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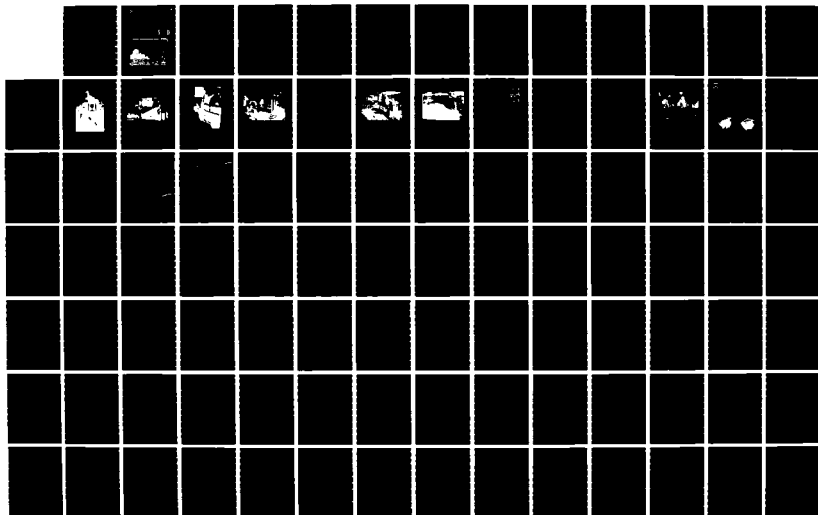
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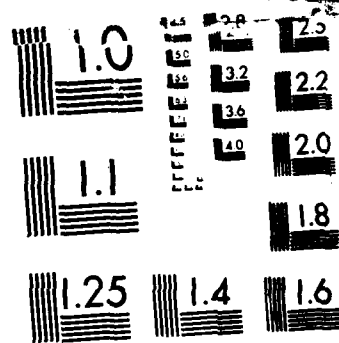
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US Army Corps
of Engineers
Los Angeles District

COAST OF CALIFORNIA
STORM AND TIDAL WAVES STUDY



**NEARSHORE BATHYMETRIC
SURVEY REPORT
SAN DIEGO REGION
NOV 83 — FEB 85**

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) -- THE PURPOSE OF REPORT IS TO PRESENT THE RESULTS OF BYATHYMETRIC SURVEYS OF THE NEARSHORE REGION TO A DEPTH OF 6 METERS RELATIVE TO MEAN LOWER LOW WATER (MLLW) AT APPROXIMATELY ONE HUNDRED (100) SELECTED PROFILE STATIONS BETWEEN DANA POINT AND THE UNITED STATES/MEXICAN BORDER. SEDIMENT SAMPLING AND MEASUREMENT OF OFFSHORE SURVEY STAKES/REFERENCE RODS) AT SPECIFIED RANGES AND DEPTHS WERE ALSO CONDUCTED TO COMPLEMENT THESE NEARSHORE BATHYMETRIC SURVEYS. THE FIRST NEARSHORE BATHYMETRIC SURVEY REPORT (CCSTWS, 84-2, APRIL 1984) DISCUSSED IN DETAIL THE SURVEYING TECHNIQUES		

AND METHODOLOGIES USED TO ACCOMPLISH THE GOALS OF THIS STUDY AND PROVIDED NEARSHORE PROFILE, SEDIMENT SAMPLE AND REFERENCE ROD DATA FOR SURVEY 1 (OCTOBER 1983 TO JANUARY 1984). THIS REPORT WILL SUPPLEMENT AND SUPERSEDE SURVEY REPORT NO. 1 BY PROVIDING AN UPDATED DISCUSSION ON PROFILER SYSTEM MODIFICATIONS, CORRECTING EUONEOUS SURVEY AND SEDIMENT SAMPLE DATA ENTRIES FOR SURVEY NO. 1 AND PROVIDE ALL ADDITIONAL SURVEY AND SEDIMENT SAMPLE DATA FOR SURVEY 2 (FEBRUARY, 1984- JULY, 1984) AND SURVEY 3 (OCTOBER, 1984- FEBRUARY 1985). ALL REFERENCE ROD DATA RE SUMMARIZED AND TABULATED AND UNIT VOLUME CHANGE REPORT BECAUSE OF SUSPECT DATA POINTS IN THE OFFSHORE REGION DUE TO THE CABLE DESIGN AT THAT TIME. IT IS RECOMMENDED THAT SURVEY 1 DATA NOT BE USED AS THE BASELINE SURVEY UNTIL A LARGER SURVEY DATA BASE IS OBTAINED FOR COMPARATIVE ANALYSIS.

NEARSHORE BATHYMETRIC SURVEY REPORT
SAN DIEGO REGION, DANA POINT TO MEXICAN BORDER
(Nov 83 - Feb 85)
Ref. No. CCSTWS 85-3

Coast of California Storm and Tidal Waves Study
Interim Data Report

U.S. Army Corps of Engineers
Los Angeles District, Planning Division
Coastal Resources Branch
P.O. Box 2711
Los Angeles, California 90053

DECEMBER 1985

prepared by

Ocean Engineering Research Group
Institute of Marine Resources
Scripps Institution of Oceanography
University of California at San Diego
La Jolla, California

Syllabus

This report contains all nearshore survey, sediment sample, and reference rod data collected between October 1983 and February 1985 under Contract No. DACW09-83-C-0045 for the "Coast of California Storm and Tidal Waves Study." This report will supplement and update "Nearshore Bathymetric Survey Report, No. 1" which was published in April 1984. Techniques and methodologies used to accomplish the goals of this study are presented. Nearshore survey data are presented in plot and tabular form. Volume changes between surveys are provided. A brief discussion on the offshore survey stake (reference rod) and sediment sampling is included. This report was prepared by C. Gable, J. Wanetick, S. Schuette, J. DeGraff, J. Thomas and R. Seymour of the Ocean Engineering Research Group, Institute of Marine Resources, Scripps Institution of Oceanography.

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1 Introduction

This Nearshore Bathymetric Survey Report is the second and final survey report as specified under the scope of work for contract number DACW09-83-C-0045 for the "Coast of California Storm and Tidal Waves Study".

The purpose of this contract was to obtain bathymetric surveys of the nearshore region to a depth of -6 meters relative to mean lower low water (MLLW) at approximately one hundred (100) selected profile stations between Dana Point and the United States/Mexican border. Sediment sampling and the measurement of offshore survey stakes (reference rods) at specified ranges and depths were also conducted to complement these nearshore bathymetric surveys. The first Nearshore Bathymetric Survey Report (CCSTWS, 84-2, April, 1984) discussed in detail the surveying techniques and methodologies used to accomplish the goals of this study and provided nearshore profile, sediment sample, and reference rod data for Survey 1 (October 1983 to January 1984). This report will supplement and supersede Survey Report No. 1 by providing an updated discussion on profiler system modifications, correcting erroneous survey and sediment sample data entries for Survey No. 1, and provide all additional survey and sediment sample data for Survey 2 (February, 1984-July, 1984) and Survey 3 (October, 1984 - February, 1985). All reference rod data are summarized and tabulated and unit volume change reports for Surveys 2 and 3 are provided. Survey data for Survey 1 are not included in the unit volume change report because of suspect data points in the offshore region due to the cable design at that time. It is recommended that Survey 1 data not be used as the baseline survey until a larger survey data base is obtained for comparative analysis.

2 Objective

To collect bathymetric survey, sediment sample, and reference rod data at approximately 100 selected profile stations between Dana Point and the United States/Mexican Border to help document long term shoreline changes and quantify sediment sources, sinks and transport characteristics.

3 Approach

3.1 Profiling System

The profiling system is made up of four main components (Figure 3.1). These are: a winch for storing and retrieving cable, a distance counter for measuring the distance of the profiler offshore, a cable with a pressure transducer on each end and a battery powered data logger which stores the information collected by each of the sensors.

3.1.1 Theory

Pressure at the bottom of a fluid column is proportional to the height of the column. By measuring this pressure, given a fluid of known density, the height of the fluid column is obtained. In the Hydrostatic Profiler, the fluid column is a tube filled with degassed, deionized water. Each end of the tube is fitted with a pressure transducer. One transducer remains stationary (Reference End), while the other is towed along the profile range line (Profiling End).

Environmental noise, such as waves striking the cable in the swash zone, is seen at both ends of the cable. Taking the difference between the pressures at each end of the tube allows accurate calculation of the elevation difference between the transducers.

3.1.2 Components

3.1.2.1 Cable

The cable is the heart of the hydrostatic profiling system and is a special order item. The cable used throughout Survey 1 consisted of a nylon 11 tube, 1/8" O.D. with a 0.023" wall. The tube was surrounded by 10, #22 AWG Conductors which were water blocked and then bound with mylar tape. A braided KEVLAR strength member with a breaking of 1000 pounds was then added. Finally, a polyurethane jacket for abrasion resistance was extruded yielding an outside cable diameter of 0.370" (.94 cm) and a specific gravity of 1.63. The low density of this cable resulted in excessive signal noise and suspect survey data points due to cable suspension and vibration during high wave and longshore current conditions. As a result, the cable was re-designed for Surveys 2 and 3 to achieve a higher specific gravity and eliminate excessive signal noise. To gain the specific gravity needed to weight the cable down, the existing (.94 cm) polyurethane cable jacket was surrounded by single strand steel wires forming a steel armor. A .19 cm jacket of polyethylene for abrasion resistance was then extruded on the steel armor yielding an outside diameter of 1.33 cm and a specific gravity of 2.70. The new cable performed well throughout Surveys 2 and 3 resulting in very clean data signals and accurate survey data. Figure 3.2 provides the new cable specifications.

3.1.2.2 Transducers

Two Paros Scientific Digiquartz Pressure Transducers are used in the profiling system. Environmental temperature changes affect these transducers because of their high sensitivity to minute pressure variations.

The transducer connected to the profiling end of the cable has an internal thermistor which measures the temperature of the transducer during deployment. The reference transducer is maintained at a constant temperature using a small heating unit in the transducer mounting fixture.

The reference transducer is mounted axially within the core of the winch. The profiling transducer is mounted in a waterproof pressure housing with the cable passing through a packing gland. The whole assembly is attached to an aluminium sled. The cable is attached by means of a strain relief to a towing bridle on the sled via a Preformed Line Products helical termination. Figure 3.3 provides a photo of the profiling transducer assembly and termination.

3.1.2.3 Winch

The winch (Figures 3.4 and 3.5) is capable of storing up to 610 meters (2000 feet) of 1.33 centimeter (.525 inch) diameter cable and can pay the cable out and retrieve it at speeds up to 46 meters (750 feet) per minute. The winch can be powered by a small A-C generator and can also run for eight hours on battery power. A level wind prevents damage to the cable and stores it neatly on the winch drum. The core of the winch drum has one of the pressure transducers mounted concentrically with the spin axis of the winch. The core also contains the slip rings which carry the electrical signal from the rotating winch drive to a stationary junction box.

3.1.2.4 Distance Counter

The distance counter (Figure 3.6) is used to measure the amount of cable retrieved or paid out. The counter consists of rollers and wheels to guide the cable over a calibrated counting wheel, and wipers to clean the cable. As holes in the counting wheel hub pass between an infrared transmitter and receiver, electronic

BLAKE WIRE & CABLE CORP.

19505 PACIFIC GATEWAY DRIVE, TORRANCE, CALIFORNIA 90502 (213) 515-0561

CUSTOMER: UNIVERSITY OF CALIFORNIA - SCRIPPS

RWC#: 3997

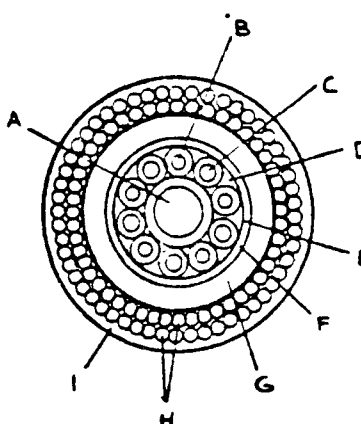
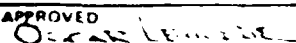
CABLE CROSS SECTION	DESCRIPTION	O.D.
	A. <u>NYLON TUBE - 1 UNIT</u> I.D. = 0.079" Burst pressure = 1,000 PSI	(INCHES) 0.125
	B. <u>SINGLE CONDUCTORS - 5 UNITS</u> AWG No. 22 (19/34) T/C wires Insulation - polypropylene	(0.032) (0.052)
	C. <u>SINGLE CONDUCTORS - 5 UNITS</u> AWG No. 20 (19/32) T/C wires Insulation - polypropylene	(0.040) (0.052)
	D. <u>WATER BLOCKING COMPOUND</u>	
DESIGN CHARACTERISTICS-NOMINAL (All values - per 1000' except as indicated)	E. <u>BINDER - ADHESIVE MYLAR TAPE</u> F. <u>STRENGTH MEMBER - KEVLAR BRAID</u> 32 ends #29/1500 denier	0.235 0.262
WEIGHT IN AIR = 235 LBS WEIGHT IN WATER = 148 LBS SPECIFIC GRAVITY = 2.70 MINIMUM BEND DIAMETER = 12 INCHES BREAKING STRENGTH COMPONENT F = 1,000 POUNDS COMPONENT H = 7,500 POUNDS NOTE: BREAKING STRENGTH VALUES ARE NOT ADDITIVE	G. <u>INNER JACKET</u> Polyurethane	0.370
	H. <u>ARMOR - STEEL WIRES</u> 58/0.020" G.I.P.S. R.H.L. 64/0.020" G.I.P.S. L.H.L.	0.410 0.450
	I. <u>OUTER JACKET</u> H.D. polyethylene	0.525
This drawing or specification is the property of Blake Wire & Cable Corporation. Copies are issued in strict confidence and shall not be reprinted, copied or disclosed either wholly or in part to a third party, without consent in writing or by conditions of contract with Blake Wire & Cable Corporation.		
DRAWN W.M.T. ENGINEER W.M.T. APPROVED 	TITLE ELECTRO-MECHANICAL HOSE CABLE - STEEL ARMOR DATE 3/12/84 FSCM 54910 SHEET OF REV DRAWING NO. BC-5237-1	

