the horizon, a modification of the Van der Pol-Bremmer method for computing field intensity in the far diffraction region is used. For longer paths, extending well beyond the radio horizon, predictions are based on forward scatter theory. When some doubt exists as to which propagation mechanism predominates, transmission loss is calculated by two methods and the results are combined.

Correlation between a terrain profile and the predicted field strength along each path can be made by comparing each exhibit in E-6 with its counterpart in exhibit E-7. The dashed line in each exhibit E-7 depicts the free-space field strength based solely on antenna vertical radiation characteristics, receiving antenna elevation and distance from the antenna.

VIII. EMERGENCY POWER GENERATORS

The applicant herein proposes to install and maintain emergency backup power generators at both the studio and transmitter locations so broadcast service will not be interrupted during utility power outages or local emergency conditions.

IX. PROTECTION TO FCC MONITORING STATIONS

The proposed site is located 438.1 kilometers (272.3 miles) from the Livermore, California, FCC monitoring station in a direction of 134.3 degrees true. The monitoring station lies on a bearing of 316.4 degrees true from the site.

Because of this great distance, this proposal does not necessitate notification to the Chief of Field Operations Bureau, FCC, of the proposed operation in accordance with the requirements of §73.1030(c).

X. MINIMUM SPACING REQUIREMENTS

Table One shows a listing of the nearest licensed facilities and allocations currently on file along with the required distance separations for pertinent channels. For clarity, facilities which are greater than 300 kilometers beyond the minimum required separations are not shown.

As required by §73.213(c)(1) all minimum distance separation requirements have been met. Additionally, a check of all existing and proposed FM operations 53 and 54 channels (10.6 and 10.8 Megahertz) removed from channel 228 were examined and it was found that the proposed operation is in full compliance with the separation requirements.

All distances were computed by the methods outlined in §73.208(c) of the Commission's Rules and were rounded to the nearest kilometer in accordance with §73.208(c)(8).

Section 73.213 applies to this application because the allotment of channel 228A to Rosamond, California, was made by an order granting a petition for rule making to amend the Table of FM Allotments which was filed prior to October 2, 1989.

TABLE ONE
ALLOCATION-PERTINENT STATIONS
AND SPACING REQUIREMENTS OF §73.213(c)(1)

CALL LETTERS	CHANNEL /CLASS	NORTH LATITUDE	WEST LONGITUDE	ACTUAL DISTANCE	REQUIRED DISTANCE
NEW	225-A	34° 28' 15"	119° 40' 33"	134	27
KFSO	225-B	36° 38' 10"	118° 56' 33"	199	69
KODJ	226-B	34° 13' 57"	118° 04' 18"	79	69
KEYV	226-C	35° 58' 02"	115° 30' 06"	281	94
NEW	227-A	34° 16' 36"	116° 51' 31"	152	64
KZOZ	227-B	35° 21' 38"	120° 39' 21"	219	105
KRZEFM	228-A	34° 10' 35"	117° 34' 27"	107	105
NEW	228-C	35° 02' 09"	114° 22' 12"	360	222
KDB	229-B	34° 27' 58"	119° 40' 37"	134	105
KZLAFM	230-B	34° 13' 57"	118° 04' 18"	79	69
KERNFM	231-B	35° 26' 20"	118° 44' 23"	69	69
KXTZ	231-C	36° 00' 26"	115° 00' 24"	324	94
KBOXFM	281-B1	34° 43' 50"	120° 26' 01"	195	11
KQKX	281-B	36° 37' 57"	118° 56' 15"	198	14
KBIG	282-B	34° 13' 36"	118° 03' 59"	80	14
KJUL	282-C	35° 58' 02"	115° 30' 06"	281	28

XI. DISTANCE TO BLANKETING CONTOUR

By use of the formulas outlined in §73.318(a), the distance to the 115 dBμ (562 mV/m) blanketing contour is computed to be 0.682 kilometers (0.424 miles).

The aforementioned Census database was used to determine the population residing within the blanketing contour. Down to the smallest census levels, there are no census records with centroid geographic coordinates within the database for the area encompassed by the blanketing contour. To approximate the population within the contour, the population residing within the proposed 70 dBμ contour was evaluated at 7,449 persons. Assuming uniform distribution of these residents within the 854.4 square kilometers encompassed by the 70 dBμ contour, the blanketed population is determined to be 5.

In compliance with §73.318, the applicant will accept full responsibility for resolving all reasonable complaints of new blanketing interference at no cost to the complainant, except those

resulting from malfunctioning or mistuned receivers, improperly installed antenna systems, high gain antennas, antenna booster amplifiers, mobile receivers, and non-RF devices such as tape recorders, phonographs and hi-fi amplifiers. In these exception cases, the applicant will provide technical information on possible remedies for blanketing interference.

XII. CONCLUSION

It is believed that the facility proposed herein, is in compliance with all applicable F.C.C. requirements and International Agreements.

It is further believed that all methods employed in making the determinations contained within these Engineering Exhibits were in accordance with applicable F.C.C. Rules and Regulations and Good Engineering Practice.

Lawrence L. Morton, P.E.
Consulting Telecommunications Engineer
February 18, 1991

AFFIDAVIT

State of California)
) **ss:**
County of Orange)

Lawrence L. Morton, being first duly sworn upon oath, deposes and says:

- That he is a qualified engineer,
- That he is a Registered Professional Engineer in the State of California,
- That he is a member of the Association of Federal Communications Consulting Engineers,
- That his qualifications are a matter of record with the Federal Communications Commission,
- That he has prepared many broadcast applications and engineering exhibits which have been filed with and granted by the Federal Communications Commission,
- That he has carried out such engineering work and that the results thereof are attached hereto and form part of this affidavit, and
- That the foregoing statement and the report regarding the aforementioned engineering work are true and correct of his own knowledge.

Date: February 18, 1991

Lawrence L. Morton, P.E.

On February 18, 1991, before me, Nancy A. Chase, a Notary Public, in and for the State of California, personally appeared Lawrence L. Morton known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

My Commission expires 11/30/94

Nancy A. Chase
Notary Public

OFFICIAL SEAL
NANCY A. CHASE
Notary Public California
ORANGE COUNTY
My Comm. Expires Nov. 30, 199

DO NOT REMOVE CARBONS

EXHIBIT E-2

Form Approved OMB No 2120-0001

U.S. Department of Transportation
Federal Aviation Administration

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

Aeronautical Study Number

1. Nature of Proposal

A. Type
- [X] New Construction
- [ ] Alteration

B. Class
- [X] Permanent
- [ ] Temporary (Duration _____ months)

C. Work Schedule Dates
Beginning Upon FCC appr
End 90 days Late

2. Complete Description of Structure

A. Include effective radiated power and assigned frequency of all existing, proposed or modified AM, FM, or TV broadcast stations utilizing this structure.

B. Include size and configuration of power transmission lines and their supporting towers in the vicinity of FAA facilities and public airports.

C. Include information showing site orientation, dimensions, and construction materials of the proposed structure.

FM Channel 228A, 93.5 MHz.
ERP = 3.0 kW, circularly-polarized
ARC = 3383.2 feet AMSL
548.2 feet AG

(if more space is required, continue on a separate sheet.)

3A. Name and address of individual, company, corporation, etc. proposing the construction or alteration. (Number, Street, City, State and Zip Code)

(805) 945-4413
area code Telephone Number

Ms. Diane K. Hitt
44830 North Elm Avenue
Lancaster, CA 93534

B. Name, address and telephone number of proponent's representative if different than 3 above.

Lawrence L. Morton, P.E.
1231 Mesa Oaks Lane
Mesa Oaks, CA 93436-2309
(805) 733-4275

4. Location of Structure

A. Coordinates (To nearest second)	B. Nearest City or Town, and State	C. Name of nearest airport, heliport, flightpark, or seaplane base	5. Height and Elevation (Complete to the nearest foot)	
	Willow Springs	Lloyd's Landing	A. Elevation of site above mean sea level	2835
34° 55' 11" Latitude	(1) Distance to 4B 3.1 Miles	(1) Distance from structure to nearest point of nearest runway 1.34 miles	B. Height of Structure including all appurtenances and lighting (if any) above ground, or water if so situated	557
118° 19' 01" Longitude	(2) Direction to 4B SSE	(2) Direction from structure to airport 137.0° TN	C. Overall height above mean sea level (A + B)	3392

D. Description of location of site with respect to highways, streets, airports, prominent terrain features, existing structures, etc. Attach a U.S. Geological Survey quadrangle map or equivalent showing the relationship of construction site to nearest airport(s). (if more space is required, continue on a separate sheet of paper and attach to this notice.)

Site is 3.1 miles NNW of Willow Springs, California, in Kern County

Notice is required by Part 77 of the Federal Aviation Regulations (14 C.F.R. Part 77) pursuant to Section 1101 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1101). Persons who knowingly and willingly violate the Notice requirements of Part 77 are subject to a fine (criminal penalty) of not more than $500 for the first offense and not more than $2,000 for subsequent offenses, pursuant to Section 902(a) of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1472(a)).

I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to obstruction mark and/or light the structure in accordance with established marking & lighting standards if necessary.

Date	Typed Name/Title of Person Filing Notice	Signature
18-FEB-91	Lawrence L. Morton, P.E.	

FAA Form 7460-1 (8-85)

