44.1	44.7	98.7%
4.	174.0	0.035	295.0	10.4	10.5	99.3%
5.	235.0	0.715	295.0	211.0	213.8	98.7%
6.	295.0	0.987	300.0	296.2	317.2	93.4%
7.	320.0	0.943	300.0	282.8	321.3	88.0%
8.	355.0	1.038	300.0	311.3	311.9	99.8%

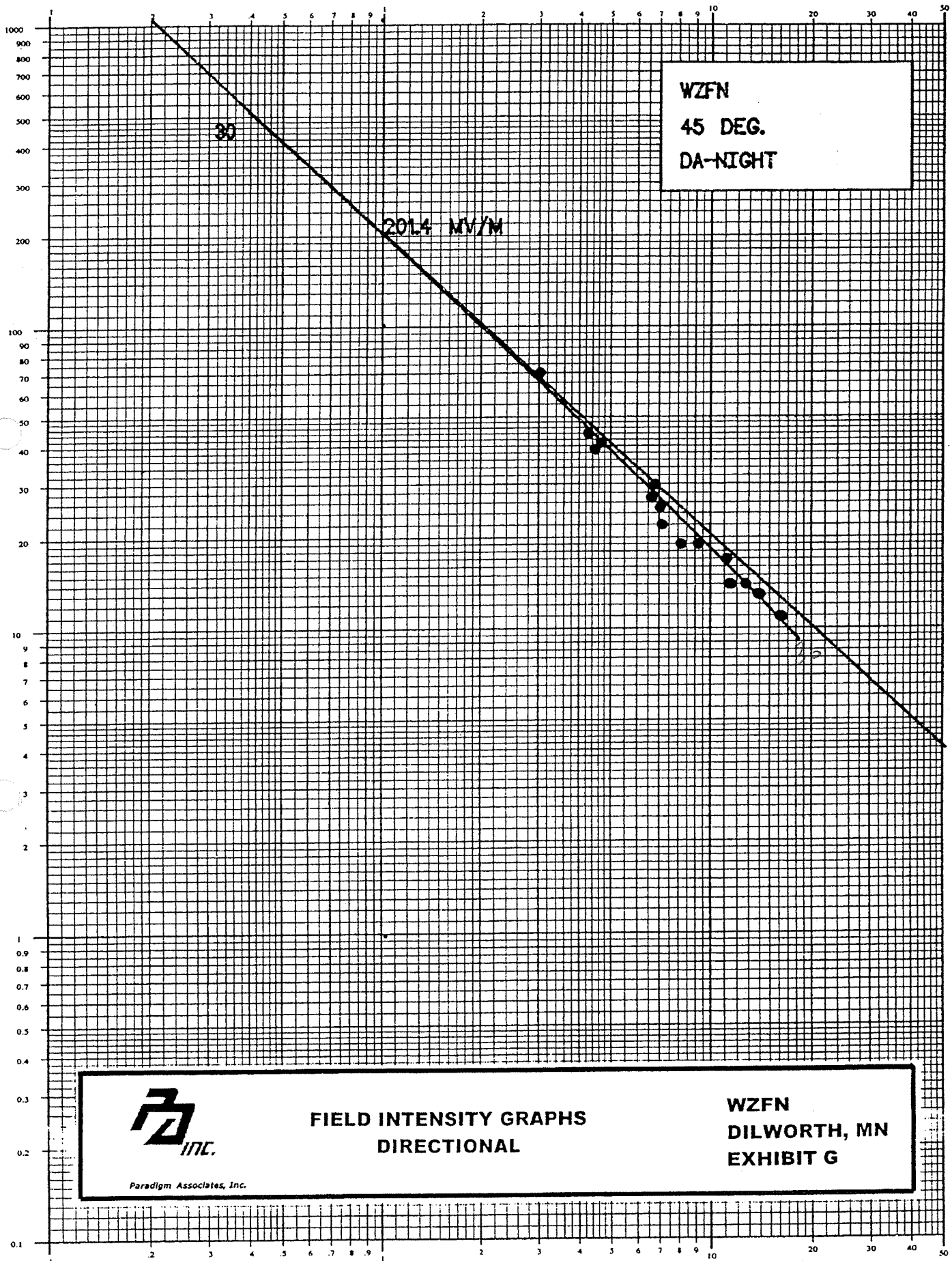
* Average Ratio X Reference Inverse = DA Inverse

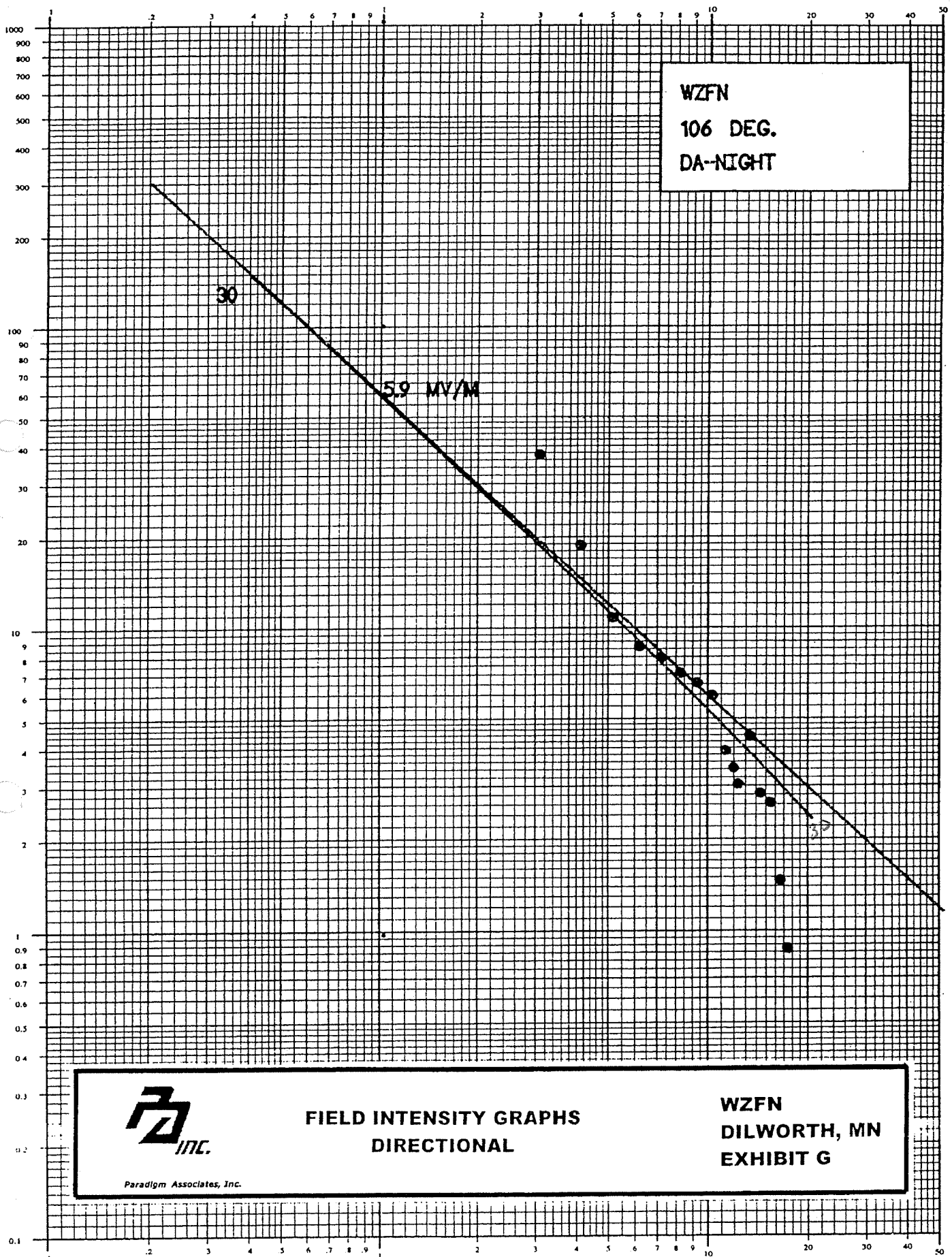
Measured RMS is 202.5 mV/m by use of sectoring