FIGURE 3.2

Cable Specifications

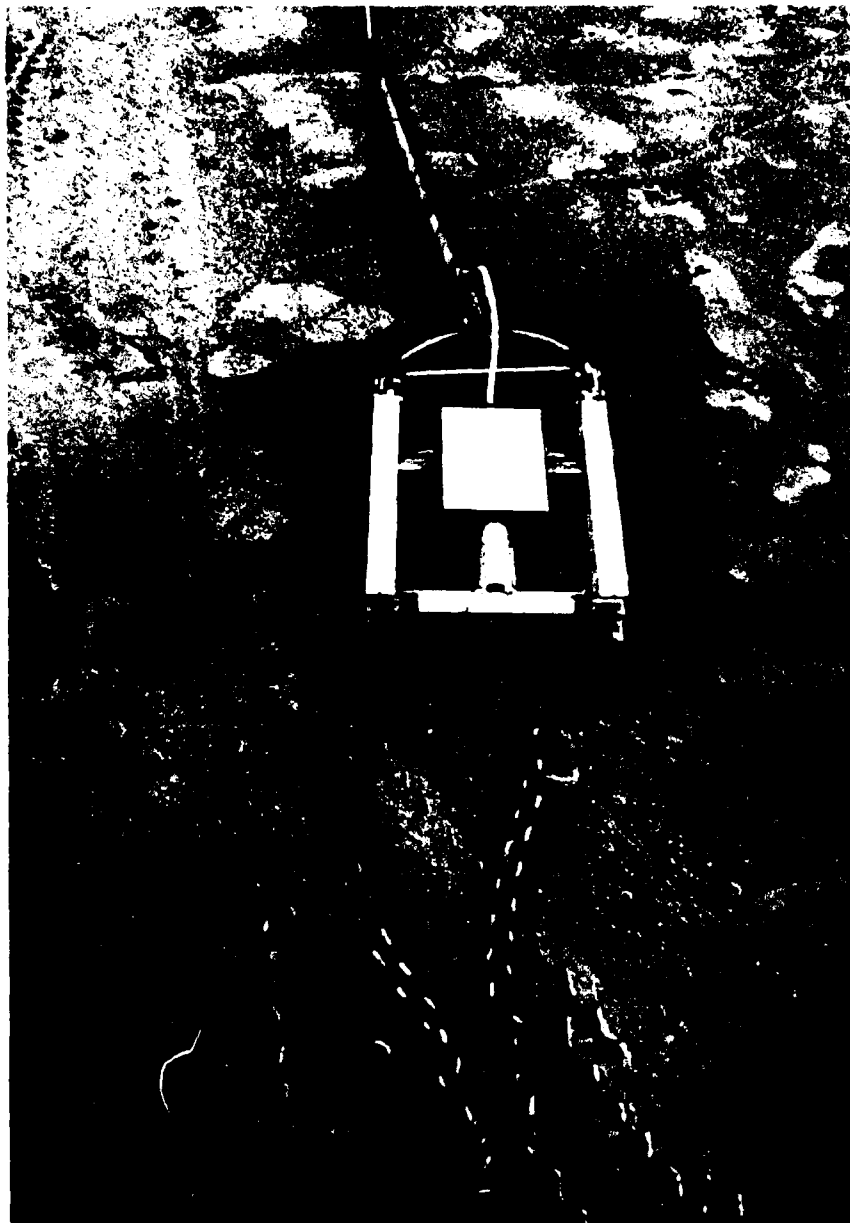


FIGURE 3.3 Profiling Transducer Assembly and Termination

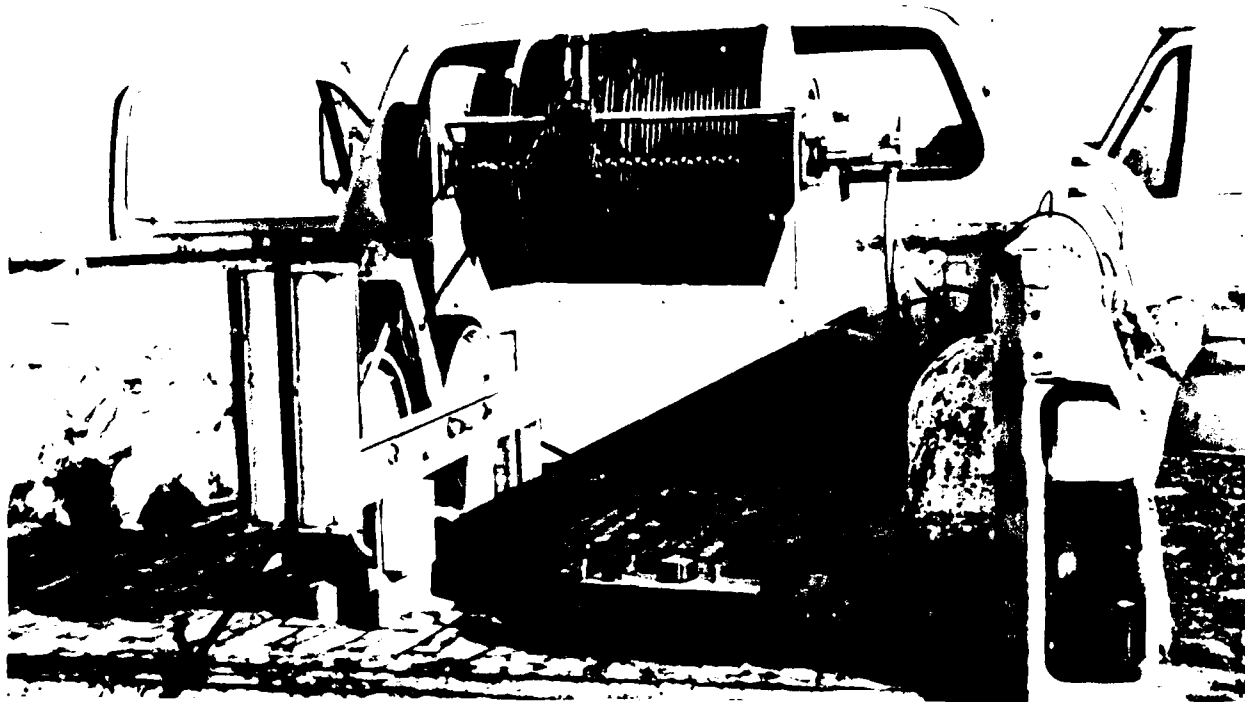


FIGURE 3.4 Winch System

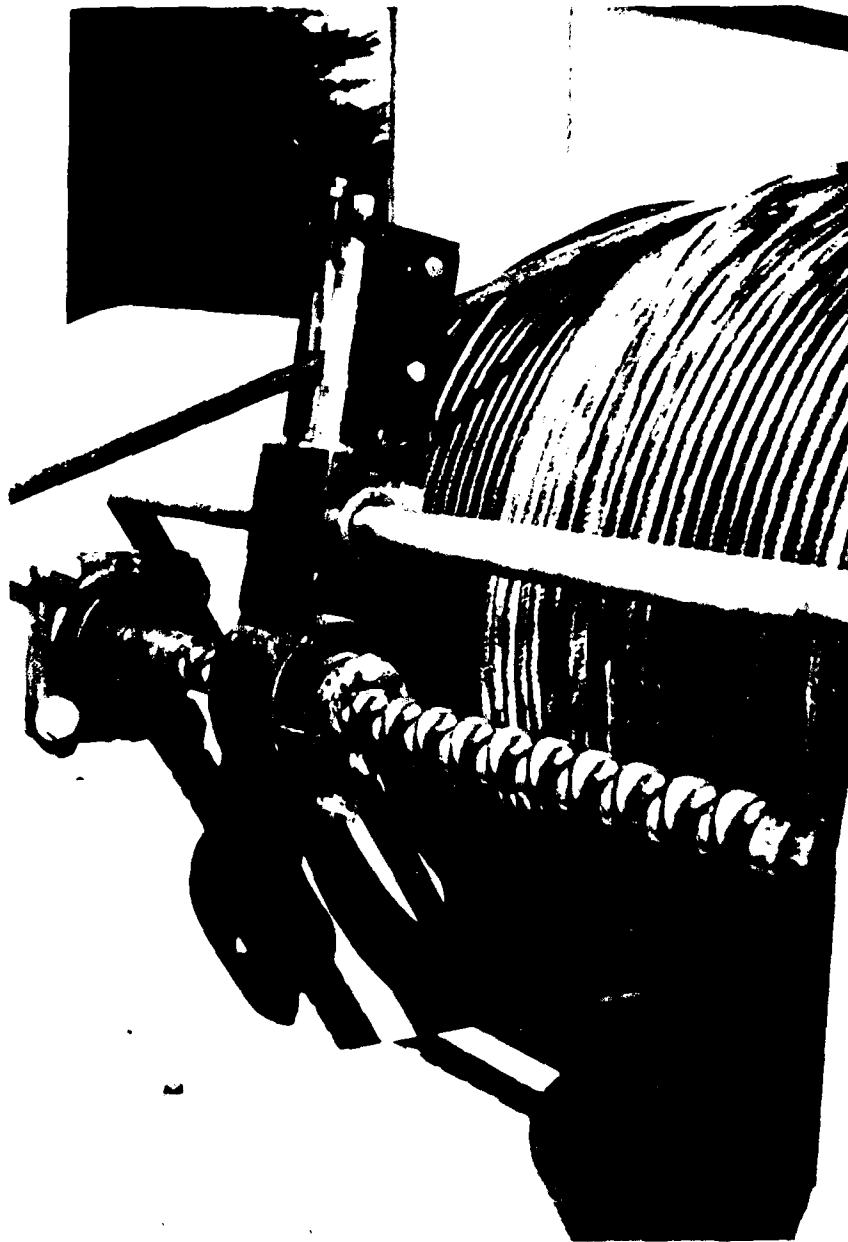


FIGURE 3.5 Level Wind

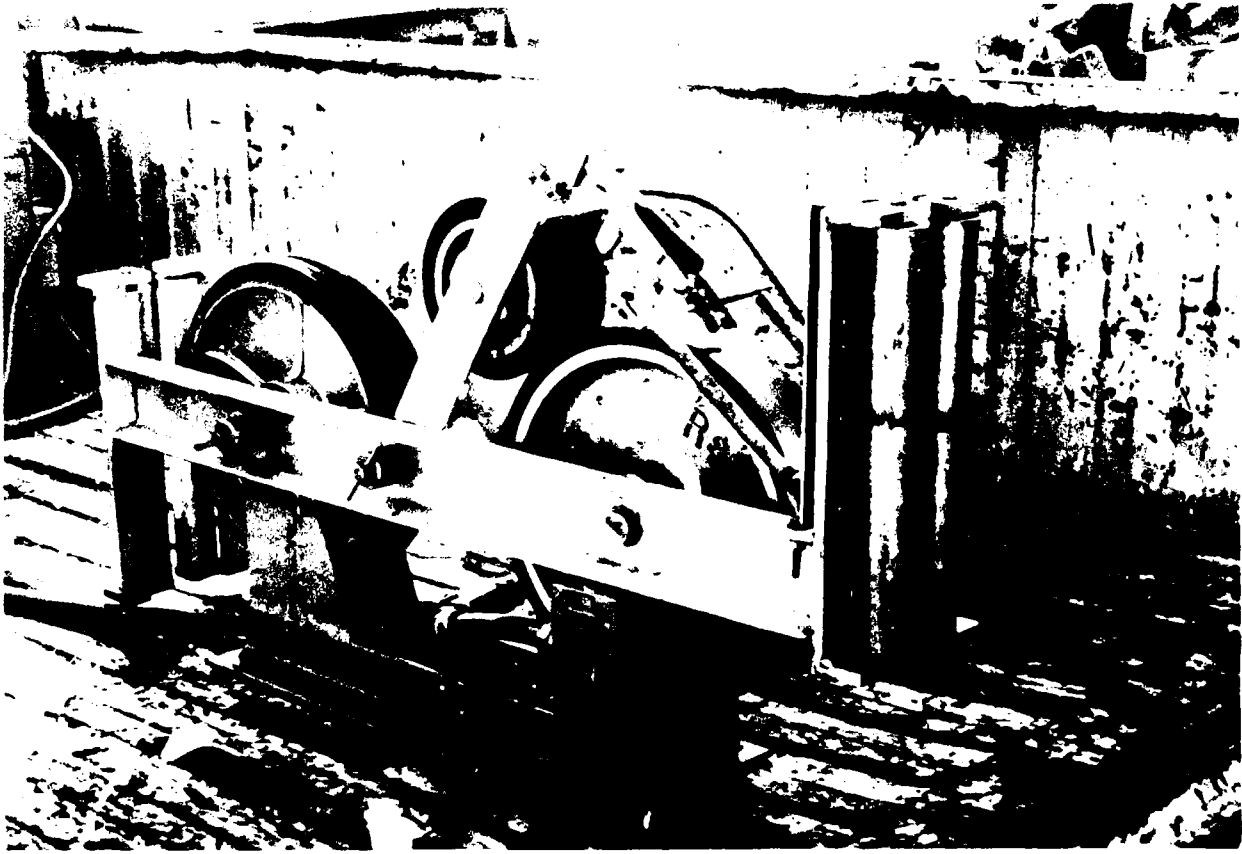


FIGURE 3.6 Distance Counter

pulses are generated and counted. This count is stored in the data logger. The counter uses a pinch roller to hold the cable against the counting wheel and prevents the cable from slipping on the wheel (Figure 3.7).

3.1.2.5 Data Logger

The data logger (Figure 3.8) is used to collect information from each of the sensors and writes to magnetic tape. The range number, initial distance and initial elevation are on thumbwheel switches and these values are also written onto the tape. The data logger contains batteries which power all the sensors and the tape drive. The batteries can power the system for more than 12 hours between rechargings, and the cassette tape drive can store information from more than ten ranges on one cassette. The data logger also contains the interface cards which put the data from each sensor into the correct format for recording. For a detailed description of the profiler and discussion of theory of operation see Seymour & Bothman (1984).

3.2 Methodology

3.2.1 Profiler Deployment and Operation

The profiler is deployed using an inflatable surf rescue boat. The boat is 3.8 meters in length and manufactured by Arancia Industries, Ltd. in New Zealand specifically for launching through surf. The boat is equipped with a Johnson 25 horsepower outboard. Thirty meters of polypropylene line is connected to a towing bridle at the boat's transom. A release hook, which can be opened from the boat, is used for safety reasons. In the event the profiler cable should get caught, the boat can be freed quickly. On the other end of this line is a lifeguard float which is hooked to the profiler sled. This enables the profiler to be pulled out on the surface. During the deployment, the winch operator keeps tension on the cable by applying the hand brake.

The person operating the winch is in a good position to see approaching waves and signals the two boat operators when it is safe to launch. Cones are set up on the beach designating the range azimuth to be followed. The boat must stay in line with these cones while pulling the profiler out.

A lead line metric tape is used to check depth on the way out. After reaching the six meter depth (corrected for tide) the boat stops and the winch operator is signaled. He then engages the brake and the cable is pulled taut by the boat. The profiler sled is slowly lowered to the bottom and the winch operator is signaled to begin recording data. The boat operators then take the offshore sand samples and return to the beach. Figures 3.9-3.12 are photos depicting the deployment operation.

With the profiler on the bottom at -6 meters (MLLW) and the data logger activated, the winch begins to pull the profiler along the range line at 10 meter increments. At each increment the profiler stops for a one minute stationary period. All data collected during each stationary period are averaged to calculate a survey point. As a result, the profiler system measures the profile discretely. The profiler is finally stopped at a predetermined offset point on the beach which is tied in both horizontally and vertically to the known permanent bench mark. This offset point serves as the zero or initial point from which the entire profile is referenced.

The data logger records each profile on a digital cassette. Between each profile the operator triggers a file gap on the cassette. This allows for multiple profiles on the same physical cassette tape.