DO NOT REMOVE CARBONS

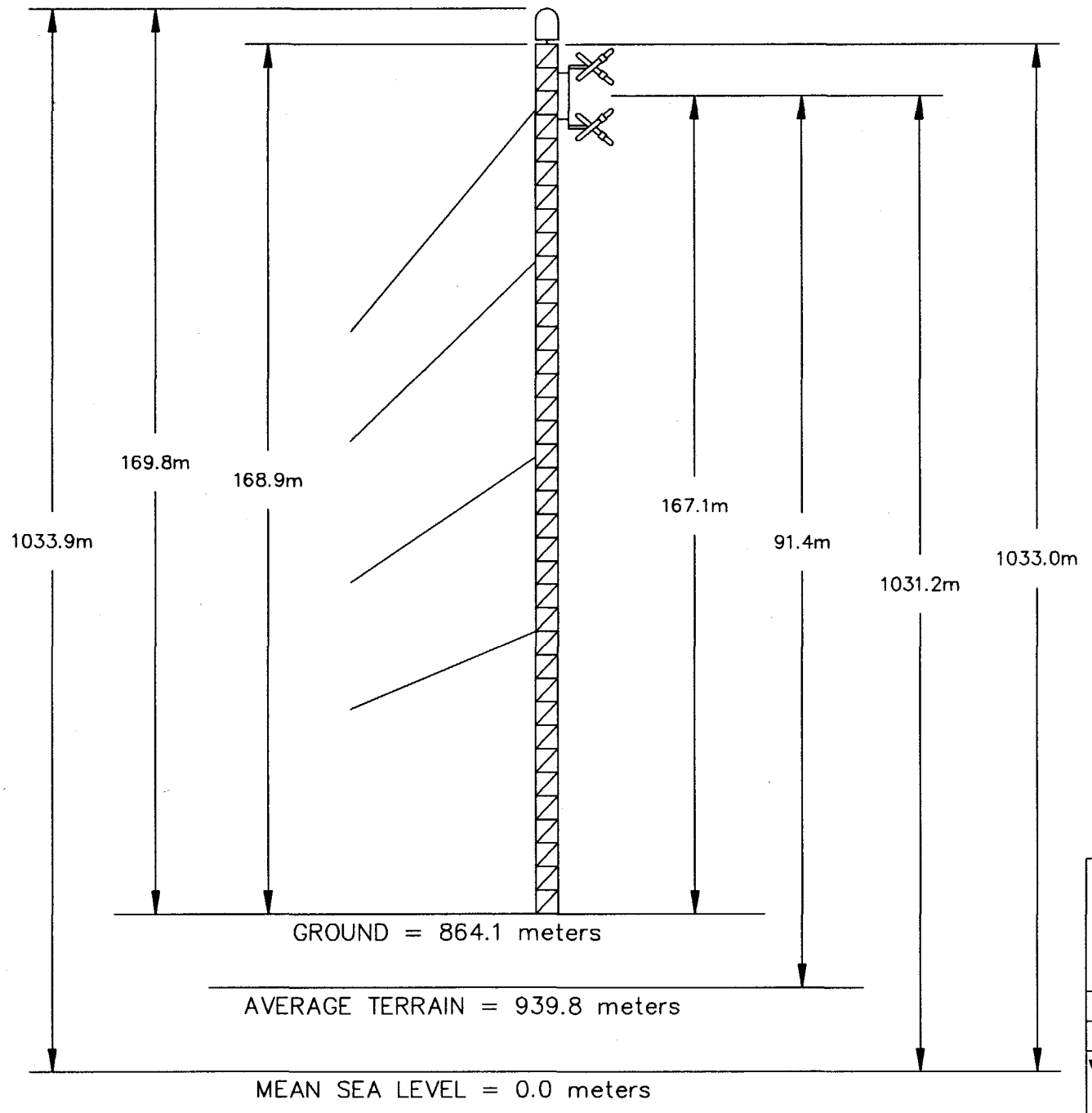
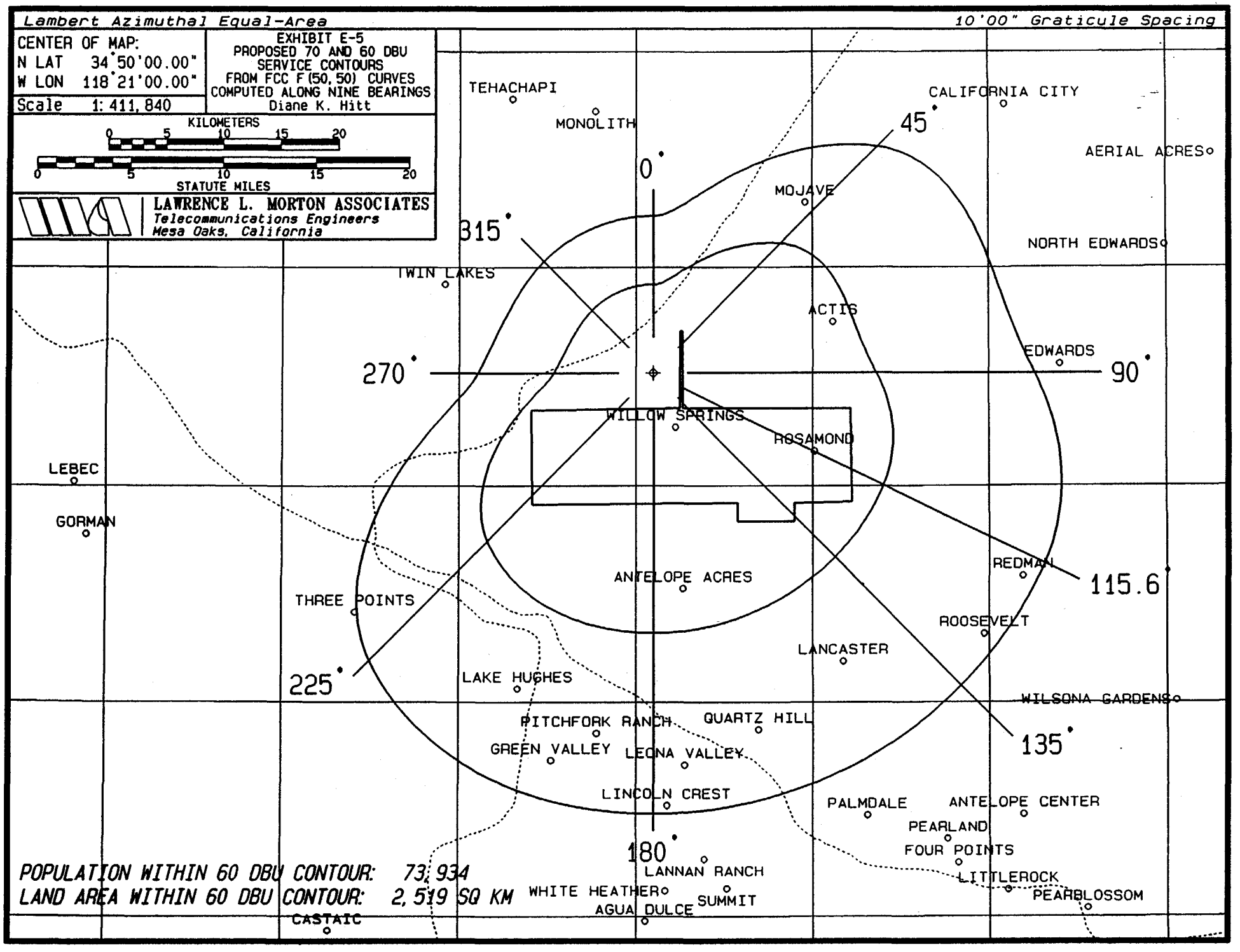


EXHIBIT E-3
VERTICAL PLAN SKETCH

PROJECT:	DIANE K. HITT		DATE: 18-FEB-91
SCALE: None	REVISION: A		SHEET: 1 of 1

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California


Lambert Azimuthal Equal-Area
10'00" Graticule Spacing
CENTER OF MAP:
N LAT 34°50'00.00"
W LON 118°21'00.00"
Scale 1:411,840
EXHIBIT E-5
PROPOSED 70 AND 60 DBU
SERVICE CONTOURS
FROM FCC F(50,50) CURVES
COMPUTED ALONG NINE BEARINGS
Diane K. Hitt
KILOMETERS
0 5 10 15 20
0 5 10 15 20
STATUTE MILES
LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California
TEHACHAPI
MONOLITH
CALIFORNIA CITY
AERIAL ACRES
MOJAVE
NORTH EDWARDS
TWIN LAKES
ACTIS
EDWARDS
WILLOW SPRINGS
ROSAMOND
LEBEC
GORMAN
ANTELOPE ACRES
REDMAN
THREE POINTS
ROOSEVELT
LANCASTER
LAKE HUGHES
WILSONA GARDENS
PITCHFORK RANCH
QUARTZ HILL
GREEN VALLEY
LEONA VALLEY
LINCOLN CREST
PALMDALE
ANTELOPE CENTER
PEARLAND
FOUR POINTS
LANNAN RANCH
LITTLEROCK
WHITE HEATHER
SUMMIT
PEARBLOSSOM
AGUA DULCE
CASTAIC
0°
45°
90°
115.6°
135°
180°
225°
270°
315°
POPULATION WITHIN 60 DBU CONTOUR: 73,934
LAND AREA WITHIN 60 DBU CONTOUR: 2,519 SQ KM