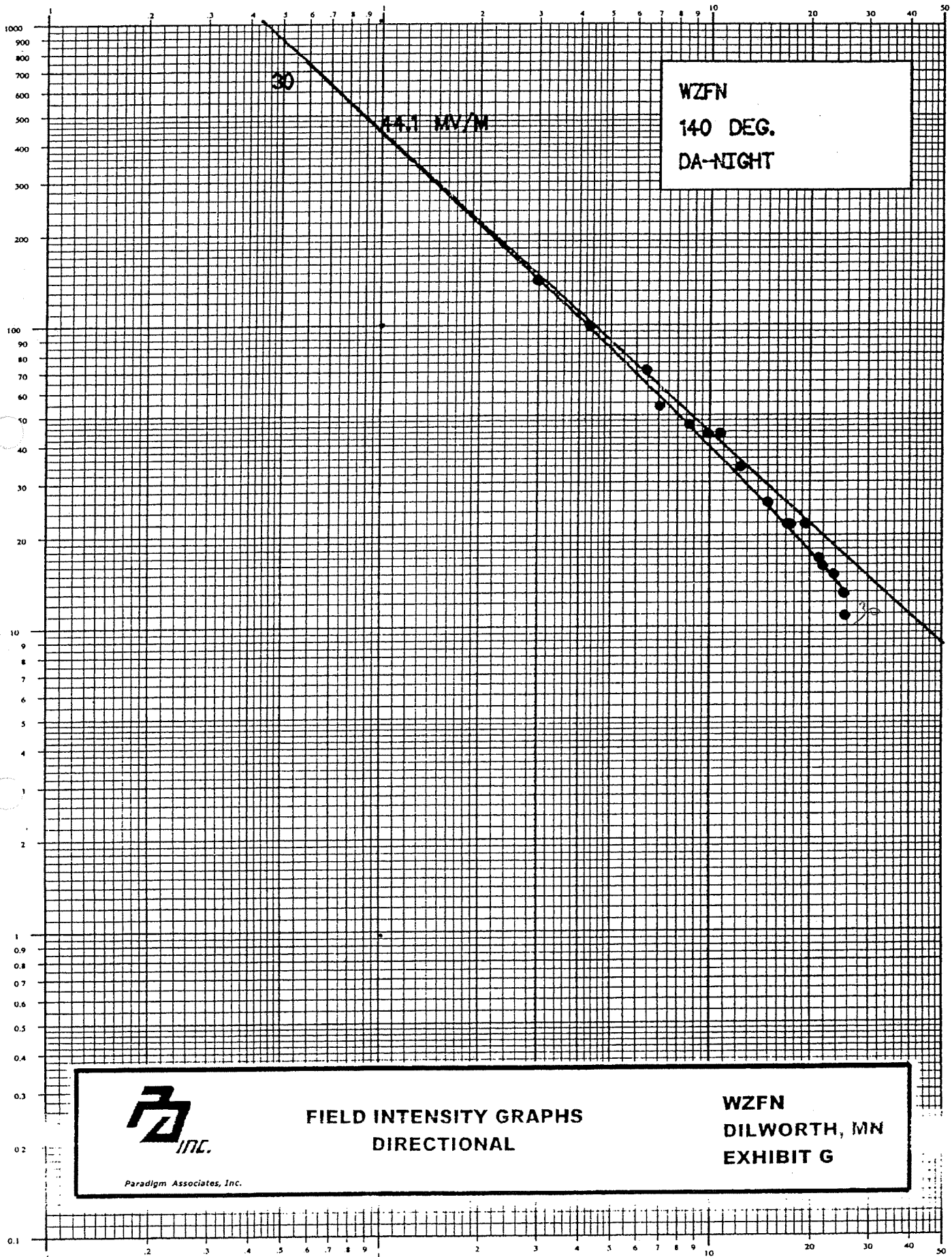


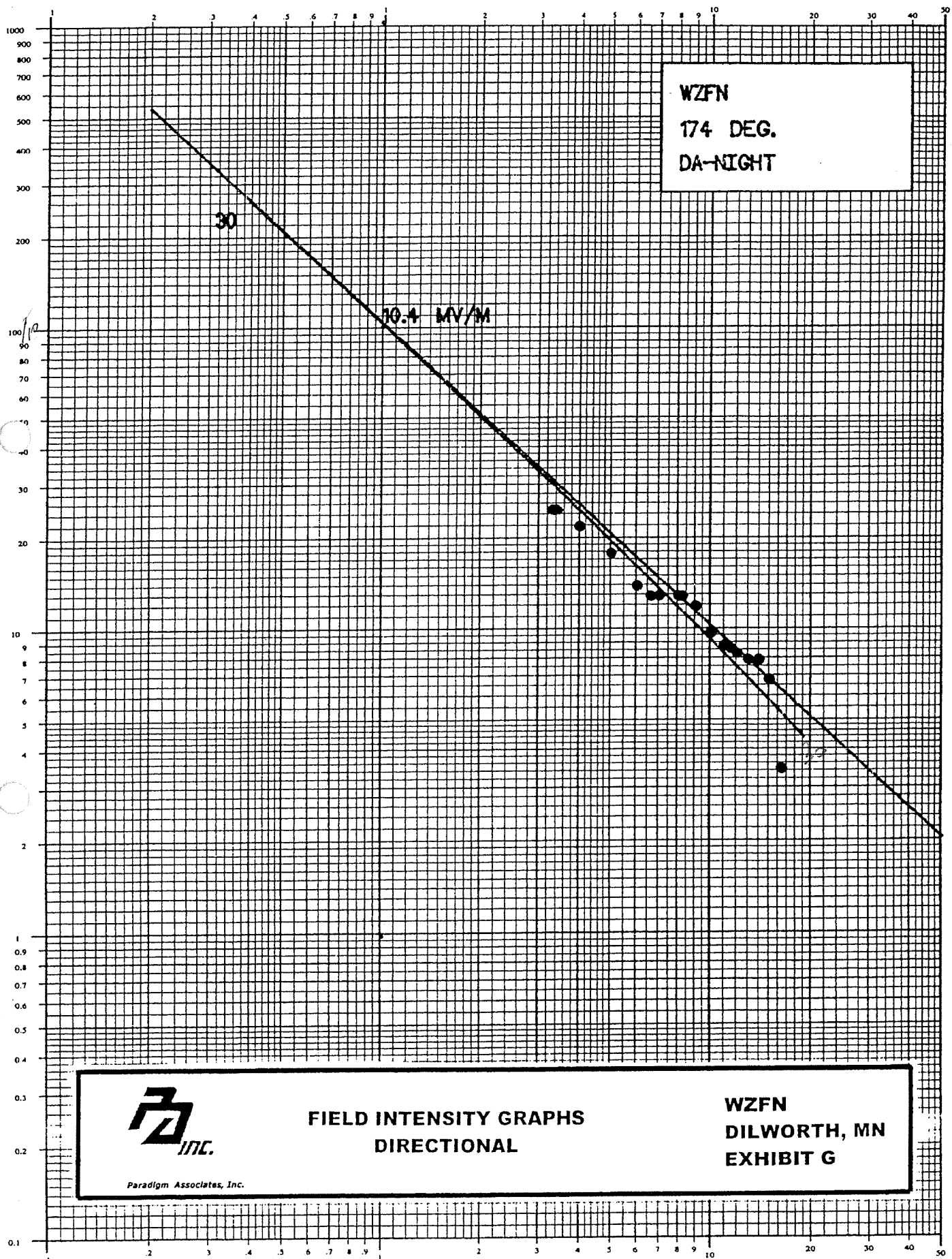
**INVERSE DISTANCE FIELDS
DIRECTIONAL**

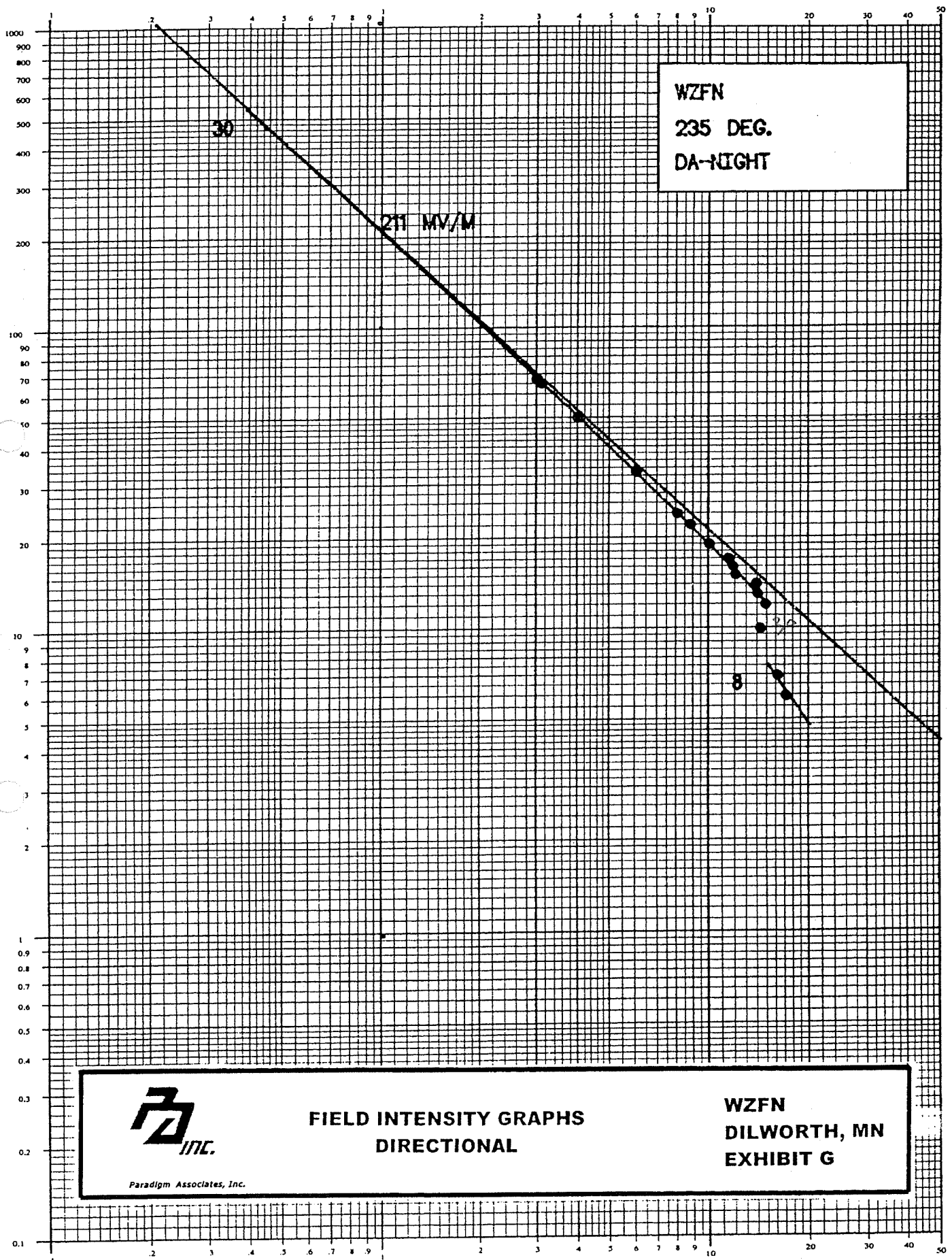
**WZFN
DILWORTH, MN
EXHIBIT F**

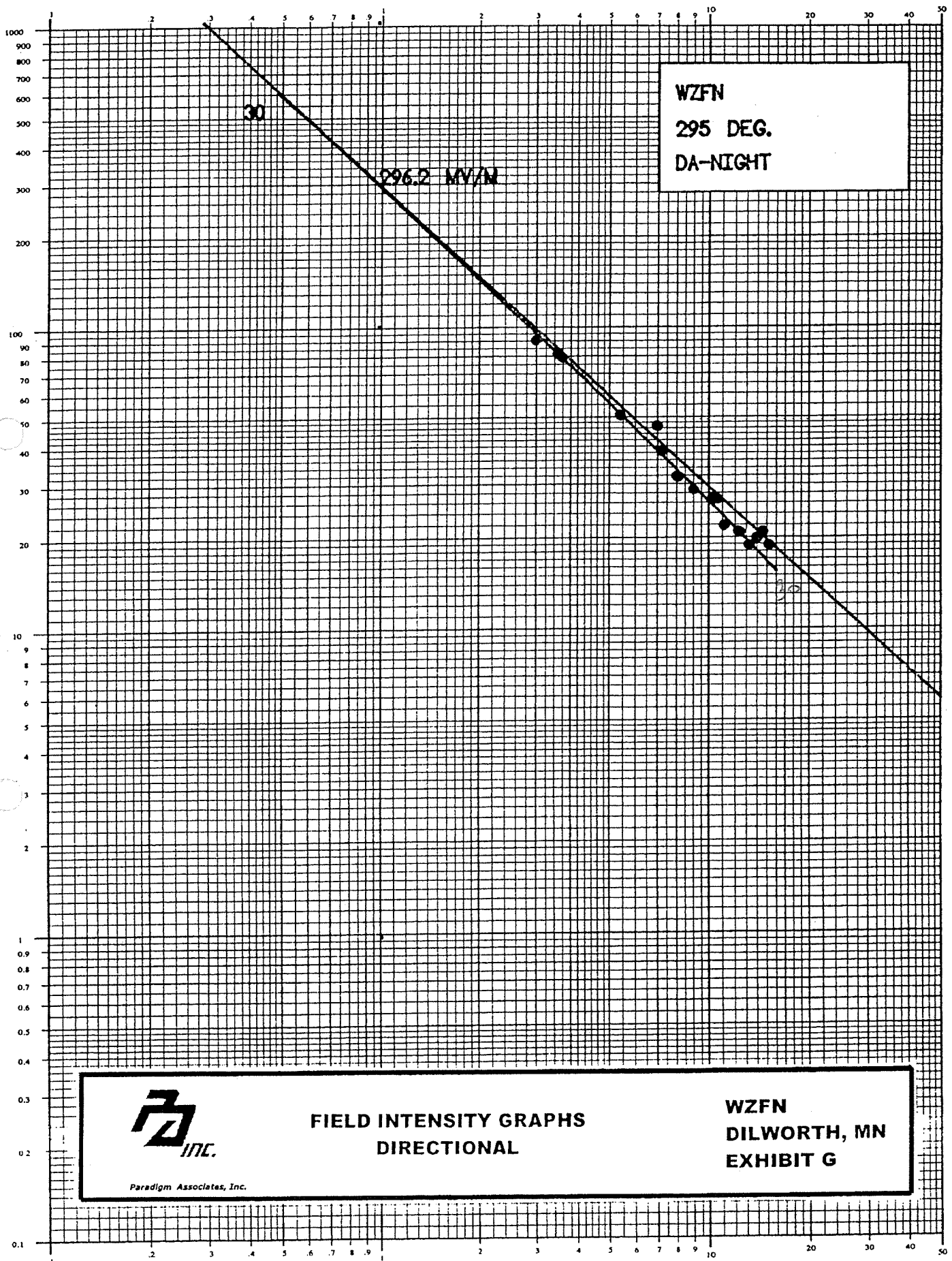


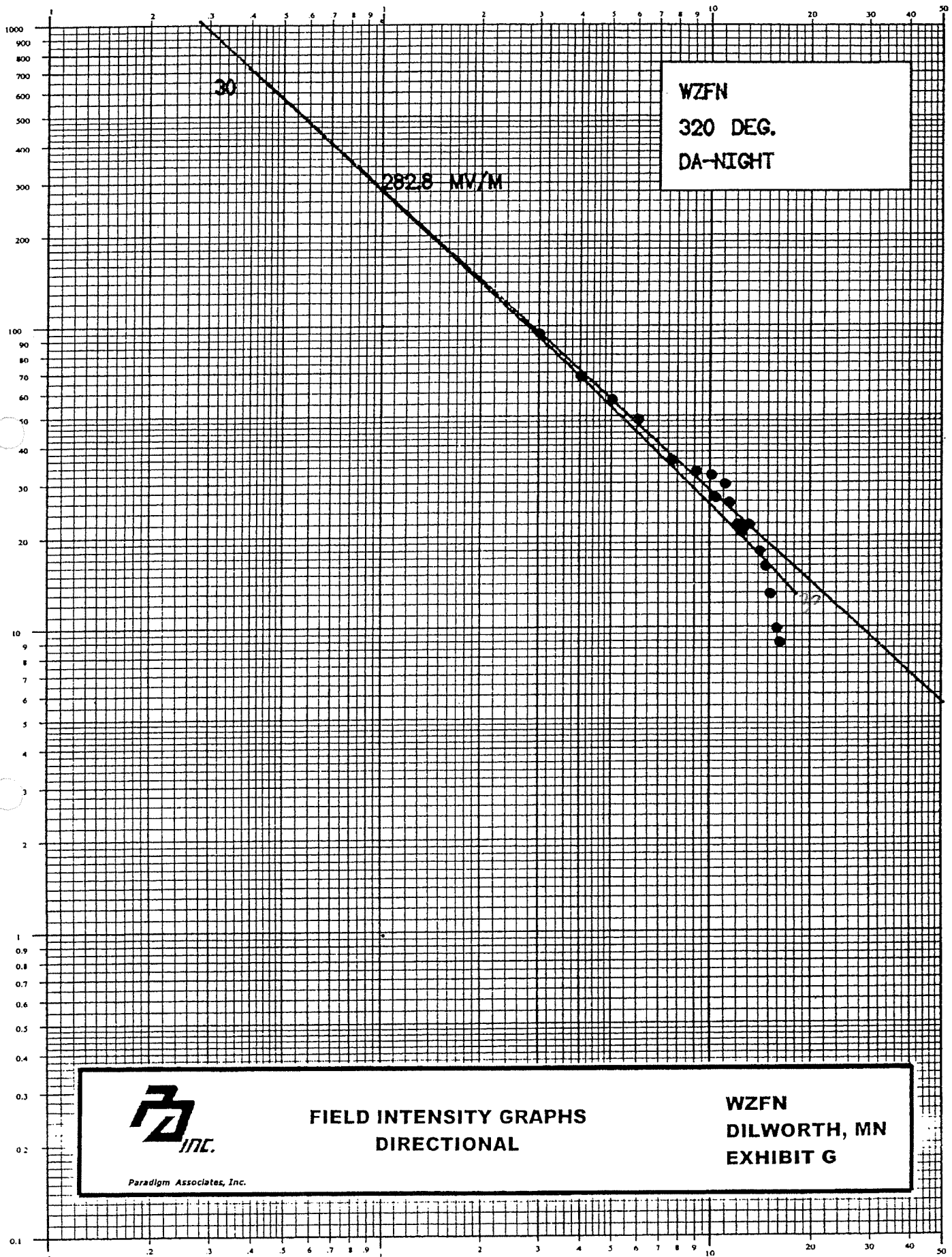


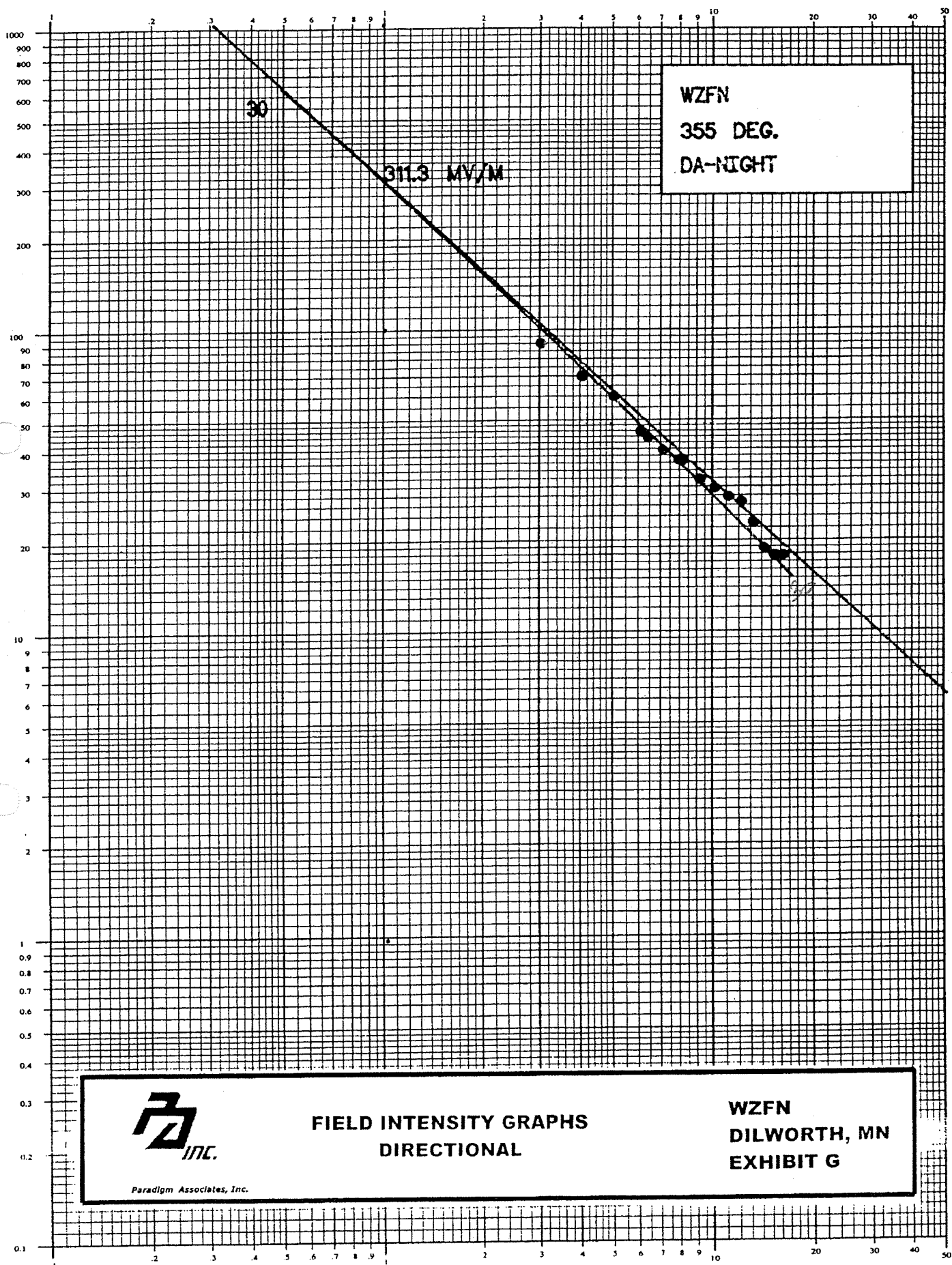


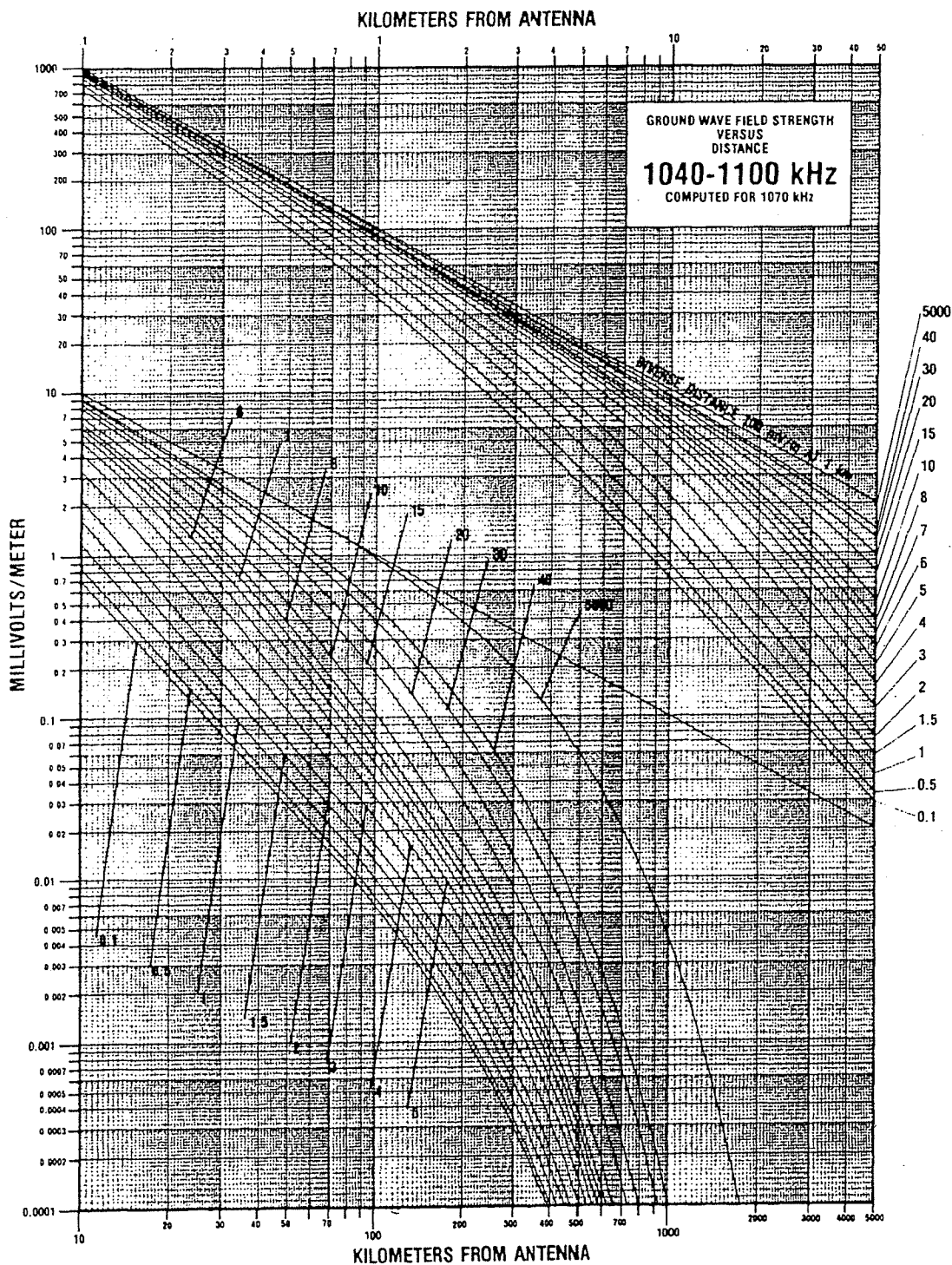