A conventional rod and level survey is conducted from the permanent bench mark to wading depth. The rangeline is defined by two survey points marked by orange cones along the correct azimuth, which the rodman aligns before each survey

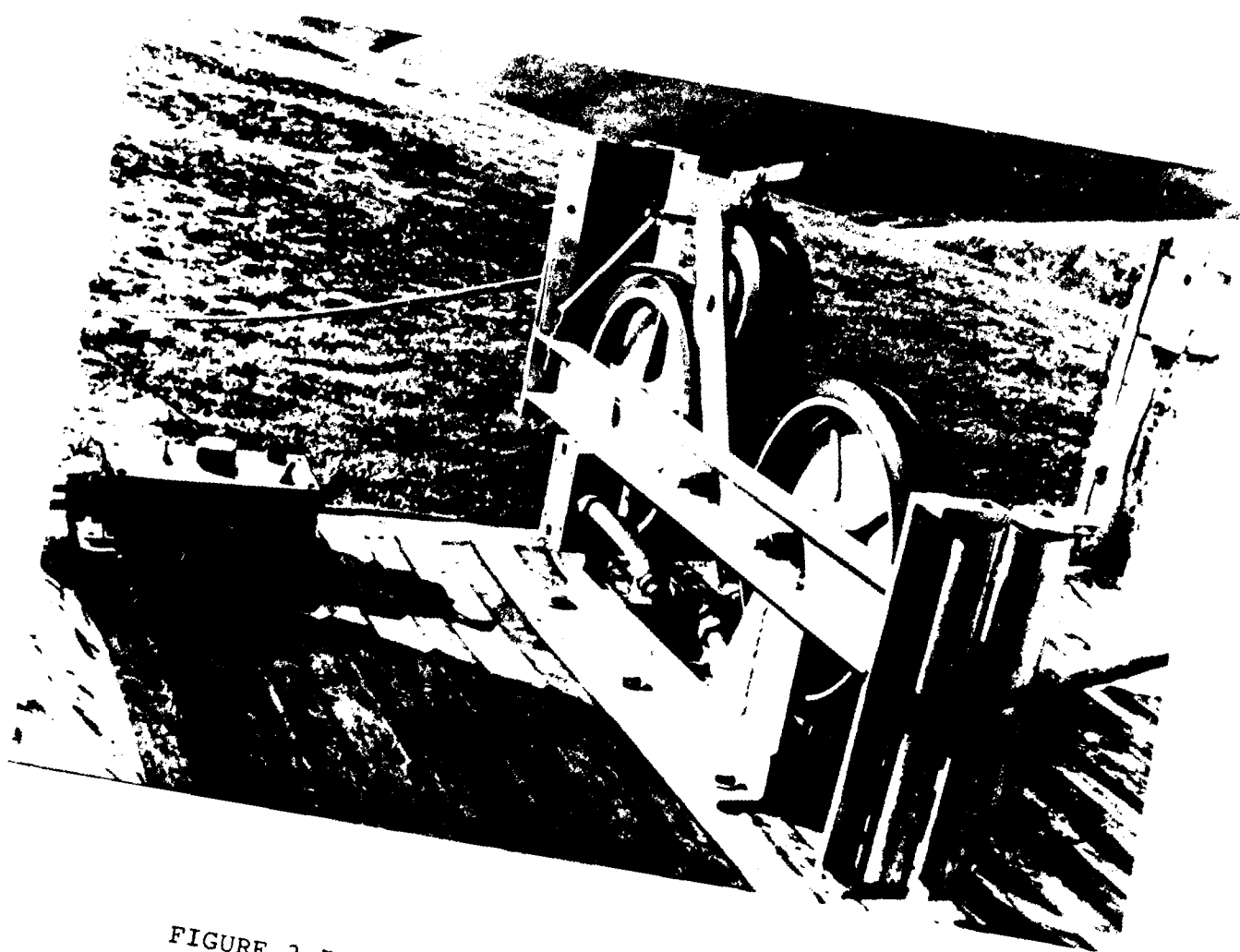


FIGURE 3.7 Pinch Wheel on Distance Counter

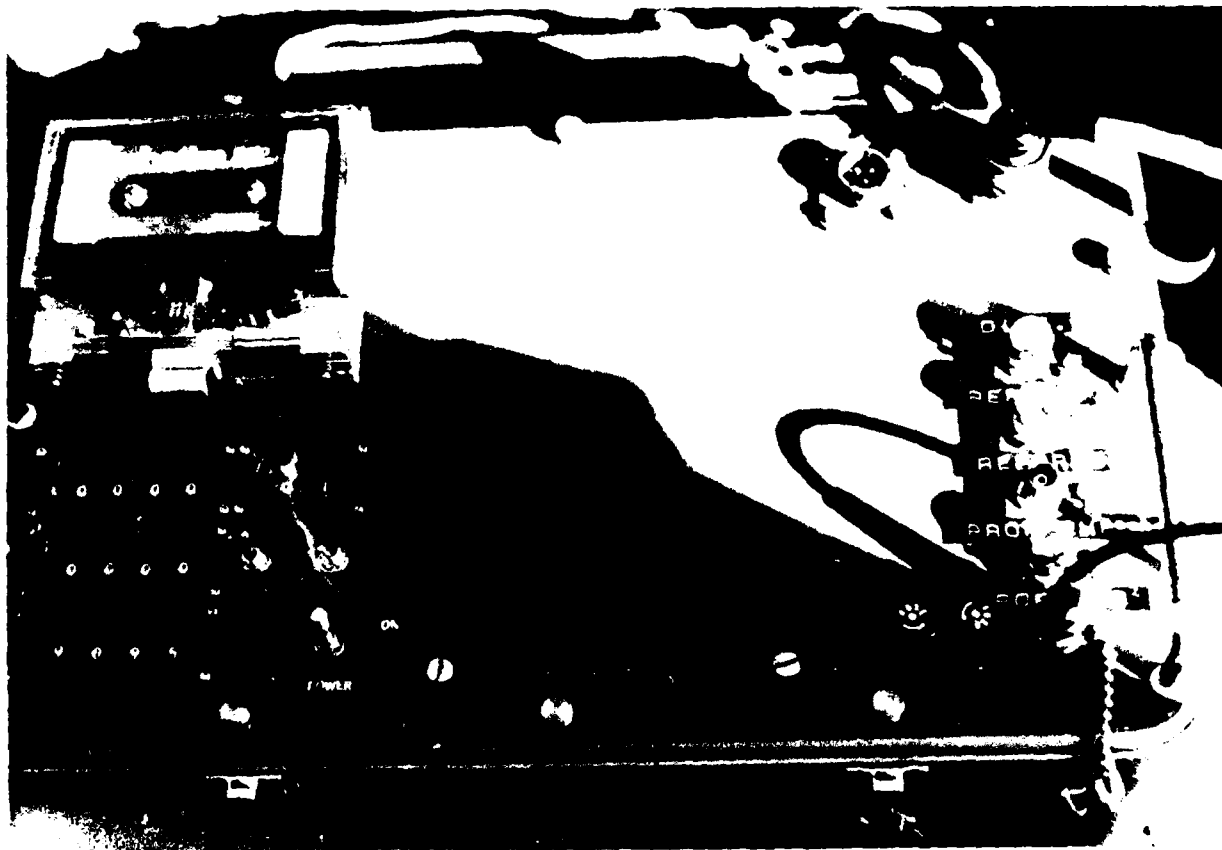


FIGURE 3.8 Data Logger



FIGURE 3.9 Profiler System

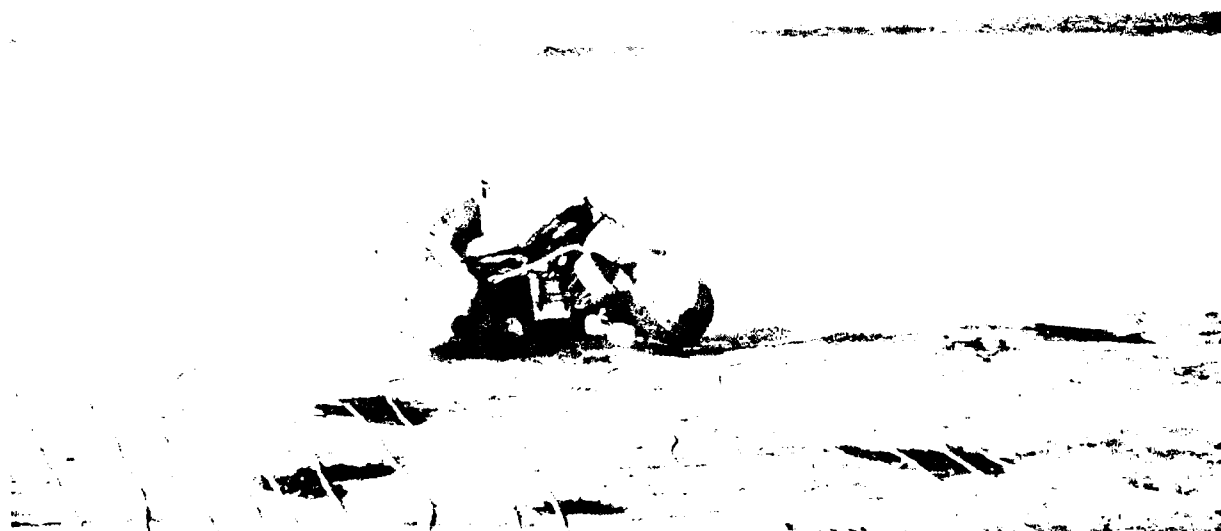


FIGURE 3.10 Survey Boat with Cable



FIGURE 3.11 Profiler Deployment Operation

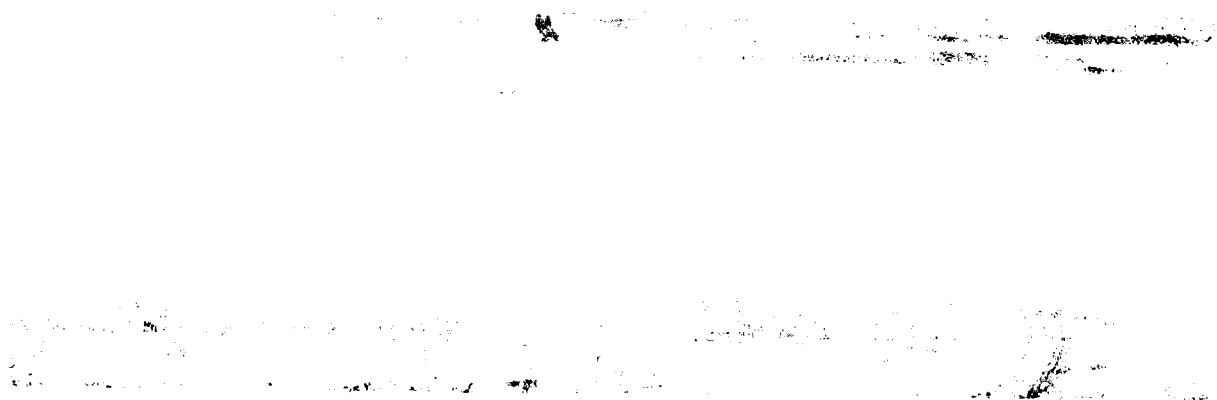


FIGURE 3.12 Profiler Deployment Operation

reading. Rod stations are measured using a specially constructed plastic coated steel survey line marked at 5 meter intervals seaward of the bench mark. The land/wading profile is terminated when the water becomes too deep for the rodman to wade. This procedure allows substantial overlap of wading and profiler data to assure data quality. Sand samples are also taken at the specified elevation during these land/wading profiles. Figure 3.13 is a photo illustrating a conventional rod and level beach survey.

3.2.2 Sediment Sampling Procedure

Certain profile lines have been preselected as sediment sample lines. Sand samples were collected both on and offshore as described below. These samples were taken at the same time the nearshore bathymetric survey was conducted. The data and time of day are recorded on each sample. Sediment samples were collected at -6, -3, -1, 0, +1 and +3 meter elevations relative to MLLW. Sediment samples were also collected at all offshore reference rod locations -6, -10 and -15 meters (MLLW) by use of SCUBA.

Offshore samples were taken immediately following deployment of the profiler. A mechanical grab sampler was lowered by hand from the boat to collect the -6 m, -3 m and if possible the -1 m samples. Figure 3.14 provides the specification for the Wildco Petite Ponar Grab Sampler No. 1728. Samples of approximately 25 grams were taken and carefully placed in Hubco 4-1/2" x 6" oil well sand sample bags. Care was taken to rinse out the grab sampler between samples. A lead line metric tape was lowered from the boat to find the proper tide corrected depth for each sample.

During the rod and level survey, beach samples were taken by hand. Obtaining the 0 m and -1 m samples often required a wading profile. However, if the surf was small enough, the -1 m sample was taken from the boat at the time the offshore samples were taken.

These sand sample bags were delivered to the Los Angeles District Corps of Engineers for analysis.

4 Data Processing

4.1 Methodology

Profile data are recorded onto a digital cassette tape in the field through the use of the data logger. The data logger was discussed previously in Section 3.1.2.5 of this report. Extensive software has been written to translate the cassette data into a profile plot and table. First, the cassette tape is translated onto a 9-track tape using a Sea Data Reader, which is compatible with the Sea Data Recorder, and a NOVA 1200 computer as shown in Figure 4.1. This 9-track tape is then read by a PRIME 500 computer, using a program called "SEAREADER," and data stored onto a disk drive for processing (Figure 4.2).

4.2 Computer Program

Processing of the data is accomplished using two main programs. A program called "SEADecoder" decodes and performs bit manipulation on the data, separating it into individual fields or channels. These channels include profiler pressure, reference pressure, profiler temperature, reference temperature and distance. The main data processing program is appropriately called "MLINE" for mainline. This program applies gain, offset and temperature calibration factors to the appropriate channels, computes the difference between the profiler and reference pressure channels, and plots the time series for each channel. The time series plots are used for in-house diagnostics of the profiling system. The program next compares the difference channel with the stationary periods of the distance channel to generate a



Figure 3.13 Conventional Rod and Level Beach Survey



BOTTOM SAMPLING EQUIPMENT

Section 3

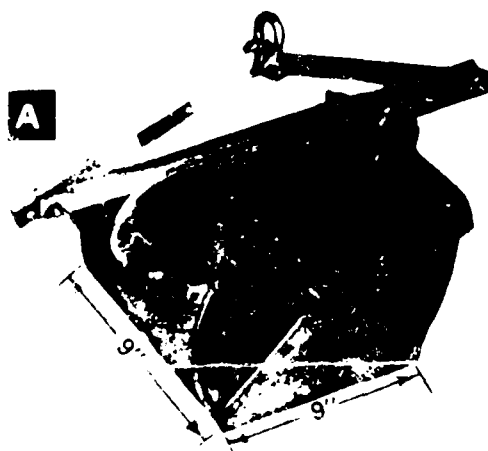
DEEP LAKE OR OCEAN DUTY DREDGES — PONARTM DESIGN

A **PONARTM GRAB DREDGE** (Cat. No. 1725) — The PONAR GRAB SAMPLER is designed and constructed to take all types of benthos sediments on all varieties of bottoms, except those of the hardest clay, in both fresh and salt water. A unique closing mechanism releases on striking the lake or ocean floor. A locking "Safety Pin", a design feature of the PONAR, prevents accidental closing in handling or during transport. Top surfaces are covered with No. 30 mesh brass screen to reduce shock waves and drift, and helps to prevent bottom sediments and organisms from escaping. The PONAR should be used with a No. 61 Aircraft Cable and a No. 80 Crane Hoist due to its heavy weight, approximately 23 kg (45 lbs.). For rugged duty and extra long life, the PONAR features all steel construction and is electroplated for corrosion resistance.

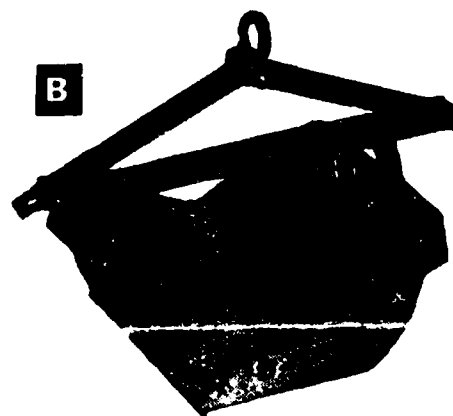
Note: Studies made in Lake Michigan by A. Robertson and C.F. Powers of the Great Lakes Research Division, University of Michigan, demonstrate the superiority of the PONAR for quantitative macrobenthos sampling as compared to the Orange Peel or Smith-McIntyre Dredges. Study depths ranged from 23 to 150 meters in a variety of hard and soft sediment types.

Sampling area of the PONAR is 23 x 23 cm (9" x 9"). One of the PONAR'S machine tapered jaws is equipped with an underlip for wiping free stones and gravel which would jam open most other types of bottom grabs. Side plates are an additional PONAR design feature which prevent lateral loss of sediments and organisms when jaws close. Extra jaw weights available for deeper penetration into sediment.

B **PONAR GRAB DREDGE — PETITE VERSION** (Cat. No. 1728) — Same basic dredge as the standard model Cat. No. 1725, except that it is much lighter and designed for hand line operation. Sampling area inlet is 6 x 6 inches. Weighs approx. 15 lbs.