Average Radial Elevation = 1055.76 Meters AMSL

Antenna Radiation Center = 1031.20 Meters AMSL

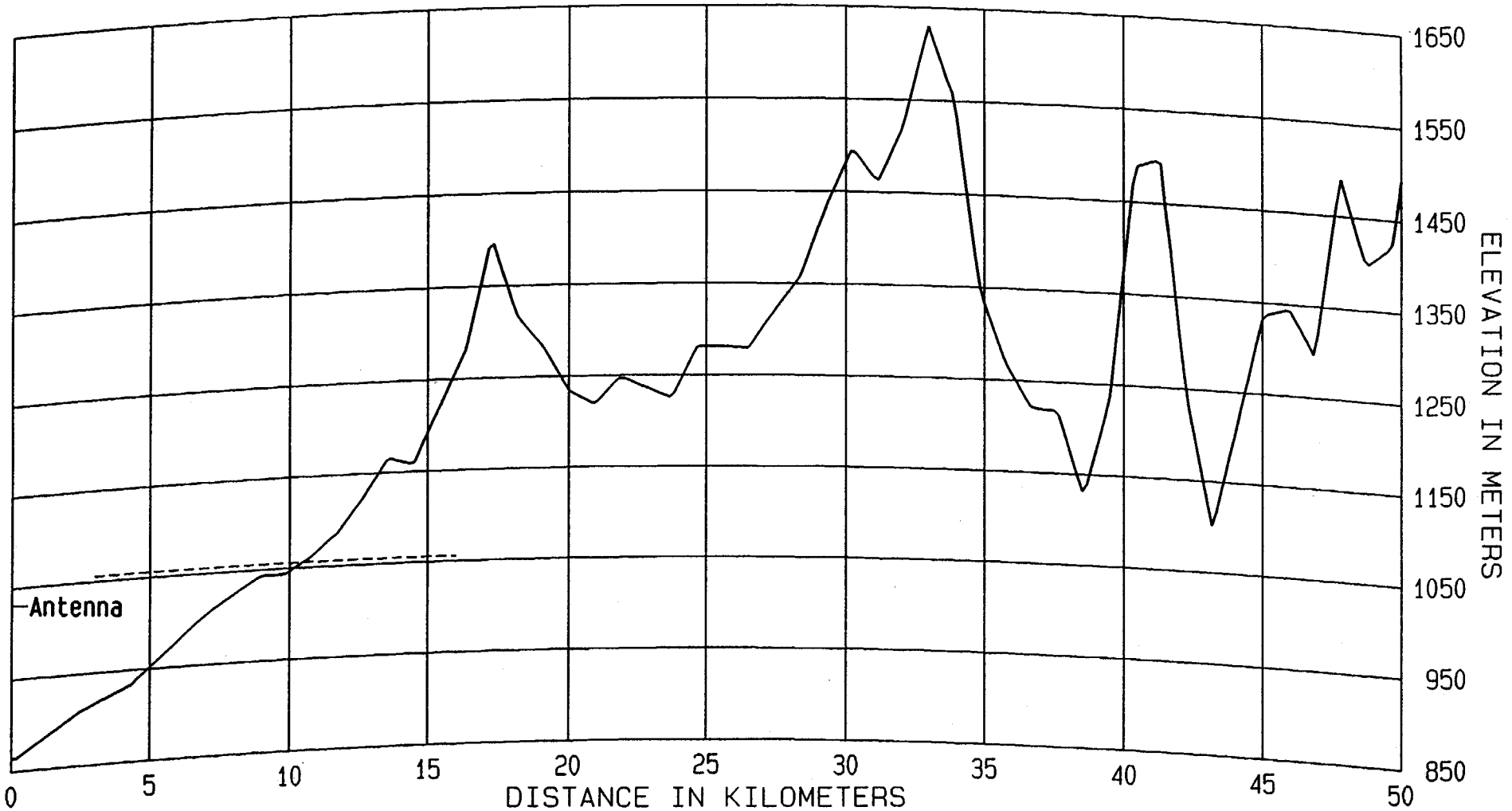


EXHIBIT E-6A

N 0.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 899.40 Meters AMSL

Antenna Radiation Center = 1031.20 Meters AMSL

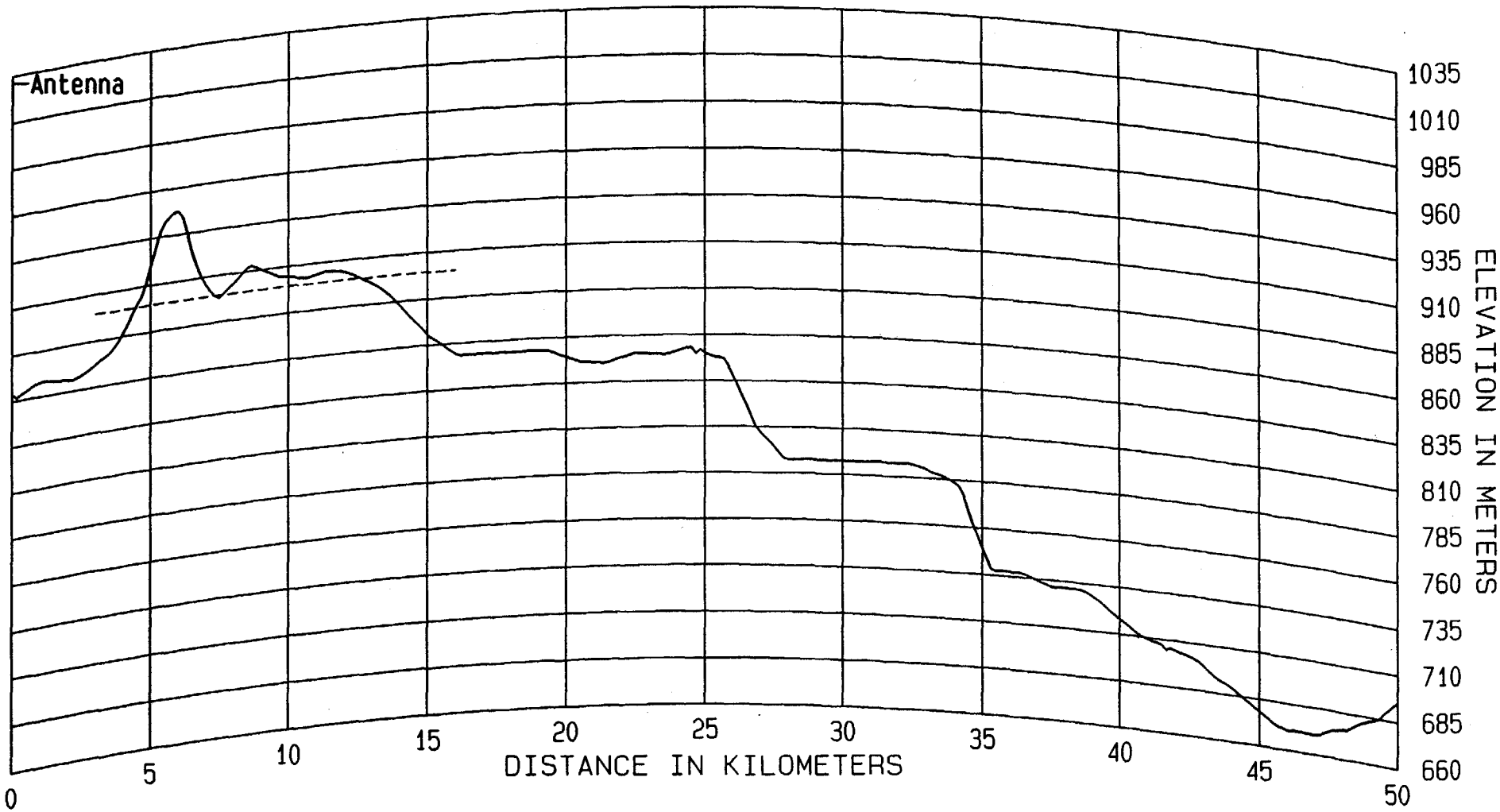


EXHIBIT E-6B

N 45.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 836.49 Meters AMSL
Antenna Radiation Center = 1031.20 Meters AMSL

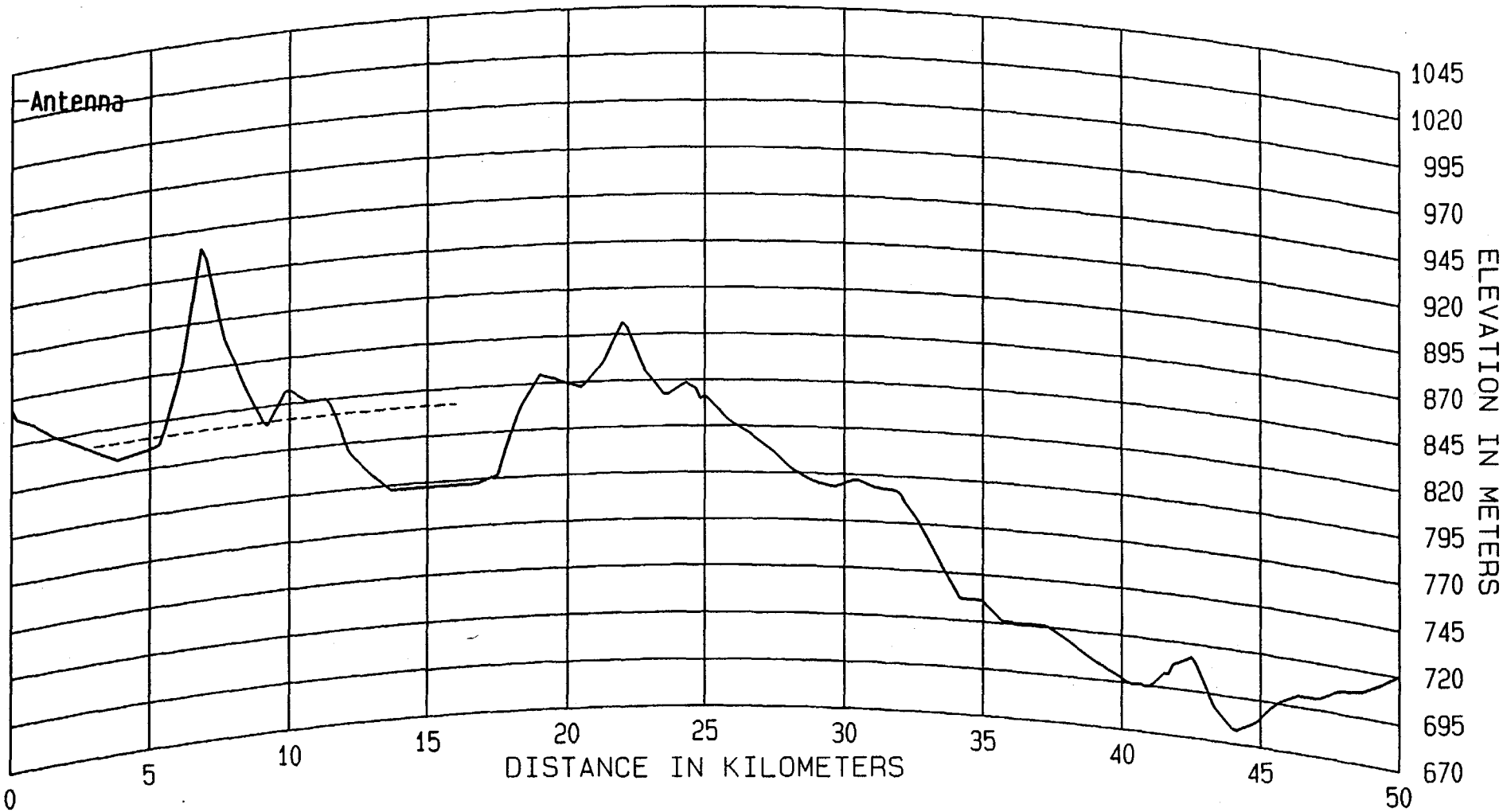


EXHIBIT E-6C

N 90.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 772.89 Meters AMSL
Antenna Radiation Center = 1031.20 Meters AMSL

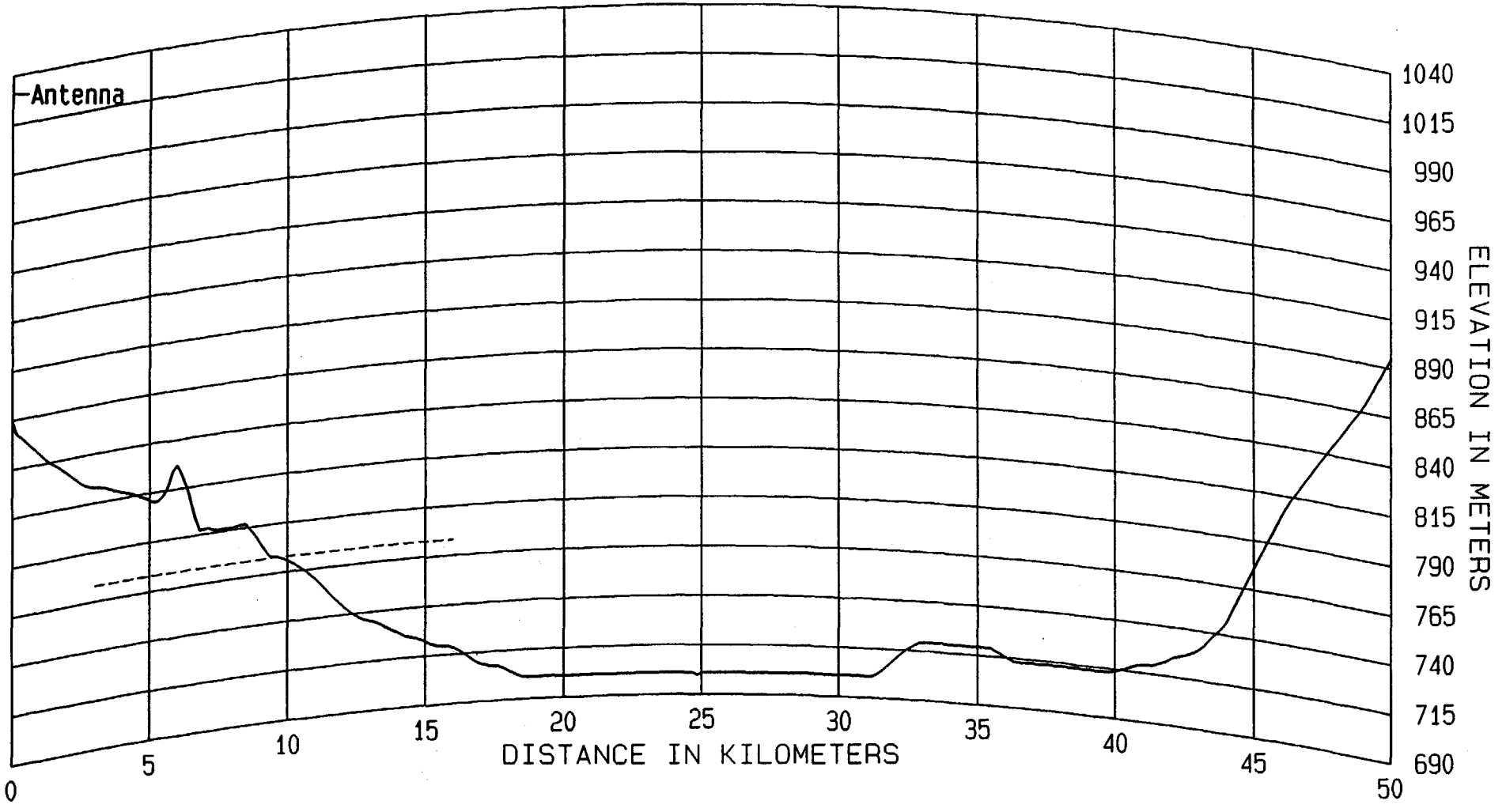


EXHIBIT E-6D

N 115.6° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 768.35 Meters AMSL
Antenna Radiation Center = 1031.20 Meters AMSL