Paradigm Associates, Inc.

FIELD INTENSITY GRAPHS FAMILY OF CURVES

**WZFN
DILWORTH, N.C.
EXHIBIT G**

WZFN-N

YEAR: 2007

Night RADIAL 45.0

POINT	DISTANCE (km)	DA-E (mV/m)	TIME (mV/m)	DATE (CDT)	RATIO
22	3.00	102	70	1556	7-21 0.686
23	4.20	70	44	1058	7-20 0.627
24	4.40	60	39	1100	7-20 0.650
25	4.60	65	41	1102	7-20 0.633
26	6.50	40	27	1110	7-20 0.684
27	6.70	40	30	1747	7-19 0.759
28	6.90	37	25	1751	7-19 0.676
29	7.00	38	22	1115	7-20 0.577
30	8.00	31	19	1128	7-20 0.613
31	9.00	26	19	1739	7-19 0.731
32	11.00	22	17	1200	7-20 0.773
33	11.20	22	14	1734	7-19 0.648
34	11.30	21	14	1732	7-19 0.667
35	12.50	19	14	1213	7-20 0.757
36	13.60	18	13	1718	7-19 0.722
37	13.80	18	13	1715	7-19 0.730
38	15.80	16	11	1708	7-19 0.705
39	16.00	15	11	1711	7-19 0.733

Radial Average: 0.687

WZFN-N

YEAR: 2007

Night RADIAL 106.0

POINT	DISTANCE (km)	DA-E (mV/m)	TIME (mV/m)	DATE (CDT)	RATIO
20	3.00	94	3.8	1219	7-22 0.040
mp 21	4.00	67	1.9	1126	7-21 0.028
22	5.00	55	1.1	1135	7-21 0.020
23	6.00	43	0.88	1149	7-21 0.020
24	7.00	35	0.81	1200	7-21 0.023
25	8.00	31	0.72	1219	7-21 0.023
26	9.00	28	0.67	1224	7-21 0.024
27	10.00	24	0.61	1231	7-21 0.025
28	11.00	23	0.40	1242	7-21 0.018
29	11.60	22	0.35	1250	7-21 0.016
30	12.00	21	0.31	1252	7-21 0.015
31	13.00	21	0.45	1255	7-21 0.022
32	14.00	19	0.29	1300	7-21 0.016
33	15.00	17	0.27	1305	7-21 0.016
34	16.00	17	0.15	1315	7-21 0.009
35	16.90	17	0.090	1349	7-21 0.005

Radial Average: 0.020



Paradigm Associates, Inc.