PONAR GRAB SAMPLER
Catalog No. 1725



PETITE PONAR GRAB SAMPLER
Catalog No. 1728

DESCRIPTION	FIG.	CAT. NO.		SHP. WT.
Ponar Grab Dredge — Std. Model shipped in crate	A	1725		60 lbs. (28 kg)
Jaw Weights — For Dredge No. 1725. (1) set, zinc plated steel		1726		18 lbs. (9 kg)
Ponar Grab Dredge — Petite Version	B	1728		20 lbs. (10 kg)

FIGURE 3.14 Sand Sampler Specifications

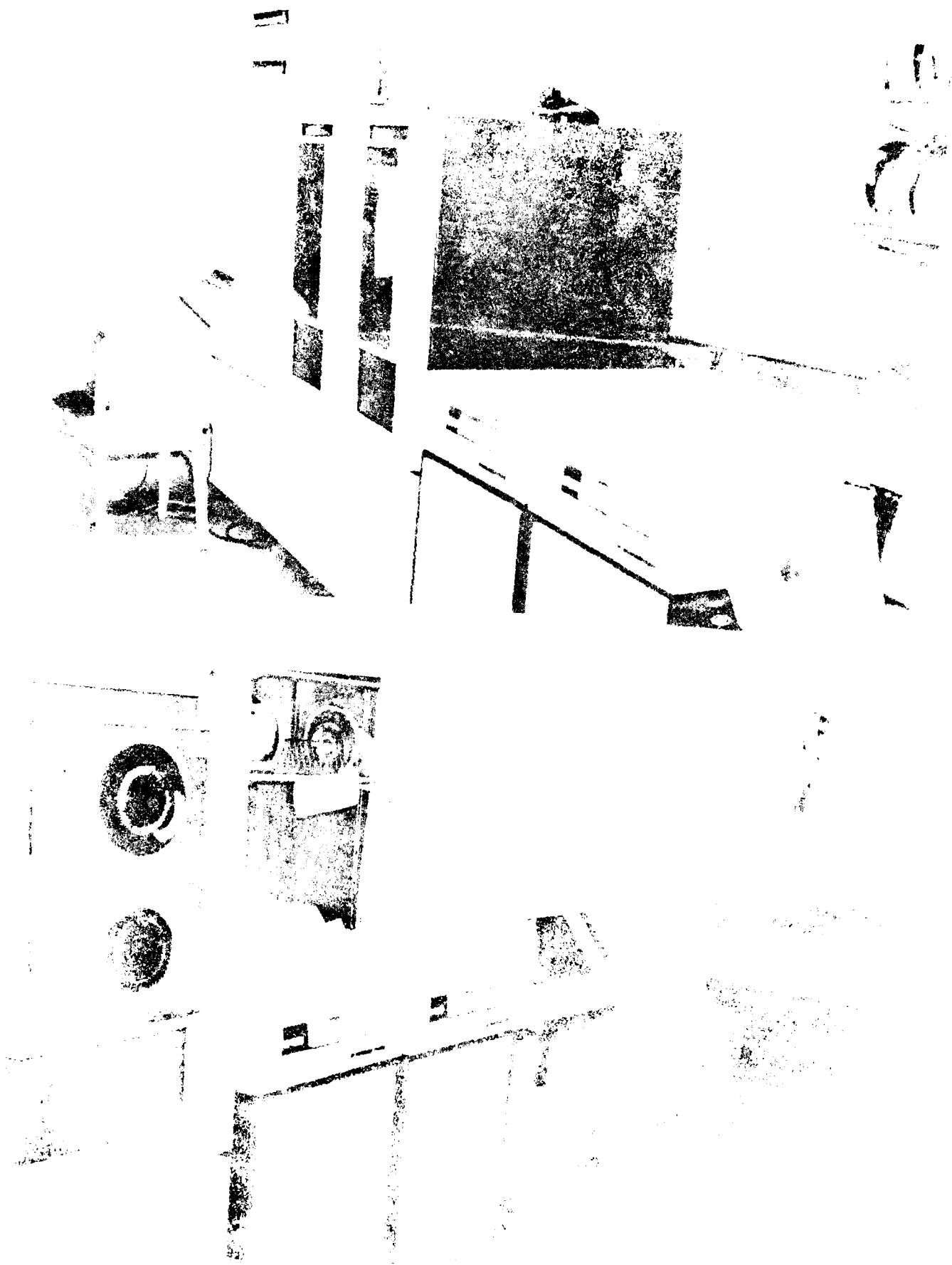


FIGURE 4.2 PRIME 500 Computer System

distance versus elevation plot and table for the specified profile. Rod and level survey data previously entered and stored onto the disk are merged with the profiler data to generate a continuous profile.

4.3 Worked Example

A worked example of the data processing effort including computations, time series, plot, and table for station LJ 0460 is provided in Figures 4.3 through 4.7.

4.4 Archive Tape

An archive tape of all profile data collected under this program will be provided. The archive tape will follow the format outlined in CERC'S Beach Profile Analysis System (BPAS), as specified in the Scope of Work.

5 Profiler System Evaluation and Data Interpretation

This section will briefly discuss the evaluation of the profiler system. Topics of discussion will include profiler deployment, environmental and system noise. These will be discussed to help evaluate the interpretation of profile data.

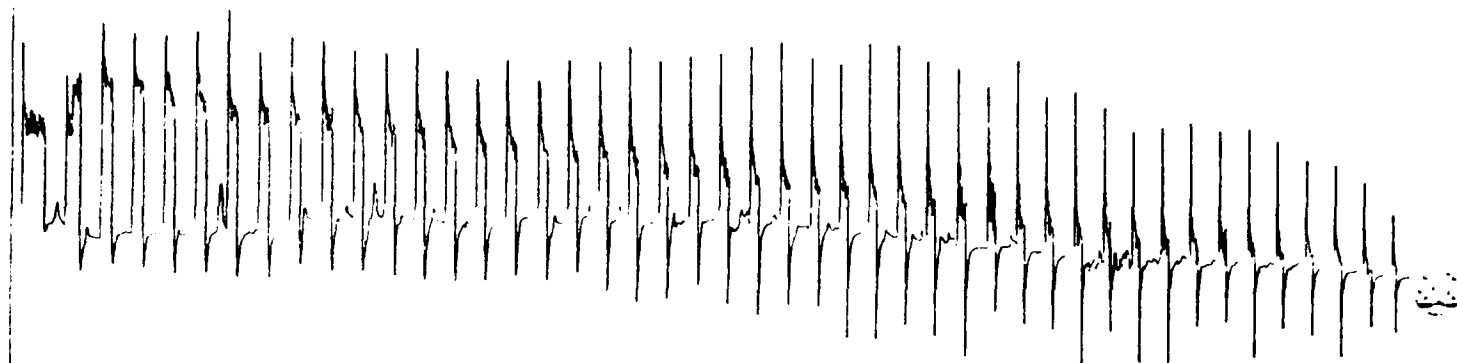
The deployment of the profiler requires proper equipment, skilled personnel and favorable environmental conditions. As discussed in Section 3.2.1 of this report, the profiler is towed out on the desired range bearing through the surf zone using an Arancia inflatable surf rescue craft. The Arancia has proved to be the best inflatable craft available for this application. The craft has a rigid floorboard, inflatable keel, and a high freeboard. This enables the craft to be very maneuverable and "rigid" in plowing through surf. With experienced and skilled operators, the craft can hold a straight course through moderately high surf and current conditions. Steering a straight course on the proper range azimuth is very important in obtaining accurate profiles that are within the rigid horizontal specifications of this contract. It is felt that these specifications are attained in all cases except for days when very strong longshore currents exist. The profiler can be deployed in large surf and strong longshore currents; however, the data quality and accuracies decrease substantially when unfavorable environmental conditions exist.

Environmental noise on the profiler system includes the effects of several conditions. Offshore areas where bedrock and reef ledges are exposed create problems when towing the profiler sled over these areas. Both the profiler sled and cable tend to snag on those rocks requiring SCUBA divers to release the profiler. The standard procedure where bedrock or reef is suspected is to conduct a reconnaissance survey using the combinations of depth sounders, drag lines, and SCUBA diving. Offshore reef areas are marked with surface buoys and the profiler deployed only shoreward of this buoy, usually resulting in a short profile. If rock and reef are exposed out to wading profile depth, a wading profile only is conducted at low tide. These rocky areas are predominant mostly in the San Clemente and Doheny Beach areas, with only spotty locations in the La Jolla to Carlsbad reach. It may be of importance to supplement the profiler surveys with depth sounder surveys in these rocky areas. Environmental noise may also be introduced by strong longshore currents. During occurrences of large surf, wave induced longshore currents do not allow the cable to scour into the swash zone sand. Instead, the taut cable is strummed, causing the signal to noise ratio to be unacceptably low. This situation is exacerbated on a beach with a steep foreshore, where the cable enters the water at an angle which prevents it from scouring into the sand. To attain the accuracies desired in this project and be within the vertical tolerances specified in this contract, it is of importance that the environmental noise be at a minimum.

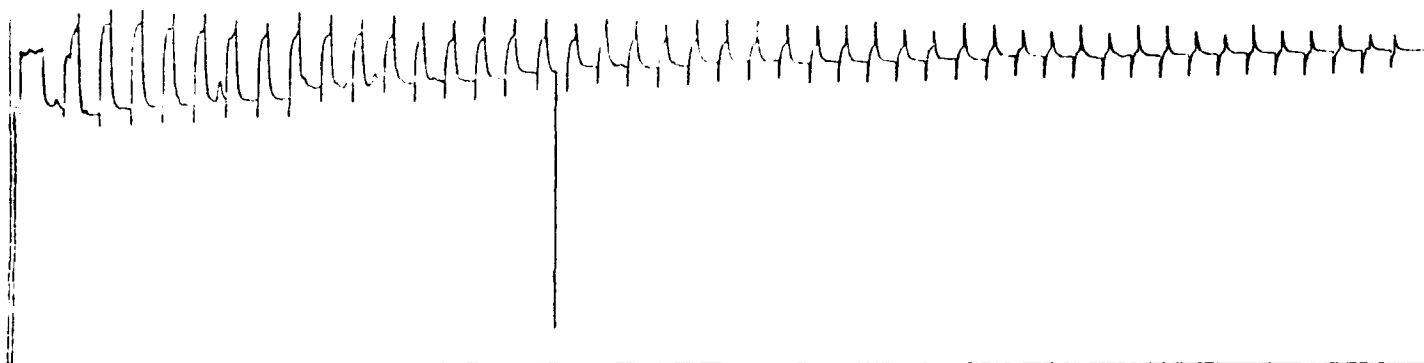
RANGE= 460 RUN= 1 10/17/83

CH	MAX	MIN	MEAN	VAR
PROFILING	4971.	2378.	3449.	153236.875000
REFERENCE	3342.	980.	2687.	60886.890625
PROTEMP	73.	72.	73.	0.041504
REFTEMP	245.	180.	221.	135.778808
DIFFERENCE	4464.	768.	762.	198053.187500
DISTANCE	454.	0.	227.	18566.570312

