JUL 6 1988

In Reply Refer To:
Docket: 50-458

Gulf States Utilities
ATTN: Mr. James C. Deddens
Senior Vice President (RBNG)
P.O. Box 220
St. Francisville, Louisiana 70775

Gentlemen:

Attached is a copy of the Federal Emergency Management (FEMA) evaluation of the River Bend Station Prompt Alert and Notification Systems confirming that it satisfies the requirements of NUREG-0654/FEMA-REP-1, Revision 1 and FEMA-REP-10.

If you have any further questions, please contact Mr. Nemen M. Terc (817) 860-8129.

Sincerely,

Original Signed By
L. J. Callan

L. J. Callan, Director
Division of Reactor Projects

Attachment:
As stated

cc w/o FEMA Evaluation
Chief, Technological Hazards Branch
FEMA Region 6
Federal Center
800 North Loop 288
Denton, TX 76201-3698

cc w/FEMA Evaluation:
Gulf States Utilities
ATTN: J. E. Booker, Manager-
River Bend Oversight
P.O. Box 2951
Beaumont, Texas 77704

(cc continued)

bcc: (see next page)

RIV:SEPS:RPB	C:SEPS:RPB	C:RPB	C:DRP/C	D:DRP
NMTerc/jt	RJEverett	BMurray	GLConstable	LJCallan
6/29/88	6/29/88	6/30/88	7/6/88	7/6/88

8807130289 880706
PDR ADOCK 05000458
F PNU

IE 35

Gulf States Utilities
ATTN: Les England, Director
Nuclear Licensing - RBNG
P.O. Box 220
St. Francisville, Louisiana 70775

Louisiana State University,
Government Documents Department

Louisiana Radiation Control Program Director

bcc to DMB (IE35)

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~~Murley~~
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Federal Emergency Management Agency

Washington, D.C. 20472

MAY 20 1988

Mr. Victor Stello, Jr.
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Stello:

The Federal Emergency Management Agency (FEMA) has completed an analysis of the prompt alert and notification system for the River Bend Station located near St. Francisville, Louisiana. This review has been completed pursuant to Title 44 CFR, Part 350; selected evaluative criteria and Appendix 3 in NUREG-0654/FEMA-REP-1, Revision 1; and FEMA-REP-10, the "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants." The enclosed report entitled, "River Bend Station Site-Specific Offsite Radiological Emergency Preparedness Alert and Notification System Quality Assurance Verification," summarizes the engineering design review; incorporates the results of the telephone survey of the public conducted immediately following full activation of the alert and notification system on June 25, 1987; and confirms the adequacy of the applicable evaluative criteria from NUREG-0654/FEMA-REP-1, Revision 1, and FEMA-REP-10.

Based on the engineering design review and the results of the public telephone survey, FEMA has determined that the alert and notification system installed around the River Bend Station satisfies the requirements of NUREG-0654/FEMA-REP-1, Revision 1, and FEMA-REP-10. Therefore, there is now reasonable assurance that the system is adequate to promptly alert and notify the public in the event of a radiological emergency at the site. The caveat on the alert and notification system contained in the Title 44 CFR, Part 350, approval dated October 8, 1985, is now removed. The Honorable Charles E. Roemer, III, Governor of Louisiana, has been advised of this approval.

Sincerely,

Grant C. Peterson
Associate Director
State and Local Programs
and Support

Enclosure

8806090047

tp

RIVER BEND STATION
SITE-SPECIFIC OFFSITE RADIOLOGICAL EMERGENCY PREPAREDNESS ALERT AND NOTIFICATION SYSTEM QUALITY ASSURANCE VERIFICATION

Prepared for

Federal Emergency Management Agency
Washington, D.C. 10472
Under Contract No. EMW-83-C-1217

May 9, 1988

8806090060
234pp.

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West Baton Rouge Parish
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Pointe Coupee Parish

I. INTRODUCTION

A. Identification

1. Site Information

The River Bend Station is located on the eastern bank of the Mississippi River in West Feliciana Parish near St. Francisville, Louisiana. The site is located 24 miles north-northwest of Baton Rouge, Louisiana (1980 census population 219,419 persons).[1,2]

The area surrounding the River Bend Station is primarily woodland alternating with flat, open fields. However, there is also a considerable amount of marshland, particularly to the west of the site. The plant lies at an elevation of approximately 100 ft. above mean sea level. To the west and south of the site the land is mostly flat, with an elevation range of 20 to 35 ft. The land to the north and east of

the site is comprised of gently rolling hills, with the land elevation ranging from 100 ft. to 250 ft.[1]

Recreational activities such as hunting and fishing take place along the Mississippi River and in unpopulated wetland and wooded areas in the region. The Audubon Lakes Camping Resort, a privately-owned facility containing approximately 200 camping spaces, is located 2.5 miles northwest of the River Bend Station.[3]

2. Governments Within The 10-Mile Emergency Planning Zone

The River Bend Station emergency planning zone (EPZ) approximates a 10-mile-radius circle having the station as the center point. The EPZ is located entirely within the State of Louisiana and West Feliciana, East Feliciana, West Baton Rouge, East Baton Rouge, and Pointe Coupee parishes.[1]

The total 1980 population within 10 miles of the River Bend Station was estimated to be 22,514 persons.[3] The largest population centers within the River Bend Station EPZ are the Town of Jackson (1980 census population 3,133 persons), located in East Feliciana Parish; the Town of New Roads (1980 census population 3,924 persons), located in Pointe Coupee Parish; and the Town of St. Francisville (1980 census population 1,471 persons), located in West Feliciana Parish.[1] For the purpose of the alert and notification system design, the population density of St. Francisville, Jackson, and New Roads was conservatively set at 2,000 persons per square mile.[1]

B. Scope of Review

1. Emergency Plans For Offsite Response Organizations

All appropriate offsite radiological emergency plans and preparedness site-specific to the River Bend Station have been reviewed by the Federal Emergency Management Agency (FEMA) Region VI and the Regional Assistance Committee.

2. Alert And Notification System Design Report

The physical means established for alerting the public within the River Bend Station's EPZ are documented in the following:

- Louisiana Department of Environmental Quality, letter from William H. Spell, Administrator, Nuclear Energy Division, Office of Air Quality and Nuclear Energy, to Al Lookabaugh, FEMA, Region VI, dated June 6, 1986, enclosing four copies of "River Bend Station Prompt Notification System Design Report, prepared by Gulf States Utilities, June 1986." (This letter and its corresponding enclosures are hereinafter referred to as the Design Report.)[1]

3. FEMA Evaluation Findings

The offsite radiological emergency plans and preparedness site-specific to the River Bend Station received approval under Title 44 of the Code of Federal Regulations, Part 350 (44 CFR 350), conditioned upon verification of the adequacy of the public alert and notification system, as documented in the:

- Letter to the Honorable Edwin W. Edwards, Governor of Louisiana, signed by Robert H. Morris, Acting Director, FEMA, dated October 1, 1985;[4] and the

- Letter to William J. Dircks, Executive Director for Operations, U.S. Nuclear Regulatory Commission, signed by Samuel W. Speck, Associate Director, State and Local Programs and Support, FEMA, dated October 8, 1985.[5]

II. FINDINGS FOR EVALUATION CRITERION E.6

The Design Report describing the alert and notification system for the River Bend Station was reviewed against evaluation criterion E.6 and Appendix 3 of NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (hereinafter referred to as NUREG-0654/FEMA-REP-1, Rev. 1). This evaluation criterion states:

> Each organization shall establish administrative and physical means, and the time required for notifying and providing prompt instructions to the public within the plume exposure pathway Emergency Planning Zone. (See Appendix 3.) It shall be the licensee's responsibility to demonstrate that such means exist, regardless of who implements this requirement. It shall be the responsibility of the State and local governments to activate such a system.[6]

The bases for review against this evaluation criterion were the corresponding acceptance criteria of FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants"[7] (hereinafter referred to as FEMA-REP-10). This quality assurance verification review was performed to make a determination of alert and notification system adequacy prior to conducting a demonstration of this system for the River Bend Station.

Based upon this quality assurance verification review, International Energy Associates Limited concluded that the design and implementation of the alert and notification system for the River Bend Station and its supporting procedures conformed sufficiently to the acceptance criteria, as stated in FEMA-REP-10, for evaluation criterion E.6 of NUREG-0654/FEMA-REP-1, Rev. 1, to support a FEMA finding that the alert and notification system is adequate.

This portion of the quality assurance verification review evaluates the River Bend Station's alert and notification system against FEMA-REP-10 acceptance criteria in the following areas: the physical means of alerting and the special alerting methods.

A. Administrative Means Of Alerting (E.6.1, FEMA-REP-10)

The administrative means of alerting for the River Bend Station were evaluated by FEMA and the Regional Assistance Committee in the determination of adequacy under 44 CFR 350.[4,5]

B. Physical Means Of Alerting (E.6.2, FEMA-REP-10)

A description of the physical means of alerting for the River Bend Station is contained in Section E.6 of the Design Report, and supplementary information is contained in the Exhibits of the Design Report. The system is comprised of a combination of 92 fixed siren units and Louisiana State Police helicopters for alerting transients in wooded and wetland areas.

1. Sirens (E.6.2.1, FEMA-REP-10)

The River Bend Station siren warning system was evaluated in accordance with the design evaluation methodology detailed in "Analysis of Siren System Pilot Test."[8] The system consists of 92 Whelan WS-3000R rotating sirens rated at 124 dBC at 100 ft. Relevant technical information about the fixed siren system is contained in Exhibit F of the Design Report.

The WS-3000R siren is equivalent to the WS-3000 model, both manufactured by Whelan Engineering

Company, however the WS-3000R does not have public address capability. The WS-3000R is rated by the manufacturer to provide 124 dBC at 100 ft. However, field measurements conducted by the licensee's acoustic consultant reported a rated output of 121.3 dBC with a fundamental tone frequency in the range of 770 to 830 hertz (Hz). The Design Report (Section E.6.2.1.5) states that this output is lower than the siren design specification. Since actual field measurements supersede the manufacturer's claimed rating, the value of 121.3 dBC at 100 ft. is adopted for this evaluation of the fixed siren system.

Routine siren testing procedures and operability for the River Bend Station have been reviewed and determined to satisfy FEMA-REP-10 criteria.

The evaluation of the siren system design calculation procedure was conducted by:

- Verifying the licensee's computer modeling results as presented in the Design Report against the 10 dB loss per distance doubled attenuation rate in the absence of special conditions; and

- Ascertaining the adequacy of the licensee's computer-predictive coverage in the presence of site-specific topographical and meteorological conditions through comparisons of the licensee's results with Outdoor Sound Propagation Model (OSPM)[8] results for specific sirens.

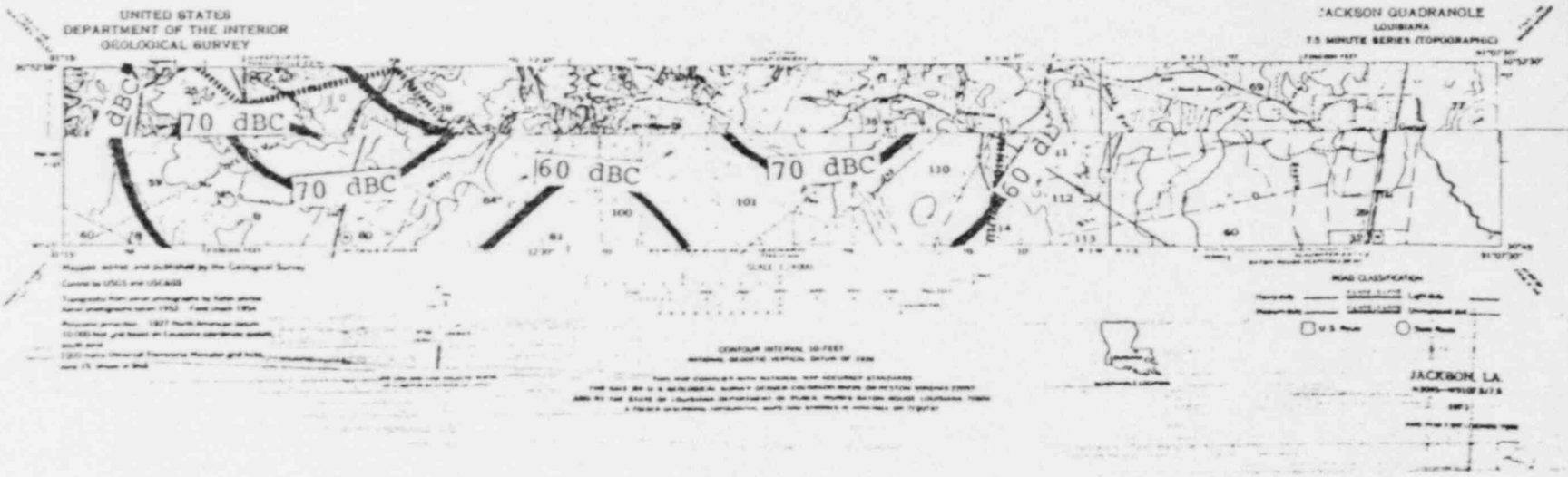
The Design Report states that the River Bend Station siren warning system design takes into consideration

meteorological and topographical factors and land surface conditions that affect the propagation of sound generated by each siren. The computer model utilized to design the system, as described, calculates sound attenuation with distance due to hemispherical wave divergence, atmospheric absorption, ground effects, wind shadows, barrier attenuation, and near-field interference effects. The Design Report does not provide any discussion of the assumptions used, the methodologies employed, or how the final sound contours were generated (in particular, the 70 dBC and 60 dBC contours as shown on Map 1 of the Design Report).

The Design Report presents in Table 4 of Exhibit A some limited and unqualified results of field tests conducted at the site to substantiate the validity of the computer predictions. Since the field measurements were made in A-weighted sound pressure levels (dBA) and not in dBC or in the one-third octave band containing the dominant tones of the sirens (as required by FEMA-REP-10) and since unspecified adjustments were made for dBC to dBA conversions and for wind, temperature, and relative humidity corrections, these results were duly noted but were not used in this evaluation. Therefore, this quality assurance verification review is based on an evaluation of the presented predictions of acoustical coverage (Appendix 1A and 1B of Exhibit A) and seeks to ascertain whether the computer model used in the design adequately accounts for site-specific terrain and weather conditions and whether the siren warning system does indeed meet FEMA-REP-10 acceptance criteria.

FIGURE 1

RIVER BEND SIREN CONTOUR PLOT



Ten WS-3000R sirens, representative of the site-specific topographical conditions within the River Bend Station EPZ, were selected for this quality assurance verification review. The locations of the selected sirens are depicted on the U.S. Geological Survey's Jackson quadrangle map (see Figure 1 of this report). These 10 sirens cover the relatively more populated areas within the River Bend Station EPZ.

Surface weather parameters, representative of site prevailing summer daytime conditions, were used in the OSPM calculations. Appendix A of this report contains OSPM topographical profile charts, OSPM topographical input, OSPM siren sound pressure level input, OSPM meteorological input, and OSPM siren sound pressure level output for each of the 10 individual OSPM siren runs.

To compare the acoustical coverage estimates of OSPM with the data presented in the Design Report, each analyzed siren azimuth was classified into one of three categories according to terrain profile: hilly (major obstructions along line-of-sight) terrain, partially hilly (minor obstructions) terrain, and relatively flat (generally unobstructed line-of-sight) terrain.

Regressions of dBC versus the logarithm of distance were performed for the WS-3000R siren data for each of the three categories. These regressions were computed utilizing both OSPM and Design Report data. The Design Report's data were taken from Appendix 1A for azimuths closely corresponding to each OSPM-analyzed azimuth. The results are depicted in Figures 3 through 5 of this report.

Figure 2 of this report shows the regression data of the Design Report's computer model prediction results for all categories that are characteristic of the site. The 10 dB loss per distance doubled attenuation rate is also included in Figure 3 for comparison. The Design Report's computer model predictions for these 10 sirens yield an apparent sloping rate of 12 dB loss per distance doubled within 1,000 to 10,000 ft. from the siren. The Design Report's results do not show significant difference in siren ranging performance over varied terrain conditions. As shown in Figure 2 of this report, the regression lines of the Design Report's predicted siren sound pressure levels over hilly terrain and those over flat terrain differ very slightly (within 2 dBC).

The Design Report's regression data indicate 60 dBC ranges of from 6,400 to 6,900 ft. and 70 dBC ranges of from 3,600 to 3,900 ft. for the varying site conditions. The 10 dB loss per distance doubled attenuation rate yields a range of 7,000 ft. for 60 dBC and 3,500 ft. for 70 dBC. Thus, the ranges predicted by the Design Report's model are comparable to the 10 dB loss per distance doubled attenuation rate on a linear regression basis. It must be noted, however, that the 10 dB rule is premised upon a siren operating frequency of 500 Hz, which suffers less transmission loss over large distances in the atmosphere than the higher operating frequency of 700 to 800 Hz of the WS-3000 or WS-3000R sirens.

Figures 3 through 5 of this report depict the regressions of OSPM predictions and the Design Report's predictions, along with the 10 dB loss per distance

FIGURE 2

COMPOSITE REGRESSION, DESIGN REPORT (WS 3000R SIREN)

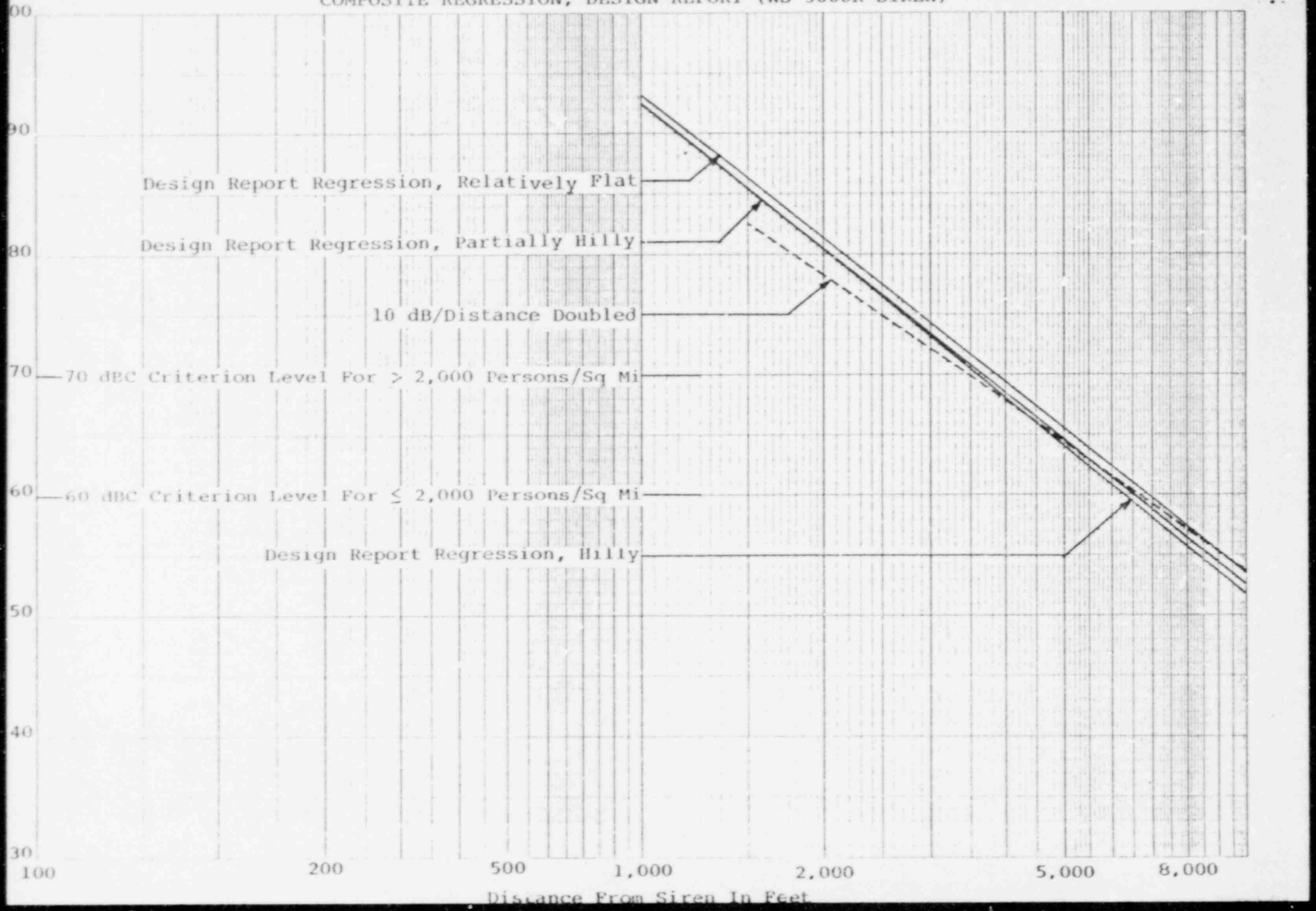


FIGURE 3

COMPARATIVE RESULTS, RELATIVELY FLAT TERRAIN (WS 3000R SIREN)

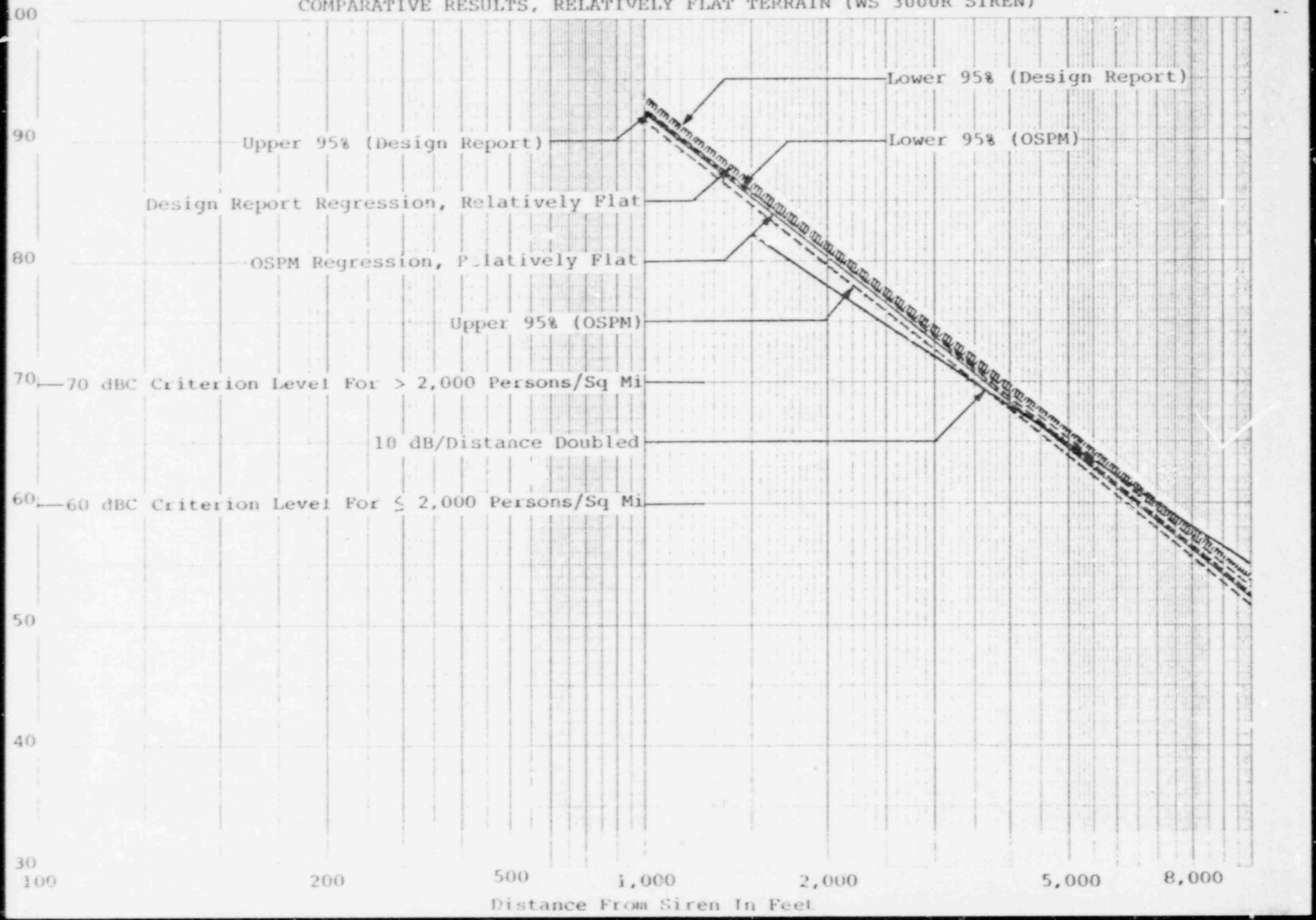


FIGURE 4

COMPARATIVE RESULTS, PARTIALLY HILLY TERRAIN (WS 3000R SIREN)

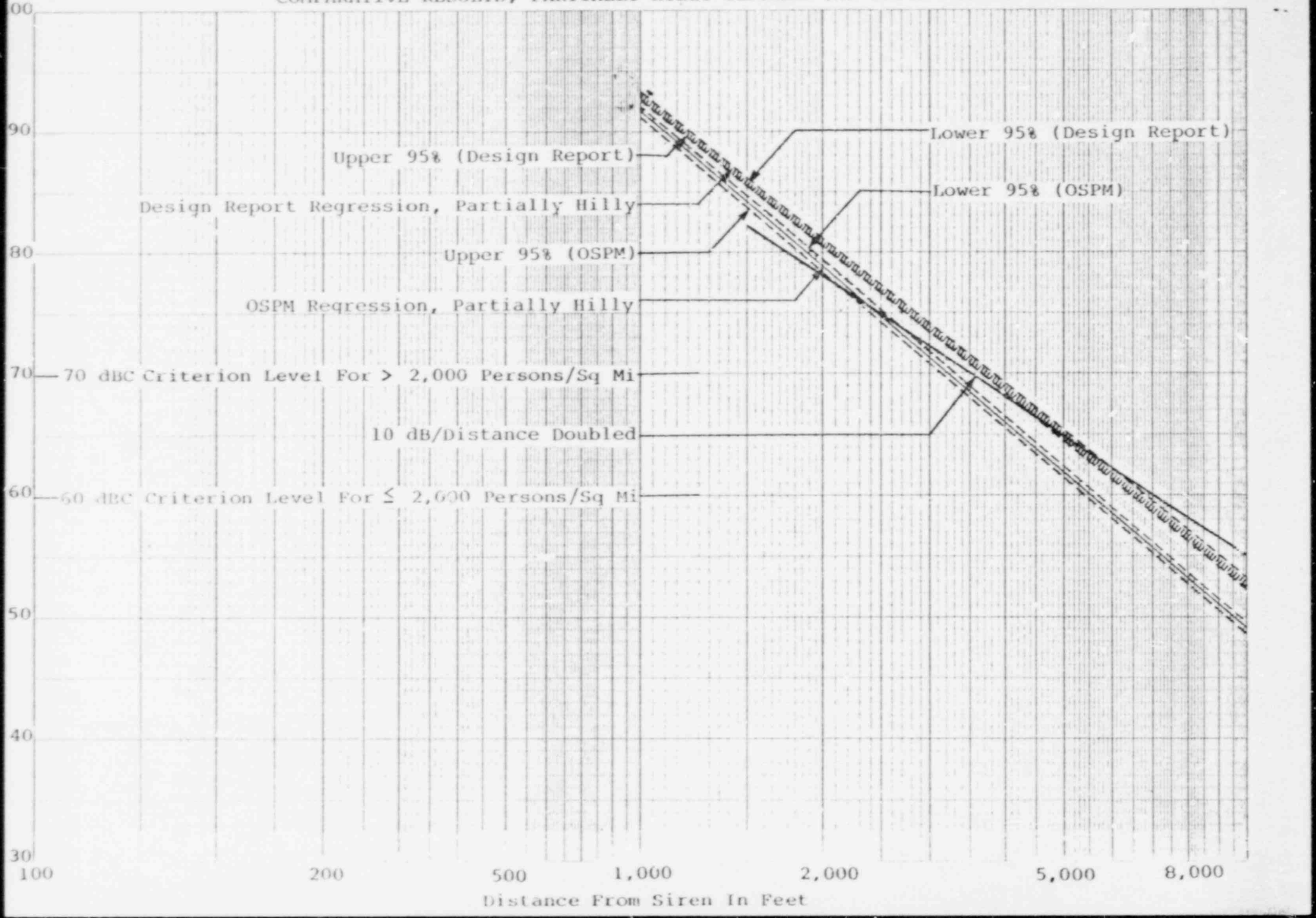
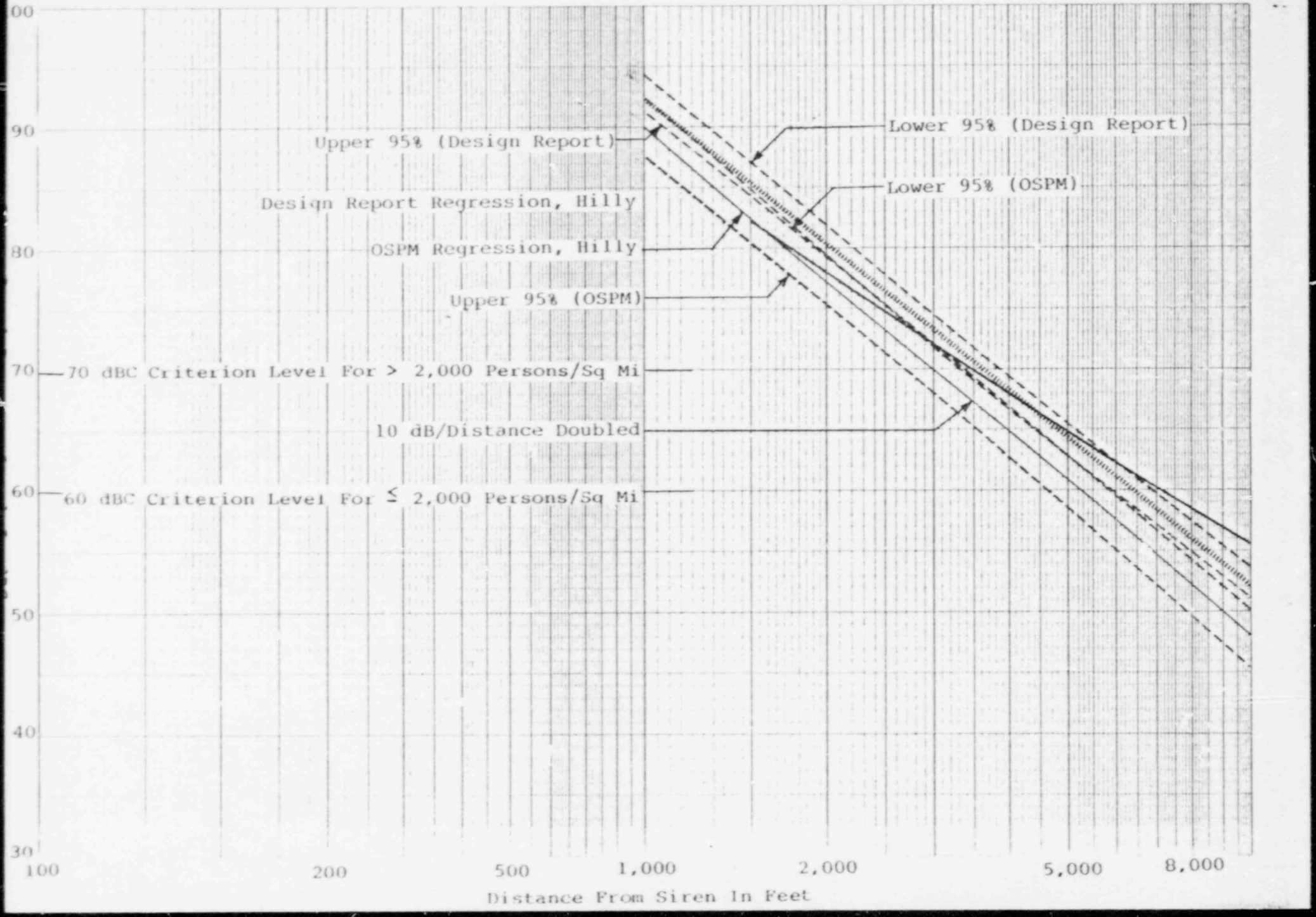


FIGURE 5

COMPARATIVE RESULTS, HILLY TERRAIN (WS 3000R SIREN)



doubled attenuation rate, for each of the three categories. Some general comparative observations can be made. First, the regressed ranges for 70 and 60 dBC based on the Design Report's data are greater than those of OSPM predictions (by 500 to 700 ft.) over corresponding terrain categories. This is largely due to the higher operating frequency of the sirens with its attendant much higher air absorption losses than those anticipated by the 10 dB rule. Second, the OSPM results show much larger variations in 70 and 60 dBC ranges for propagation paths over various terrain categories, as would be expected. Last, the 60 and 70 dBC ranges estimated by the licensee are liberal over the hilly and partially hilly terrains.

The following table summarizes the estimated effective ranges of 70 and 60 dBC over the various categories of classifications:

Procedure	Terrain	Range in Ft. to 70 dBC	60 dBC
10-dB	All	3,500	7,000
Licensee	Flat	3,850	6,900
	Partially hilly	3,750	6,600
	Hilly	3,600	6,400
OSPM	Flat	3,600	6,400
	Partially hilly	3,250	5,600
	Hilly	3,000	5,300

To assess the overall adequacy of the design on an area basis, for each siren located on the U.S. Geological Survey's Jackson quadrangle map (see Figure 1 of this report), the area coverages of 60 dBC and 70 dBC were numerically integrated and averaged. The results are as follows:

AVERAGE AREA
(In Square Miles)

Procedure	70 dBC	60 dBC
Design Report [Map 1]	2.35	4.61
OSPM	1.19	4.09

Using these results, the following average effective radii are derived:

EFFECTIVE RADIUS
(In Ft.)

Procedure	70 dBC	60 dBC
Design Report	4,560	6,396
OSPM	3,250	6,024

These area-wide results confirm that the Design Report's predicted siren ranges are liberal when site terrain and weather conditions are taken into account.

The results of the individual OSPM runs were combined to generate a comprehensive overview of the siren sound pressure levels over the Jackson area, as depicted in Figure 1 of this report. A surface interpolation and contouring program utilizing the output results of the 10 sirens was used to generate the sound pressure level contour overlays. These contours account for the site-specific topographical and meteorological effects on the siren sound propagation.

Numerical integration of the areas above 60 dBC coverage showed that a total area of 34.55 square miles were covered by the 10 sirens compared to a

total sum of 40.96 square miles by the individual sirens, indicating an overlap coverage (coverage by more than one siren) of 16%. Comparisons of the OSPM-predicted 60 dBC and 70 dBC contours - with the contours in Map 1 of the Design Report - indicate that the coverage of the sirens, as predicted by the licensee, is slightly liberal. Nonetheless, populated areas exceeding 2,000 persons per square mile are covered by 70 dBC or greater, and the 60 dBC contour areas shown in Map 1 are adequate due to the overlap in siren coverage.

The Design Report states in Section E.6.2.1.5 that there are small regions outside of 60 dBC siren coverage; these regions were investigated and determined to be unpopulated (see Exhibit G of the Design Report). In addition, there are areas outside of the 60 dBC coverage that are wetlands or wooded areas used by fishermen and hunters. Notification of transients in these areas by Louisiana State Police helicopters is documented in Section E.6.2.4.3 of the Design Report.

In conclusion, the River Bend Station siren alerting system is found to meet the specific design requirements of FEMA-REP-10.

2. Special Alerting (E.6.2.4, FEMA-REP-10)

A helicopter airborne warning system will provide the primary means of alert and notification to any transient population (hunters and fishermen) that may be in the wooded and wetland areas which lie outside of 60 dBC siren coverage. These areas are indicated on

the map in Exhibit G of the Design Report. The Louisiana State Police maintain three helicopters at the Baton Rouge Metropolitan Airport, located approximately 19 miles from River Bend Station. Each helicopter is equipped with a siren and public address system, and all three helicopters are available upon request (see Exhibit I of the Design Report). Airborne alert and notification procedures and flight routes are presented in Attachment 1 to Exhibit I of the Design Report.

Other transients within the River Bend Station EPZ are made aware of the siren purpose by signs placed in public areas and by the transient information brochure placed in businesses within the EPZ. A public information calendar is distributed annually to all addresses in the EPZ advising its readers to listen to the primary Emergency Broadcast System stations for information whenever the sirens are heard.

III. FINDINGS FOR EVALUATION CRITERION N.1

On June 25, 1987, the physical means (sirens) used to alert the population within the River Bend Station EPZ were demonstrated to satisfy the alert and notification aspects of 44 CFR 350.9(a). This demonstration was conducted by using the methods specified in Section N.1.(a,b).2 of FEMA-43. The results indicate that this portion of the alert and notification system evaluation conforms to FEMA-43 and NUREG-0654/FEMA-REP-1, Rev. 1.

The June 25, 1987, demonstration of the River Bend Station alerting system consisted of a triple activation of all sirens and a subsequent telephone survey to estimate the proportion of EPZ households actually alerted. The first siren activation was initiated at approximately 10:01 a.m. Central Daylight Time (CDT) and continued for 3 minutes. The sirens were activated a second time beginning at approximately 10:07 a.m. and a third time beginning at approximately 10:12 a.m. CDT. It was reported that siren number EF6 failed to activate. All other sirens were reported to have operated properly during all activations.

The telephone survey of EPZ residences began at approximately 10:15 a.m. and was completed within 63 minutes. This survey was conducted by 36 telephone interviewers, each with a separate WATS line and computer terminal.

The universe of households to be surveyed was determined by establishing a 12-mile-radius circle around the latitude and longitude of the plant. All households known to be outside the EPZ boundary (a 10-mile-radius circle) were eliminated from the sample. The sample incorporated a sorted master list of approximately 2,600 households (addresses and telephone numbers) believed to be within the established boundary.

A sufficient number of replicated subsamples were developed from the overall sample to ensure that the required number of telephone calls would be made, i.e., to establish the proportion of households alerted to within a 5% precision at 95% confidence level. Appendix B of this report describes the method used for sizing the sample to achieve this result.

The questionnaire used for the telephone survey is included as Figure 6 of this report.

As part of the telephone survey, a total of 292 households believed to be within the River Bend Station EPZ were contacted, and the responses were collected in an automated data base. Of this group, 42 respondents stated that they were not alerted. However, before running the final tabulations, addresses of all households interviewed were checked on a street map to validate their locations. Of the 292 addresses, 34 were outside the EPZ. Therefore, data were tabulated on the 258 respondent households that were located within the EPZ. Respondents at 20 of these households had been away from home at the time of the alerting system demonstration and, therefore, were also not included in the alerting analysis. The siren coverage was analyzed to determine whether any of the 18 households, where individuals were home during the demonstration (but were not alerted), were in the sole or primary coverage of one siren that failed to operate properly. None of these households could be verified as being in the sole or primary coverage area of a siren that failed to operate properly. Of the remaining 238 households, 92.4% (220) indicated that they had been alerted during the demonstration. Using the estimated number of households within the

#3594Q
Chilton Research Services
Radnor, Pennsylvania

Study #6952
June 25, 1987

OMB #3067-0103 (FEMA 9/86)
FEMA NUCLEAR POWER PLANT ALERTING AND NOTIFICATION SYSTEM: PUBLIC TELEPHONE SURVEY

RIVER BEND

Time Began _____AM _____PM

Time Ended _____AM _____PM

Interview # _____ (1-5)

Zip Code _____ (6-10)

Sample Type _____ (11)

RECORD BEFORE DIALING -Telephone # _____ (12-21)
(Area Code) (Exchange) (Number)

INTRODUCTION:

Hello, my name is _____. We're calling households long distance from Chilton Research Services as part of a survey. This survey is sponsored by The Federal Emergency Management Agency (FEMA) of the United States Government in cooperation with your parish civil defense office.

Your answers are voluntary and will be kept strictly confidential.

1. First of all, is this (REPEAT # DIALED)?

	Yes	1
TERMINATE AND DIAL AGAIN	No	2

2. As you may or may not know, there was a test of the parish warning sirens around the River Bend Station. Did you, or any other member of this household, hear the siren/warning sirens from this test today? 22-

SKIP TO Q. 4	Yes	1
SKIP TO Q. 4A	No	2
CONTINUE	Heard from another source	3
ASK IF ANY OTHER HOUSEHOLD MEMBER IS MORE KNOWLEDGEABLE	Don't Know	8

3. What did you or your household hear? (DO NOT READ. CIRCLE ALL THAT APPLY)

(23-25)

SKIP TO Q. 4	A siren	1
	Neighbor told me	2
	Other family member told me	3
	Other (SPECIFY) _____ _____ _____	9
CONTINUE	Don't Know	Y

3a. Did you hear . . . (READ LIST. CIRCLE ALL THAT APPLY)

(30-32)

	A Siren	1
	From a Neighbor	2
	From Another Family Member	3
	Or by means of something else (SPECIFY) _____ _____ _____	9
DO NOT READ	Don't Know	Y

4. (IF "HEARD EMERGENCY SIGNAL" ASK Q. 4 BELOW; OTHERWISE SKIP TO Q. 4A)

Were you at home or away from home when you heard the siren signal?

37-

SKIP TO Q. 5	Home	1
	Away From Home	2

4A. (IF "DID NOT HEAR EMERGENCY SIGNAL")

Were you at home around 10:00 this morning?

38-

Yes	1
No	2
Don't Know	Y

5. Did you receive the River Bend Station emergency planning information calendar which contains information that tells you what to do in the event of a real emergency at River Bend Station? This calender was mailed to you in December, 1986.

41-

Yes	1
No	2
Don't Know	Y

6. Because we need to determine whether or not you live within the 10 mile Emergency Planning Zone of River Bend Station, would you please give me this address? (PAUSE FOR ANSWER)

ADDRESS:

_____

_____

and the nearest intersection (or cross street) to this house.

_____

Also, what town or parish is this?

_____

On behalf of Chilton Research Services, the Federal Emergency Management Agency and your parish civil defense office, I would like to thank you for your time and for giving us this valuable information.

EPZ (6168 from reference 2) in the confidence interval that ranges from 88.4% to 95.1% is yielded for the proportion of the total EPZ population alerted. In other words, at the 95% confidence level, between 88.4% and 95.1% of the households within the River Bend Station EPZ would have stated that they were alerted by the siren system.

The sample of 258 households was also used to estimate the proportion of households within the EPZ that would have stated they received information about what to do in a real emergency at the River Bend Station. Of these 258 households, 67.4% (174) responded that they had received the information 25.6% (66) responded that they had not received the information, and 7.0% (18) did not know whether they had received the information. Using the approach discussed previously, the following estimates for the entire EPZ population resulted (at the 95% confidence interval):

- Between 61.6% and 72.5% of the households would have reported receiving the information;

- Between 20.7% and 31.1% of the households would have responded that they had not received the information; and

- Between 4.5% and 10.6% of the households would not have known whether they had received the information.

In conclusion, no areas of the River Bend Station siren system were identified as needing enhancements.

IV. FINDINGS FOR EVALUATION CRITERIA E.5, F.1, N.2, N.3, AND N.5

Those aspects of the alert and notification system addressing evaluation criteria E.5, F.1, N.2, N.3, and N.5 of NUREG-0654/FEMA-REP-1, Rev. 1, have been reviewed by FEMA and found to be adequate to provide reasonable assurance that appropriate protective measures can be taken off site in the event of a radiological emergency. This conclusion is documented in letters to the Honorable Edwin W. Edwards, Governor of Louisiana, signed by Robert H. Morris, Acting Director, FEMA, dated October 1, 1985;[4] and William J. Dircks, Executive Director for Operations, U.S. Nuclear Regulatory Commission, signed by Samuel W. Speck, Associate Director, State and Local Programs and Support, FEMA, dated October 8, 1985.[5] In these letters, the River Bend Station received FEMA approval under 44 CFR 350, conditioned on an ultimate approval and verification of the public alert and notification system as called for in NUREG-0654/FEMA-REP-1, Rev. 1.

REFERENCE LIST

1. Louisiana Department of Environmental Quality. 1986. Letter from William H. Spell, Administrator, Nuclear Energy Division, Office of Air Quality and Nuclear Energy, to Al Lookabaugh, FEMA, Region VI, dated June 6, 1986, enclosing four copies of "River Bend Station prompt notification system design report, prepared by Gulf States Utilities, June 1986."

2. U.S. Department of Commerce, Bureau of the Census. 1983. 1980 census of population. Volume 1, Chapter A, Part 1, "United States summary." PC80-1-A1. April 1983.

3. Gulf States Utilities. 1985. "River Bend Station final safety analysis report." June 1985.

4. Federal Emergency Management Agency. 1985. Letter to the Honorable Edwin W. Edwards, Governor of Louisiana, signed by Robert H. Morris, Acting Director. October 1, 1985.

5. Federal Emergency Management Agency. 1985. Letter to William J. Dircks, Executive Director for Operations, U.S. Nuclear Regulatory Commission, signed by Samuel W. Speck, Associate Director, State and Local Programs and Support. October 8, 1985.

6. Nuclear Regulatory Commission and Federal Emergency Management Agency. 1980. "Criteria for preparation and evaluation of radiological emergency response plans and preparedness in support of nuclear power plants." NUREG-0654/FEMA-REP-1. Revision 1. November 1980.

7. Federal Emergency Management Agency. 1985. "Guide for the evaluation of alert and notification systems for nuclear power plants." FEMA-REP-10. November 1985.

8. International Energy Associates Limited. 1983. "Analysis of siren system pilot test." IEAL-333. November 2, 1983.

APPENDIX A

OSPM Siren Topographical Profile Charts

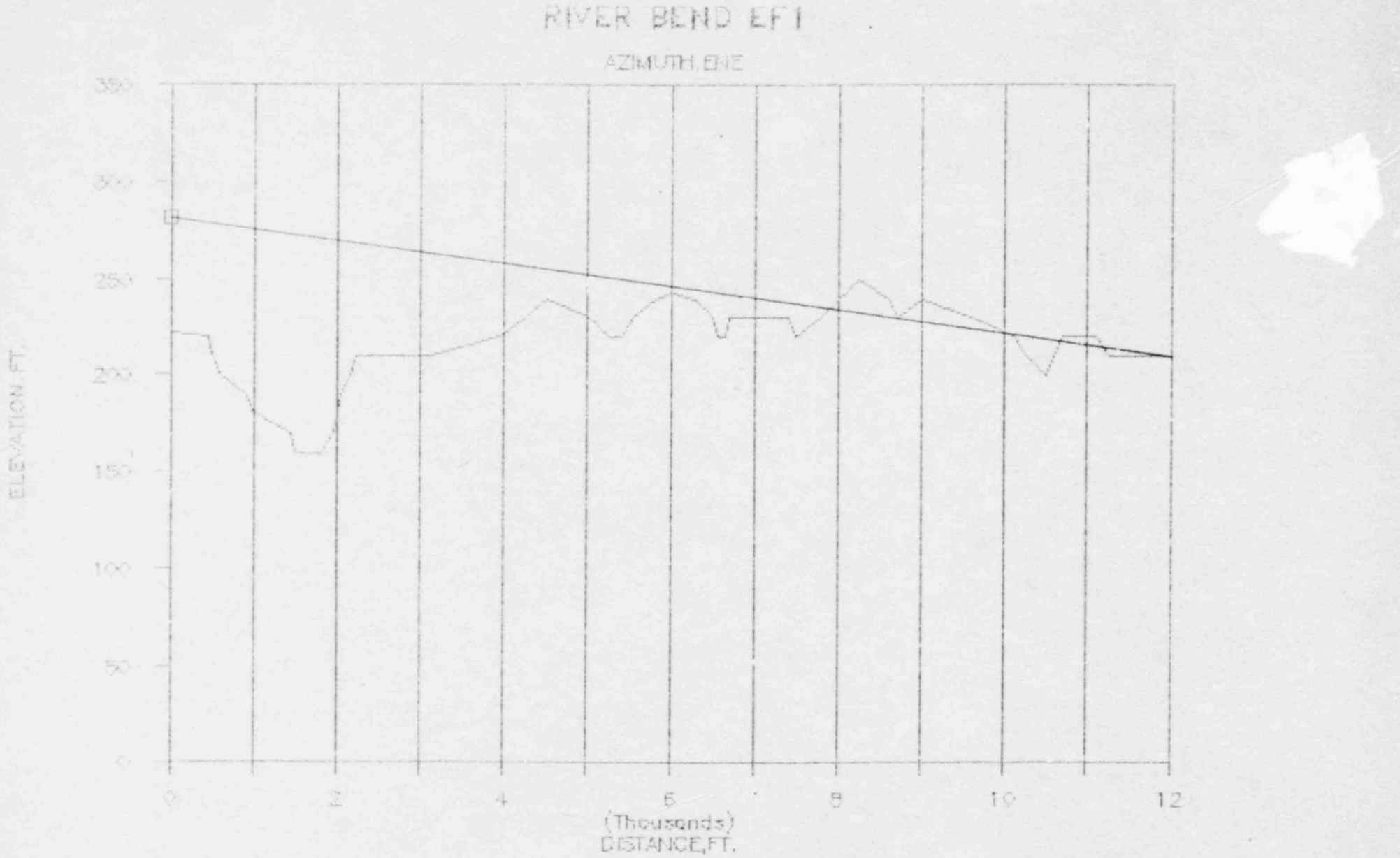
OSPM Siren Topographical Input Data

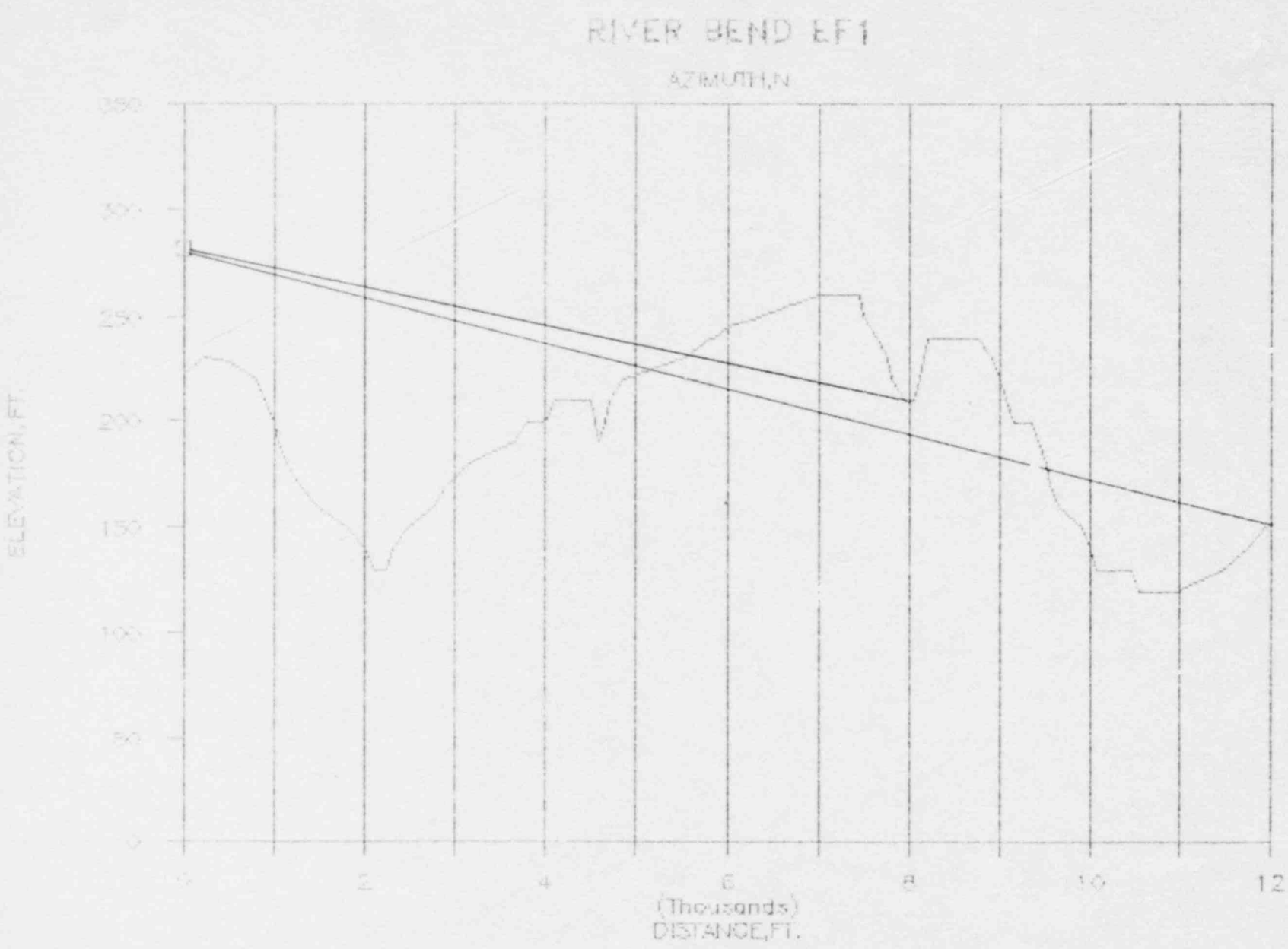
OSPM Siren Sound Pressure Level Input Data

OSPM Siren Meteorological Input Data

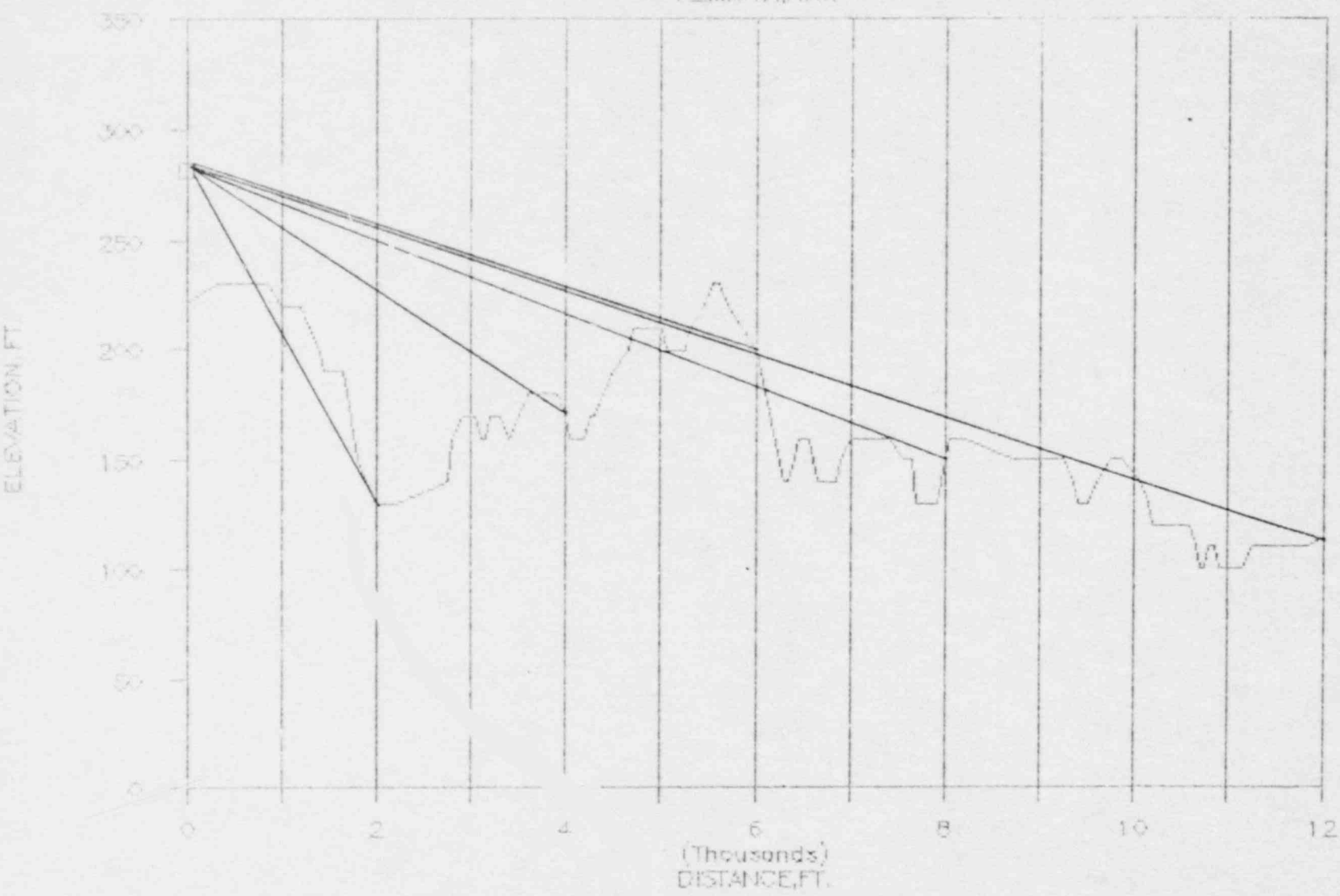
OSPM Siren Sound Pressure Level Output Data


RIVER BEND EF1
AZIMUTH,E
350
300
250
200
150
100
50
0
ELEVATION,FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE,FT.


RIVER BEND EFT
AZIMUTH, ENE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.


RIVER BEND EF1
AZIMUTH,N
300
250
200
150
100
50
0
ELEVATION,FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE,FT.

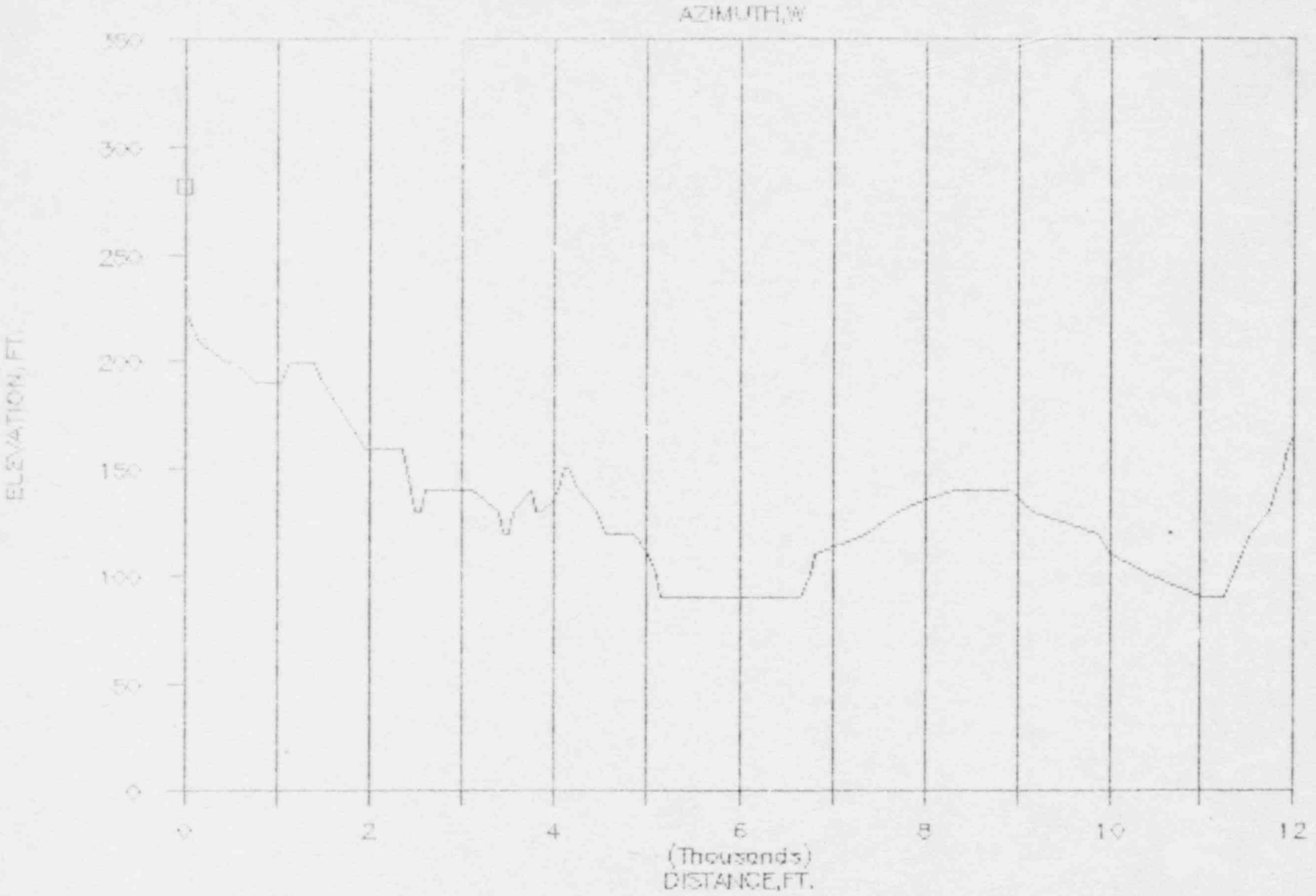
RIVER BEND EF1




RIVER BEND LF1
AZIMUTH,NW
ELEVATION,FT.
350
300
250
200
150
100
50
0
0
2
4
6
8
10
12
(Thousands)
DISTANCE,FT.

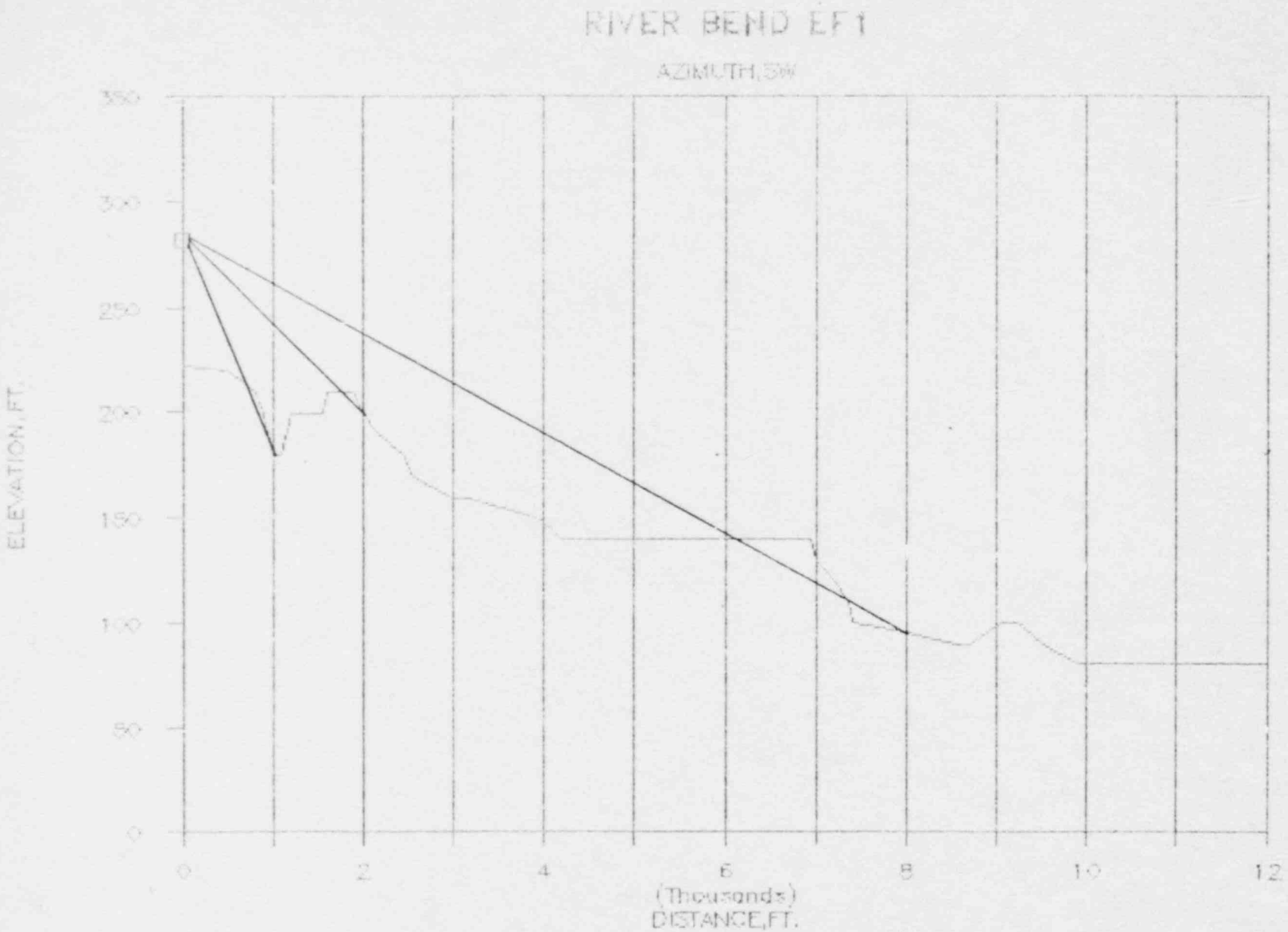

RIVER BEND EFT
AZIMUTH,WNW
350
300
250
200
150
100
50
0
ELEVATION,FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE,FT.

RIVER BEND EF1



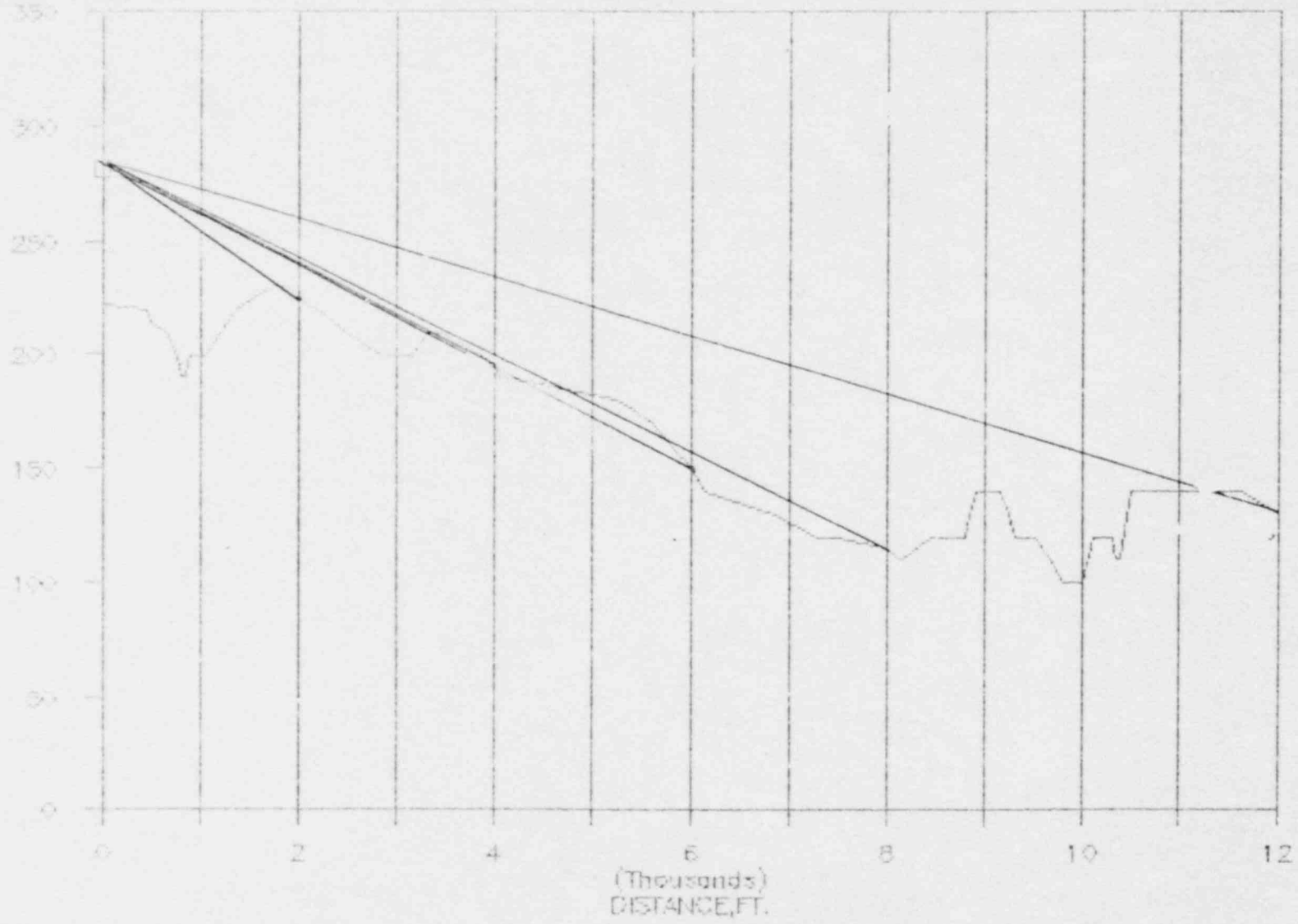
RIVER BEND EF1

AZIMUTH, =S%


RIVER BEND EF1
AZIMUTH, SW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND EF1

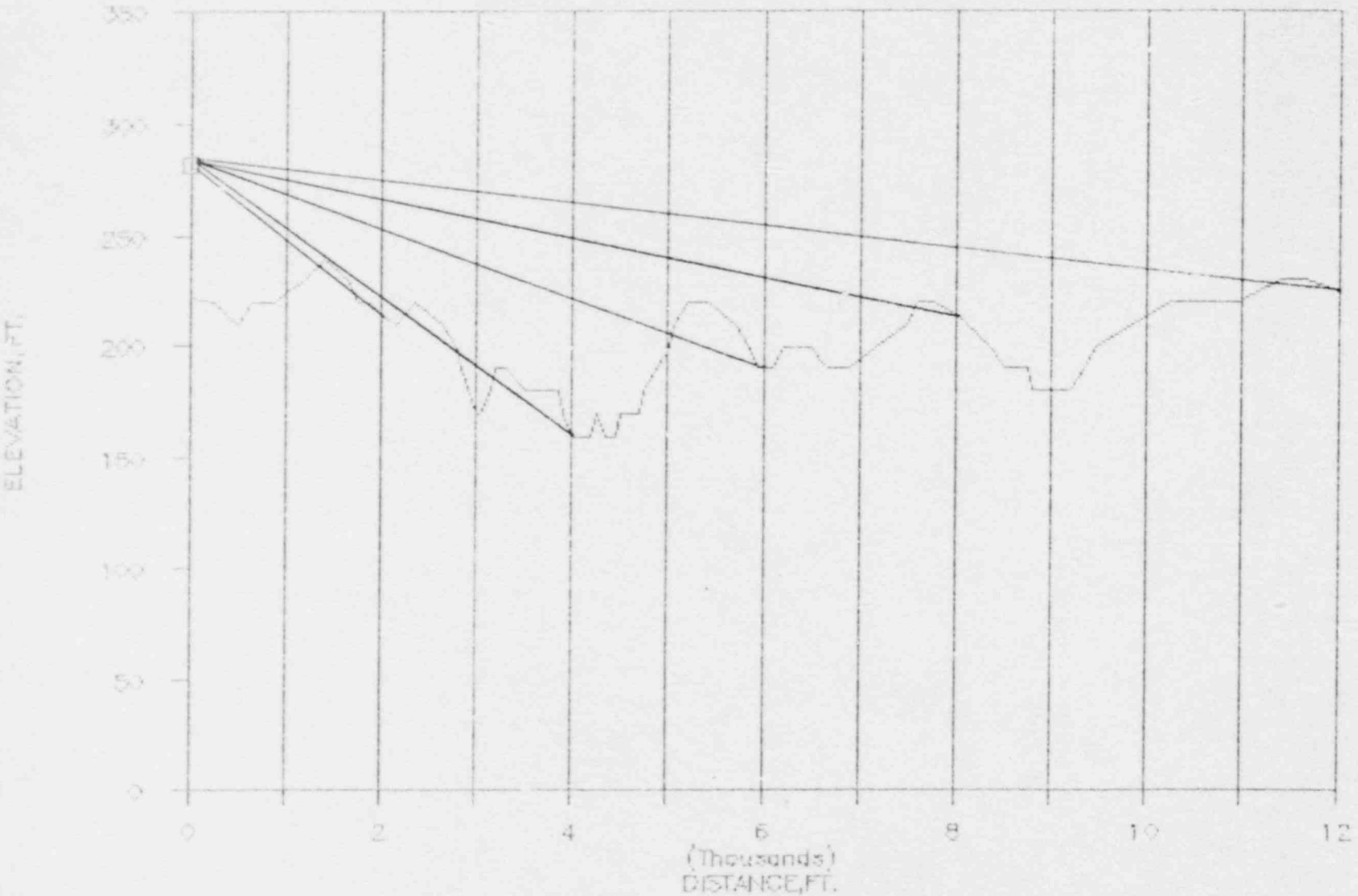
AZIMUTH 335W

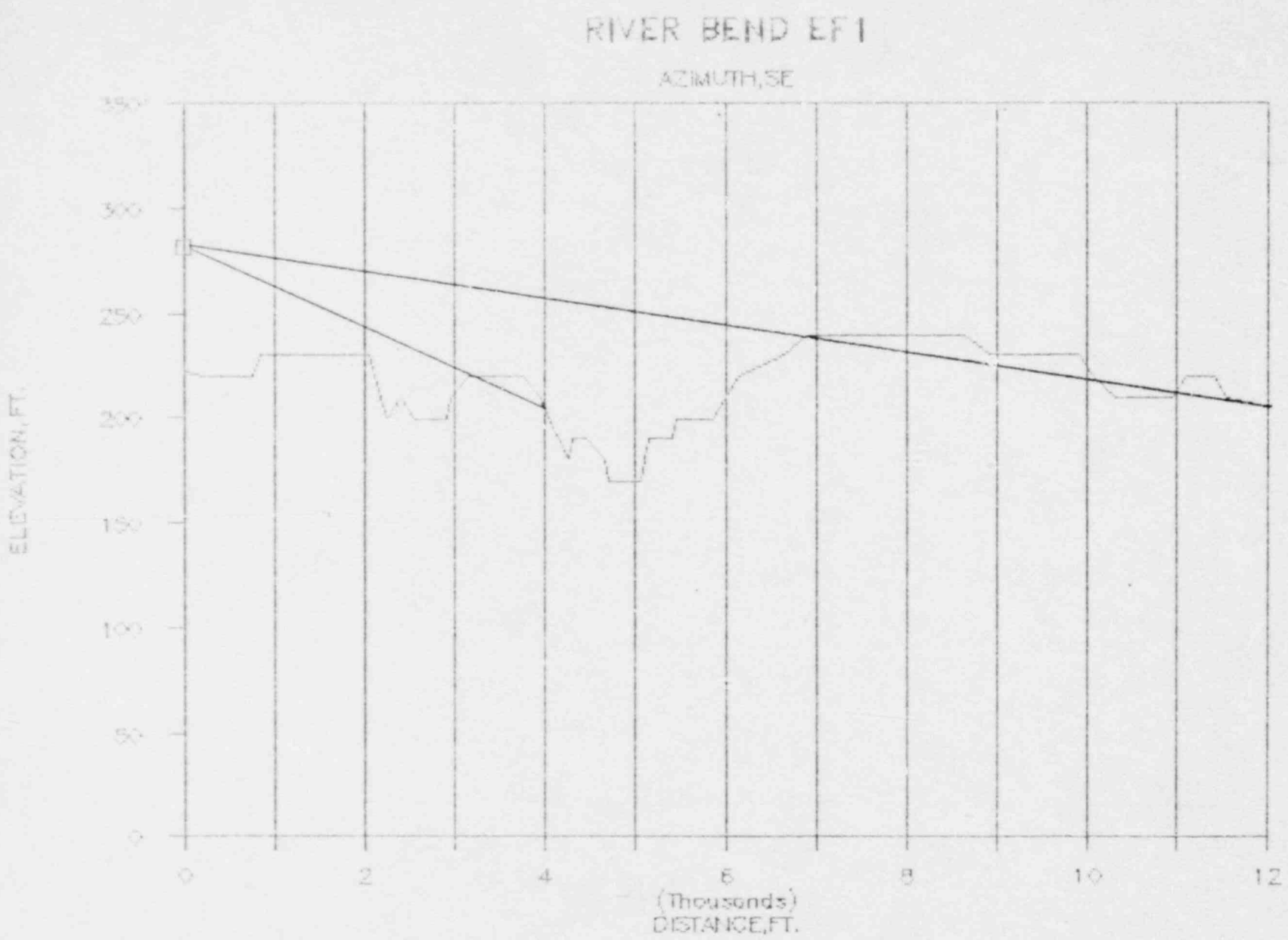


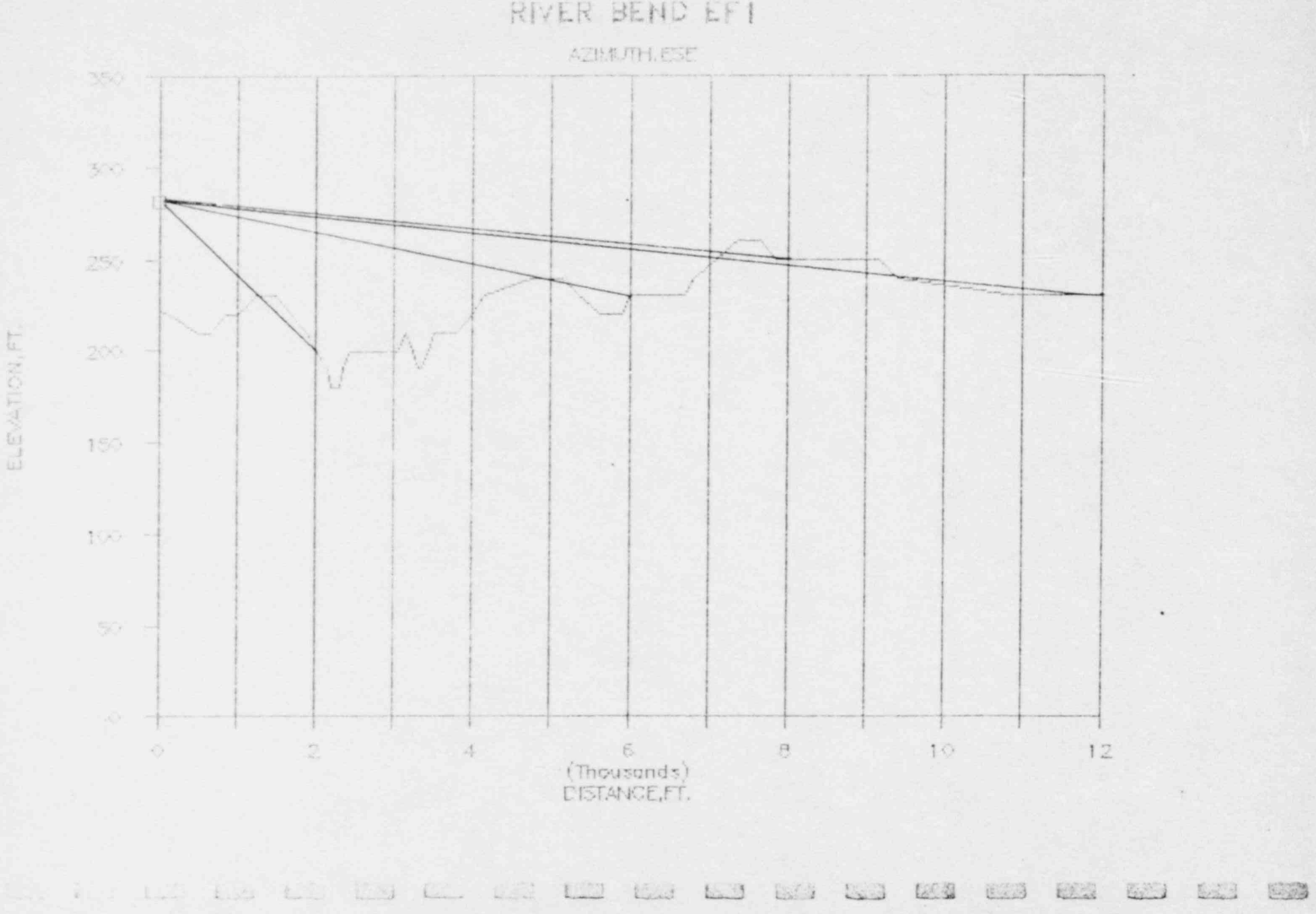

RIVER BEND EF1
AZIMUTH,S
350
300
250
200
150
100
50
0
ELEVATION,FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE,FT.

RIVER BEND EF1

AZIMUTH, SSE




RIVER BEND EF1
AZIMUTH,SE
350
300
250
200
150
100
50
0
ELEVATION,FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE,FT.