DIRECTIONAL FIELD INTENSITY TABULATIONS

**WZFN
DILWORTH, MN
EXHIBIT H**

WZFN-N

YEAR: 2007
Night RADIAL 140.0

POINT	DISTANCE (km)	DA-E (mV/m)	TIME (mV/m)	DATE (CDT)	RATIO	
22	3.00	92	14	1548	7-21	0.152
23	4.30	65	9.9	1140	7-21	0.152
24	6.40	50	7.1	1157	7-21	0.142
25	7.00	38	5.4	1205	7-21	0.142
26	8.60	32	4.7	1211	7-21	0.147
27	9.80	27	4.4	1214	7-21	0.163
28	10.70	25	4.4	1216	7-21	0.176
29	12.30	23	3.4	1221	7-21	0.151
30	14.90	16	2.6	1226	7-21	0.165
32	17.00	15	2.2	1235	7-21	0.145
33	17.40	16	2.2	1232	7-21	0.141
34	19.30	13	2.2	1244	7-21	0.169
35	21.20	12	1.7	1257	7-21	0.142
36	21.80	12	1.6	1301	7-21	0.133
37	23.50	11	1.5	1305	7-21	0.138
38	25.20	10	1.3	1310	7-21	0.130
39	25.40	9.8	1.1	1313	7-21	0.112

Radial Average: 0.147

WZFN-N

YEAR: 2007
Night RADIAL 174.0

POINT	DISTANCE (km)	DA-E (mV/m)	TIME (mV/m)	DATE (CDT)	RATIO	
23	3.30	80	2.5	1144	7-19	0.031
mp 24	3.40	82	2.5	1147	7-19	0.030
25	4.00	65	2.2	1047	7-21	0.034
26	5.00	56	1.8	1159	7-19	0.032
27	6.00	46	1.4	1602	7-19	0.031
28	6.60	46	1.3	1206	7-19	0.028
29	7.00	40	1.3	1042	7-21	0.033
30	8.00	35	1.3	1038	7-21	0.038
31	8.20	36	1.3	1218	7-19	0.036
32	9.00	32	1.2	1034	7-21	0.038
33	10.00	27	0.98	1226	7-19	0.036
34	11.00	22	0.89	1230	7-19	0.040
35	11.50	24	0.87	1239	7-19	0.036
36	12.00	22	0.84	1241	7-19	0.039
37	13.00	22	0.80	1248	7-19	0.036
38	14.00	18	0.80	1253	7-19	0.044
40	15.00	14	0.69	1258	7-19	0.049
41	16.30	15	0.35	1617	7-19	0.023

Radial Average: 0.035



Paradigm Associates, Inc.

DIRECTIONAL FIELD INTENSITY TABULATIONS

**WZFN
DILWORTH, MN
EXHIBIT H**

WZFN-N

YEAR: 2007

Night RADIAL 235.0

POINT	DISTANCE (km)	DA-E (mV/m)	TIME (mV/m)	DATE (CDT)	RATIO
22	3.00	88	67	1732	7-21 0.761
23	3.10	98	65	1341	7-19 0.663
24	4.00	76	50	1149	7-19 0.658
25	6.00	48	33	1154	7-19 0.688
26	8.00	37	24	1200	7-19 0.649
27	8.80	37	22	1204	7-19 0.588
28	10.00	26	19	1209	7-19 0.745
29	11.40	21	17	1220	7-19 0.817
30	11.80	21	16	1223	7-19 0.780
31	12.00	21	15	1225	7-19 0.711
32	13.90	16	14	1231	7-19 0.903
33	14.00	18	13	1235	7-19 0.743
34	14.20	15	10	1238	7-19 0.690
35	14.80	16	12	1257	7-19 0.745
36	16.00	10	7.0	1318	7-19 0.673
37	17.00	9.5	6.0	1308	7-19 0.632

Radial Average: 0.715

WZFN-N

YEAR: 2007

Night RADIAL 295.0

POINT	DISTANCE (km)	DA-E (mV/m)	TIME (mV/m)	DATE (CDT)	RATIO
22	3.00	99	90	1034	7-22 0.909
23	3.50	94	81	1748	7-19 0.862
24	3.60	82	79	1743	7-19 0.963
25	5.40	47	51	1736	7-19 1.085
26	7.00	40	47	1732	7-19 1.190
27	7.20	38	39	1728	7-19 1.026
28	8.00	40	32	1723	7-19 0.800
29	8.10	36	32	1720	7-19 0.889
30	9.00	31	29	1714	7-19 0.935
31	10.30	29	27	1708	7-19 0.934
32	10.60	27	27	1703	7-19 0.985
33	11.10	24	22	1658	7-19 0.936
34	12.30	22	21	1653	7-19 0.938
35	12.40	21	21	1650	7-19 1.024
36	13.20	22	19	1644	7-19 0.884
37	14.00	18	20	1633	7-19 1.117
38	14.60	21	21	1628	7-19 1.024
39	15.20	15	19	1624	7-19 1.267

Radial Average: 0.987



Paradigm Associates, Inc.

DIRECTIONAL FIELD INTENSITY TABULATIONS

**WZFN
DILWORTH, MN
EXHIBIT H**

WZFN-N

YEAR: 2007

Night RADIAL 320.0

POINT	DISTANCE (km)	DA-E (mV/m)	TIME (mV/m)	DATE (CDT)	RATIO	
22	3.00	90	94	1035	7-22	1.044
23	4.00	70	68	1604	7-20	0.971
24	5.00	56	57	1600	7-20	1.018
25	6.00	46	49	1550	7-20	1.065
26	7.60	38	36	1540	7-20	0.947
27	9.00	34	33	1536	7-20	0.971
28	10.00	30	32	1521	7-20	1.067
29	10.30	27	27	1518	7-20	1.000
30	11.00	26	30	1513	7-20	1.154
31	11.30	26	26	1506	7-20	1.000
32	12.00	25	22	1502	7-20	0.884
33	12.40	25	21	1449	7-20	0.837
34	13.00	22	22	1436	7-20	0.987
35	14.00	19	18	1427	7-20	0.947
36	14.50	16	16	1424	7-20	1.032
37	15.00	17	13	1404	7-20	0.765
38	15.70	16	10	1416	7-20	0.637
39	16.00	14	9.0	1352	7-20	0.643