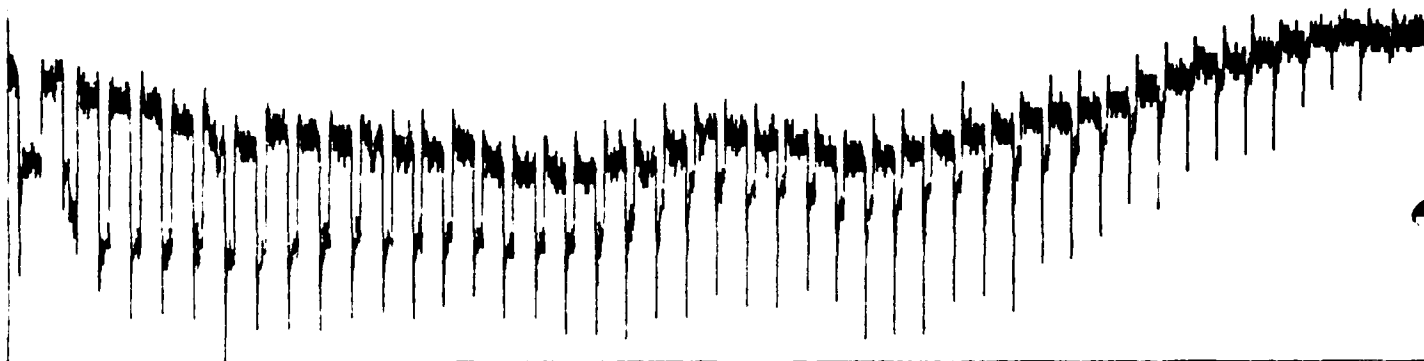
NPTS= 4132



PROFILING



REFERENCE



PROTEMP

FIGURE 4.3 Time Series Plot of LJ 0460

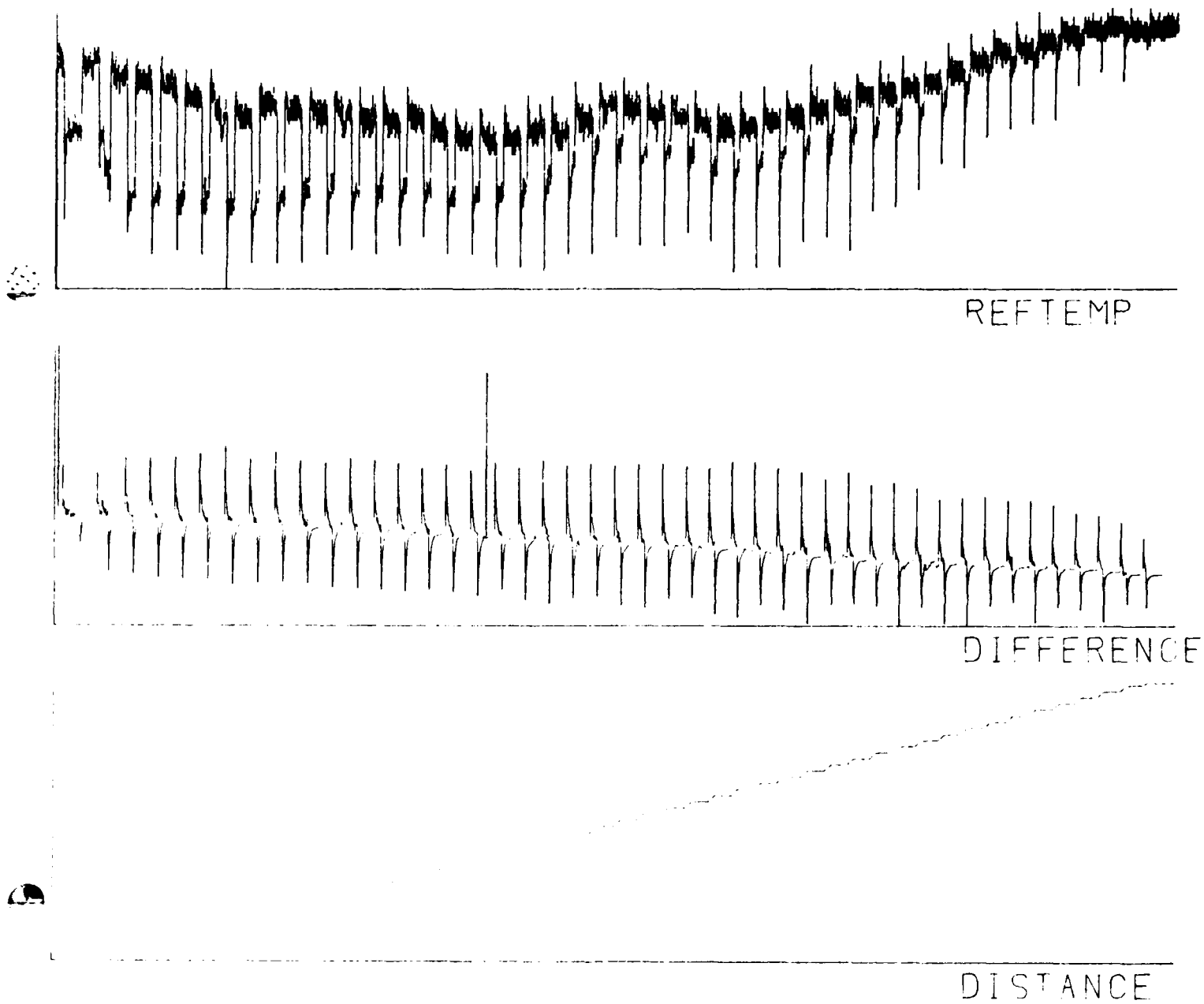


FIGURE 4.4 Time Series Plot of LJ 0460

RANGE= 460 RUN= 1

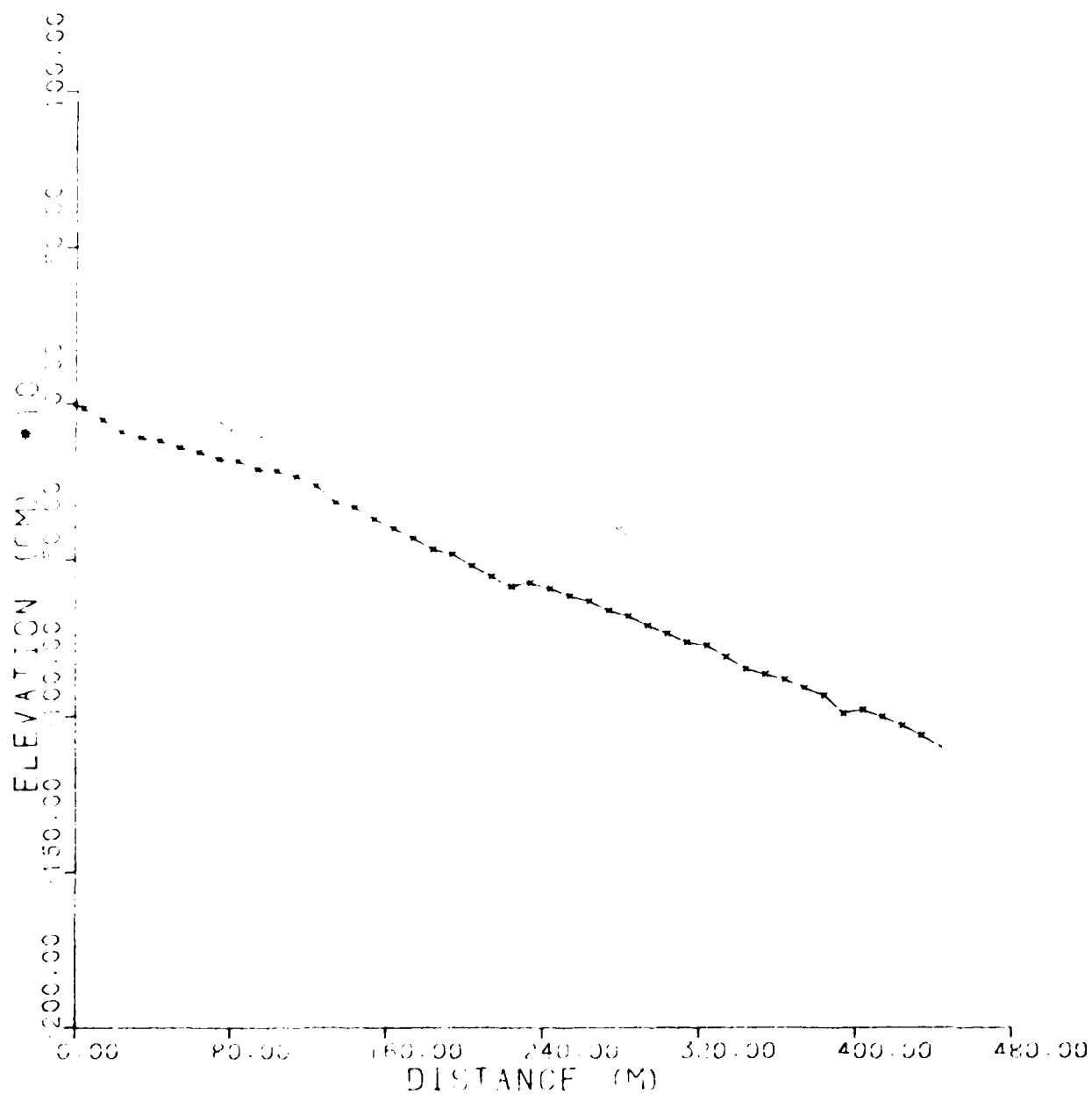


FIGURE 4.5 Raw Data Profile Plot of LJ 0460

RANGE= 460 RUN= 1

OCT 17 1983

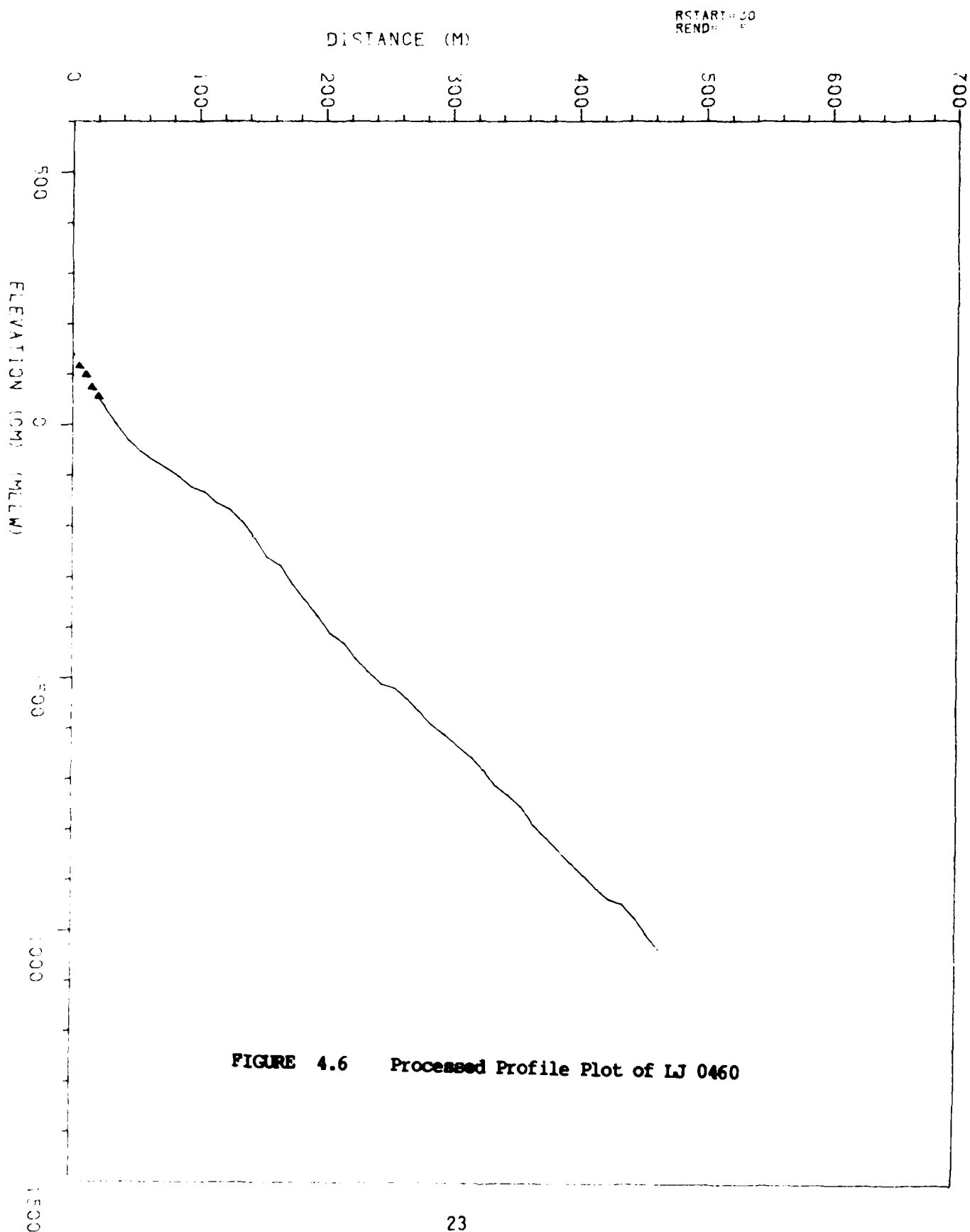


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 460 RUN 1
 OCT 17 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0 0	132	424.8	-935
5 0	114	434.8	-944
10 0	97	444.8	-971
15 0	72	454.8	-1005
20 0	54	464.8	-1035
24 1	40		
34 1	3		
44 1	-30		
54 1	-52		
64 1	-70		
74 1	-84		
84 1	-100		
94 1	-121		
104 1	-130		
114 1	-153		
124 1	-165		
134 1	-190		
144 1	-220		
154 1	-260		
164 1	-275		
174 1	-313		
184 1	-343		
194 1	-374		
204 1	-409		
214 1	-427		
224 1	-460		
234 1	-485		
244 1	-510		
254 1	-517		
264 1	-537		
274 1	-562		
284 1	-590		
294 1	-609		
314 8	-654		
324 8	-679		
334 8	-710		
344 8	-730		
354 8	-752		
364 8	-790		
374 8	-814		
384 8	-840		
394 8	-865		
404 8	-890		
414 8	-915		

FIGURE 4.7 Distance and Elevation Table for LJ 0460

The profiler system has undergone various stages of performance testing. The most frequent test is called a step test. This test is performed almost daily to check the pressure response between transducers. This test insures that the profiling system is operating correctly and that there are no air bubbles trapped in the cable tube. Air bubbles in the tube can result from faulty fittings, air coming out of solution, or the effect of prolonged cable tension. Variable tension of the cable, such as the profiler bouncing over rocky ledges, causes volume changes of the tube, occasionally creating a vacuum leak through fittings. Other routine tests include both dry and wet calibrations. The dry test is running the profiler over a known relief course on dry land. The wet test is running the profiler at high tide over Range LJ 0460 at Scripps Pier and comparing it to a rod and level survey conducted at low tide the same day. The deep water (-3 to -6 meters) values are obtained using known pier piling for offshore distance and a "boat rodman" for depth. Profile repeatability and cable tension tests were also performed routinely to ensure high data quality. (Gable & Wanetick, 1984).

During the processing and interpretation of the profiler data, it was noticed that there were discrete points in some raw data records that had excessive elevation variances caused by one or more of the conditions discussed previously. If these data points were beyond the threshold criteria of the rigid vertical tolerances of this contract, they were either eliminated or subjectively edited. This was especially predominant for Survey 1 offshore data. The new cable design and the elimination of survey operations during strenuous environmental conditions resulted in highly accurate survey data for Surveys 2 and 3.

6 Nearshore Bathymetry Report

This section will include all survey and sediment sample data for each survey period. Survey 1 consists of 40 profile lines measured between October 1983 and January 1984. Survey 2 consists of 76 profile lines measured between February 1984 and July 1984. Survey 3 consists of 93 profile lines measured between October 1984 and February 1985. Appendix A of this report provides a map of the geographic location of each profile line. Appendix B provides the California Lambert coordinates of each range bench mark and the magnetic azimuth of each profile line. The sequence of profiling events for each survey was generally south to north or from the Mexican border to Dana Point. This sequence was frequently modified due to range priority, beach clearance on government property, beach access due to tidal conditions, and logistic scheduling according to ocean and weather conditions. Every possible effort was made to survey in the proper sequence and to survey this large geographic area as quickly as possible.

6.1 Survey 1 (October, 1983-January, 1984)

6.1.1 Chronologic Range Summary of Profiling Events

6.1 Survey 1 (October, 1983-January, 1984)

6.1.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

T Y P E				
D A T E	R A N G E	IP= incomplete*	S E D I M E N T	
		CP= profile	S A M P L E S	
		W= wade only	x= yes	
C O M M E N T S				
*Incomplete or short profile due to rocks.				
10/25/83	SS0003	W		raw sewage
11/19/83	SS0015	W		sewage problem
10/23/83	SS0035	CP	x	offshore bar, difficult to launch boat
10/23/83	SS0077	CP		
10/20/83	SS0090	CP	x	
01/21/84	SS0125	CP		
10/20/83	SS0160	CP	x	
10/25/83	SS0180	CP	x	
10/19/83	OB0230	IP, W	x	reef, profiler caught on rock
10/10/83	MB0310	CP		
10/10/83	MB0340	CP		
10/10/83	MB0384	CP		
11/01/83	PB0408	IP, W	x	reef, short profile land-ward of reef
10/08/83	LJ0450	CP		
10/17/83	LJ0460	CP	x	
11/07/83	TP0470	W		Black's Beach access road washed out
10/17/83	TP0520	CP	x	

6.1 Survey 1 (October, 1983-January, 1984)

6.1.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

T Y P E				
D A T E	R A N G E	IP - incomplete*	SEDIMENT	C O M M E N T S
		CP- profile	SAMPLES	
		W= wade only	x= yes	
*Incomplete or short profile due to rocks.				
10/28/83	DM0580	CP	x	
10/11/83	SD0600	CP		
10/11/83	SD0630	CP	x	-6m, -3m only samples taken on 10/18/83
10/18/83	SD0670	IP, W		reef caught once
10/18/83	CB0720	CP	x	
10/27/83	CB0760	IP, W		reef, short profile 3-500'
10/26/83	CB0820	CP	x	
10/31/83	CB0880	IP, W		reef, stuck twice
10/26/83	OS0930	CP	x	
10/26/83	OS1000	CP	x	
10/27/83	OS1070	CP	x	
01/07/84	PN1110	CP	x	offshore bar, strong longshore current
01/07/84	PN1180	CP		strong longshore current
01/08/84	PN1240	CP	x	strong longshore current
01/08/84	PN1290	CP		
01/20/84	PN1340	CP		small bar/trough offshore
12/08/83	SO1470	IP	x	rock reef, short profile (-3m) three pronounced sand bars

6.1 Survey 1 (October, 1983-January, 1984)

6.1.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

DATE	RANGE	TYPE		SEDIMENT SAMPLES	COMMENTS
		IP= incomplete*			
		CP= profile			
		W= wade only			
*Incomplete or short profile due to rocks.					
11/10/83	SO1530	CP	x	steep beach, cobble foreshore, offshore bar, trough with strong longshore current	
11/05/83	SC1623	W	x	reef, rock	
11/05/83	SC1660	W		wade only, reef, rock offshore	
11/05/83	SC1720	W		wade only, rock 75m offshore	
11/05/83	DB1805	W		big surf	
11/10/83	DB1805	IP	x	reef, rock 700' from shore	
11/17/83	DB1805	IP, W		electronic trouble with profiler, no profile	
11/05/83	DB1850	W		big surf	
11/22/83	DB1850	W		electronic problem	
12/08/83	DB1850	CP		a lot of rocks but profiler able to to pull free on its own	

6.1.2 Location and Inventory of Sand Samples

(NOTE: Due to a sea level datum error, some samples were not collected at the specified elevation. In these cases, the actual elevation is listed.)