RIVER BEND EF1
AZIMUTH, ESE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF1-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	210.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	205.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	160.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	210.00	SOFT	0.	YES	3900.	220.
5	6000.	90.00	241.00	SOFT	0.	NO	0.	0.
6	8000.	90.00	242.00	SOFT	0.	YES	7600.	250.
7	12000.	90.00	245.00	SOFT	0.	YES	11500.	250.
8	500.	67.50	210.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	180.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	180.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	221.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	243.00	SOFT	0.	NO	0.	0.
13	8000.	67.50	240.00	SOFT	0.	NO	0.	0.
14	12000.	67.50	210.00	SOFT	0.	YES	1250.	250.
15	500.	45.00	220.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	215.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	150.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	160.00	SOFT	0.	YES	2900.	210.
19	6000.	45.00	170.00	SOFT	0.	YES	5000.	200.
20	8000.	45.00	230.00	SOFT	0.	NO	0.	0.
21	12000.	45.00	170.00	SOFT	0.	YES	9400.	250.
22	500.	22.50	222.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	220.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	200.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	170.00	SOFT	0.	NO	0.	0.
26	6000.	22.50	220.00	SOFT	0.	NO	0.	0.
27	8000.	22.50	240.00	SOFT	0.	NO	0.	0.
28	12000.	22.50	150.00	SOFT	0.	YES	8800.	270.
29	500.	0.0	228.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	200.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	140.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	200.00	SOFT	0.	NO	0.	0.
33	6000.	0.0	245.00	SOFT	0.	NO	0.	0.
34	8000.	0.0	210.00	SOFT	0.	YES	7450.	260.
35	12000.	0.0	152.00	SOFT	0.	YES	7450.	260.
36	500.	337.50	230.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	220.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	130.00	SOFT	0.	YES	1200.	220.
39	4000.	337.50	170.00	SOFT	0.	YES	3900.	180.
40	6000.	337.50	200.00	SOFT	0.	YES	5600.	230.
41	8000.	337.50	150.00	SOFT	0.	YES	5600.	230.
42	12000.	337.50	115.00	SOFT	0.	YES	5600.	230.
43	500.	315.00	220.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	220.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	180.00	SOFT	0.	YES	1800.	180.
46	4000.	315.00	160.00	SOFT	0.	NO	0.	0.
47	6000.	315.00	100.00	SOFT	0.	YES	5250.	150.
48	8000.	315.00	120.00	SOFT	0.	NO	0.	0.
49	12000.	315.00	190.00	SOFT	0.	NO	0.	0.
50	500.	292.50	215.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	220.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	180.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	130.00	SOFT	0.	NO	0.	0.
54	6000.	292.50	95.00	SOFT	0.	YES	5250.	140.
55	8000.	292.50	120.00	SOFT	0.	NO	0.	0.
56	12000.	292.50	130.00	SOFT	0.	NO	0.	0.
57	500.	270.00	200.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	190.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	160.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	135.00	SOFT	0.	NO	0.	0.
61	6000.	270.00	90.00	SOFT	0.	NO	0.	0.
62	8000.	270.00	135.00	SOFT	0.	NO	0.	0.
63	12000.	270.00	165.00	SOFT	0.	NO	0.	0.
64	500.	247.50	220.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	198.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	175.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	152.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	90.00	SOFT	0.	YES	5850.	110.
69	8000.	247.50	110.00	SOFT	0.	NO	0.	0.
70	12000.	247.50	95.00	SOFT	0.	YES	11200.	110.
71	500.	225.00	220.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	180.00	SOFT	0.	YES	800.	210.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	200.00	SOFT	0.	YES	1900.	210.
74	4000.	225.00	148.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	140.00	SOFT	0.	NO	0.	0.
76	8000.	225.00	95.00	SOFT	0.	YES	6950.	140.
77	12000.	225.00	80.00	SOFT	0.	NO	0.	0.
78	500.	202.50	215.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	200.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	225.00	SOFT	0.	YES	1900.	230.
81	4000.	202.50	195.00	SOFT	0.	YES	3450.	210.
82	6000.	202.50	150.00	SOFT	0.	YES	5250.	180.
83	8000.	202.50	115.00	SOFT	0.	YES	5250.	180.
84	12000.	202.50	130.00	SOFT	0.	YES	11600.	140.
85	500.	180.00	210.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	220.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	200.00	SOFT	0.	YES	1950.	210.
88	4000.	180.00	180.00	SOFT	0.	NO	0.	0.
89	6000.	180.00	190.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	190.00	SOFT	0.	NO	0.	0.
91	12000.	180.00	200.00	SOFT	0.	NO	0.	0.
92	500.	157.50	210.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	225.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	215.00	SOFT	0.	YES	1400.	240.
95	4000.	157.50	160.00	SOFT	0.	YES	2350.	220.
96	6000.	157.50	190.00	SOFT	0.	YES	5400.	220.
97	8000.	157.50	215.00	SOFT	0.	YES	7750.	220.
98	12000.	157.50	225.00	SOFT	0.	YES	11650.	230.
99	500.	135.00	220.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	230.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	230.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	205.00	SOFT	0.	YES	3750.	220.
103	6000.	135.00	210.00	SOFT	0.	NO	0	0.
104	8000.	135.00	240.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	265.00	SOFT	0.	YES	8650.	240.
106	500.	112.50	210.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	220.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	200.00	SOFT	0.	YES	1500.	230.
109	4000.	112.50	220.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	230.00	SOFT	0.	YES	5150.	240.
111	8000.	112.50	250.00	SOFT	0.	YES	7650.	260.
112	12000.	112.50	230.00	SOFT	0.	YES	7650.	260.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF1-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 2?2.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF1-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

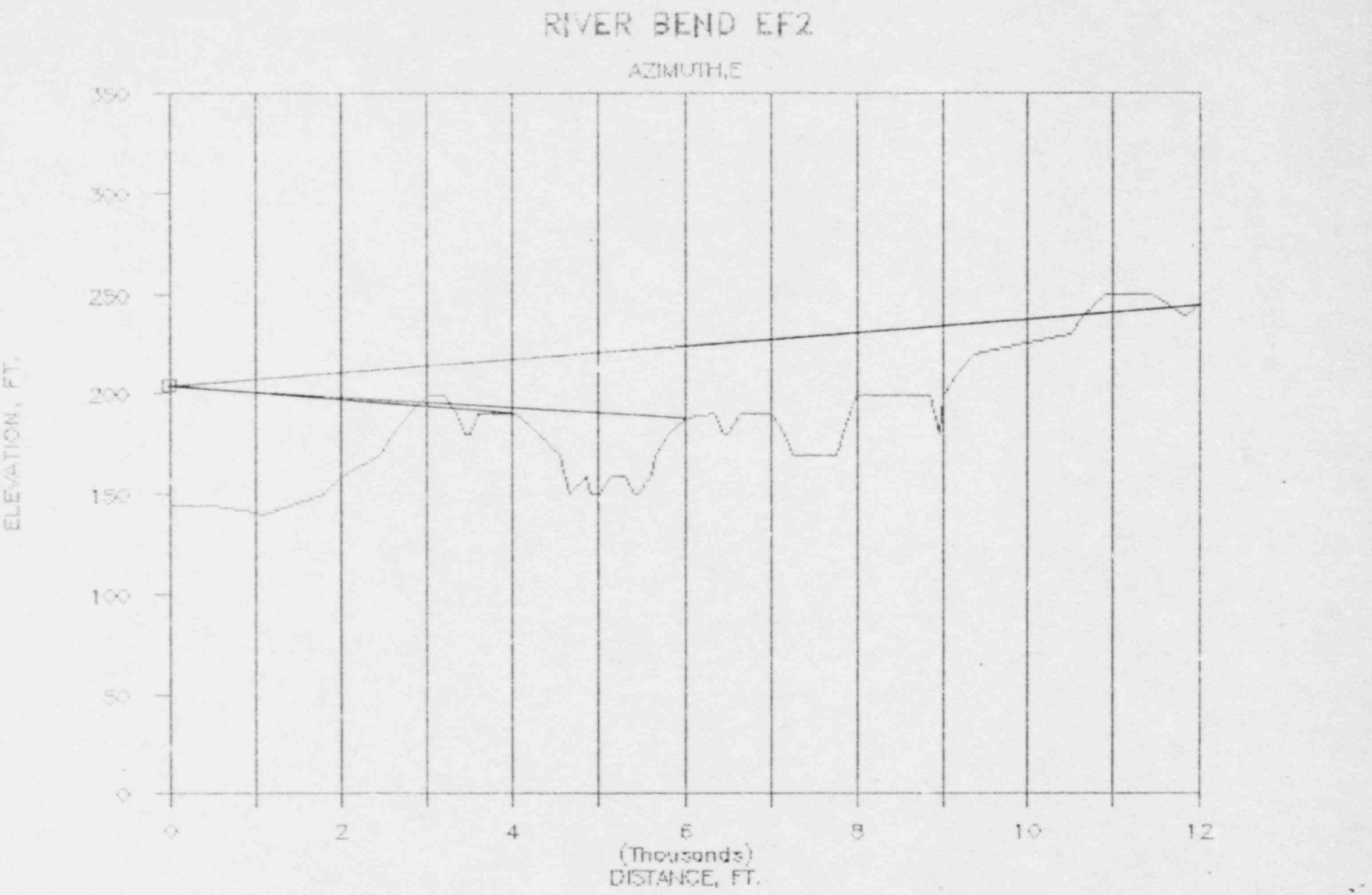
YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
1986		6	24	12	24.0	1.9		31.6	30.8	62.0	763.0

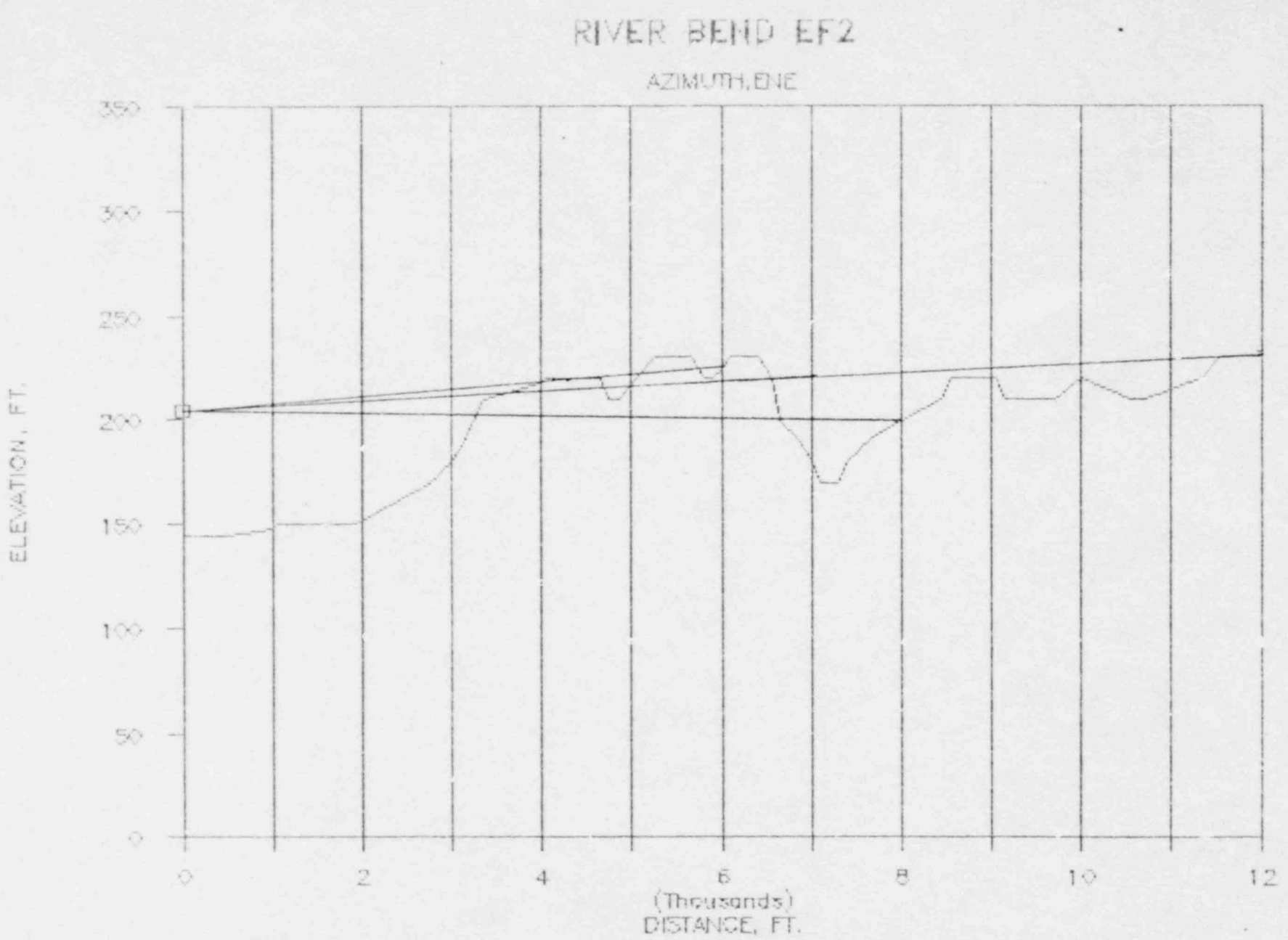
GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF1-WS3000R

SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

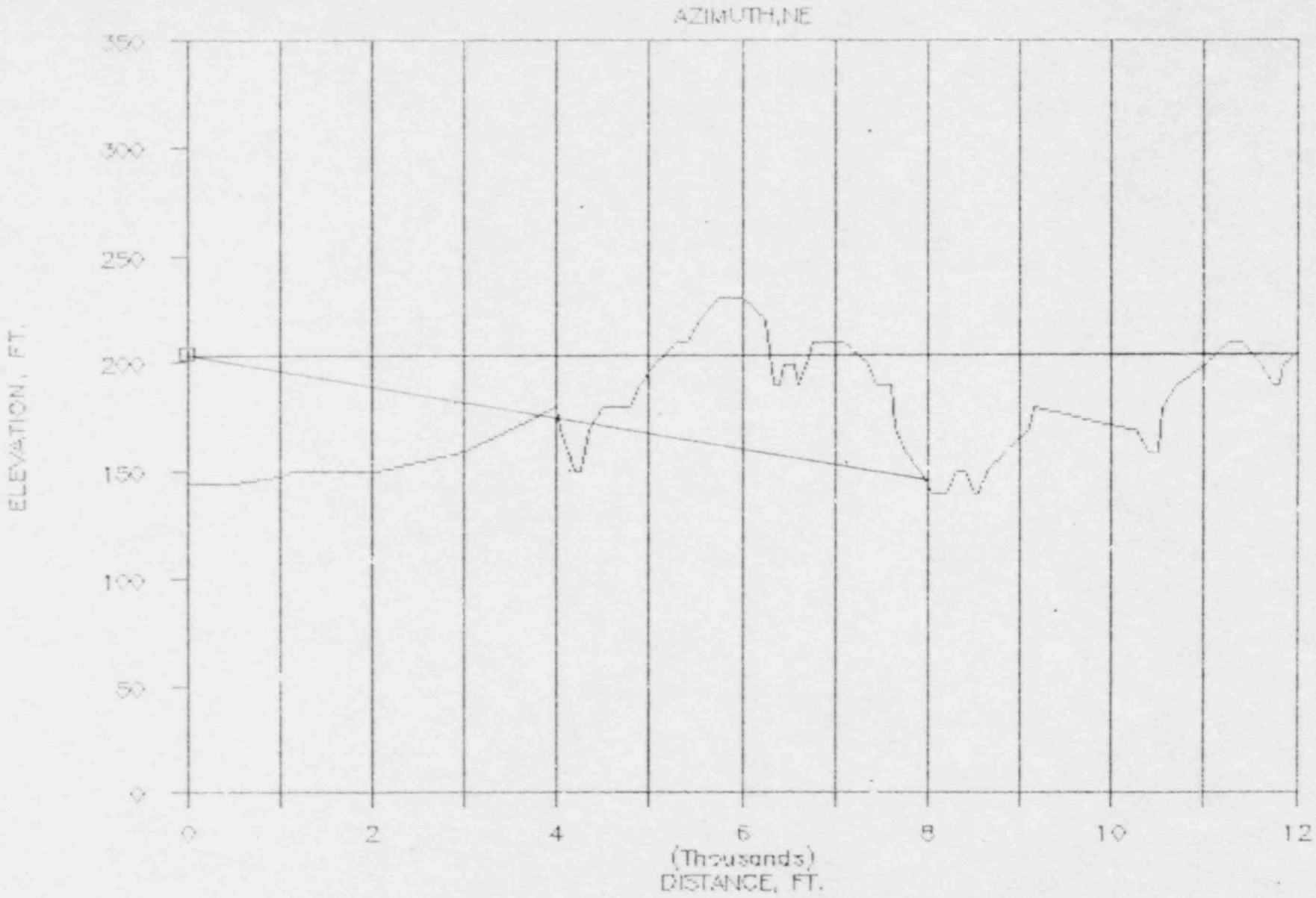
DISTANCE IN FEET

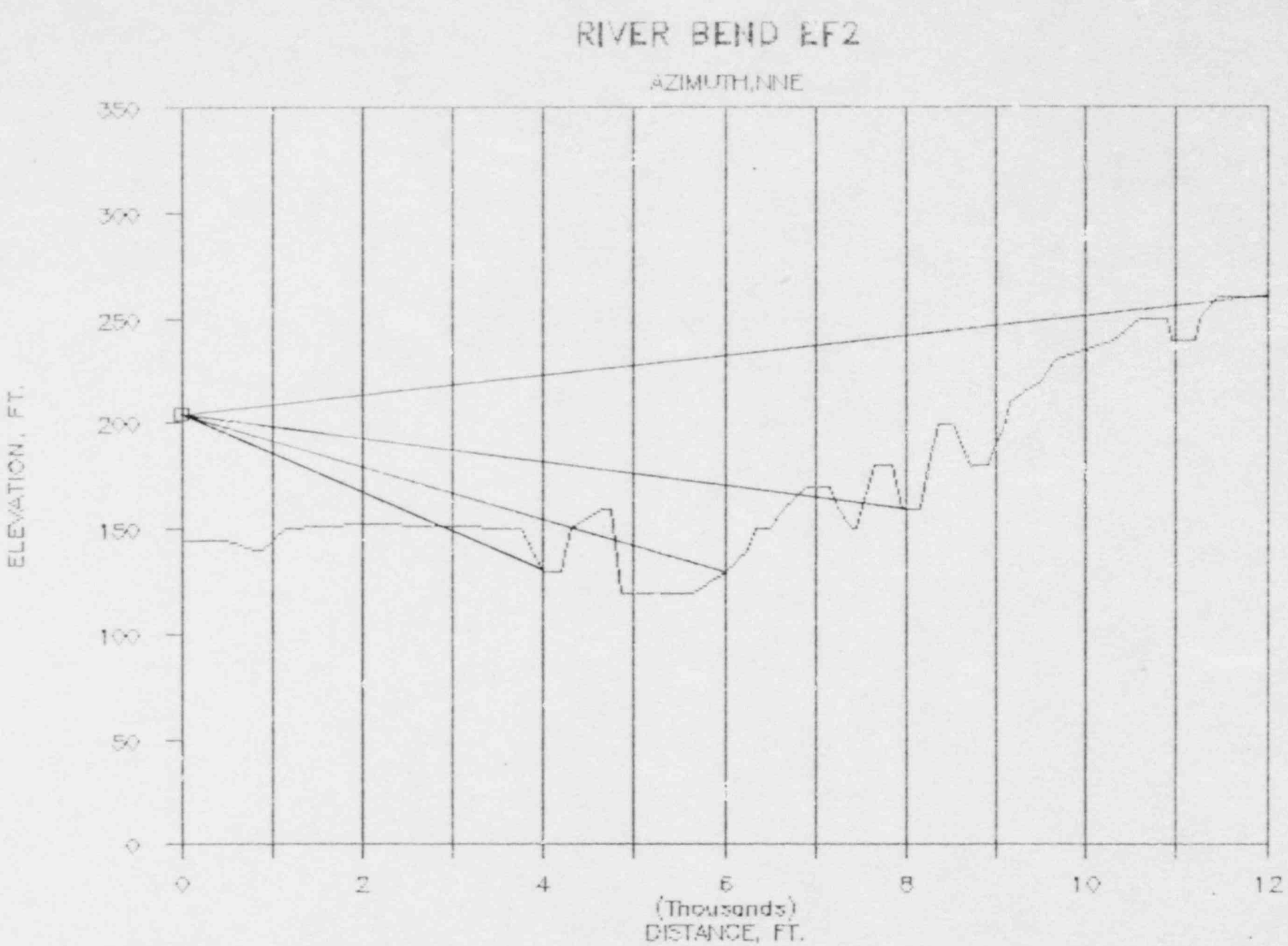
AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.7	92.2	77.7	59.6	62.2	52.3	41.7
ENE	105.7	92.2	77.7	67.7	62.2	58.4	43.0
NE	105.7	92.2	77.7	60.9	56.4	58.4	41.0
NNE	105.7	92.3	77.7	67.7	62.2	58.4	38.6
N	105.7	92.2	77.7	67.7	62.2	44.9	41.6
NNW	105.7	92.3	66.5	60.2	51.8	49.4	43.8
NW	105.7	92.3	69.7	67.7	52.9	57.4	46.2
WNW	105.7	92.3	77.7	67.7	54.0	58.4	51.0
W	105.6	92.2	77.7	67.7	62.2	58.4	51.0
WSW	105.7	92.2	77.7	67.7	51.9	58.4	46.2
SW	105.7	83.3	70.6	67.7	62.2	51.1	51.0
SSW	105.7	92.2	72.6	62.7	55.8	53.4	45.8
S	105.7	92.3	67.6	67.7	62.2	58.4	51.0
SSE	105.7	92.3	72.5	62.2	53.8	53.3	46.0
SE	105.7	92.3	77.8	60.5	62.2	58.4	44.2
ESE	105.7	92.3	71.2	67.7	57.3	52.2	45.9


RIVER BEND EF2
AZIMUTH,E
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

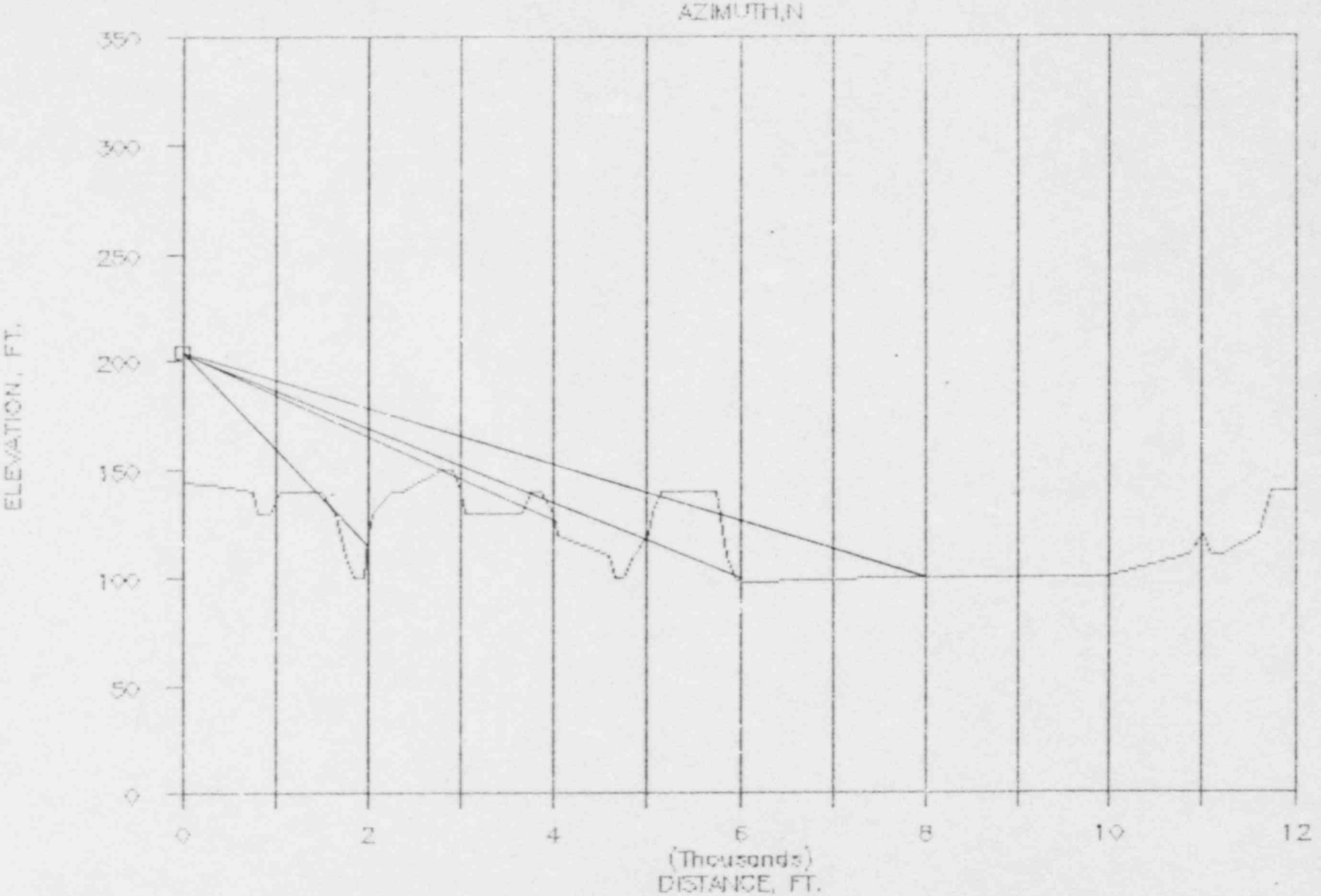

RIVER BEND EF2
AZIMUTH, ENE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

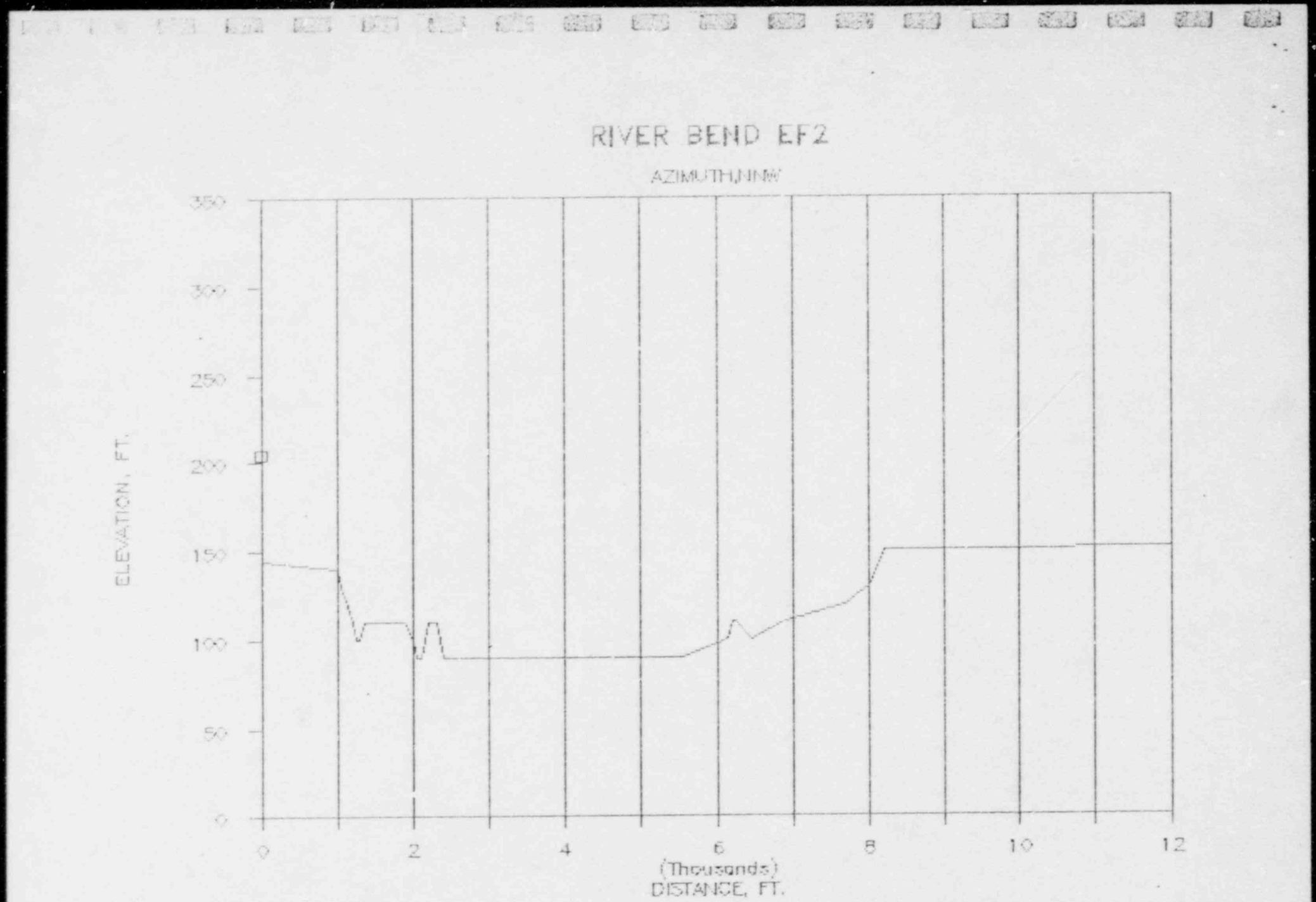
RIVER BEND EF2




RIVER BEND EF2
AZIMUTH,NNE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

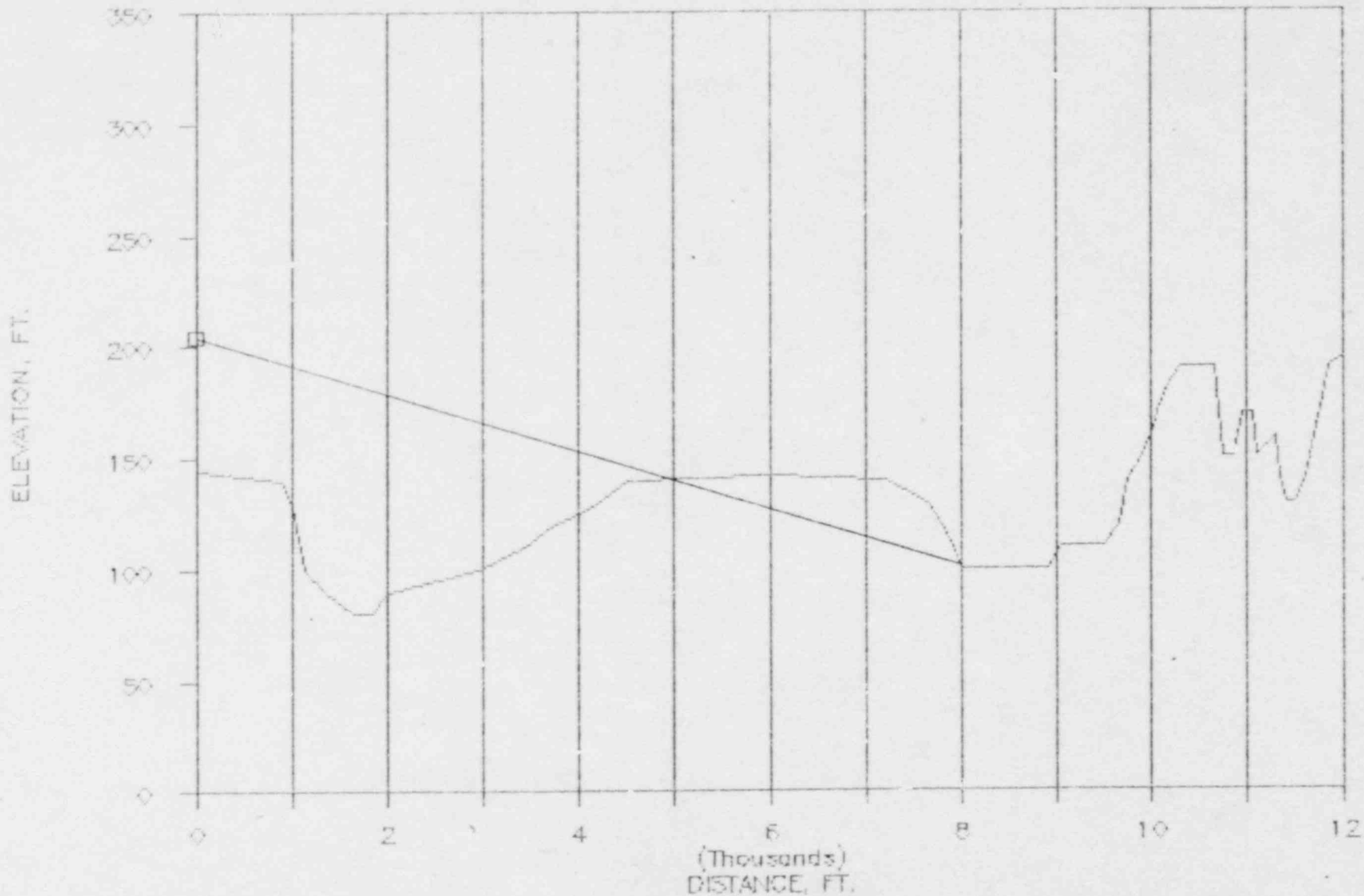
RIVER BEND EF2

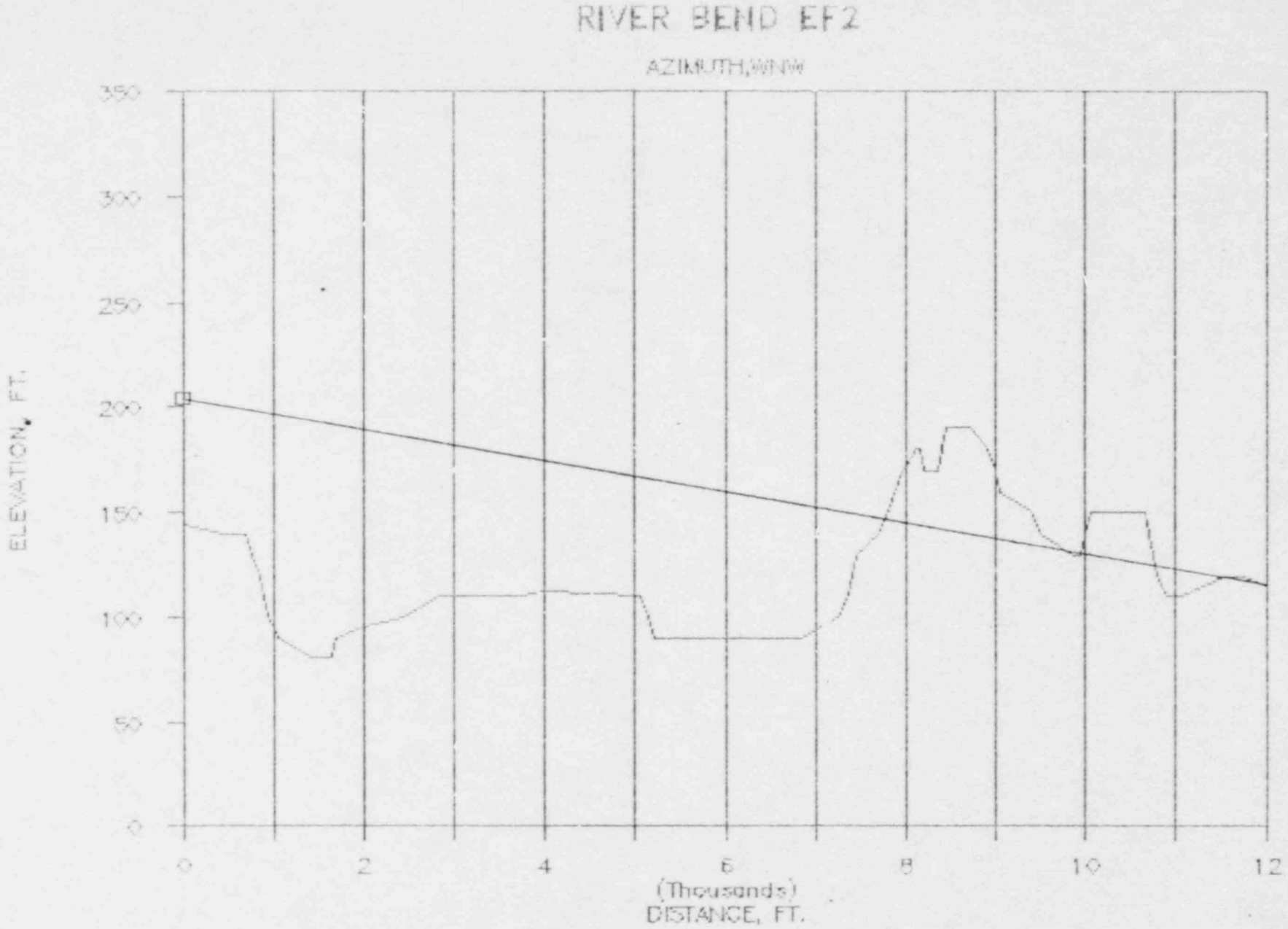



RIVER BEND EF2
AZIMUTH,N-NW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

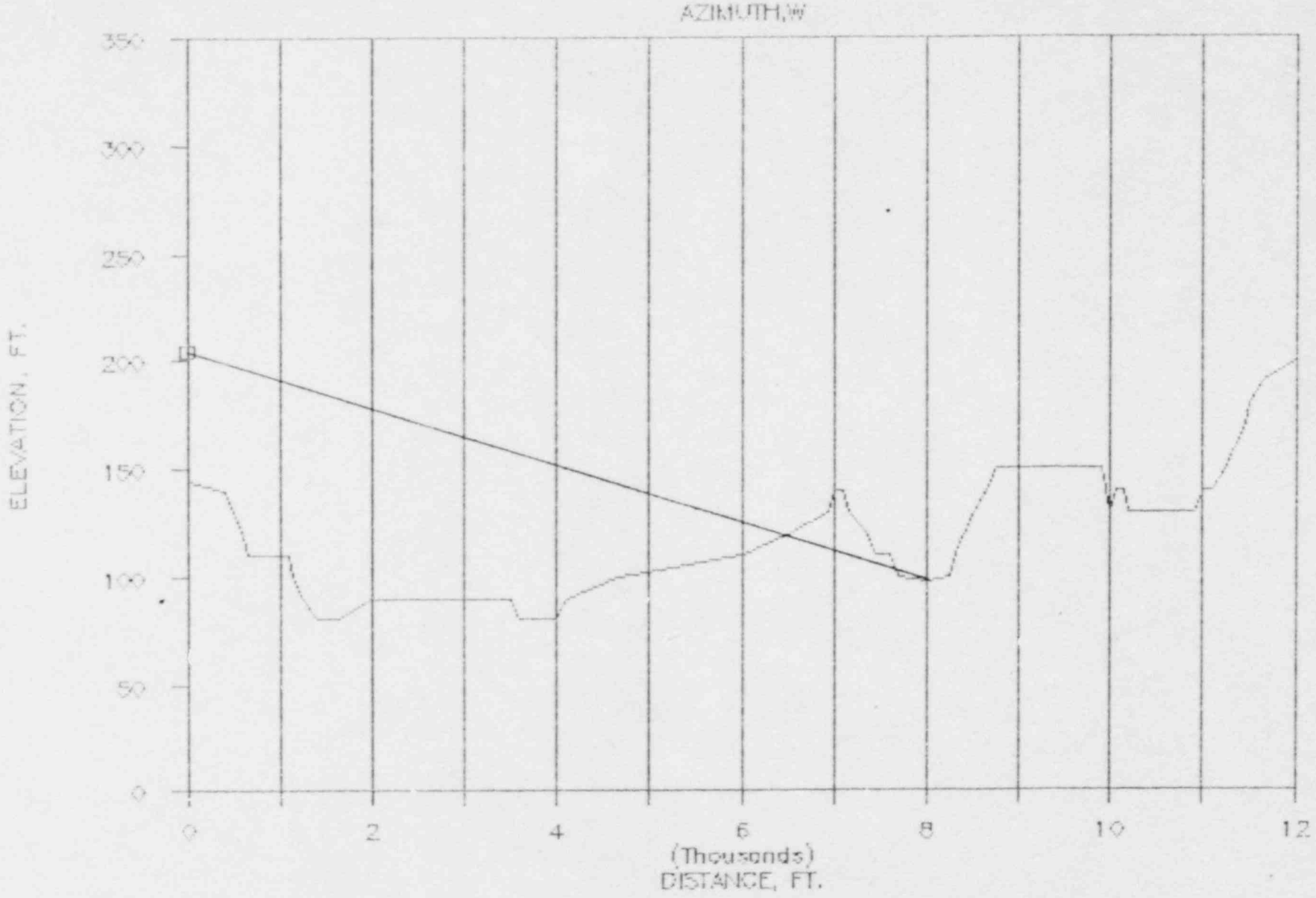
RIVER BEND EF2

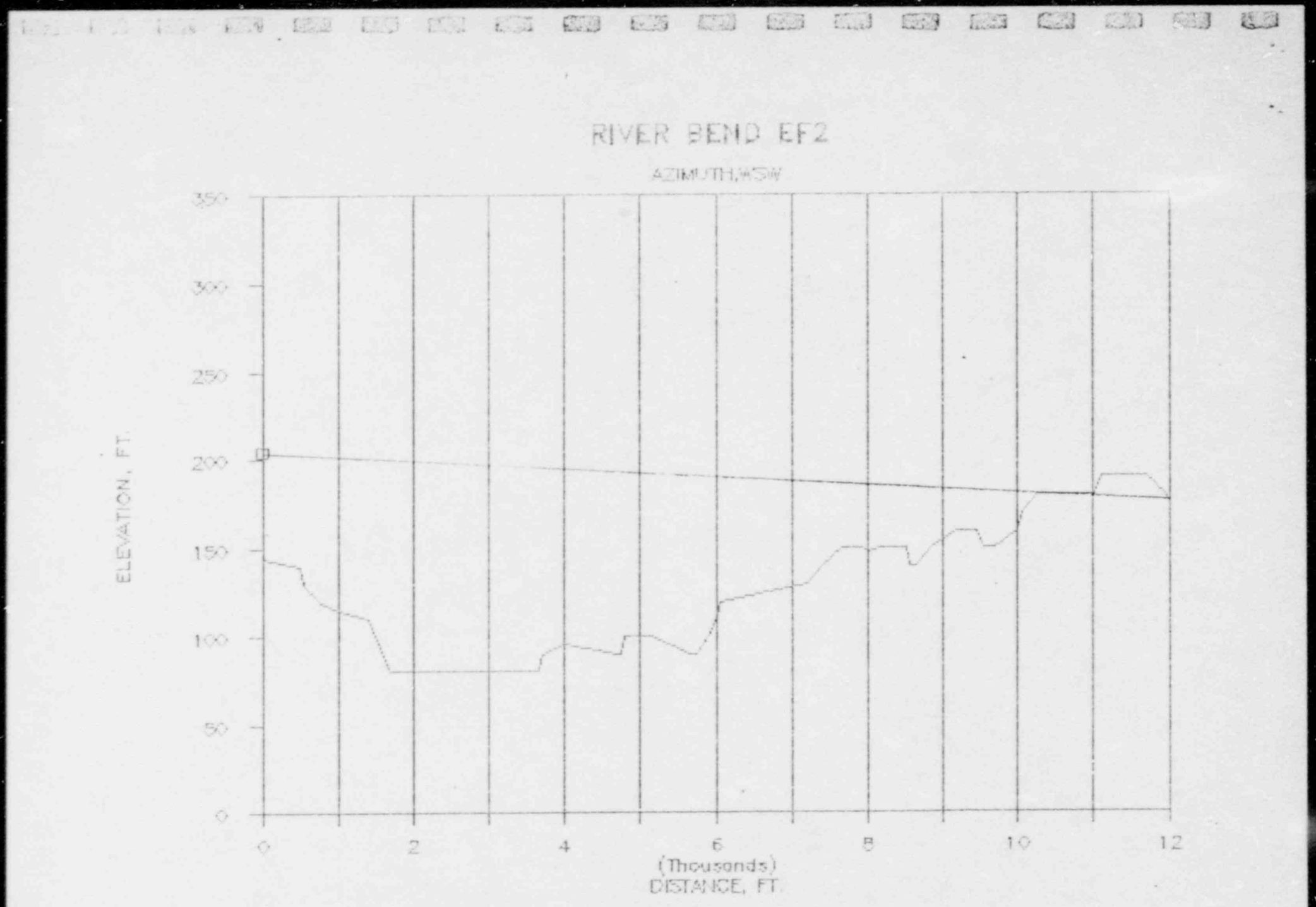
AZIMUTH: NW




RIVER BEND EF2
AZIMUTH, WNW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

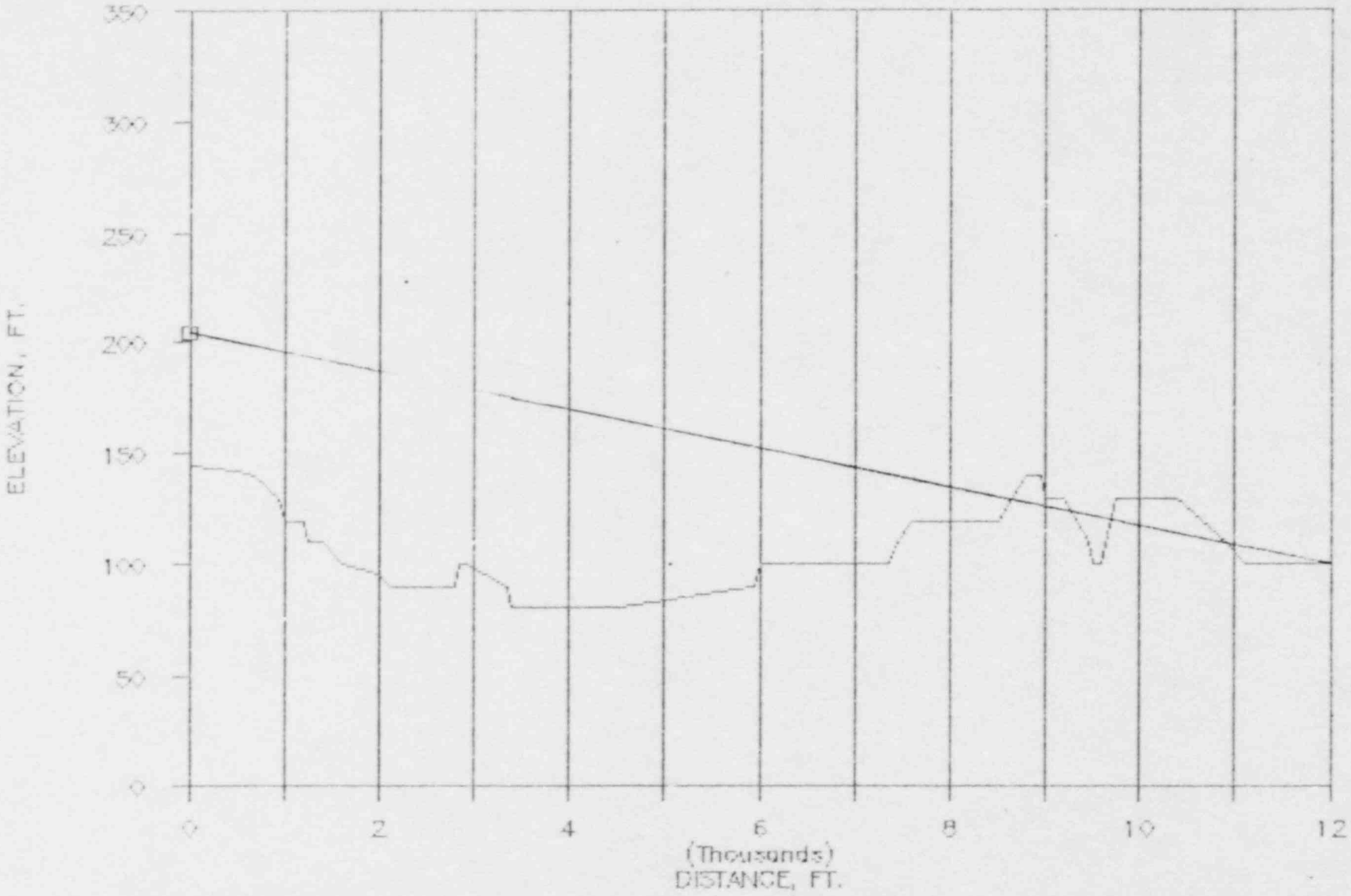
RIVER BEND EF2




RIVER BEND EF2
AZIMUTH, WSW
ELEVATION, FT.
350
300
250
200
150
100
50
0
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

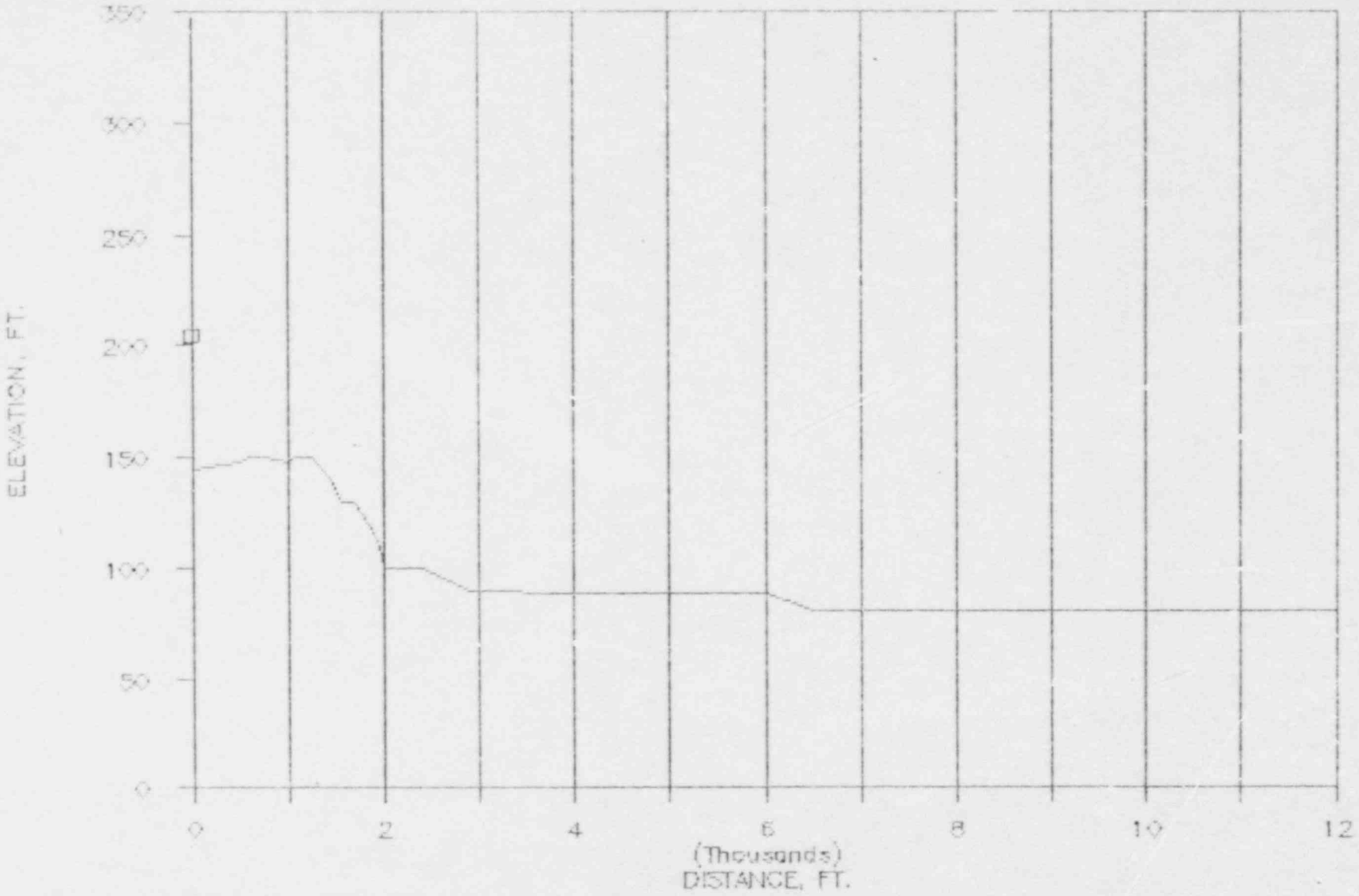
RIVER BEND EF2

AZIMUTH, SW



RIVER BEND EF2

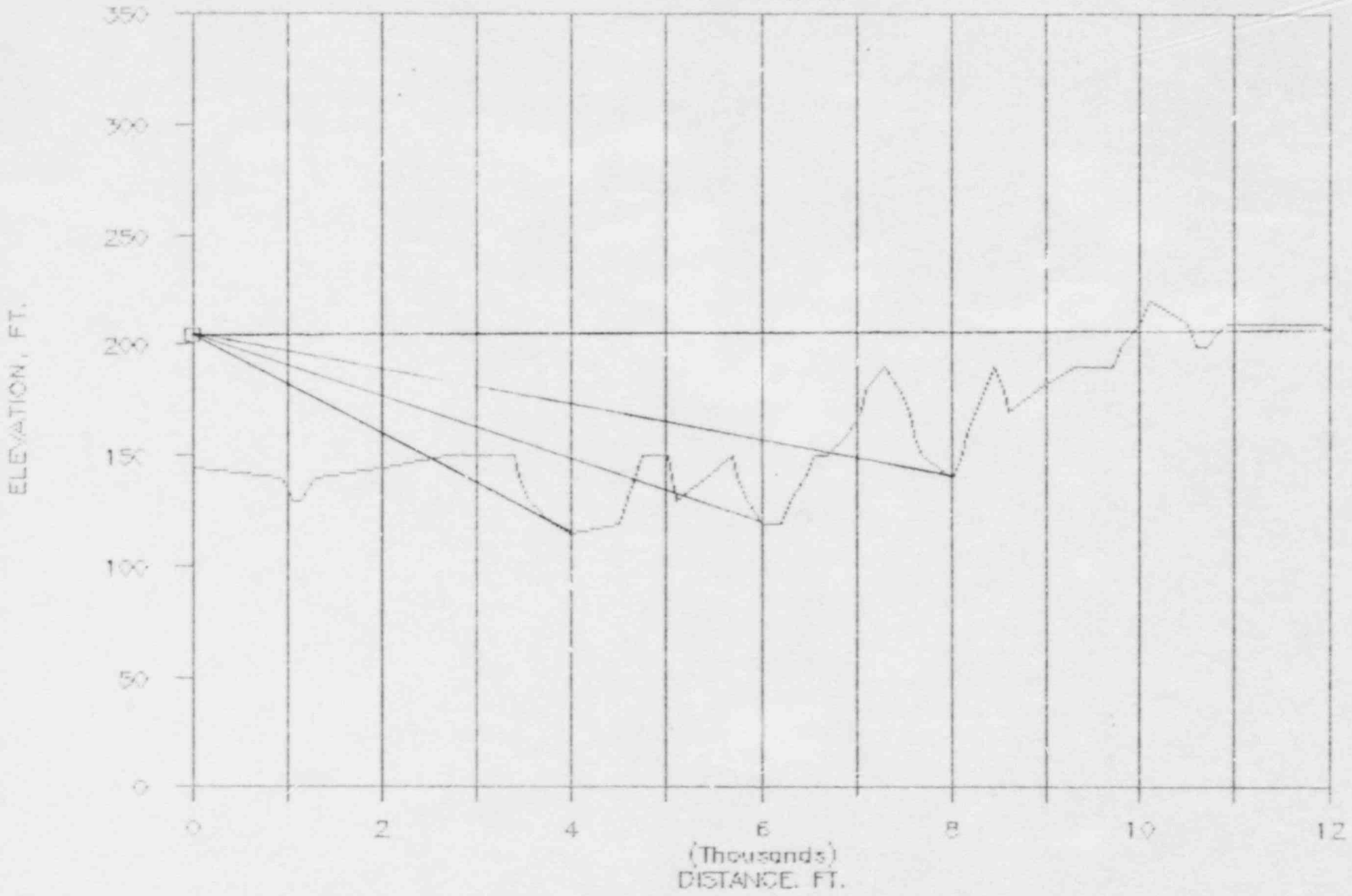
AZIMUTH, 35W




RIVER BEND EF2
AZIMUTH,S
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

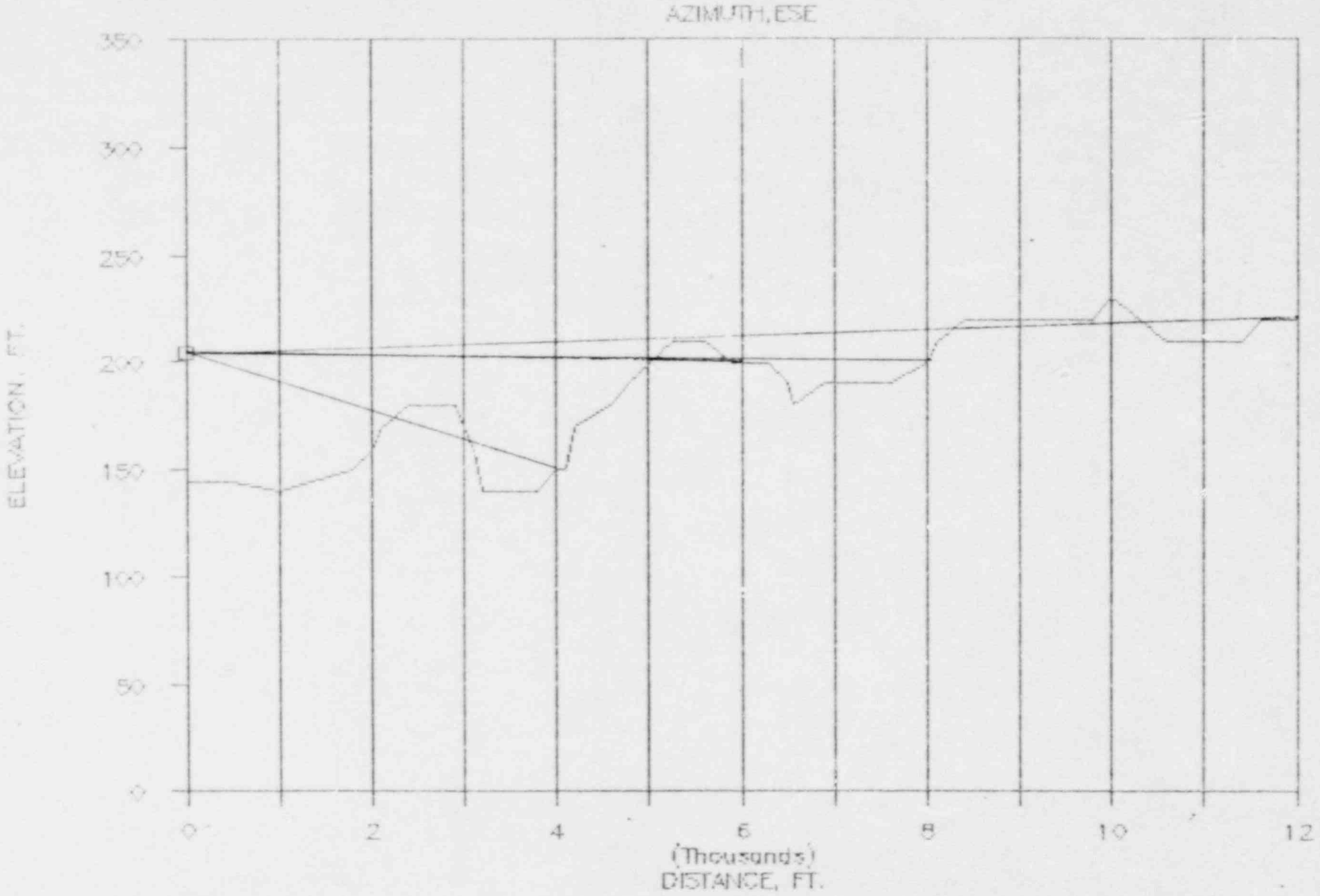
RIVER BEND EF2

AZIMUTH, SSE




RIVER BEND EF2
AZIMUTH, SE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND EF2



GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF2-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	145.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	141.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	160.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	190.00	SOFT	0.	YES	3200.	200.
5	6000.	90.00	188.00	SOFT	0.	YES	3200.	200.
6	8000.	90.00	200.00	SOFT	0.	NO	0.	0.
7	12000.	90.00	245.00	SOFT	0.	YES	11450.	250.
8	500.	67.50	145.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	148.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	152.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	218.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	225.00	SOFT	0.	YES	5650.	230.
13	8000.	67.50	200.00	SOFT	0.	YES	5650.	230.
14	12000.	67.50	230.00	SOFT	0.	YES	5650.	230.
15	500.	45.00	145.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	148.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	150.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	180.00	SOFT	0.	NO	0.	0.
19	6000.	45.00	230.00	SOFT	0.	NO	0.	0.
20	8000.	45.00	145.00	SOFT	0.	YES	6000.	230.
21	12000.	45.00	205.00	SOFT	0.	YES	6000.	230.
22	500.	22.50	145.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	145.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	153.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	130.00	SOFT	0.	YES	3750.	150.
26	6000.	22.50	130.00	SOFT	0.	YES	4750.	160.
27	8000.	22.50	160.00	SOFT	0.	YES	7850.	180.
28	12000.	22.50	260.00	SOFT	0.	YES	11250.	150.
29	500.	0.0	142.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	135.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	120.00	SOFT	0.	YES	1500.	140.
32	4000.	0.0	130.00	SOFT	0.	YES	2900.	150.
33	6000.	0.0	98.00	SOFT	0.	YES	5750.	140.
34	8000.	0.0	100.00	SOFT	0.	YES	5750.	140.
35	12000.	0.0	140.00	SOFT	0.	NO	0.	0.
36	500.	337.50	142.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	140.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	100.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	90.00	SOFT	0.	NO	0.	0.
40	6000.	337.50	98.00	SOFT	0.	NO	0.	0.
41	8000.	337.50	100.00	SOFT	0.	NO	0.	0.
42	12000.	337.50	140.00	SOFT	0.	NO	0.	0.
43	500.	315.00	142.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	130.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	90.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	125.00	SOFT	0.	NO	0.	0.
47	6000.	315.00	142.00	SOFT	0.	NO	0.	0.
48	8000.	315.00	100.00	SOFT	0.	YES	6000.	142.
49	12000.	315.00	195.00	SOFT	0.	NO	0.	0.
50	500.	292.50	140.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	95.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	95.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	112.00	SOFT	0.	NO	0.	0.
54	6000.	292.50	90.00	SOFT	0.	NO	0.	0.
55	8000.	292.50	172.00	SOFT	0.	NO	0.	0.
56	12000.	292.50	115.00	SOFT	0.	YES	8700.	190.
57	500.	270.00	130.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	110.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	90.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	80.00	SOFT	0.	NO	0.	0.
61	6000.	270.00	115.00	SOFT	0.	NO	0.	0.
62	8000.	270.00	98.00	SOFT	0.	YES	7100.	140.
63	12000.	270.00	200.00	SOFT	0.	NO	0.	0.
64	500.	247.50	140.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	115.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	80.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	95.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	110.00	SOFT	0.	NO	0.	0.
69	8000.	247.50	130.00	SOFT	0.	NO	0.	0.
70	12000.	247.50	175.00	SOFT	0.	YES	11700.	190.
71	500.	225.00	142.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	120.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	95.00	SOFT	0.	NO	0.	0.
74	4000.	225.00	80.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	100.00	SOFT	0.	NO	0.	0.
76	8000.	225.00	120.00	SOFT	0.	NO	0.	0.
77	12000.	225.00	100.00	SOFT	0.	YES	8950.	140.
78	500.	202.50	148.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	148.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	100.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	88.00	SOFT	0.	NO	0.	0.
82	6000.	202.50	88.00	SOFT	0.	NO	0.	0.
83	8000.	202.50	80.00	SOFT	0.	NO	0.	0.
84	12000.	202.50	80.00	SOFT	0.	NO	0.	0.
85	500.	180.00	149.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	140.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	120.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	115.00	SOFT	0.	YES	3450.	140.
89	6000.	180.00	120.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	150.00	SOFT	0.	NO	0.	0.
91	12000.	180.00	170.00	SOFT	0.	NO	0.	0.
92	500.	157.50	142.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	135.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	145.00	SOFT	0.	NO	0.	0.
95	4000.	157.50	115.00	SOFT	0.	YES	3400.	150.
96	6000.	157.50	120.00	SOFT	0.	YES	5700.	150.
97	8000.	157.50	140.00	SOFT	0.	YES	7300.	190.
98	12000.	157.50	135.00	SOFT	0.	YES	10100.	220.
99	500.	135.00	142.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	140.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	152.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	120.00	SOFT	0.	NO	0.	0.
103	6000.	135.00	130.00	SOFT	0.	NO	0.	0.
104	8000.	135.00	150.00	SOFT	0.	YES	7100.	180.
105	12000.	135.00	200.00	SOFT	0.	YES	11700.	220.
106	500.	112.50	142.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	141.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	145.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	140.00	SOFT	0.	YES	2900.	180.
110	6000.	112.50	200.00	SOFT	0.	YES	5600.	210.
111	8000.	112.50	200.00	SOFT	0.	YES	5600.	210.
112	12000.	112.50	220.00	SOFT	0.	YES	10000.	230.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF2-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 205.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF2-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
1986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.0

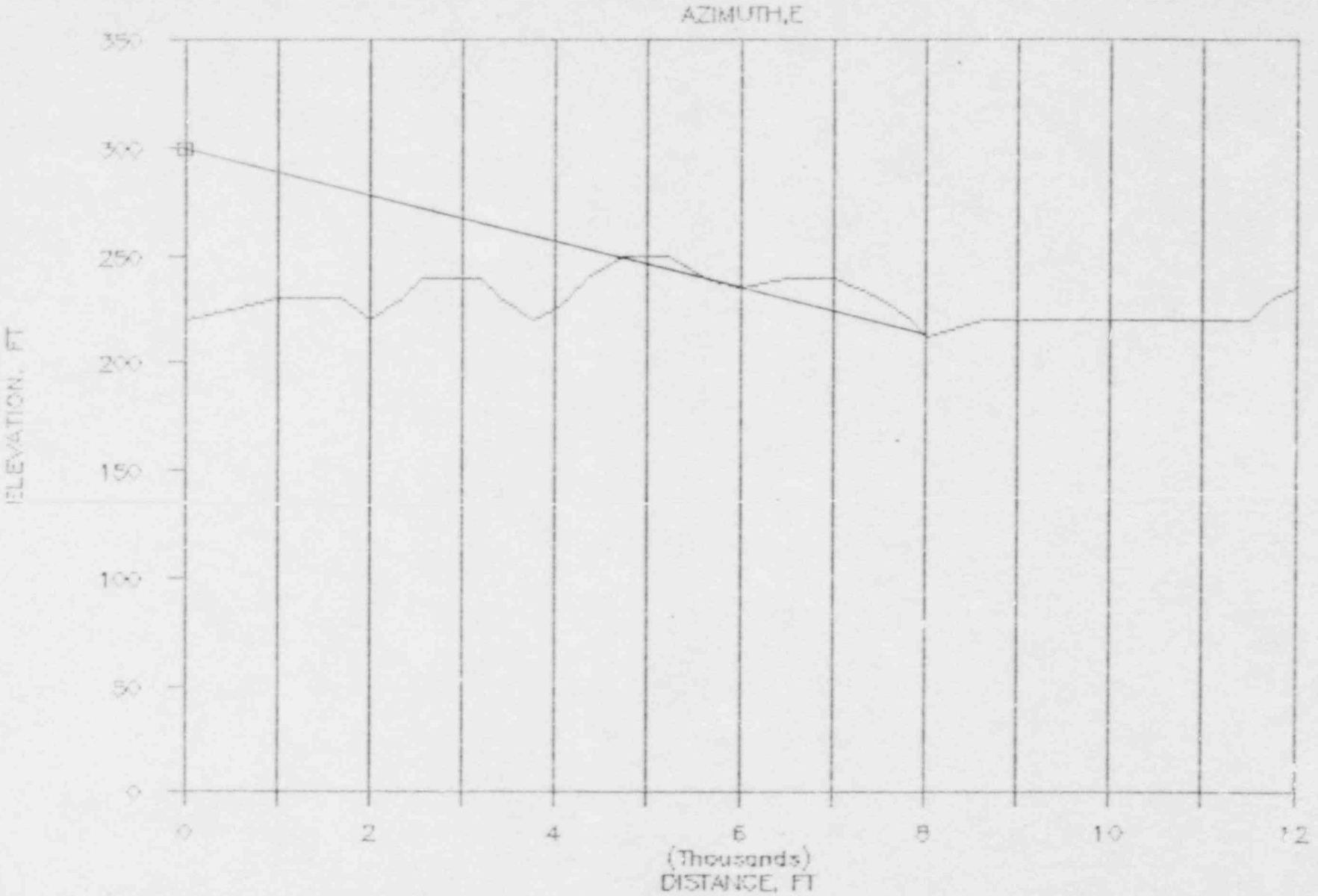
GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF2-WS3000R

SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

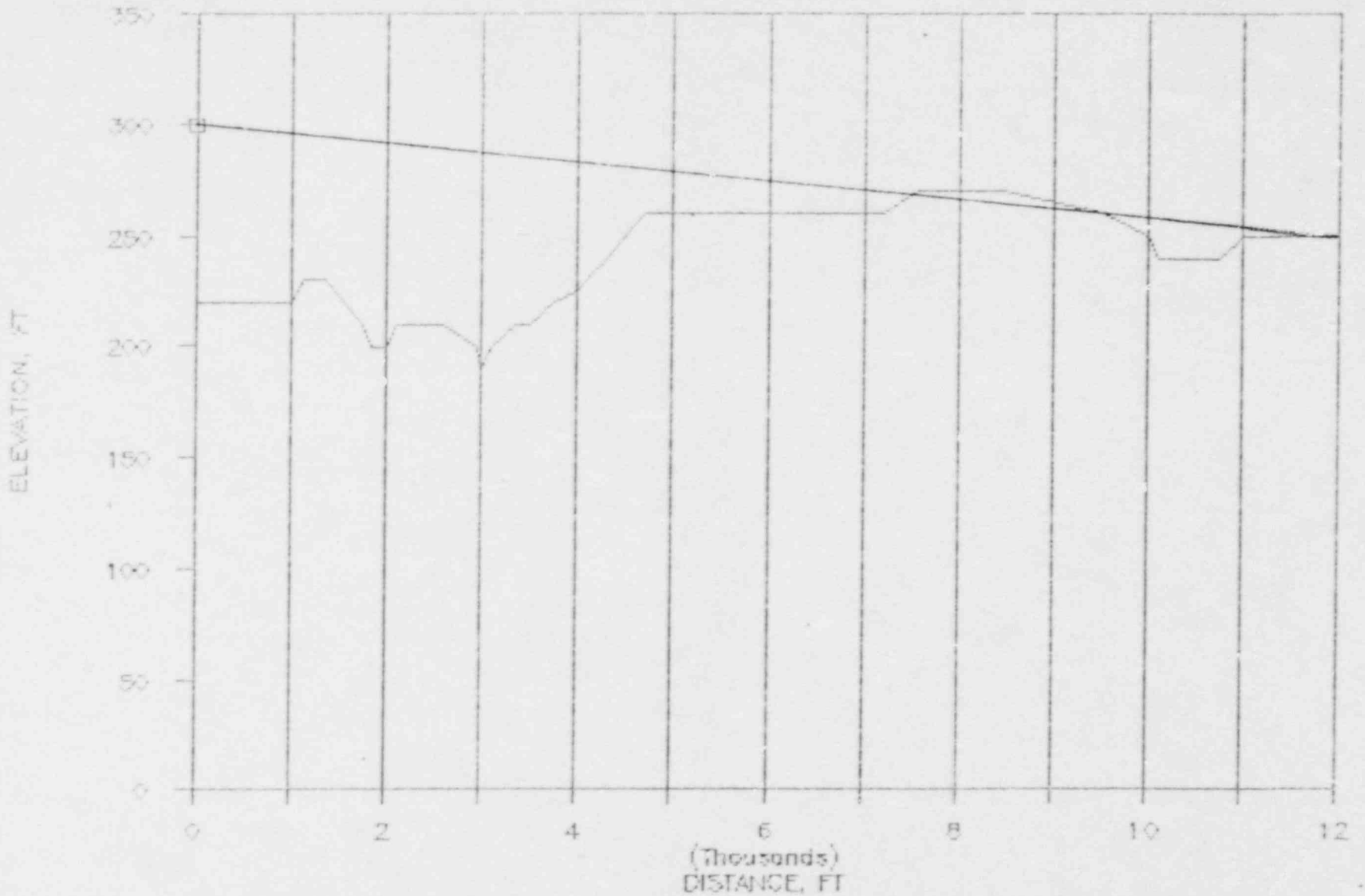
AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.7	92.2	77.8	62.3	57.3	57.7	41.3
ENE	105.7	92.3	77.8	67.7	56.6	51.0	45.2
NE	105.7	92.3	77.8	67.7	62.2	45.6	45.0
NNE	105.7	92.3	77.8	58.7	56.1	46.6	32.1
N	105.7	92.2	72.9	62.9	47.3	53.1	51.0
NNW	105.7	92.2	77.7	67.7	62.2	58.4	49.9
NW	105.7	92.2	77.7	67.7	62.2	51.6	46.2
WNW	105.7	92.2	77.7	67.7	62.2	58.4	42.0
W	105.6	92.2	77.7	67.7	62.2	49.1	51.0
WSW	105.7	92.2	77.7	67.7	62.2	0.0	43.0
SW	105.7	92.2	77.7	67.7	62.2	58.4	45.7
SSW	105.7	92.3	77.7	67.7	62.2	58.4	51.0
S	105.7	92.2	77.7	61.0	62.2	58.4	51.0
SSE	105.7	92.2	77.8	58.9	50.6	45.8	0.0
SE	105.7	92.2	77.8	67.7	62.2	50.2	41.3
ESE	105.7	92.2	77.8	59.8	55.9	53.3	45.6

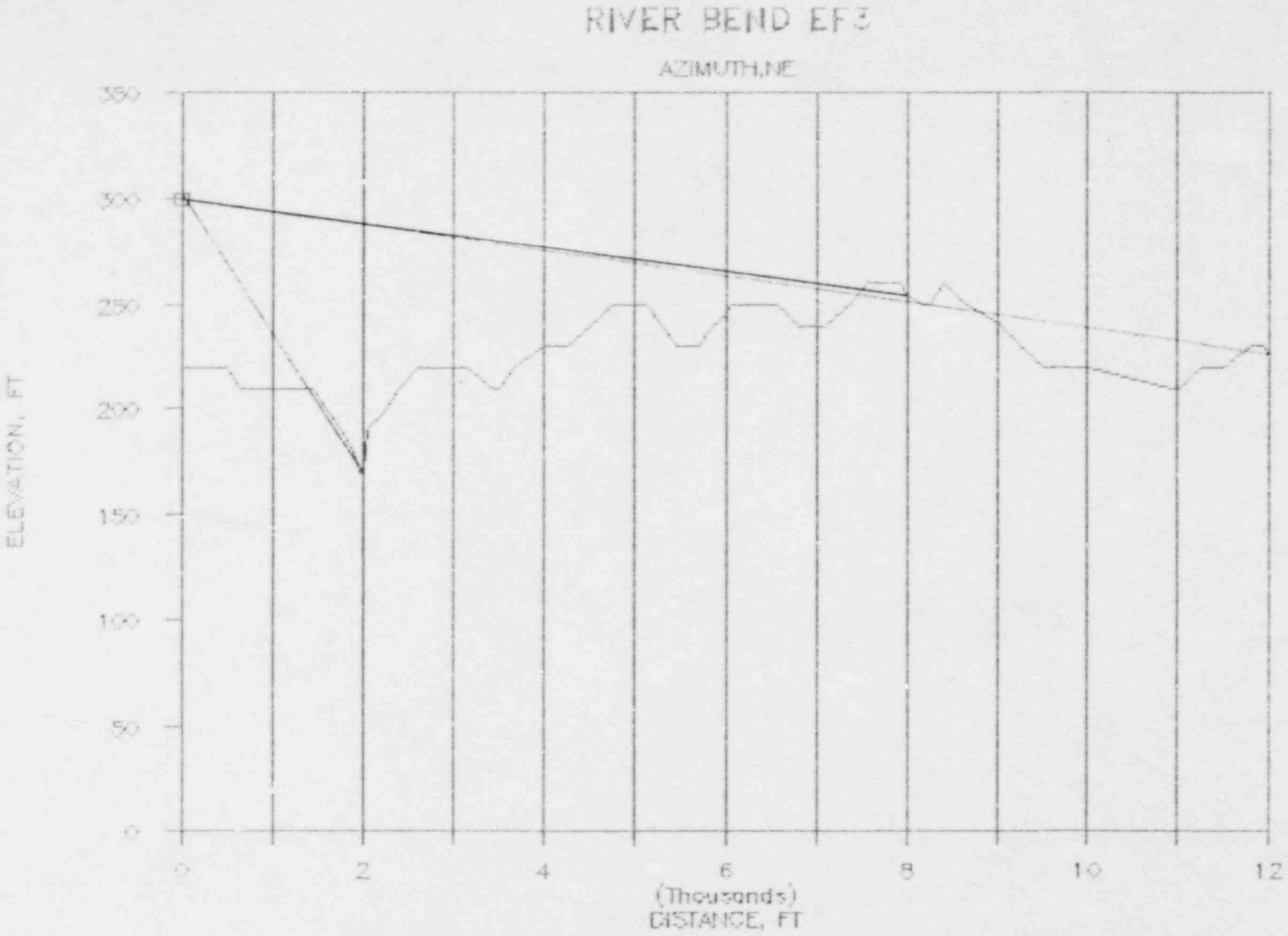
RIVER BEND EF3



RIVER BEND EF3

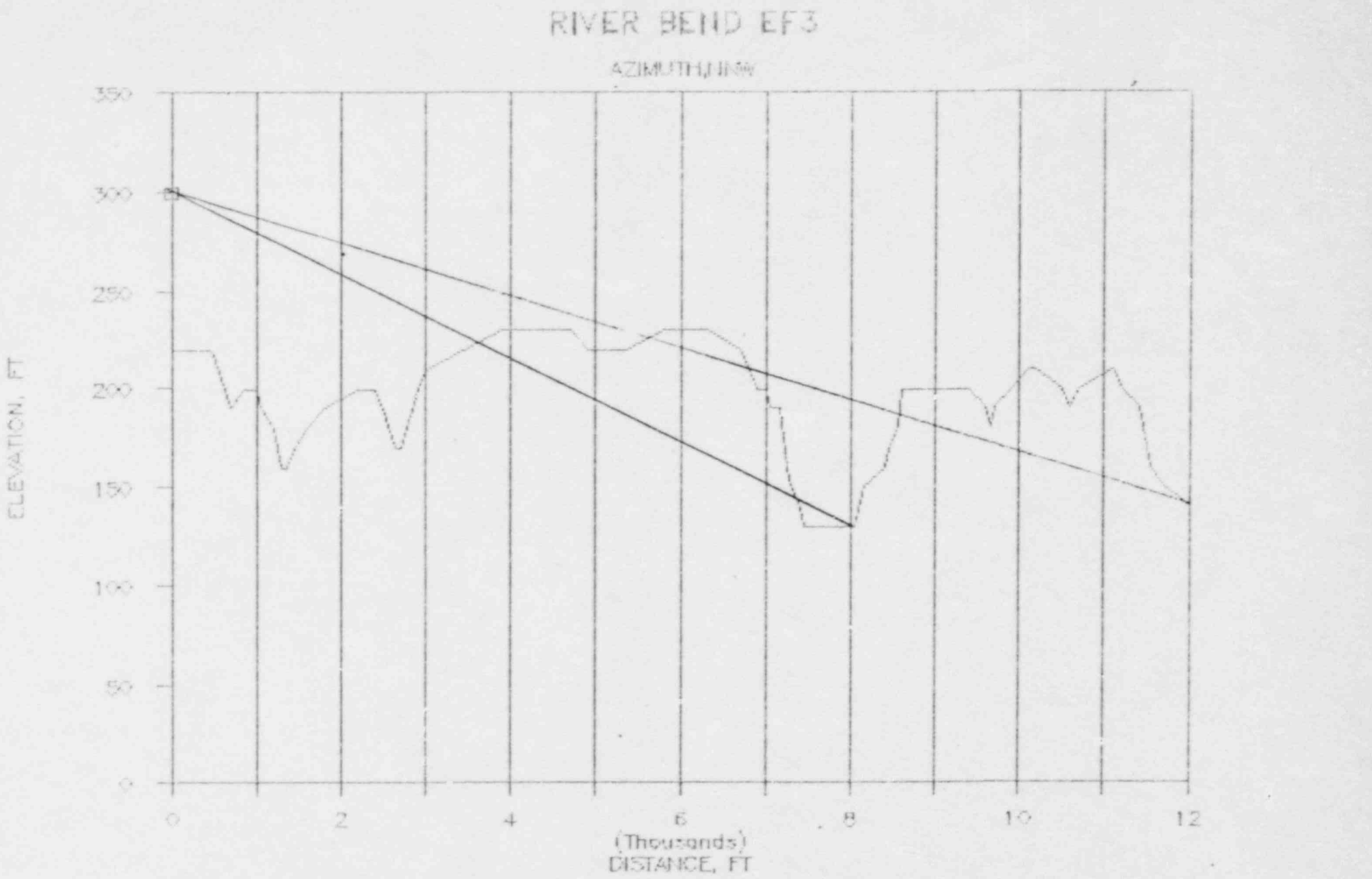
AZIMUTH, ENE



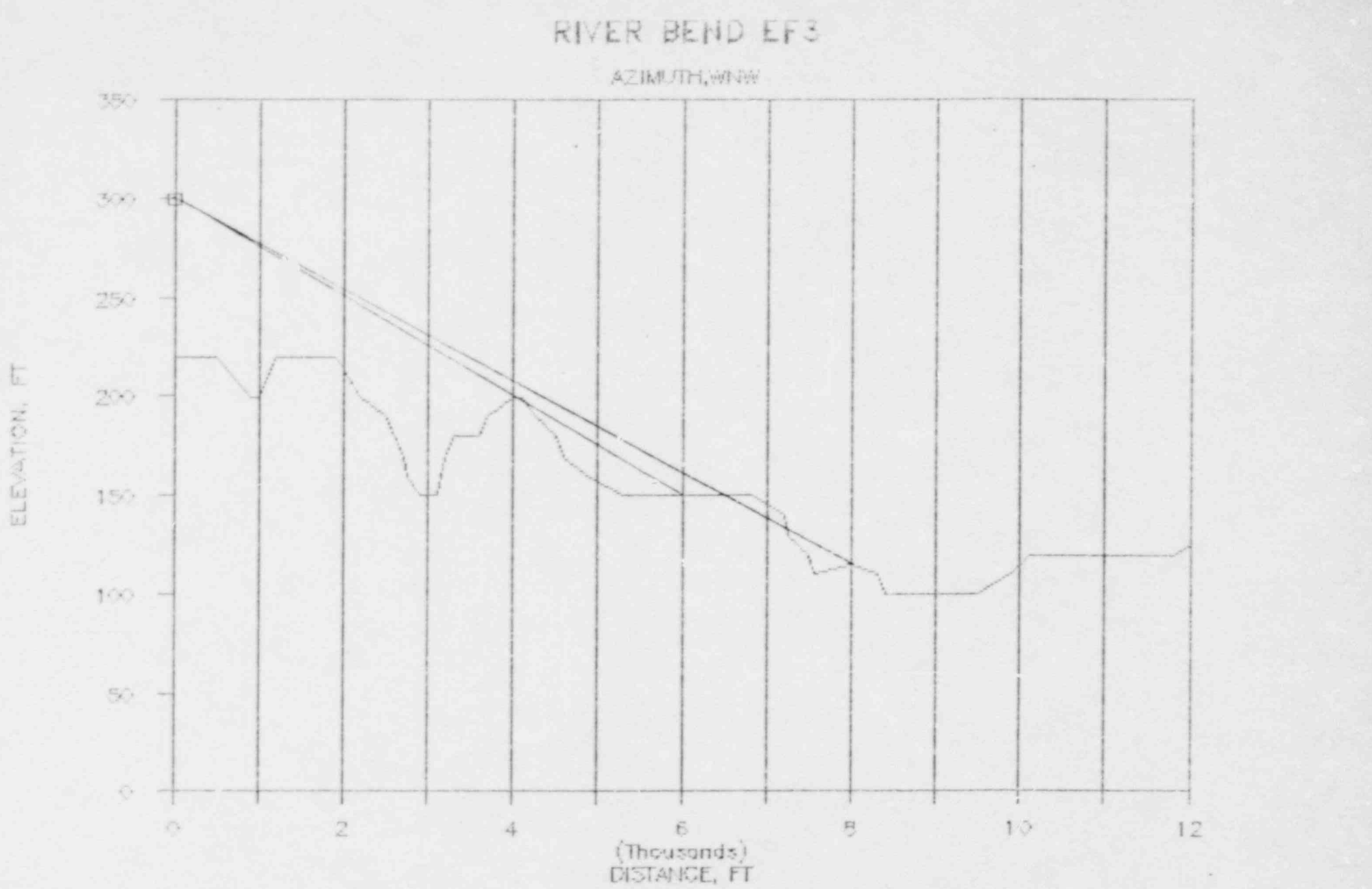

RIVER BEND EF3
AZIMUTH,NE
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT


RIVER BEND EF3
AZIMUTH,NNE
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT