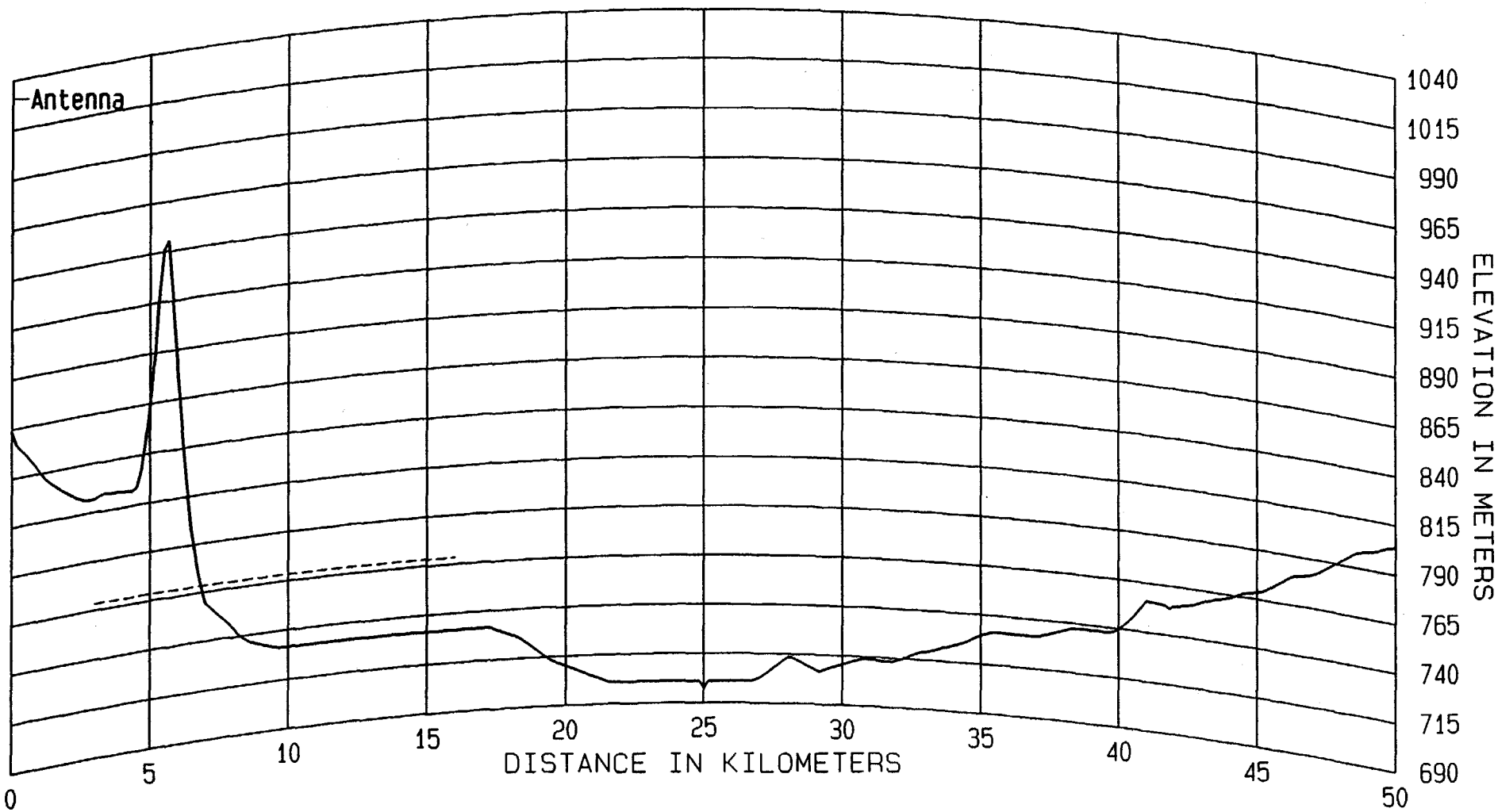


EXHIBIT E-6E

N 135.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 767.14 Meters AMSL
Antenna Radiation Center = 1031.20 Meters AMSL

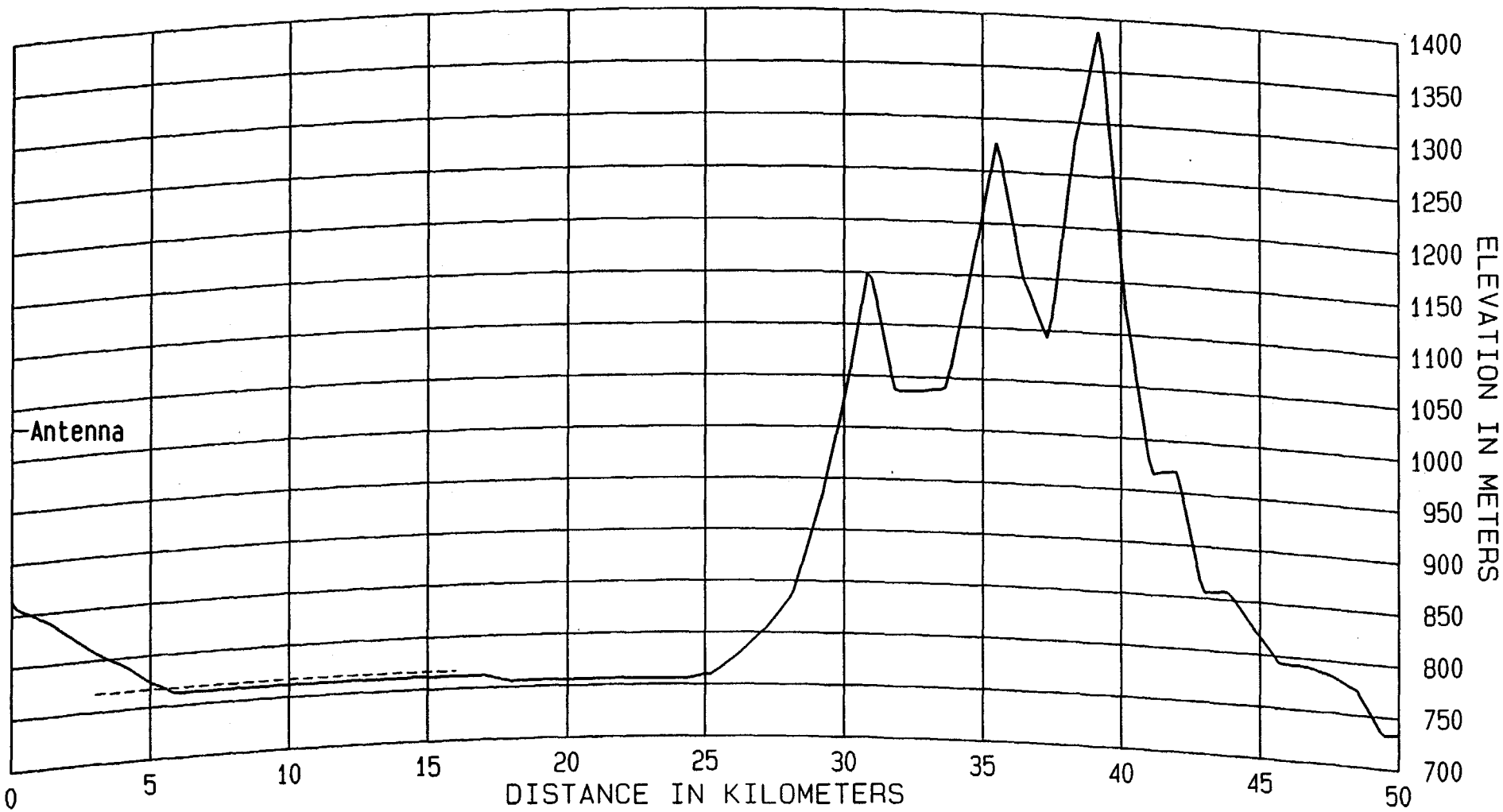


EXHIBIT E-6F

N 180.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 814.07 Meters AMSL
Antenna Radiation Center = 1031.20 Meters AMSL