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE (PST)	ELEVATION	
			OF SAMPLE METERS (MLLW)	DISTANCE FROM B.M.
SS0035	10 23 83	1100	-6	304M
SS0035	10 23 83	1100	-3	194M
SS0035	10 23 83	1130	+ 1.56	65M
SS0035	10 23 83	1130	+ 4.56	4M
SS0090	10 20 83	1430	-6	322M
SS0090	10 20 83	1430	-3	166M
SS0090	10 20 83	1500	+ 1.56	75M
SS0090	10 20 83	1500	+ 4.56	25M
SS0160	10 20 83	1100	-6	443M
SS0160	10 20 83	1100	-3	270M
SS0160	10 20 83	1130	+ 1.56	170M
SS0160	10 20 83	1130	+ 4.56	1M
SS0180	10 25 83	1010	-6	
SS0180	10 25 83	1010	-3	319M
SS0180	10 25 83	1010	-1	260M
SS0180	10 25 83	1030	0	237M
SS0180	10 25 83	1030	+ 1	190M
SS0180	10 25 83	1030	+ 3	100M
OH0230	10 19 83	1030	-6	
OH0230	10 19 83	1030	-3	
OH0230	10 19 83	1100	0	188M

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE (PST)	ELEVATION OF SAMPLE METERS (MLLW)	DISTANCE FROM B.M.	
OB0230	10/19/83	1100	+ 3	80M	
PB0408	11/01/83	1230	-6		
PB0408	11/01/83	1230	-3		
PB0408	11/01/83	1230	-1	156M	
PB0408	11/01/83	1300	0	97M	
PB0408	11/01/83	1300	+ 1	37M	
PB0408	11/01/83	1300	+ 3	0M	
LJ0460	10/17/83	1000	-6	290M	
LJ0460	10/17/83	1000	-3	170M	
LJ0460	10/17/83	1030	+ .78	34M	
LJ0460	10/17/83	1030	+ 2.78	0M	
TP0520	10/17/83	1430	-6	318M	
TP0520	10/17/83	1430	-3	146M	
TP0520	10/17/83	1500	+ .78	35M	
TP0520	10/17/83	1500	+ 2.19	15M	
DM0580	10/28/83	0830	-6	336M	
DM0580	10/28/83	0830	-3	191M	
DM0580	10/28/83	0830	+ .56	70M	
DM0580	10/28/83	0900	+ 1.56	45M	
SD0630	10/18/83	1300	-6	359M	
SD0630	10/18/83	1300	-3	154M	

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE (PST)	ELEVATION OF SAMPLE METERS (MLLW)	DISTANCE FROM B.M.
CB0720	10/18/83	0930	-6	395M
CB0720	10/18/83	0930	-3	193M
CB0720	10/18/83	1000	0	120M
CB0720	10/18/83	1000	+ 3	40M
CB0820	10/26/83	0900	-6	280M
CB0820	10/26/83	0900	-3	129M
CB0820	10/26/83	0900	+ .64	70M
CB0820	10/26/83	0930	+ 1.64	43M
CB0820	10/26/83	0930	+ 2.64	28M
CB0820	10/24/83	0930	+ 4.64	5M
OS0930	10/26/83	1100	-6	290M
OS0930	10/26/83	1100	-3	173M
OS0930	10/26/83	1100	-1	77M
OS0930	10/26/83	1130	0	57M
OS0930	10/26/83	1130	+ 1	44M
OS0930	10/26/83	1130	+ 2.4	0M
OS1000	10/26/83	1430	-6	313M
OS1000	10/26/83	1430	-3	196M
OS1000	10/26/83	1500	+ 1.56	53M
OS1000	10/26/83	1500	+ 2.56	40M
OS1000	10/26/83	1500	+ 3.63	10M

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE (PST)	ELEVATION OF SAMPLE METERS (MLLW)	DISTANCE FROM B.M.
OS1070	10/27/83	1230	-6	399M
OS1070	10/27/83	1230	-3	294M
OS1070	10/27/83	1230	-.56	149M
OS1070	10/27/83	1300	+ 1.56	112M
OS1070	10/27/83	1300	+ 2.56	103M
OS1070	10/27/83	1300	+ 4.56	5M
PN1110	01/07/84	1230	-6	526M
PN1110	01/07/84	1230	-3	412M
PN1110	01/07/84	1230	-1	281M
PN1110	01/07/84	1300	0	254M
PN1110	01/07/84	1300	+ 1	217M
PN1110	01/07/84	1300	+ 3	37M
PN1290	01/08/84	1200	-6	
PN1290	01/08/84	1200	-3	370M
PN1290	01/08/84	1200	-1	264M
PN1290	01/08/84	1230	+ 1	69M
PN1290	01/08/84	1230	+ 3	56M
SO1470	11/22/83	1500	-3	130M
SO1470	11/22/83	1500	+ .56	65M
SO1470	11/22/83	1500	+ 1.56	40M
SO1470	11/22/83	1500	+ 2.56	27M

SAND SAMPLES

RANGE ID.	DATE OF SAMPLE	TIME OF SAMPLE (PST)	ELEVATION OF SAMPLE METERS (MLLW)	DISTANCE FROM B.M.
SO1470	11/22/83	1500	+ 4.56	12M
SO1470	12/08/83	1400	-6	--
SO1470	12/08/83	1400	-3	188M
SO1470	12/08/83	1400	+ .56	60M
SO1470	12/08/83	1400	+ 1.56	46M
SO1470	12/08/83	1400	+ 2.56	32M
SO1470	12/08/83	1400	+ 4.56	13M
SO1530	11/10/83	0900	-6	279M
SO1530	11/10/83	0900	-3	183M
SO1530	11/10/83	0900	+ .56	115M
SO1530	11/10/83	0900	+ 1.56	90M
SO1530	12/10/83	0900	+ 2.56	77M
SO1530	11/10/83	0900	+ 4.56	30M
SC1623	11/05/83	1400	+ .56	66M
SC1623	11/05/83	1400	+ 1.56	55M
SC1623	11/05/83	1400	+ 2.56	47M
SC1623	11/05/83	1400	+ 4.56	5M
DB1805	11/17/83	1000	-6 (rock)	
DB1805	11/17/83	1000	-3	
DB1805	11/17/83	1000	+ .56	92M
DB1805	11/17/83	1000	+ 1.56	83M
DB1805	11/17/83	1000	+ 2.56	76M

SAND SAMPLES

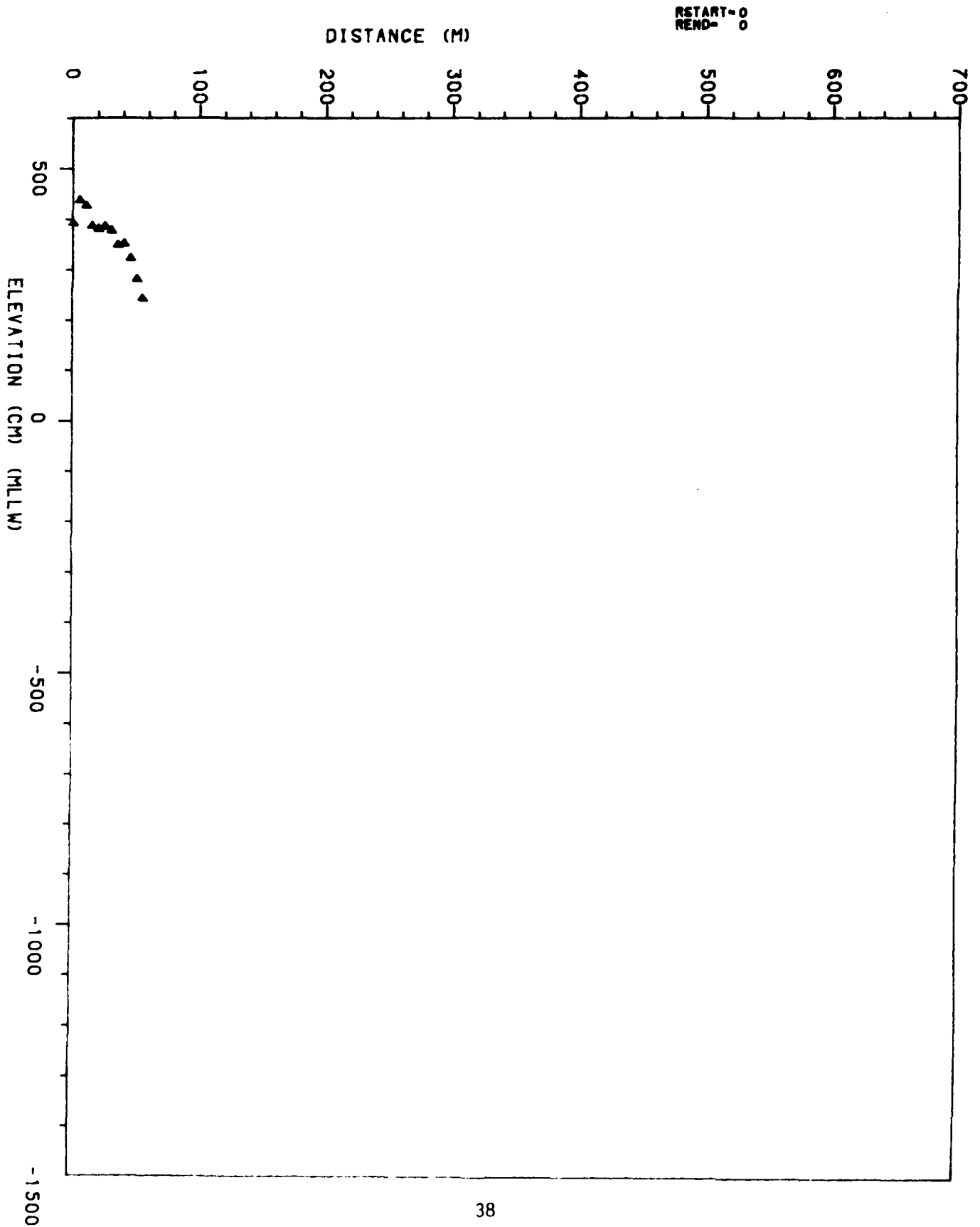
RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE (PST)	ELEVATION OF SAMPLE METERS (MLLW)	DISTANCE FROM B.M.
DB1805	11/17/83	1000	+ 4.56	60M

6.1.3 Profile Data Plots and Distance/Elevation Tables

(NOTE: Δ denotes rod and level survey points)

RANGE= 3

OCT 25 1983



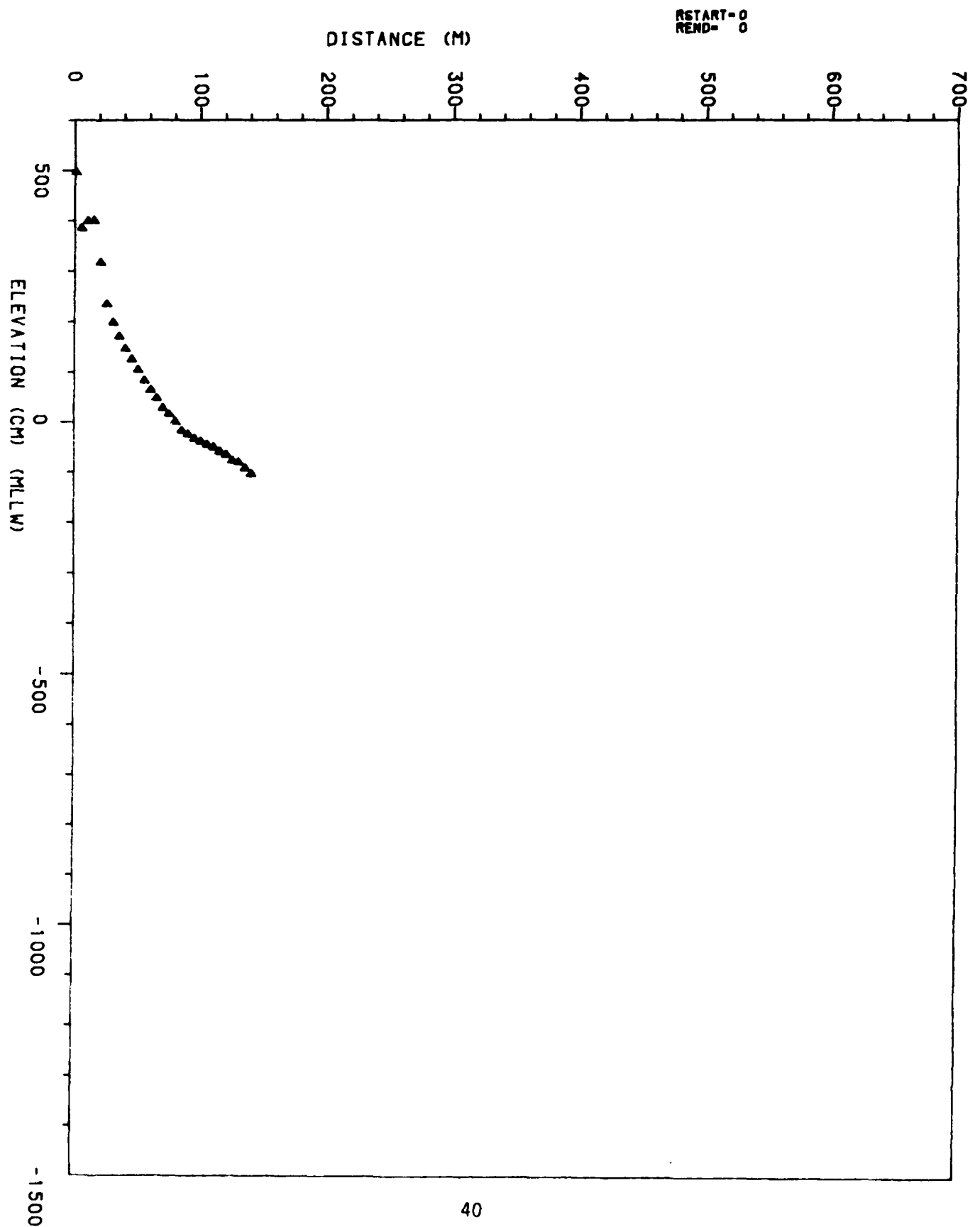
1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 3 RUN 9
OCT 25 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL
0.0	392
5.0	438
10.0	427
15.0	387
20.0	381
25.0	386
30.0	378
35.0	349
40.0	352
45.0	323
50.0	281
55.0	242

RANGE= 15

NOV 19 1983



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 15
NOV 19 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	497
5.0	386
10.0	400
15.0	401
20.0	318
25.0	235
30.0	199
35.0	170
40.0	146
45.0	125
50.0	104
55.0	82
60.0	63
65.0	47
70.0	27
75.0	15
80.0	0
85.0	-18
90.0	-25
95.0	-34
100.0	-40
105.0	-46
110.0	-51
115.0	-60
120.0	-66
125.0	-78
130.0	-81
135.0	-93
140.0	-104

RANGE 0035 23 OCT 1983

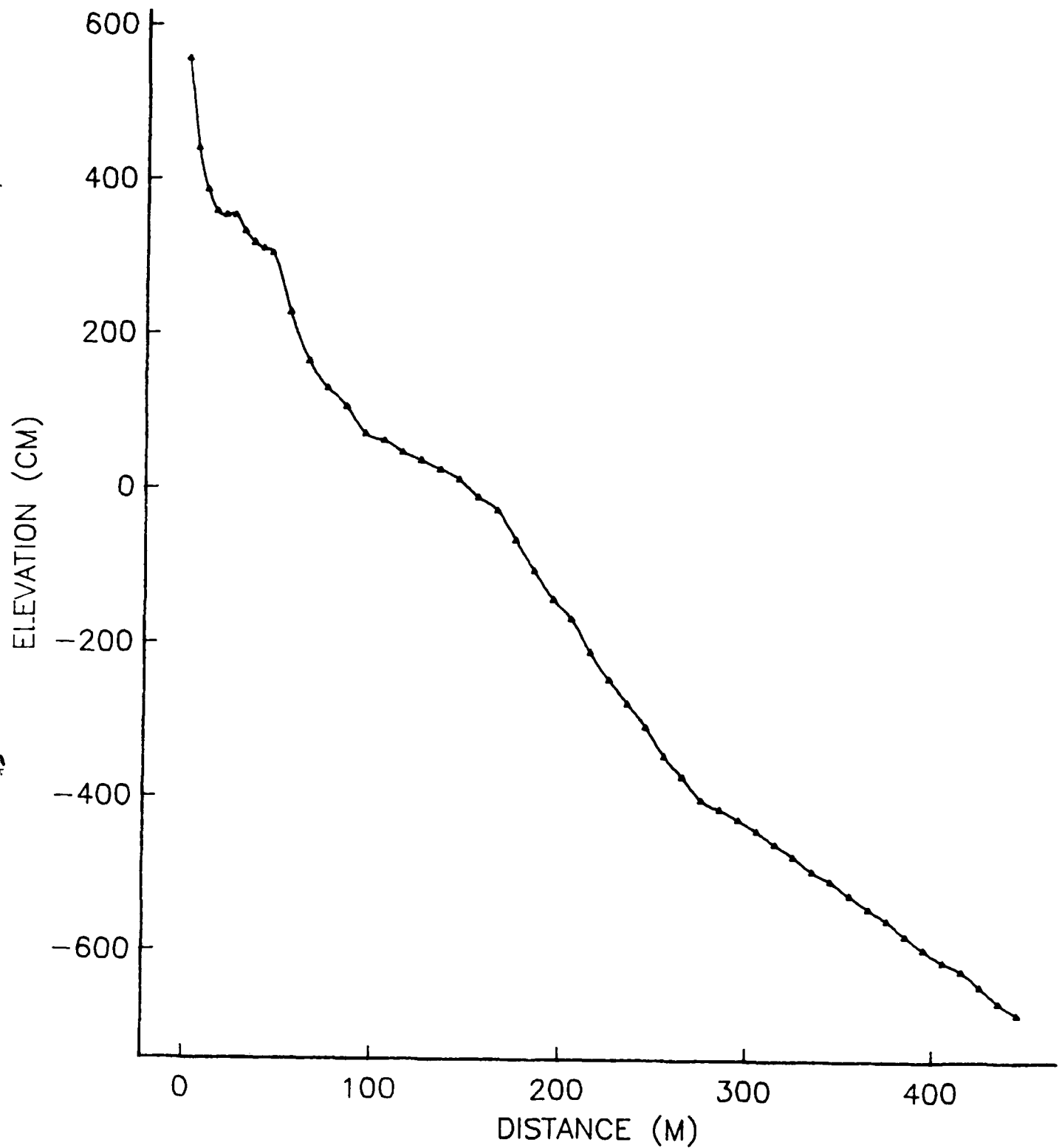


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 35 RUN 1
 OCT 23 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	556	394.9	-596
5.0	440	405.3	-612
10.0	386	415.3	-624
15.0	358	425.3	-644
20.0	353	435.3	-664
25.0	353	445.3	-679
30.0	332	455.3	-714
35.0	317	465.3	-719
40.0	310		
44.6	304		
54.6	227		
64.6	164		
74.6	129		
84.6	105		
94.6	70		
104.6	61		
114.6	46		
124.6	36		
134.7	24		
144.7	11		
154.8	-12		
164.9	-29		
174.9	-67		
184.9	-107		
194.9	-144		
204.9	-169		
214.9	-212		
224.9	-248		
234.9	-279		
244.9	-309		
254.9	-347		
264.9	-374		
274.9	-404		
284.9	-416		
294.9	-430		
304.9	-444		
314.9	-461		
324.9	-477		
334.9	-496		
344.9	-509		
354.9	-527		
364.9	-544		
374.9	-559		
384.9	-579		