RIVER BEND EF3
AZIMUTH,N
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT


RIVER BEND EF3
AZIMUTH,JJNW
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT

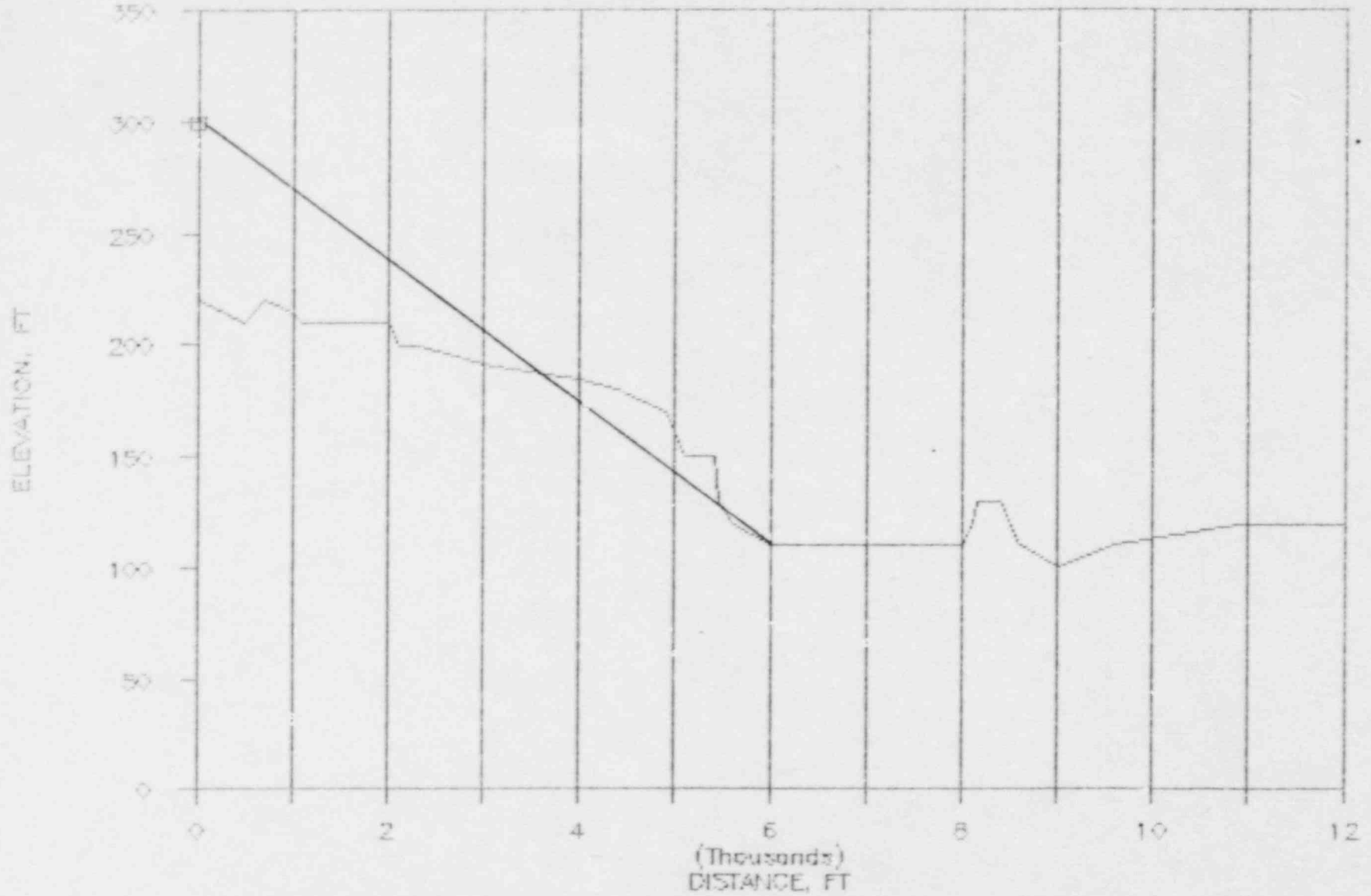

RIVER BEND EF3
AZIMUTH, NW
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT


RIVER BEND EF3
AZIMUTH, WNW
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT


RIVER BEND EF3
AZIMUTH,W
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT

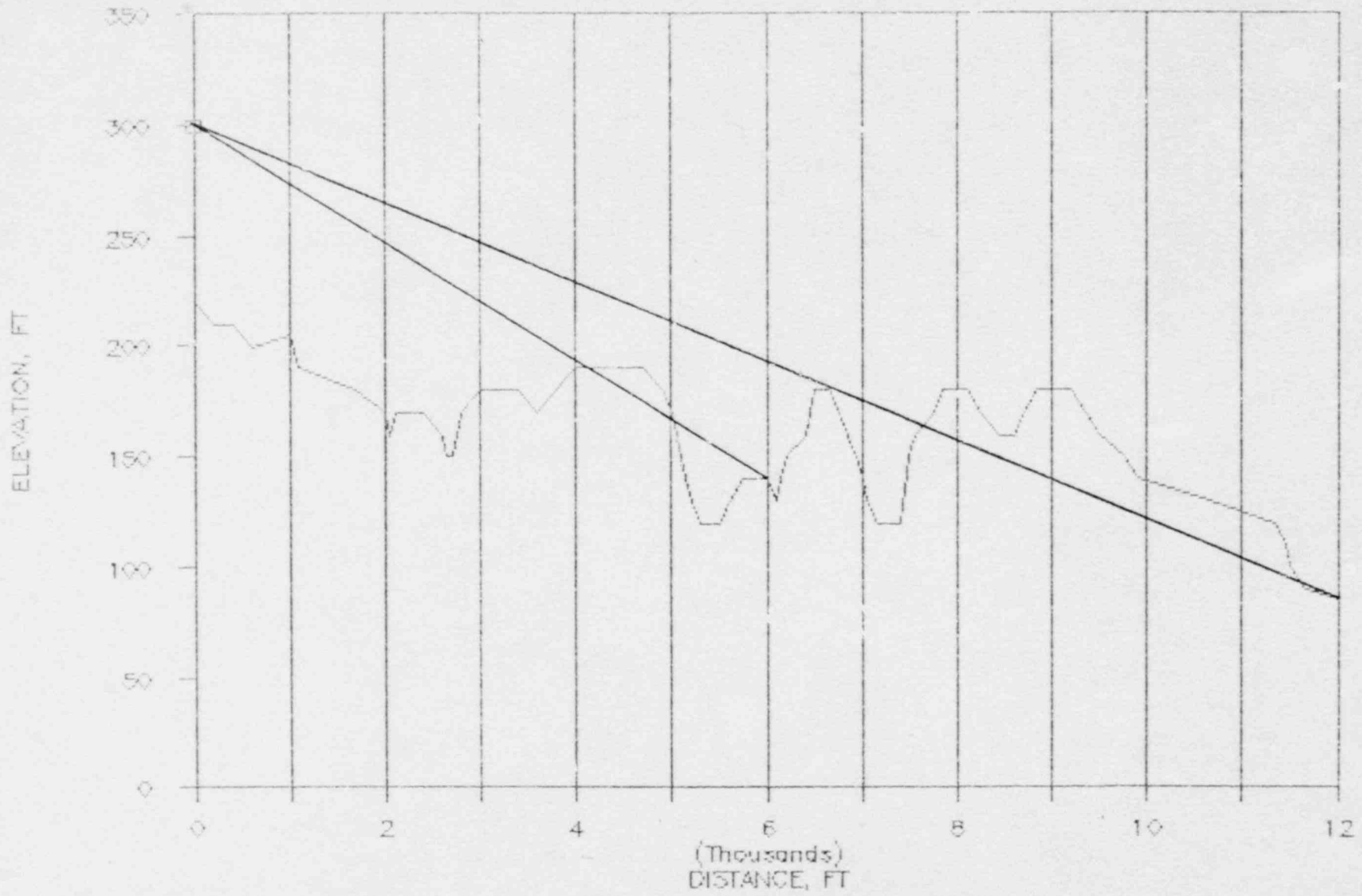
RIVER BEND EF3

AZIMUTH, WSW

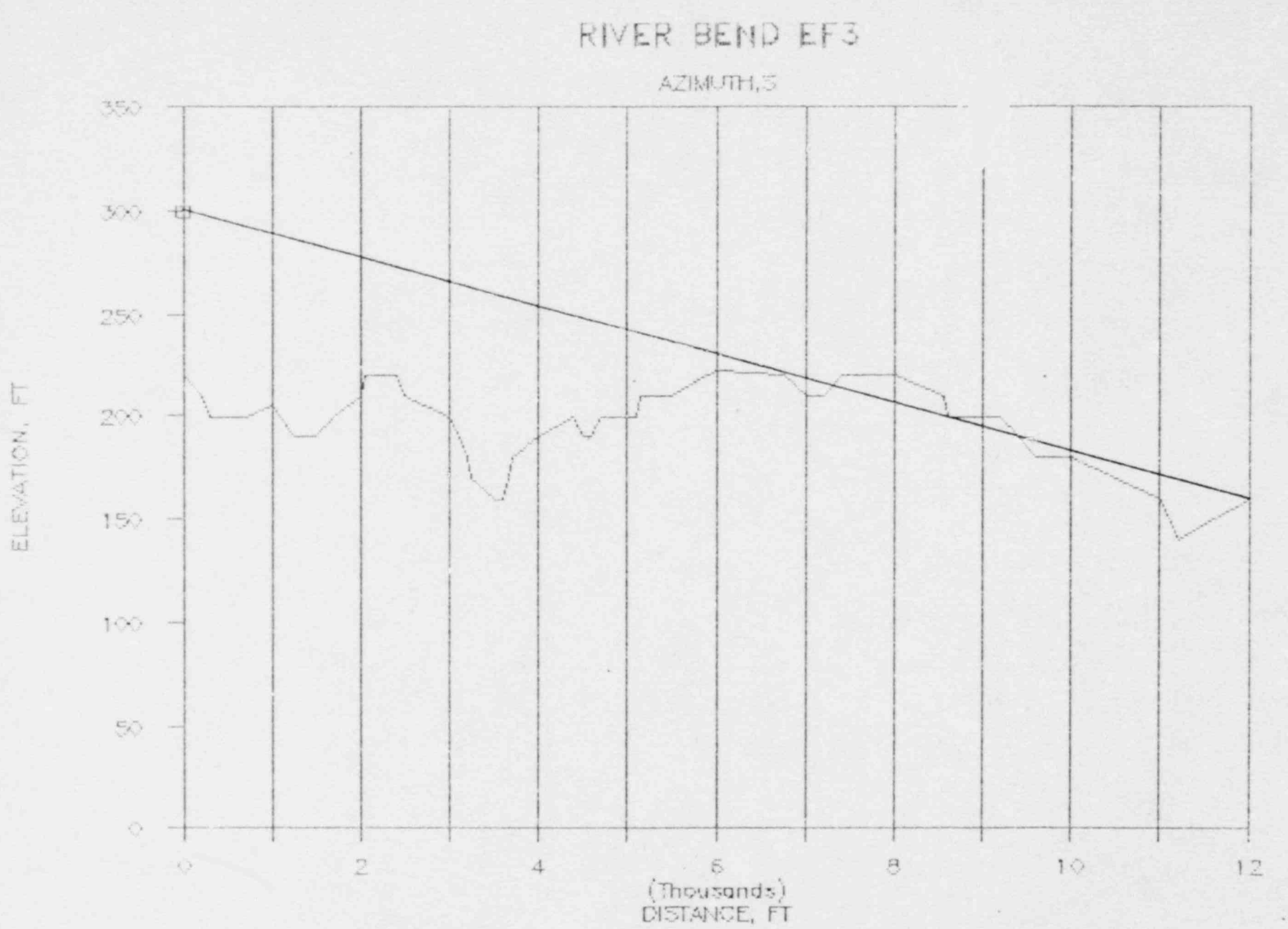


RIVER BEND EF3

AZIMUTH, SW



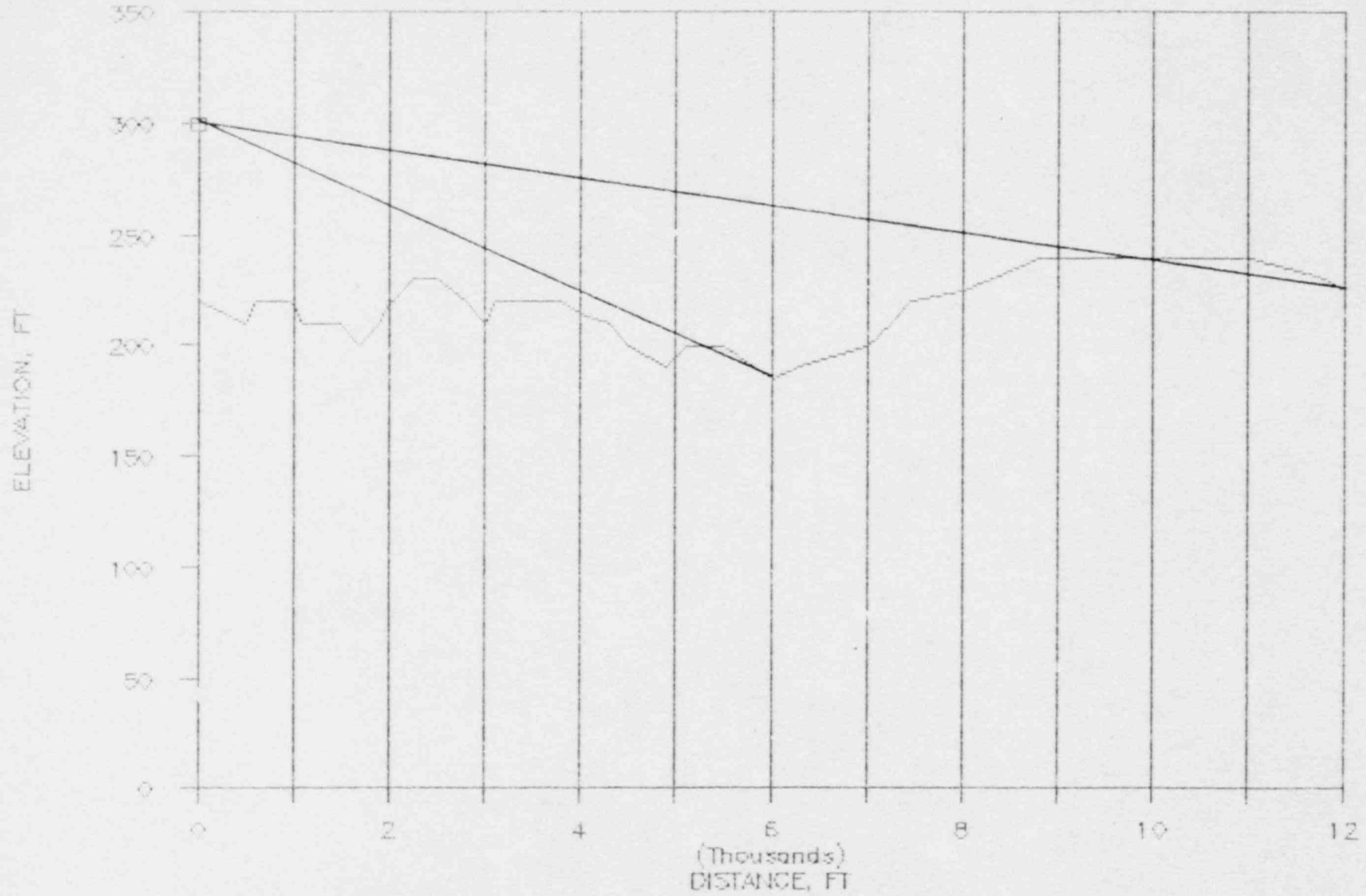

RIVER BEND EF3
AZIMUTH, SSW
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT


RIVER BEND EF3
AZIMUTH,3
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT


RIVER BEND EF3
AZIMUTH, SSE
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT

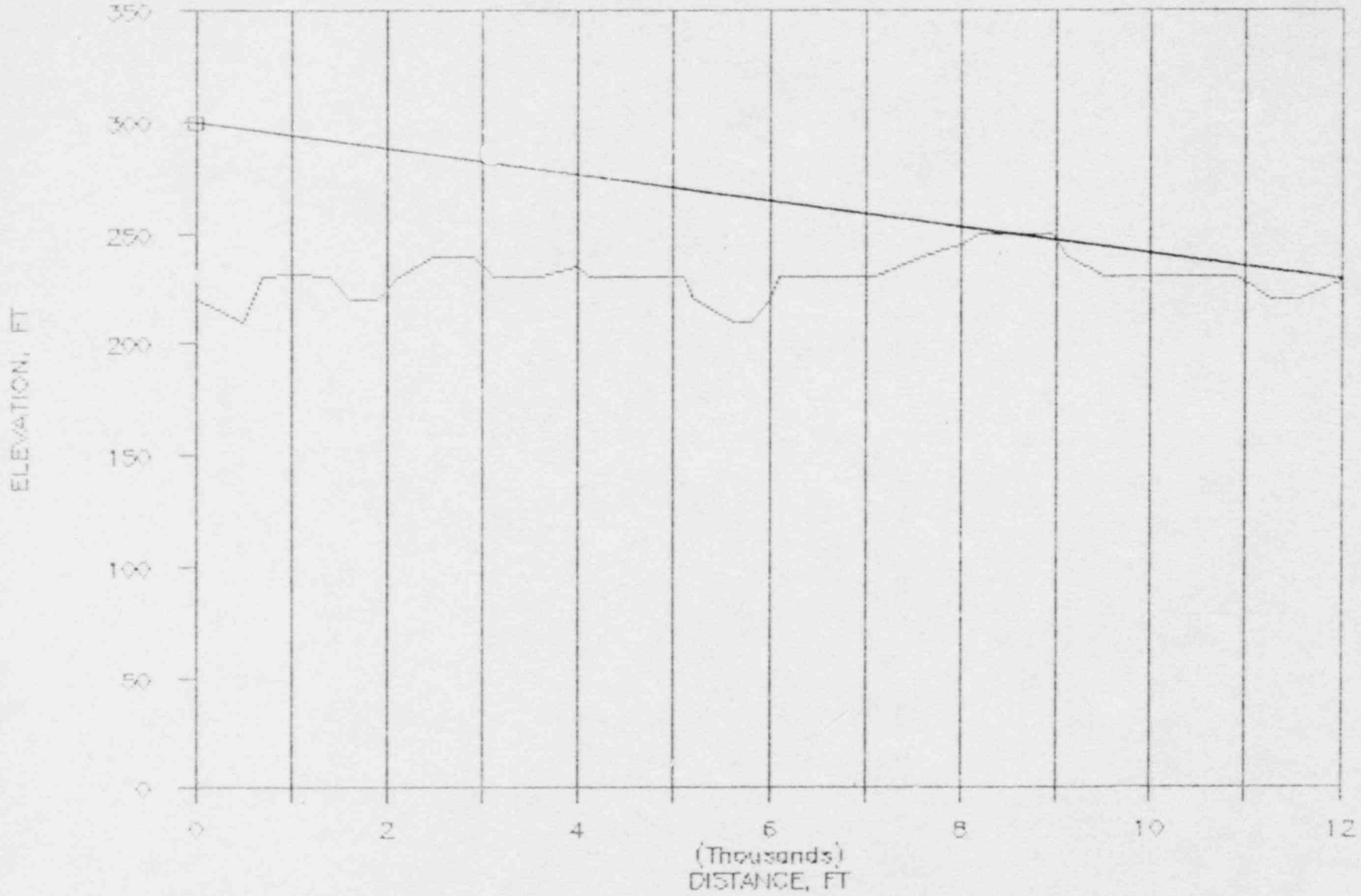
RIVER BEND EF3

AZIMUTH, SE



RIVER BEND EF3

AZIMUTH, ESE



GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF3-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	225.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	230.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	220.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	225.00	SOFT	0.	NO	0.	0.
5	6000.	90.00	235.00	SOFT	0.	YES	5200.	250.
6	8000.	90.00	212.00	SOFT	0.	YES	7000.	240.
7	12000.	90.00	235.00	SOFT	0.	NO	0.	0.
8	500.	67.50	220.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	220.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	200.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	225.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	260.00	SOFT	0.	NO	0.	0.
13	8000.	67.50	270.00	SOFT	0.	NO	0.	0.
14	12000.	67.50	250.00	SOFT	0.	YES	8450.	270.
15	500.	45.00	220.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	210.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	170.00	SOFT	0.	YES	1600.	200.
18	4000.	45.00	230.00	SOFT	0.	NO	0.	0.
19	6000.	45.00	245.00	SOFT	0.	NO	0.	0.
20	8000.	45.00	255.00	SOFT	0.	YES	7900.	260.
21	12000.	45.00	225.00	SOFT	0.	YES	8400.	260.
22	500.	22.50	230.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	175.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	190.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	210.00	SOFT	0.	YES	3400.	230.
26	6000.	22.50	220.00	SOFT	0.	NO	0.	0.
27	8000.	22.50	220.00	SOFT	0.	YES	7000.	240.
28	12000.	22.50	250.00	SOFT	0.	NO	0.	0.
29	500.	0.0	220.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	190.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	210.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	200.00	SOFT	0.	YES	3350.	230.
33	6000.	0.0	210.00	SOFT	0.	NO	0.	0.
34	8000.	0.0	180.00	SOFT	0.	YES	6900.	210.
35	12000.	0.0	235.00	SOFT	0.	NO	0.	0.
36	500.	337.50	218.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	200.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	195.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	230.00	SOFT	0.	NO	0.	0.
40	6000.	337.50	230.00	SOFT	0.	NO	0.	0.
41	8000.	337.50	130.00	SOFT	0.	YES	6300.	230.
42	12000.	337.50	140.00	SOFT	0.	YES	6300.	230.
43	500.	315.00	215.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	210.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	180.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	178.00	SOFT	0.	NO	0.	0.
47	6000.	315.00	170.00	SOFT	0.	YES	4900.	220.
48	8000.	315.00	150.00	SOFT	0.	YES	4900.	220.
49	12000.	315.00	120.00	SOFT	0.	NO	0.	0.
50	500.	292.50	220.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	200.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	215.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	200.00	SOFT	0.	NO	0.	0.
54	6000.	292.50	150.00	SOFT	0.	YES	4100.	200.
55	8000.	292.50	115.00	SOFT	0.	YES	6800.	150.
56	12000.	292.50	125.00	SOFT	0.	NO	0.	0.
57	500.	270.00	220.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	222.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	200.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	140.00	SOFT	0.	NO	0.	0.
61	6000.	270.00	145.00	SOFT	0.	NO	0.	0.
62	8000.	270.00	100.00	SOFT	0.	YES	7400.	120.
63	12000.	270.00	105.00	SOFT	0.	NO	0.	0.
64	500.	247.50	210.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	215.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	210.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	185.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	110.00	SOFT	0.	YES	3100.	190.
69	8000.	247.50	110.00	SOFT	0.	NO	0.	0.
70	12000.	247.50	120.00	SOFT	0.	NO	0.	0.
71	500.	225.00	205.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	205.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	170.00	SOFT	0.	NO	0.	0.
74	4000.	225.00	190.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	190.00	SOFT	0.	YES	4700.	190.
76	8000.	225.00	120.00	SOFT	0.	NO	0.	0.
77	12000.	225.00	85.00	SOFT	0.	YES	9200.	180.
78	500.	202.50	204.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	180.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	200.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	150.00	SOFT	0.	YES	3200.	200.
82	6000.	202.50	200.00	SOFT	0.	NO	0.	0.
83	8000.	202.50	195.00	SOFT	0.	YES	7800.	210.
84	12000.	202.50	202.00	SOFT	0.	NO	0.	0.
85	500.	180.00	200.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	205.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	210.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	190.00	SOFT	0.	NO	0.	0.
89	6000.	180.00	222.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	220.00	SOFT	0.	NO	0.	0.
91	12000.	180.00	160.00	SOFT	0.	YES	8000.	220.
92	500.	157.50	205.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	210.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	215.00	SOFT	0.	NO	0.	0.
95	4000.	157.50	200.00	SOFT	0.	NO	0.	0.
96	6000.	157.50	200.00	SOFT	0.	YES	5050.	220.
97	8000.	157.50	165.00	SOFT	0.	YES	5050.	220.
98	12000.	157.50	220.00	SOFT	0.	NO	0.	0.
99	500.	135.00	210.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	219.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	219.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	215.00	SOFT	0.	NO	0.	0.
103	6000.	135.00	185.00	SOFT	0.	YES	5500.	200.
104	8000.	135.00	225.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	225.00	SOFT	0.	YES	11000.	240.
106	500.	112.50	210.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	231.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	225.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	235.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	220.00	SOFT	0.	NO	0.	0.
111	8000.	112.50	245.00	SOFT	0.	NO	0.	0.
112	12000.	112.50	228.00	SOFT	0.	YES	8950.	250.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF3-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 280.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF3-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
1986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.0

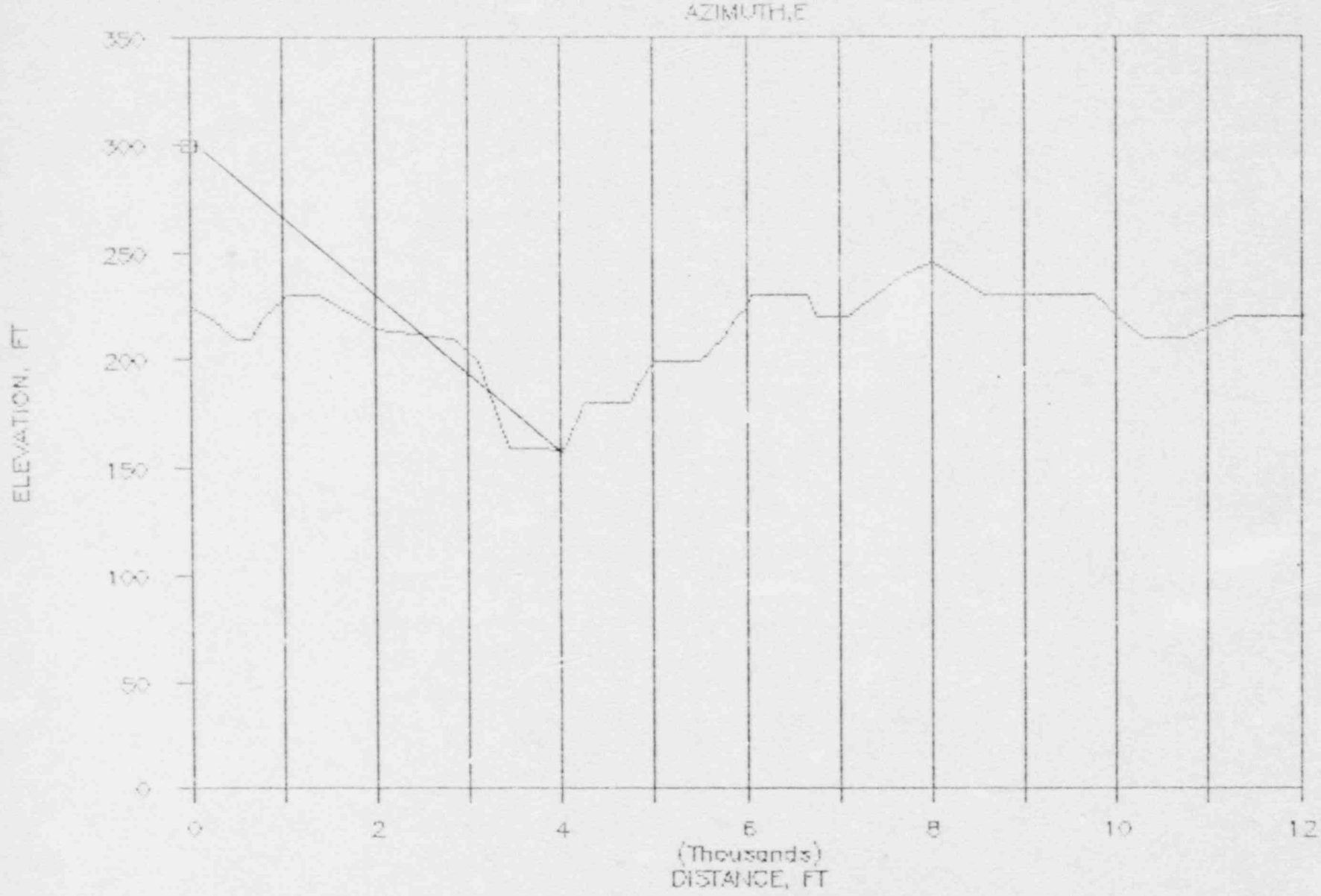
GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF3-WS3000R

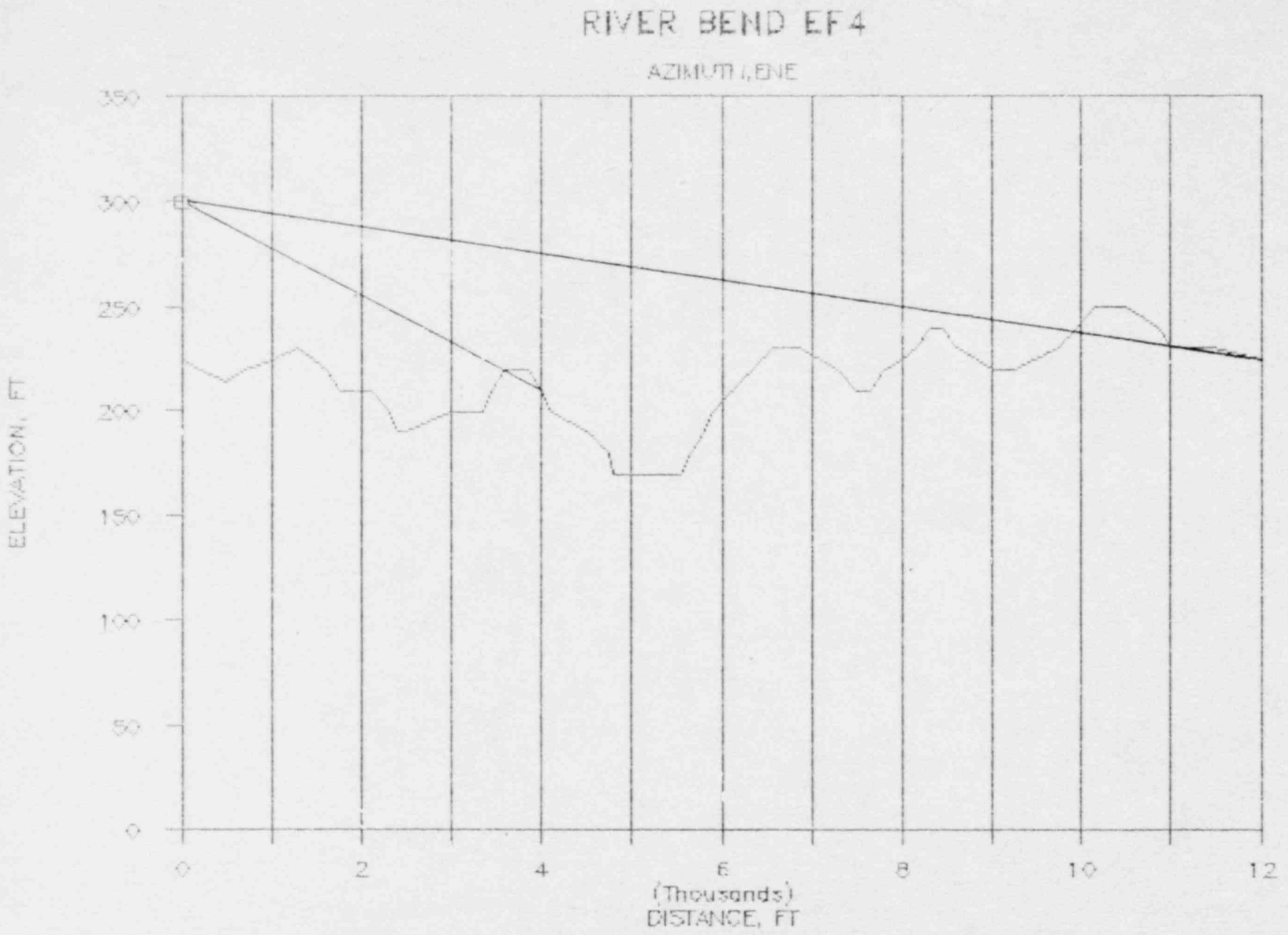
SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

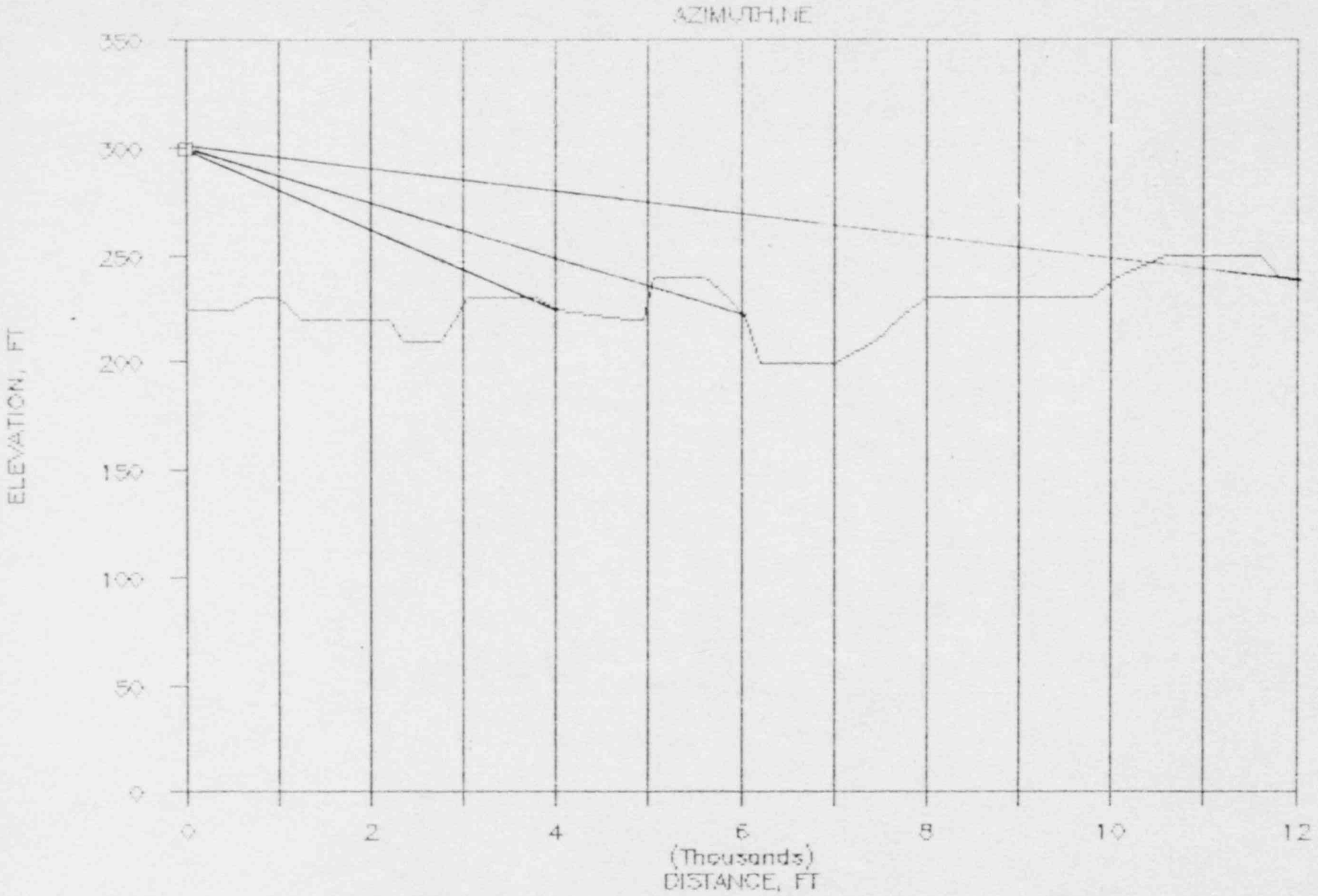
AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.7	92.3	77.8	67.7	56.6	50.6	46.7
ENE	105.7	92.3	77.7	67.7	62.2	58.4	45.3
NE	105.7	92.2	71.5	67.7	62.2	52.2	45.4
NNE	105.7	92.2	77.7	61.8	62.2	52.4	51.0
N	105.7	92.2	77.7	60.1	62.2	51.9	51.0
NNW	105.7	92.2	77.7	67.7	62.2	45.4	44.0
NW	105.7	92.2	77.7	67.7	53.2	51.3	46.2
WNW	105.7	92.2	77.8	67.7	57.0	52.9	51.0
W	105.7	92.3	77.7	67.7	62.2	53.1	51.0
WSW	105.7	92.2	77.7	67.7	57.4	58.4	51.0
SW	105.6	92.2	77.7	67.7	55.3	58.4	41.8
SSW	105.6	92.2	77.7	58.9	62.2	49.8	51.0
S	105.6	92.2	77.7	67.7	62.2	58.4	45.3
SSE	105.6	92.2	77.8	67.7	57.0	53.0	51.0
SE	105.7	3	77.8	67.7	56.7	58.4	45.5
ESE	105.7	92.3	77.8	67.7	62.2	58.4	46.0

RIVER BEND EF4



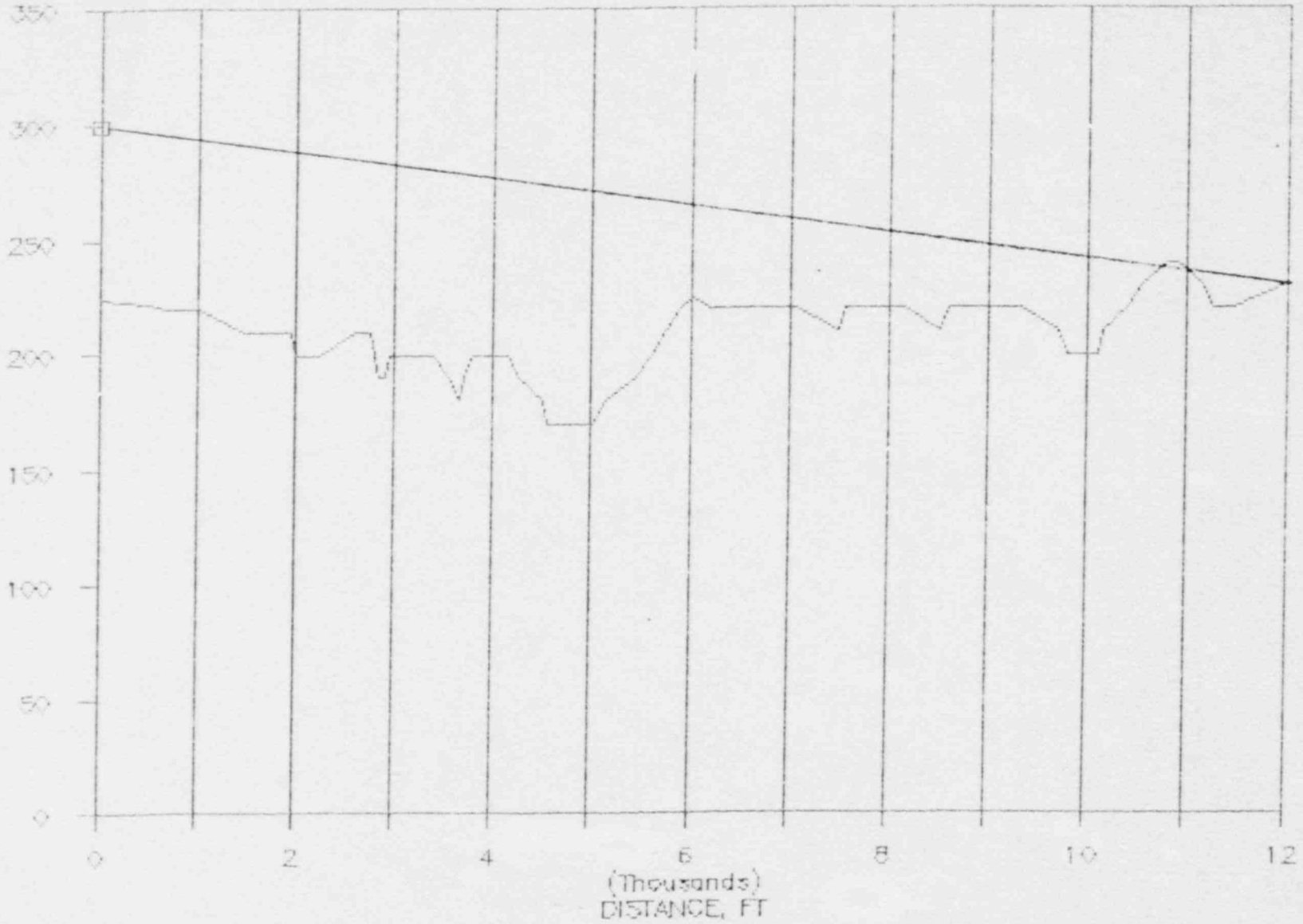

RIVER BEND EF4
AZIMUTH, ENE
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT

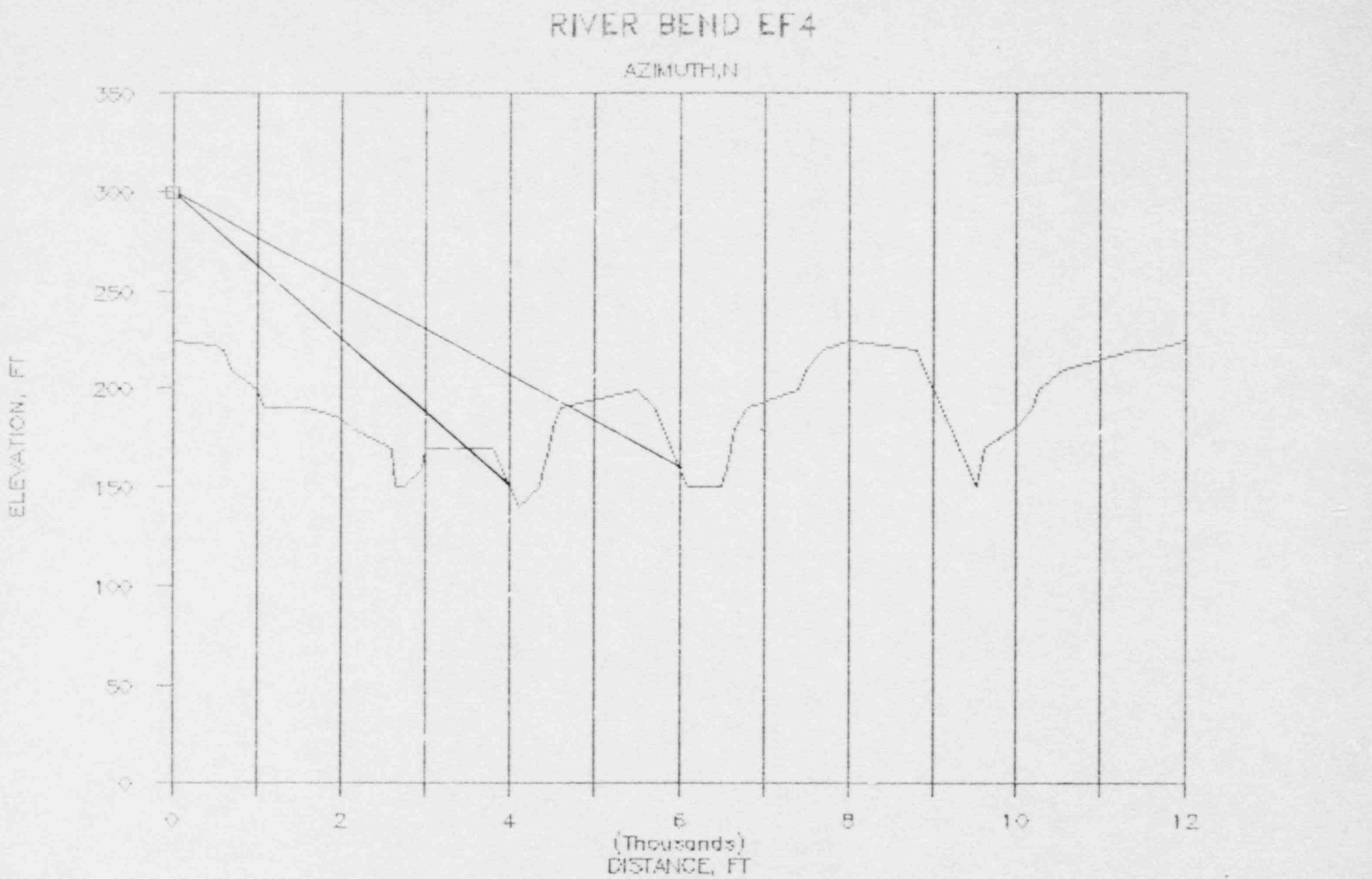
RIVER BEND EF4



RIVER BEND EF4

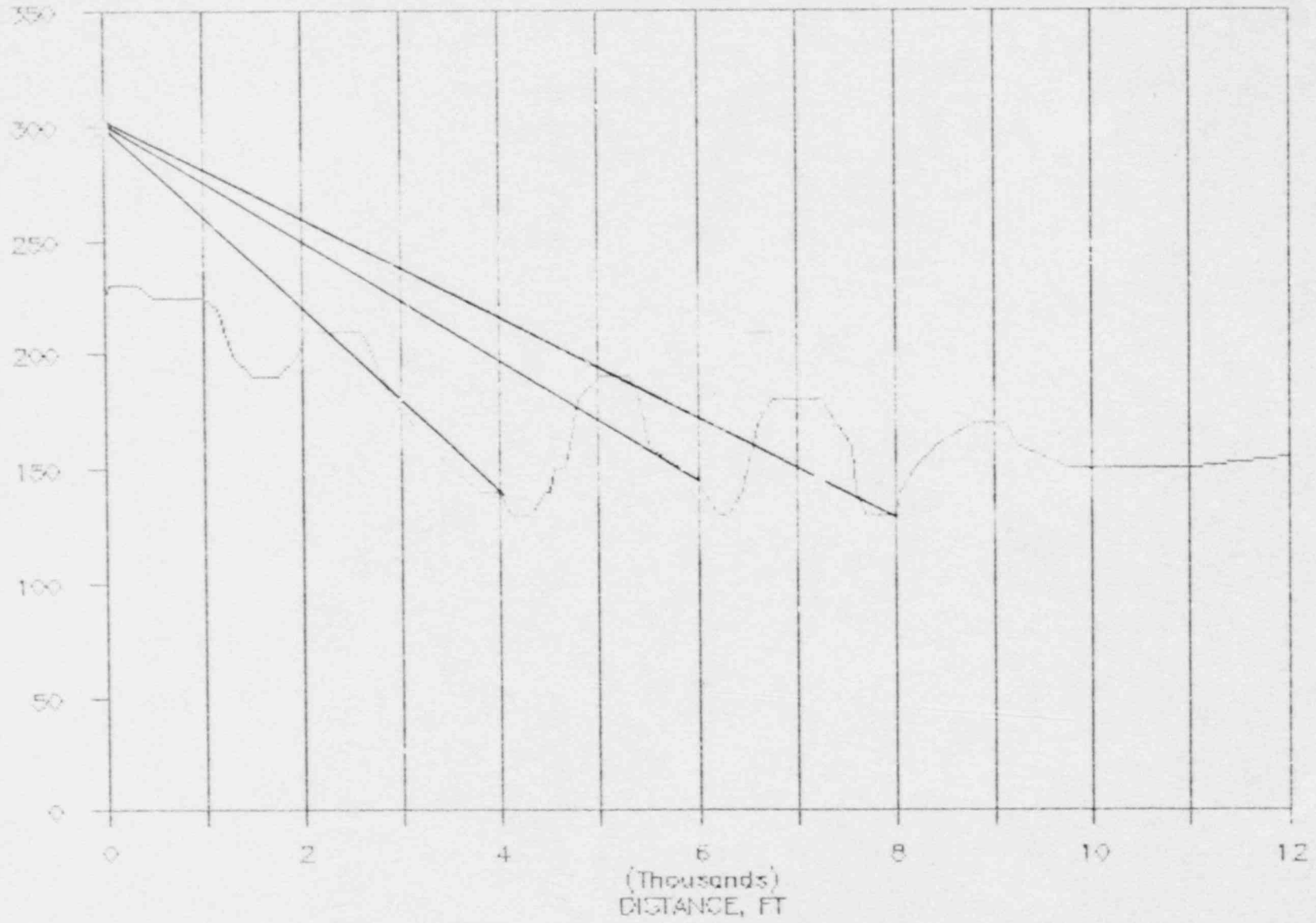
AZIMUTH, NINE

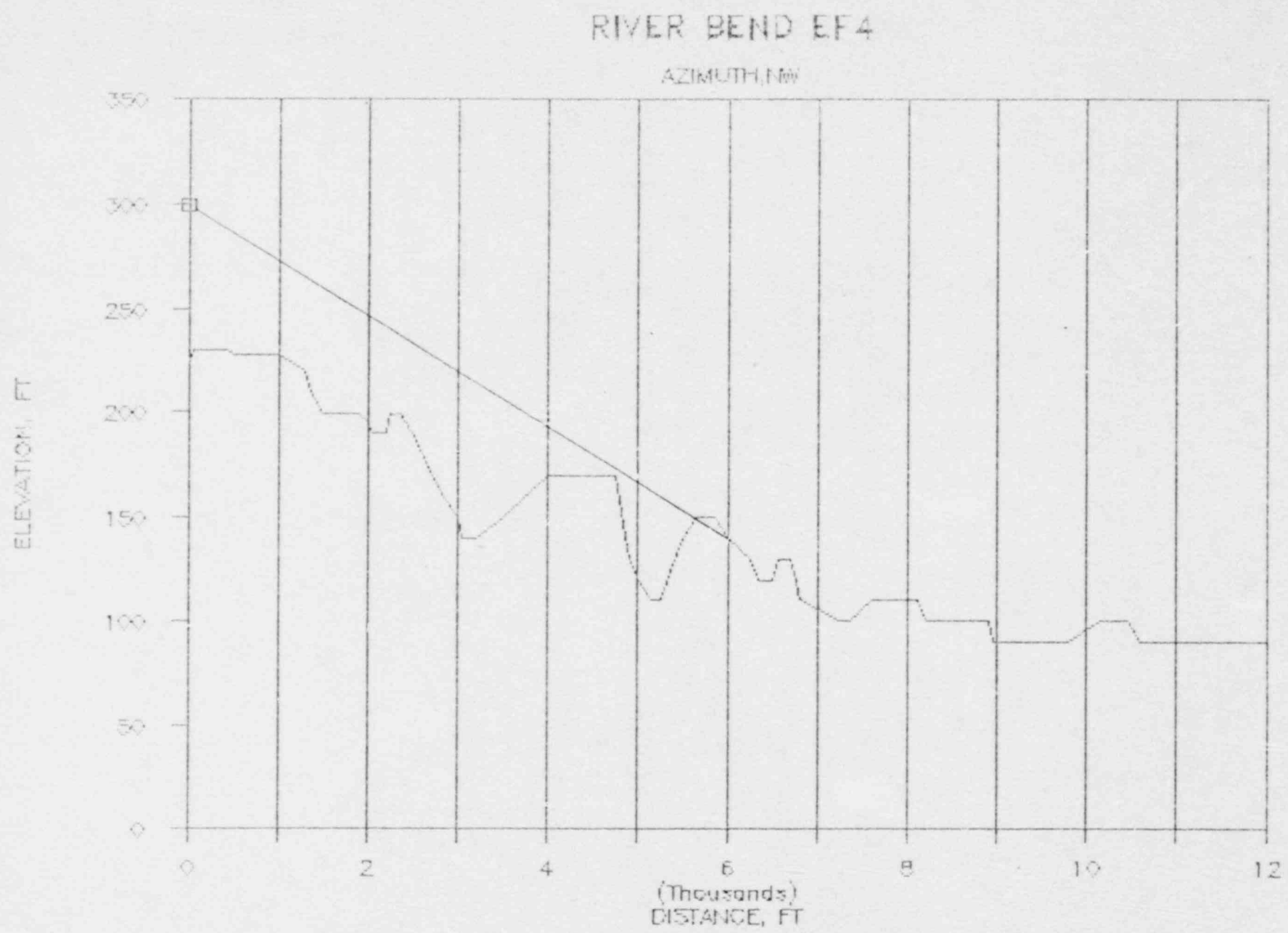



RIVER BEND EF4
AZIMUTH,N
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT

RIVER BEND EF4

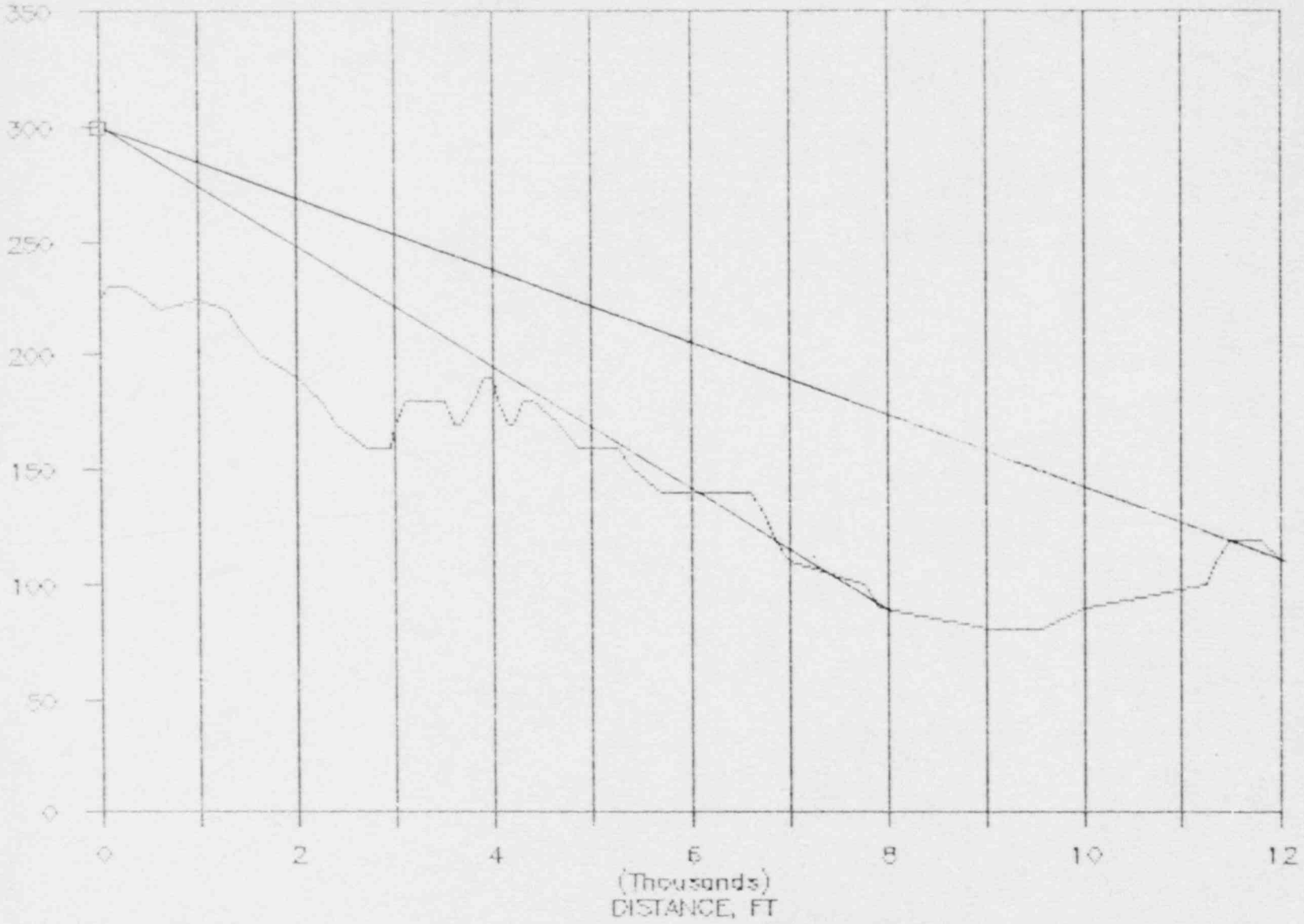
AZIMUTH, NNW




RIVER BEND EF4
AZIMUTH, NW
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT

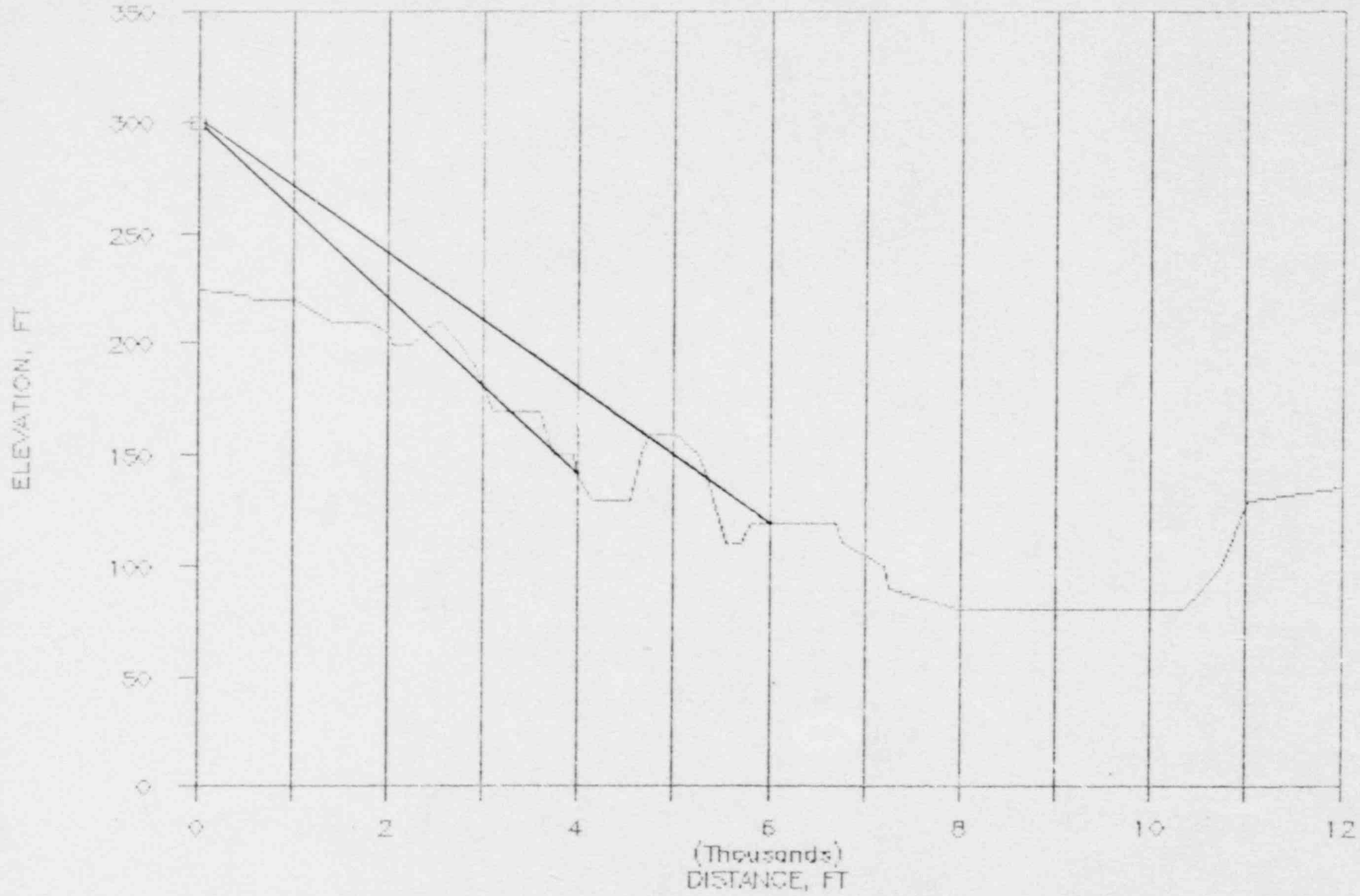
RIVER BEND EF4

AZIMUTH, WNW



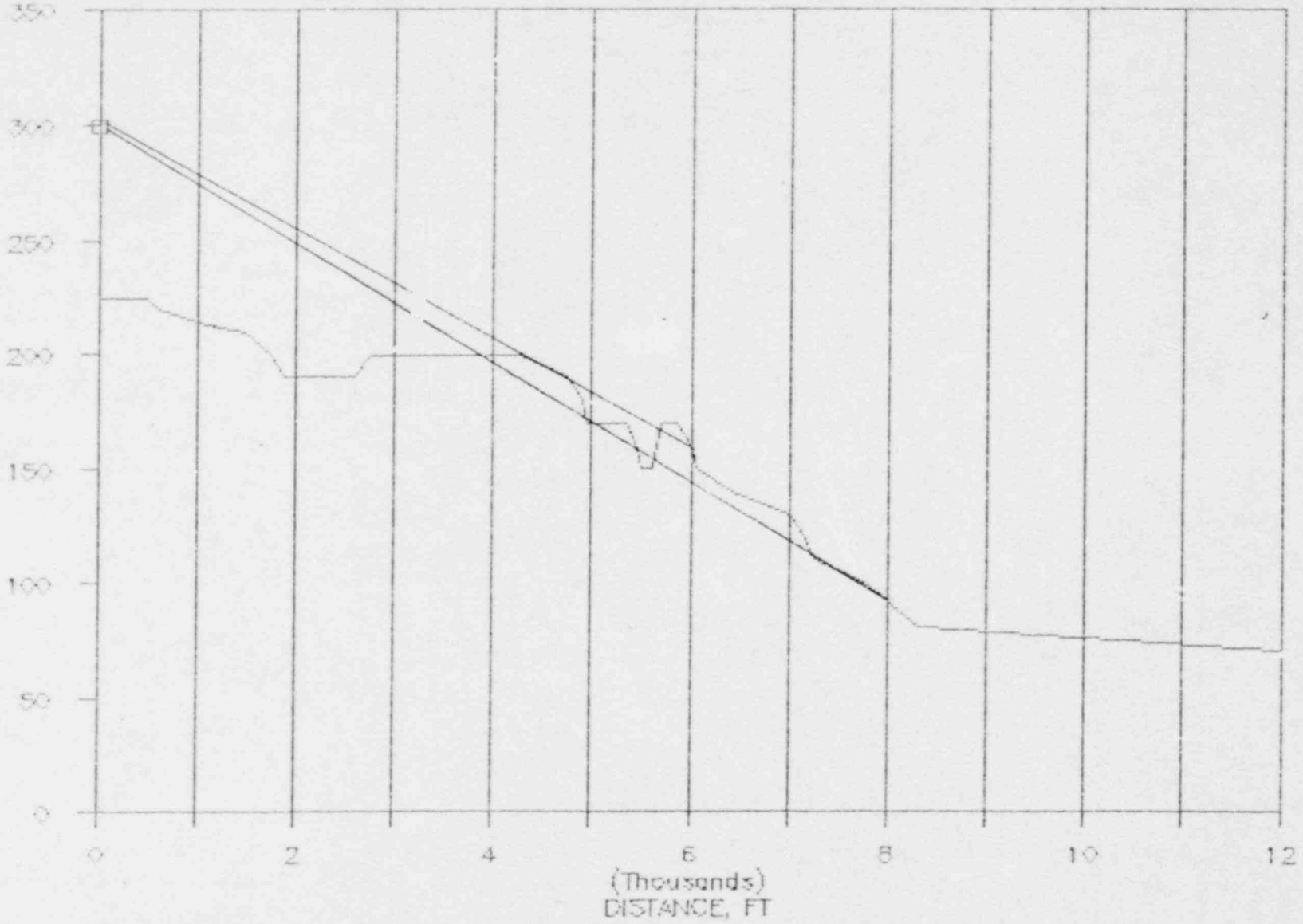
RIVER BEND EF4

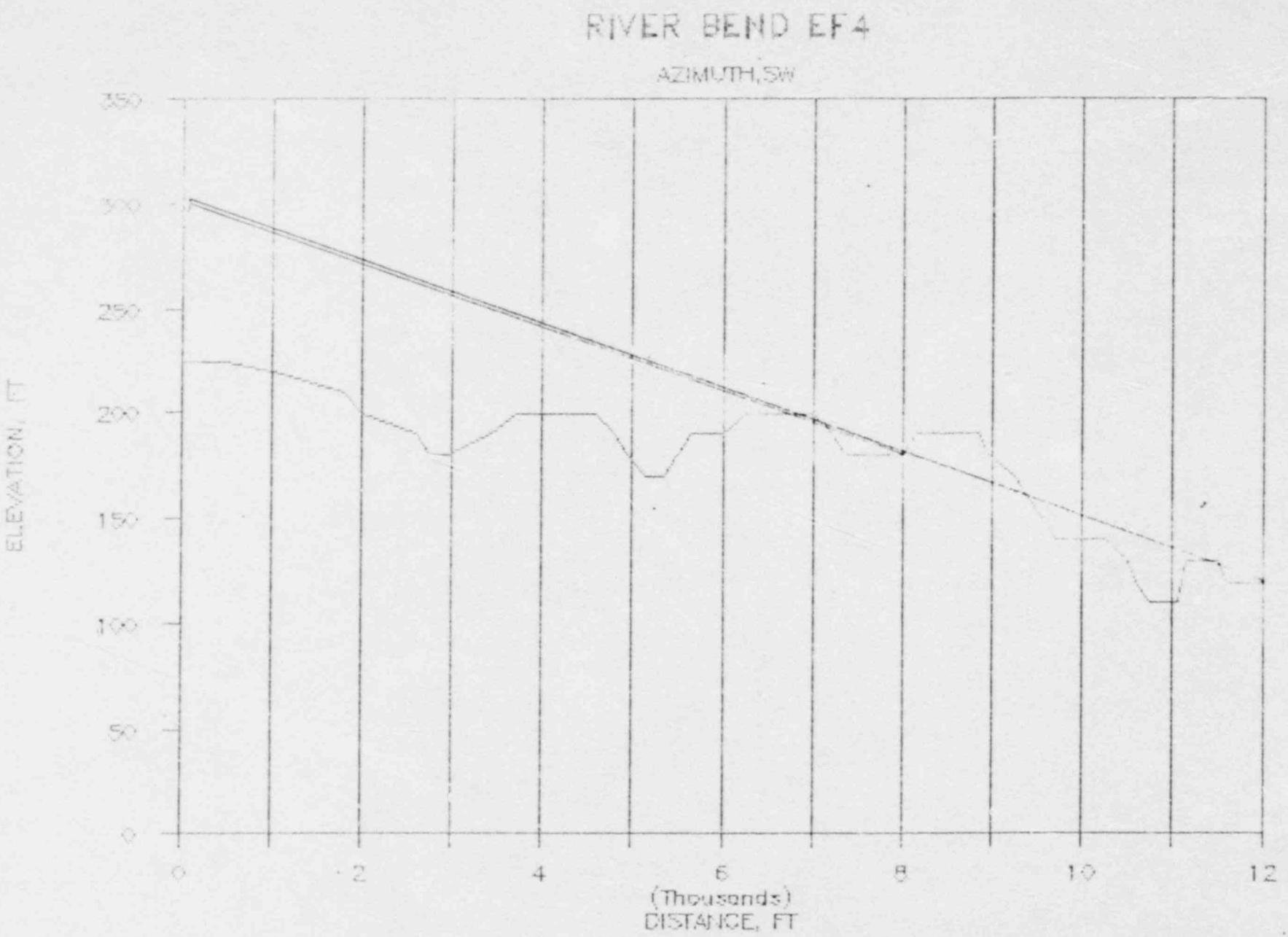
AZIMUTH, W



RIVER BEND EF4

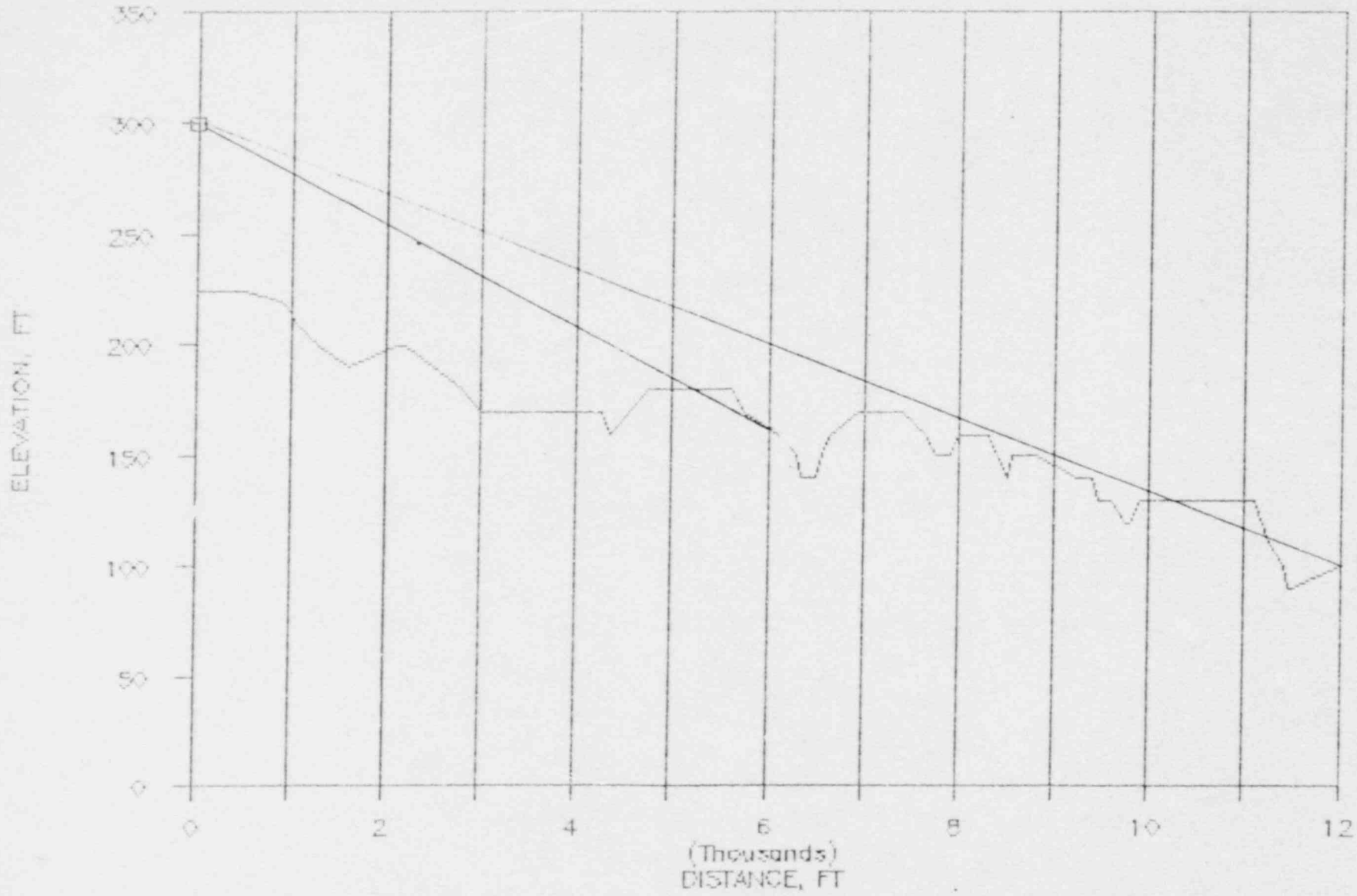
AZIMUTH, WSW



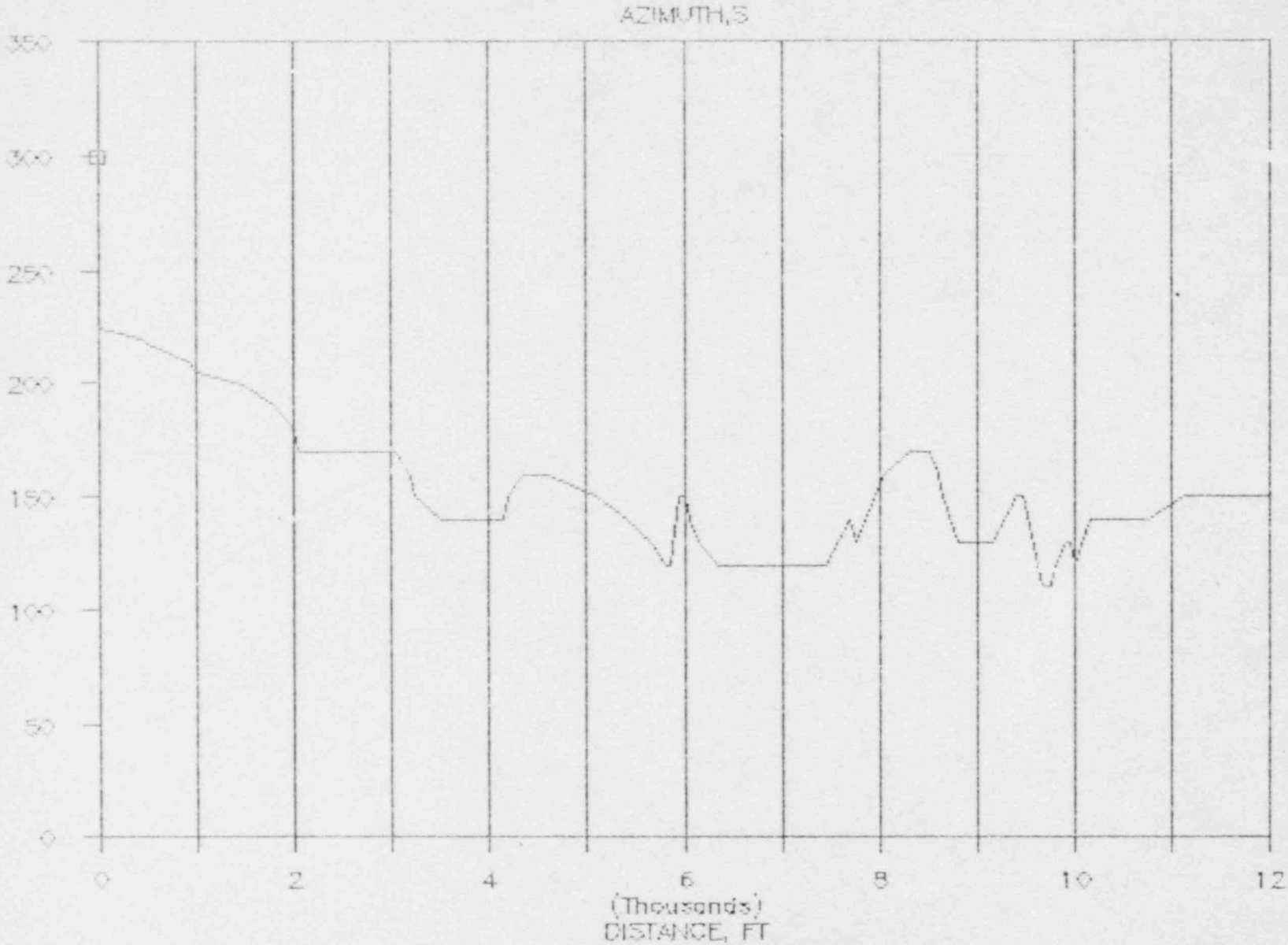

RIVER BEND EF4
AZIMUTH, SW
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT

RIVER BEND EF4

AZIMUTH, SSW



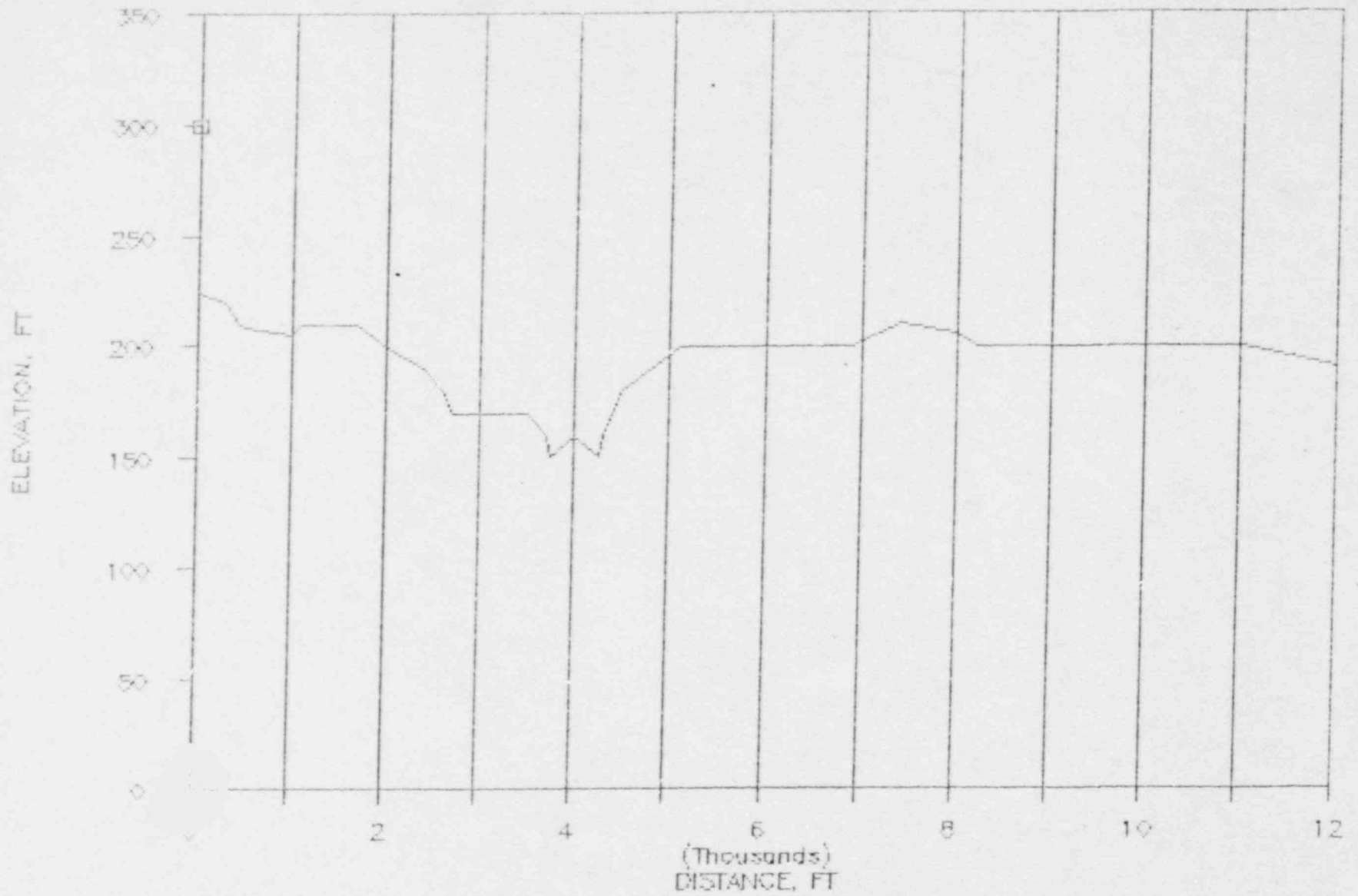
RIVER BEND EF4




RIVER BEND EF4
AZIMUTH, 335E
350
300
250
200
150
100
50
0
ELEVATION, FT
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT