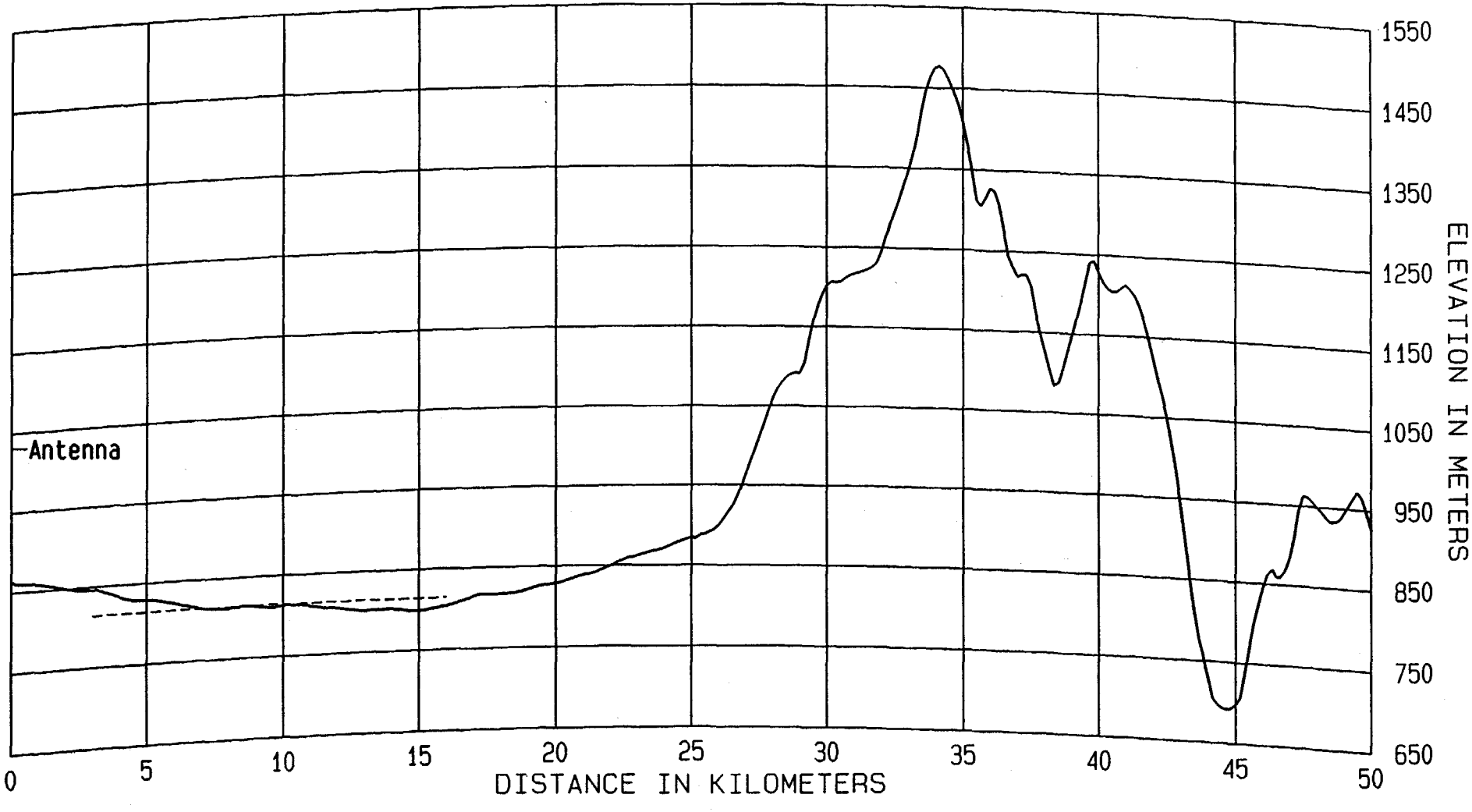


EXHIBIT E-6G

N 225.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 991.77 Meters AMSL

Antenna Radiation Center = 1031.20 Meters AMSL

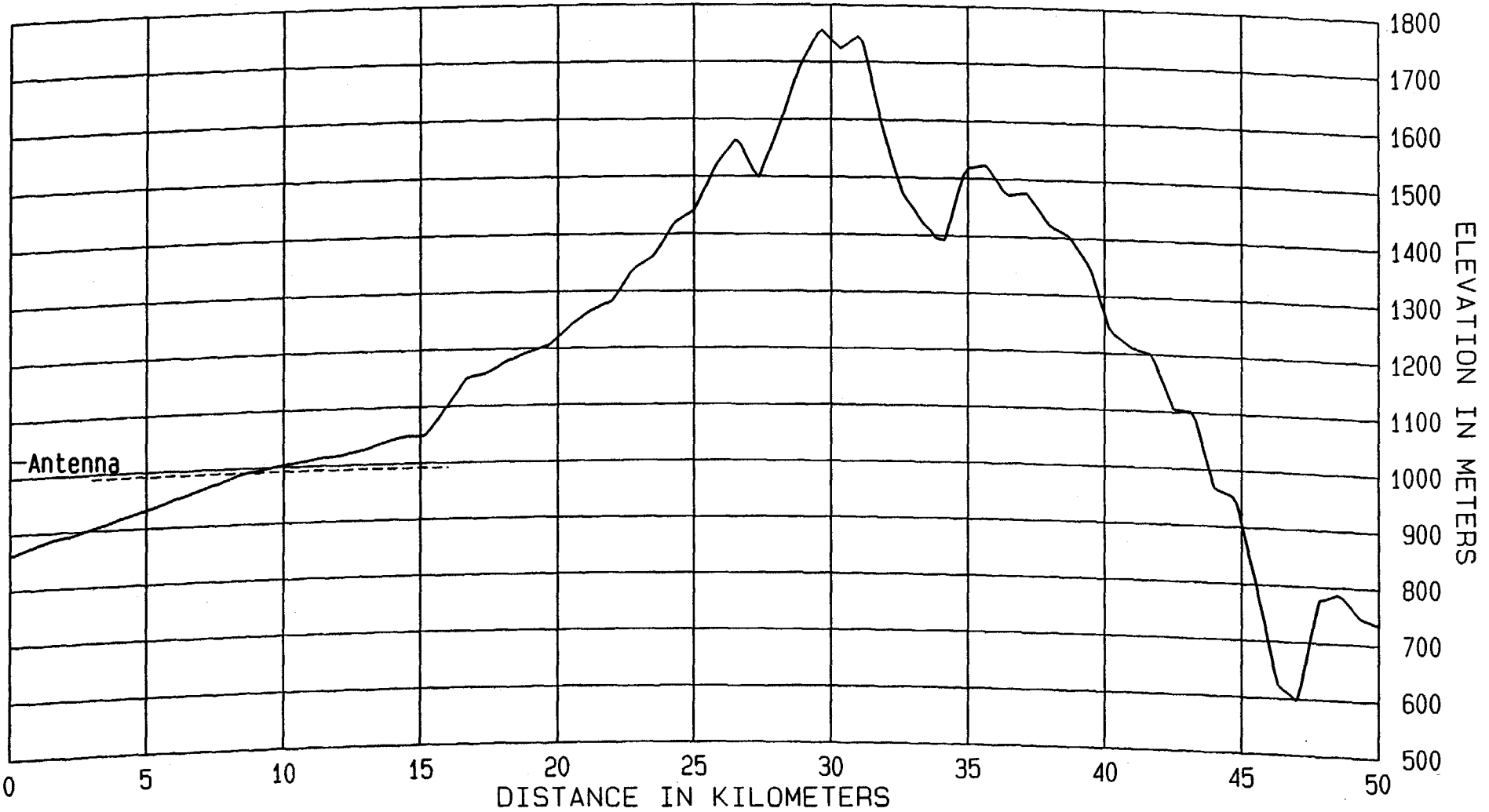


EXHIBIT E-6H

N 270.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

Average Radial Elevation = 1385.76 Meters AMSL

Antenna Radiation Center = 1031.20 Meters AMSL

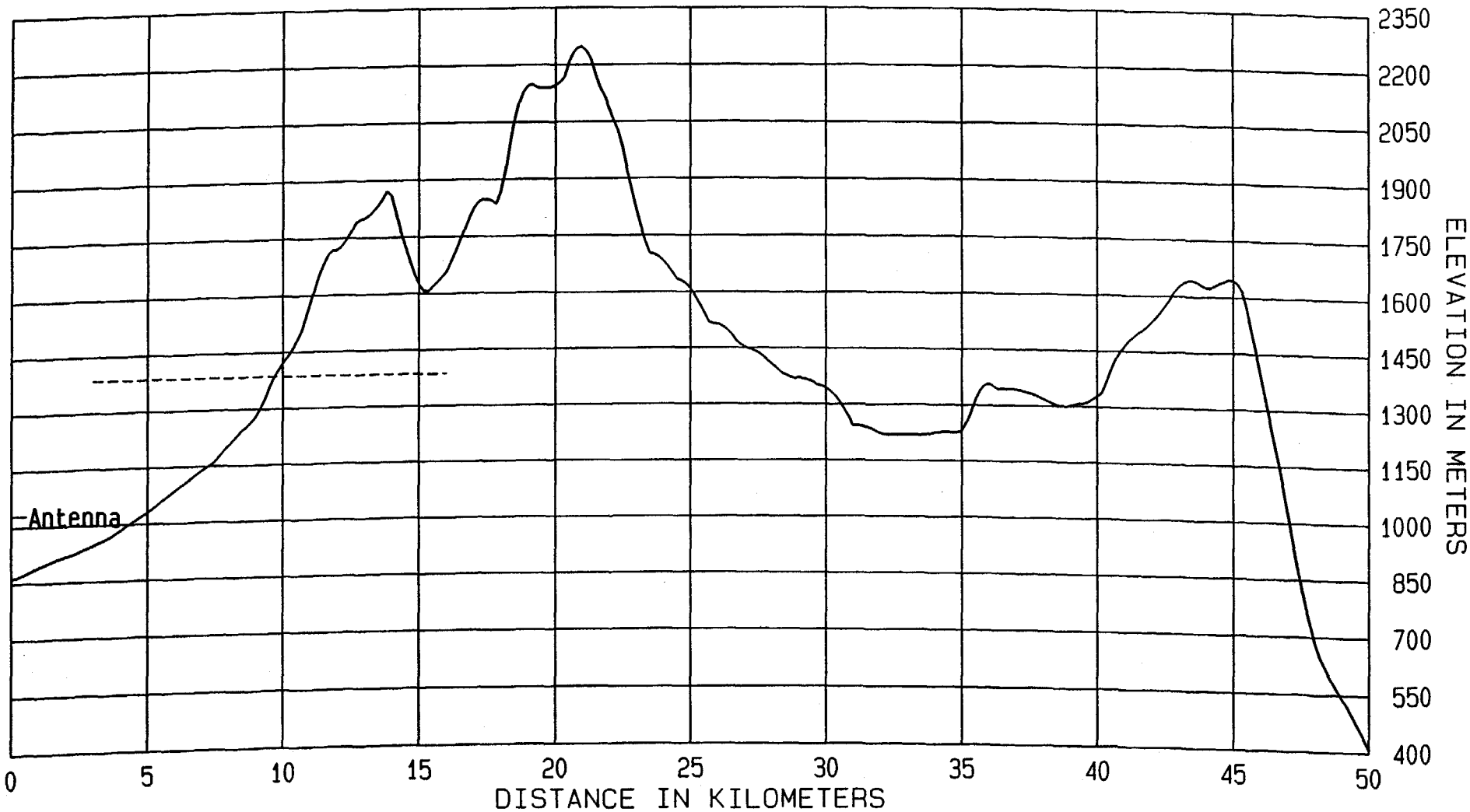


EXHIBIT E-6I

N 315.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