RANGE 0077 23 OCT 1983

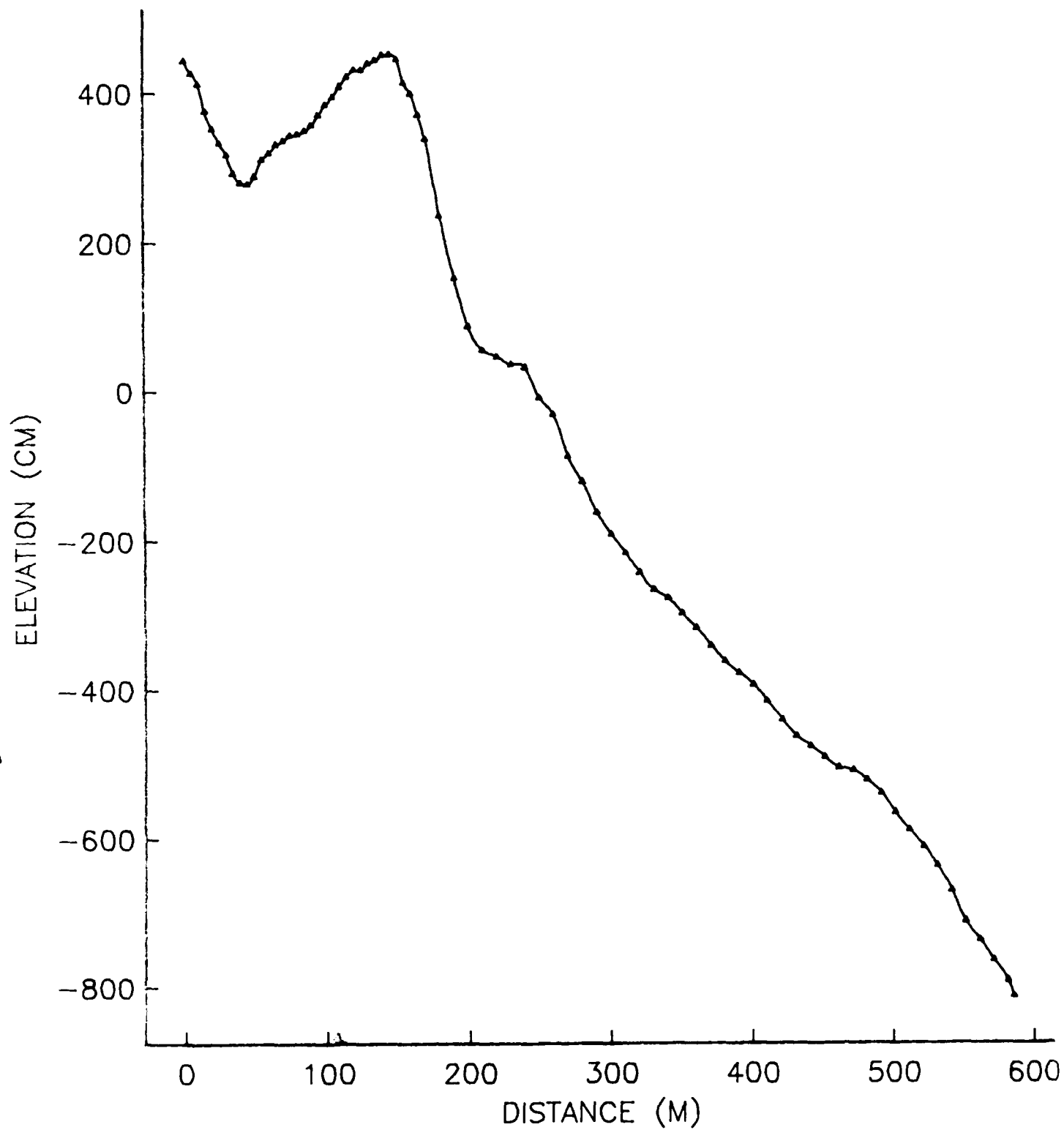


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 77 RUN 1
 OCT 23 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	443	270.0	-90
5.0	426	280.0	-124
10.0	412	290.0	-165
15.0	375	300.0	-194
20.0	352	310.0	-219
25.0	333	320.0	-246
30.0	317	330.0	-269
35.0	292	340.0	-280
40.0	280	350.0	-301
45.0	278	360.0	-320
50.0	288	370.0	-344
55.0	310	380.0	-365
60.0	319	390.0	-381
65.0	330	400.0	-397
70.0	335	410.0	-419
75.0	342	420.7	-444
80.0	344	430.7	-466
85.0	348	440.7	-479
90.0	355	450.7	-494
95.0	369	460.7	-508
100.0	383	470.7	-512
105.0	393	480.7	-525
110.0	407	490.7	-542
115.0	420	500.7	-568
120.0	429	510.7	-592
125.0	429	520.7	-614
130.0	438	530.7	-639
135.0	442	540.7	-673
140.0	449	550.7	-714
145.0	450	560.7	-739
150.0	443	570.7	-766
155.0	412	580.7	-794
160.0	397	585.1	-814
165.0	368		
170.0	336		
180.0	234		
190.0	150		
200.0	85		
210.0	53		
220.0	44		
230.0	33		
240.0	29		
250.0	-12		
260.0	-35		

RANGE 0090 20 OCT 1983

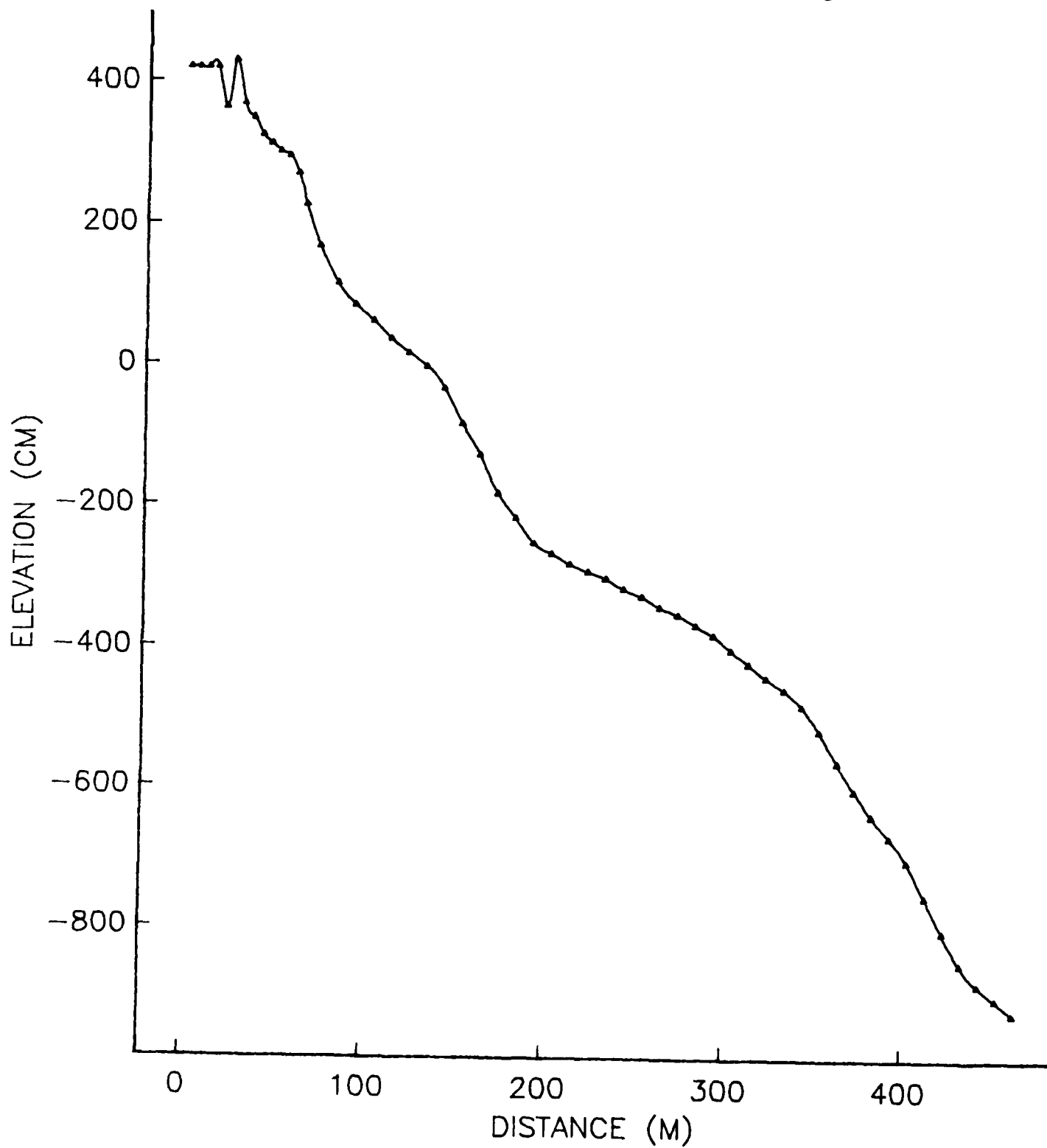


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 90 RUN 1
 OCT 20 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	419	372.6	-604
5.0	419	382.6	-639
10.0	419	392.6	-670
15.0	419	402.6	-704
20.0	362	412.6	-754
25.0	429	422.6	-804
30.0	368	432.6	-849
35.0	348	442.6	-879
40.0	323	452.6	-899
45.0	311	462.6	-919
50.0	300	472.6	-959
55.0	294	482.6	-994
60.0	270	492.6	-1029
65.0	226		
72.6	167		
82.6	114		
92.6	83		
102.6	61		
112.6	36		
122.6	16		
132.6	-4		
142.6	-34		
152.6	-85		
162.6	-130		
172.6	-184		
182.6	-219		
192.6	-254		
202.6	-269		
212.6	-284		
222.6	-294		
232.6	-304		
242.6	-319		
252.6	-329		
262.6	-344		
272.6	-354		
282.6	-369		
292.6	-384		
302.6	-404		
312.6	-424		
322.6	-444		
332.6	-461		
342.6	-484		
352.6	-519		
362.6	-564		

RANGE 0125 21 JAN 1984

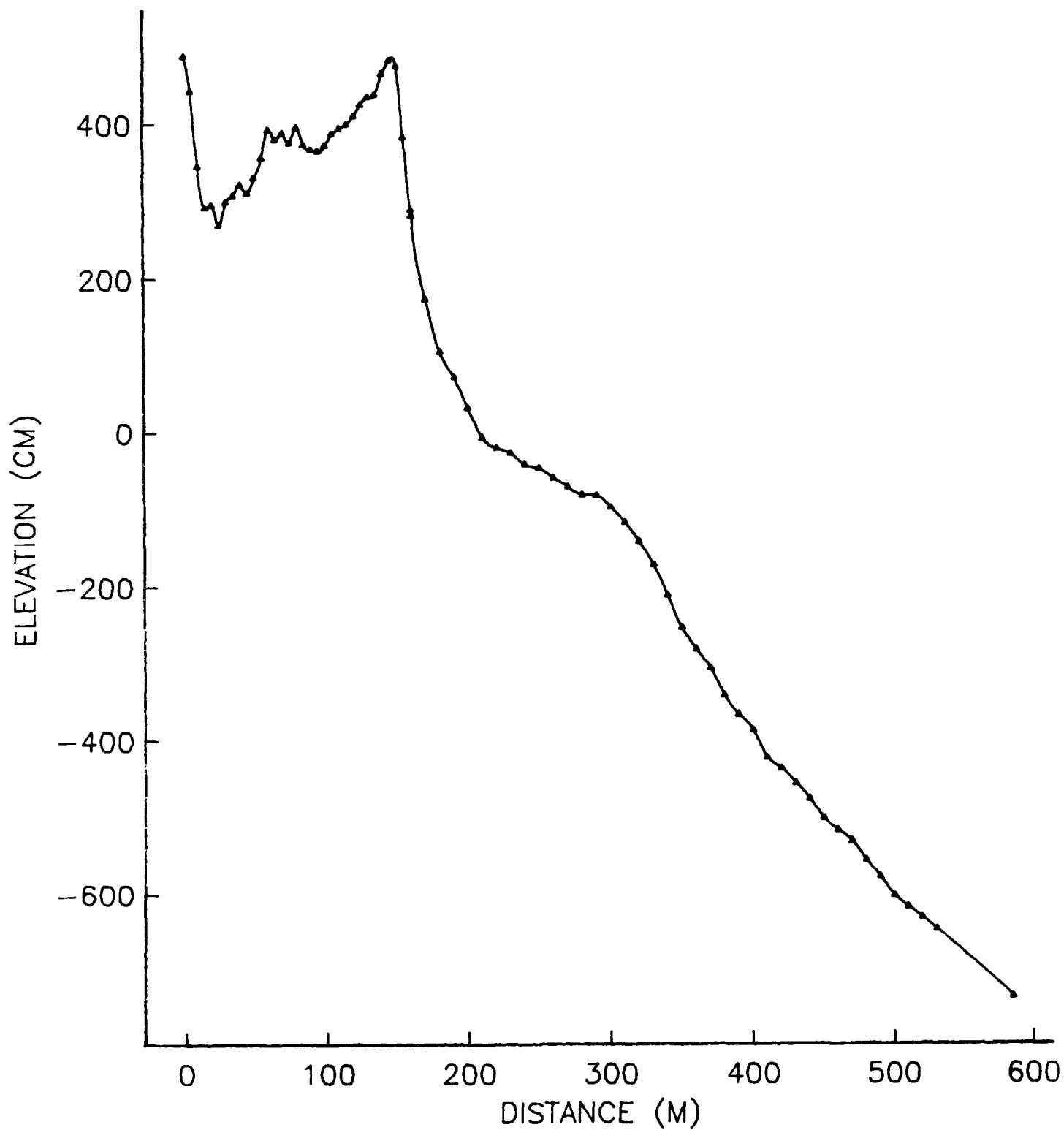


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 125 RUN 1
 JAN 21 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	488	270.4	-73
5.0	443	280.4	-83
10.0	346	290.4	-84
15.0	293	300.4	-99
20.0	296	310.4	-119
25.0	270	320.4	-144
30.0	300	330.4	-174
35.0	309	340.4	-214
40.0	322	350.4	-256
45.0	311	360.4	-284
50.0	331	370.4	-310
55.0	357	380.4	-344
60.0	393	390.4	-369
65.0	380	400.4	-390
70.0	388	410.4	-425
75.0	375	420.4	-439
80.0	395	430.4	-459
85.0	373	440.4	-479
90.0	367	450.4	-504
95.0	365	460.4	-519
100.0	372	470.4	-534
105.0	387	480.4	-559
110.0	394	490.4	-580
115.0	399	500.4	-604
120.0	409	510.4	-619
125.0	424	520.4	-634
130.0	434	530.4	-649
135.0	437		
140.0	464		
145.0	481		
150.0	474		
155.0	382		
160.0	289		
160.4	281		
170.4	172		
180.4	103		
190.4	70		
200.4	30		
210.4	-8		
220.4	-22		
230.4	-29		
240.4	-44		
250.4	-49		
260.4	-61		