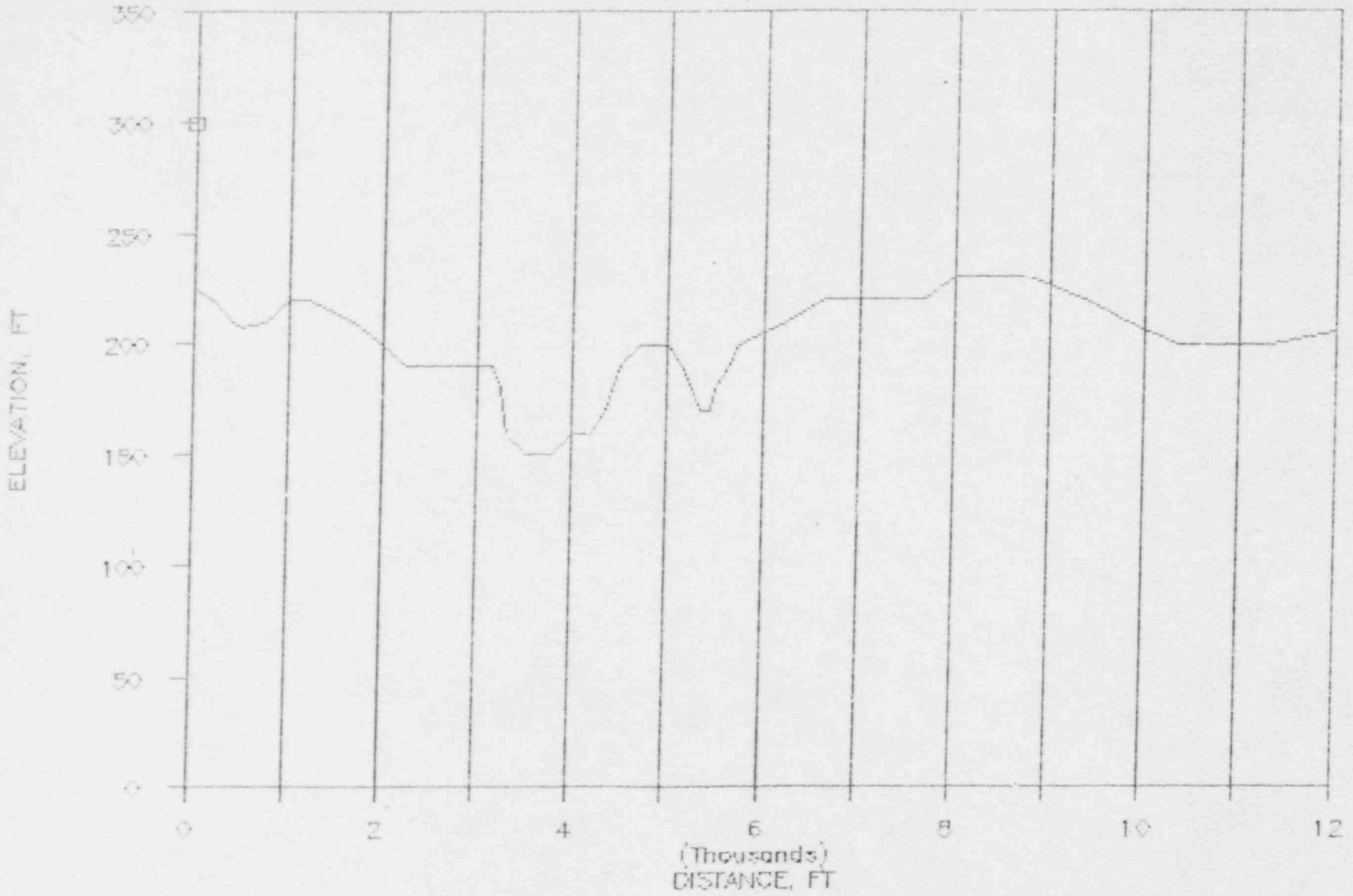
RIVER BEND EF4

AZIMUTH, SE



RIVER BEND EF 4

AZIMUTH, ESE



GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF4-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	210.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	228.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	215.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	158.00	SOFT	0.	YES	2850.	210.
5	6000.	90.00	225.00	SOFT	0.	NO	0.	0.
6	8000.	90.00	245.00	SOFT	0.	NO	0.	0.
7	12000.	90.00	220.00	SOFT	0.	NO	0.	0.
8	500.	67.50	215.00	SOFT	0.	NO	0.	0.
9	1000.	67 30	225.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	210.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	210.00	SOFT	0.	YES	3850.	220.
12	6000.	67.50	205.00	SOFT	0.	NO	0.	0.
13	8000.	67.50	225.00	SOFT	0.	NO	0.	0.
14	12000.	67.50	225.00	SOFT	0.	YES	10500.	250.
15	500.	45.00	225.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	230.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	220.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	225.00	SOFT	0.	NO	0.	0.
19	6000.	45.00	222.00	SOFT	0.	YES	5600.	240.
20	8000.	45.00	230.00	SOFT	0.	NO	0.	0.
21	12000.	45.00	238.00	SOFT	0.	YES	11600.	250.
22	500.	22.50	222.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	220.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	200.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	200.00	SOFT	0.	NO	0.	0.
26	6000.	22.50	225.00	SOFT	0.	NO	0.	0.
27	8000.	22.50	220.00	SOFT	0.	NO	0.	0.
28	12000.	22.50	230.00	SOFT	0.	YES	10900.	240.
29	500.	0.0	222.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	200.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	185.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	150.00	SOFT	0.	YES	3800.	170.
33	6000.	0.0	160.00	SOFT	0.	YES	5500.	200.
34	8000.	0.0	225.00	SOFT	0.	NO	0.	0.
35	12000.	0.0	225.00	SOFT	0.	NO	0.	0.
36	500.	337.50	225.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	225.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	205.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	140.00	SOFT	0.	YES	2500.	210.
40	6000.	337.50	145.00	SOFT	0.	YES	5300.	190.
41	8000.	337.50	130.00	SOFT	0.	YES	5300.	190.
42	12000.	337.50	155.00	SOFT	0.	NO	0.	0.
43	500.	315.00	228.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	228.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	195.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	170.00	SOFT	0.	NO	0.	0.
47	6000.	315.00	140.00	SOFT	0.	YES	5850.	150.
48	8000.	315.00	110.00	SOFT	0.	NO	0.	0.
49	12000.	315.00	90.00	SOFT	0.	NO	0.	0.
50	500.	292.50	225.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	225.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	190.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	190.00	SOFT	0.	NO	0.	0.
54	6000.	292.50	140.00	SOFT	0.	NO	0.	0.
55	8000.	292.50	88.00	SOFT	0.	YES	6500.	140.
56	12000.	292.50	110.00	SOFT	0.	YES	11800.	120.
57	500.	270.00	222.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	220.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	205.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	140.00	SOFT	0.	YES	2550.	210.
61	6000.	270.00	120.00	SOFT	0.	YES	5000.	160.
62	8000.	270.00	100.00	SOFT	0.	NO	0.	0.
63	12000.	270.00	135.00	SOFT	0.	NO	0.	0.
64	500.	247.50	225.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	215.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	190.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	200.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	160.00	SOFT	0.	YES	5850.	170.
69	8000.	247.50	92.00	SOFT	0.	YES	5850.	170.
70	12000.	247.50	70.00	SOFT	0.	NO	0.	0.
71	500.	225.00	225.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	220.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	200.00	SOFT	0.	NO	0.	0.
74	4000.	225.00	200.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	190.00	SOFT	0.	NO	0.	0.
76	8000.	225.00	180.00	SOFT	0.	YES	7000.	200.
77	12000.	225.00	120.00	SOFT	0.	YES	8850.	190.
78	500.	202.50	225.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	215.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	195.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	175.00	SOFT	0.	NO	0.	0.
82	6000.	202.50	165.00	SOFT	0.	YES	5600.	180.
83	8000.	202.50	160.00	SOFT	0.	NO	0.	0.
84	12000.	202.50	100.00	SOFT	0.	YES	11100.	130.
85	500.	180.00	218.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	205.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	180.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	140.00	SOFT	0.	NO	0.	0.
89	6000.	180.00	150.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	155.00	SOFT	0.	NO	0.	0.
91	12000.	180.00	150.00	SOFT	0.	NO	0.	0.
92	500.	157.50	215.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	195.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	200.00	SOFT	0.	NO	0.	0.
95	4000.	157.50	140.00	SOFT	0.	NO	0.	0.
96	6000.	157.50	180.00	SOFT	0.	NO	0.	0.
97	8000.	157.50	180.00	SOFT	0.	NO	0.	0.
98	12000.	157.50	205.00	SOFT	0.	NO	0.	0.
99	500.	135.00	209.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	205.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	200.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	160.00	SOFT	0.	NO	0.	0.
103	6000.	135.00	200.00	SOFT	0.	NO	0.	0.
104	8000.	135.00	205.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	190.00	SOFT	0.	NO	0.	0.
106	500.	112.50	208.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	220.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	200.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	160.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	205.00	SOFT	0.	NO	0.	0.
111	8000.	112.50	230.00	SOFT	0.	NO	0.	0.
112	12000.	112.50	205.00	SOFT	0.	NO	0.	0.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF4-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 285.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF4-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
1986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.0

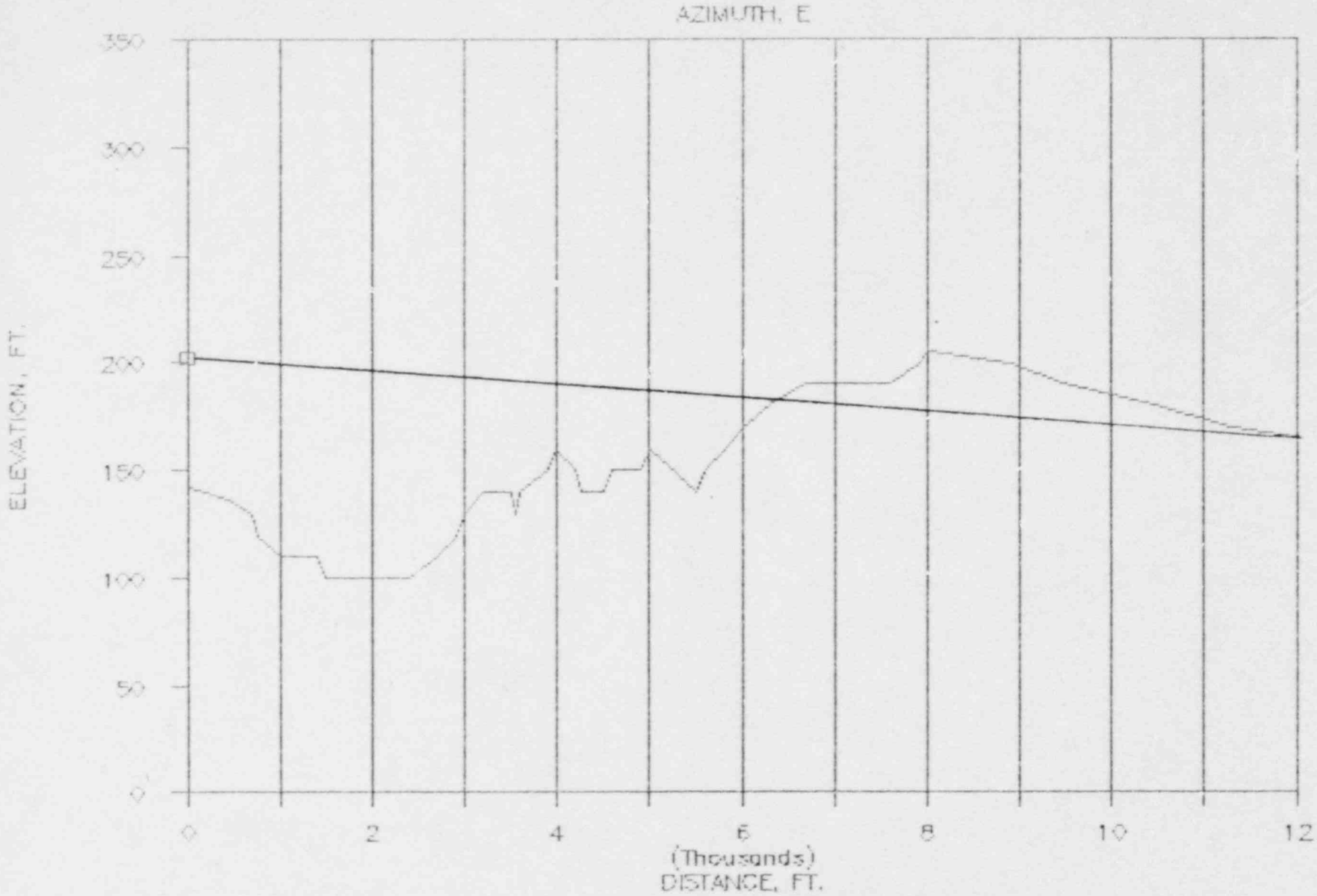
GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF4-WS300OR

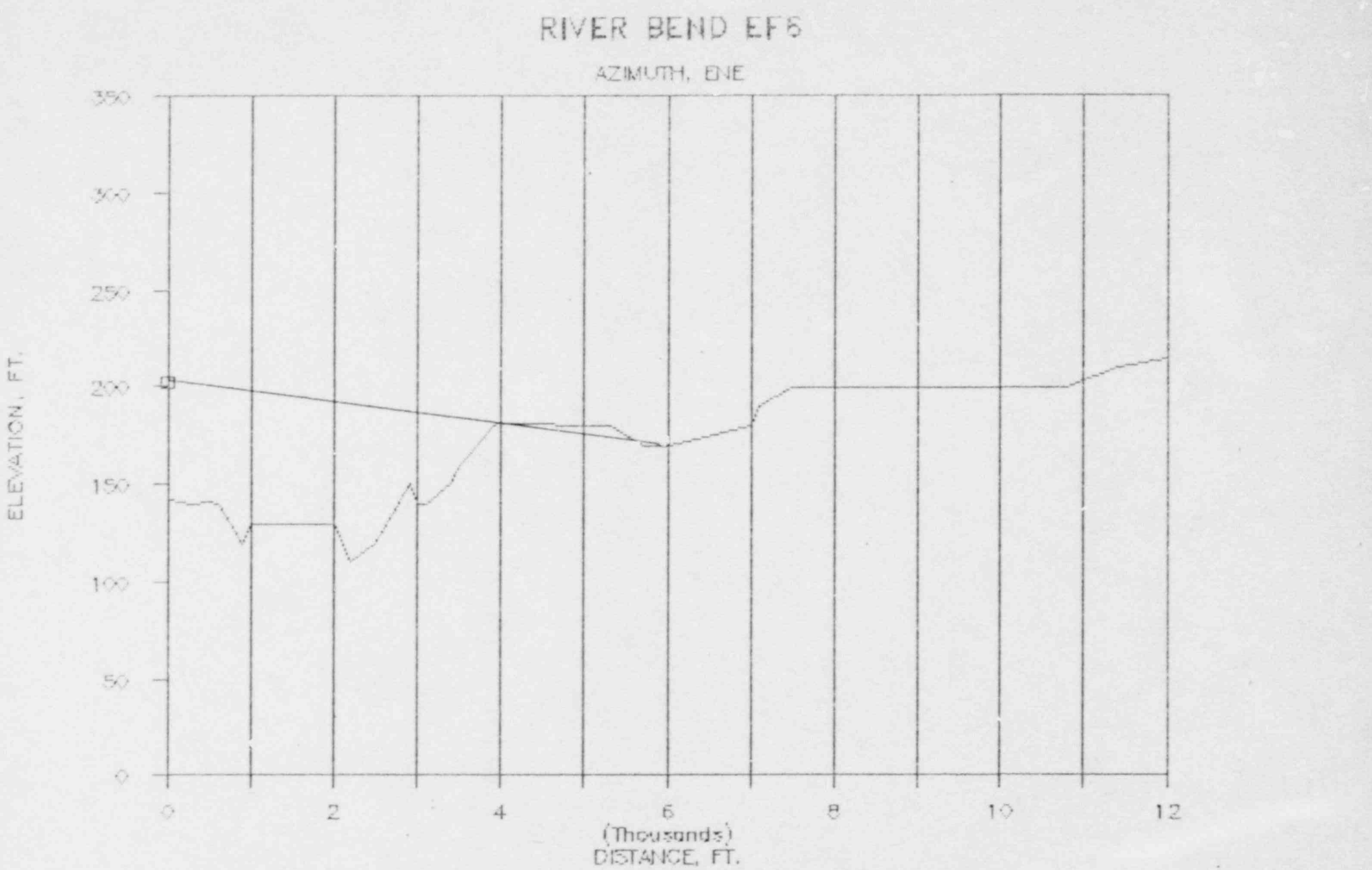
SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

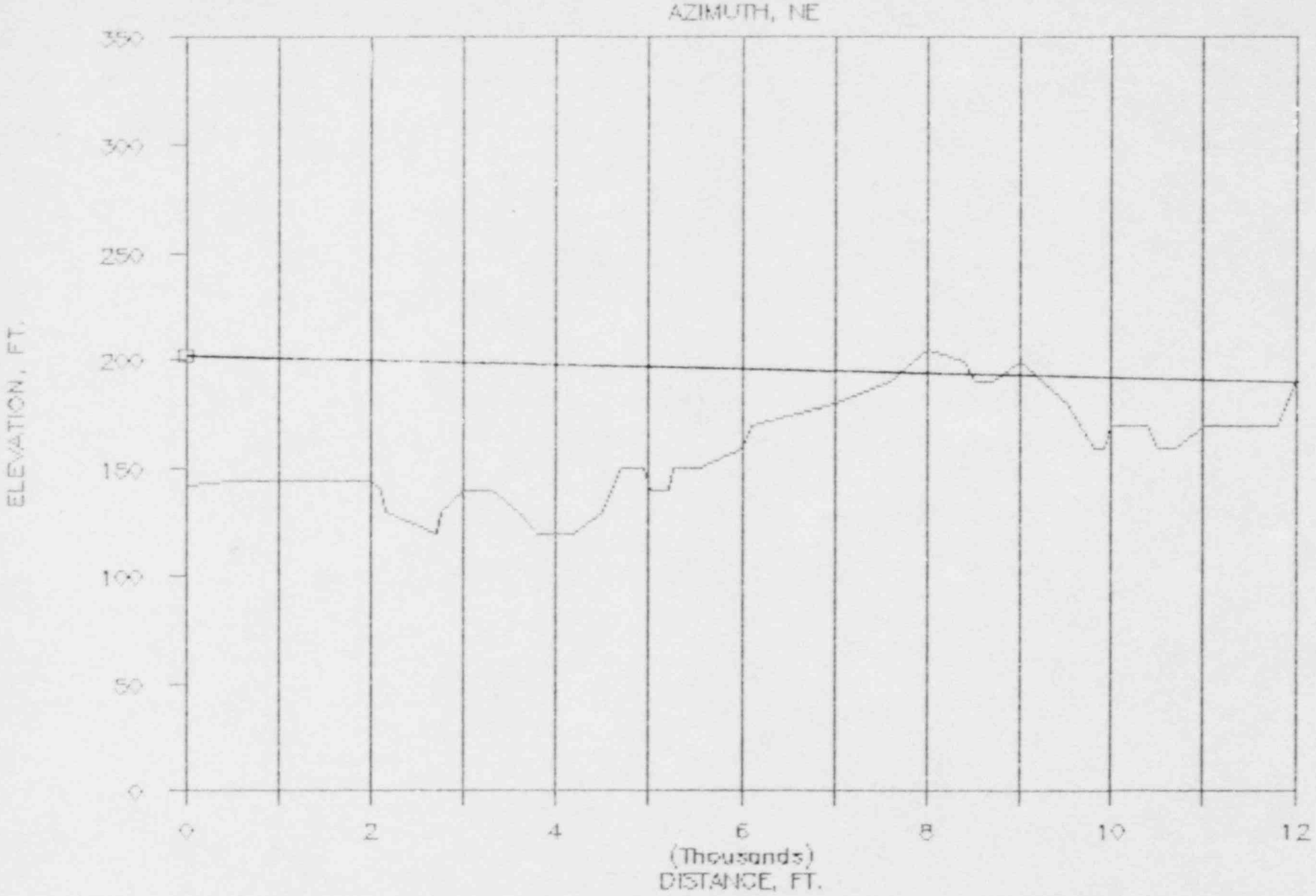
AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.6	92.3	77.7	61.1	62.2	57.7	46.7
ENE	105.7	92.3	77.7	60.9	62.2	58.4	44.3
NE	105.7	92.3	77.8	67.7	54.8	58.4	44.6
NNE	105.7	92.2	77.7	67.7	62.2	58.4	46.1
N	105.7	92.2	77.7	58.9	51.3	58.4	51.0
NNW	105.7	92.3	77.7	61.3	52.4	53.3	49.9
NW	105.7	92.3	77.7	67.7	55.8	57.4	46.2
WNW	105.7	92.3	77.7	67.7	62.2	52.0	44.8
W	105.7	92.2	77.7	61.0	56.2	58.4	51.0
WSW	105.7	92.2	77.7	67.7	55.6	51.2	51.0
SW	105.7	92.2	77.7	67.7	62.2	53.2	44.5
SSW	105.7	92.2	77.7	67.7	56.5	58.4	44.5
S	105.7	92.2	77.7	67.7	62.2	58.4	51.0
SSE	105.7	92.2	77.7	67.7	62.2	58.4	51.0
SE	105.6	92.2	77.7	67.7	62.2	58.4	51.0
ESE	105.6	92.2	77.7	67.7	62.2	58.4	51.0

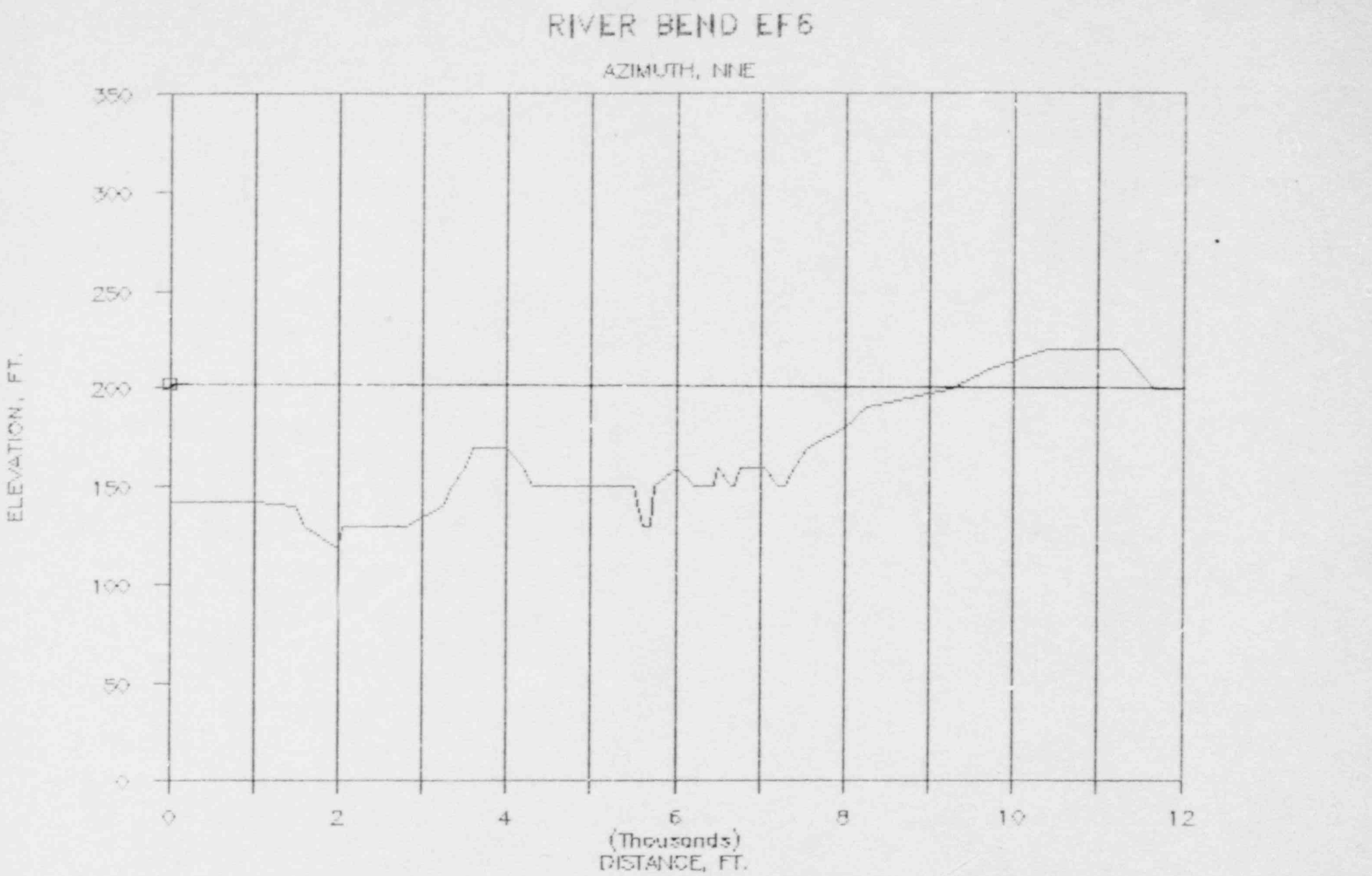
RIVER BEND EF6



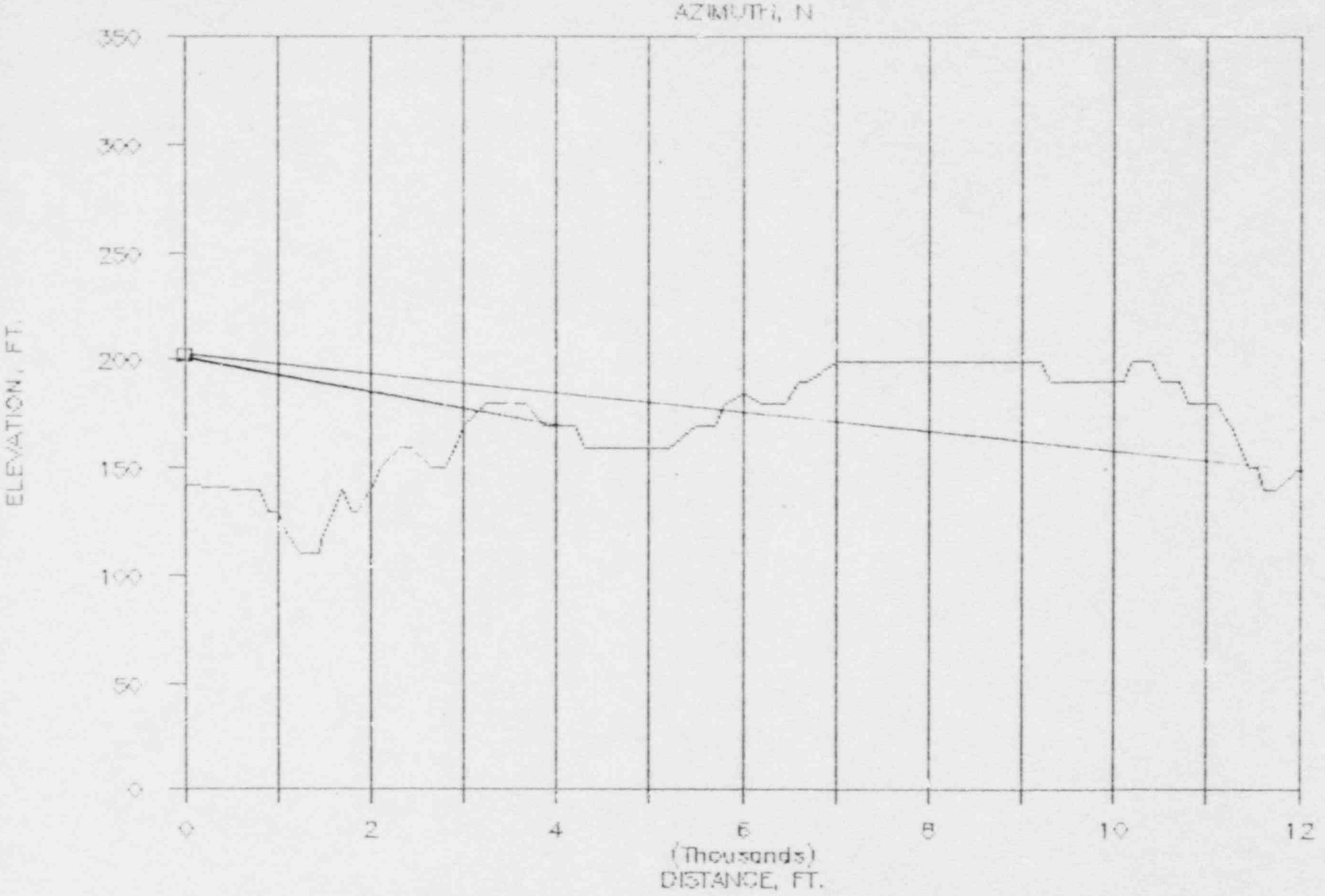

RIVER BEND EF6
AZIMUTH, ENE
ELEVATION, FT.
350
300
250
200
150
100
50
0
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND EF6



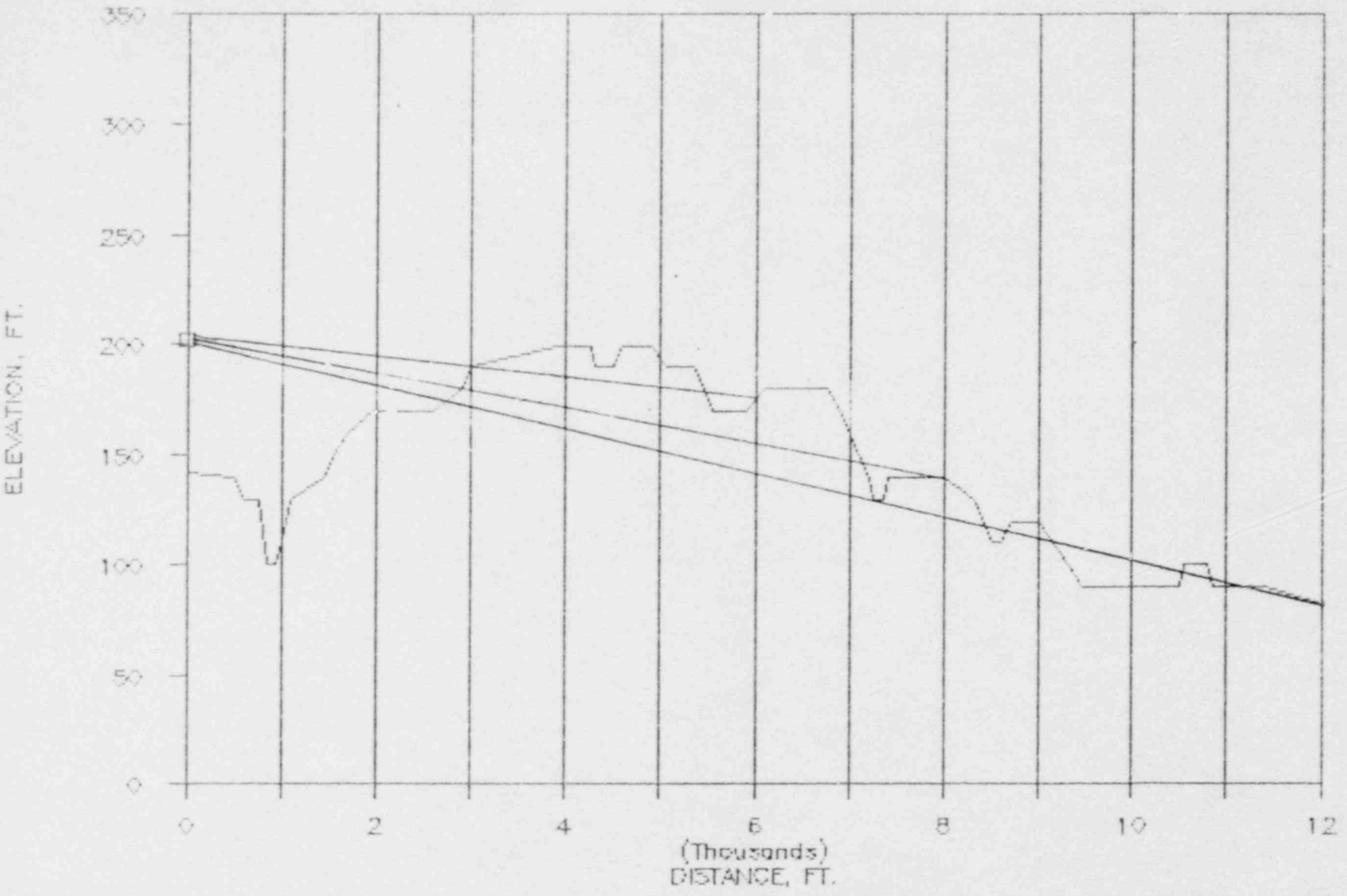

RIVER BEND EF6
AZIMUTH, NNE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND EF6



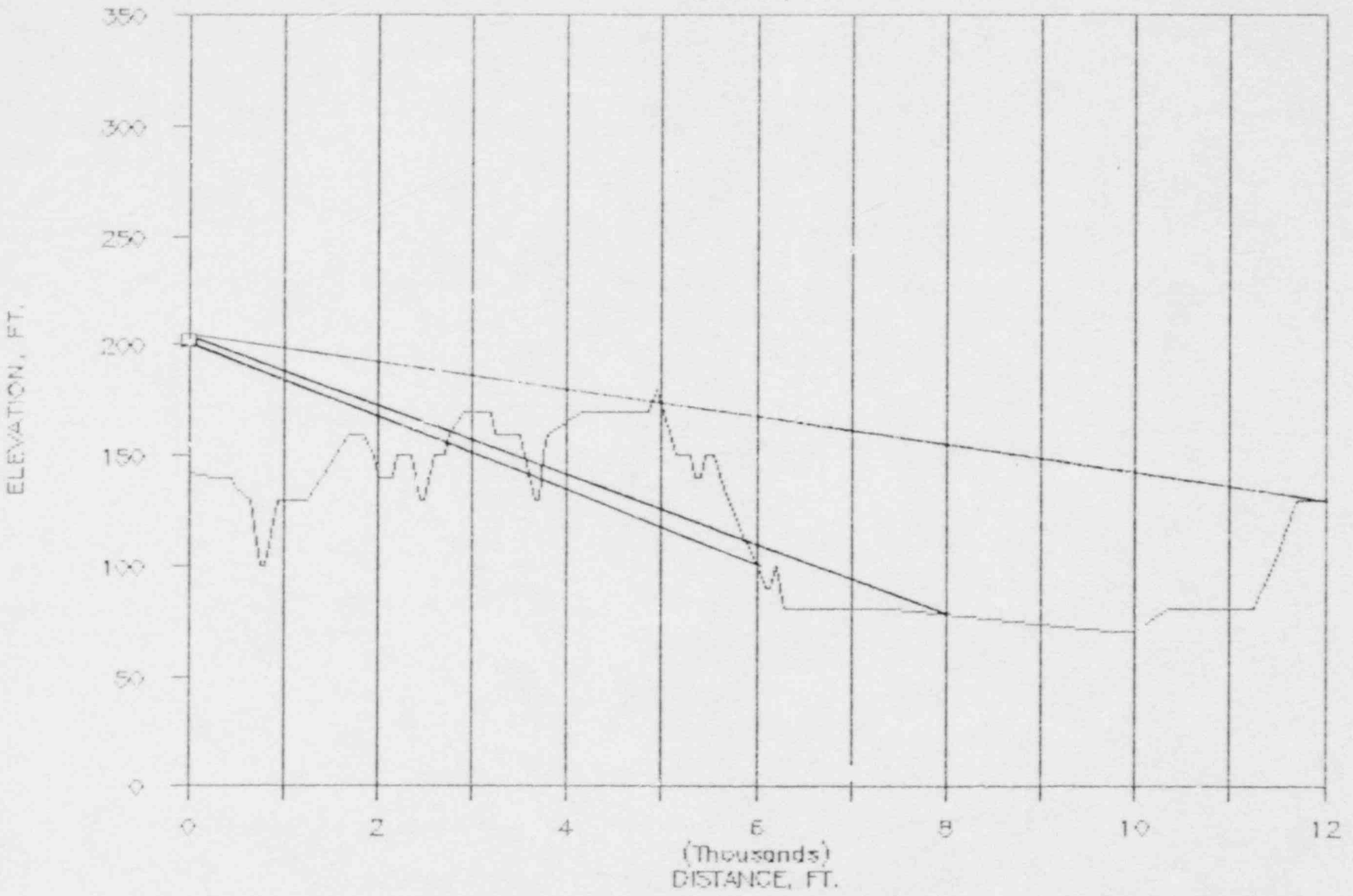
RIVER BEND EFS

AZIMUTH, NNW



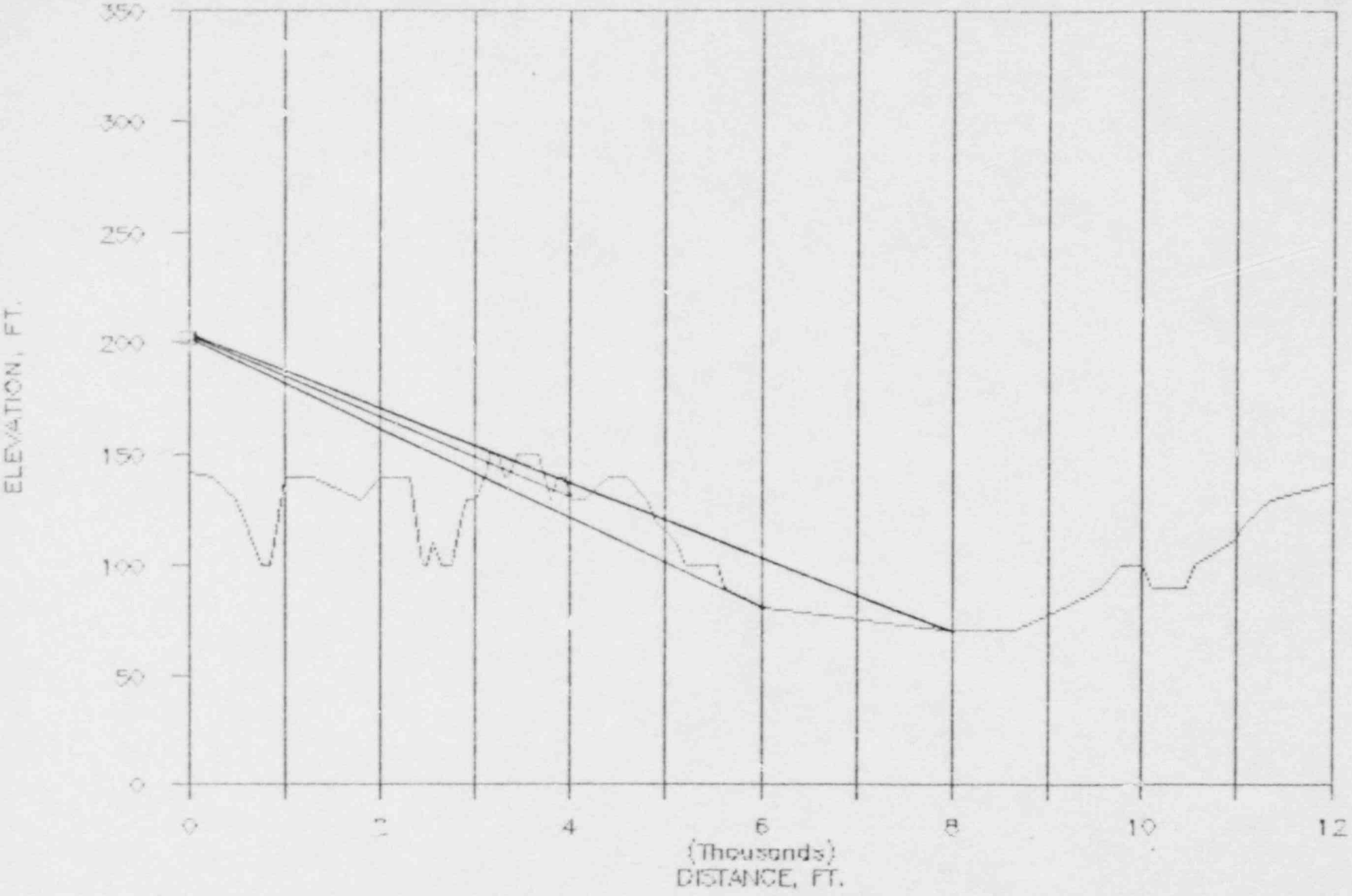
RIVER BEND EF6

AZIMUTH, NW



RIVER BEND EF6

AZIMUTH, WNW



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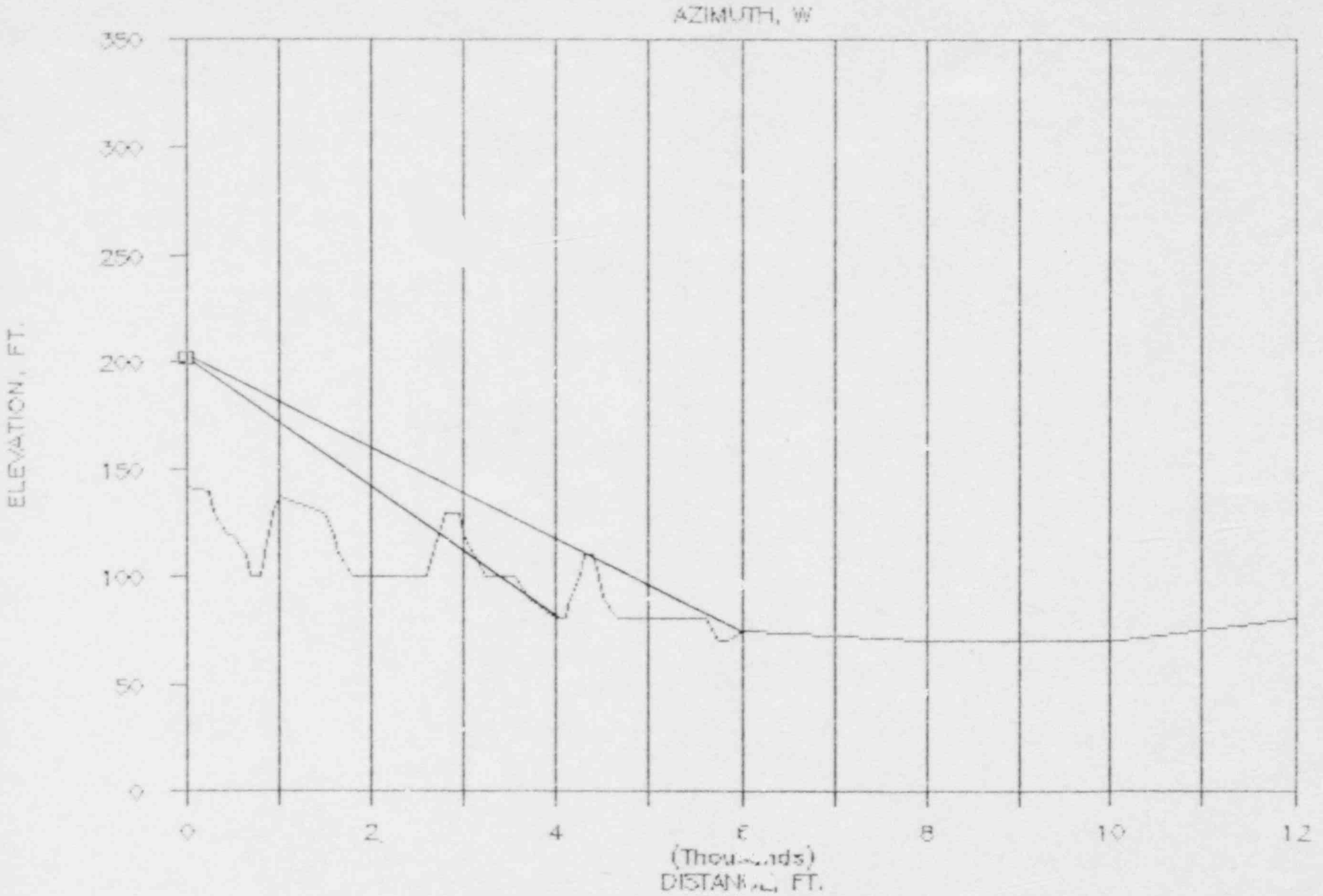

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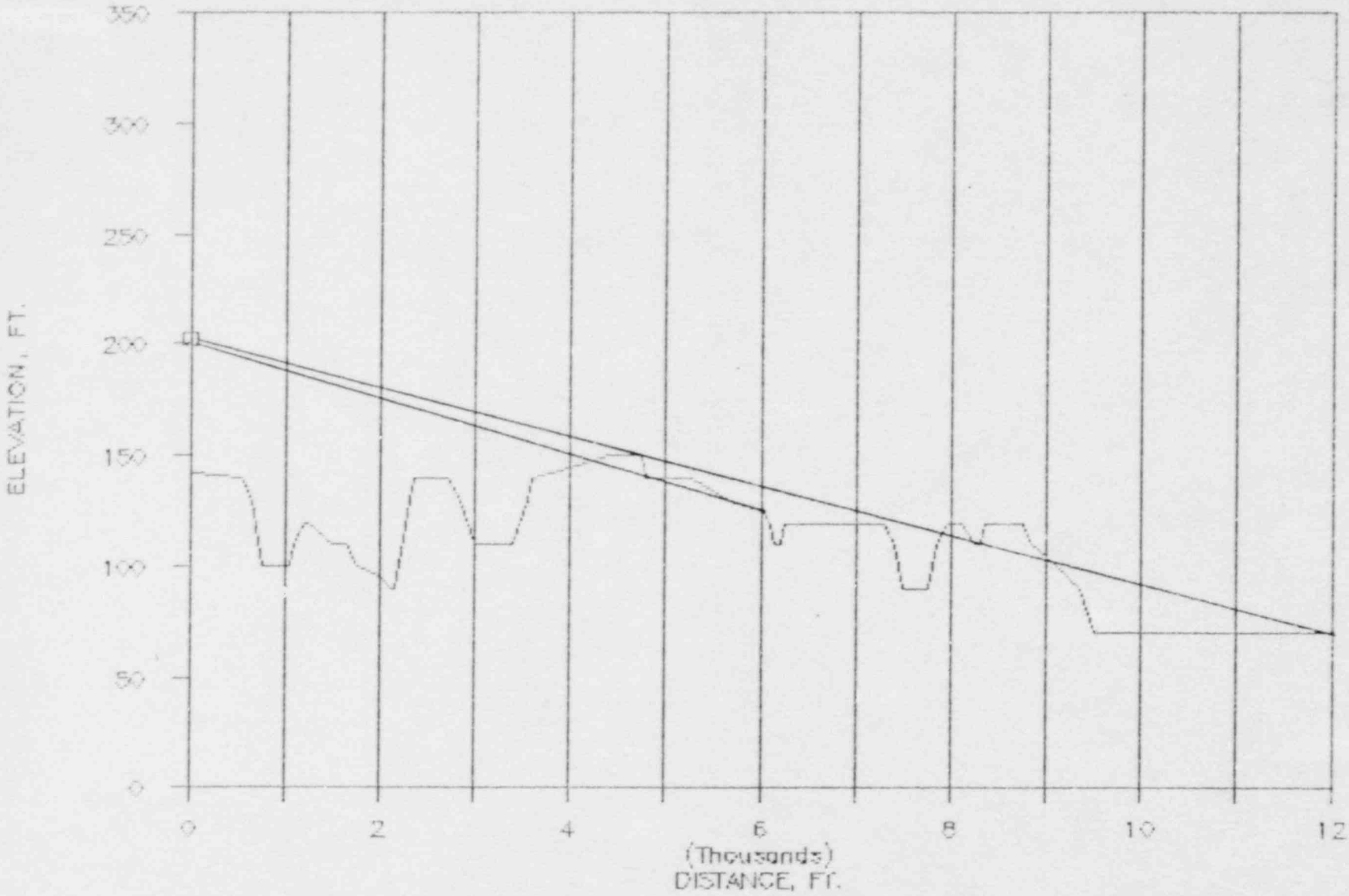
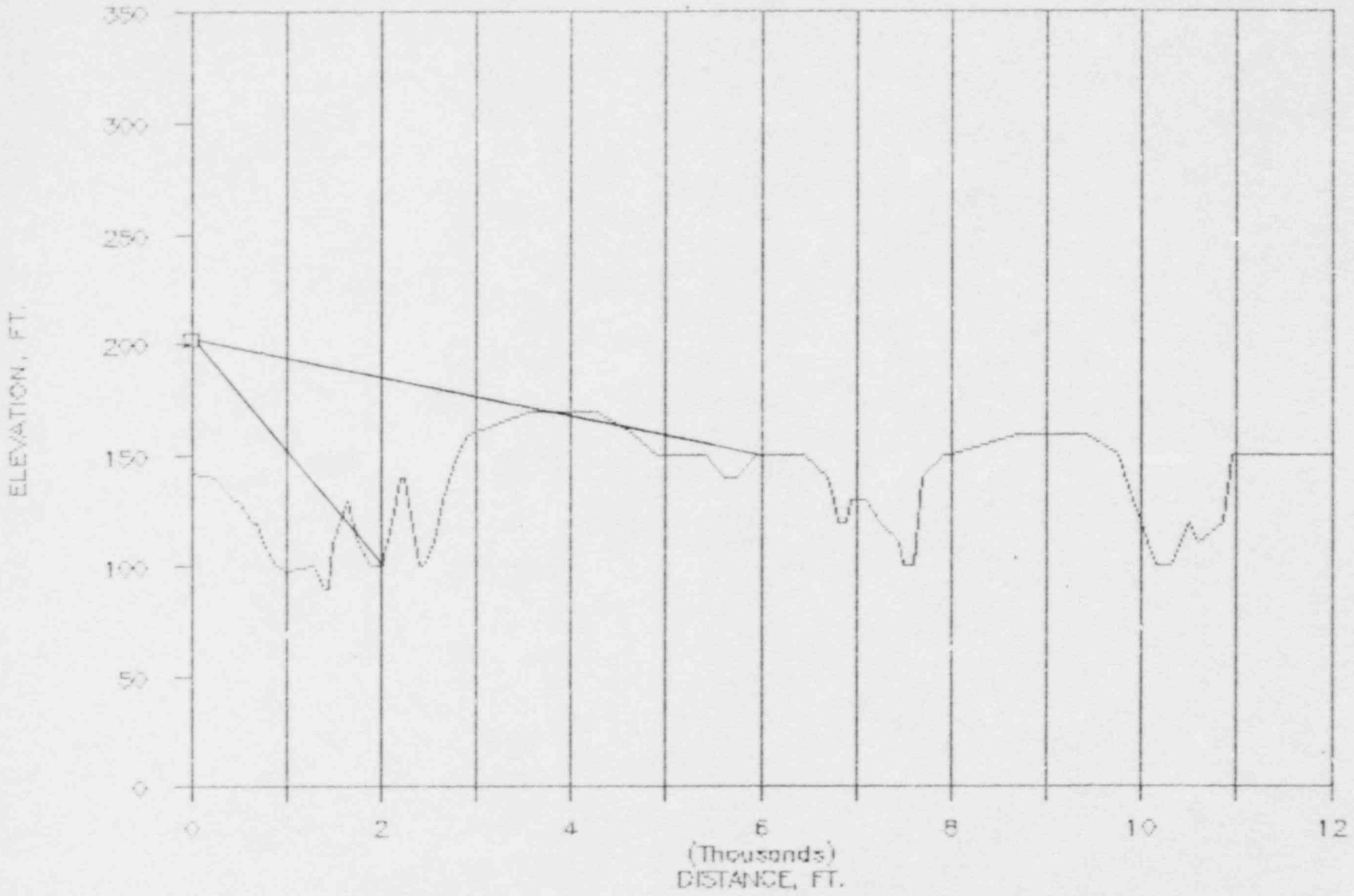
AZIMUTH, WSW



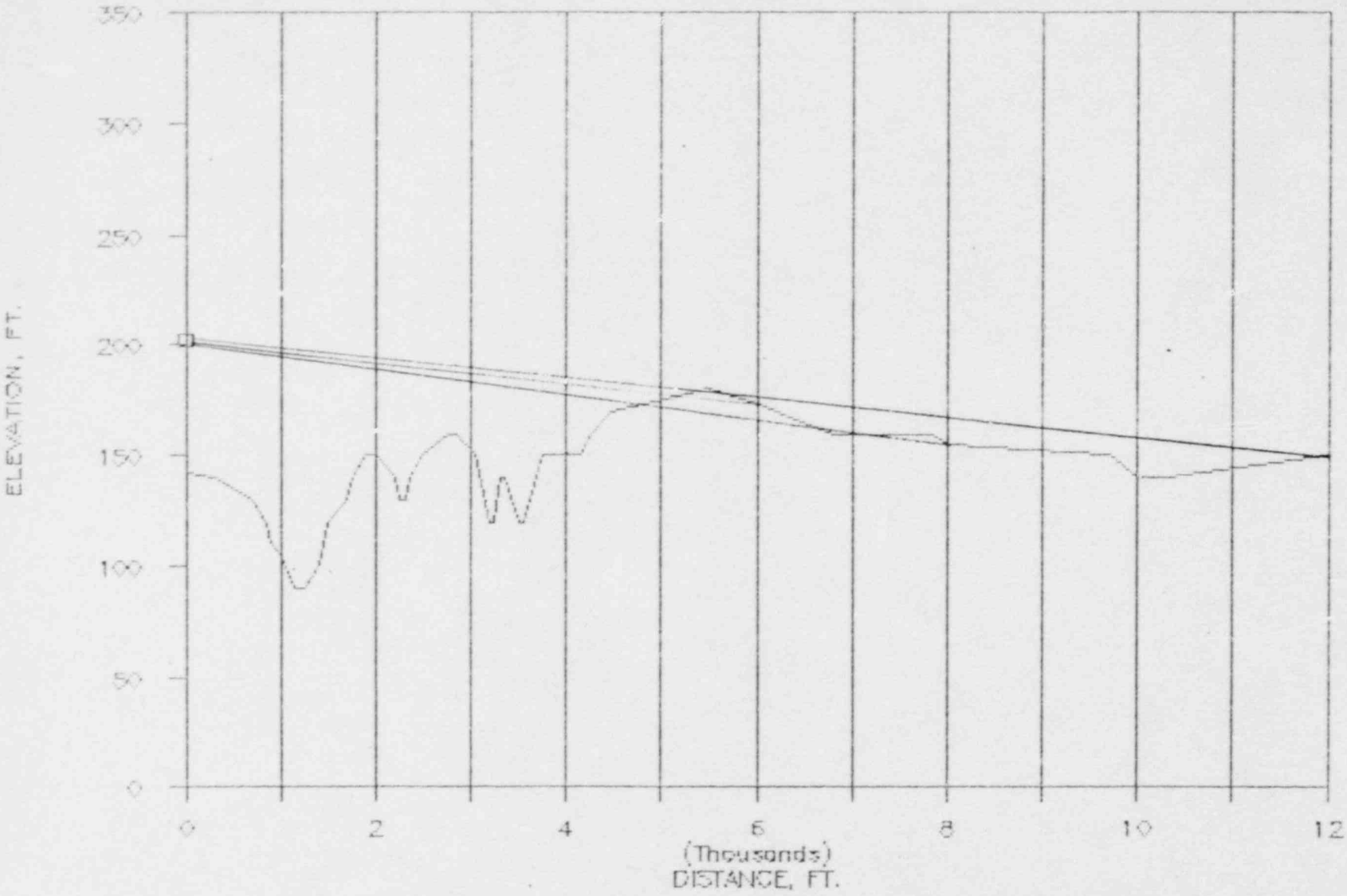
RIVER BEND EF6

AZIMUTH, SW



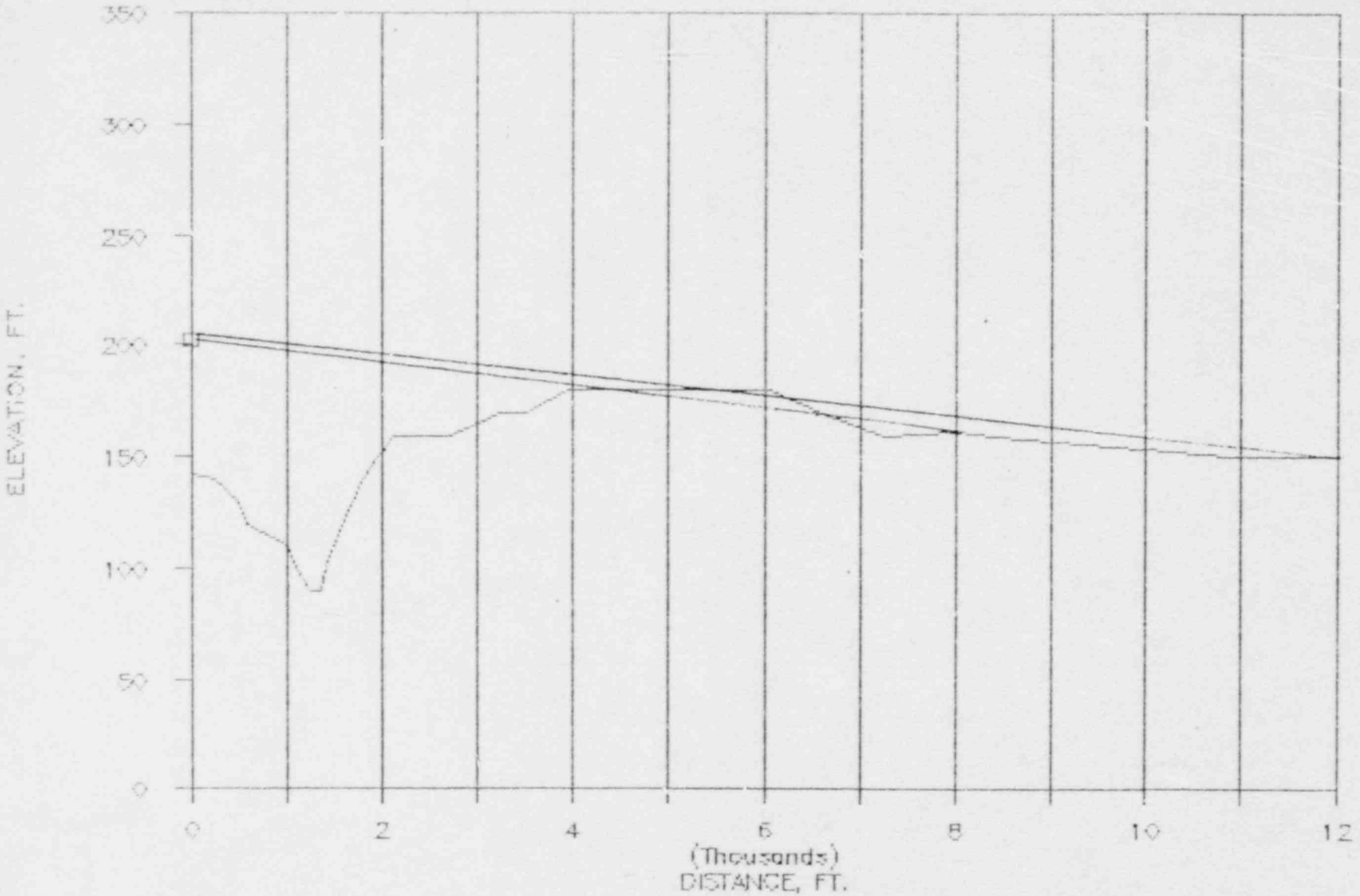
RIVER BEND EF6

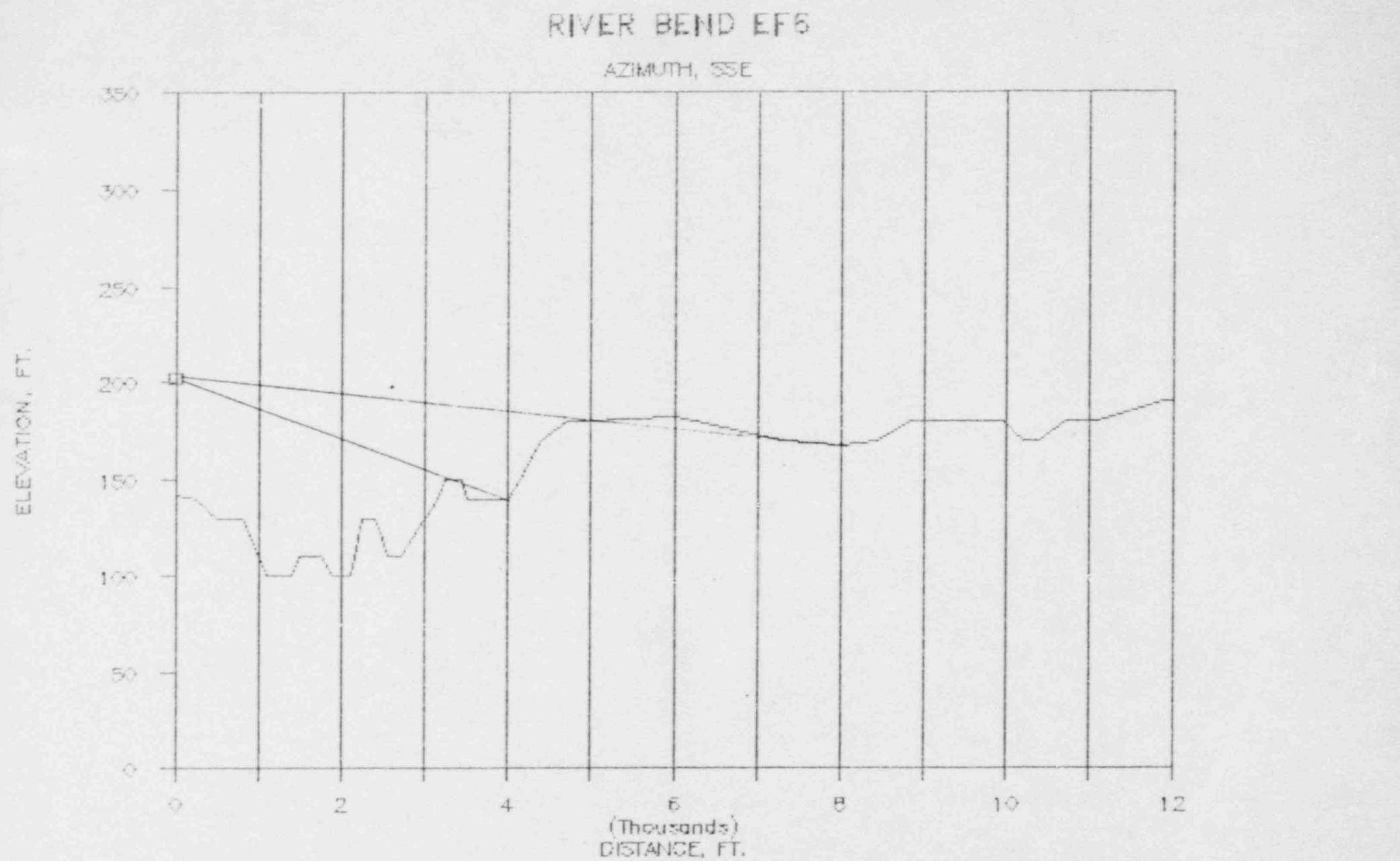
AZIMUTH, 55W



RIVER BEND EF6

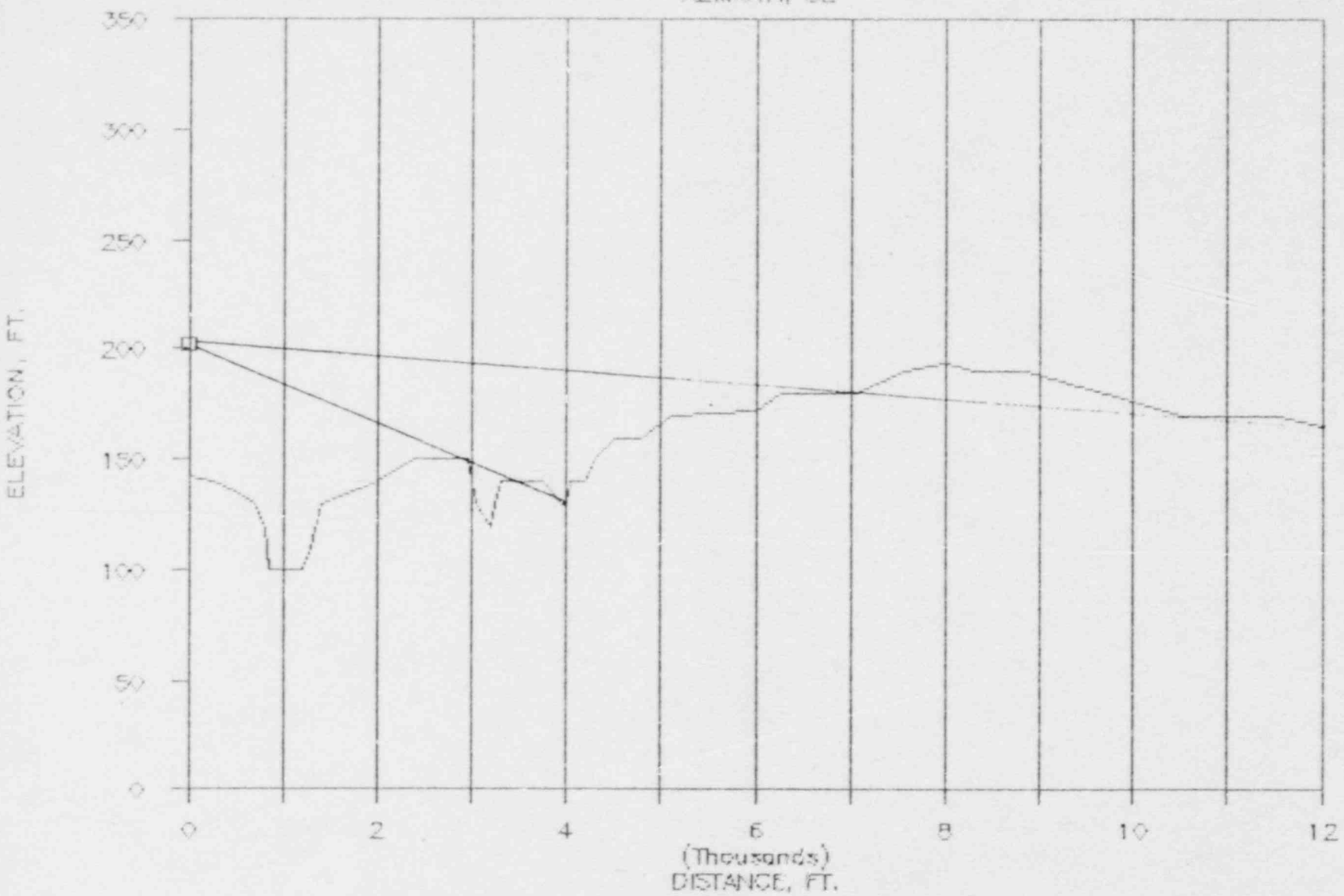
AZIMUTH, S




RIVER BEND EF6
AZIMUTH, SSE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

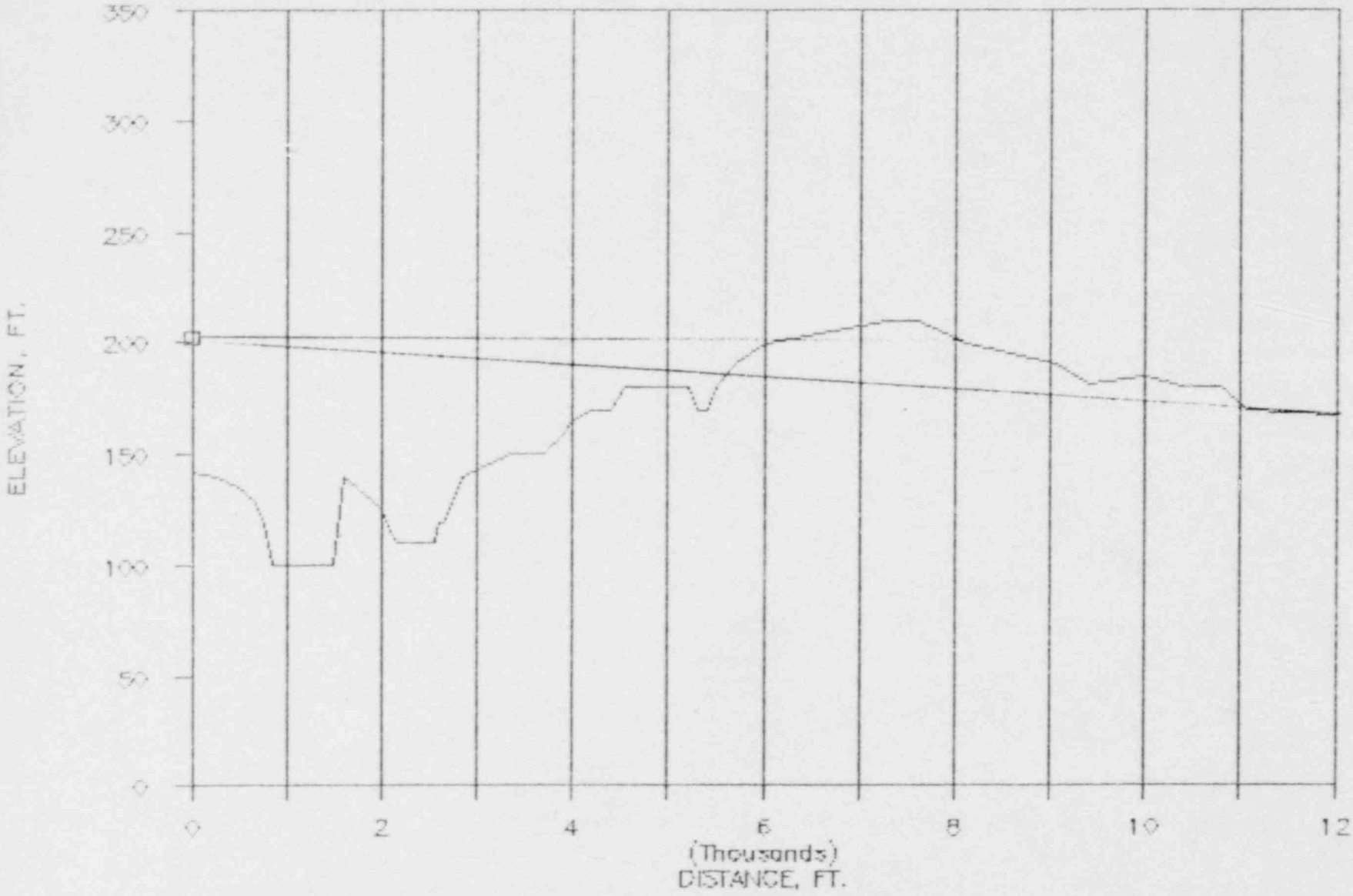
RIVER BEND EF6

AZIMUTH, 3E



RIVER BEND EF6

AZIMUTH, ESE



GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF6-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIG EST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	135.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	110.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	100.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	160.00	SOFT	0.	NO	0.	0.
5	6000.	90.00	170.00	SOFT	0.	NO	0.	0.
6	8000.	90.00	205.00	SOFT	0.	NO	0.	0.
7	12000.	90.00	165.00	SOFT	0.	YES	8000.	205.
8	500.	67.50	141.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	130.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	130.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	181.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	170.00	SOFT	0.	YES	5300.	180.
13	8000.	67.50	200.00	SOFT	0.	NO	0.	0.
14	12000.	67.50	215.00	SOFT	0.	NO	0.	0.
15	500.	45.00	145.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	145.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	145.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	120.00	SOFT	0.	NO	0.	0.
19	6000.	45.00	160.00	SOFT	0.	NO	0.	0.
20	8000.	45.00	205.00	SOFT	0.	NO	0.	0.
21	12000.	45.00	190.00	SOFT	0.	YES	8000.	205.
22	500.	22.50	142.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	142.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	120.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	170.00	SOFT	0.	NO	0.	0.
26	6000.	22.50	160.00	SOFT	0.	NO	0.	0.
27	8000.	22.50	180.00	SOFT	0.	NO	0.	0.
28	12000.	22.50	200.00	SOFT	0.	YES	10400.	220.
29	500.	0.0	141.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	130.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	140.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	170.00	SOFT	0.	YES	3650.	180.
33	6000.	0.0	185.00	SOFT	0.	NO	0.	0.
34	8000.	0.0	200.00	SOFT	0.	NO	0.	0.
35	12000.	0.0	150.00	SOFT	0.	YES	10400.	200.
36	500.	337.50	140.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	110.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	170.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	200.00	SOFT	0.	NO	0.	0.
40	6000.	337.50	175.00	SOFT	0.	YES	4900.	200.
41	8000.	337.50	140.00	SOFT	0.	YES	4900.	200.
42	12000.	337.50	82.00	SOFT	0.	YES	4900.	200.
43	500.	315.00	135.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	130.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	140.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	165.00	SOFT	0.	NO	0.	0.
47	6000.	315.00	100.00	SOFT	0.	YES	4950.	180.
48	8000.	315.00	78.00	SOFT	0.	YES	4950.	180.
49	12000.	315.00	130.00	SOFT	0.	YES	4950.	180.
50	500.	292.50	130.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	140.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	140.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	130.00	SOFT	0.	YES	3650.	150.
54	6000.	292.50	80.00	SOFT	0.	YES	4600.	140.
55	8000.	292.50	70.00	SOFT	0.	YES	4600.	140.
56	12000.	292.50	138.00	SOFT	0.	NO	0.	0.
57	500.	270.00	120.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	138.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	100.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	80.00	SOFT	0.	YES	2950.	130.
61	6000.	270.00	75.00	SOFT	0.	YES	4400.	110.
62	8000.	270.00	70.00	SOFT	0.	NO	0.	0.
63	12000.	270.00	80.00	SOFT	0.	NO	0.	0.
64	500.	247.50	141.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	100.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	95.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	145.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	125.00	SOFT	0.	YES	4750.	150.
69	8000.	247.50	120.00	SOFT	0.	NO	0.	0.
70	12000.	247.50	70.00	SOFT	0.	YES	8750.	120.
71	500.	225.00	130.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	98.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	100.00	SOFT	0.	YES	1650.	130.
74	4000.	225.00	170.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	150.00	SOFT	0.	YES	4250.	170.
76	8000.	225.00	150.00	SOFT	0.	NO	0.	0.
77	12000.	225.00	150.00	SOFT	0.	NO	0.	0.
78	500.	202.50	135.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	105.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	150.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	150.00	SOFT	0.	NO	0.	0.
82	6000.	202.50	173.00	SOFT	0.	YES	5500.	180.
83	8000.	202.50	155.00	SOFT	0.	YES	5500.	180.
84	12000.	202.50	150.00	SOFT	0.	YES	5500.	180.
85	500.	180.00	130.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	110.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	152.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	180.00	SOFT	0.	NO	0.	0.
89	6000.	180.00	180.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	162.00	SOFT	0.	YES	6050.	180.
91	12000.	180.00	150.00	SOFT	0.	YES	6050.	180.
92	500.	157.50	130.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	110.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	100.00	SOFT	0.	NO	0.	0.
95	4000.	157.50	140.00	SOFT	0.	YES	3450.	150.
96	6000.	157.50	180.00	SOFT	0.	NO	0.	0.
97	8000.	157.50	168.00	SOFT	0.	YES	6000.	182.
98	12000.	157.50	190.00	SOFT	0.	NO	0.	0.
99	500.	135.00	135.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	100.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	140.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	130.00	SOFT	0.	YES	2950.	150.
103	6000.	135.00	172.00	SOFT	0.	NO	0.	0.
104	8000.	135.00	194.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	165.00	SOFT	0.	YES	8000.	194.
106	500.	112.50	135.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	100.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	125.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	165.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	200.00	SOFT	0.	NO	0.	0.
111	8000.	112.50	202.00	SOFT	0.	YES	7600.	210.
112	12000.	112.50	168.00	SOFT	0.	YES	7600.	210.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF6-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 202.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF6-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
1986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.0

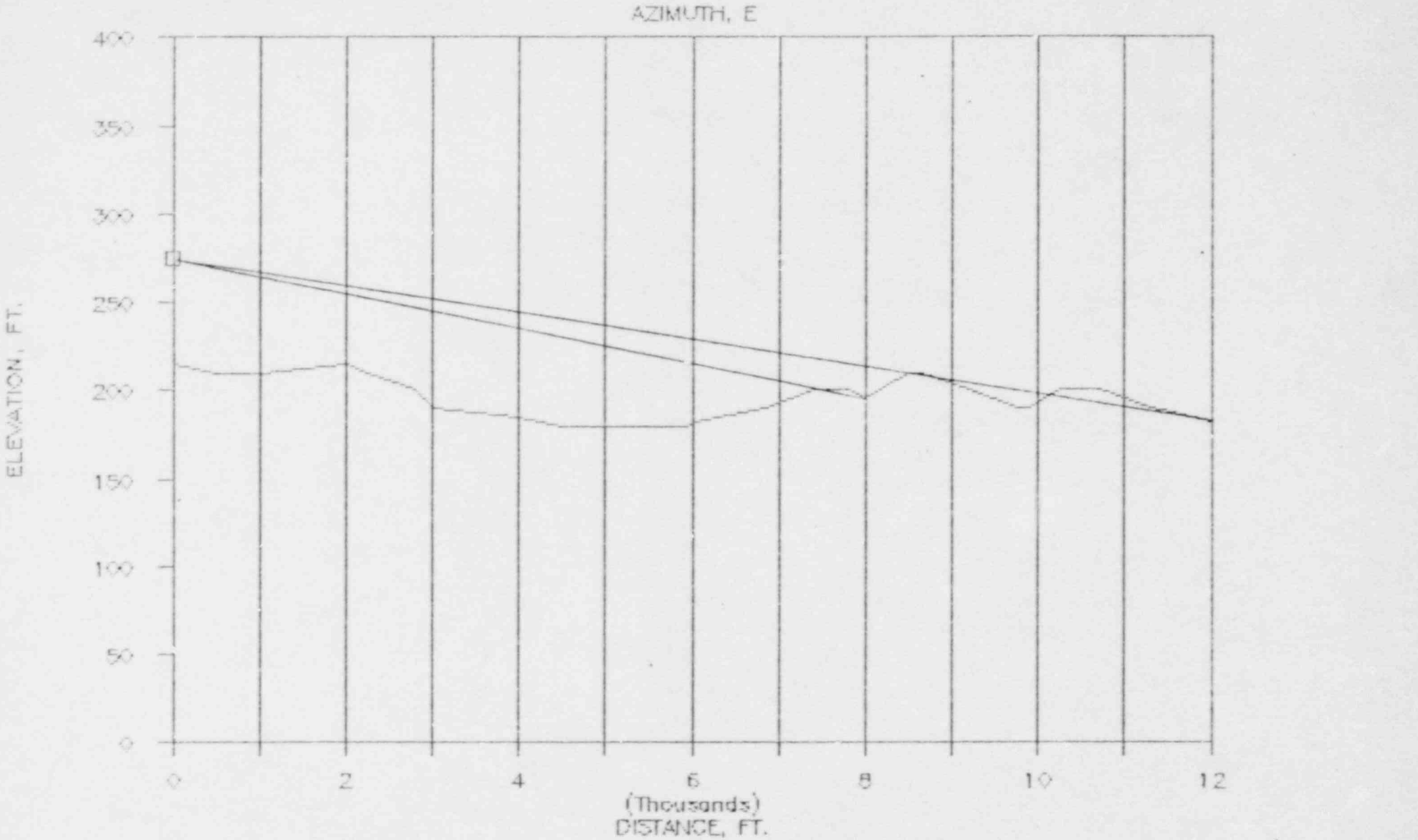
GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF6-WS3000R