Radial Average: 0.943

WZFN-N

YEAR: 2007

Night RADIAL 355.0

POINT	DISTANCE (km)	DA-E (mV/m)	TIME (mV/m)	DATE (CDT)	RATIO	
20	3.00	90	90	1137	7-21	1.000
21	4.00	70	70	1150	7-21	1.000
22	5.00	58	60	1200	7-21	1.034
23	6.00	44	46	1211	7-21	1.045
24	6.30	44	44	1208	7-21	1.000
25	7.00	43	40	1221	7-21	0.930
26	7.80	37	37	1227	7-21	1.014
27	8.00	35	37	1230	7-21	1.057
28	9.00	28	32	1236	7-21	1.143
29	10.00	27	30	1245	7-21	1.132
30	11.00	26	28	1252	7-21	1.077
31	12.00	24	27	1258	7-21	1.125
32	13.00	23	23	1312	7-21	1.022
33	14.00	18	19	1317	7-21	1.056
34	15.00	17	18	1333	7-21	1.047
35	15.20	20	18	1328	7-21	0.909
36	16.00	17	18	1339	7-21	1.047

Radial Average: 1.038



Paradigm Associates, Inc.

DIRECTIONAL FIELD INTENSITY TABULATIONS

**WZFN
DILWORTH, MN
EXHIBIT H**



Paradigm Associates, Inc.

MONITORING POINT LOCATIONS

**WZFN
DILWORTH, MN
EXHIBIT I**

WZFN Site



90th Avenue South

County Road 11

110th Avenue South

MP2

MP1

County Road 52

South Branch Buffalo River

South Branch Buffalo River

South Branch Buffalo River

Branch Buffalo River



Paradigm Associates, Inc.

MONITORING POINT LOCATIONS

WZFN
DILWORTH, MN
EXHIBIT I



MONITOR POINT NUMBER 1 106° RADIAL

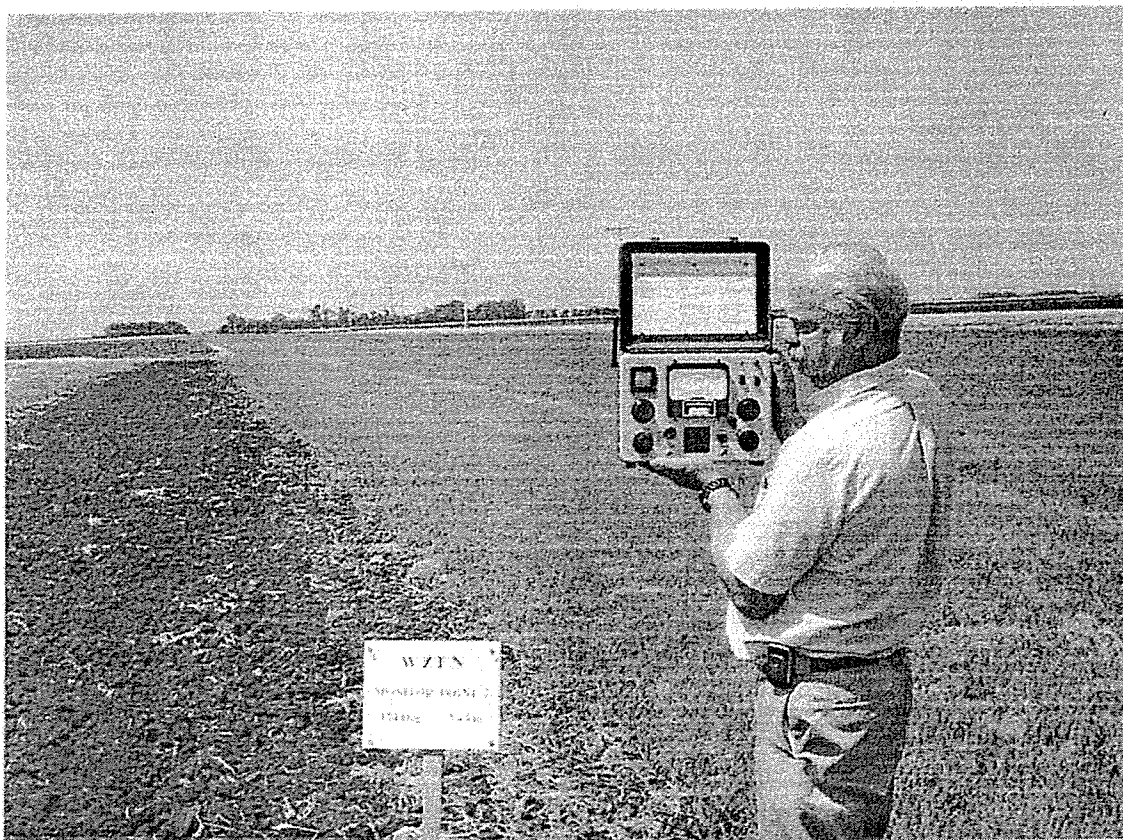
From the WZFN transmitter site, turn left (east) on 90th Avenue South and proceed 3.2 kilometers (2 miles) to Country Road 52. Turn right (southeast) onto Country Road 52 and proceed 1.1 kilometers (0.7 miles). The monitor point is located on the left (east) side of the road, 9 meters (30 feet) from the center stripe. This point is measurement location number 21. This point is 4.0 kilometers (2.5 miles) from the center of the array. The measured field intensity was 1.9 mV/m



Paradigm Associates, Inc.

MONITORING POINT LOCATIONS

WZFN
DILWORTH, MN
EXHIBIT I



MONITOR POINT NUMBER 2 174° RADIAL

From the WZFN transmitter site, turn left (east) on 90th Avenue South and proceed 1.6 kilometers (1 mile) to County Road 11. Turn right (south) on County Road 11 and proceed 3.2 kilometers (2 miles) to 110th Avenue South. Turn right (west) on 110th Avenue South and proceed 1.1 kilometers (0.7 miles). The monitor point is located on the left (south) side of the road, 15.2 meters (50 feet) from the center stripe. This point is measurement location number 24. This point is 3.4 kilometers (2.1 miles) from the center of the array. The measured field intensity was 2.5 mV/m.