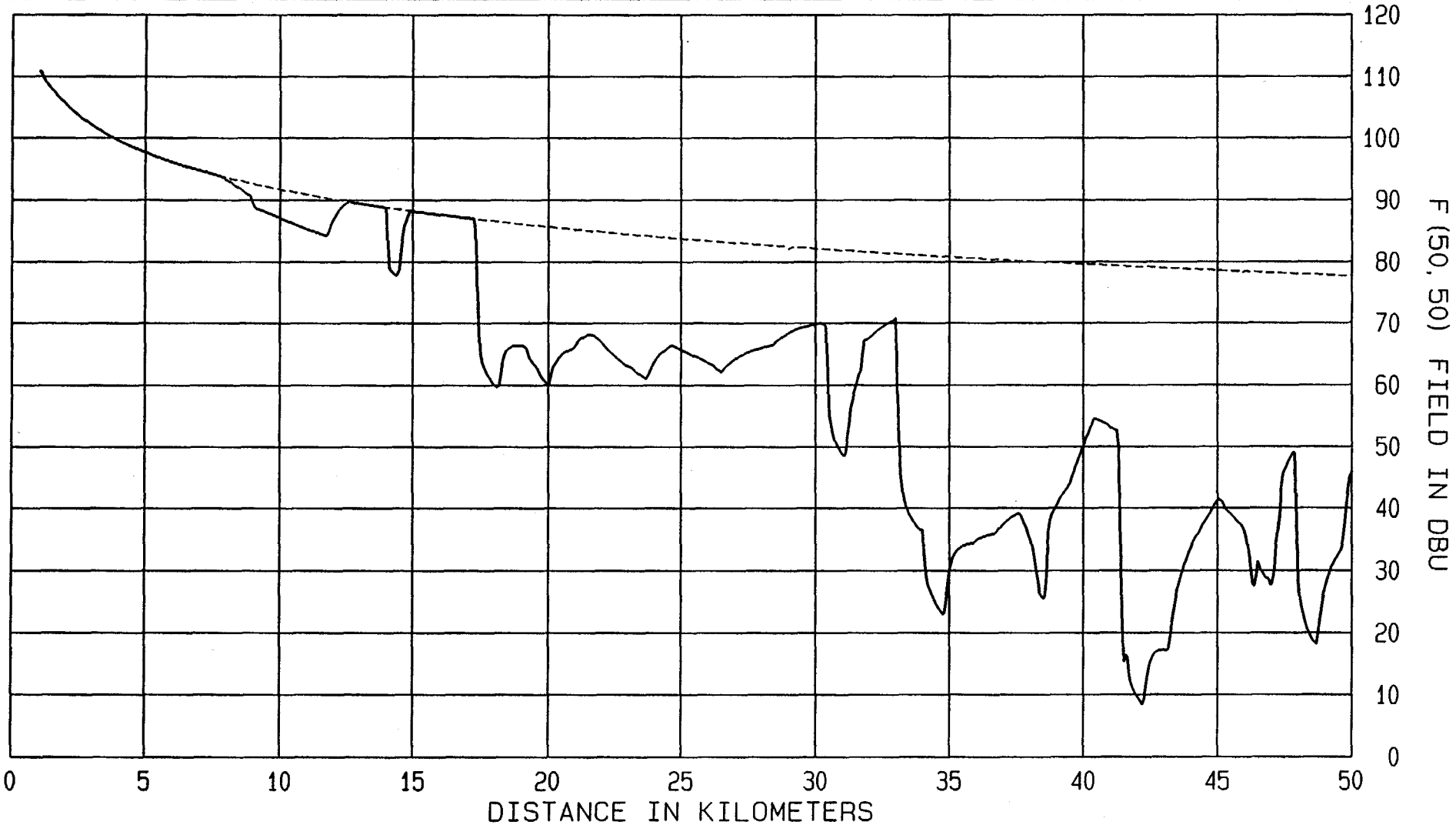


EXHIBIT E-7A

N 0.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

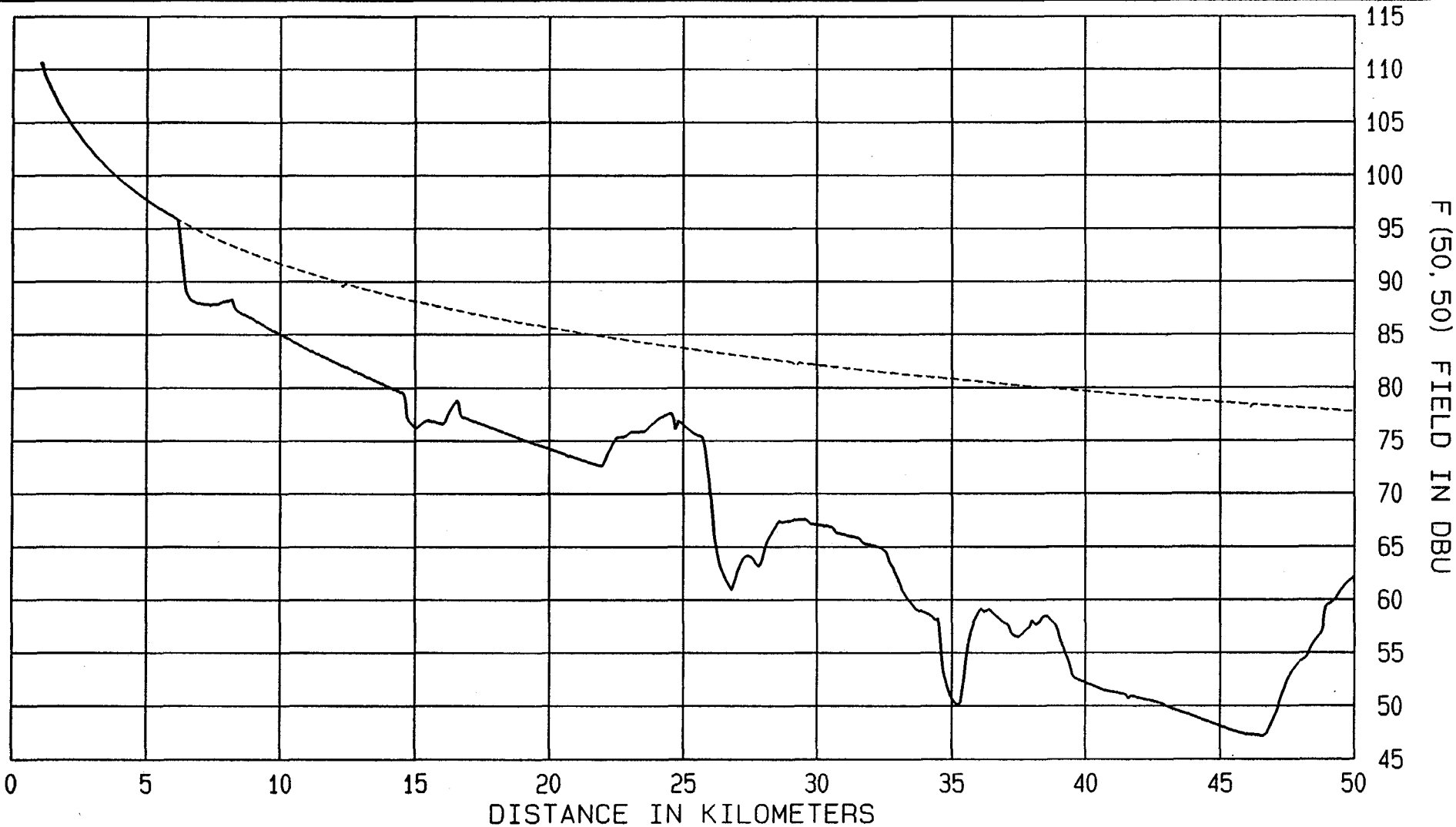


EXHIBIT E-7B

N 45.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

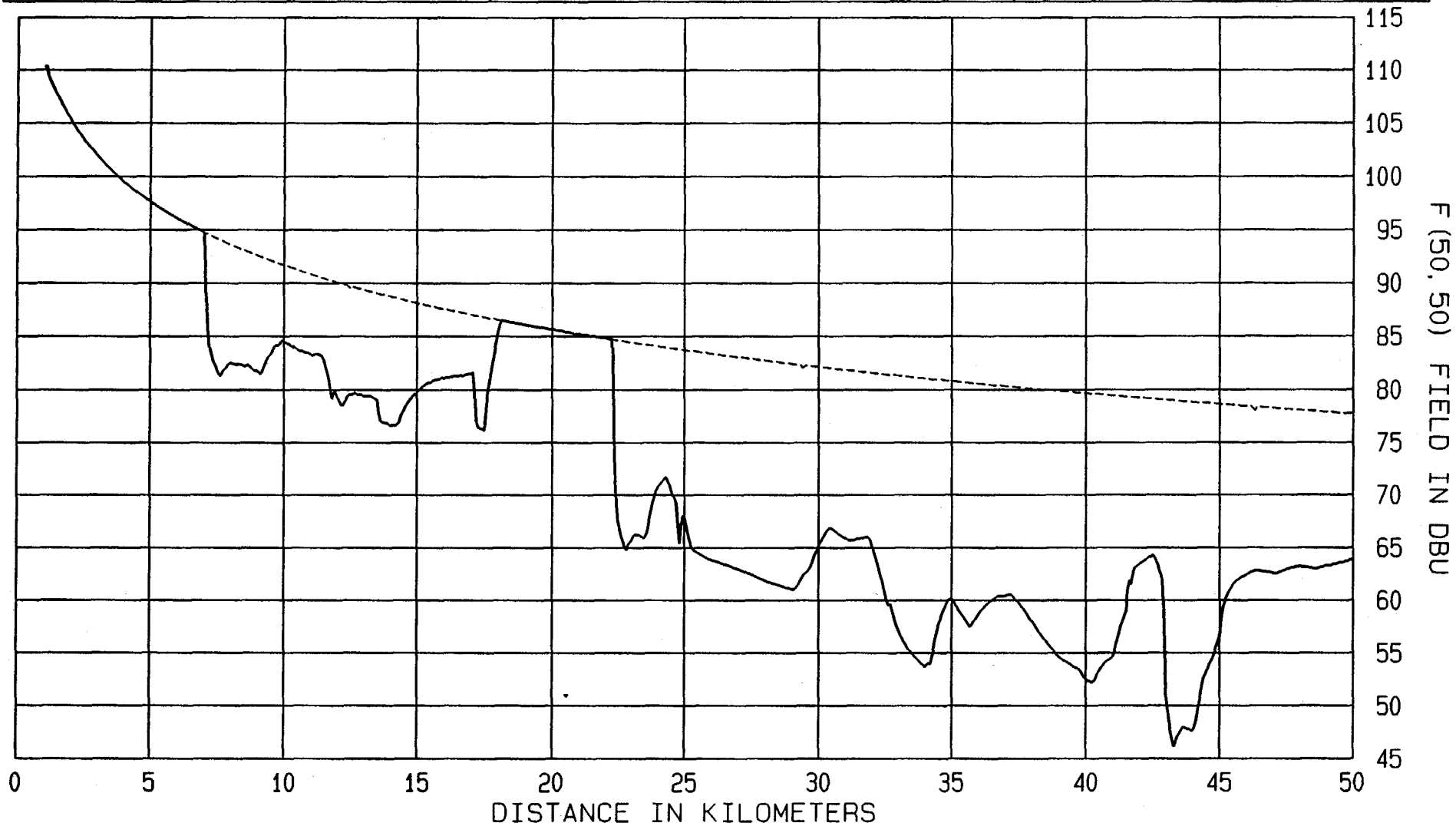


EXHIBIT E-7C

N 90.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

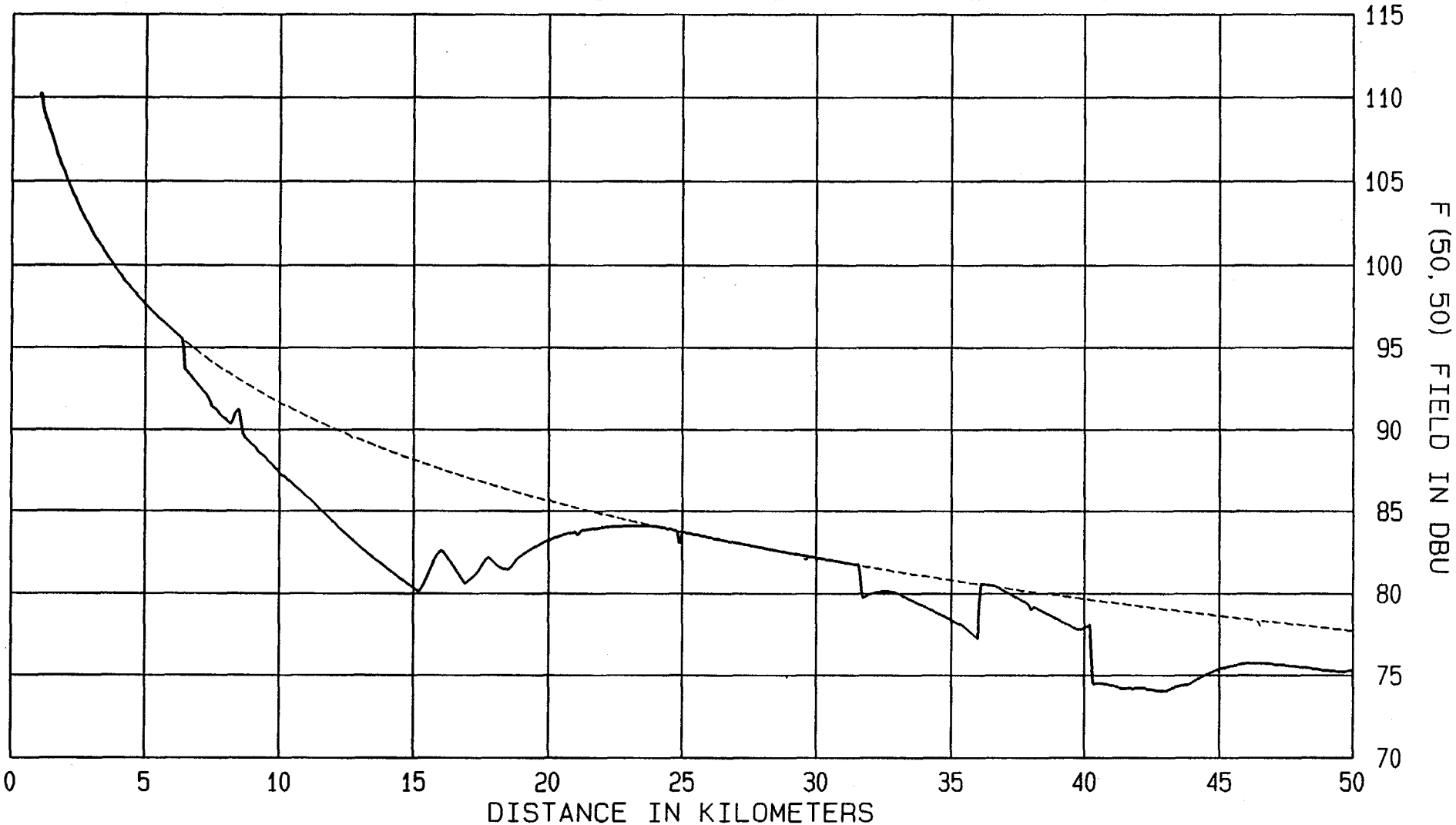


EXHIBIT E-7D

N 115.6° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

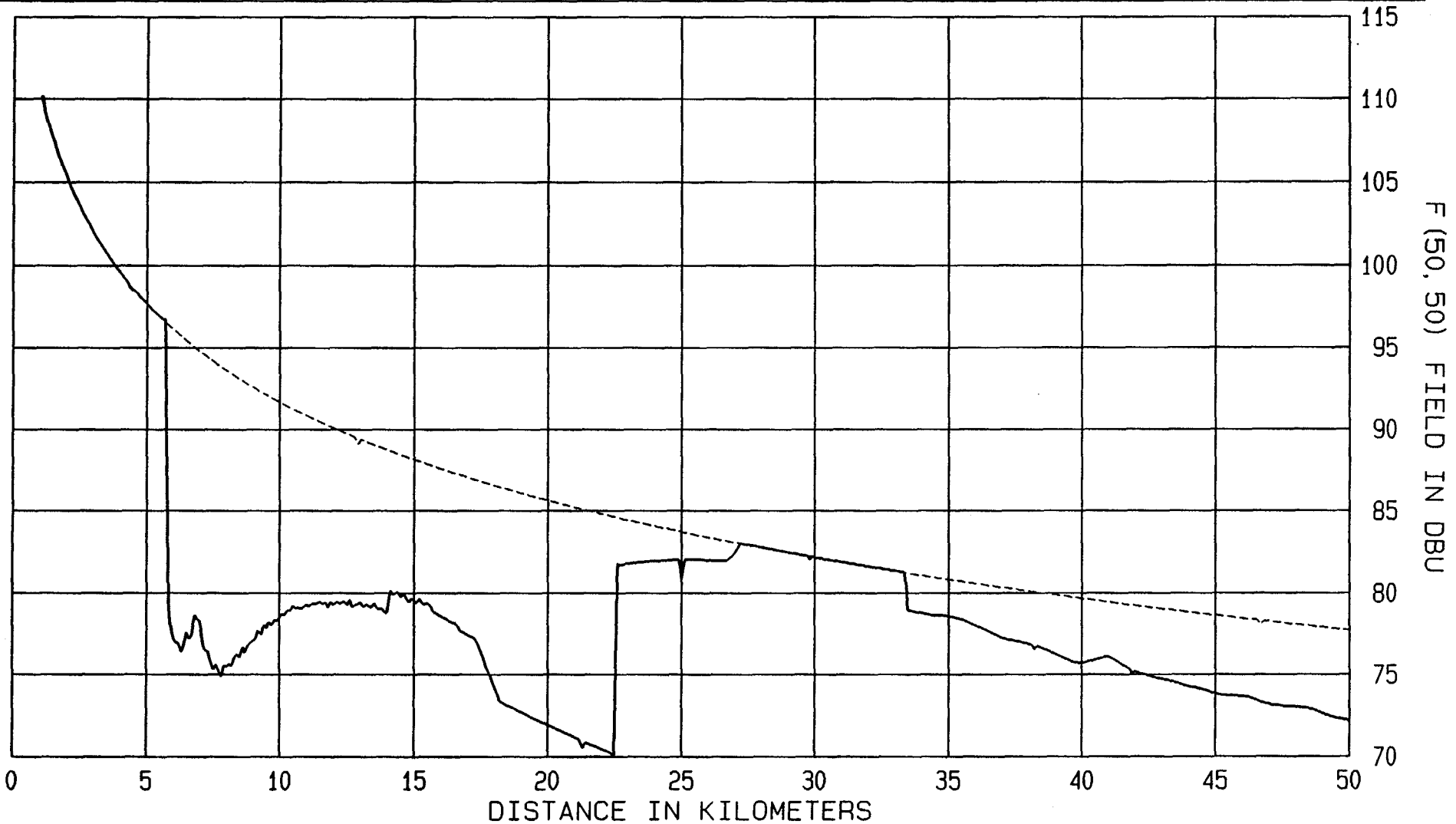