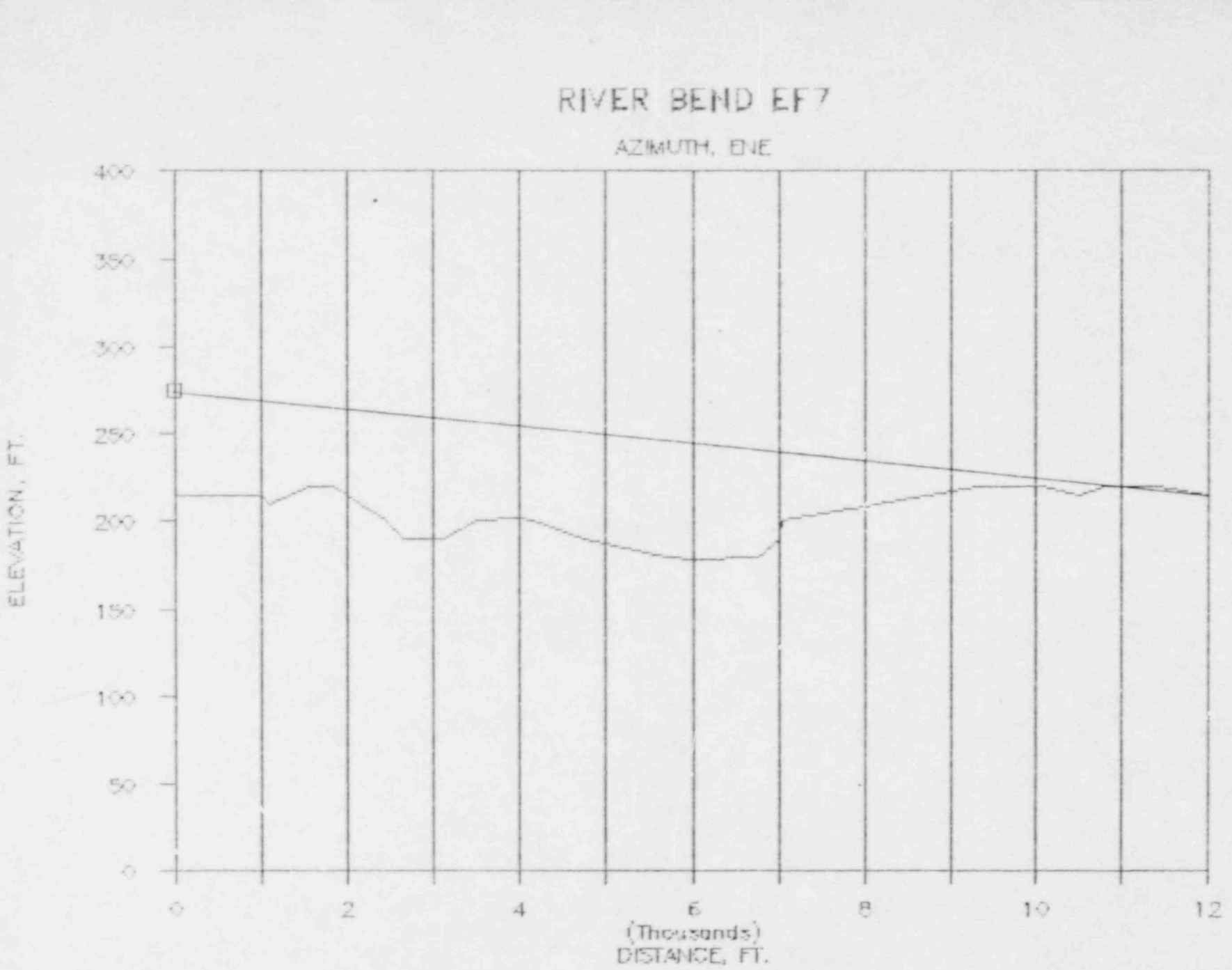
SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.7	92.2	77.7	67.7	62.2	57.7	40.3
ENE	105.7	92.2	77.7	67.7	57.0	58.4	50.4
NE	105.7	92.3	77.8	67.7	62.2	58.4	46.0
NNE	105.7	92.3	77.7	67.7	62.2	58.4	44.6
N	105.7	92.2	77.8	61.8	62.2	58.4	41.3
NNW	105.7	92.2	77.8	67.7	55.0	50.3	41.7
NW	105.7	92.2	77.8	67.7	48.3	47.1	41.3
WNW	105.7	92.3	77.8	59.9	53.4	52.9	51.0
W	105.6	92.2	77.7	60.6	62.2	58.4	51.0
WSW	105.7	92.2	77.7	67.7	56.8	58.4	45.7
SW	105.7	92.2	69.9	67.7	57.3	58.4	51.0
SSW	105.7	92.2	77.8	67.7	57.1	53.2	51.0
S	105.7	92.2	77.8	67.7	62.2	53.3	46.2
SSE	105.7	92.2	77.7	62.8	62.2	53.4	51.0
SE	105.7	92.2	77.8	62.9	62.2	58.4	45.6
ESE	105.7	92.2	77.7	67.7	62.2	52.5	44.5

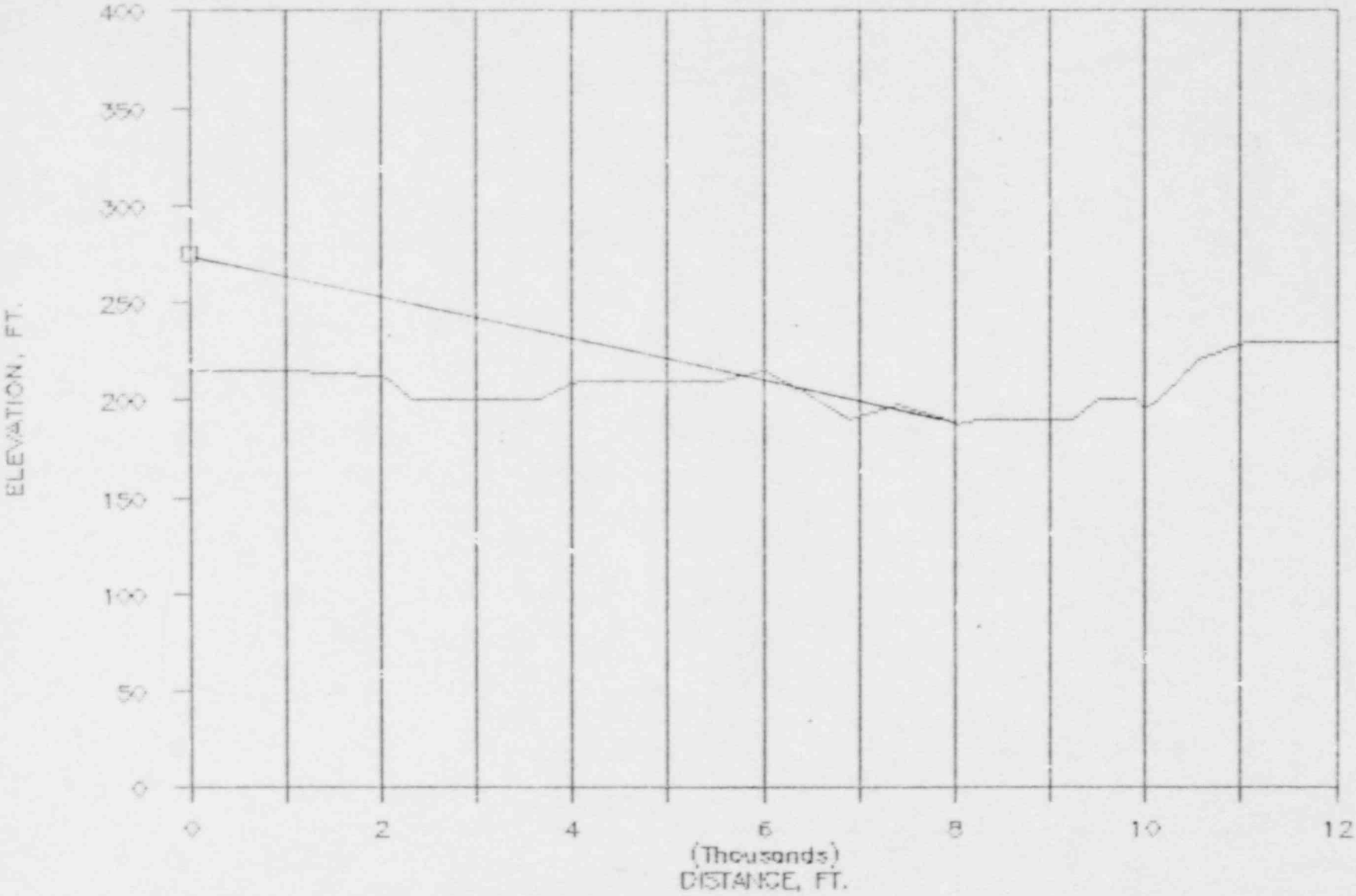
RIVER BEND EF7




RIVER BEND EF7
AZIMUTH, ENE
400
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

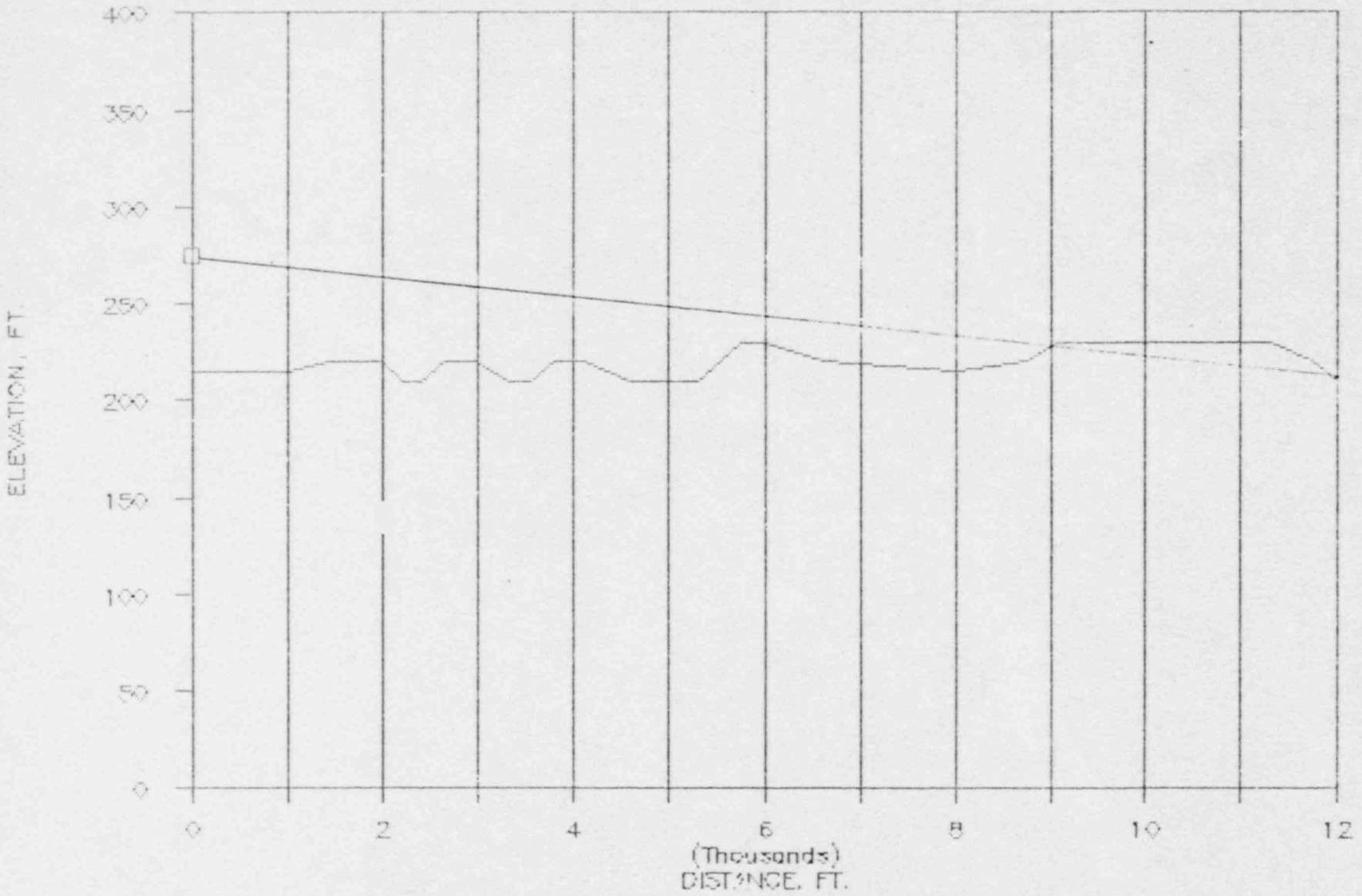
RIVER BEND EF7

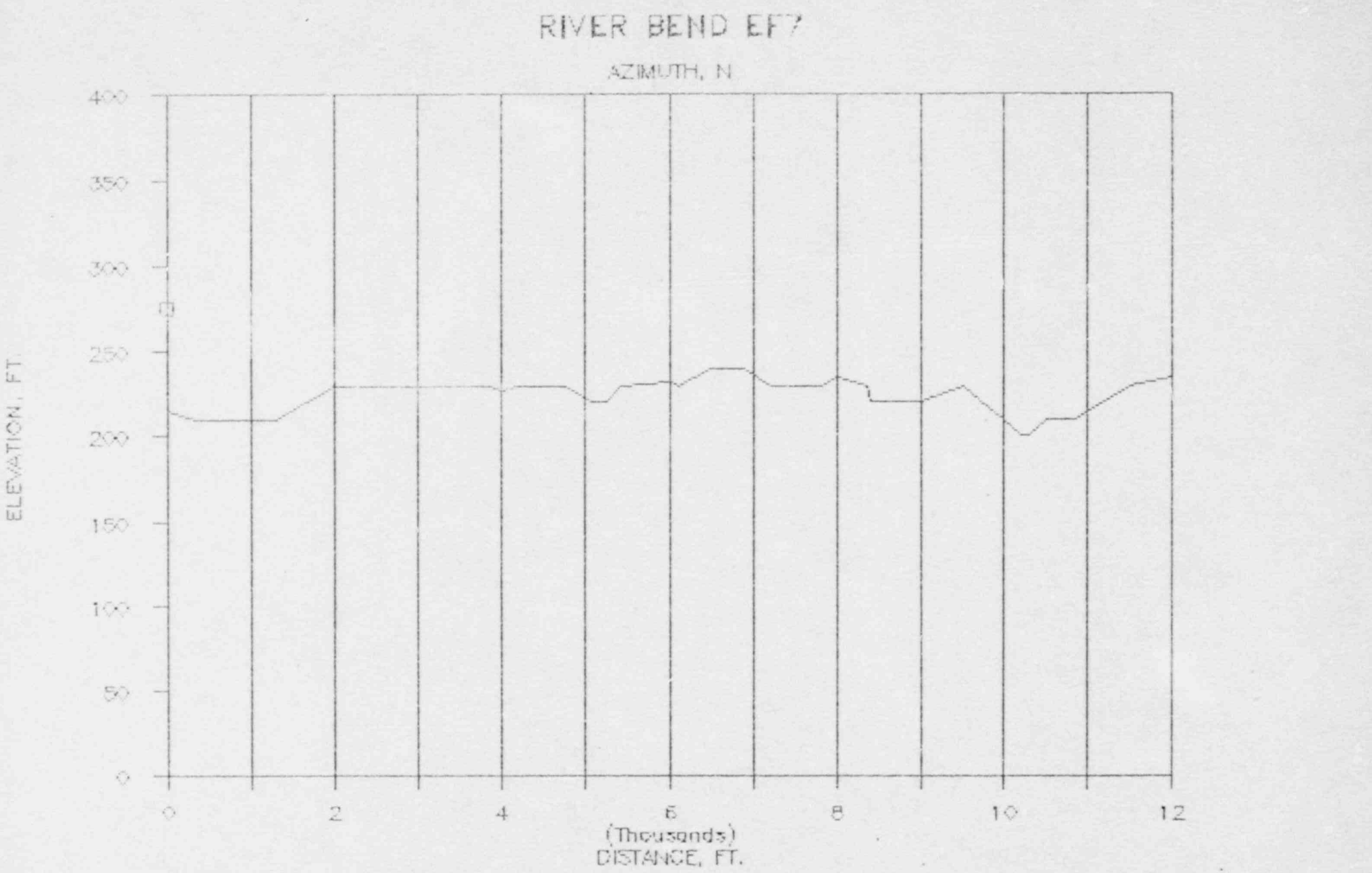
AZIMUTH, NE



RIVER BEND EF7

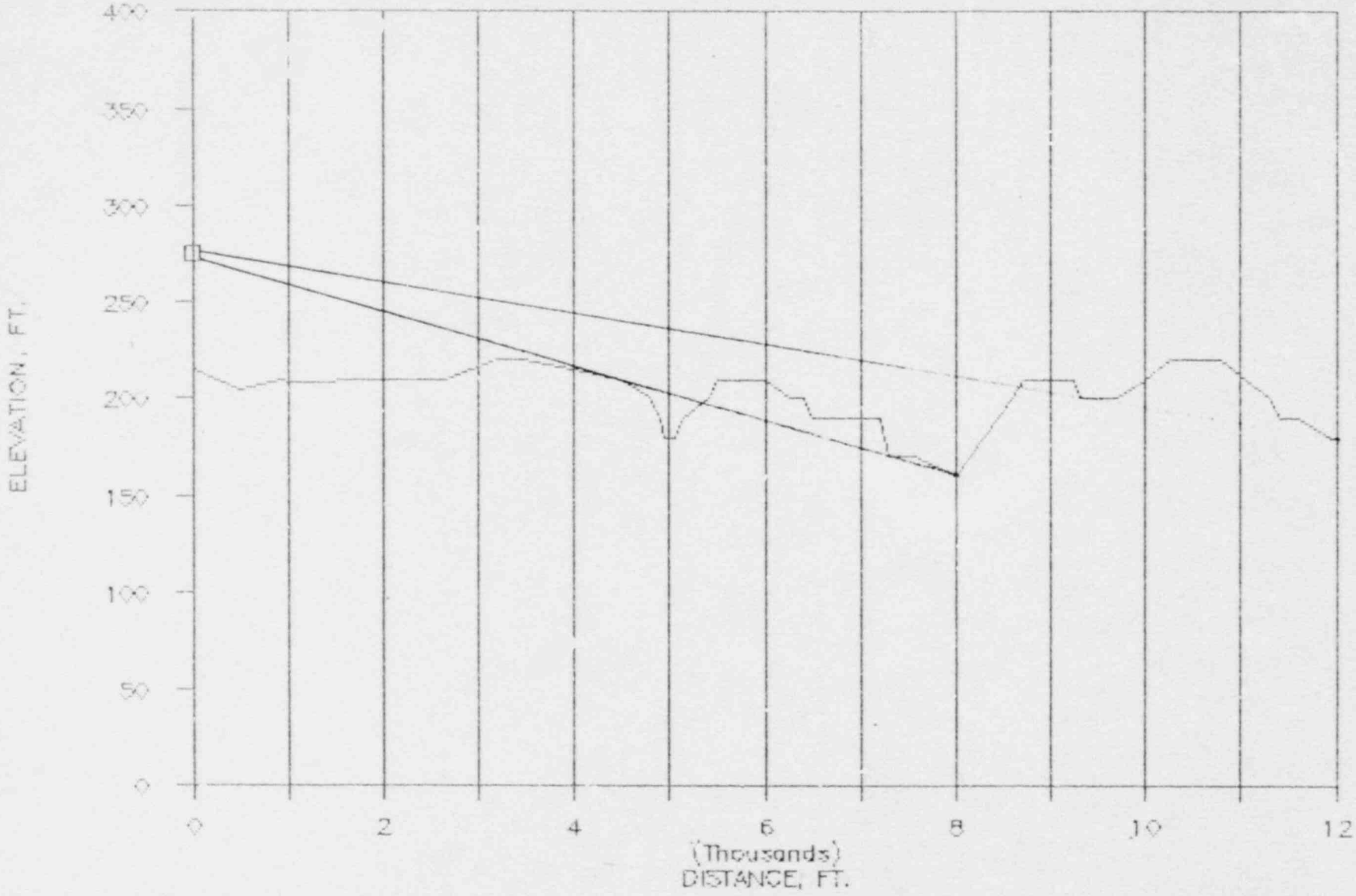
AZIMUTH, NNE




RIVER BEND EF7
AZIMUTH, N
400
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

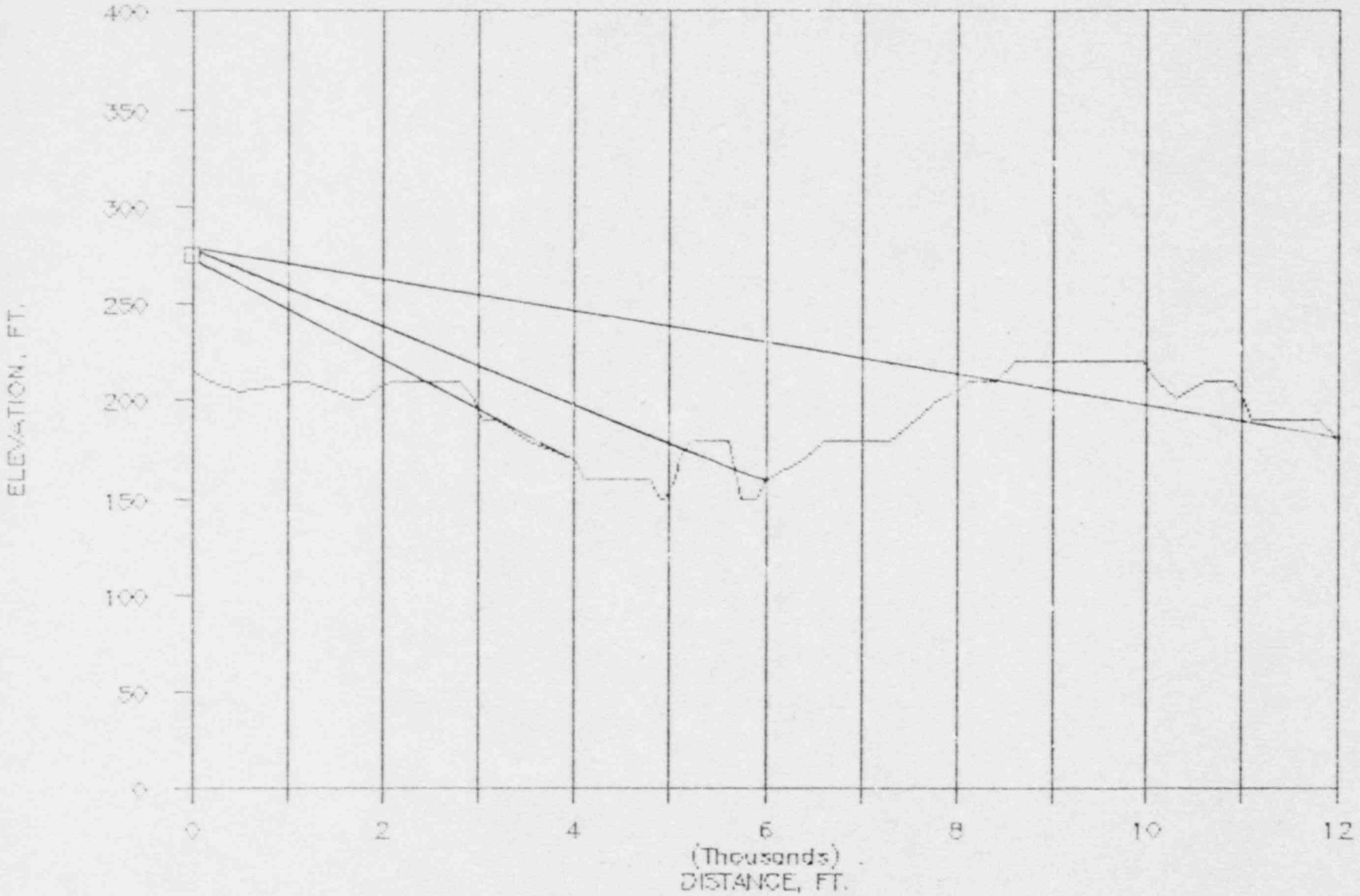
RIVER BEND EF7

AZIMUTH, NNW



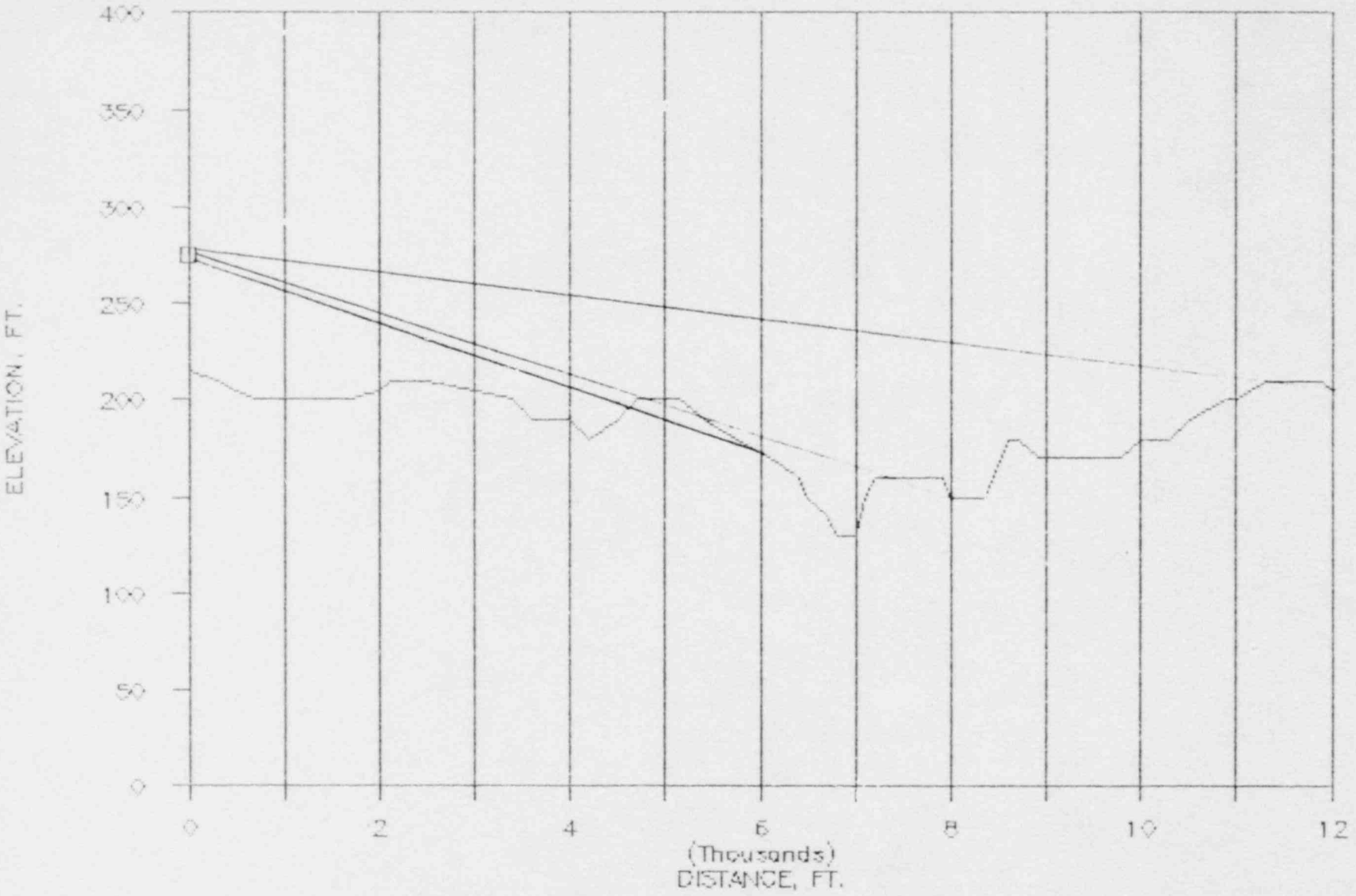
RIVER BEND EF7

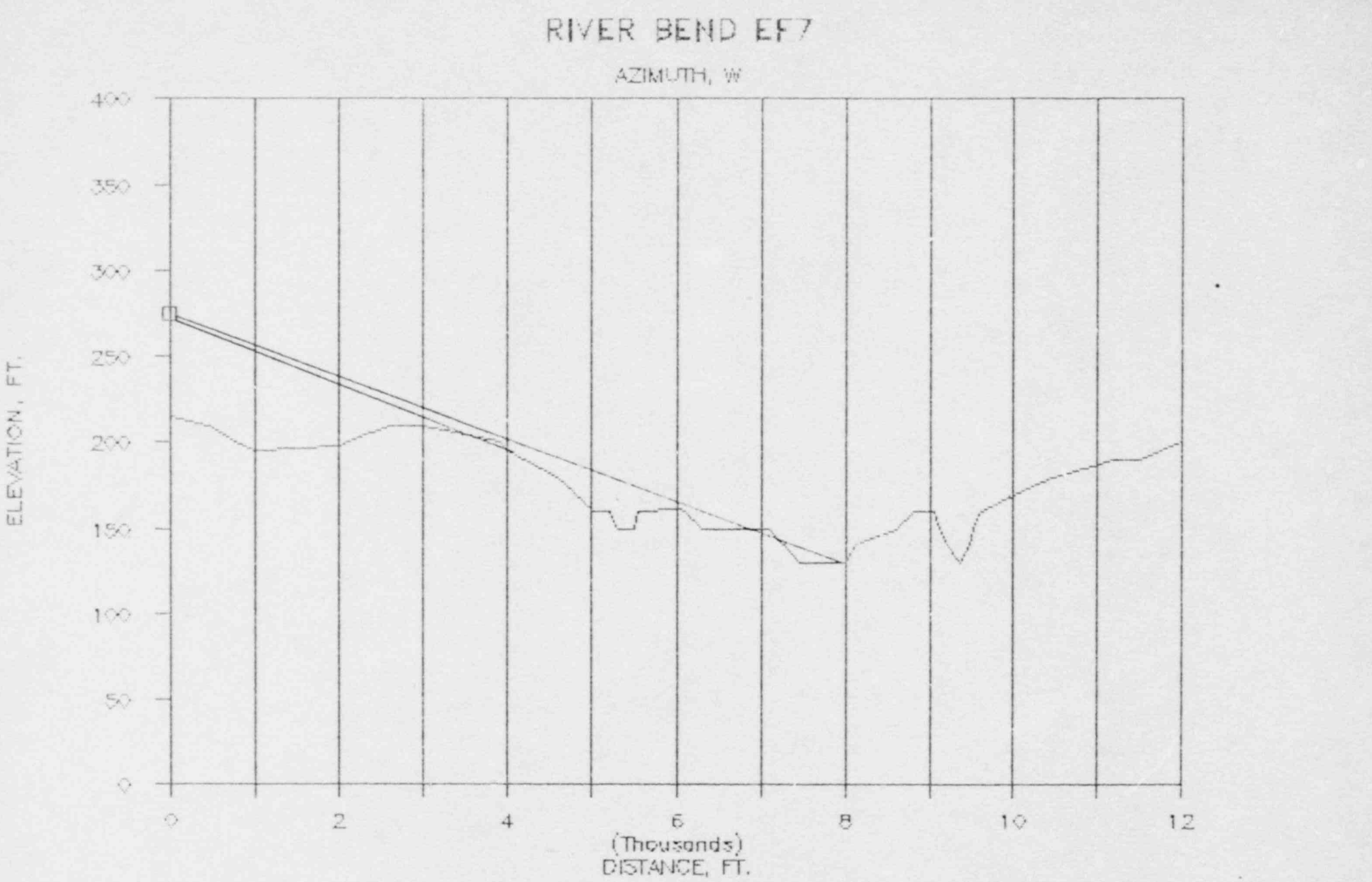
AZIMUTH, NW



RIVER BEND EF7

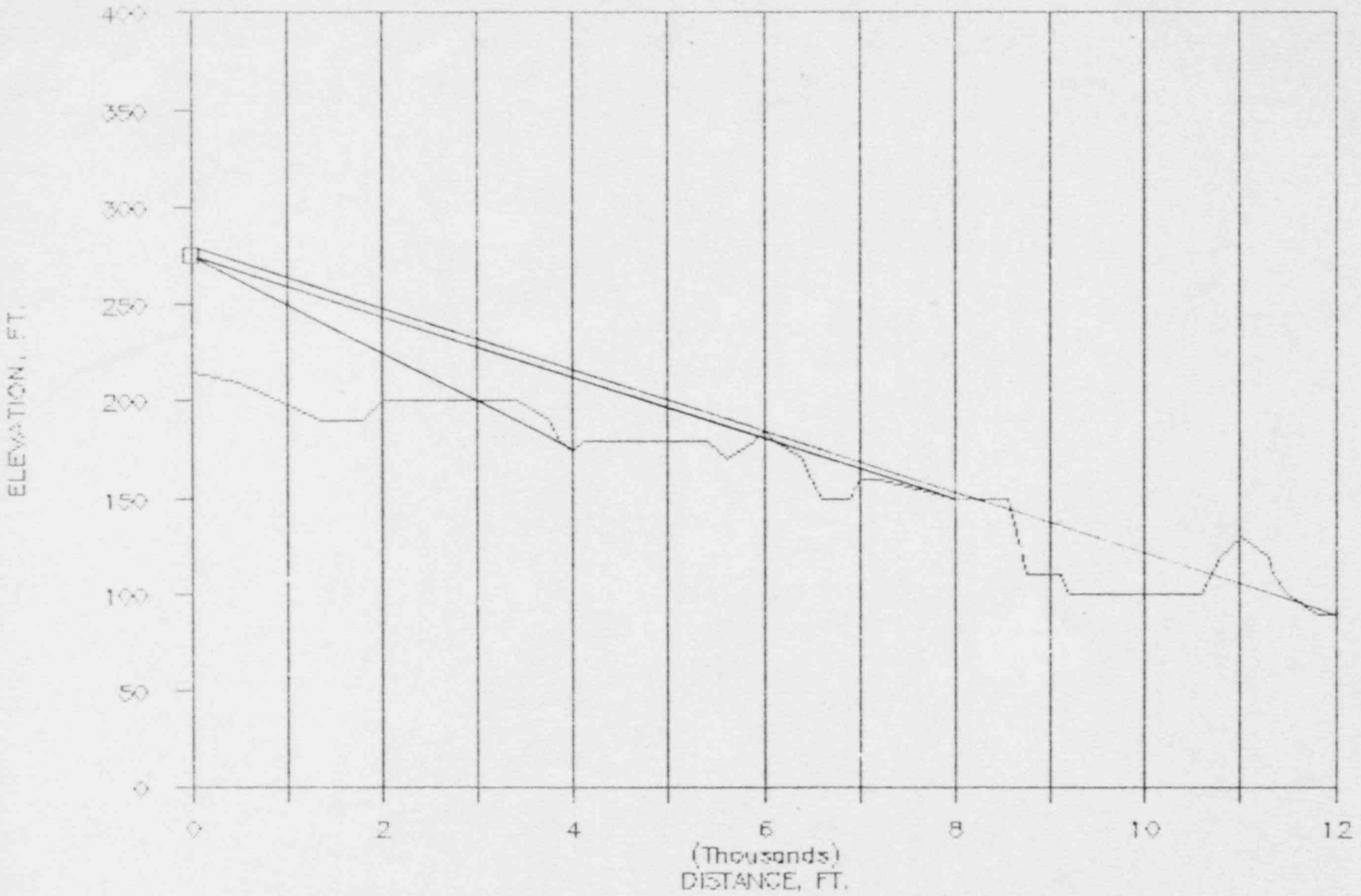
AZIMUTH, WNW




RIVER BEND EF7
AZIMUTH, W
400
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

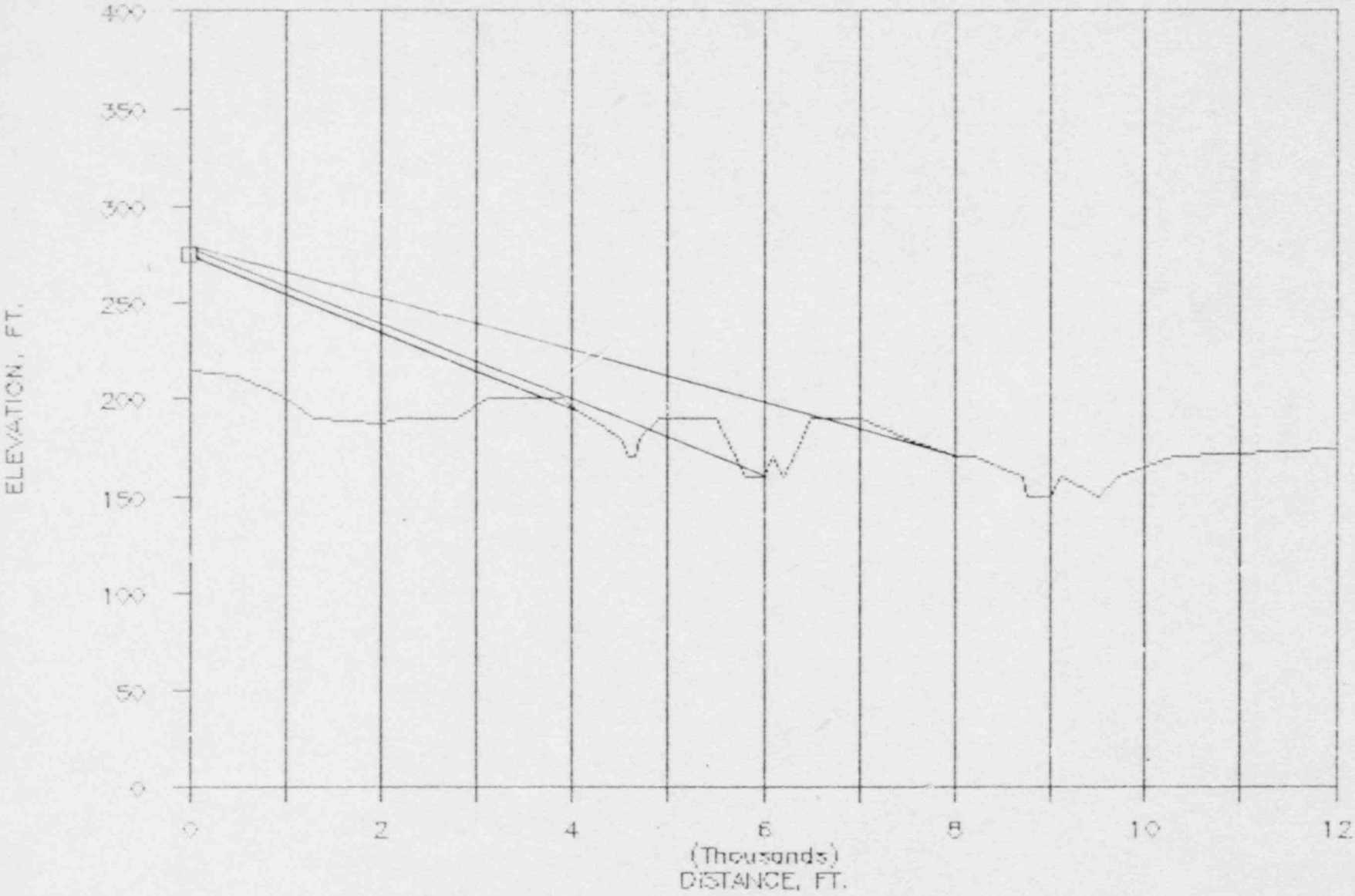
RIVER BEND EF7

AZIMUTH, WSW



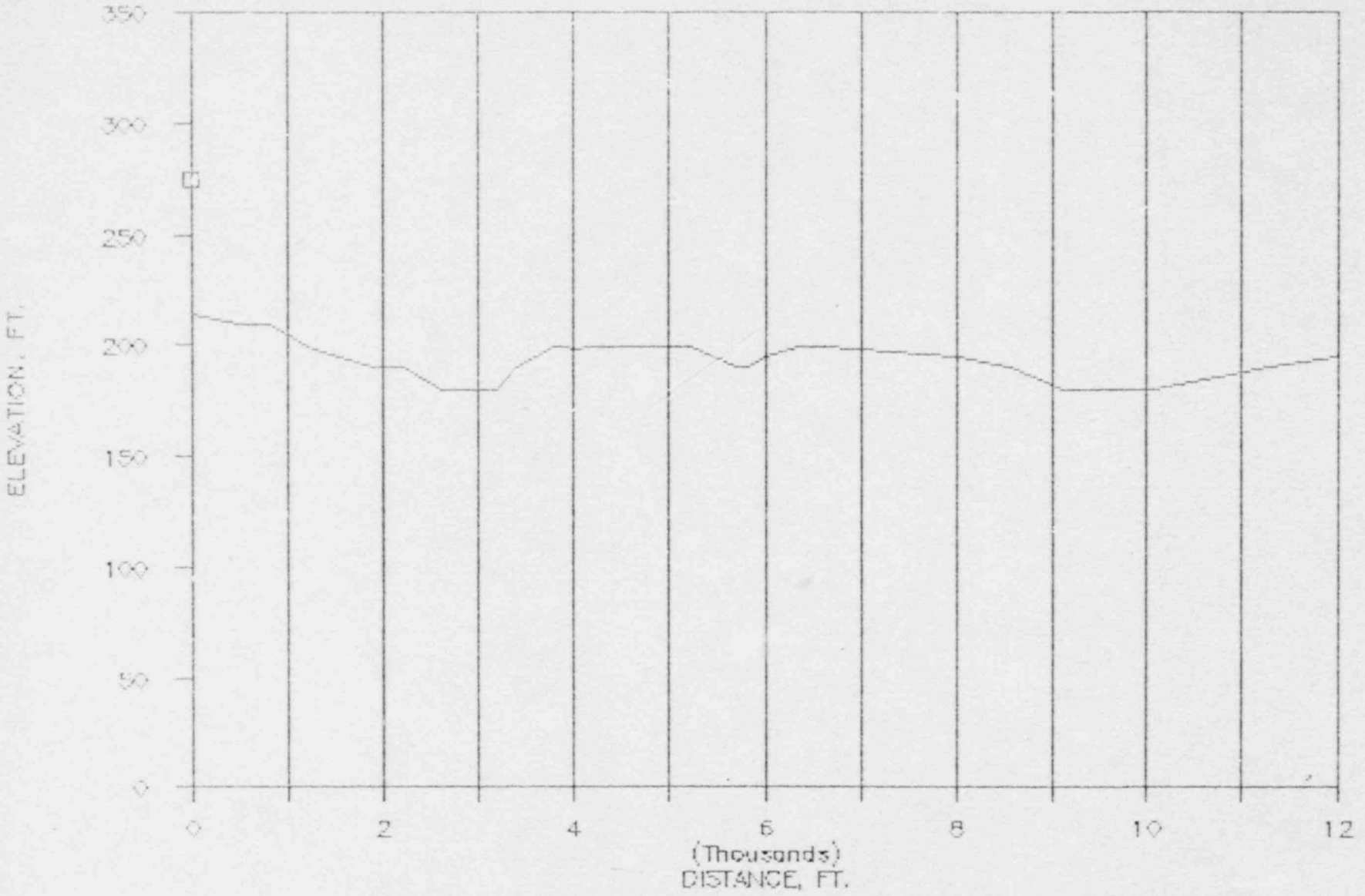
RIVER BEND EF7

AZIMUTH, SW



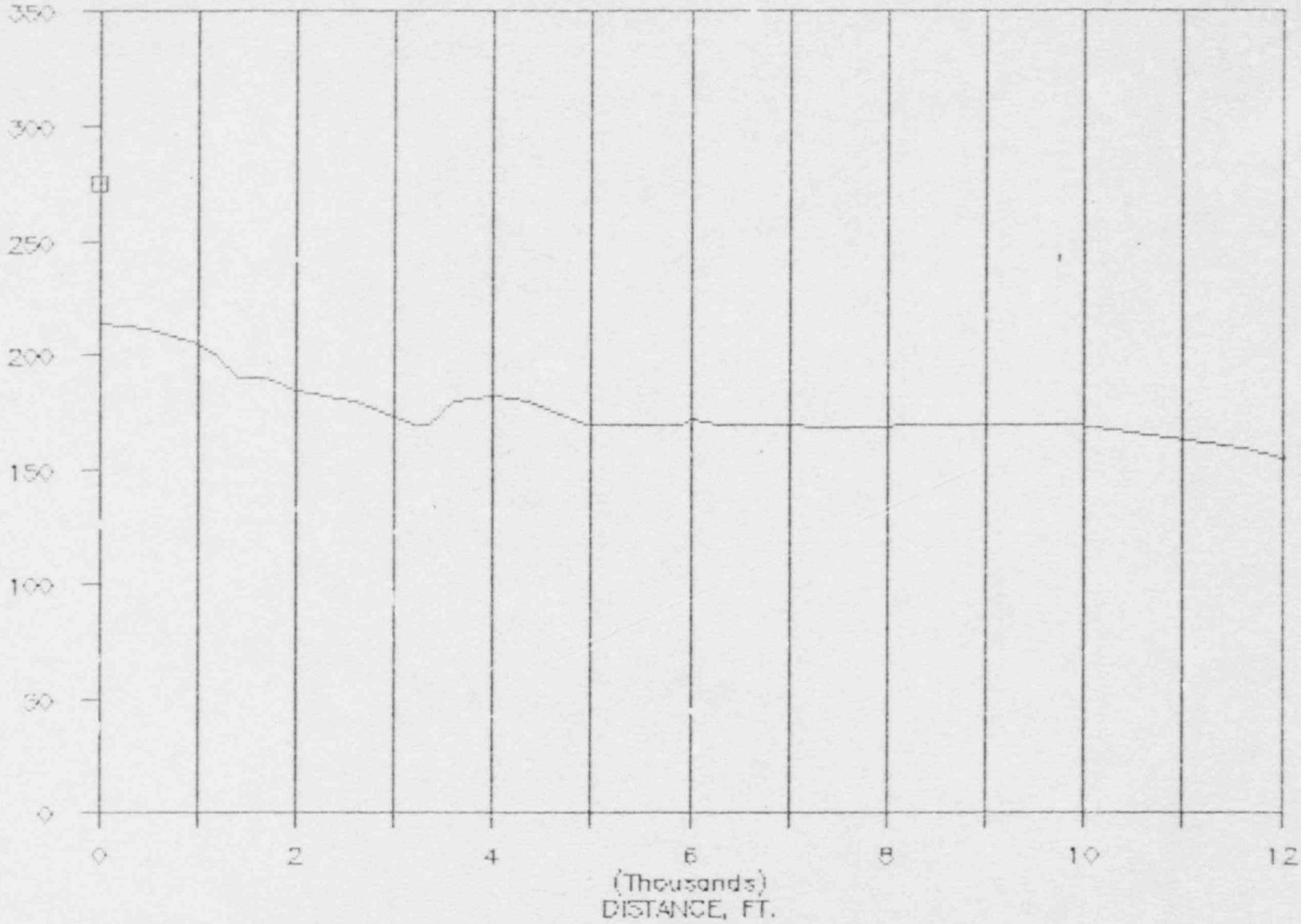
RIVER BEND EF7

AZIMUTH, 55W



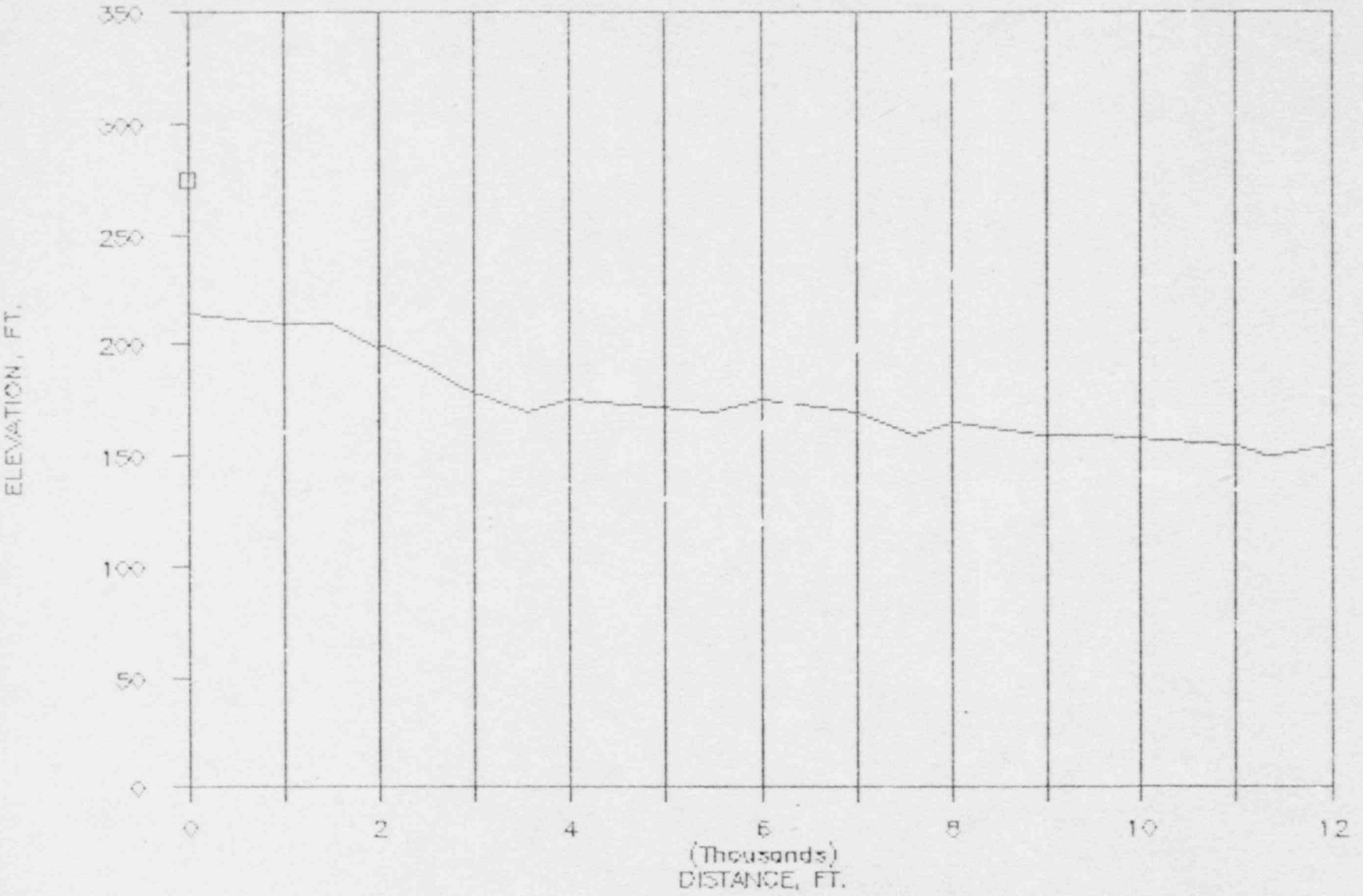
RIVER BEND EF7

AZIMUTH, S

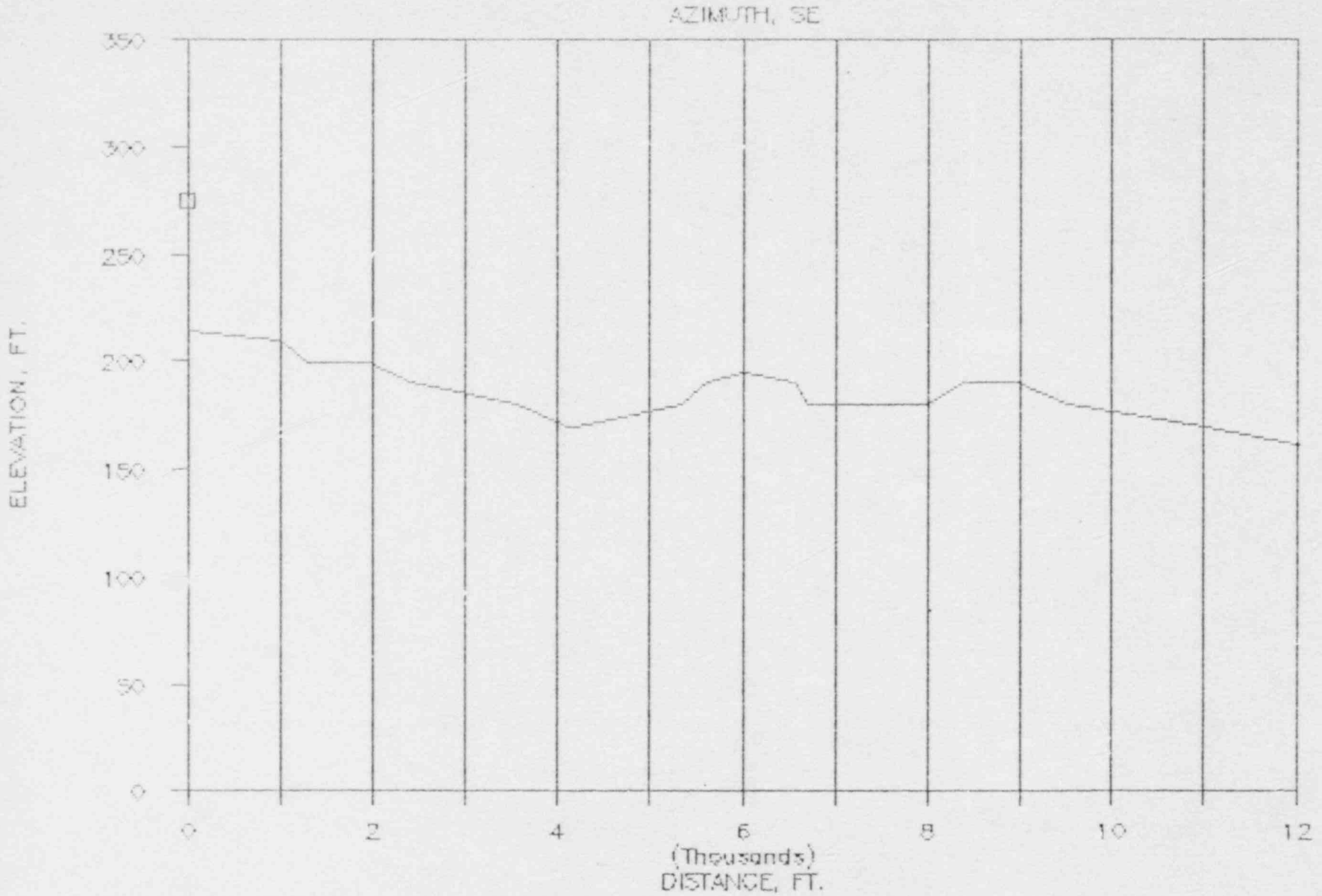


RIVER BEND EF7

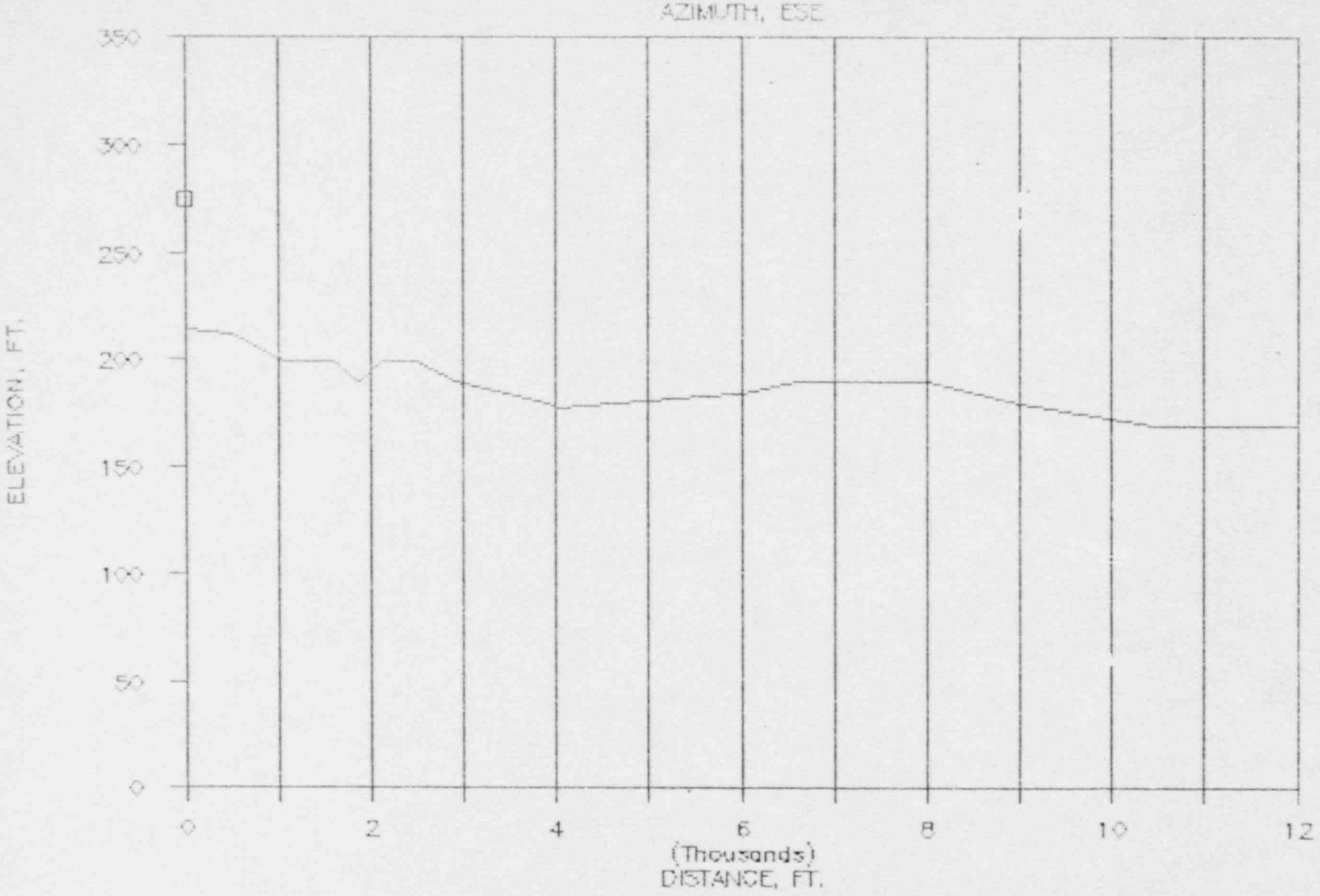
AZIMUTH, SSE



RIVER BEND EF7



RIVER BEND EF7



GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF7-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	210.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	210.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	215.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	185.00	SOFT	0.	NO	0.	0.
5	6000.	90.00	182.00	SOFT	0.	NO	0.	0.
6	8000.	90.00	195.00	SOFT	0.	YES	7800.	200.
7	12000.	90.00	182.00	SOFT	0.	YES	10700.	200.
8	500.	67.50	215.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	215.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	215.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	202.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	178.00	SOFT	0.	NO	0.	0.
13	8000.	67.50	208.00	SOFT	0.	NO	0.	0.
14	12000.	67.50	215.00	SOFT	0.	YES	11400.	220.
15	500.	45.00	215.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	215.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	212.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	208.00	SOFT	0.	NO	0.	0.
19	6000.	45.00	215.00	SOFT	0.	NO	0.	0.
20	8000.	45.00	188.00	SOFT	0.	YES	6000.	215.
21	12000.	45.00	230.00	SOFT	0.	NO	0.	0.
22	500.	22.50	215.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	215.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	220.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	220.00	SOFT	0.	NO	0.	0.
26	6000.	22.50	230.00	SOFT	0.	NO	0.	0.
27	8000.	22.50	215.00	SOFT	0.	NO	0.	0.
28	12000.	22.50	210.00	SOFT	0.	YES	11300.	230.
29	500.	0.0	210.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	210.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	230.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	227.00	SOFT	0.	NO	0.	0.
33	6000.	0.0	232.00	SOFT	0.	NO	0.	0.
34	8000.	0.0	235.00	SOFT	0.	NO	0.	0.
35	12000.	0.0	235.00	SOFT	0.	NO	0.	0.
36	500.	337.50	205.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	209.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	210.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	215.00	SOFT	0.	NO	0.	0.
40	6000.	337.50	210.00	SOFT	0.	NO	0.	0.
41	8000.	337.50	160.00	SOFT	0.	YES	6000.	210.
42	12000.	337.50	180.00	SOFT	0.	YES	10800.	220.
43	500.	315.00	205.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	208.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	208.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	170.00	SOFT	0.	YES	2800.	210.
47	6000.	315.00	160.00	SOFT	0.	YES	5650.	190.
48	8000.	315.00	205.00	SOFT	0.	NO	0.	0.
49	12000.	315.00	180.00	SOFT	0.	YES	9950.	220.
50	500.	292.50	205.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	200.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	205.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	190.00	SOFT	0.	NO	0.	0.
54	6000.	292.50	172.00	SOFT	0.	YES	5150.	200.
55	8000.	292.50	150.00	SOFT	0.	YES	5150.	200.
56	12000.	292.50	205.00	SOFT	0.	YES	11900.	210.
57	500.	270.00	209.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	195.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	198.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	195.00	SOFT	0.	YES	3900.	200.
61	6000.	270.00	162.00	SOFT	0.	NO	0.	0.
62	8000.	270.00	130.00	SOFT	0.	YES	7300.	140.
63	12000.	270.00	200.00	SOFT	0.	NO	0.	0.
64	500.	247.50	210.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	198.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	200.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	175.00	SOFT	0.	YES	3400.	200.
68	6000.	247.50	184.00	SOFT	0.	NO	0.	0.
69	8000.	247.50	150.00	SOFT	0.	YES	6050.	150.
70	12000.	247.50	90.00	SOFT	0.	YES	11250.	120.
71	500.	225.00	212.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	200.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	188.00	SOFT	0.	NO	0.	0.
74	4000.	225.00	195.00	SOFT	0.	YES	3900.	200.
75	6000.	225.00	160.00	SOFT	0.	YES	5500.	190.
76	8000.	225.00	170.00	SOFT	0.	YES	7000.	190.
77	12000.	225.00	175.00	SOFT	0.	NO	0.	0.
78	500.	202.50	210.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	205.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	190.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	198.00	SOFT	0.	NO	0.	0.
82	6000.	202.50	195.00	SOFT	0.	NO	0.	0.
83	8000.	202.50	195.00	SOFT	0.	NO	0.	0.
84	12000.	202.50	195.00	SOFT	0.	NO	0.	0.
85	500.	180.00	212.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	205.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	185.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	182.00	SOFT	0.	NO	0.	0.
89	6000.	180.00	172.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	169.00	SOFT	0.	NO	0.	0.
91	12000.	180.00	155.00	SOFT	0.	NO	0.	0.
92	500.	157.50	212.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	210.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	198.00	SOFT	0.	NO	0.	0.
95	4000.	157.50	175.00	SOFT	0.	NO	0.	0.
96	6000.	157.50	175.00	SOFT	0.	NO	0.	0.
97	8000.	157.50	165.00	SOFT	0.	NO	0.	0.
98	12000.	157.50	155.00	SOFT	0.	NO	0.	0.
99	500.	135.00	212.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	210.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	198.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	172.00	SOFT	0.	NO	0.	0.
103	6000.	135.00	195.00	SOFT	0.	NO	0.	0.
104	8000.	135.00	180.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	162.00	SOFT	0.	NO	0.	0.
106	500.	112.50	212.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	207.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	195.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	178.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	185.00	SOFT	0.	NO	0.	0.
111	8000.	112.50	190.00	SOFT	0.	NO	0.	0.
112	12000.	112.50	170.00	SOFT	0.	NO	0.	0.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF7-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 275.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF7-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
1986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.0

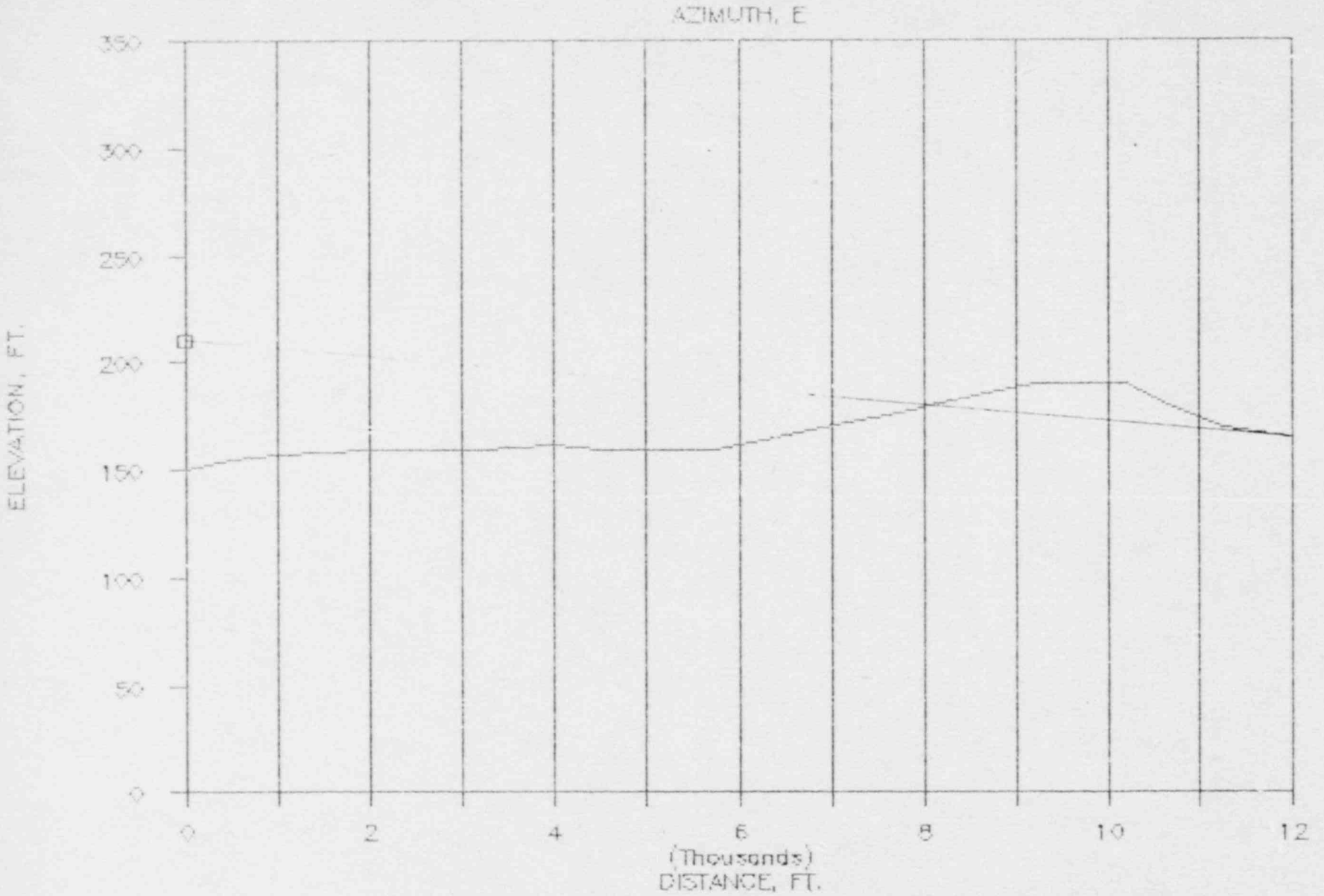
GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF7-WS3000R

SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

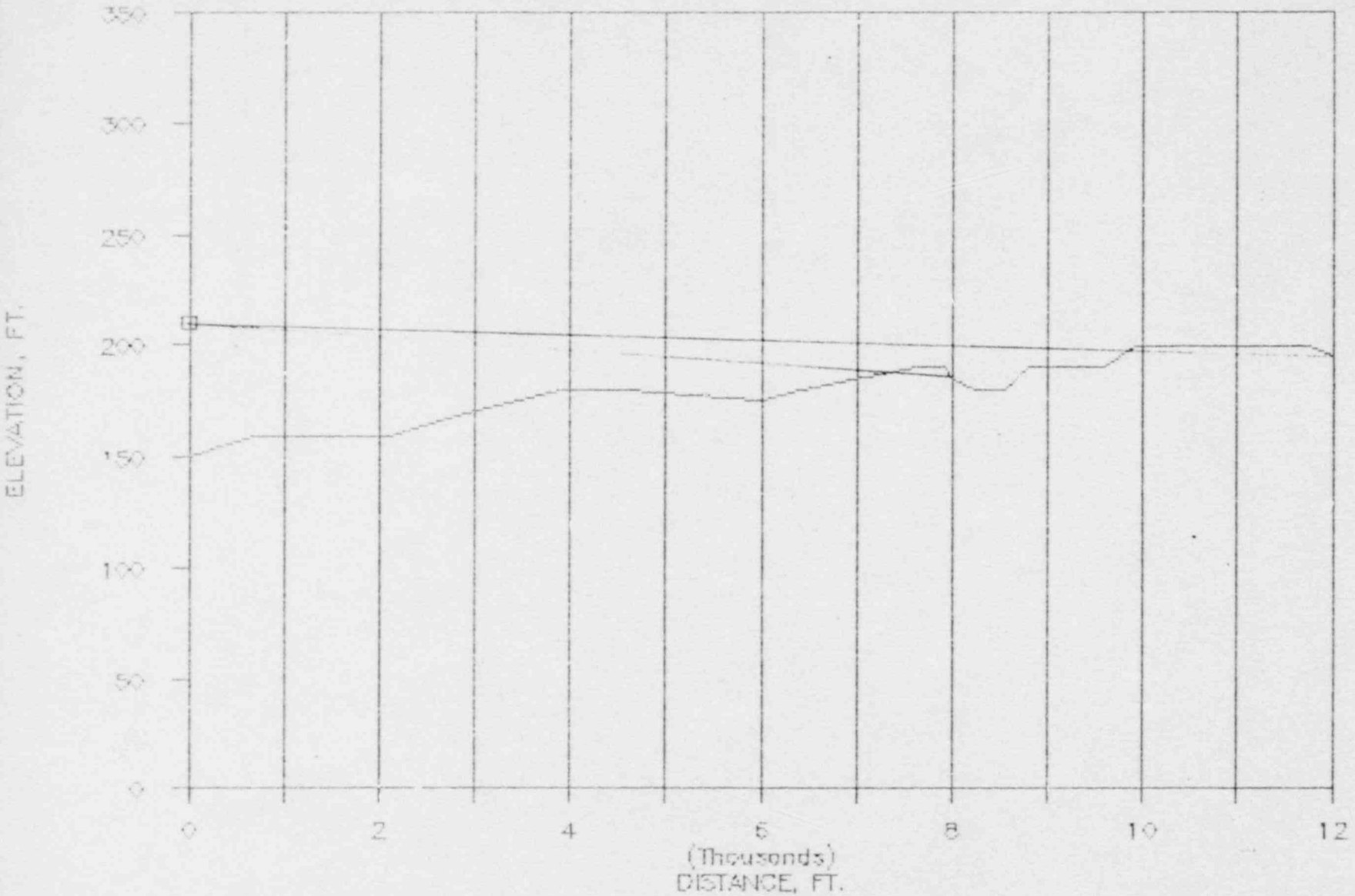
AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.7	92.2	77.8	67.7	62.2	52.6	41.5
ENE	105.7	92.3	77.8	67.7	62.2	58.4	45.6
NE	105.7	92.3	77.8	67.7	62.2	53.5	51.0
NNE	105.7	92.3	77.8	67.7	62.2	58.4	44.1
N	105.7	92.2	77.8	67.7	62.2	58.4	51.0
NNW	105.7	92.2	77.8	67.7	62.2	51.8	41.4
NW	105.7	92.2	77.8	62.3	51.8	57.4	39.6
WNW	105.7	92.2	77.7	67.7	55.9	53.5	45.1
W	105.7	92.2	77.7	62.3	62.2	53.5	51.0
WSW	105.7	92.2	77.7	61.6	62.2	50.5	43.8
SW	105.7	92.2	77.7	62.3	53.5	53.2	51.0
SSW	105.7	92.2	77.7	67.7	62.2	58.4	51.0
S	105.7	92.2	77.7	67.7	62.2	58.4	51.0
SSE	105.7	92.2	77.7	67.7	62.2	58.4	51.0
SE	105.7	92.2	77.7	67.7	62.2	58.4	51.0
ESE	105.7	92.2	77.7	67.7	62.2	58.4	51.0

RIVER BEND EF8



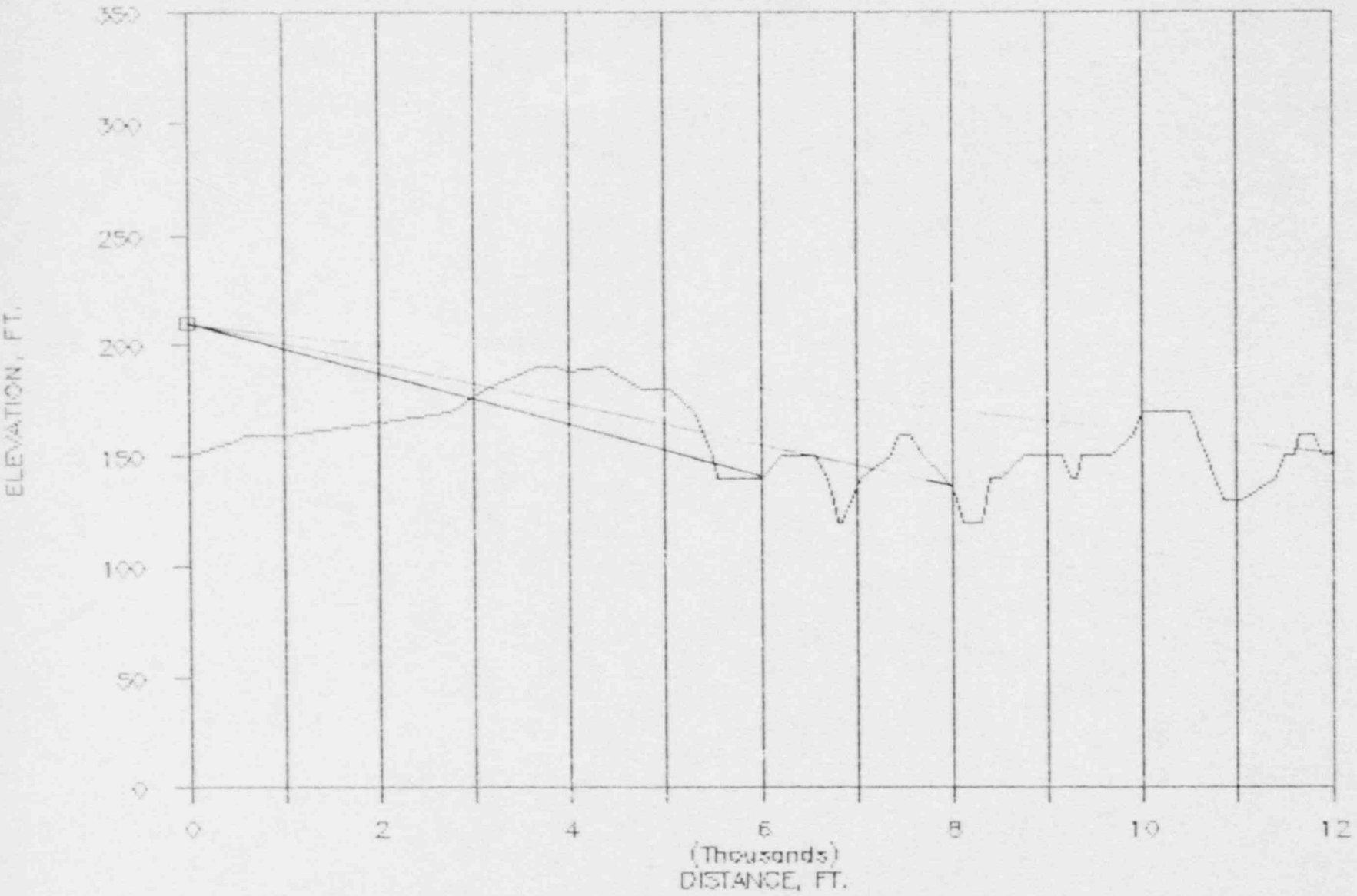
RIVER BEND EF8

AZIMUTH, ENE



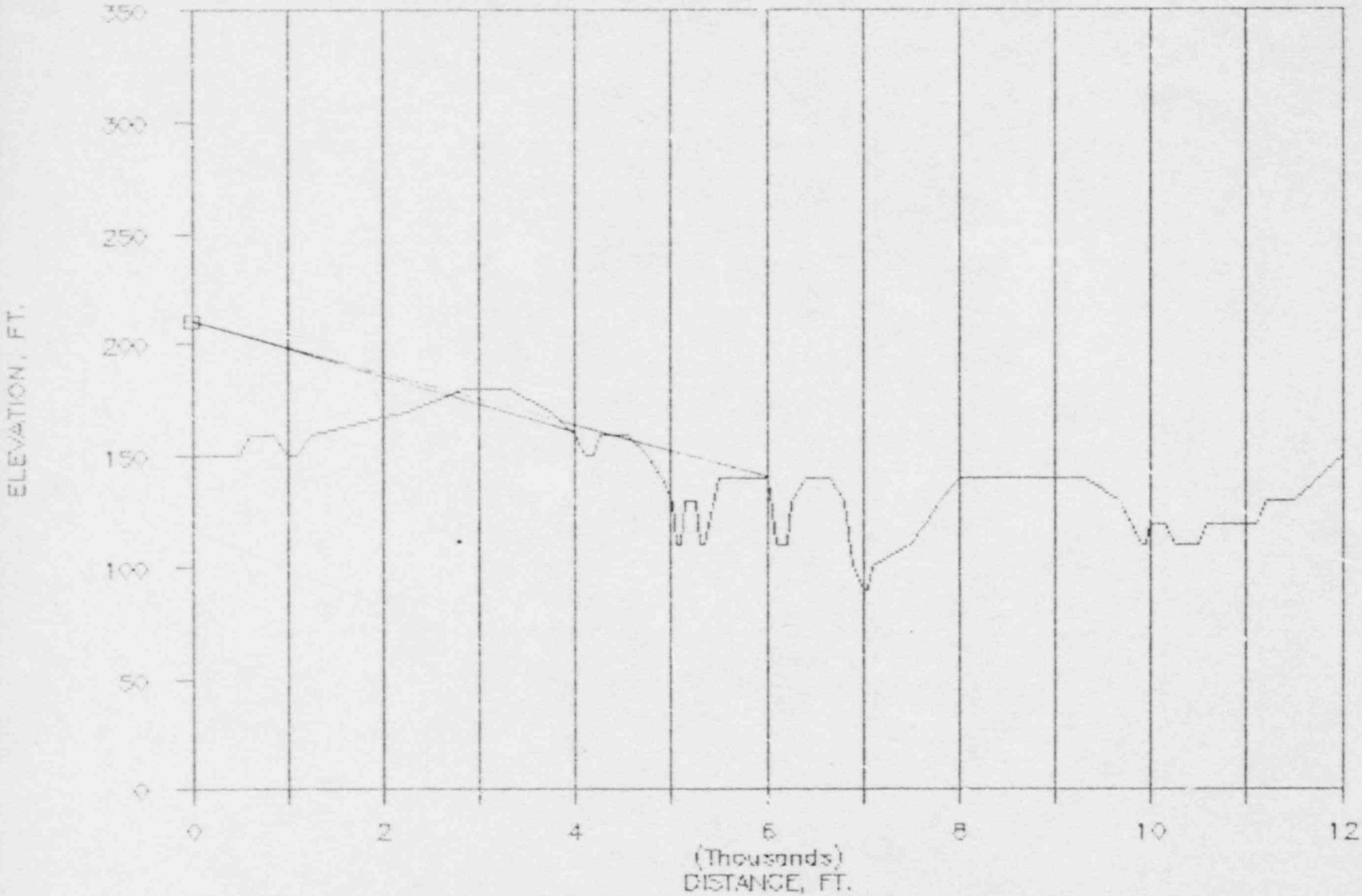
RIVER BEND EF8

AZIMUTH, NE



RIVER BEND EFB

AZIMUTH, NNE



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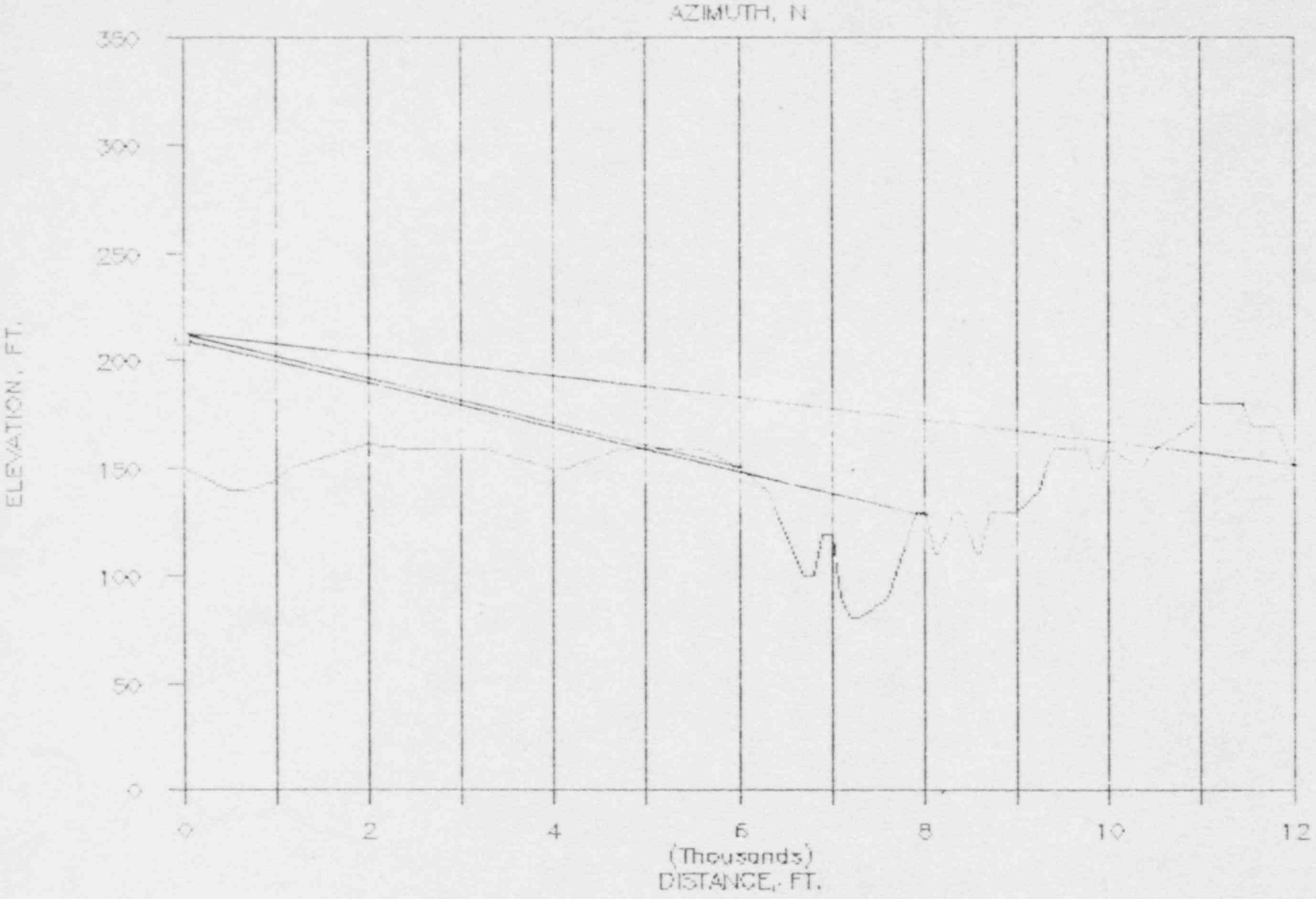
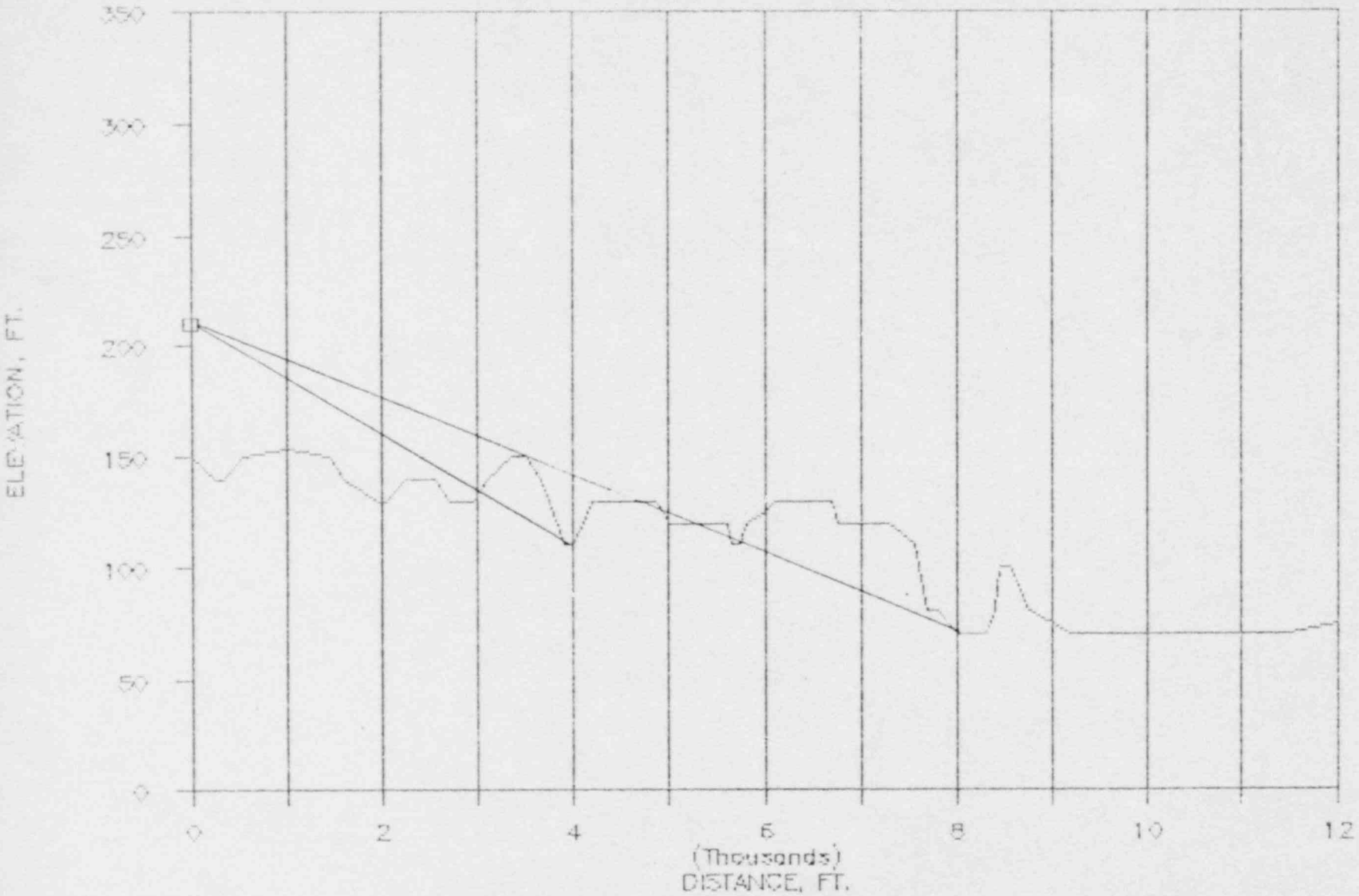


RIVER BEND EF8

AZIMUTH, N/W



RIVER BEND EF8

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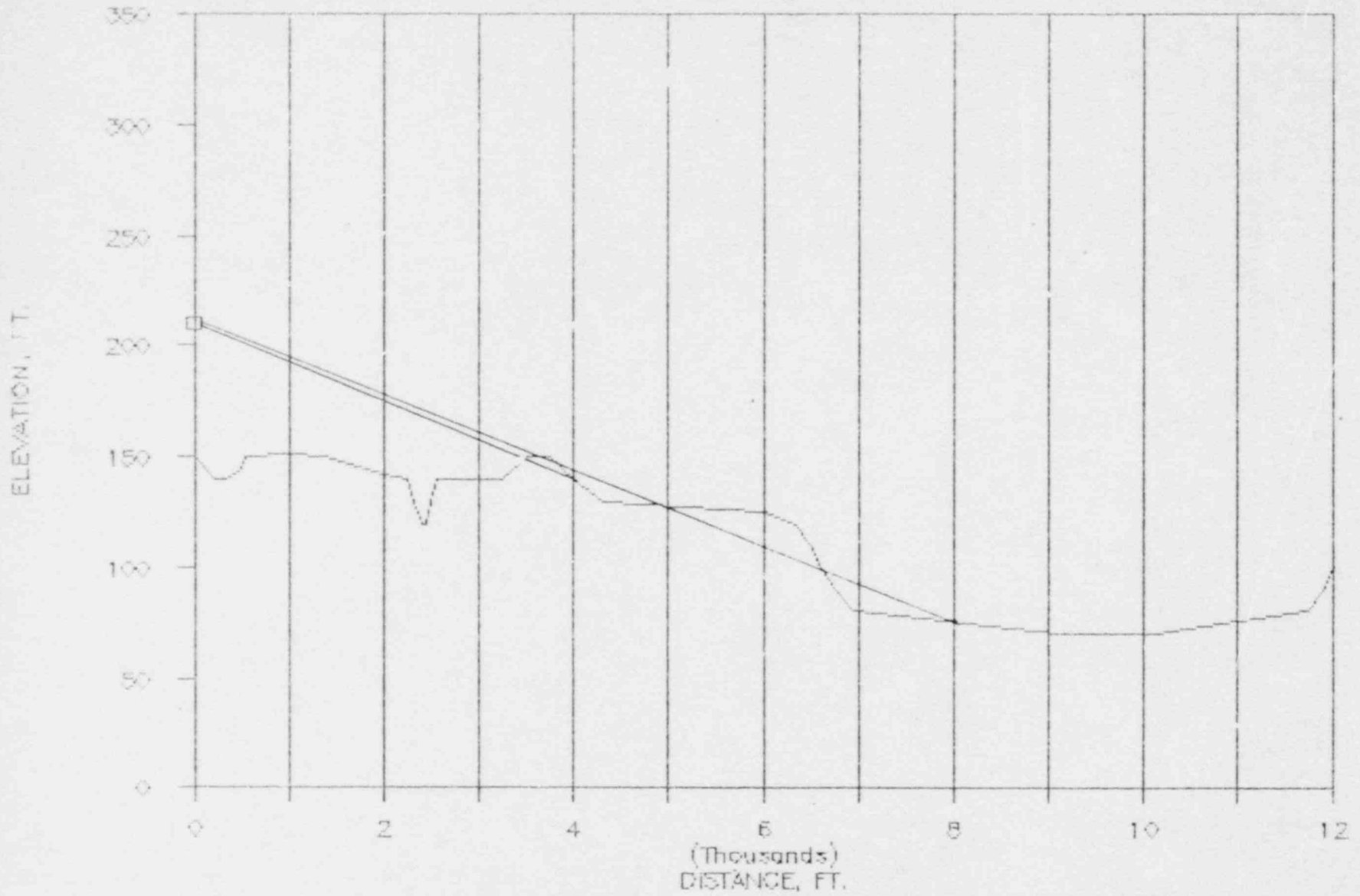

RIVER BEND EF8

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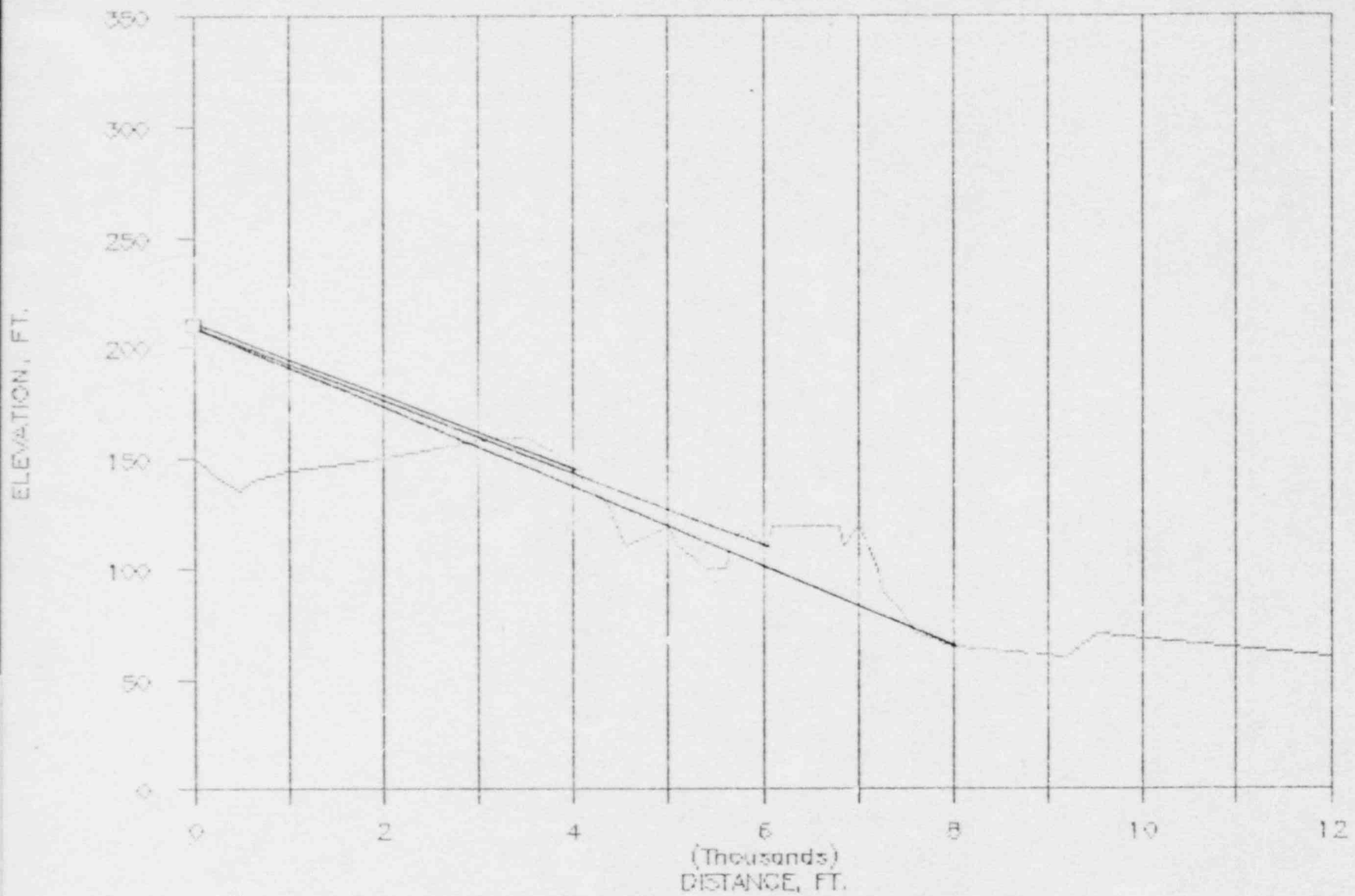
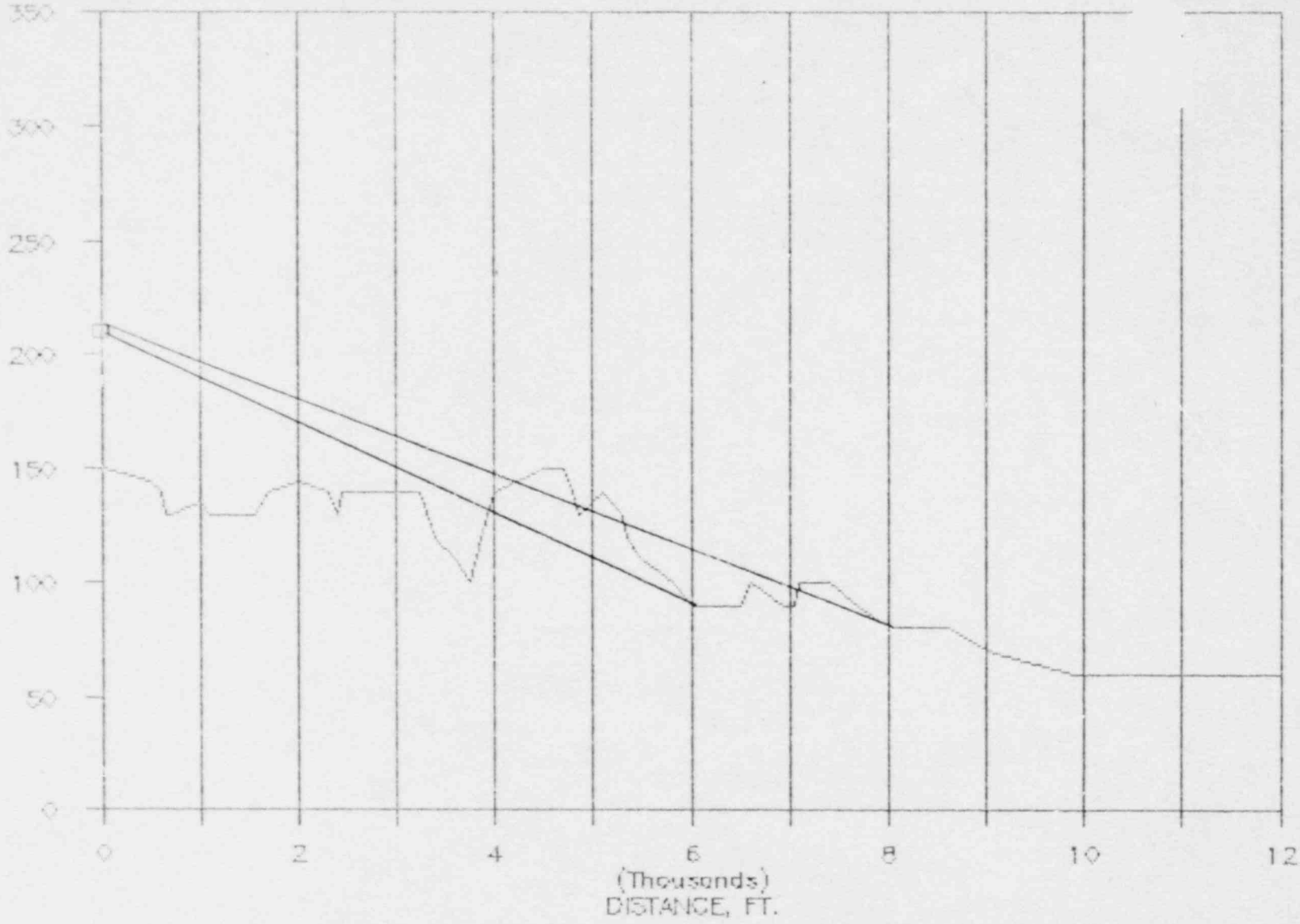


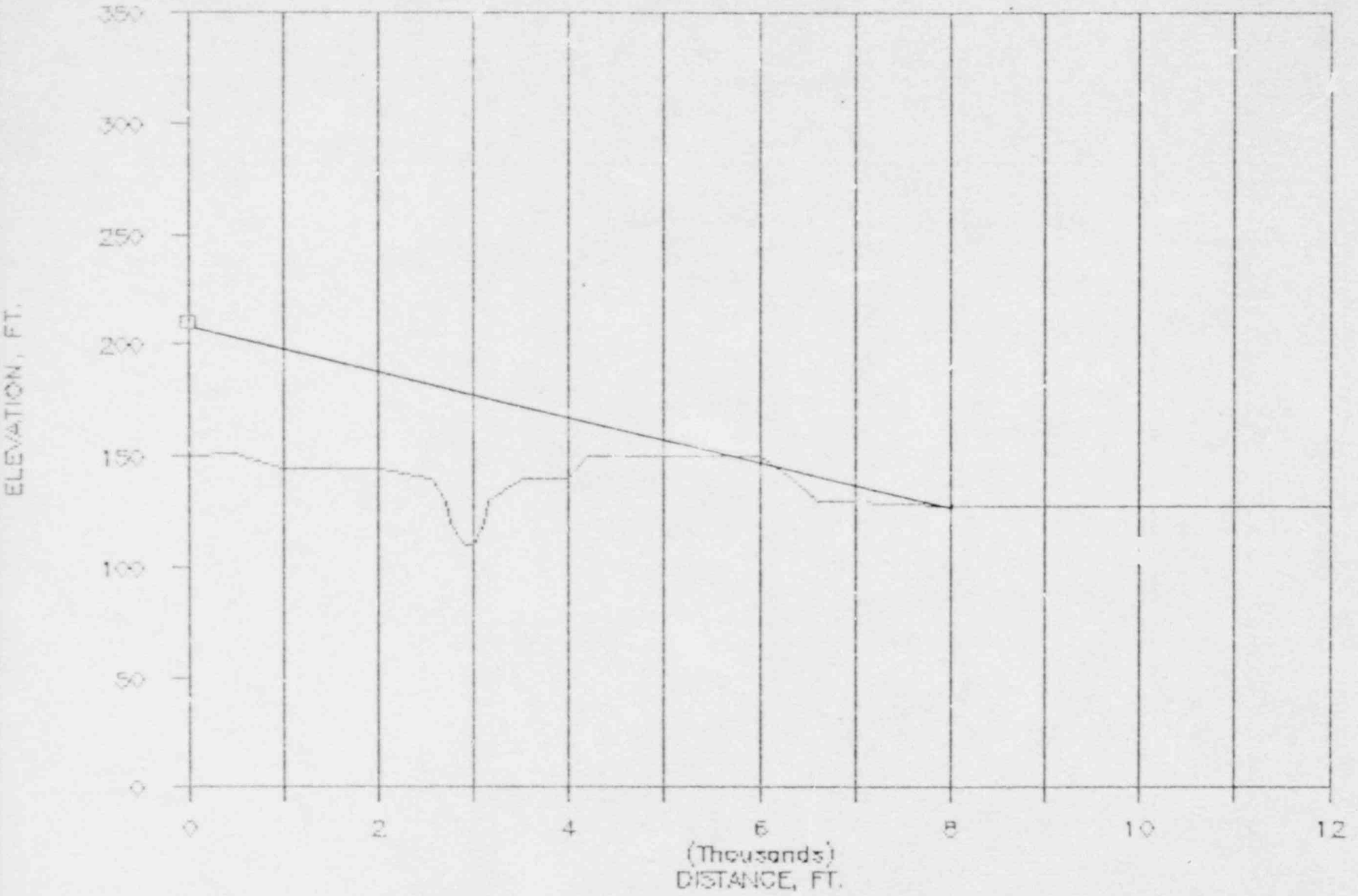
RIVER BEND EF8

AZIMUTH, W



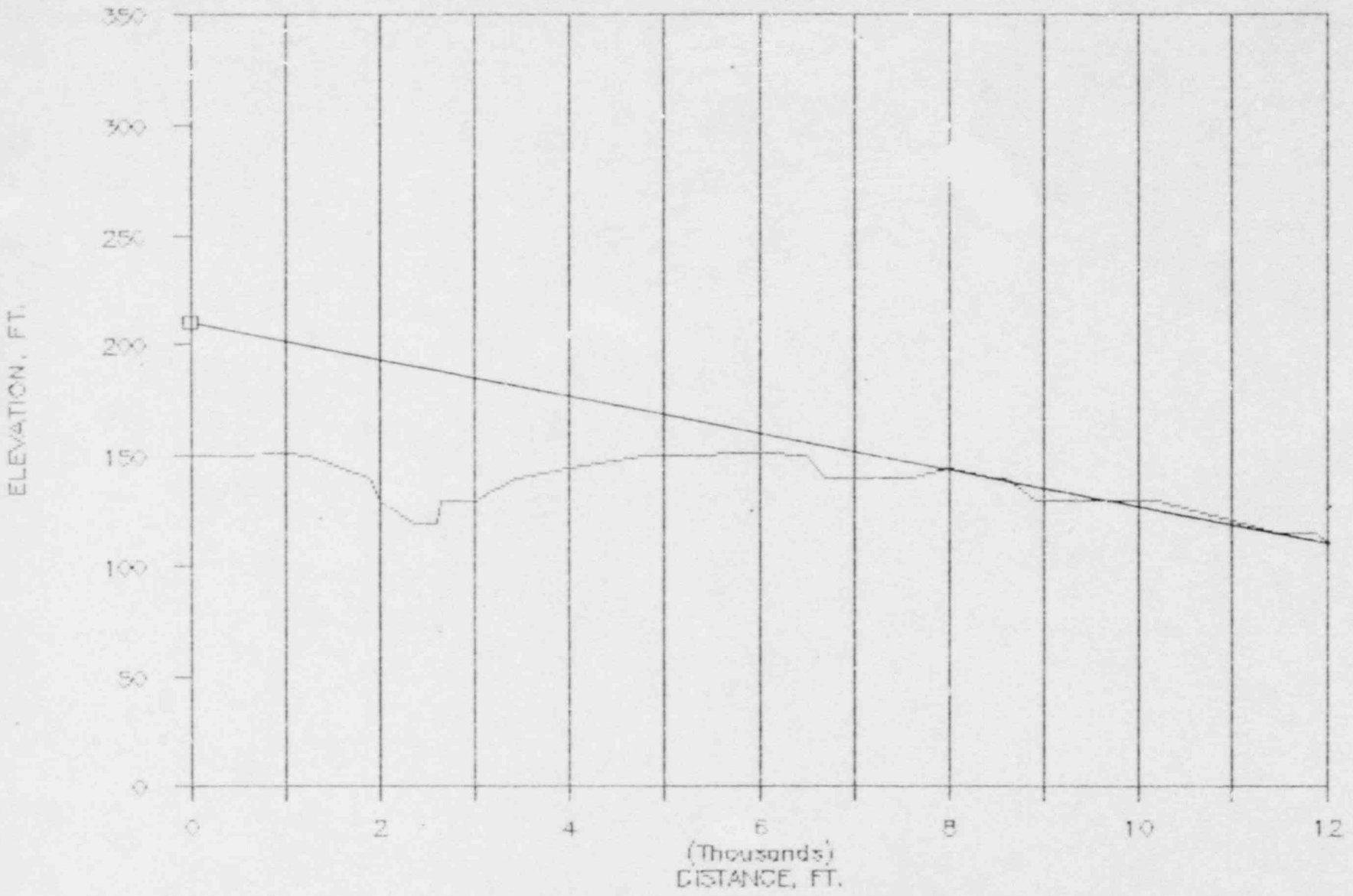
RIVER BEND EF3

AZIMUTH, WSW



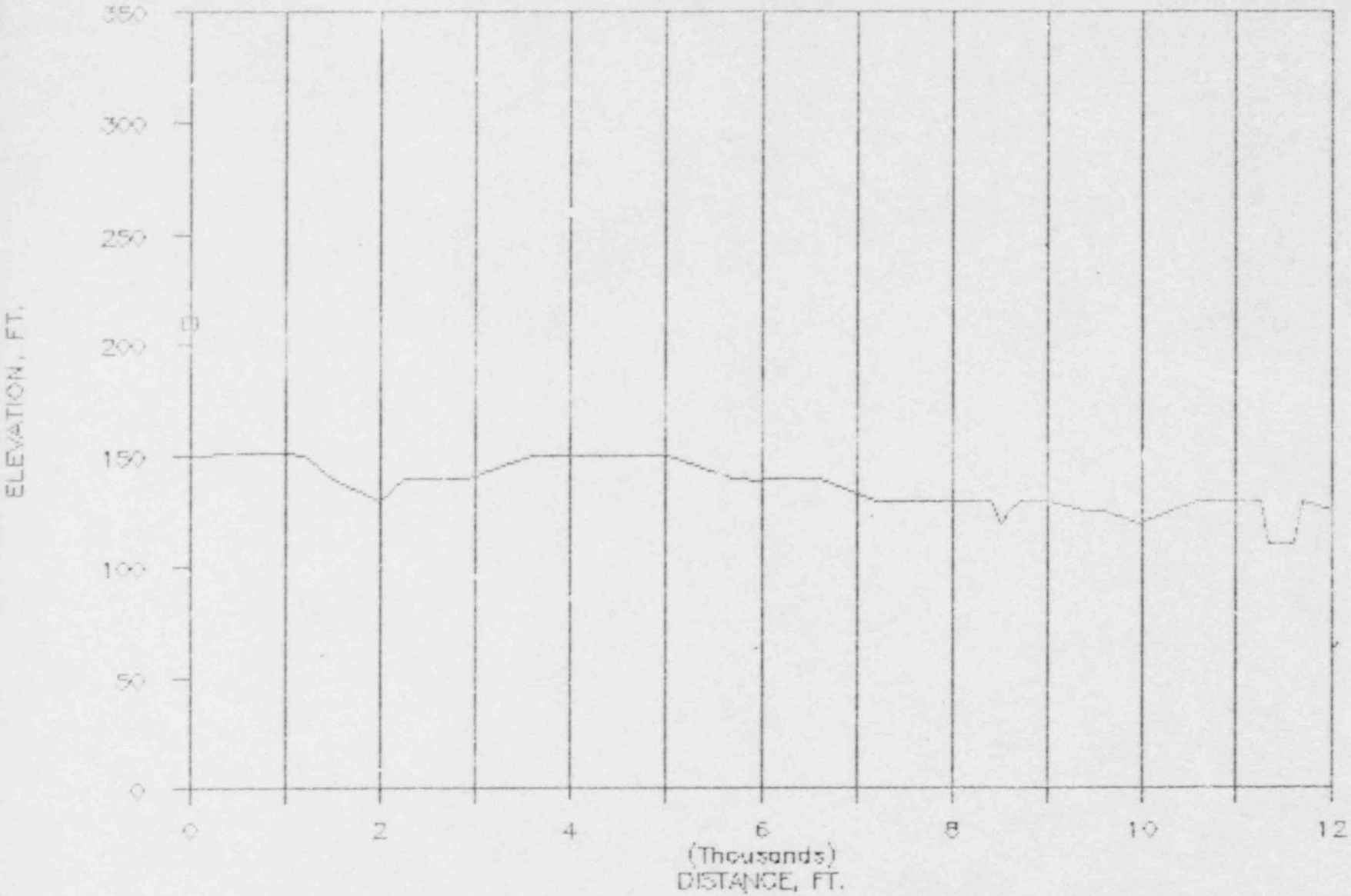
RIVER BEND EF8

AZIMUTH, SW



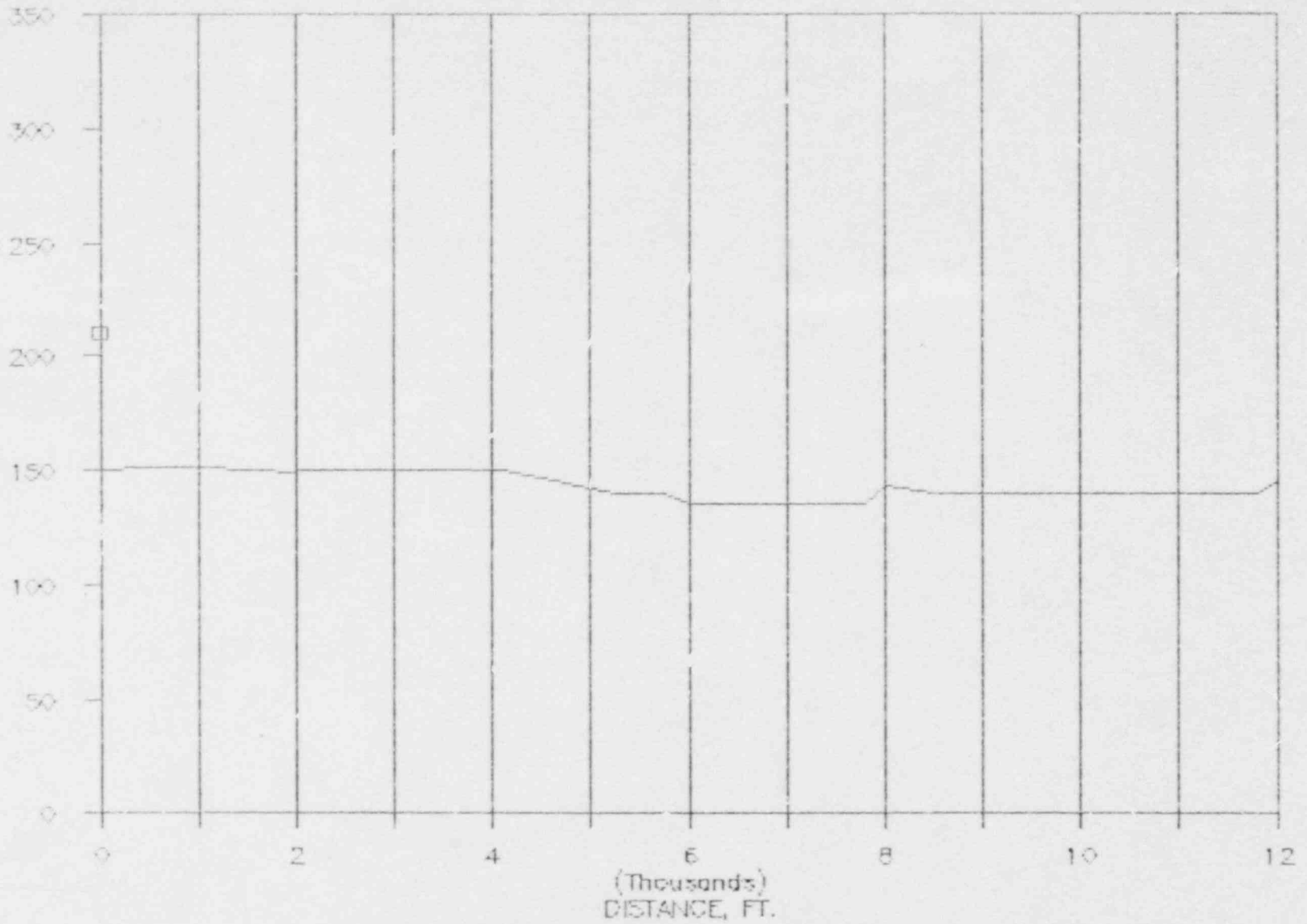
RIVER BEND EF8

AZIMUTH, SSW



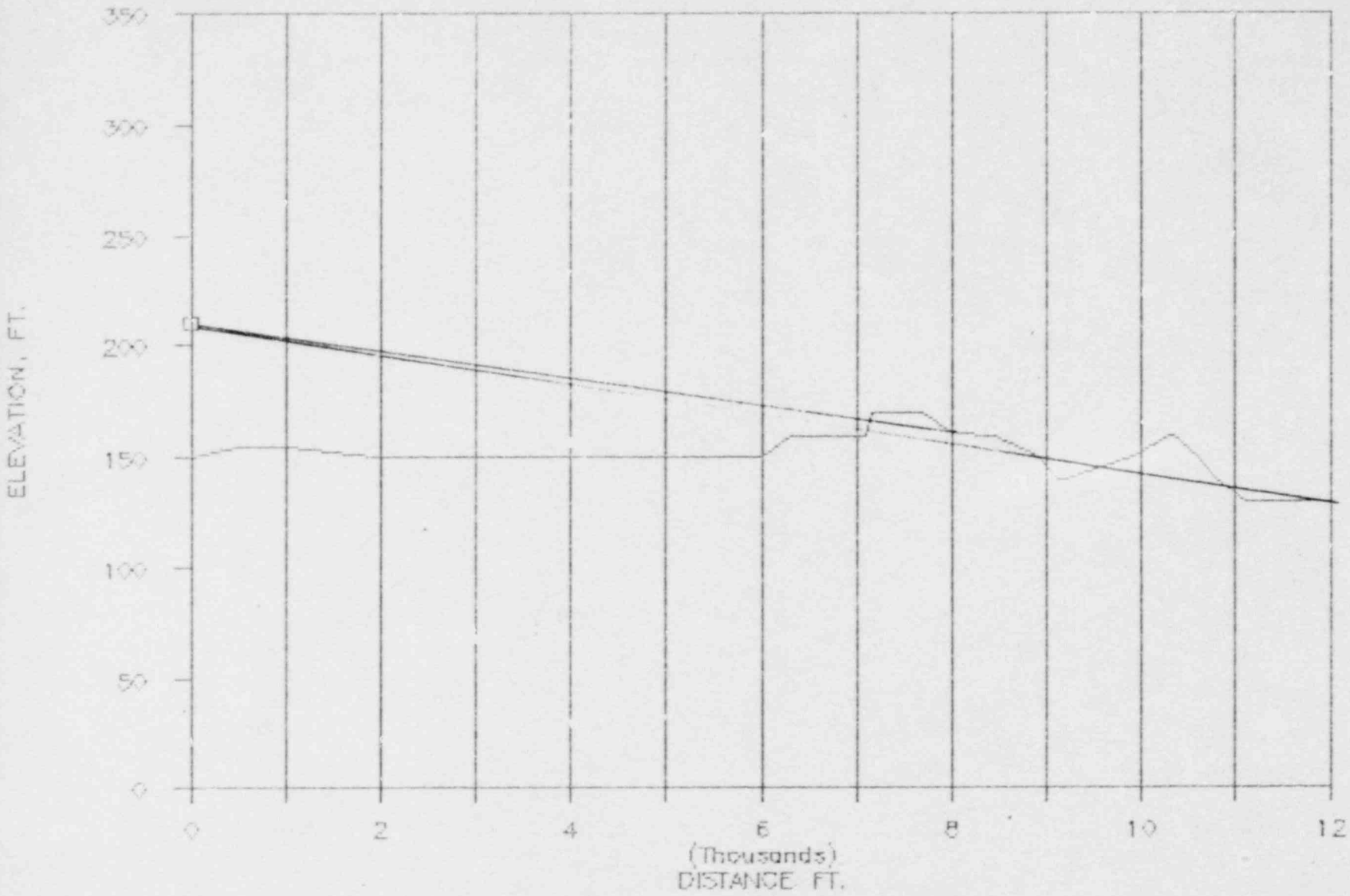
RIVER BEND EF8

AZIMUTH, S



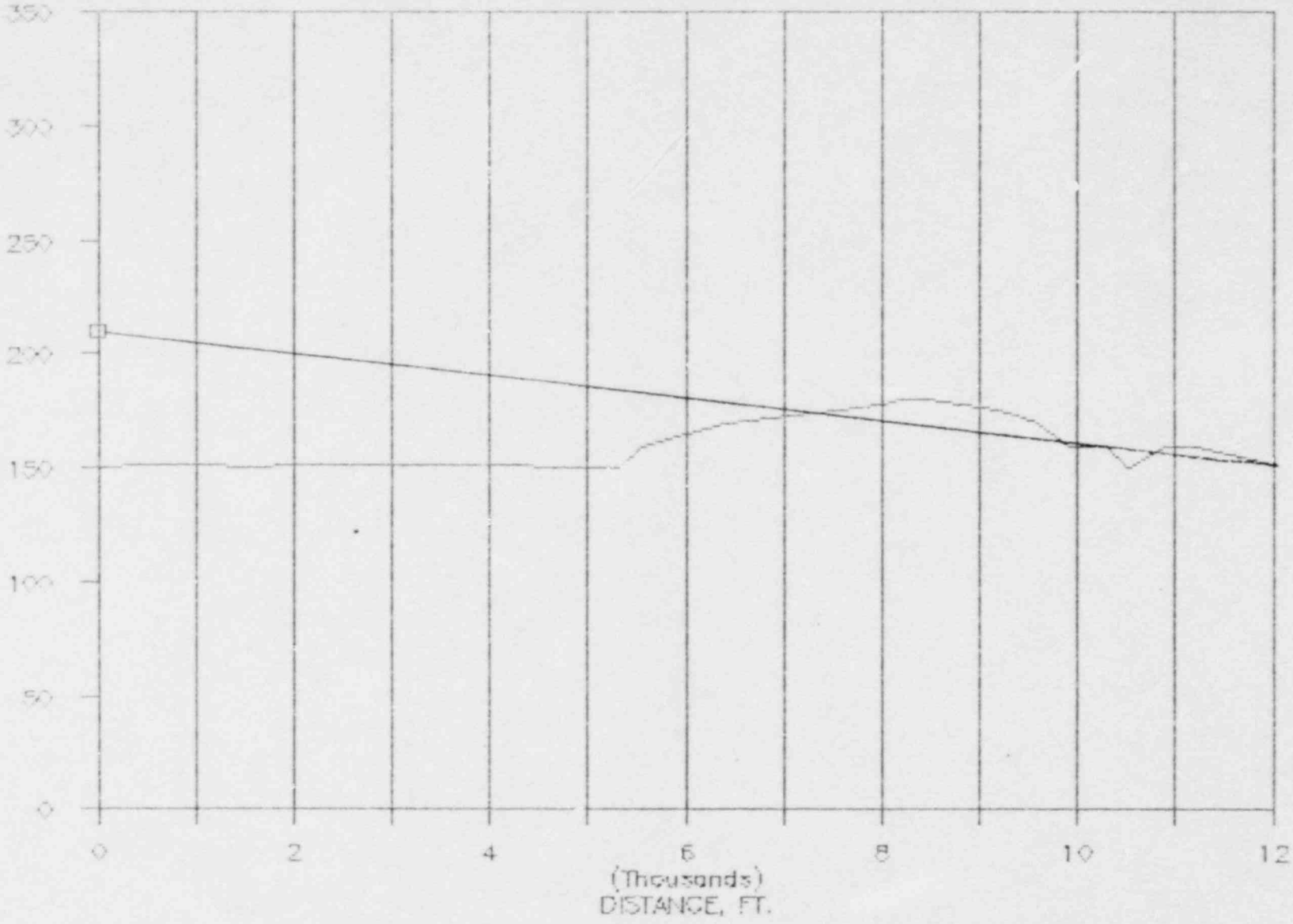
RIVER BEND EF8

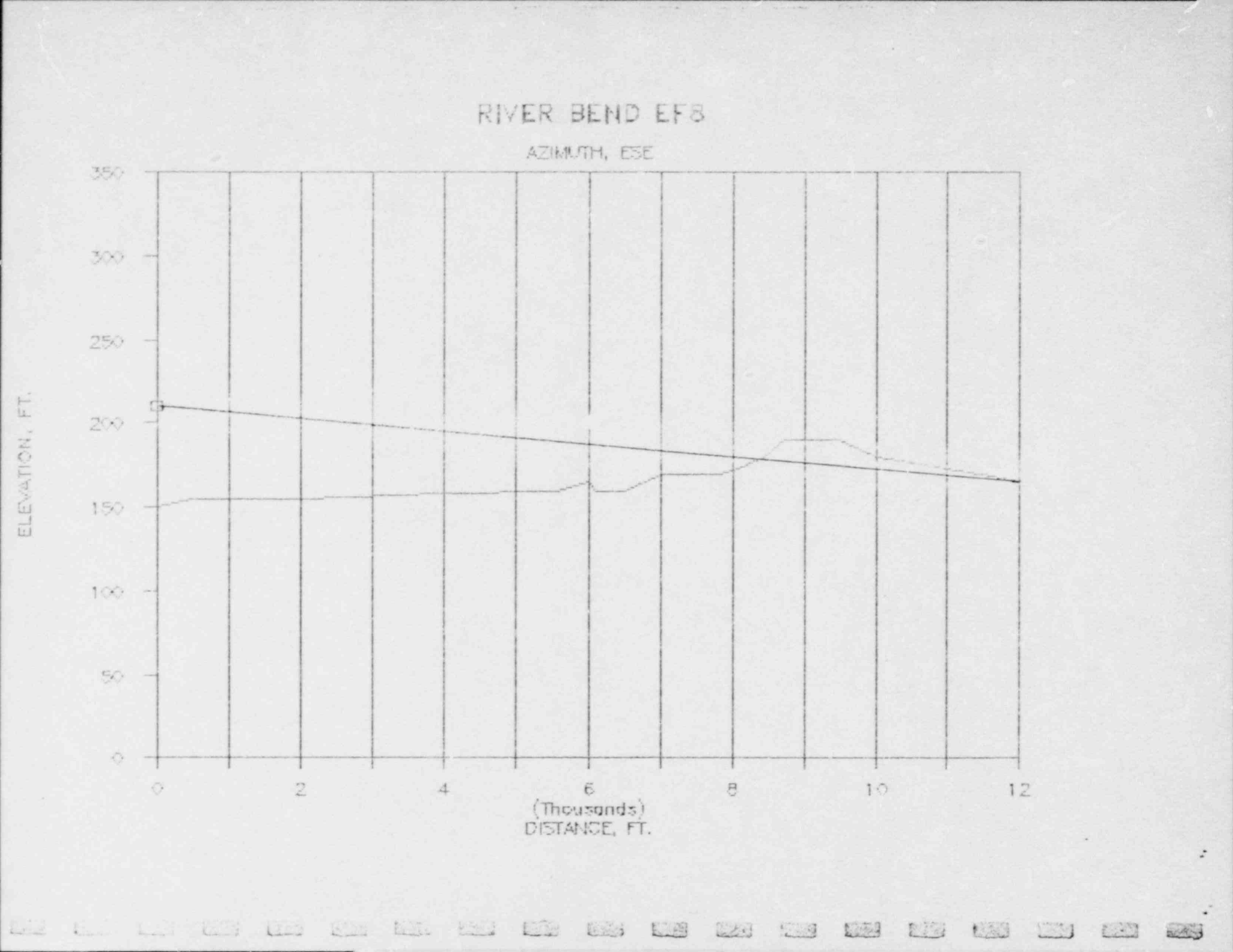
AZIMUTH, SSE



RIVER BEND EF8

AZIMUTH, SE




RIVER BEND EF8
AZIMUTH, ESE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF8-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	155.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	157.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	159.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	162.00	SOFT	0.	NO	0.	0.
5	6000.	90.00	162.00	SOFT	0.	NO	0.	0.
6	8000.	90.00	179.00	SOFT	0.	NO	0.	0.
7	12000.	90.00	165.00	SOFT	0.	YES	10200.	190.
8	500.	67.50	157.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	160.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	160.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	180.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	175.00	SOFT	0.	NO	0.	0.
13	8000.	67.50	185.00	SOFT	0.	YES	7900.	190.
14	12000.	67.50	195.00	SOFT	0.	YES	11750.	200.
15	500.	45.00	157.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	160.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	165.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	188.00	SOFT	0.	NO	0.	0.
19	6000.	45.00	140.00	SOFT	0.	YES	4350.	190.
20	8000.	45.00	135.00	SOFT	0.	YES	4350.	190.
21	12000.	45.00	150.00	SOFT	0.	YES	10500.	170.
22	500.	22.50	150.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	150.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	168.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	160.00	SOFT	0.	YES	3300.	180.
26	6000.	22.50	140.00	SOFT	0.	YES	3300.	180.
27	8000.	22.50	140.00	SOFT	0.	NO	0.	0.
28	12000.	22.50	150.00	SOFT	0.	NO	0.	0.
29	500.	0.0	140.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	145.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	162.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	150.00	SOFT	0.	NO	0.	0.
33	6000.	0.0	150.00	SOFT	0.	YES	5600.	160.
34	8000.	0.0	130.00	SOFT	0.	YES	5600.	160.
35	12000.	0.0	150.00	SOFT	0.	YES	11450.	180.
36	500.	337.50	148.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	154.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	130.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	110.00	SOFT	0.	YES	3500.	150.
40	6000.	337.50	125.00	SOFT	0.	NO	0.	0.
41	8000.	337.50	70.00	SOFT	0.	YES	6700.	130.
42	12000.	337.50	75.00	SOFT	0.	NO	0.	0.
43	500.	315.00	145.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	152.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	142.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	140.00	SOFT	0.	YES	3750.	150.
47	6000.	315.00	125.00	SOFT	0.	NO	0.	0.
48	8000.	315.00	80.00	SOFT	0.	YES	6000.	125.
49	12000.	315.00	100.00	SOFT	0.	NO	0.	0.
50	500.	292.50	135.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	145.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	150.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	145.00	SOFT	0.	YES	3500.	160.
54	6000.	292.50	110.00	SOFT	0.	YES	3500.	160.
55	8000.	292.50	65.00	SOFT	0.	YES	7000.	120.
56	12000.	292.50	60.00	SOFT	0.	NO	0.	0.
57	500.	270.00	145.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	135.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	145.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	140.00	SOFT	0.	NO	0.	0.
61	6000.	270.00	90.00	SOFT	0.	YES	4700.	150.
62	8000.	270.00	80.00	SOFT	0.	YES	4700.	150.
63	12000.	270.00	60.00	SOFT	0.	NO	0.	0.
64	500.	247.50	151.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	145.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	145.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	140.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	150.00	SOFT	0.	NO	0.	0.
69	8000.	247.50	127.00	SOFT	0.	YES	6000.	150.
70	12000.	247.50	127.00	SOFT	0.	NO	0.	0.
71	500.	225.00	150.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	152.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	130.00	SOFT	0.	NO	0.	0.
74	4000.	225.00	145.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	152.00	SOFT	0.	NO	0.	0.
76	8000.	225.00	145.00	SOFT	0.	NO	0.	0.
77	12000.	225.00	110.00	SOFT	0.	YES	10200.	130.
78	500.	202.50	152.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	152.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	130.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	150.00	SOFT	0.	NO	0.	0.
82	6000.	202.50	139.00	SOFT	0.	NO	0.	0.
83	8000.	202.50	130.00	SOFT	0.	NO	0.	0.
84	12000.	202.50	125.00	SOFT	0.	NO	0.	0.
85	500.	180.00	152.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	152.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	149.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	150.00	SOFT	0.	NO	0.	0.
89	6000.	180.00	135.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	144.00	SOFT	0.	NO	0.	0.
91	12000.	180.00	146.00	SOFT	0.	NO	0.	0.
92	500.	157.50	155.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	155.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	150.00	SOFT	0.	NO	0.	0.
95	4000.	157.50	150.00	SOFT	0.	NO	0.	0.
96	6000.	157.50	150.00	SOFT	0.	NO	0.	0.
97	8000.	157.50	161.00	SOFT	0.	YES	7700.	170.
98	12000.	157.50	130.00	SOFT	0.	YES	10350.	160.
99	500.	135.00	152.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	152.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	152.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	152.00	SOFT	0.	NO	0.	0.
103	6000.	135.00	165.00	SOFT	0.	NO	0.	0.
104	8000.	135.00	178.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	152.00	SOFT	0.	YES	8450.	180.
106	500.	112.50	155.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	155.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	155.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	158.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	165.00	SOFT	0.	NO	0.	0.
111	8000.	112.50	172.00	SOFT	0.	NO	0.	0.
112	12000.	112.50	165.00	SOFT	0.	YES	9450.	190.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF8-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 210.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF8-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
1986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.0

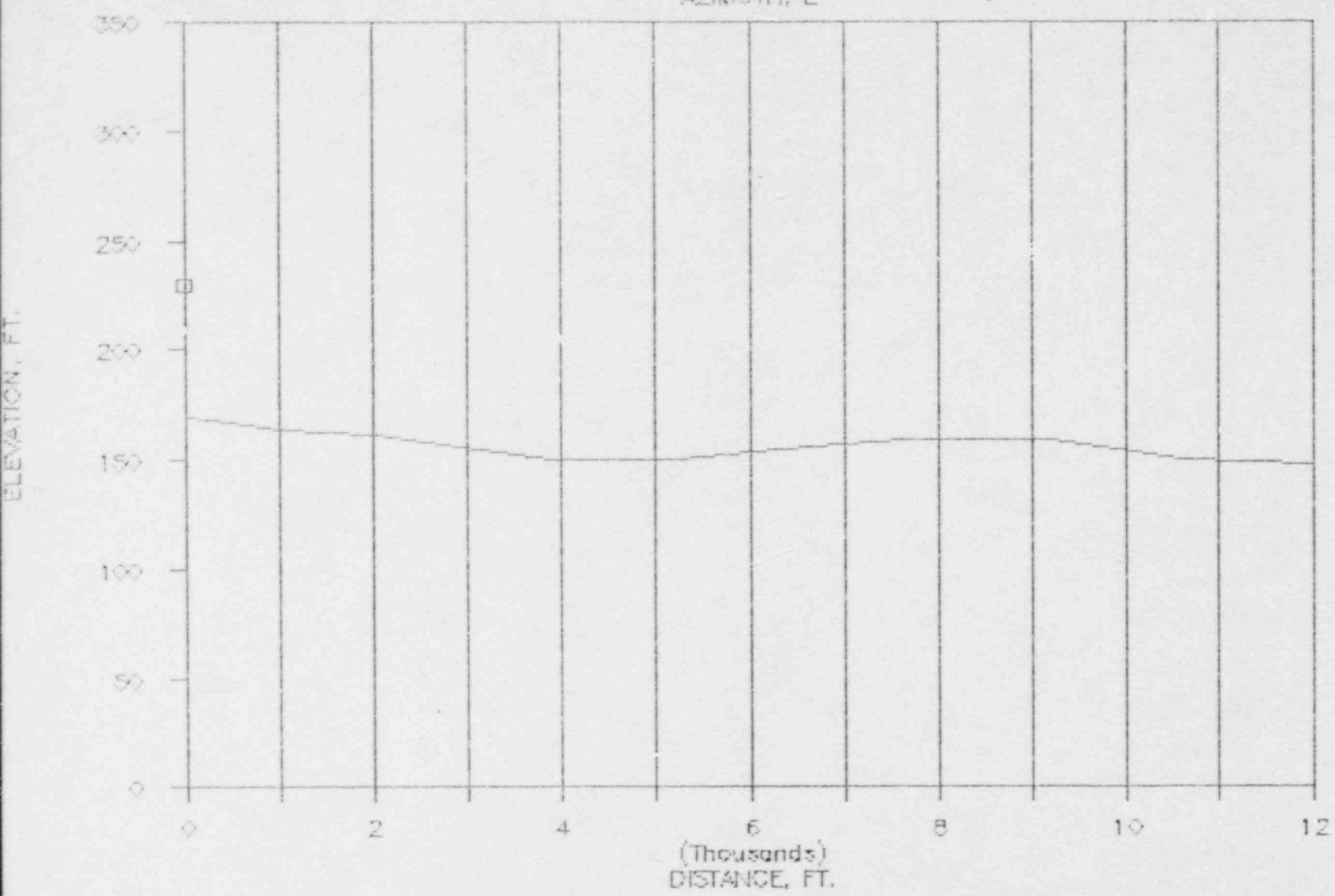
GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF8-WS3000R

SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

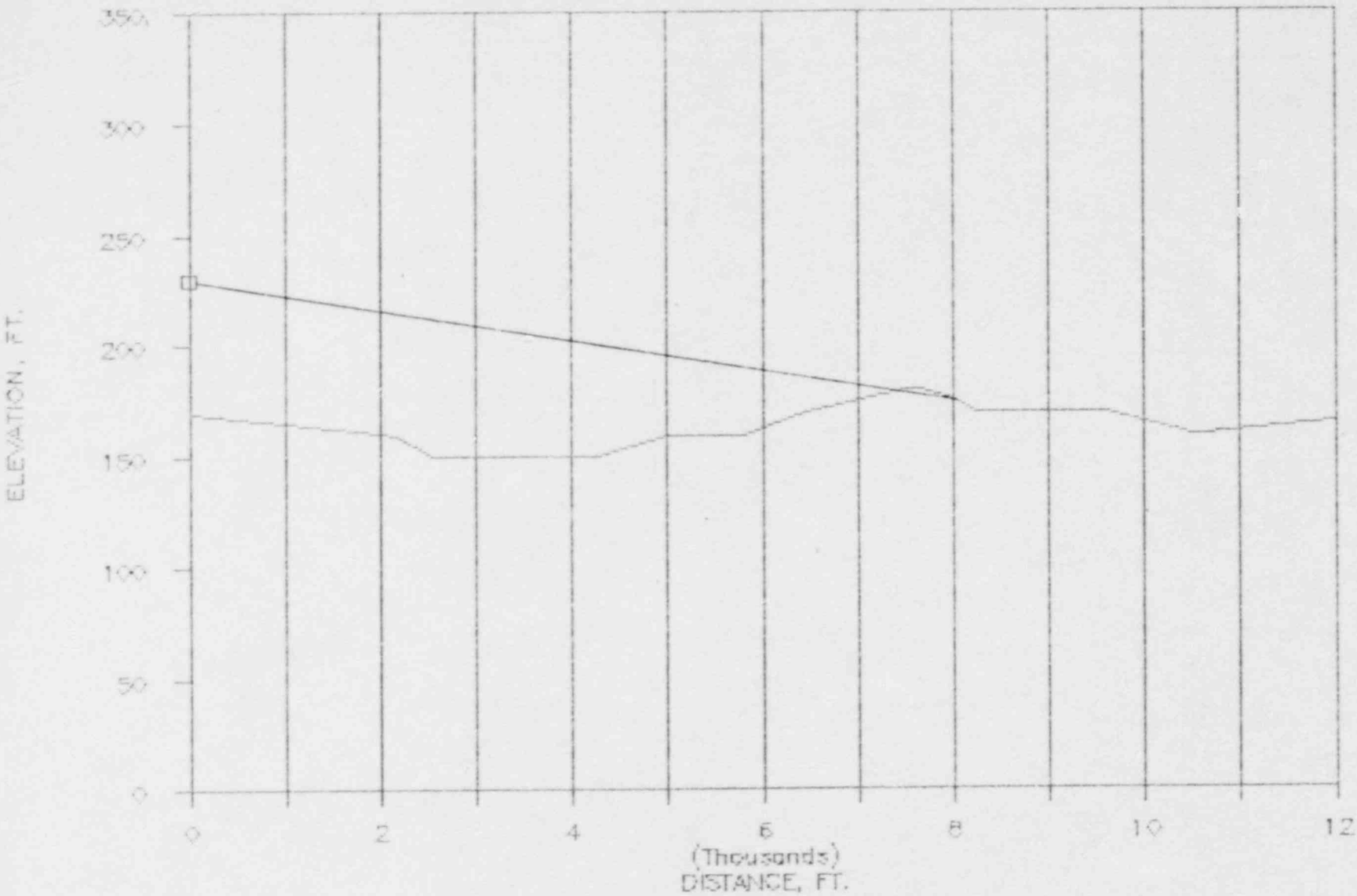
AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.7	92.3	77.8	67.7	62.2	57.7	40.6
ENE	105.7	92.3	77.8	67.7	62.2	52.2	45.0
NE	105.7	92.3	77.8	67.7	53.8	52.2	45.5
NNE	105.7	92.3	77.8	61.5	57.1	58.4	51.0
N	105.7	92.2	77.8	67.7	56.8	53.4	41.2
NNW	105.7	92.3	77.7	57.1	62.2	48.7	49.9
NW	105.7	92.3	77.8	62.0	62.2	51.9	46.2
WNW	105.7	92.2	77.8	62.2	57.1	48.1	51.0
W	105.7	92.2	77.8	67.7	52.9	52.7	51.0
WSW	105.7	92.2	77.8	67.7	62.2	53.6	51.0
SW	105.7	92.3	77.7	67.7	62.2	58.4	46.1
SSW	105.7	92.3	77.7	67.7	62.2	58.4	51.0
S	105.7	92.3	77.8	67.7	62.2	58.4	51.0
SSE	105.7	92.3	77.8	67.7	62.2	52.5	44.8
SE	105.7	92.3	77.8	67.7	62.2	58.4	45.9
ESE	105.7	92.3	77.8	67.7	62.2	58.4	45.5

RIVER BEND EF9



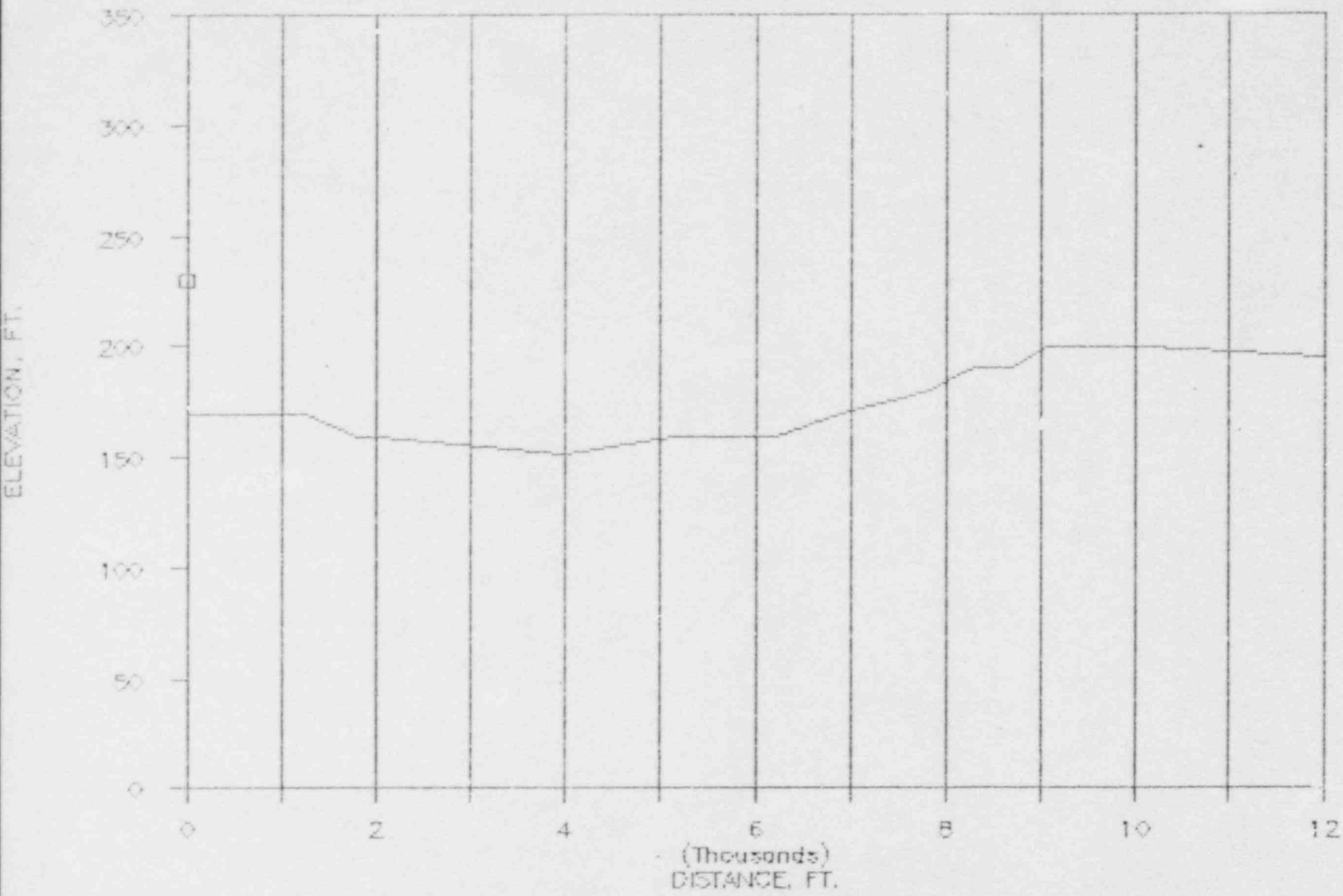
RIVER BEND EF9

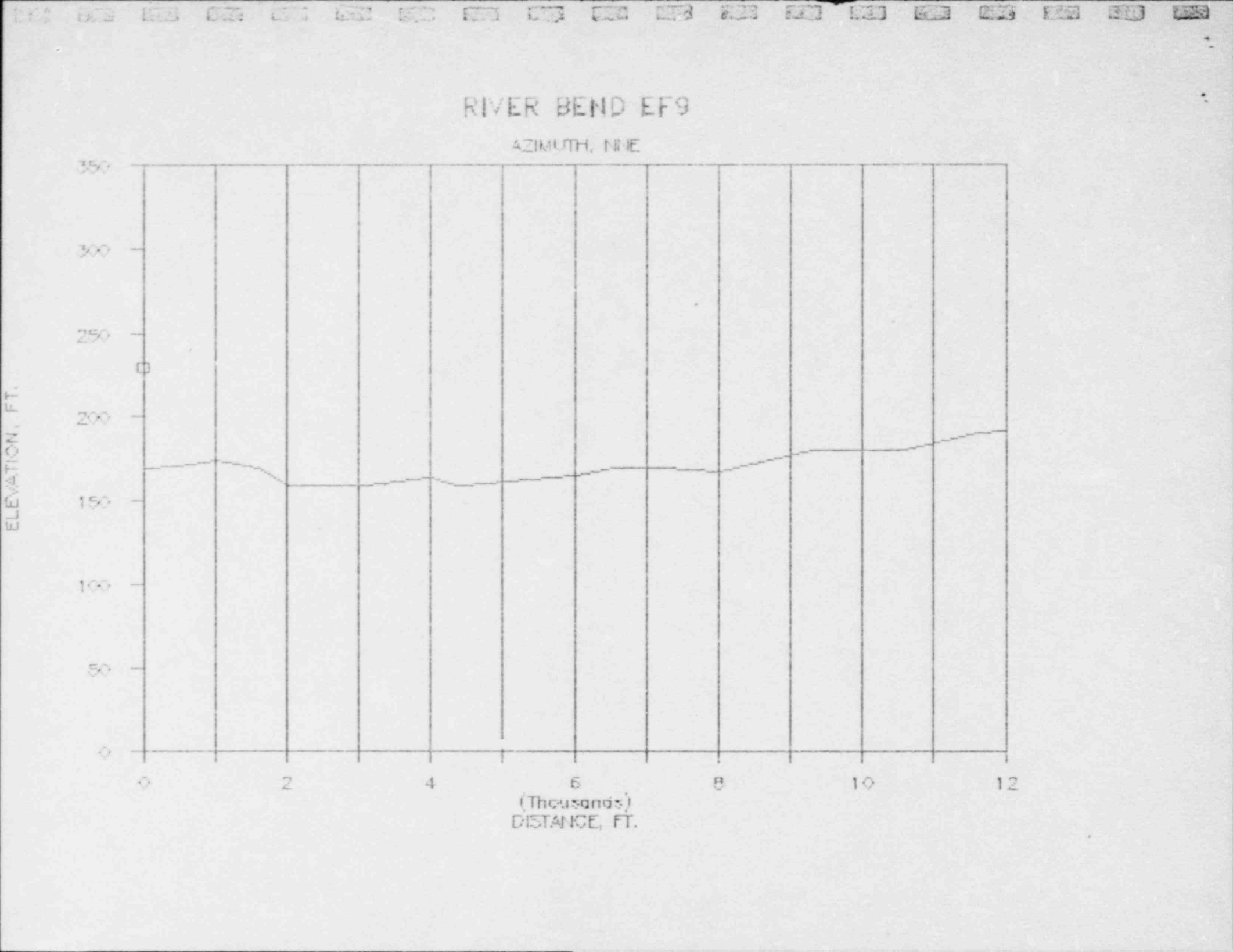
AZIMUTH, ENE



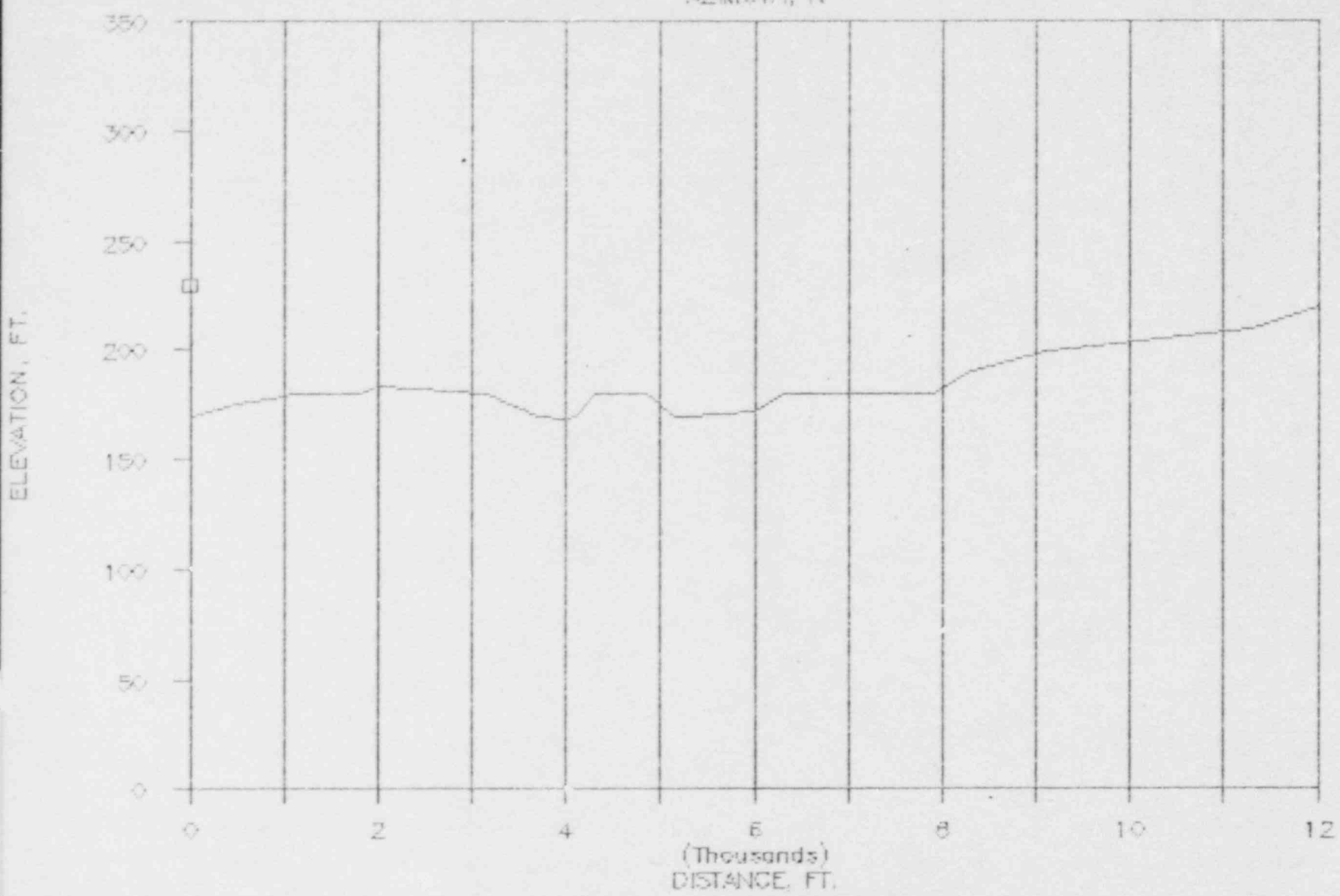
RIVER BEND EF9

AZIMUTH, NE



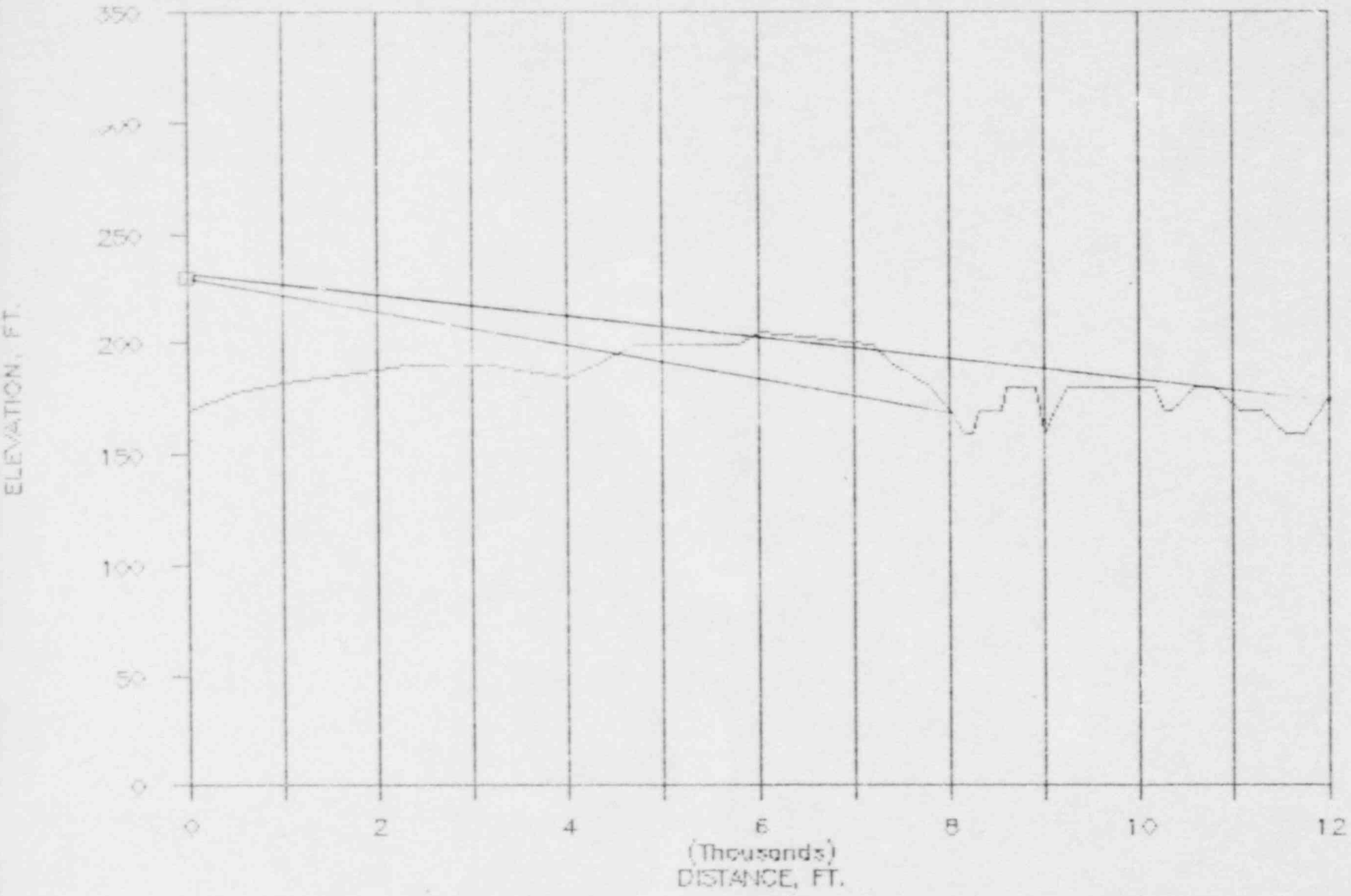

RIVER BEND EF9
AZIMUTH, NNE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND EF9