EXHIBIT E-7E

N 135.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

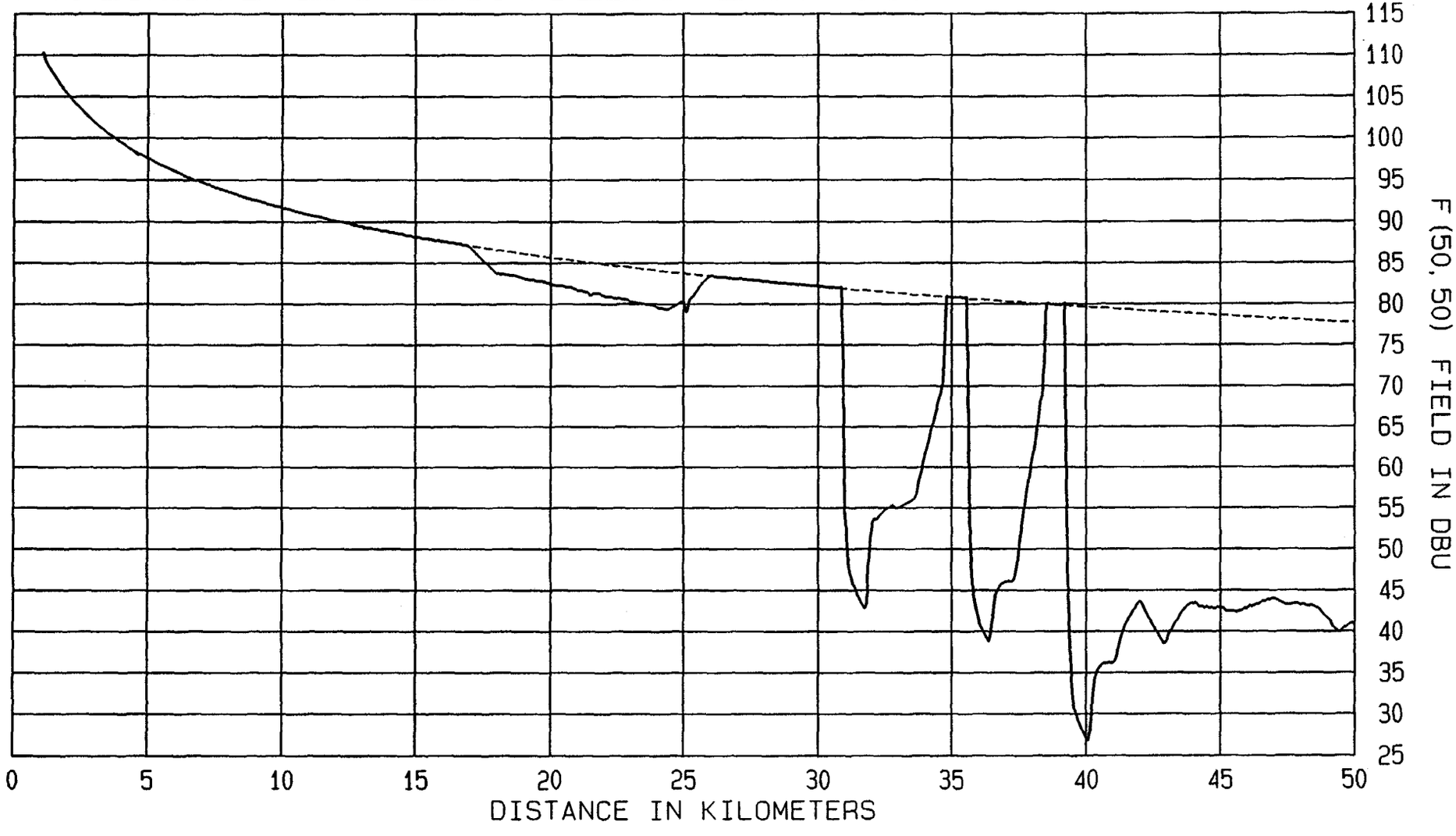


EXHIBIT E-7F

N 180.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

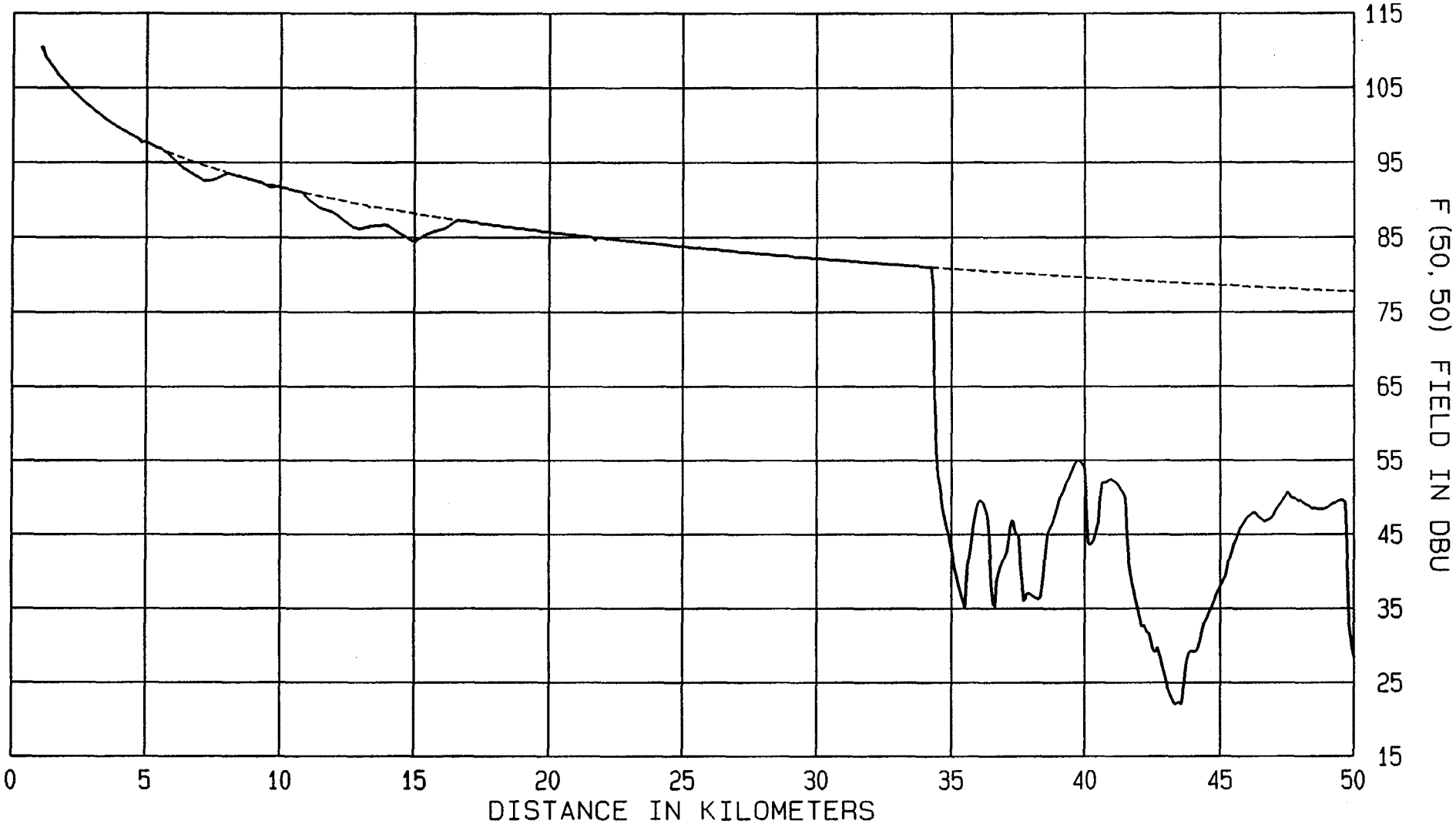


EXHIBIT E-7G

N 225.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

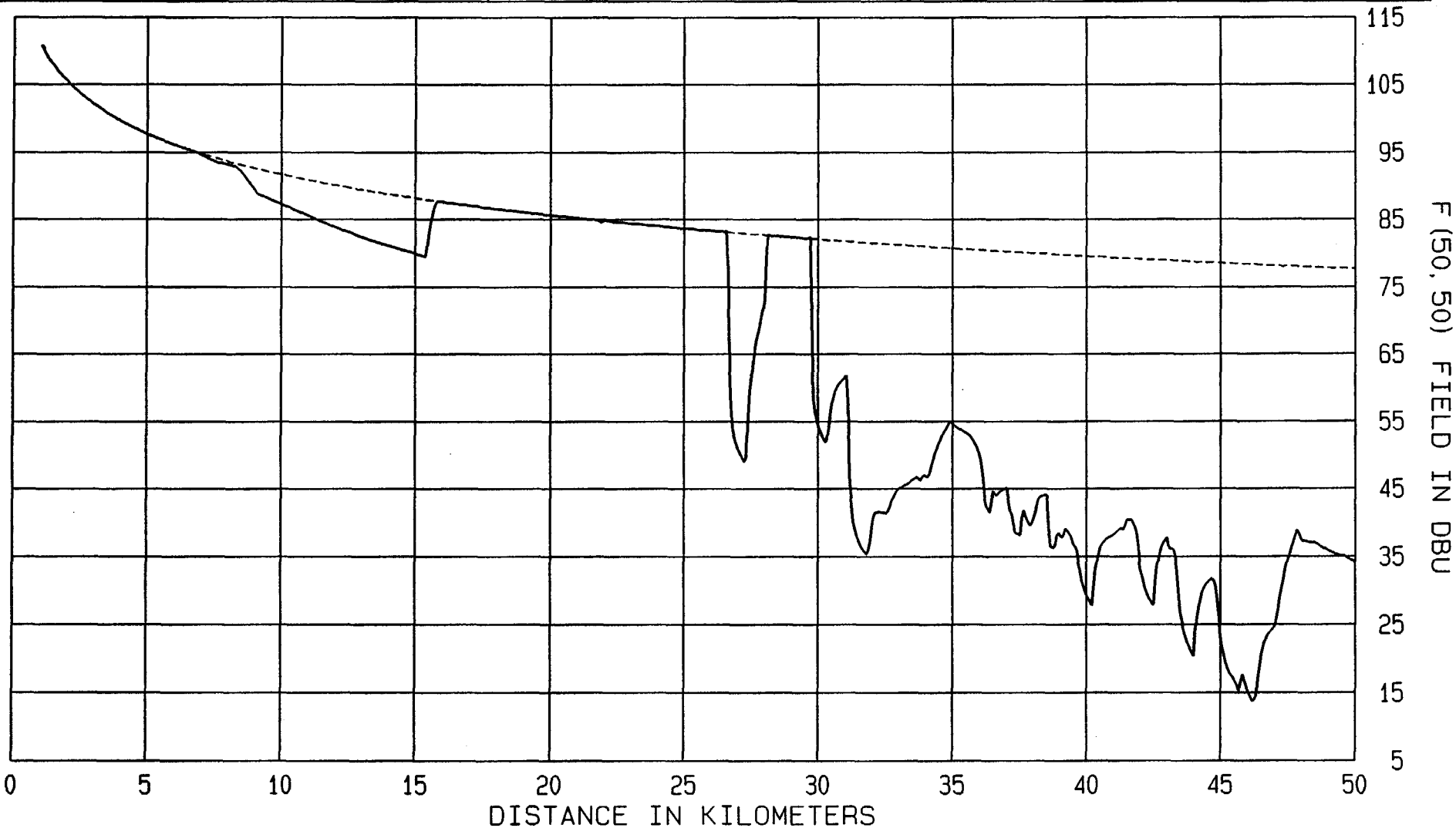


EXHIBIT E-7H

N 270.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
Telecommunications Engineers
Mesa Oaks, California