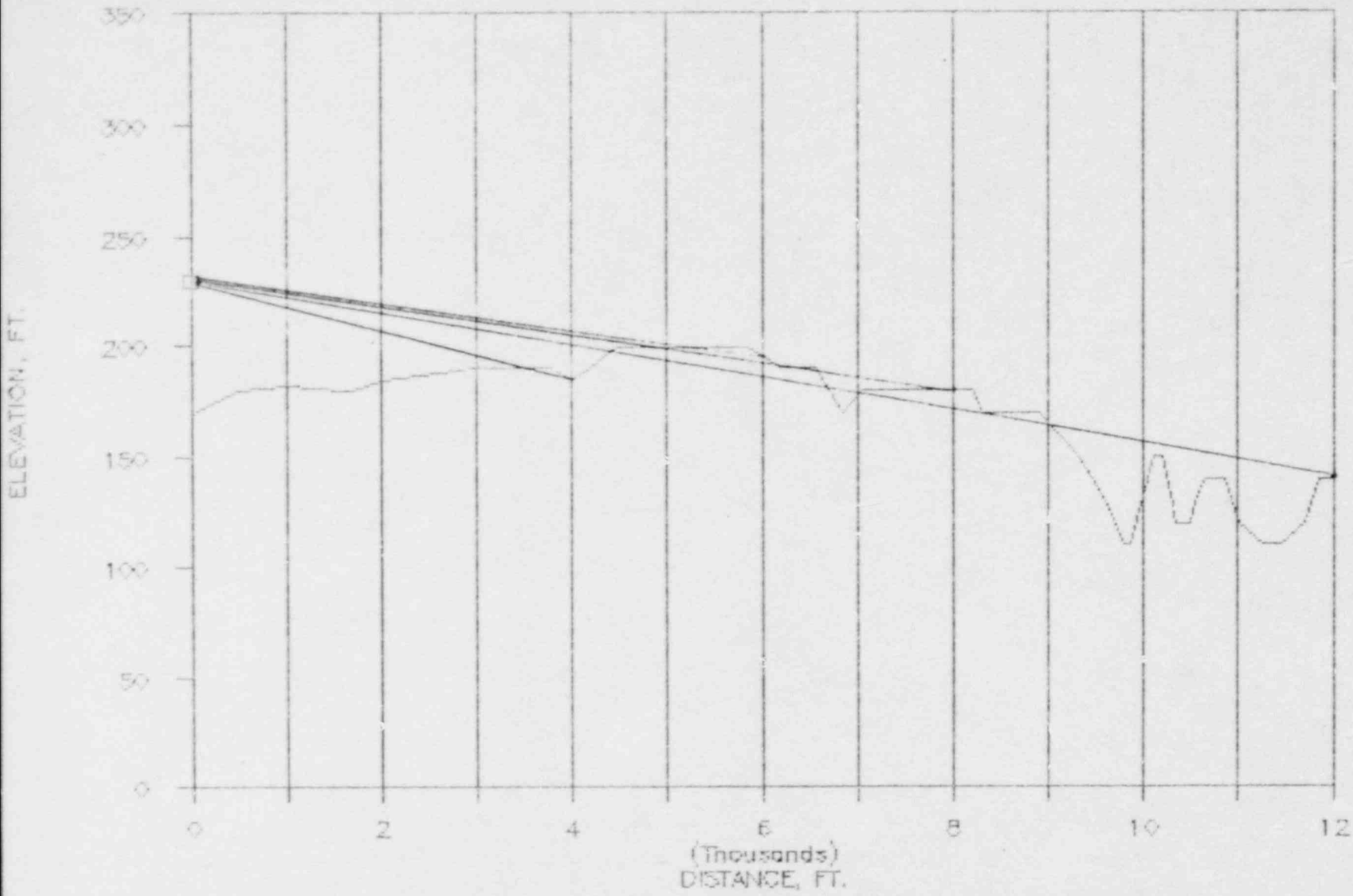
RIVER BEND EF9

AZIMUTH, NNW



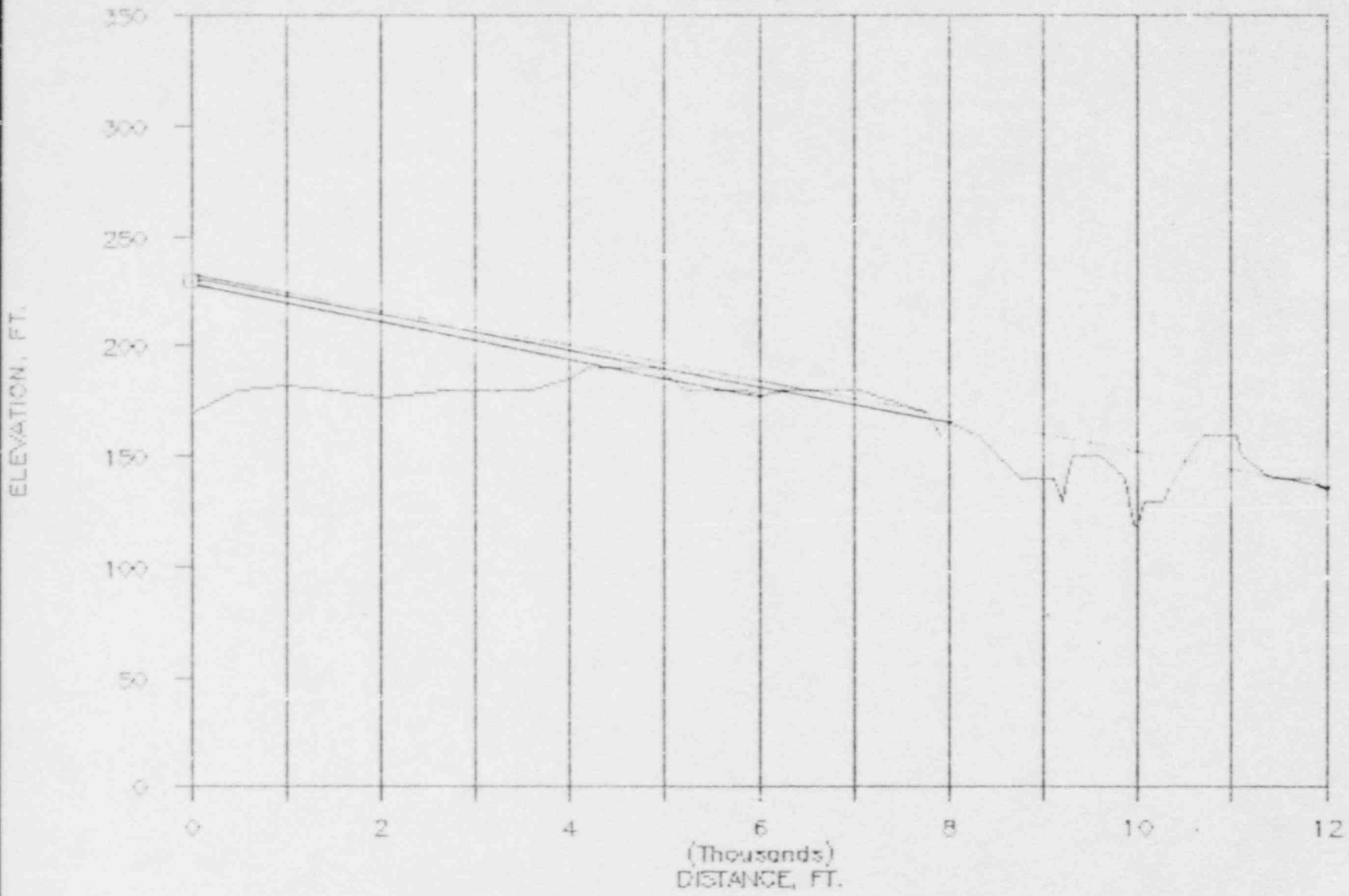
RIVER BEND EF9

AZIMUTH, NW

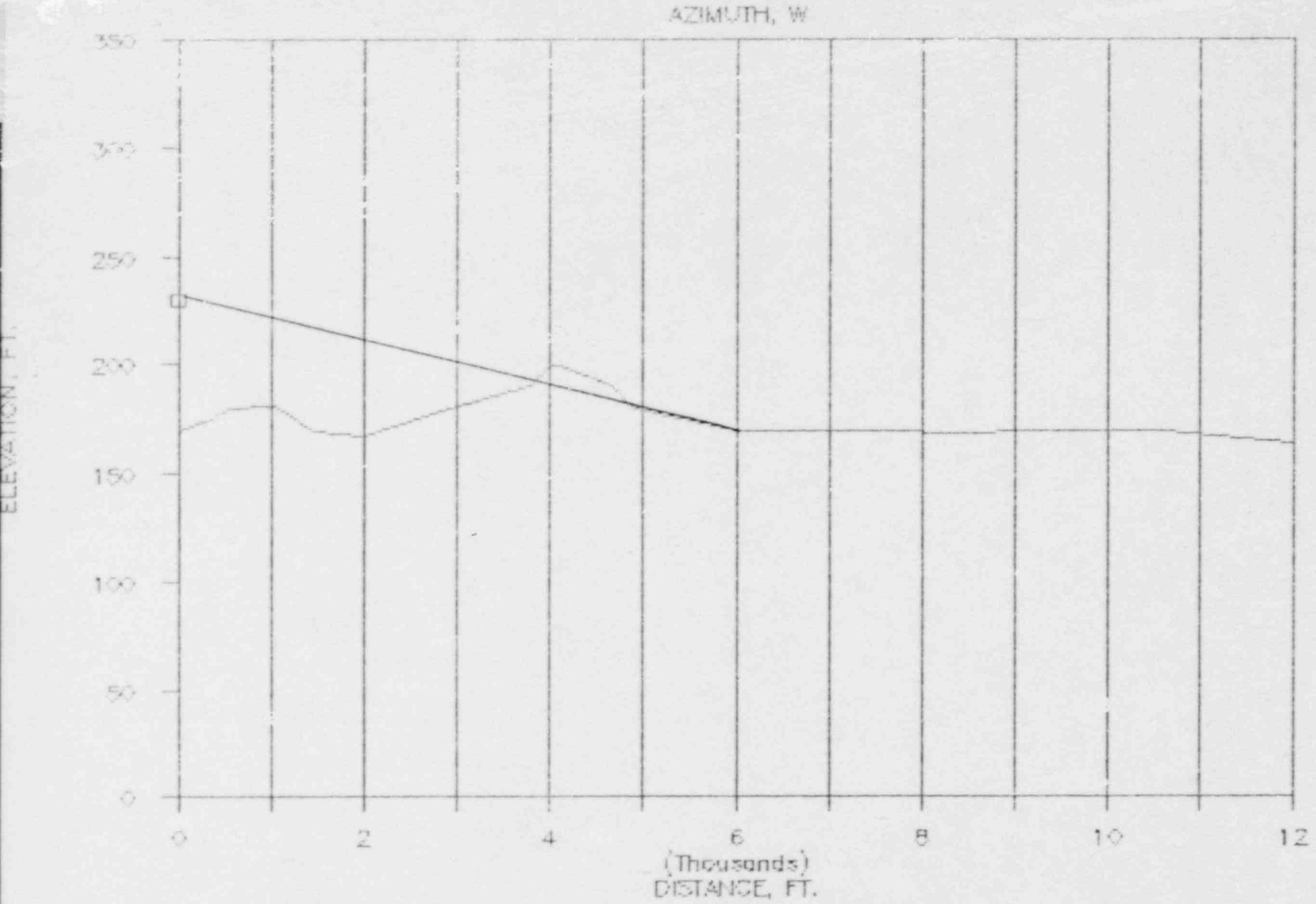


RIVER BEND EF9

AZIMUTH, WNW

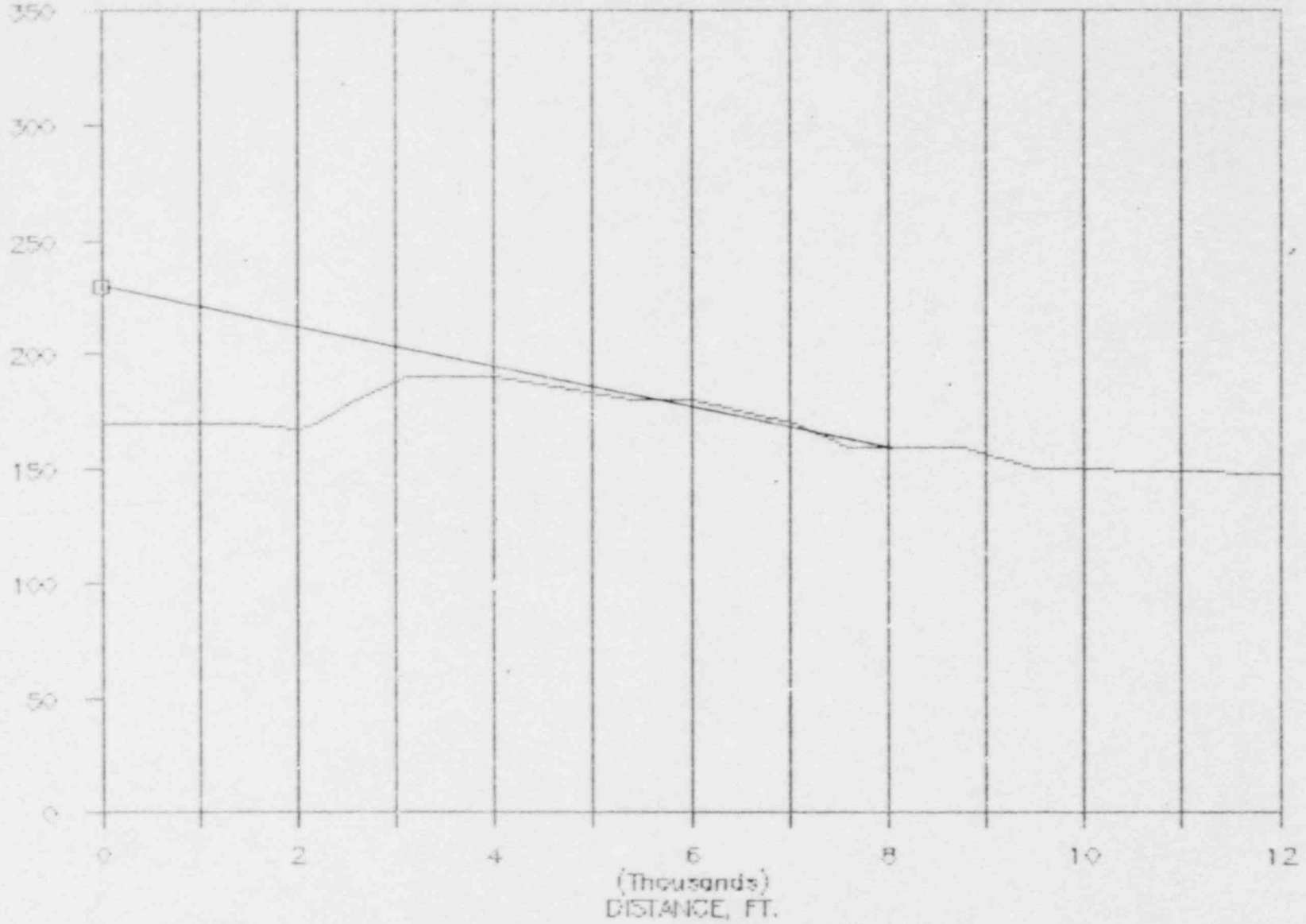


RIVER BEND EFS



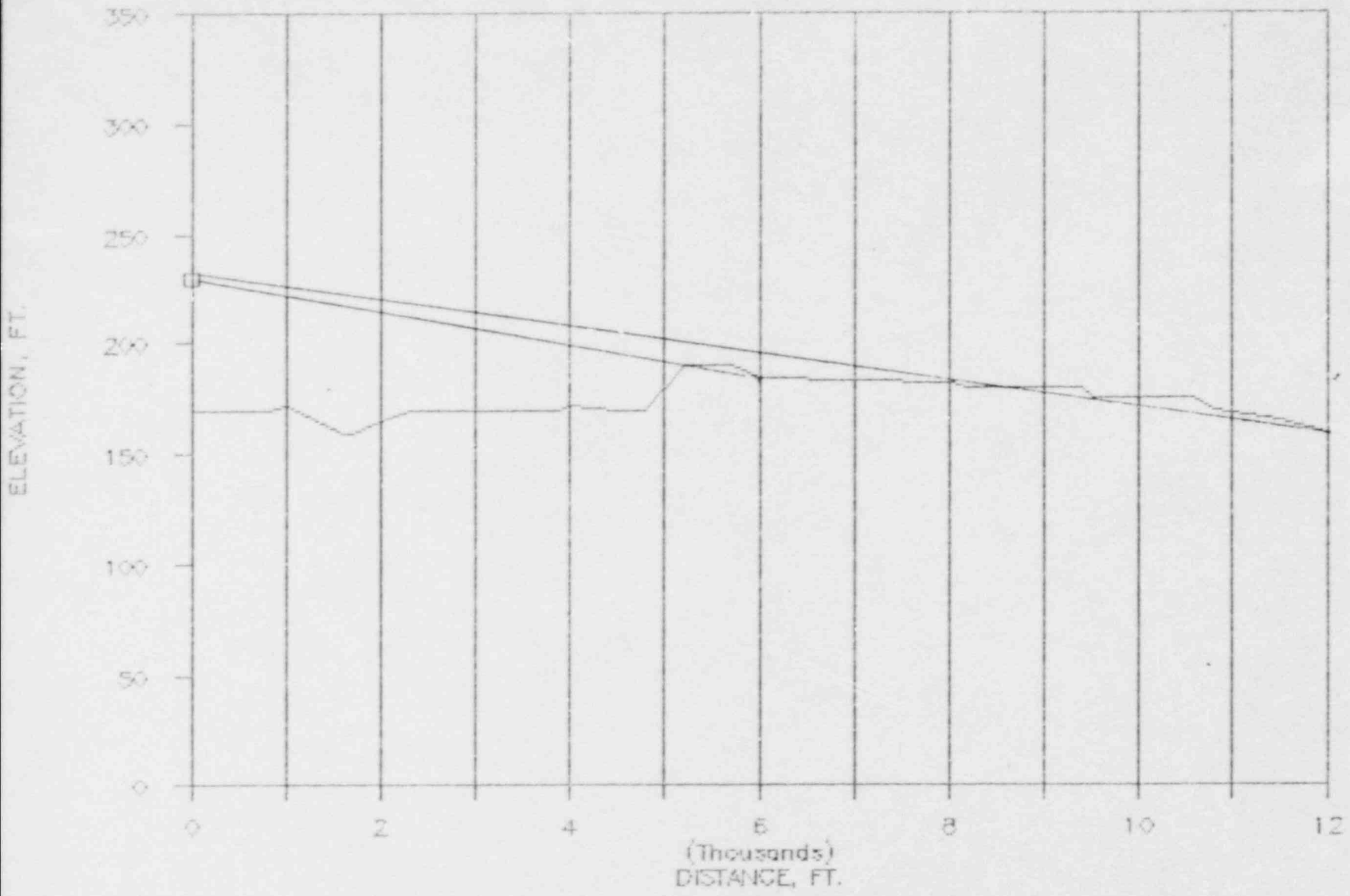
RIVER BEND EF9

AZIMUTH, WSW



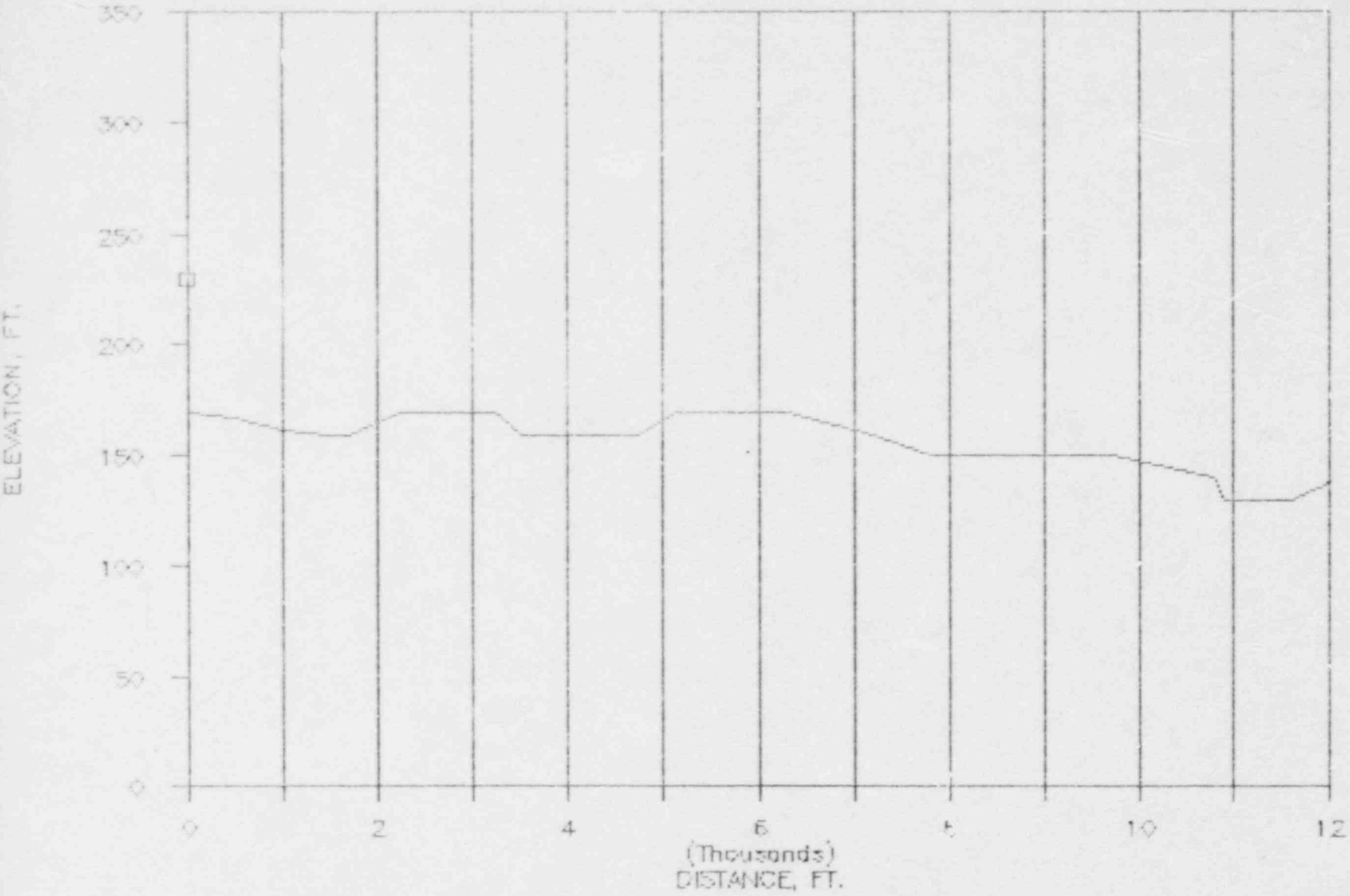
RIVER BEND EF9

AZIMUTH, SW



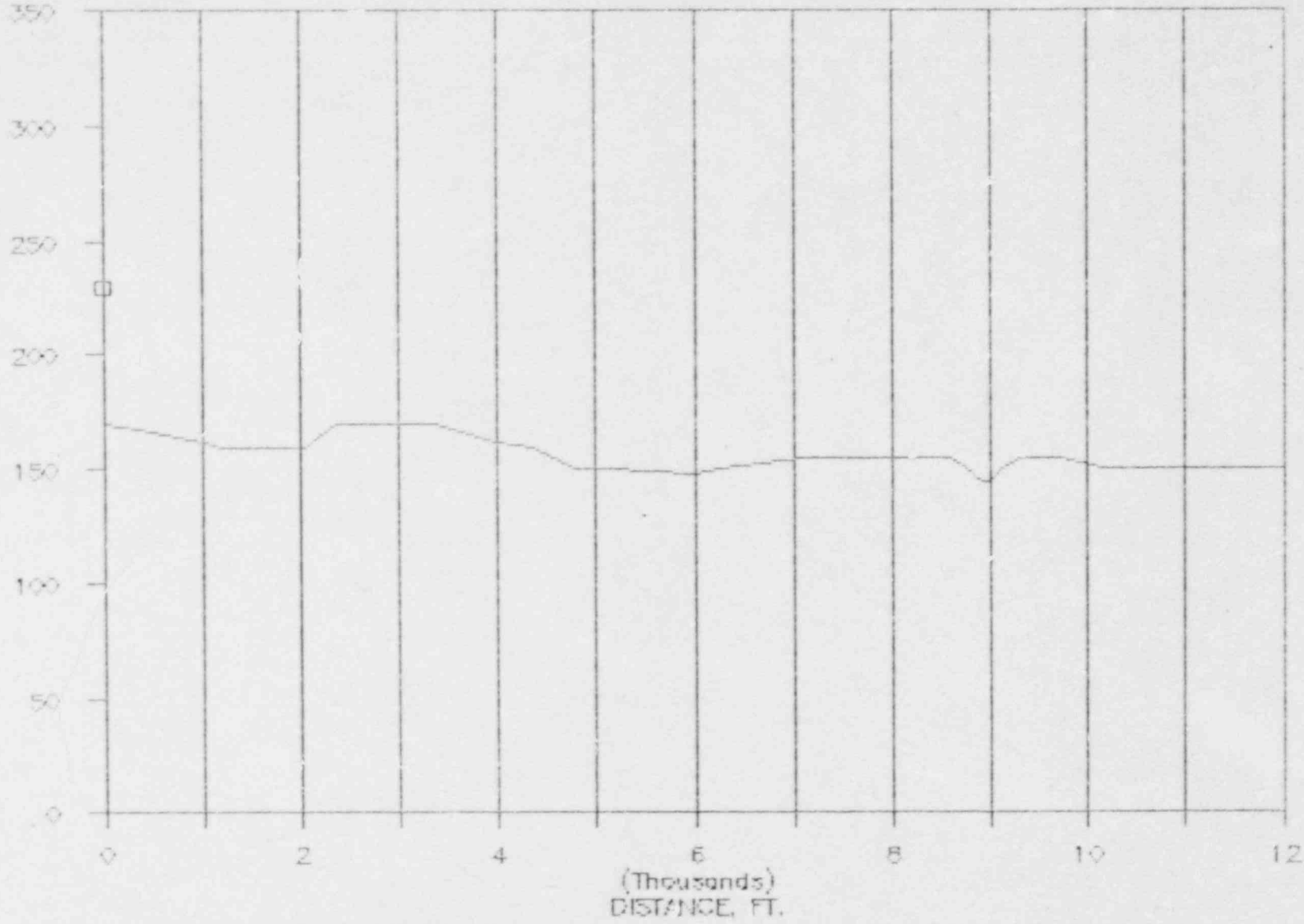
RIVER BEND EF9

AZIMUTH, SSW



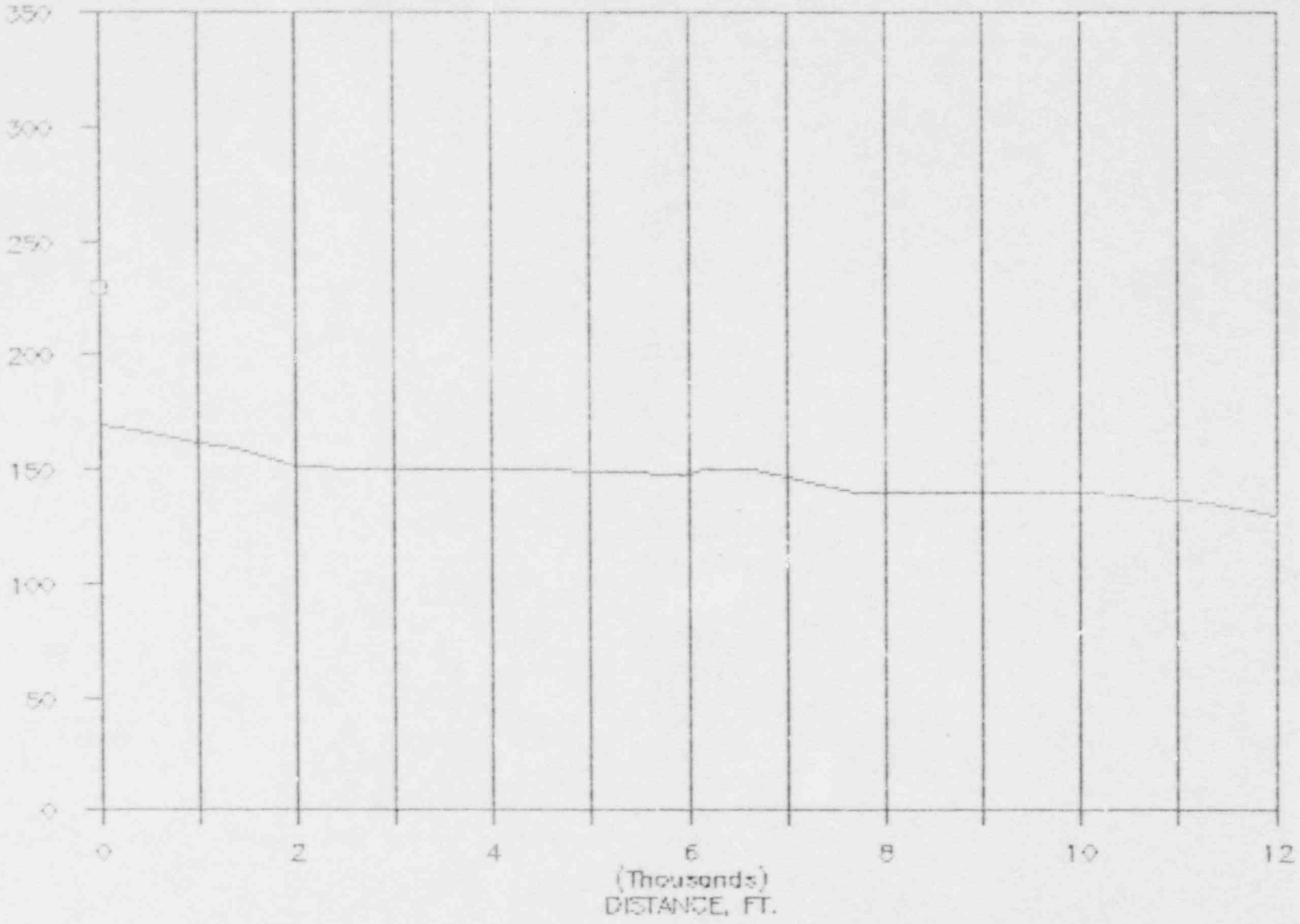
RIVER BEND EF9

AZIMUTH, 5



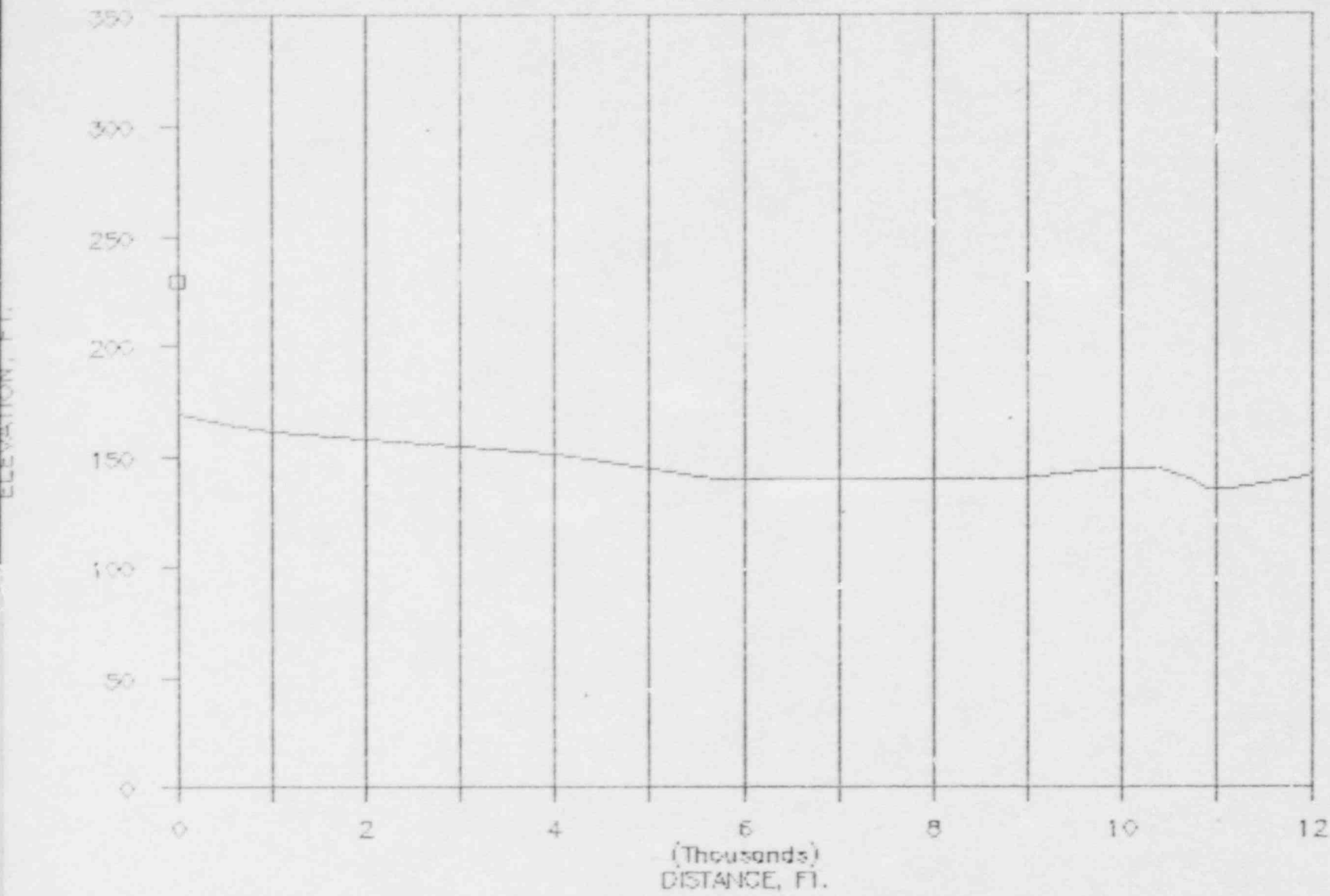
RIVER BEND EFS

AZIMUTH, SSE



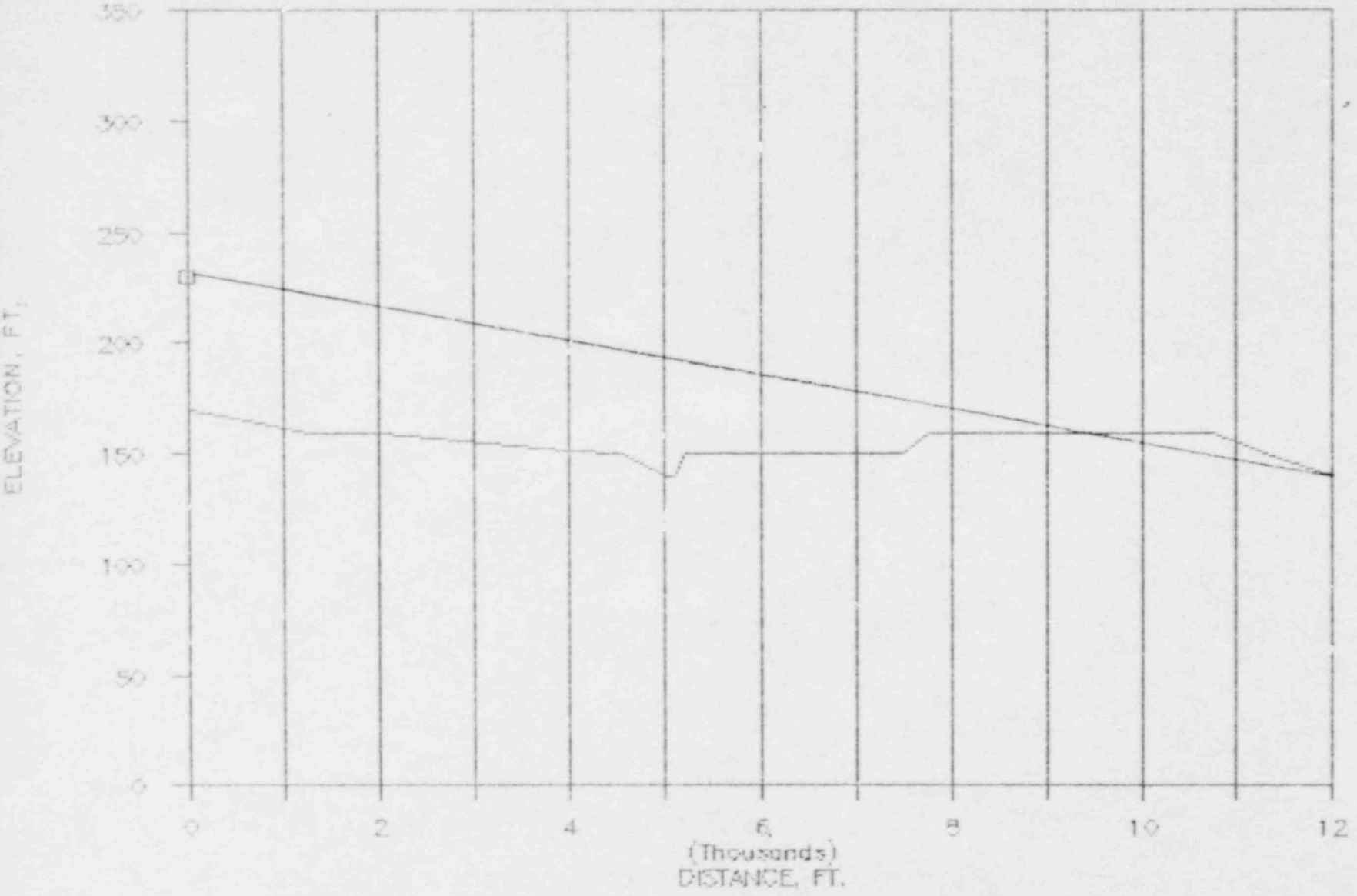
RIVER BEND EF9

AZIMUTH, 3E



RIVER BEND EF9

AZIMUTH, ESE



GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF9-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	168.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	164.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	162.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	150.00	SOFT	0.	NO	0.	0.
5	6000.	90.00	154.00	SOFT	0.	NO	0.	0.
6	8000.	90.00	160.00	SOFT	0.	NO	0.	0.
7	12000.	90.00	148.00	SOFT	0.	NO	0.	0.
8	500.	67.50	168.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	166.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	161.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	150.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	163.00	SOFT	0.	NO	0.	0.
13	8000.	67.50	175.00	SOFT	0.	YES	7650.	180.
14	12000.	67.50	165.00	SOFT	0.	NO	0.	0.
15	500.	45.00	170.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	170.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	159.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	152.00	SOFT	0.	NO	0.	0.
19	6000.	45.00	160.00	SOFT	0.	NO	0.	0.
20	8000.	45.00	185.00	SOFT	0.	NO	0.	0.
21	12000.	45.00	195.00	SOFT	0.	NO	0.	0.
22	500.	22.50	171.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	174.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	160.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	164.00	SOFT	0.	NO	0.	0.
26	6000.	22.50	163.00	SOFT	0.	NO	0.	0.
27	8000.	22.50	168.00	SOFT	0.	NO	0.	0.
28	12000.	22.50	192.00	SOFT	0.	NO	0.	0.
29	500.	0.0	175.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	179.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	184.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	169.00	SOFT	0.	NO	0.	0.
33	6000.	0.0	172.00	SOFT	0.	NO	0.	0.
34	8000.	0.0	182.00	SOFT	0.	NO	0.	0.
35	12000.	0.0	220.00	SOFT	0.	NO	0.	0.
36	500.	337.50	178.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	182.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	188.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	185.00	SOFT	0.	NO	0.	0.
40	6000.	337.50	205.00	SOFT	0.	NO	0.	0.
41	8000.	337.50	170.00	SOFT	0.	YES	6000.	205.
42	12000.	337.50	175.00	SOFT	0.	YES	6000.	205.
43	500.	315.00	180.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	182.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	185.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	185.00	SOFT	0.	YES	3800.	190.
47	6000.	315.00	195.00	SOFT	0.	YES	5850.	200.
48	8000.	315.00	180.00	SOFT	0.	YES	5850.	200.
49	12000.	315.00	140.00	SOFT	0.	YES	5850.	200.
50	500.	292.50	180.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	182.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	177.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	186.00	SOFT	0.	NO	0.	0.
54	6000.	292.50	178.00	SOFT	0.	YES	4900.	190.
55	8000.	292.50	165.00	SOFT	0.	YES	7050.	180.
56	12000.	292.50	135.00	SOFT	0.	YES	11100.	150.
57	500.	270.00	178.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	181.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	160.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	200.00	SOFT	0.	NO	0.	0.
61	6000.	270.00	170.00	SOFT	0.	YES	4100.	200.
62	8000.	270.00	169.00	SOFT	0.	NO	0.	0.
63	12000.	270.00	164.00	SOFT	0.	NO	0.	0.
64	500.	247.50	1[illegible]	SOFT	0.	NO	0.	0.
65	1000.	247.50	170.[illegible]	SOFT	0.	NO	0.	0.
66	2000.	247.50	168.[illegible]	SOFT	0.	NO	0.	0.
67	4000.	247.50	190.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	180.00	SOFT	0.	NO	0.	0.
69	8000.	247.50	160.00	SOFT	0.	YES	6000.	180.
70	12000.	247.50	148.00	SOFT	0.	NO	0.	0.
71	500.	225.00	170.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	172.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	165.00	SOFT	0.	NO	0.	0.
74	4000.	225.00	172.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	185.00	SOFT	0.	YES	5700.	190.
76	8000.	225.00	182.00	SOFT	0.	NO	0.	0.
77	12000.	225.00	160.00	SOFT	0.	YES	10600.	175.
78	500.	202.50	168.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	162.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	165.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	160.00	SOFT	0.	NO	0.	0.
82	6000.	202.50	170.00	SOFT	0.	NO	0.	0.
83	8000.	202.50	150.00	SOFT	0.	NO	0.	0.
84	12000.	202.50	138.00	SOFT	0.	NO	0.	0.
85	500.	180.00	166.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	162.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	160.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	162.00	SOFT	0.	NO	0.	0.
89	6000.	180.00	148.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	155.00	SOFT	0.	NO	0.	0.
91	12000.	180.00	150.00	SOFT	0.	NO	0.	0.
92	500.	157.50	166.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	162.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	152.00	SOFT	0.	NO	0.	0.
95	4000.	157.50	150.00	SOFT	0.	NO	0.	0.
96	6000.	157.50	148.00	SOFT	0.	NO	0.	0.
97	8000.	157.50	140.00	SOFT	0.	NO	0.	0.
98	12000.	157.50	130.00	SOFT	0.	NO	0.	0.
99	500.	135.00	165.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	162.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	158.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	152.00	SOFT	0.	NO	0.	0.
103	6000.	135.00	140.00	SOFT	0.	NO	0.	0.
104	8000.	135.00	140.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	142.00	SOFT	0.	NO	0.	0.
106	500.	112.50	166.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	162.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	159.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	152.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	150.00	SOFT	0.	NO	0.	0.
111	8000.	112.50	160.00	SOFT	0.	NO	0.	0.
112	12000.	112.50	140.00	SOFT	0.	YES	10750.	160.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF9-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 230.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF9-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

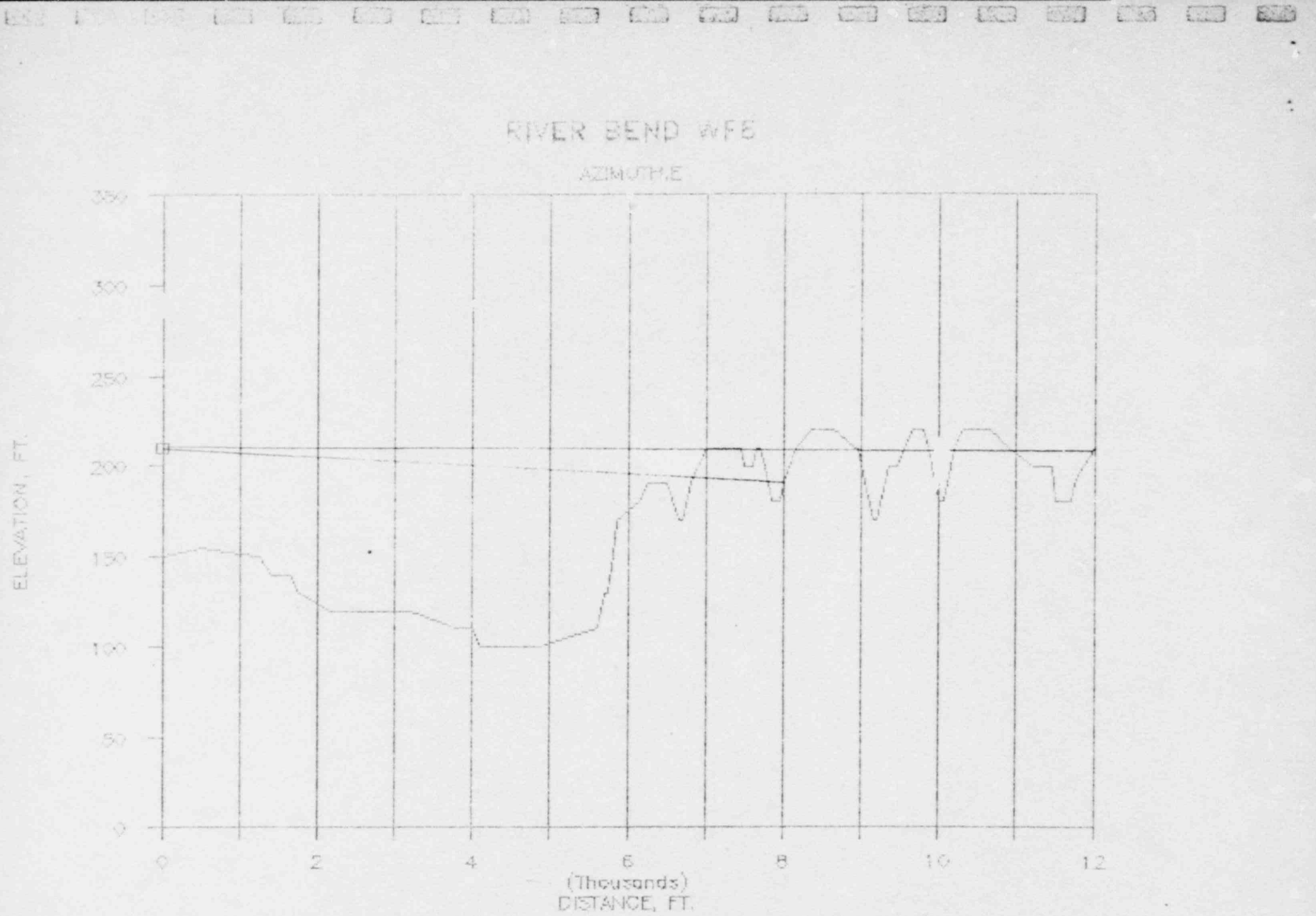
YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.C

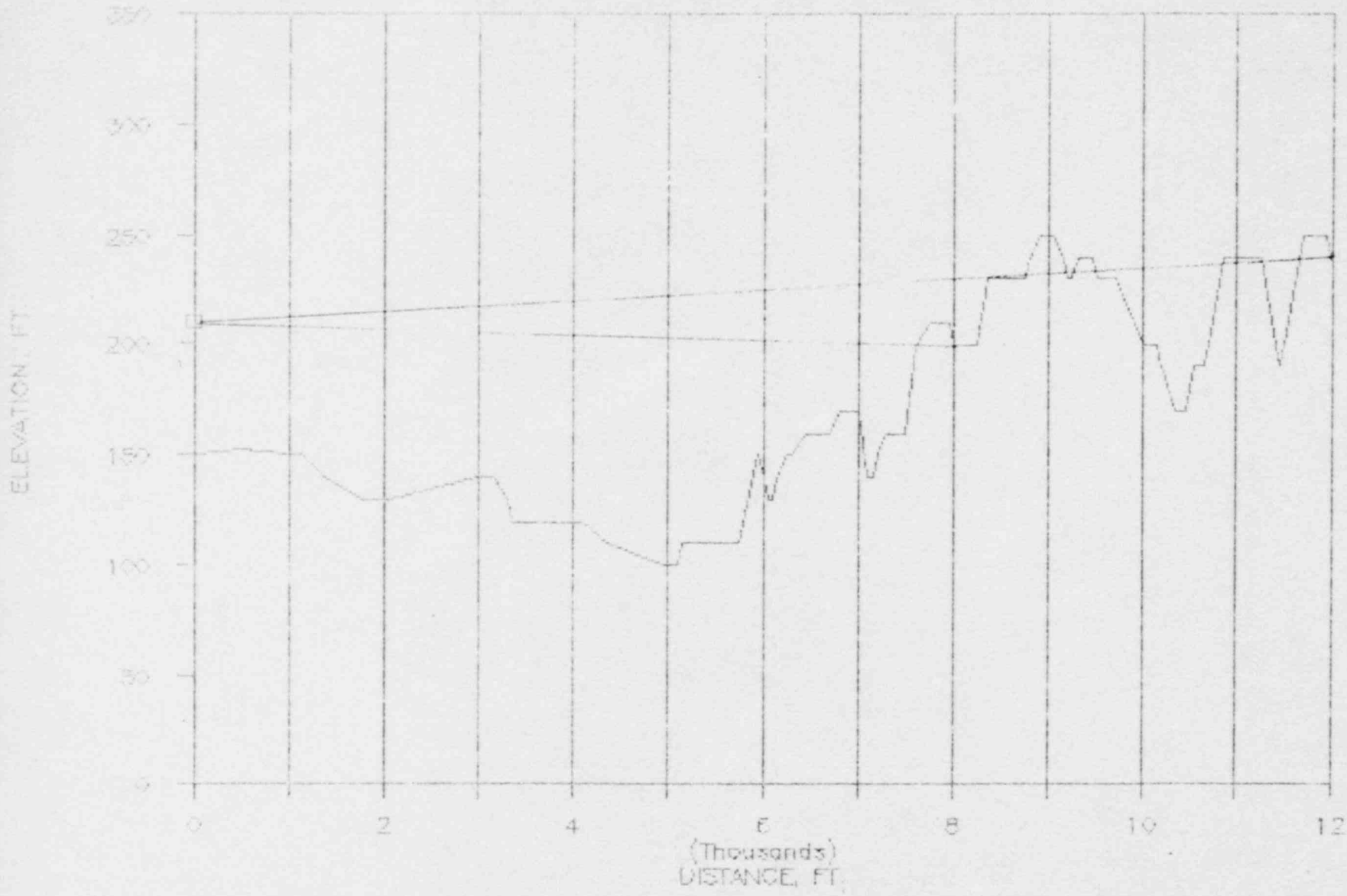
GULF STATES UTILITIES
RIVER BEND ANS SIREN #EF9-WS3000R

SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	80.7	92.2	77.8	67.7	62.2	57.7	46.7
ENE	105.7	92.2	77.7	67.7	62.2	53.5	50.4
NE	105.7	92.3	77.7	67.7	62.2	58.4	51.0
NNE	105.7	92.3	77.7	67.7	62.2	58.4	51.0
N	105.7	92.3	77.8	67.7	62.2	58.4	51.0
NNW	105.7	92.3	77.8	67.7	62.2	52.0	49.9
NW	105.7	92.3	77.8	62.6	56.6	52.4	41.0
WNW	105.7	92.3	77.8	67.7	57.4	53.1	45.7
W	105.7	92.3	77.8	67.7	56.8	58.4	51.0
WSW	105.7	92.3	77.8	67.7	62.2	53.6	51.0
SW	105.7	92.3	77.8	67.7	57.2	58.4	46.0
SSW	105.7	92.2	77.8	67.7	62.2	58.4	51.0
S	105.7	92.2	77.7	67.7	62.2	58.4	51.0
SSE	105.7	92.2	77.7	67.7	62.2	58.4	51.0
SE	105.7	92.2	77.7	67.7	62.2	58.4	51.0
ESE	105.7	92.2	77.7	67.7	62.2	58.4	45.6


RIVER BEND WFB
AZIMUTH,E
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

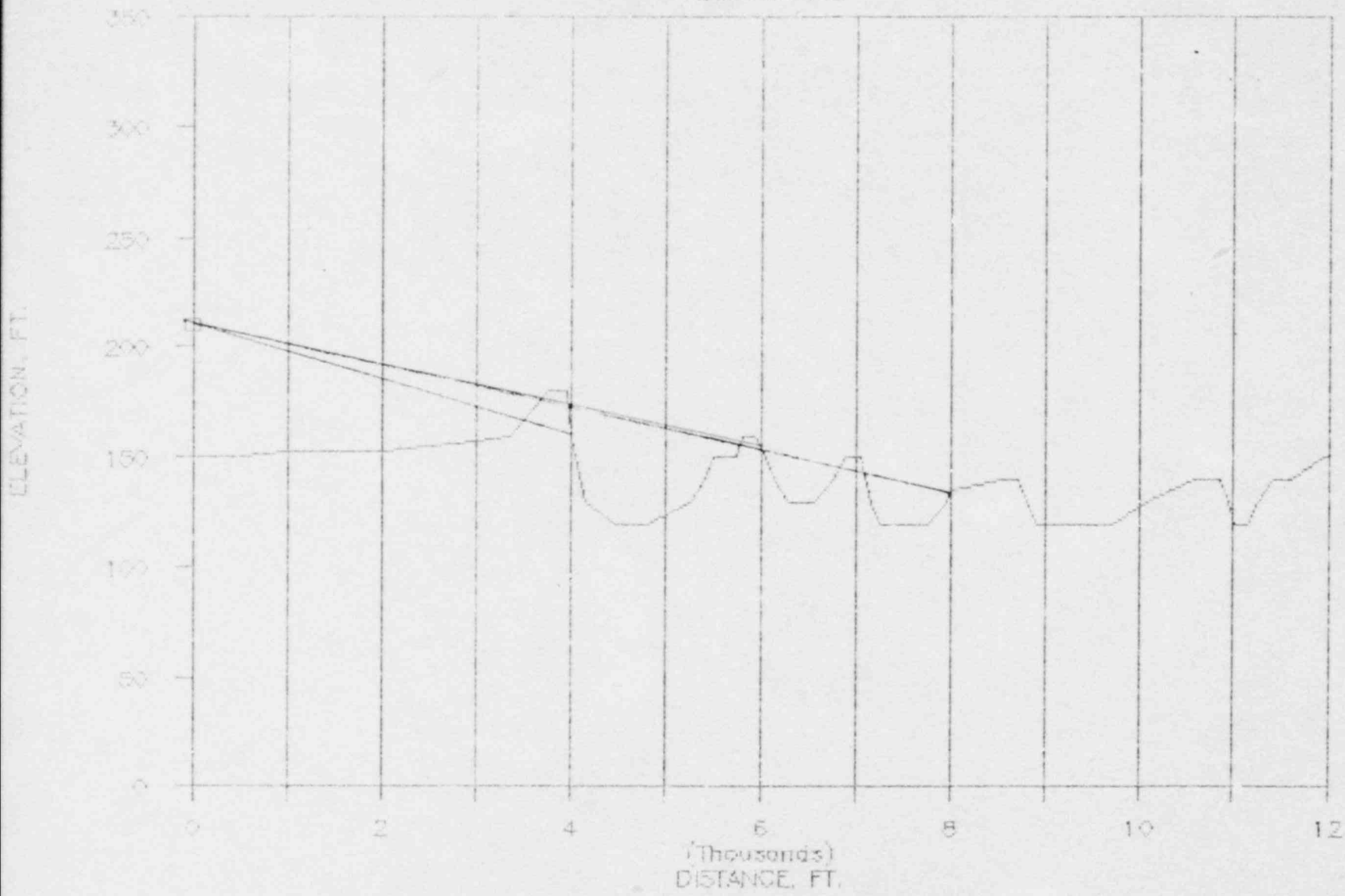

RIVER BEND WF6
AZIMUTH, D.F.
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND WF6

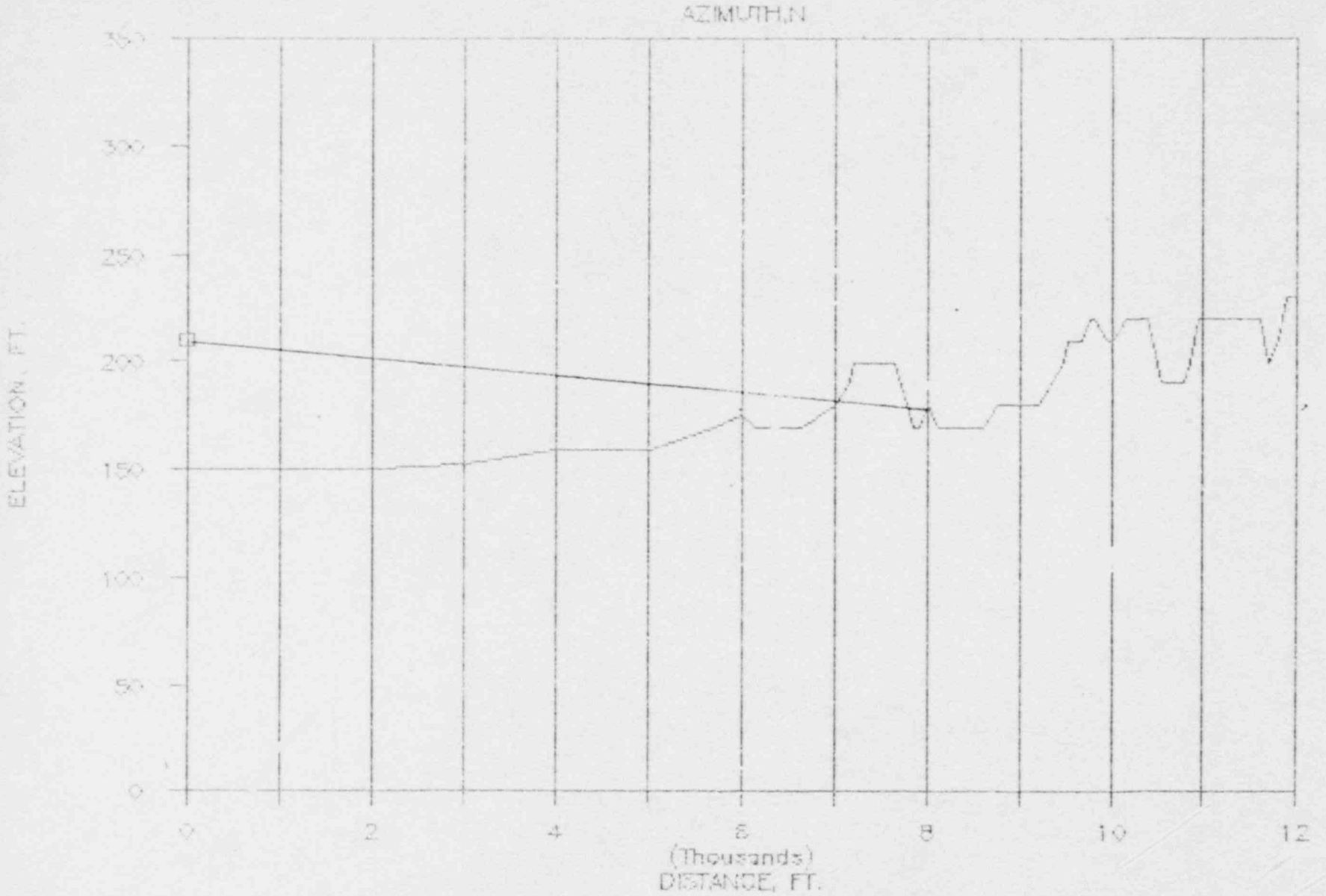
AZIMUTH, NE

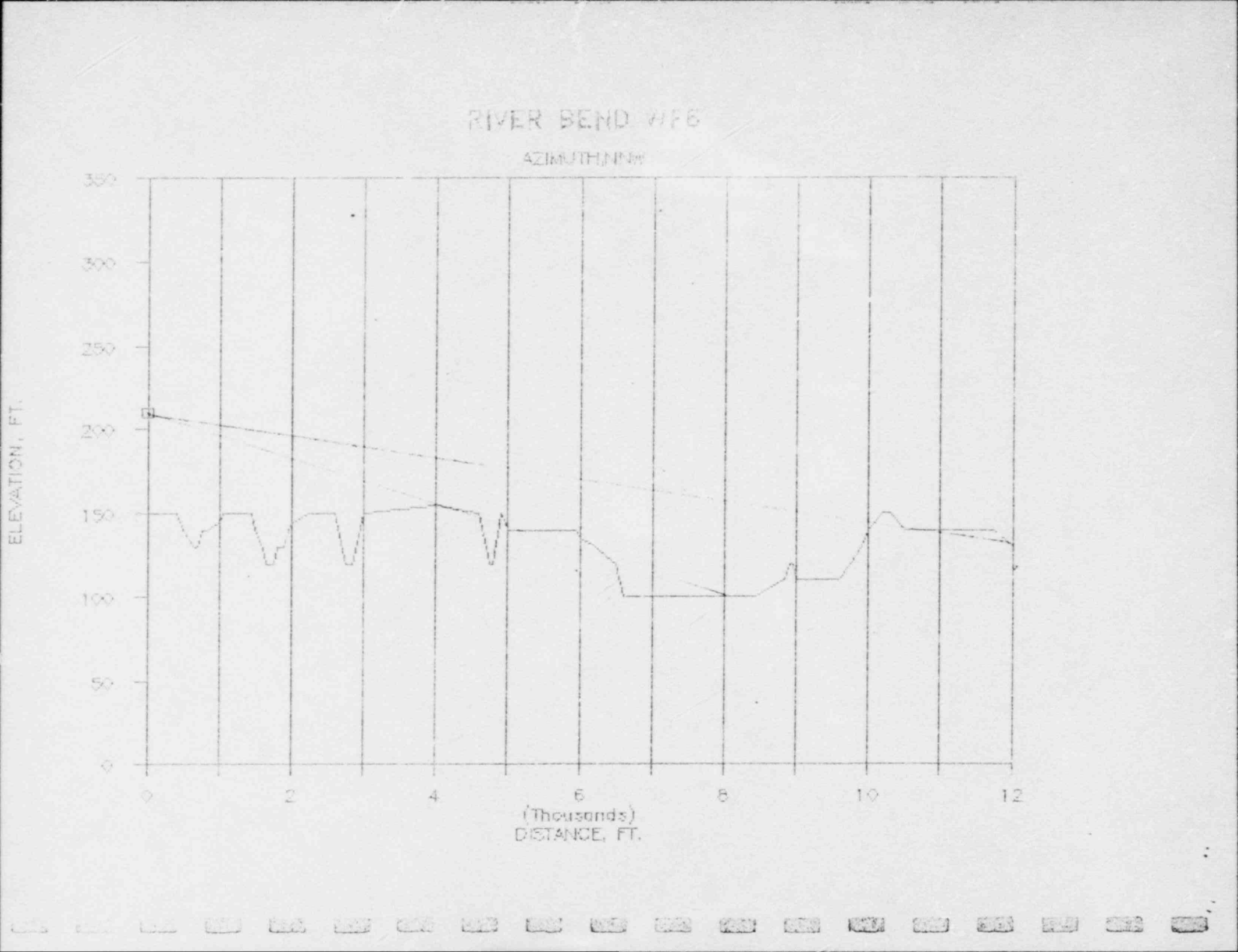
RIVER BEND. WF6

AZIMUTH LINE



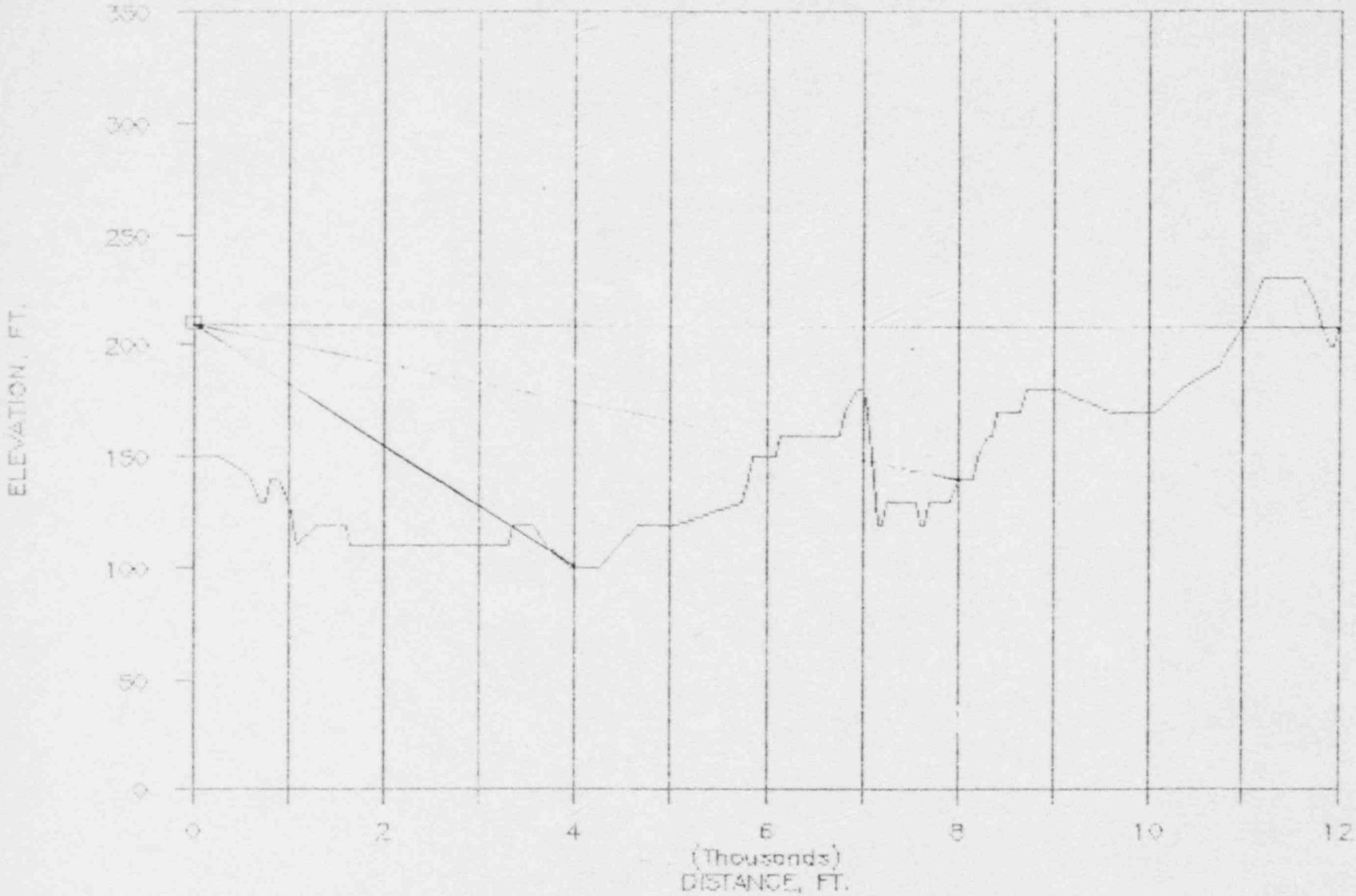
RIVER BEND WF6




RIVER BEND WF6
AZIMUTH, NNW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

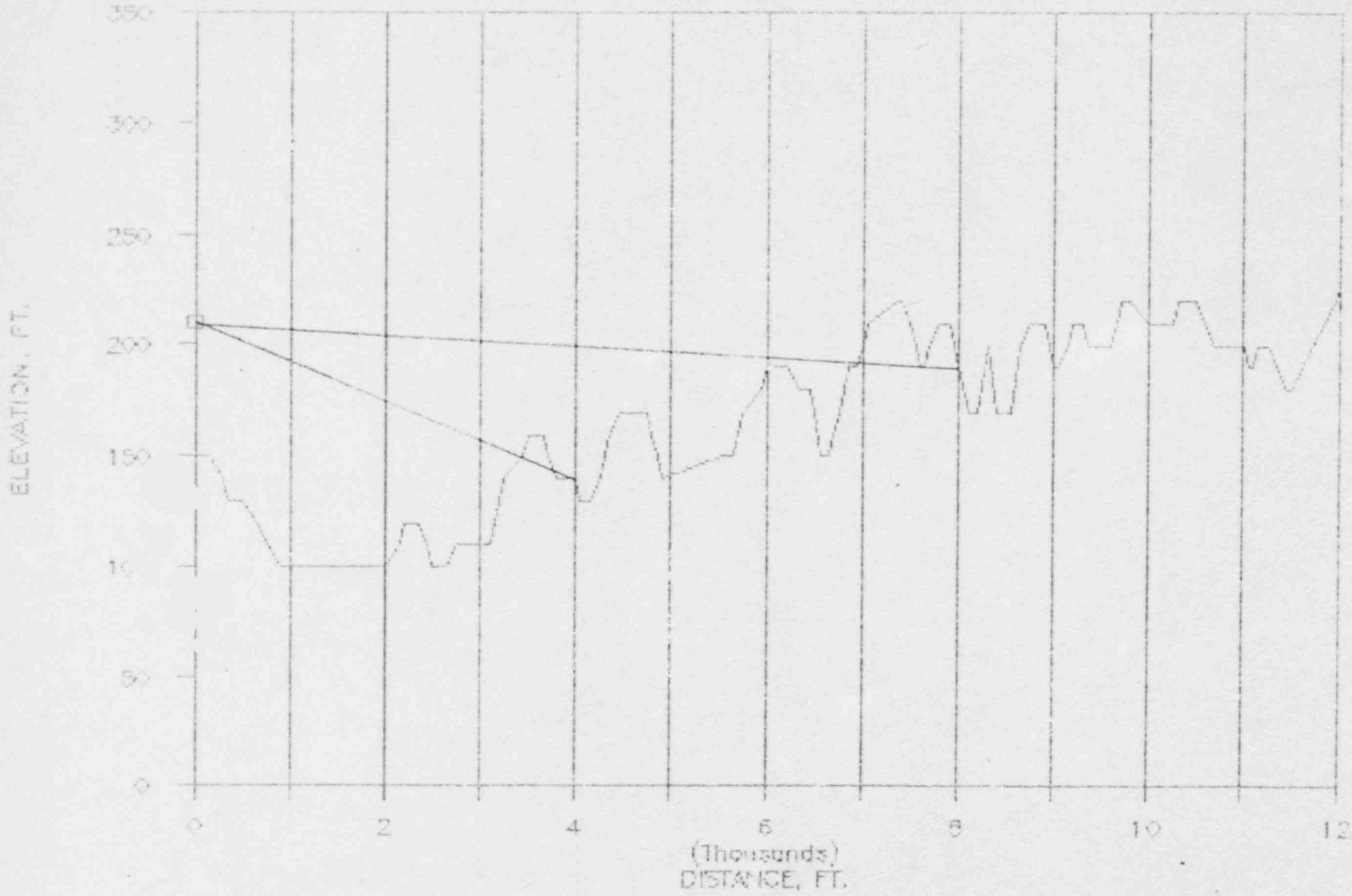
RIVER BEND WF6

AZIMUTH, NW



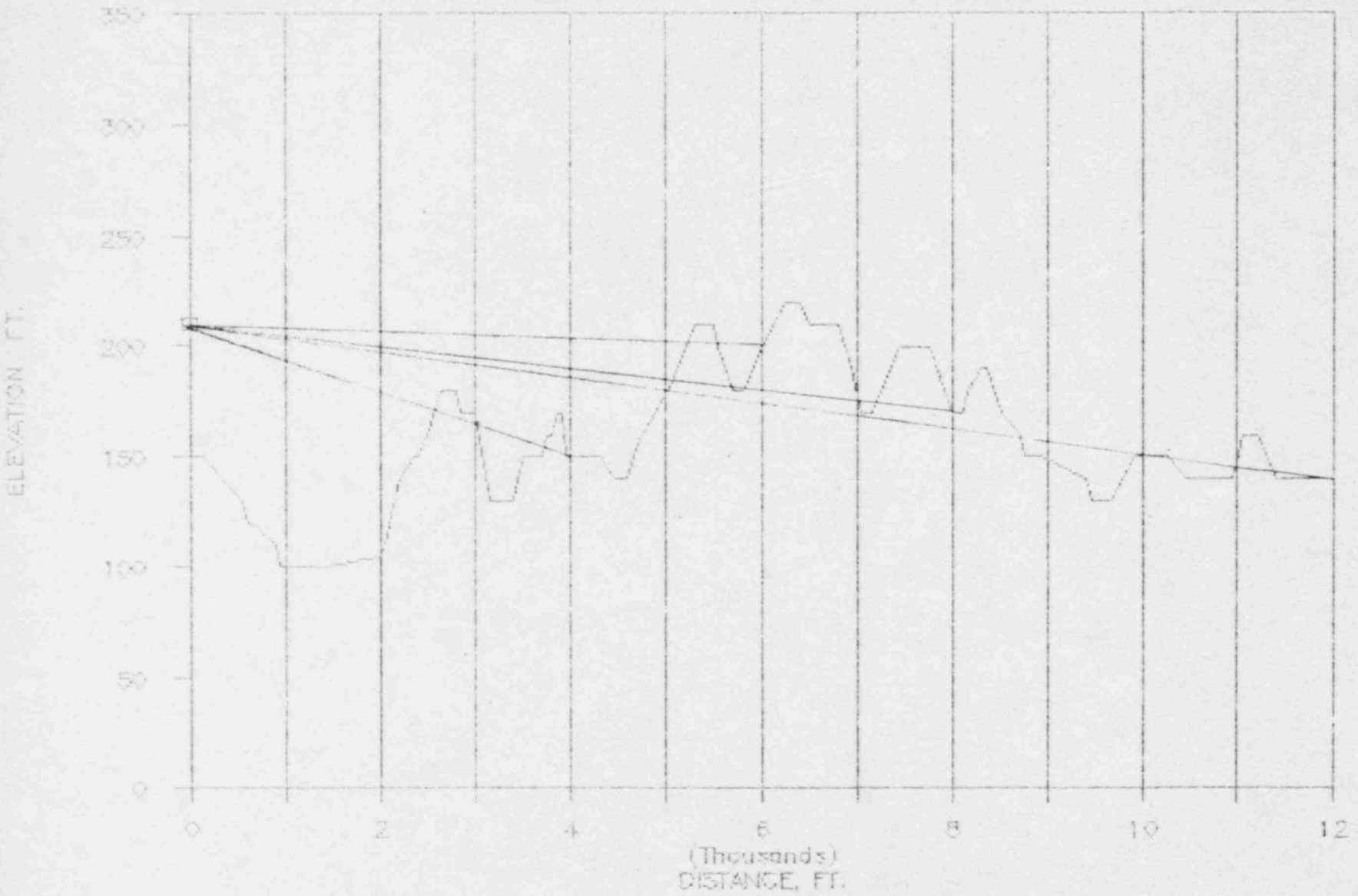
RIVER BEND WF6

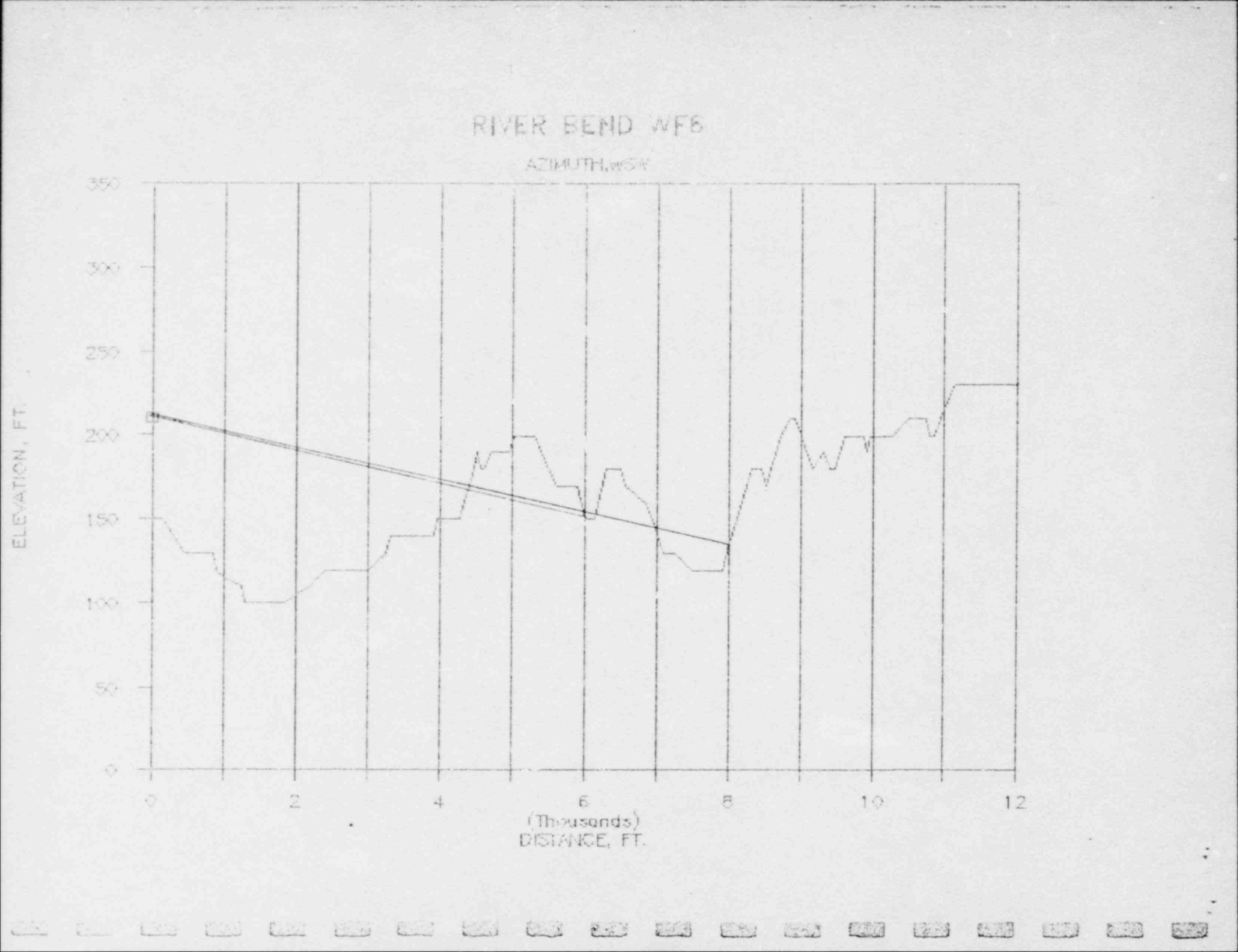
AZIMUTH, WNW



RIVER BEND WF6

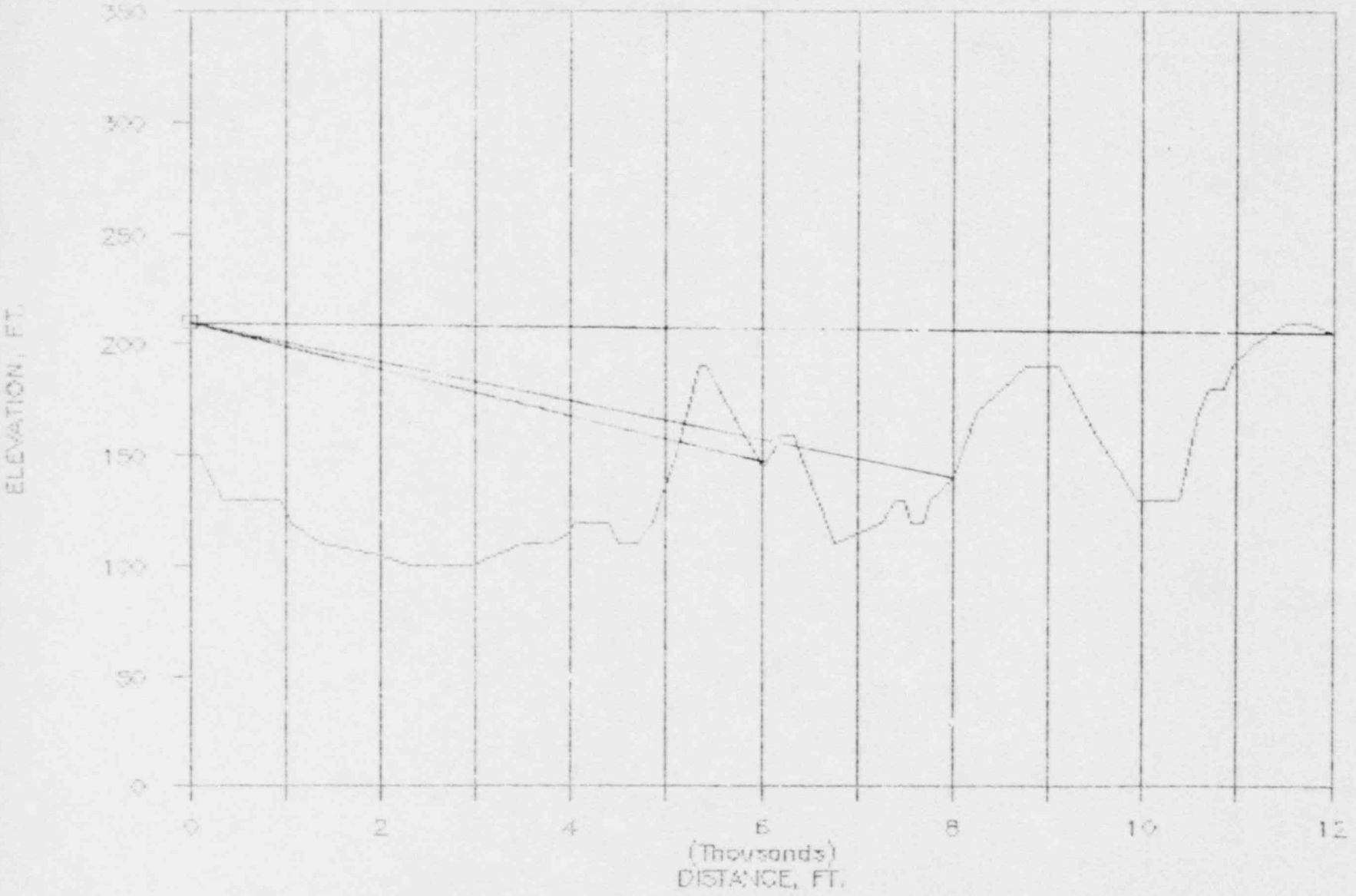
AZIMUTH, W

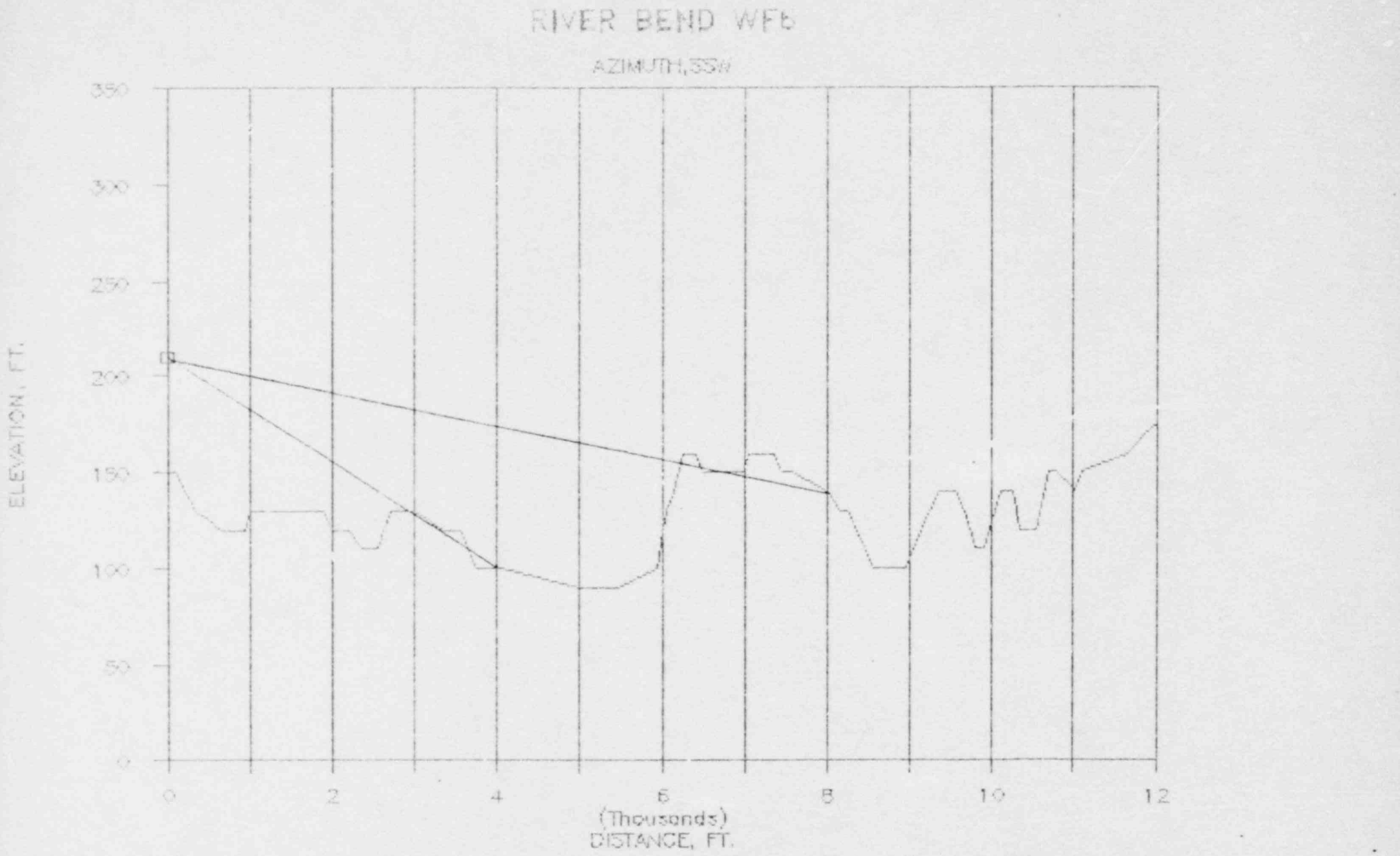



RIVER BEND WF6
AZIMUTH, WSW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND MFB

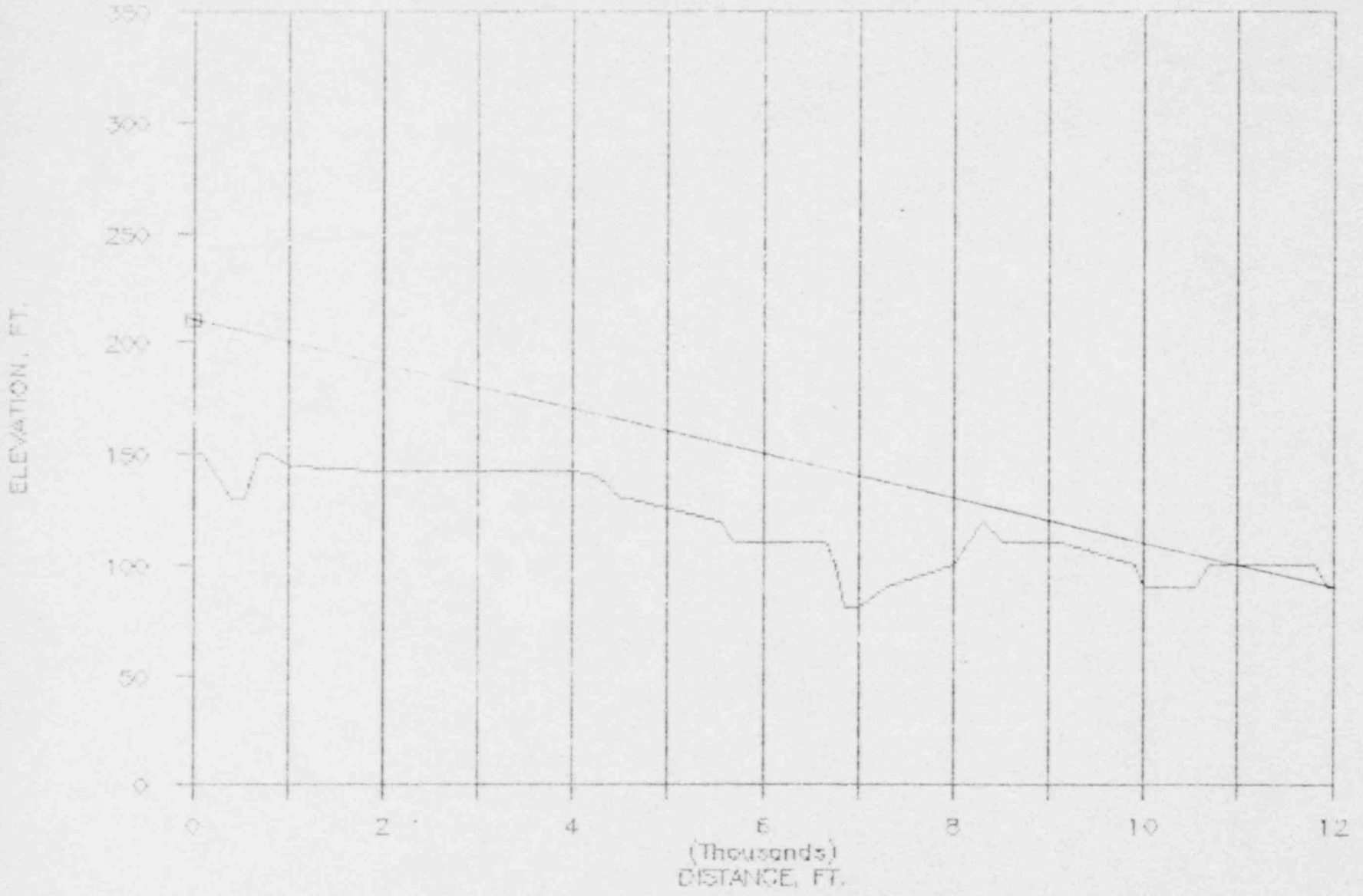
AZIMUTH, SW

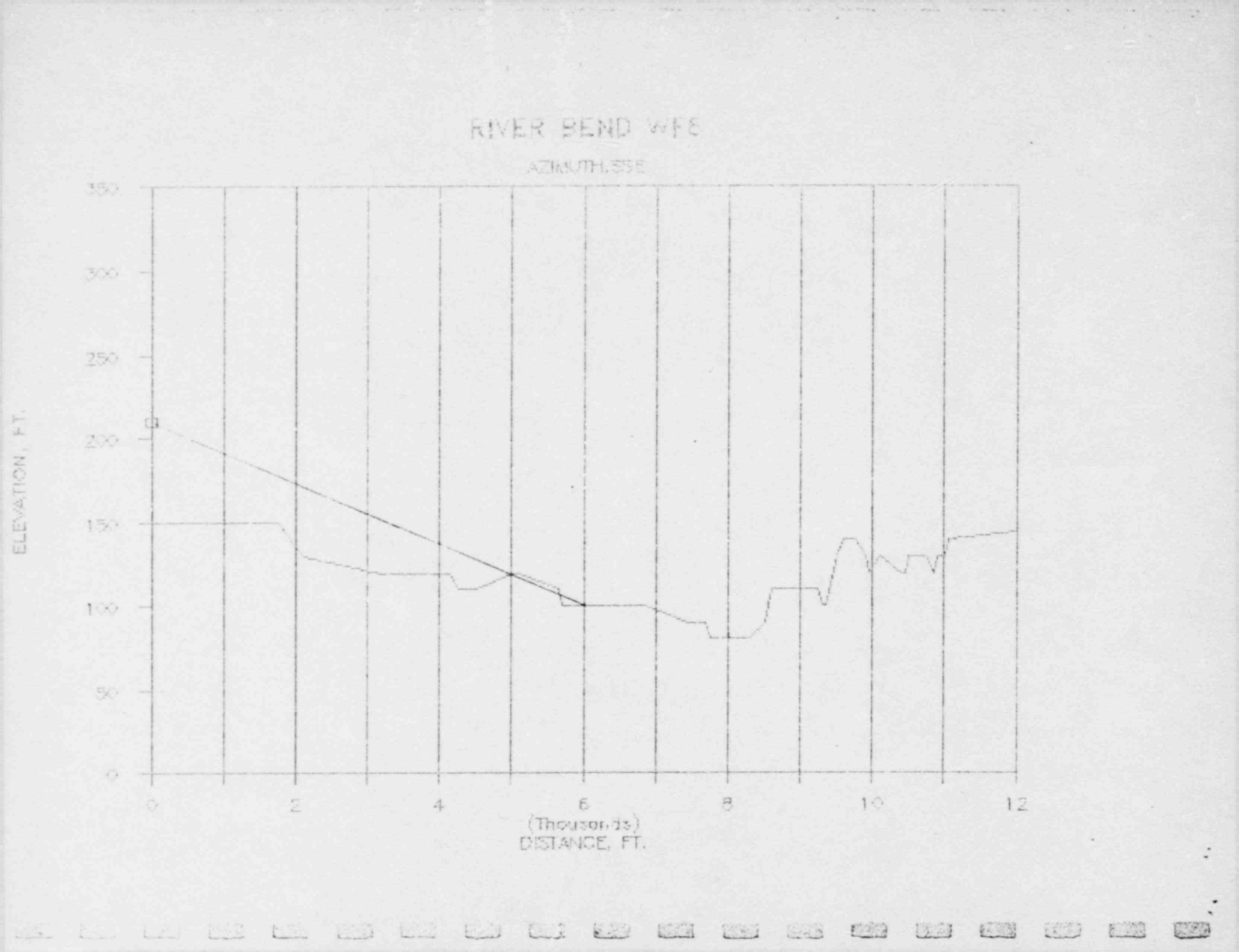


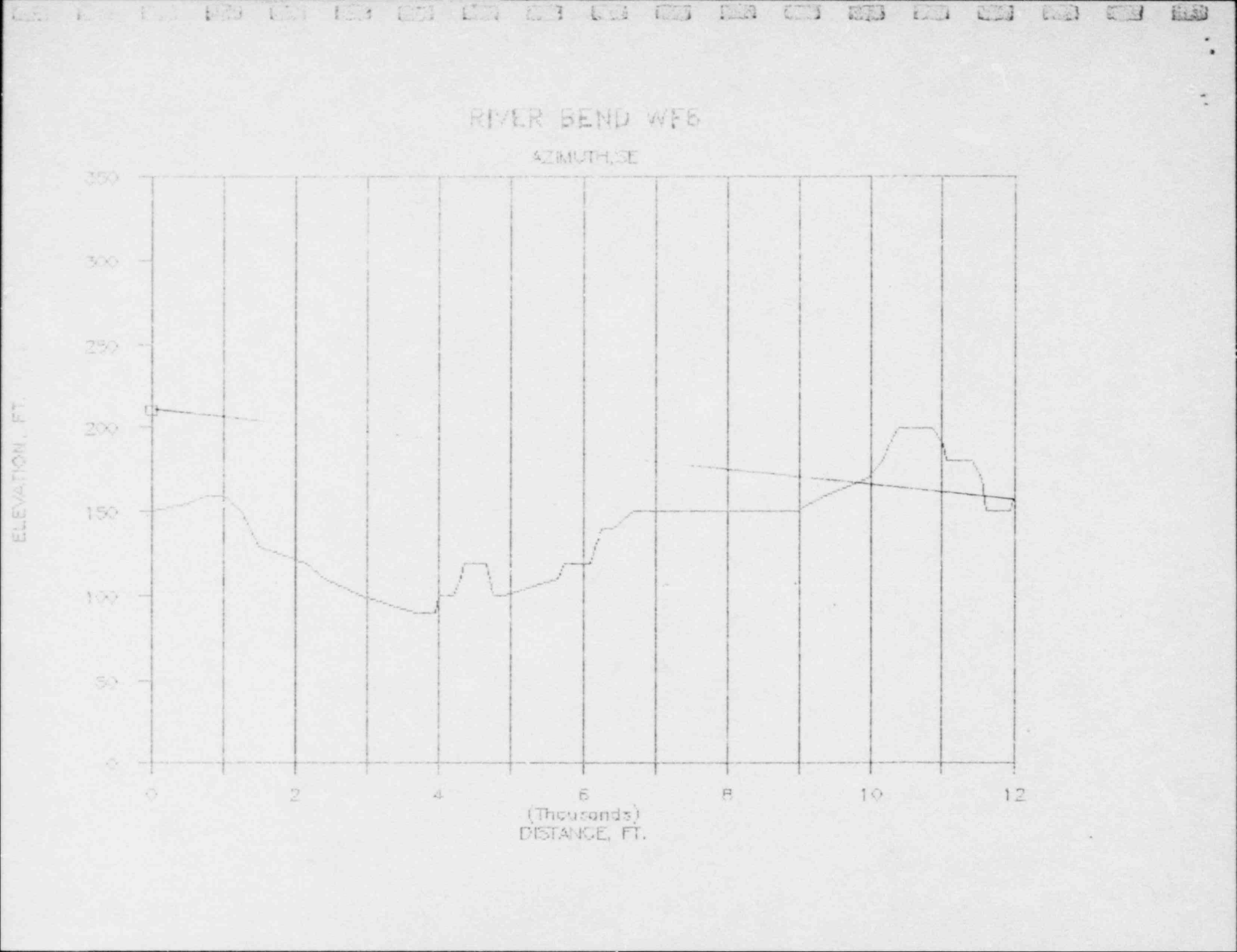

RIVER BEND WFb
AZIMUTH, SSW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND WF6

AZIMUTH,S

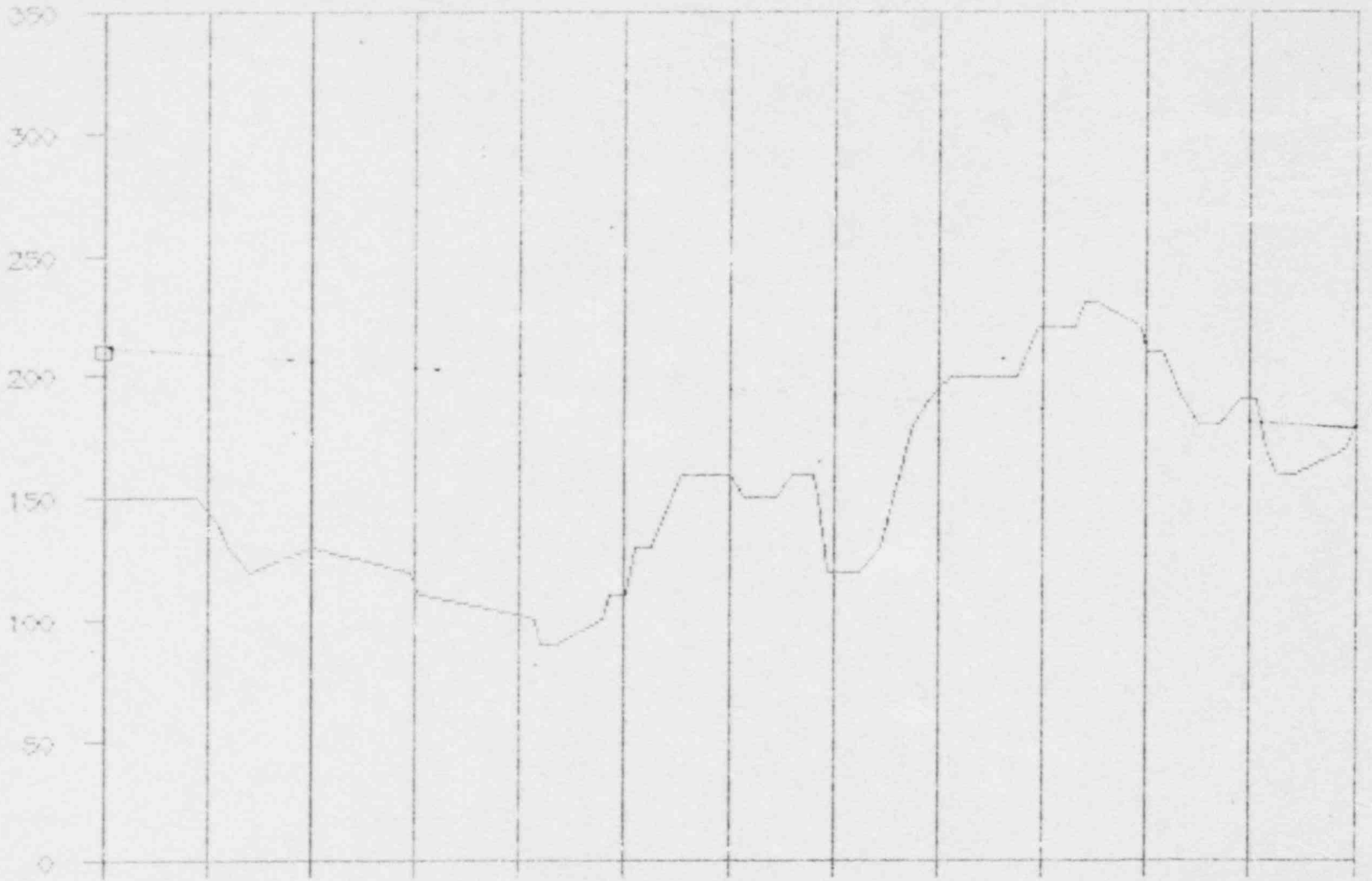



RIVER BEND WFS
AZIMUTH, 55E
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.


RIVER BEND WF6
AZIMUTH, SE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND WF8

AZIMUTH, ESE



GULF STATES UTILITIES
RIVER BEND SIREN #WF6-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	155.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	151.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	120.00	SOFT	0.	NO	0.	0.
4	4000.	90.00	110.00	SOFT	0.	NO	0.	0.
5	6000.	90.00	175.00	SOFT	0.	NO	0.	0.
6	8000.	90.00	190.00	SOFT	0.	YES	7000.	210.
7	12000.	90.00	210.00	SOFT	0.	YES	8350.	220.
8	500.	67.50	153.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	150.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	130.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	120.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	140.00	SOFT	0.	NO	0.	0.
13	8000.	67.50	200.00	SOFT	0.	YES	7750.	210.
14	12000.	67.50	235.00	SOFT	0.	YES	8900.	250.
15	500.	45.00	153.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	150.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	145.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	105.00	SOFT	0.	YES	2500.	150.
19	6000.	45.00	100.00	SOFT	0.	NO	0.	0.
20	8000.	45.00	150.00	SOFT	0.	NO	0.	0.
21	12000.	45.00	180.00	SOFT	0.	NO	0.	0.
22	500.	22.50	150.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	153.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	153.00	SOFT	0.	NO	0.	0.
25	4000.	22.50	160.00	SOFT	0.	YES	3750.	180.
26	6000.	22.50	155.00	SOFT	0.	YES	3750.	180.
27	8000.	22.50	135.00	SOFT	0.	YES	3750.	180.
28	12000.	22.50	150.00	SOFT	0.	NO	0.	0.
29	500.	0.0	150.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	150.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	150.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	159.00	SOFT	0.	NO	0.	0.
33	6000.	0.0	175.00	SOFT	0.	NO	0.	0.
34	8000.	0.0	180.00	SOFT	0.	YES	7200.	200.
35	12000.	0.0	230.00	SOFT	0.	NO	0.	0.
36	500.	337.50	140.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHESY OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	145.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	145.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	155.00	SOFT	0.	NO	0.	0.
40	6000.	337.50	135.00	SOFT	0.	NO	0.	0.
41	8000.	337.50	100.00	SOFT	0.	YES	4900.	150.
42	12000.	337.50	130.00	SOFT	0.	YES	10200.	150.
43	500.	315.00	145.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	130.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	110.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	100.00	SOFT	0.	YES	3350.	120.
47	6000.	315.00	150.00	SOFT	0.	NO	0.	0.
48	8000.	315.00	140.00	SOFT	0.	YES	6950.	180.
49	12000.	315.00	210.00	SOFT	0.	YES	11200.	230.
50	500.	292.50	130.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	100.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	100.00	SOFT	0.	NO	0.	0.
53	4000.	292.50	140.00	SOFT	0.	YES	3500.	160.
54	6000.	292.50	190.00	SOFT	0.	NO	0.	0.
55	8000.	292.50	190.00	SOFT	0.	YES	7350.	220.
56	12000.	292.50	225.00	SOFT	0.	NO	0.	0.
57	500.	270.00	132.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	100.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	105.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	150.00	SOFT	0.	YES	3850.	170.
61	6000.	270.00	200.00	SOFT	0.	YES	5300.	210.
62	8000.	270.00	170.00	SOFT	0.	YES	6250.	220.
63	12000.	270.00	140.00	SOFT	0.	YES	6250.	220.
64	500.	247.50	130.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	115.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	105.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	150.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	150.00	SOFT	0.	YES	5000.	200.
69	8000.	247.50	135.00	SOFT	0.	YES	5000.	200.
70	12000.	247.50	230.00	SOFT	0.	NO	0.	0.
71	500.	225.00	130.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	125.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	105.00	SOFT	0.	NO	0.	0.
74	4000.	225.00	115.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	145.00	SOFT	0.	YES	5350.	190.
76	8000.	225.00	140.00	SOFT	0.	YES	5350.	190.
77	12000.	225.00	205.00	SOFT	0.	YES	11500.	210.
78	500.	202.50	125.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	130.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	120.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	100.00	SOFT	0.	YES	3000.	130.
82	6000.	202.50	120.00	SOFT	0.	NO	0.	0.
83	8000.	202.50	140.00	SOFT	0.	YES	6250.	160.
84	12000.	202.50	175.00	SOFT	0.	NO	0.	0.
85	500.	180.00	130.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	145.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	142.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	142.00	SOFT	0.	NO	0.	0.
89	6000.	180.00	110.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	100.00	SOFT	0.	NO	0.	0.
91	12000.	180.00	90.00	SOFT	0.	YES	11000.	100.
92	500.	157.50	150.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	150.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	135.00	SOFT	0.	NO	0.	0.
95	4000.	157.50	120.00	SOFT	0.	NO	0.	0.
96	6000.	157.50	100.00	SOFT	0.	YES	5000.	120.
97	8000.	157.50	80.00	SOFT	0.	NO	0.	0.
98	12000.	157.50	145.00	SOFT	0.	NO	0.	0.
99	500.	135.00	155.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	160.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	122.00	SOFT	0.	NO	0.	0.
102	4000.	135.00	100.00	SOFT	0.	NO	0.	0.
103	6000.	135.00	120.00	SOFT	0.	NO	0.	0.
104	8000.	135.00	150.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	160.00	SOFT	0.	YES	10400.	200.
106	500.	112.50	150.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	145.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	130.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	102.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	160.00	SOFT	0.	NO	0.	0.
111	8000.	112.50	195.00	SOFT	0.	NO	0.	0.
112	12000.	112.50	180.00	SOFT	0.	YES	9400.	230.

GULF STATES UTILITIES
RIVER BEND SIREN #WF6-WS3000R
NOISE SOURCE POWER LEVEL INPUT

NDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 210.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND SIREN #WF6-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

YEAR	SEA ON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
1986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.0

GULF STATES UTILITIES
RIVER BEND SIREN #WF6-WS3000R

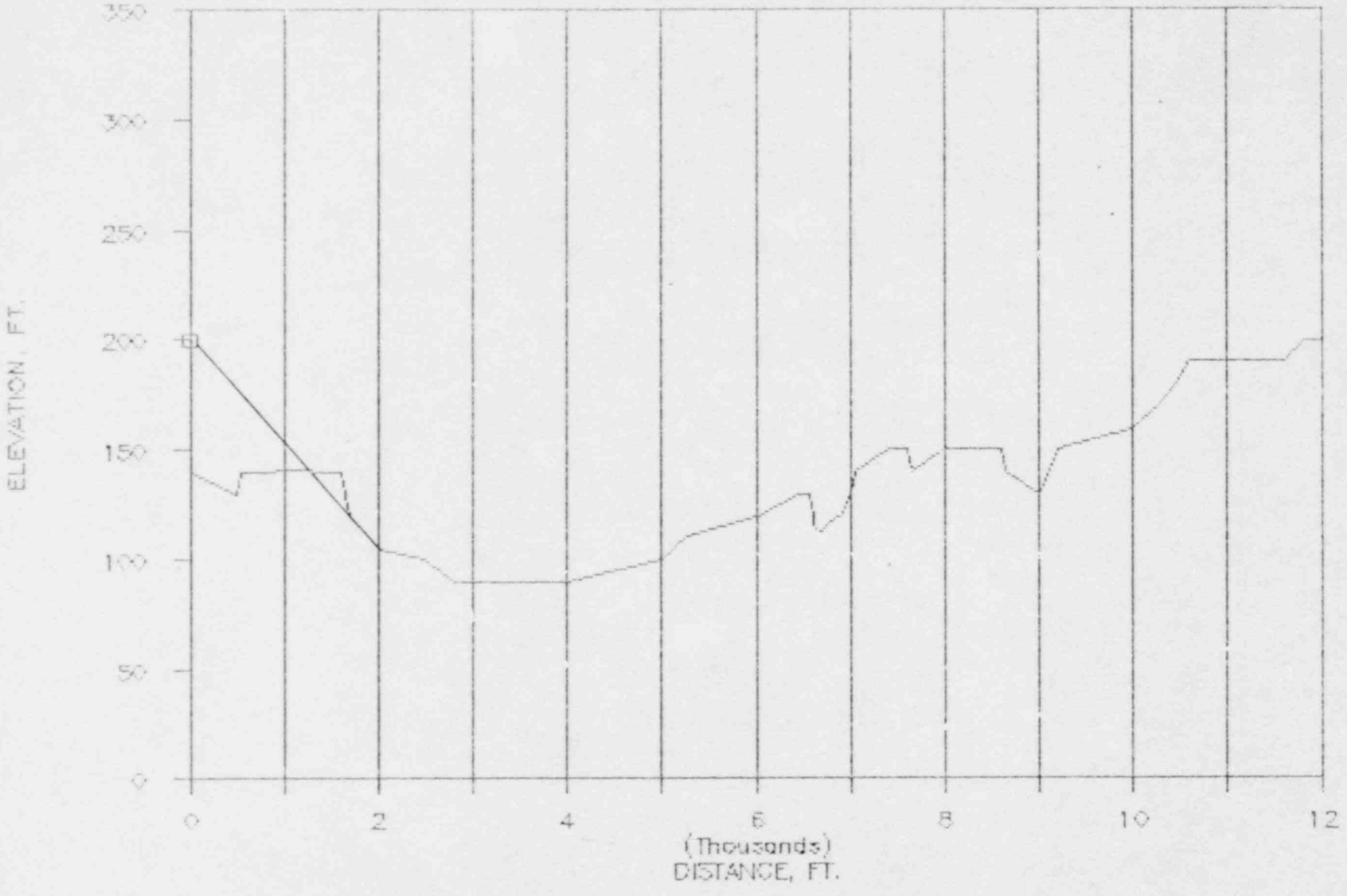
SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.7	92.3	77.7	67.7	62.2	50.9	41.6
ENE	105.7	92.3	77.7	67.7	62.2	51.4	44.4
NE	105.7	92.3	77.8	62.6	62.2	58.4	51.0
NNE	105.7	92.3	77.8	58.1	57.3	53.5	51.0
N	105.7	92.3	77.8	67.7	62.2	51.4	51.0
NNW	105.7	92.2	77.8	67.7	62.2	53.4	44.8
NW	105.7	92.2	77.7	62.8	62.2	48.3	38.8
WNW	105.6	92.2	77.7	61.2	62.2	48.5	51.0
W	105.6	92.2	77.7	56.3	56.6	48.8	43.0
WSW	105.6	92.2	77.7	67.7	51.3	50.2	51.0
SW	105.6	92.2	77.7	67.7	50.4	51.3	45.9
SSW	105.6	92.2	77.7	62.8	62.2	53.5	51.0
S	105.6	92.2	77.8	67.7	62.2	58.4	51.0
SSE	105.7	92.3	77.7	67.7	57.4	58.4	51.0
SE	105.7	92.3	77.7	67.7	62.2	58.4	42.7
ESE	105.7	92.2	77.7	67.7	62.2	58.4	42.3

RIVER BEND WF13

AZIMUTH, E



RIVER BEND WF13

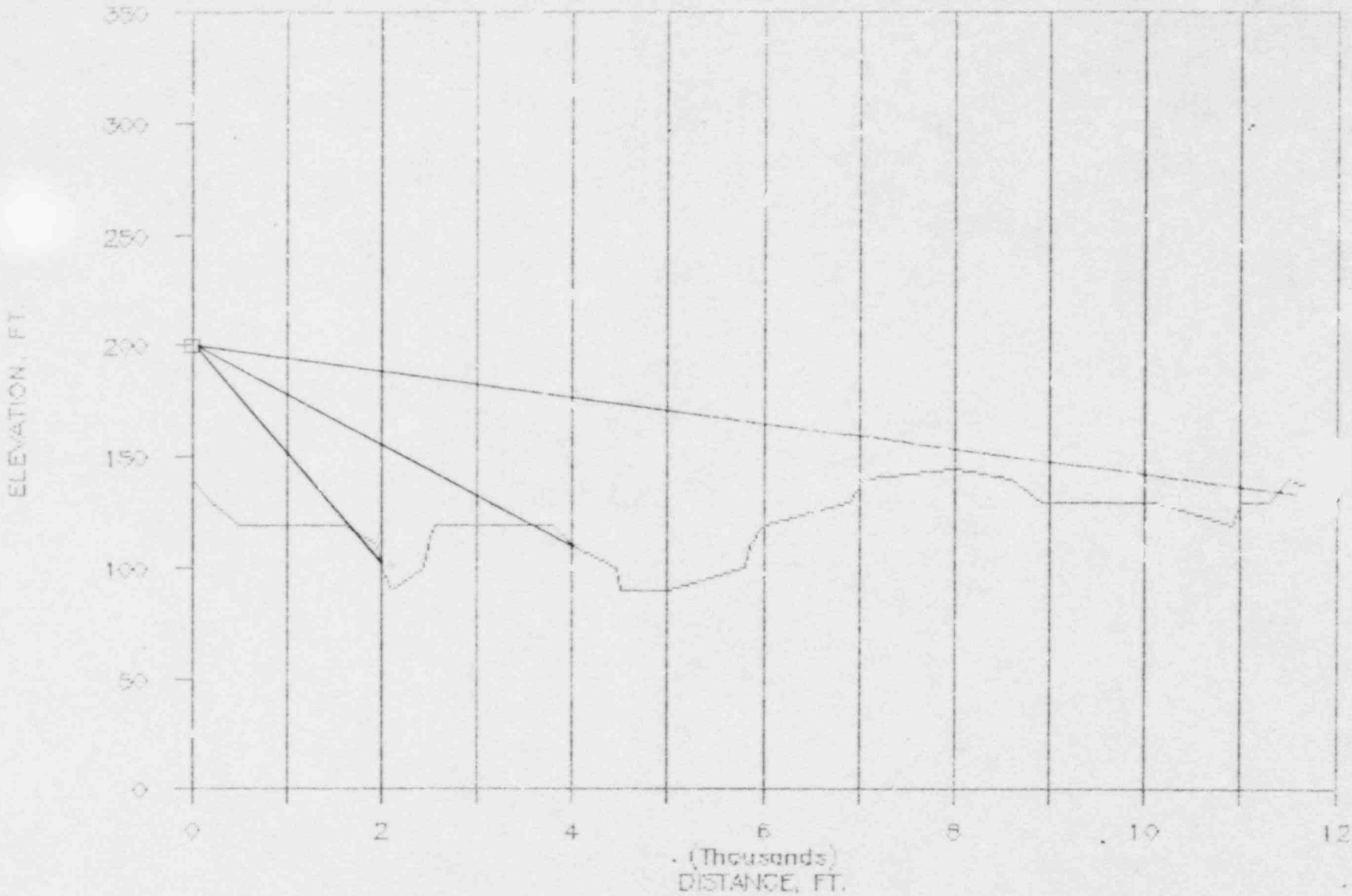
AZIMUTH, ENE

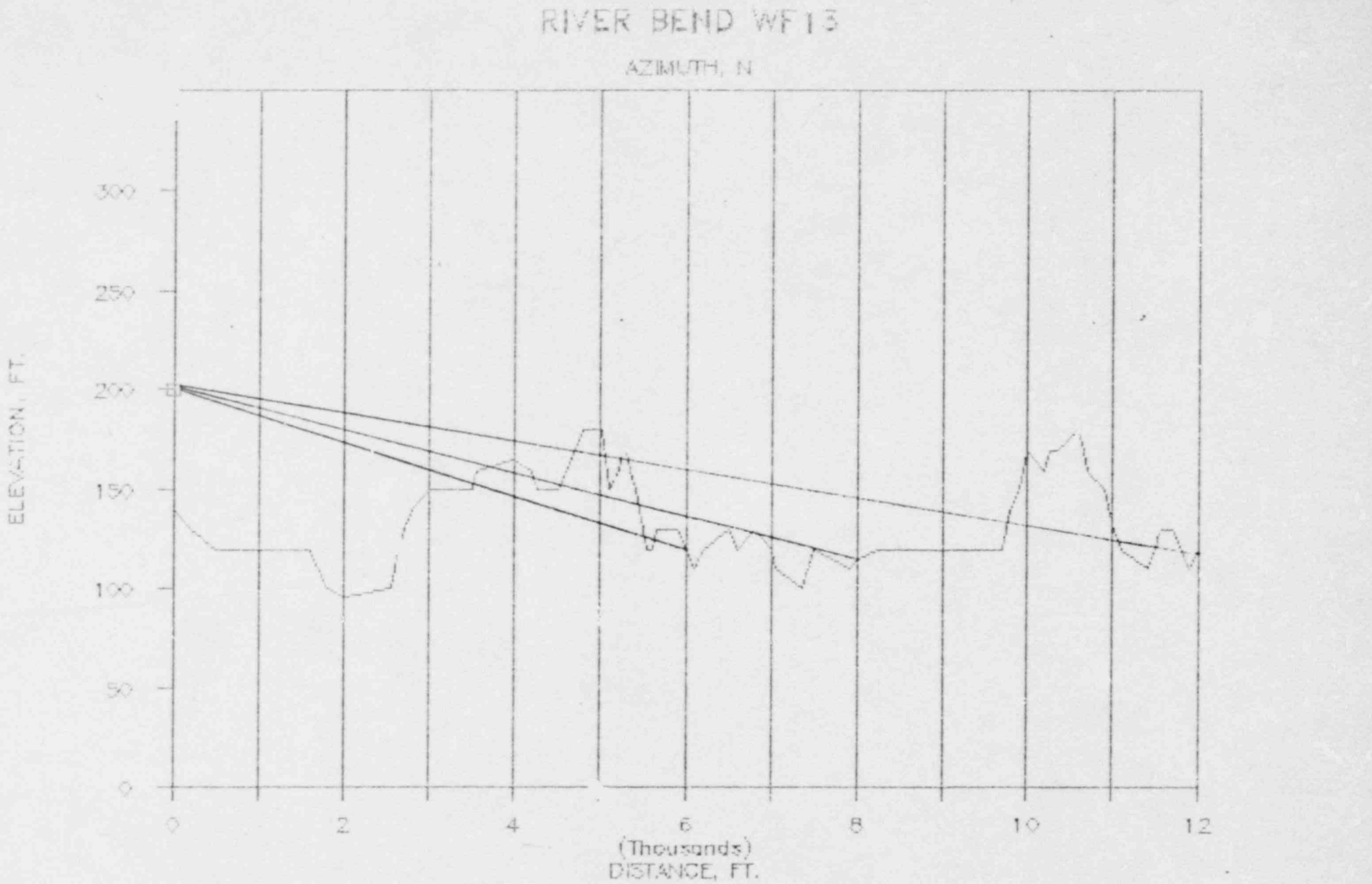
RIVER BEND WF13

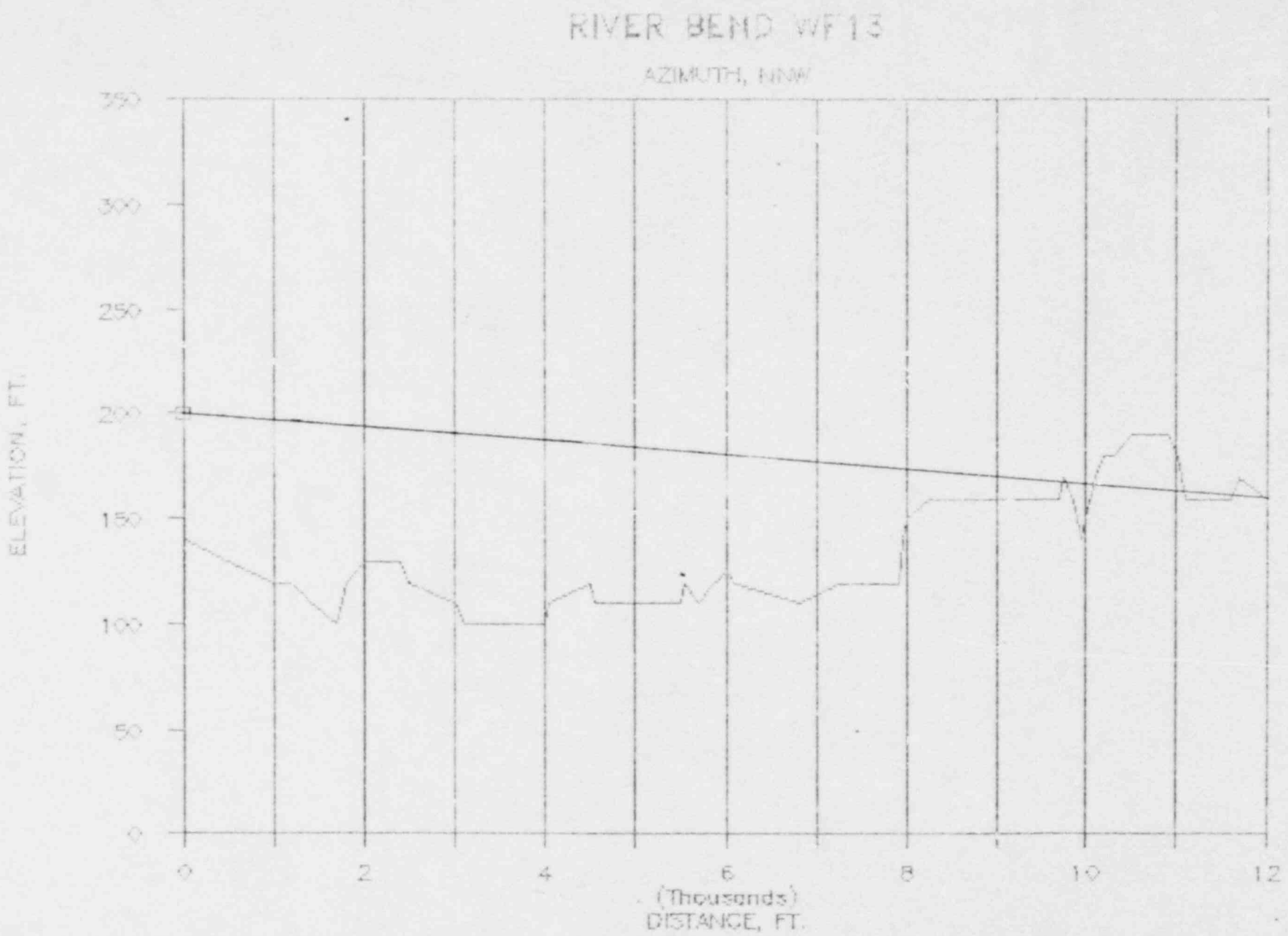
AZIMUTH, NE

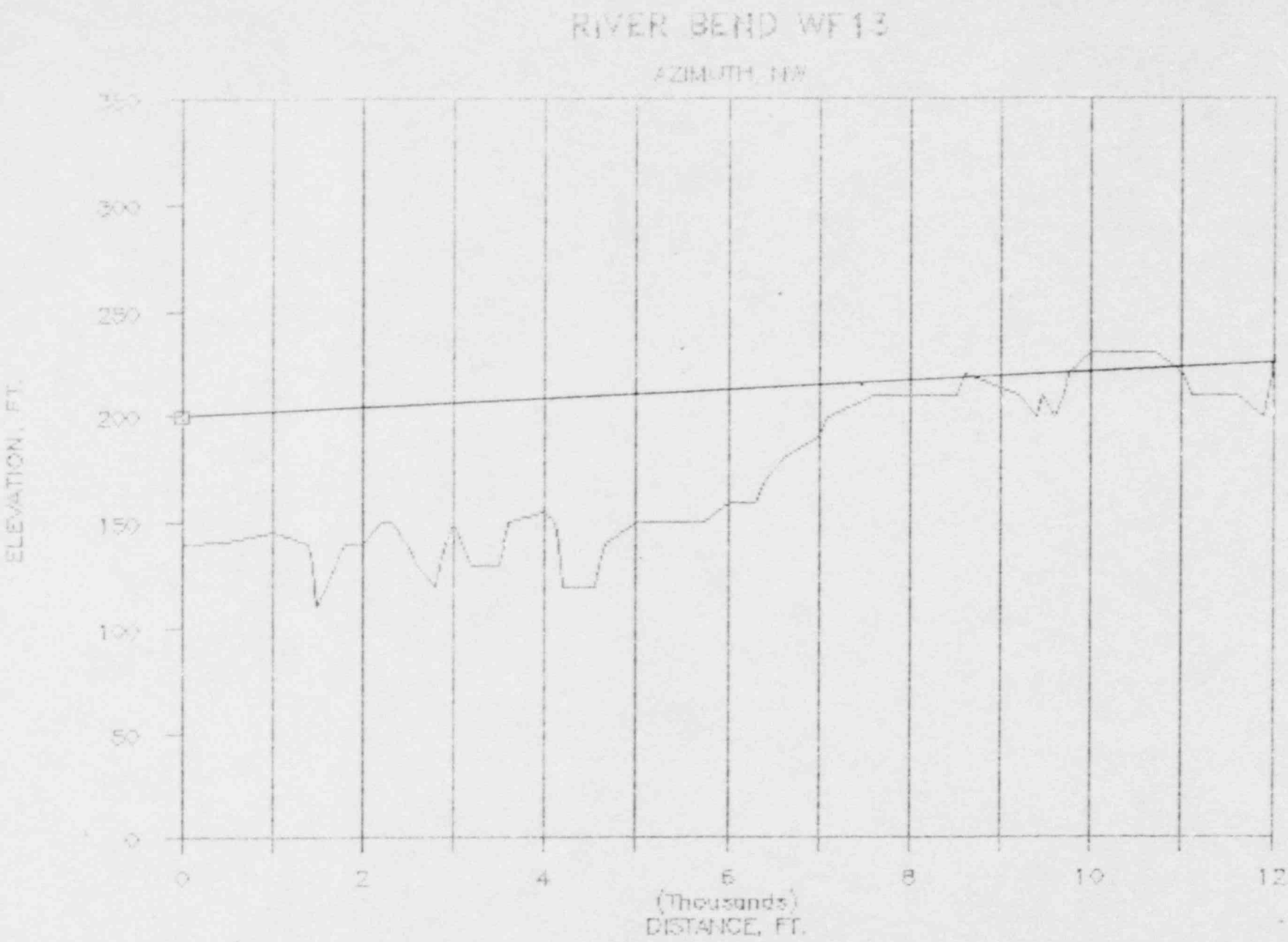
RIVER BEND WF13

AZIMUTH, NNE



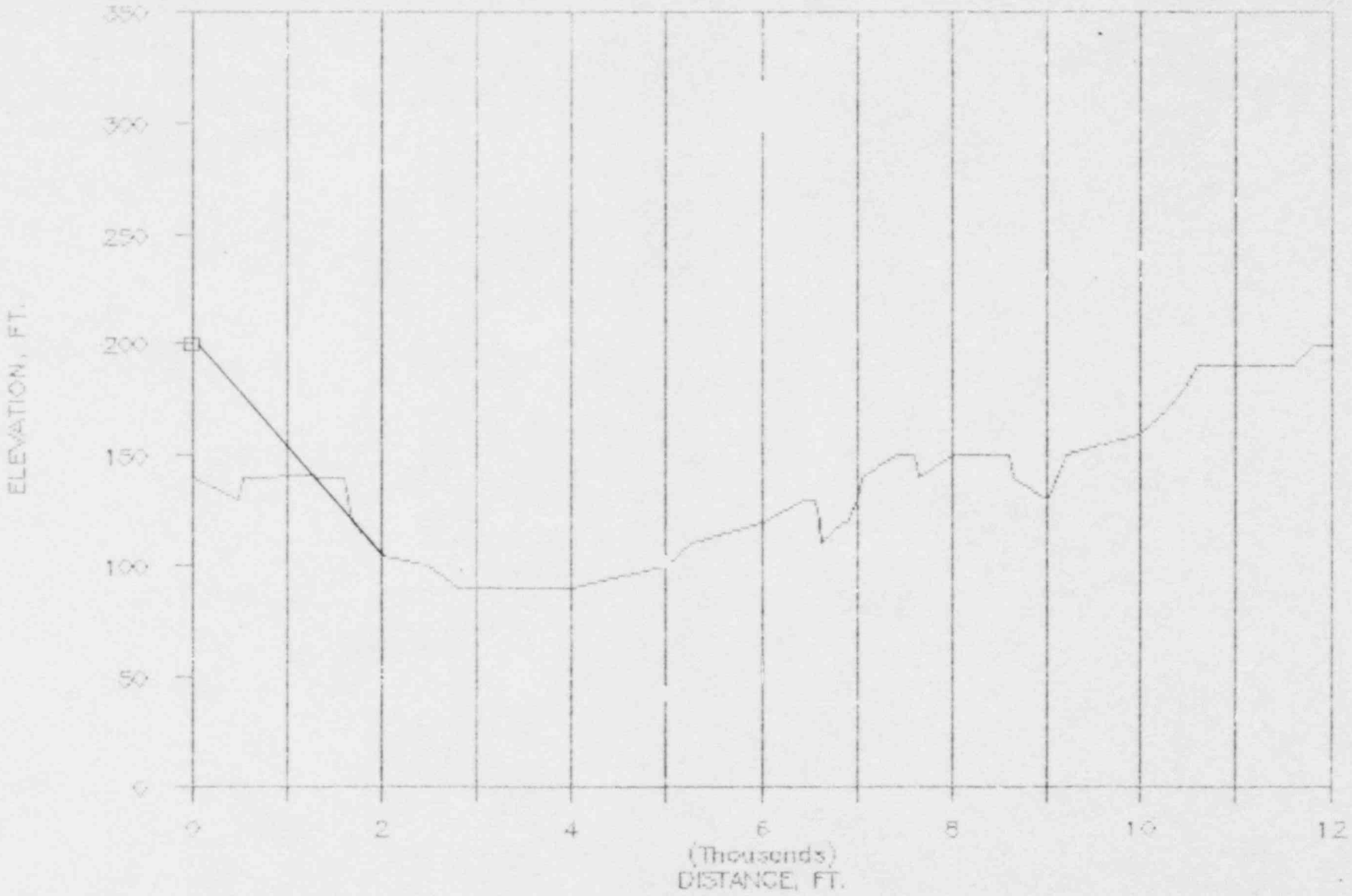

RIVER BEND WF 13
AZIMUTH, N
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.


RIVER BEND WF13
AZIMUTH, NNW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

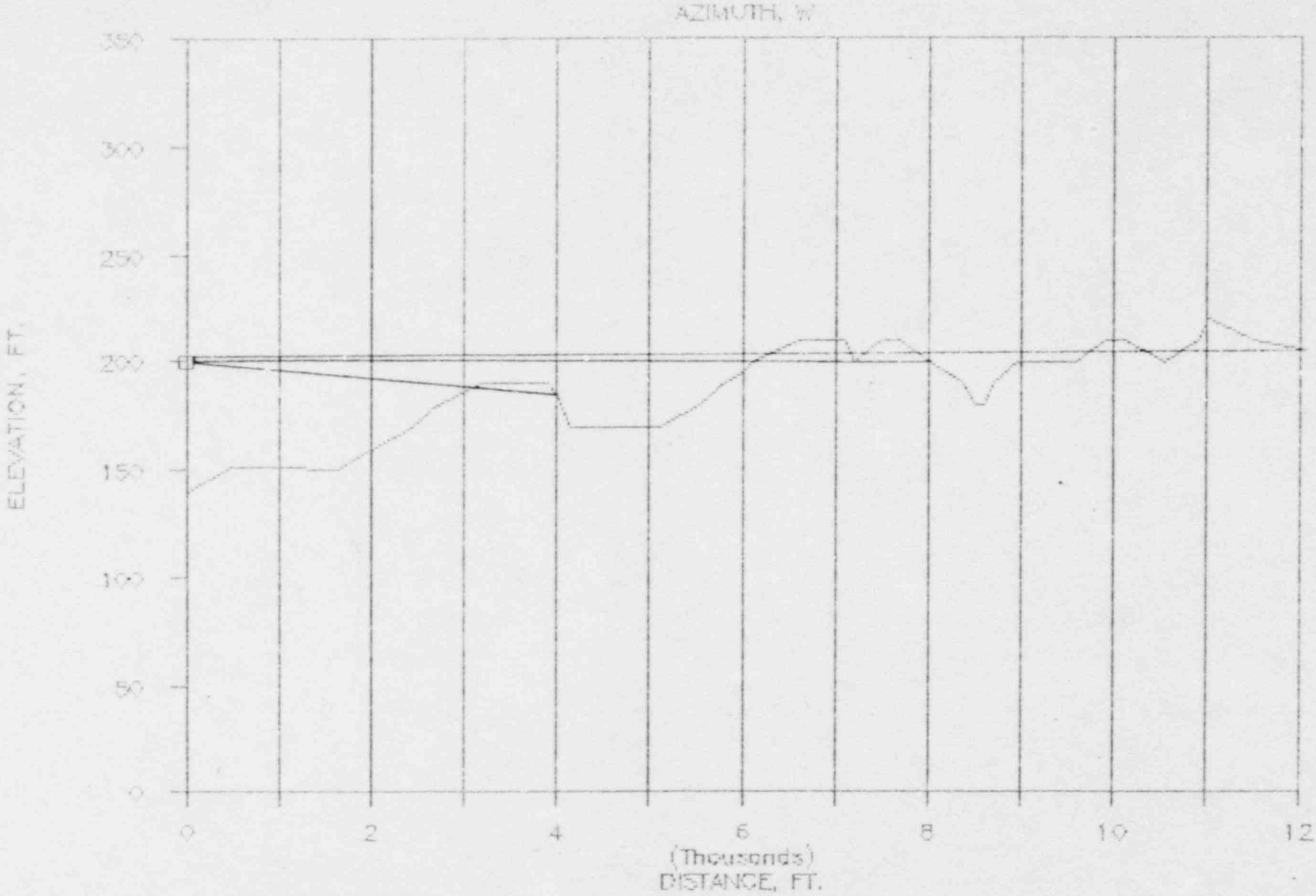

RIVER BEND WF13
AZIMUTH, NW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND WF 13

AZIMUTH, WNW

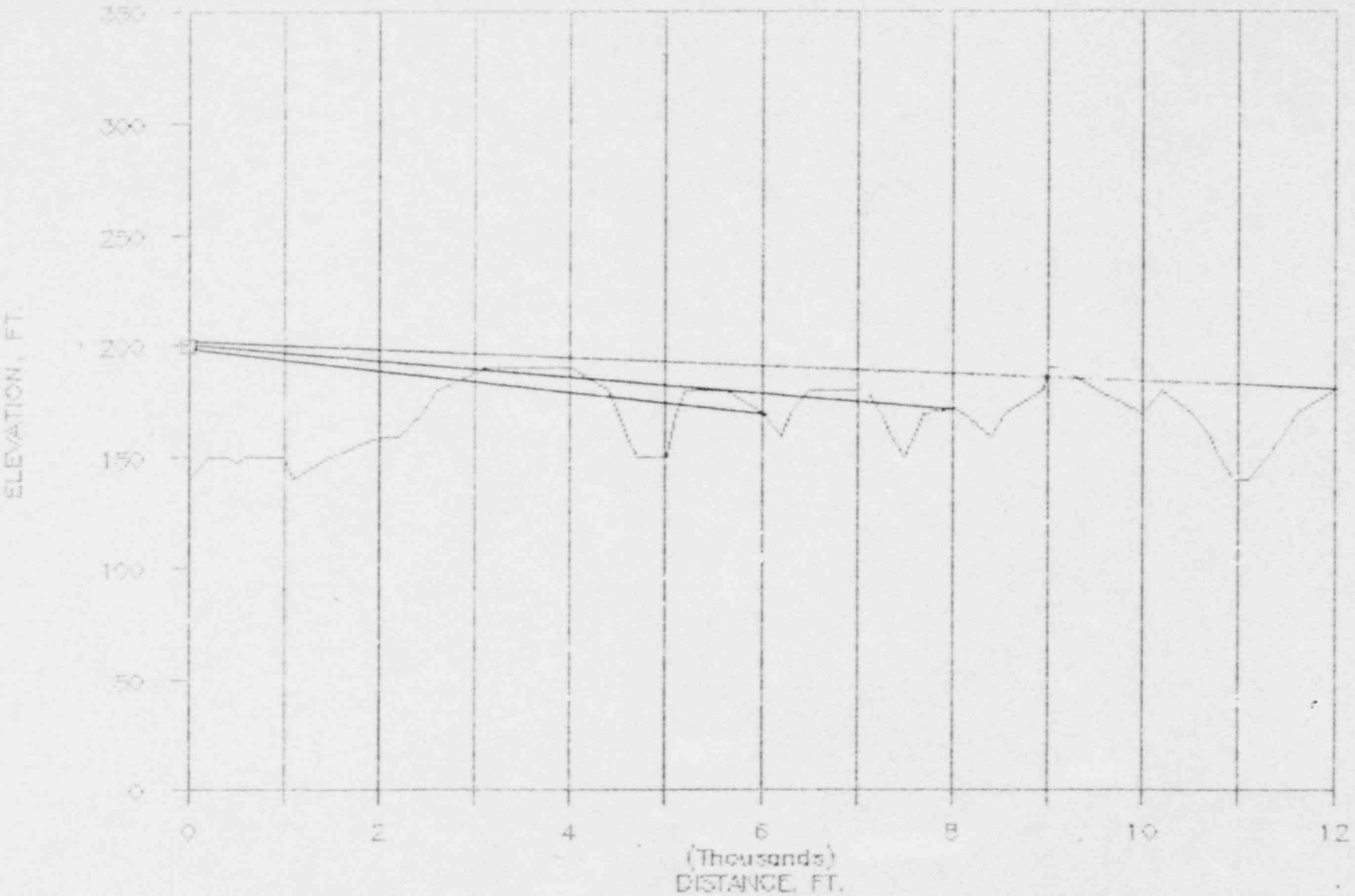


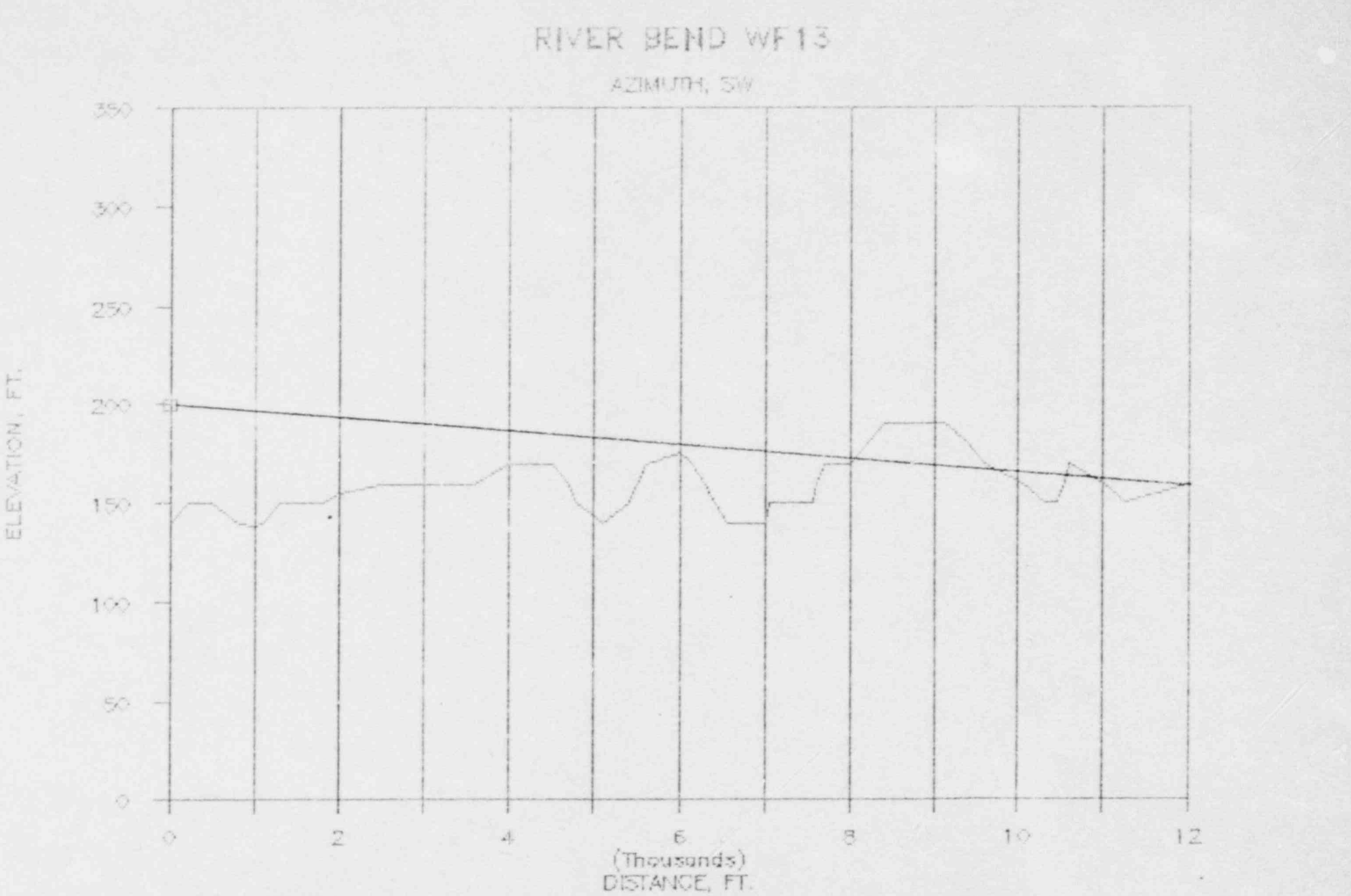
RIVER BEND WF13

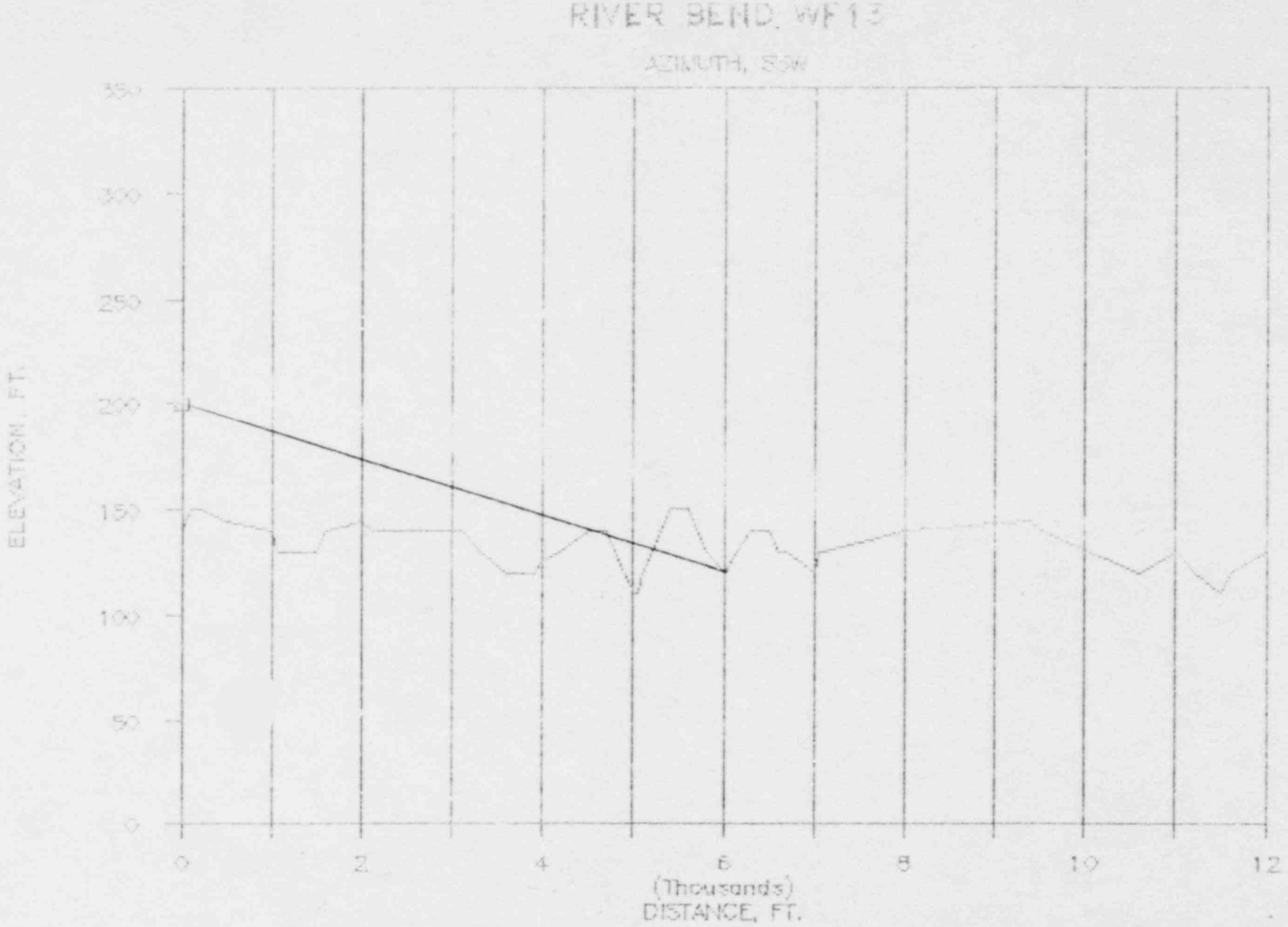


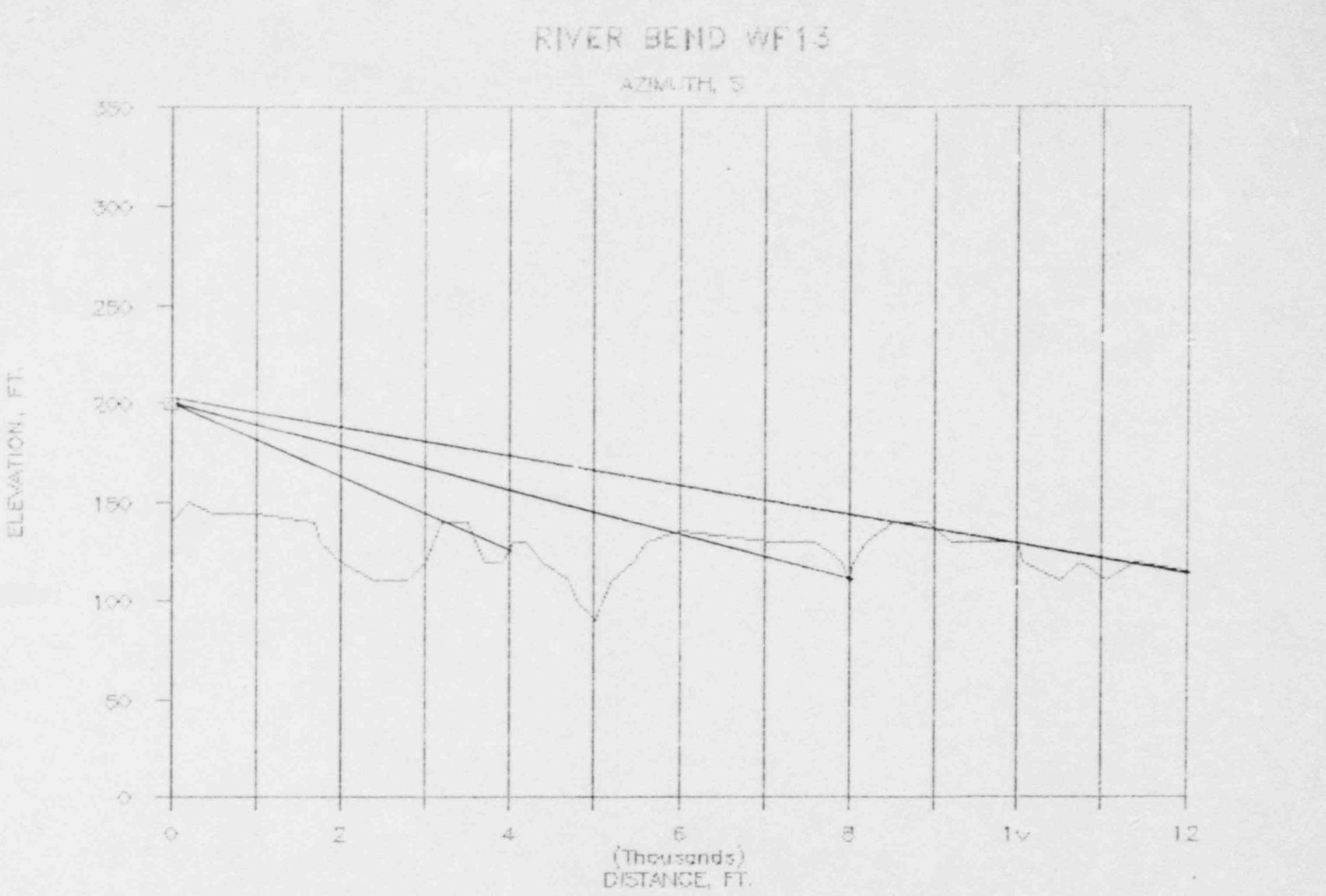
RIVER BEND WF13

AZIMUTH, WSW




RIVER BEND WF13
AZIMUTH, SW
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

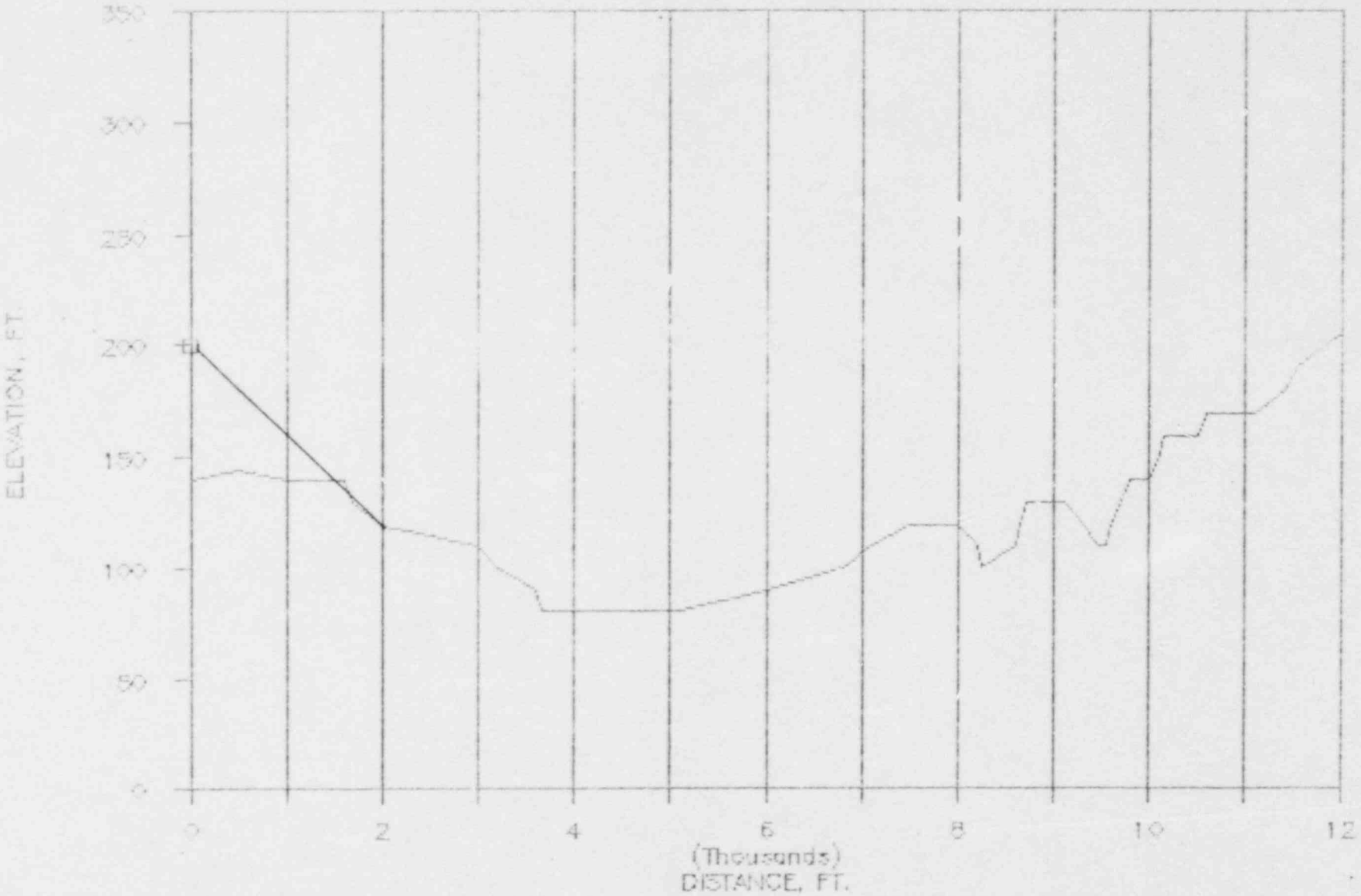

RIVER BEND, WF 13
AZIMUTH, S3W
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

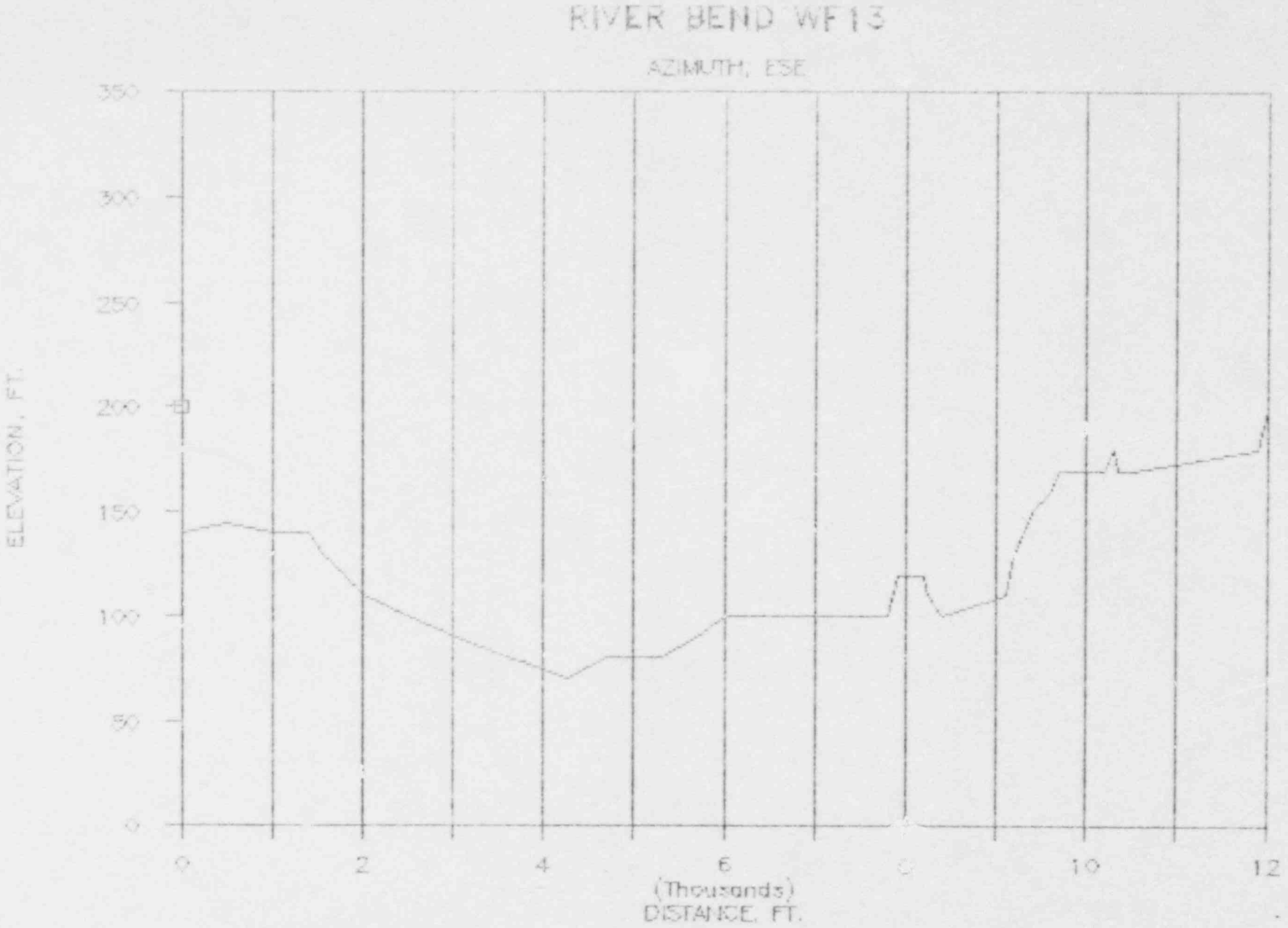

RIVER BEND WF13
AZIMUTH, S
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.


RIVER BEND WF13
AZIMUTH, SSE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

RIVER BEND WF13

AZIMUTH, SE




RIVER BEND WF13
AZIMUTH, ESE
350
300
250
200
150
100
50
0
ELEVATION, FT.
0
2
4
6
8
10
12
(Thousands)
DISTANCE, FT.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #WF13-WS3000R
SOURCE-RECEIVER TOPOGRAPHICAL INPUTS

ALL BEARINGS ARE WITH RESPECT TO THE NORTH MEASURING CLOCKWISE

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
1	500.	90.00	130.00	SOFT	0.	NO	0.	0.
2	1000.	90.00	141.00	SOFT	0.	NO	0.	0.
3	2000.	90.00	105.00	SOFT	0.	YES	1000.	141.
4	4000.	90.00	90.00	SOFT	0.	NO	0.	0.
5	6000.	90.00	90.00	SOFT	0.	NO	0.	0.
6	8000.	90.00	150.00	SOFT	0.	NO	0.	0.
7	12000.	90.00	200.00	SOFT	0.	NO	0.	0.
8	500.	67.50	120.00	SOFT	0.	NO	0.	0.
9	1000.	67.50	110.00	SOFT	0.	NO	0.	0.
10	2000.	67.50	102.00	SOFT	0.	NO	0.	0.
11	4000.	67.50	90.00	SOFT	0.	NO	0.	0.
12	6000.	67.50	90.00	SOFT	0.	NO	0.	0.
13	8000.	67.50	145.00	SOFT	0.	NO	0.	0.
14	12000.	67.50	225.00	SOFT	0.	NO	0.	0.
15	500.	45.00	118.00	SOFT	0.	NO	0.	0.
16	1000.	45.00	120.00	SOFT	0.	NO	0.	0.
17	2000.	45.00	95.00	SOFT	0.	NO	0.	0.
18	4000.	45.00	95.00	SOFT	0.	YES	3700.	110.
19	6000.	45.00	113.00	SOFT	0.	NO	0.	0.
20	8000.	45.00	90.00	SOFT	0.	NO	0.	0.
21	12000.	45.00	165.00	SOFT	0.	NO	0.	0.
22	500.	22.50	120.00	SOFT	0.	NO	0.	0.
23	1000.	22.50	120.00	SOFT	0.	NO	0.	0.
24	2000.	22.50	100.00	SOFT	0.	YES	1950.	110.
25	4000.	22.50	110.00	SOFT	0.	YES	3800.	120.
26	6000.	22.50	120.00	SOFT	0.	NO	0.	0.
27	8000.	22.50	145.00	SOFT	0.	NO	0.	0.
28	12000.	22.50	132.00	SOFT	0.	YES	11500.	140.
29	500.	0.0	120.00	SOFT	0.	NO	0.	0.
30	1000.	0.0	120.00	SOFT	0.	NO	0.	0.
31	2000.	0.0	95.00	SOFT	0.	NO	0.	0.
32	4000.	0.0	165.00	SOFT	0.	NO	0.	0.
33	6000.	0.0	120.00	SOFT	0.	YES	5000.	180.
34	8000.	0.0	115.00	SOFT	0.	YES	5000.	180.
35	12000.	0.0	120.00	SOFT	0.	YES	10600.	180.
36	500.	337.50	130.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
37	1000.	337.50	120.00	SOFT	0.	NO	0.	0.
38	2000.	337.50	130.00	SOFT	0.	NO	0.	0.
39	4000.	337.50	100.00	SOFT	0.	NO	0.	0.
40	6000.	337.50	125.00	SOFT	0.	NO	0.	0.
41	8000.	337.50	150.00	SOFT	0.	NO	0.	0.
42	12000.	337.50	160.00	SOFT	0.	YES	10900.	190.
43	500.	315.00	141.00	SOFT	0.	NO	0.	0.
44	1000.	315.00	146.00	SOFT	0.	NO	0.	0.
45	2000.	315.00	140.00	SOFT	0.	NO	0.	0.
46	4000.	315.00	155.00	SOFT	0.	NO	0.	0.
47	6000.	315.00	160.00	SOFT	0.	NO	0.	0.
48	8000.	315.00	210.00	SOFT	0.	NO	0.	0.
49	12000.	315.00	230.00	SOFT	0.	YES	10700.	230.
50	500.	292.50	151.00	SOFT	0.	NO	0.	0.
51	1000.	292.50	152.00	SOFT	0.	NO	0.	0.
52	2000.	292.50	155.00	SOFT	0.	YES	1000.	152.
53	4000.	292.50	192.00	SOFT	0.	NO	0.	0.
54	6000.	292.50	205.00	SOFT	0.	NO	0.	0.
55	8000.	292.50	170.00	SOFT	0.	NO	0.	0.
56	12000.	292.50	240.00	SOFT	0.	NO	0.	0.
57	500.	270.00	152.00	SOFT	0.	NO	0.	0.
58	1000.	270.00	152.00	SOFT	0.	NO	0.	0.
59	2000.	270.00	160.00	SOFT	0.	NO	0.	0.
60	4000.	270.00	185.00	SOFT	0.	YES	3900.	190.
61	6000.	270.00	195.00	SOFT	0.	NO	0.	0.
62	8000.	270.00	200.00	SOFT	0.	YES	7700.	210.
63	12000.	270.00	205.00	SOFT	0.	YES	11000.	220.
64	500.	247.50	148.00	SOFT	0.	NO	0.	0.
65	1000.	247.50	150.00	SOFT	0.	NO	0.	0.
66	2000.	247.50	160.00	SOFT	0.	NO	0.	0.
67	4000.	247.50	190.00	SOFT	0.	NO	0.	0.
68	6000.	247.50	170.00	SOFT	0.	YES	4000.	190.
69	8000.	247.50	172.00	SOFT	0.	YES	4000.	190.
70	12000.	247.50	180.00	SOFT	0.	YES	9100.	190.
71	500.	225.00	150.00	SOFT	0.	NO	0.	0.
72	1000.	225.00	139.00	SOFT	0.	NO	0.	0.

GRID POINT	DISTANCE	BEARING	HEIGHT	GROUND TYPE	FOLIAGE PENETRATION	INTERVENING OBSTRUCTIONS	DISTANCE TO HIGHEST OBSTRUCTION FROM SOURCE	HEIGHT OF OBSTRUCTION
73	2000.	225.00	155.00	SOFT	0.	NO	0.	0.
74	4000.	225.00	170.00	SOFT	0.	NO	0.	0.
75	6000.	225.00	175.00	SOFT	0.	NO	0.	0.
76	8000.	225.00	170.00	SOFT	0.	NO	0.	0.
77	12000.	225.00	160.00	SOFT	0.	YES	9100.	190.
78	500.	202.50	145.00	SOFT	0.	NO	0.	0.
79	1000.	202.50	140.00	SOFT	0.	NO	0.	0.
80	2000.	202.50	145.00	SOFT	0.	NO	0.	0.
81	4000.	202.50	125.00	SOFT	0.	NO	0.	0.
82	6000.	202.50	120.00	SOFT	0.	YES	5600.	150.
83	8000.	202.50	145.00	SOFT	0.	NO	0.	0.
84	12000.	202.50	130.00	SOFT	0.	NO	0.	0.
85	500.	180.00	145.00	SOFT	0.	NO	0.	0.
86	1000.	180.00	145.00	SOFT	0.	NO	0.	0.
87	2000.	180.00	120.00	SOFT	0.	NO	0.	0.
88	4000.	180.00	125.00	SOFT	0.	YES	3500.	140.
89	6000.	180.00	135.00	SOFT	0.	NO	0.	0.
90	8000.	180.00	110.00	SOFT	0.	YES	6000.	135.
91	12000.	180.00	115.00	SOFT	0.	YES	8900.	140.
92	500.	157.50	145.00	SOFT	0.	NO	0.	0.
93	1000.	157.50	145.00	SOFT	0.	NO	0.	0.
94	2000.	157.50	129.00	SOFT	0.	YES	1800.	140.
95	4000.	157.50	125.00	SOFT	0.	NO	0.	0.
96	6000.	157.50	82.00	SOFT	0.	YES	4000.	125.
97	8000.	157.50	75.00	SOFT	0.	NO	0.	0.
98	12000.	157.50	82.00	SOFT	0.	NO	0.	0.
99	500.	135.00	145.00	SOFT	0.	NO	0.	0.
100	1000.	135.00	140.00	SOFT	0.	NO	0.	0.
101	2000.	135.00	120.00	SOFT	0.	YES	1700.	130.
102	4000.	135.00	80.00	SOFT	0.	NO	0.	0.
103	6000.	135.00	90.00	SOFT	0.	NO	0.	0.
104	8000.	135.00	120.00	SOFT	0.	NO	0.	0.
105	12000.	135.00	205.00	SOFT	0.	NO	0.	0.
106	500.	112.50	145.00	SOFT	0.	NO	0.	0.
107	1000.	112.50	140.00	SOFT	0.	NO	0.	0.
108	2000.	112.50	110.00	SOFT	0.	NO	0.	0.
109	4000.	112.50	75.00	SOFT	0.	NO	0.	0.
110	6000.	112.50	100.00	SOFT	0.	NO	0.	0.
111	8000.	112.50	120.00	SOFT	0.	NO	0.	0.
112	12000.	112.50	200.00	SOFT	0.	NO	0.	0.

GULF STATES UTILITIES
RIVER BEND ANS SIREN #WF13-WS3000R
NOISE SOURCE POWER LEVEL INPUT

INDEX	SOURCE	DBA	DBC	31.5	63	125	250	500	1000	2000	4000	8000 (HZ)
1	RIVER BEND - WS3000R	158.9	158.9	0.0	0.0	0.0	0.0	147.0	158.0	149.0	141.0	134.0

XO= 0.0 YO= 0.0 ZO= 200.00 HEIGHT ABOVE GROUND= 60.00

GULF STATES UTILITIES
RIVER BEND ANS SIREN #WF13-WS3000R
METEOROLOGICAL INPUT CONDITIONS

H1= 9.14 METERS H2= 45.72 METERS

YEAR	SEASON	MONTH	DATE	HOUR	WIND DIRECTION	WIND SPEED(MPS) H1	WIND SPEED(MPS) H2	TEMPERATURE(C) H1	TEMPERATURE(C) H2	RELATIVE HUMIDITY	BAROMETRIC PRESSURE(MM OF HG)
986		6	24	12	24.0	1.9	2.4	31.6	30.8	62.0	763.0

GULF STATES UTILITIES
RIVER BEND ANS SIREN #WF13-WS3000R

SOUND PRESSURE LEVELS IN DBC
UNDER MET CONDITION 1

DISTANCE IN FEET

AZIMUTH	500.	1000.	2000.	4000.	6000.	8000.	12000.
E	105.7	92.3	71.1	67.7	62.2	57.7	46.7
ENE	105.6	92.2	77.7	67.7	62.2	58.4	50.4
NE	105.6	92.2	77.7	61.7	62.2	58.4	51.0
NNE	105.6	92.2	67.9	61.9	62.2	58.4	45.9
N	105.6	92.2	77.7	67.7	50.2	50.6	40.0
NNW	105.7	92.2	77.7	67.7	62.2	58.4	41.9
NW	105.7	92.3	77.8	67.7	62.2	57.4	41.4
WNW	105.7	92.3	67.5	67.7	62.2	58.4	51.0
W	105.7	92.3	77.8	61.5	62.2	51.6	44.7
WSW	105.7	92.3	77.8	67.7	56.9	53.6	46.1
SW	105.7	92.3	77.8	67.7	62.2	58.4	45.1
SSW	105.7	92.3	77.8	67.7	51.8	58.4	51.0
S	105.7	92.3	77.7	62.4	62.2	53.6	46.2
SSE	105.7	92.3	72.3	67.7	57.4	58.4	51.0
SE	105.7	92.3	72.8	67.7	62.2	58.4	51.0
ESE	105.7	92.3	77.7	67.7	62.2	58.4	51.0