PREDICTED FIELD STRENGTH		LONGLEY-RICE PROPAGATION MODEL
FREQUENCY = 93.5 MHz	POLARIZATION = H	MAXIMUM Eo = 384.2 mV/m at 1 Km
SOIL CONDUCTIVITY = 5.0 mS/m	MEAN SURFACE REFRACTIVITY = 301.0 N-Units	
RCVG ANTENNA = 9.0 m AG	XMTG ANTENNA = 1031.2 m AMSL	DIELECTRIC CONS = 15.0
NUMBER OF ELEMENTS = 2	BEAM TILT = 0.00 Deg.	NULL FILL = 0.0 %

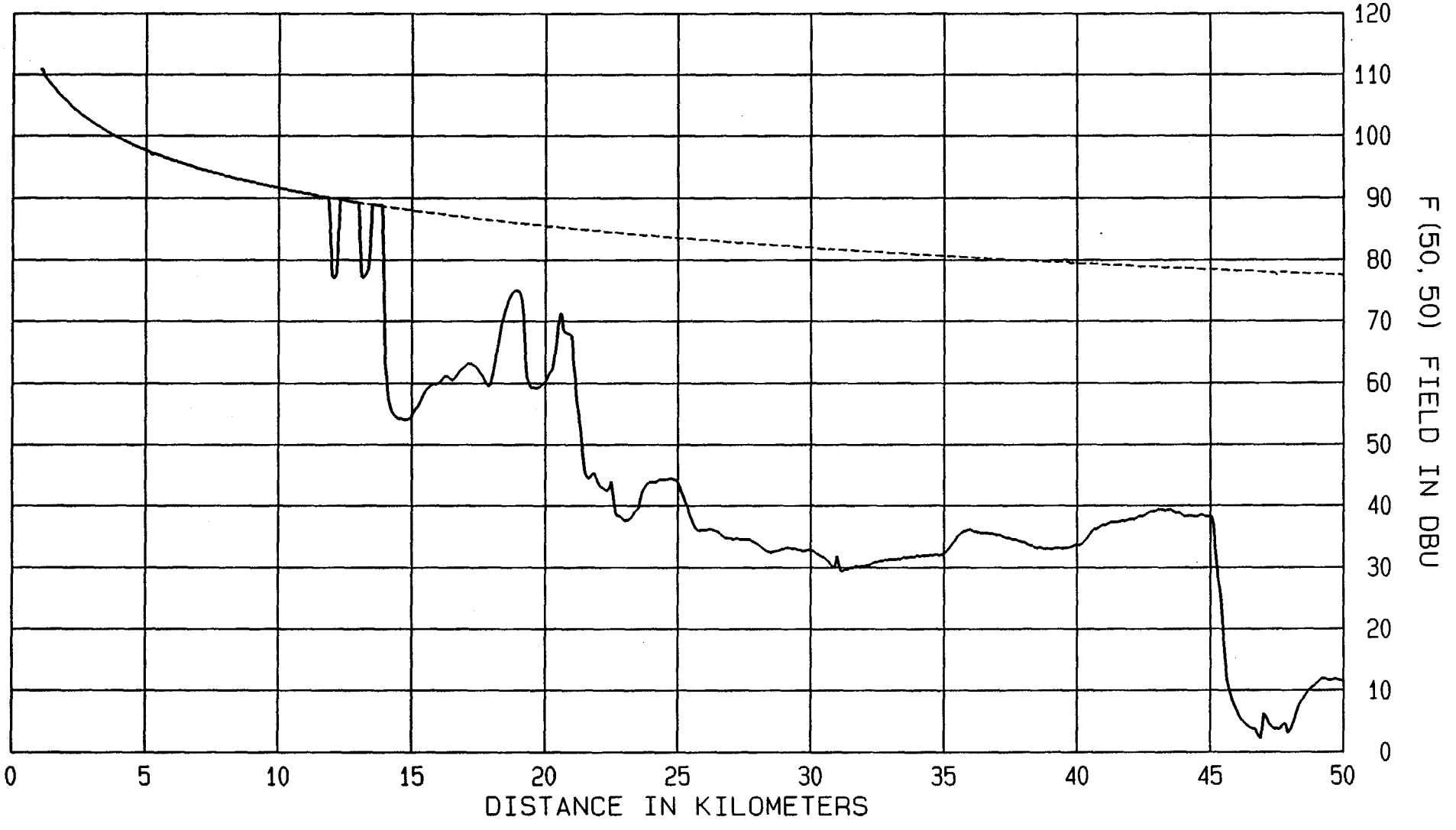


EXHIBIT E-7I

N 315.0° E Radial

DIANE K. HITT

LAWRENCE L. MORTON ASSOCIATES
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