RANGE 0160 20 OCT 1983

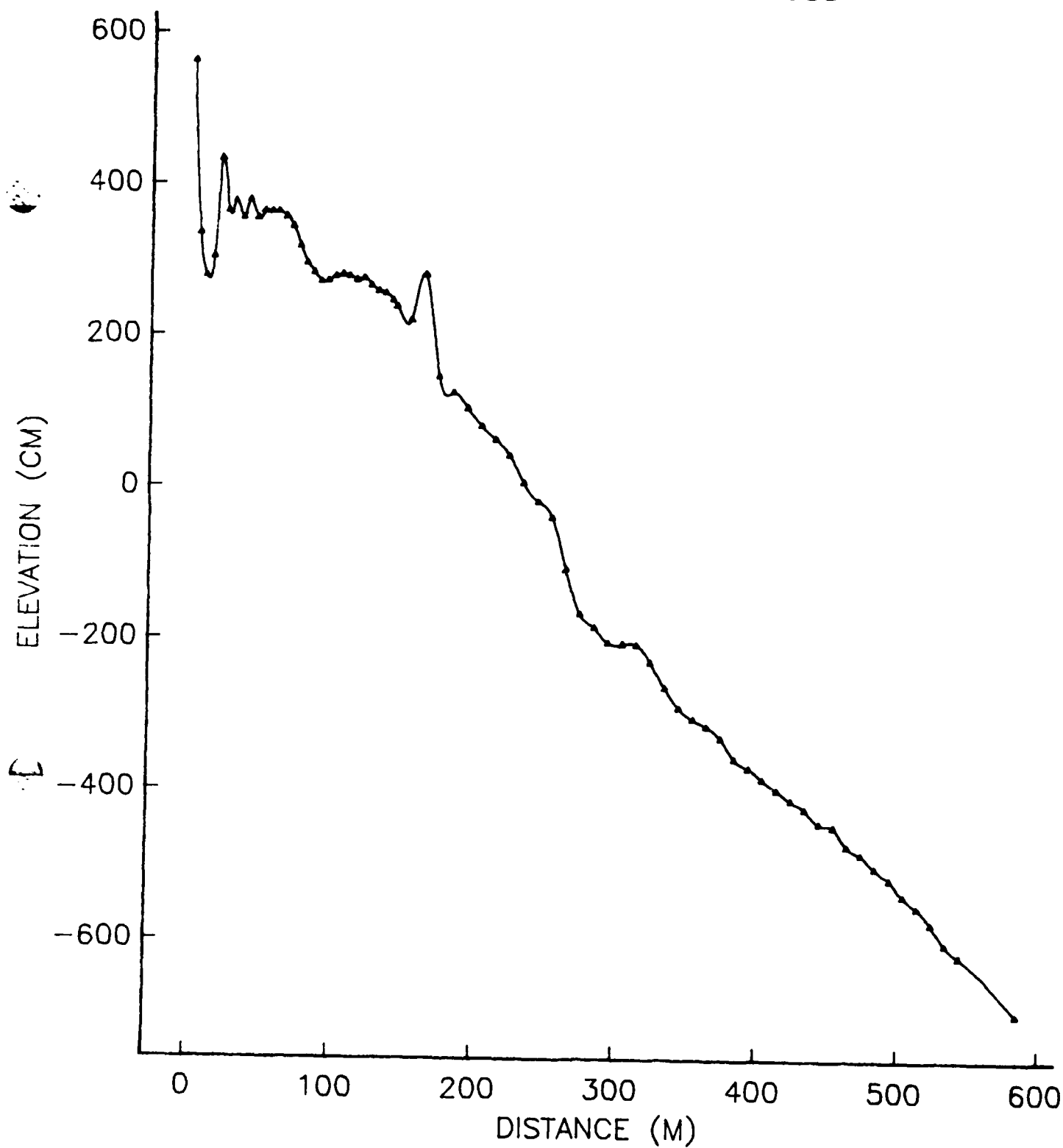


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 160 RUN 1
 OCT 20 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	561	293.1	-206
5.0	334	303.1	-207
10.0	277	313.1	-208
15.0	303	323.1	-231
20.0	432	333.1	-265
25.0	363	343.1	-292
30.0	376	353.1	-307
35.0	355	363.1	-316
40.0	378	373.1	-332
45.0	354	383.1	-359
50.0	363	393.1	-371
55.0	363	403.1	-386
60.0	363	413.1	-400
65.0	356	423.1	-414
70.0	343	433.1	-425
75.0	318	443.1	-444
80.0	295	453.1	-448
85.0	282	463.1	-474
90.0	270	473.1	-485
95.0	272	483.1	-503
100.0	278	493.1	-517
105.0	280	503.1	-539
110.0	278	513.1	-554
115.0	273	523.1	-575
120.0	275	533.1	-603
125.0	266	543.1	-619
130.0	258	553.1	-644
135.0	255	555.3	-651
140.0	246		
143.1	237		
153.1	219		
163.1	280		
173.1	144		
183.1	123		
193.1	103		
203.1	79		
213.1	61		
223.1	41		
233.1	5		
243.1	-19		
253.1	-40		
263.1	-108		
273.1	-168		
283.1	-185		

RANGE 0180 25 OCT 1983

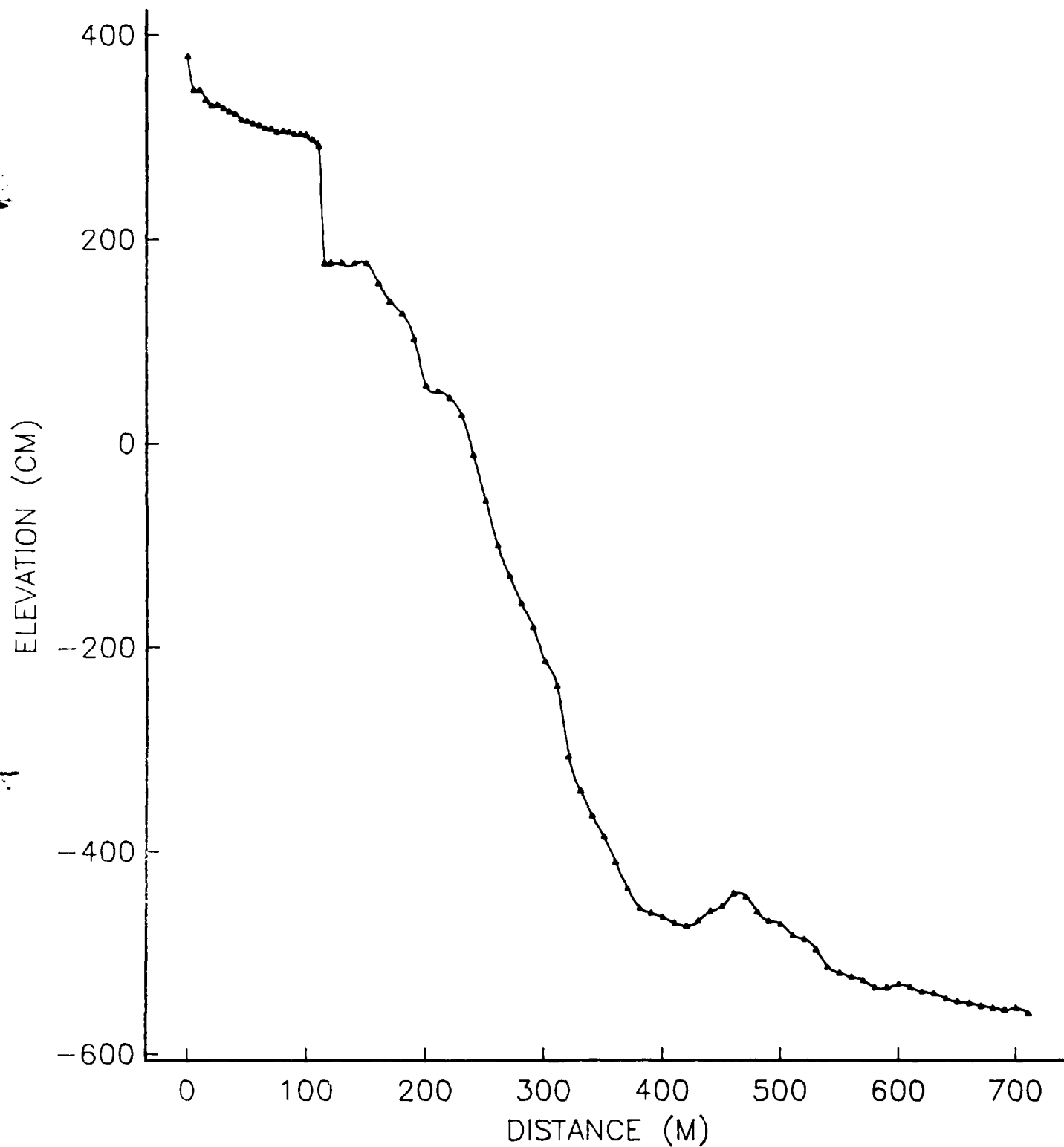
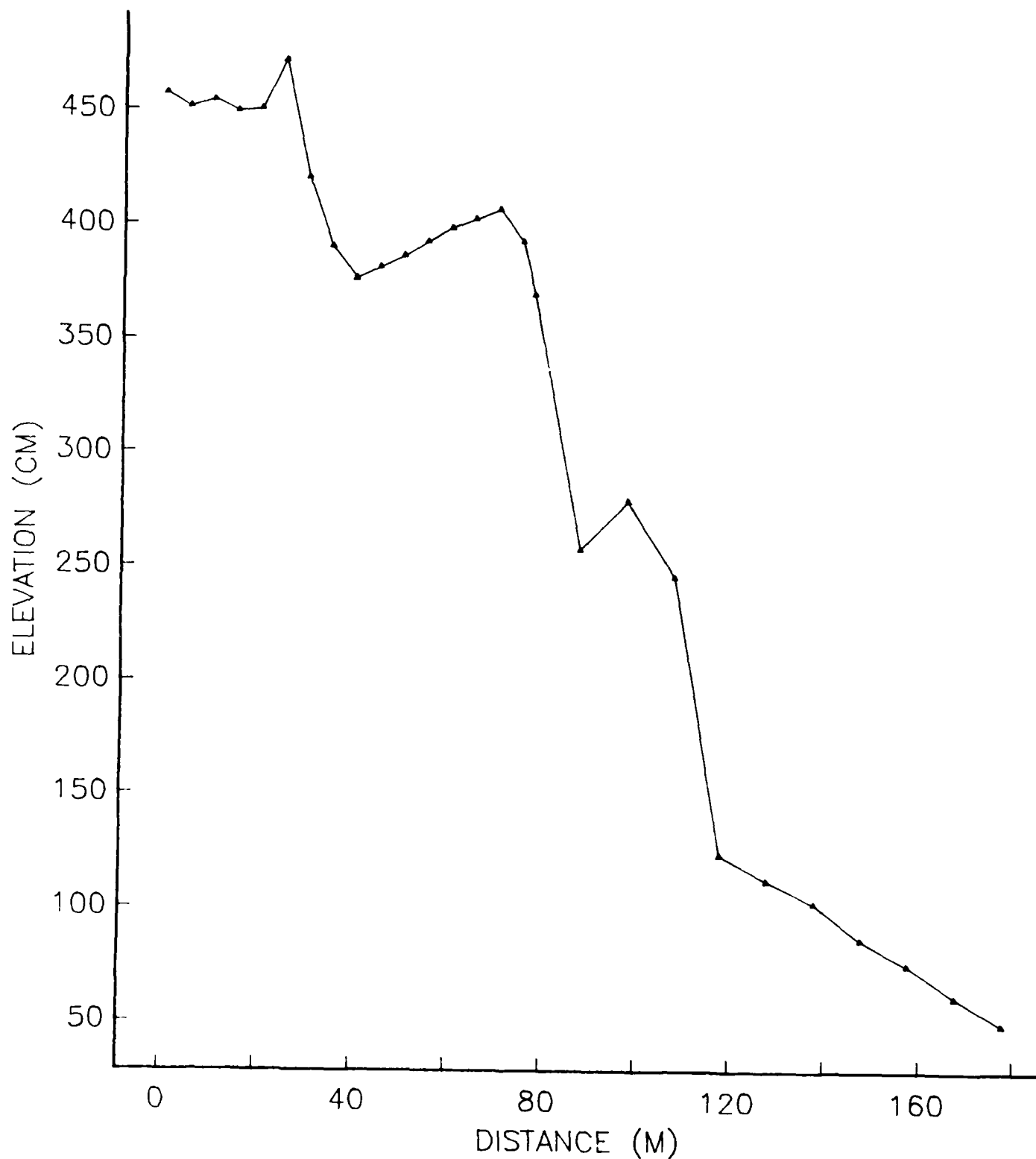


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 180 RUN 1
 OCT 25 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	378	320.2	-309
5.0	346	330.2	-342
10.0	346	340.2	-366
15.0	336	350.2	-387
20.0	330	360.2	-412
25.0	331	370.2	-438
30.0	327	380.2	-457
35.0	324	390.2	-462
40.0	321	400.2	-466
45.0	316	410.2	-472
50.0	315	420.2	-475
55.0	312	430.2	-470
60.0	311	440.2	-460
65.0	308	450.2	-455
70.0	307	460.2	-443
75.0	304	470.2	-446
80.0	305	480.2	-461
85.0	304	490.2	-470
90.0	302	500.2	-473
95.0	302	510.2	-484
100.0	301	520.2	-488
105.0	297	530.1	-498
110.0	290	540.1	-515
115.0	175	550.1	-521
120.2	175	560.1	-525
130.2	175	570.1	-528
140.2	175	580.1	-535
150.2	175	590.1	-535
160.2	155	600.1	-532
170.2	137	610.1	-535
180.2	125	620.1	-539
190.2	100	630.1	-541
200.2	55	640.1	-546
210.2	49	650.1	-549
220.2	43	660.1	-550
230.2	26	670.1	-553
240.2	-13	680.1	-555
250.2	-57	690.1	-557
260.2	-101	700.1	-555
270.2	-131	710.1	-560
280.2	-158		
290.2	-182		
300.2	-215		
310.2	-240		

RANGE 0230 19 OCT 1983



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TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 230 RUN 3
OCT 19 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL

0.0	457
5.0	451
10.0	454
15.0	449
20.0	450
25.0	471
30.0	420
35.0	390
40.0	376
45.0	381
50.0	386
55.0	392
60.0	398
65.0	402
70.0	406
75.0	392
77.7	369
87.7	257
97.7	278
107.7	245
117.7	123
127.7	112
137.7	102
147.7	86
157.7	75
167.7	61
177.7	49

RANGE 0310 10 OCT 1983

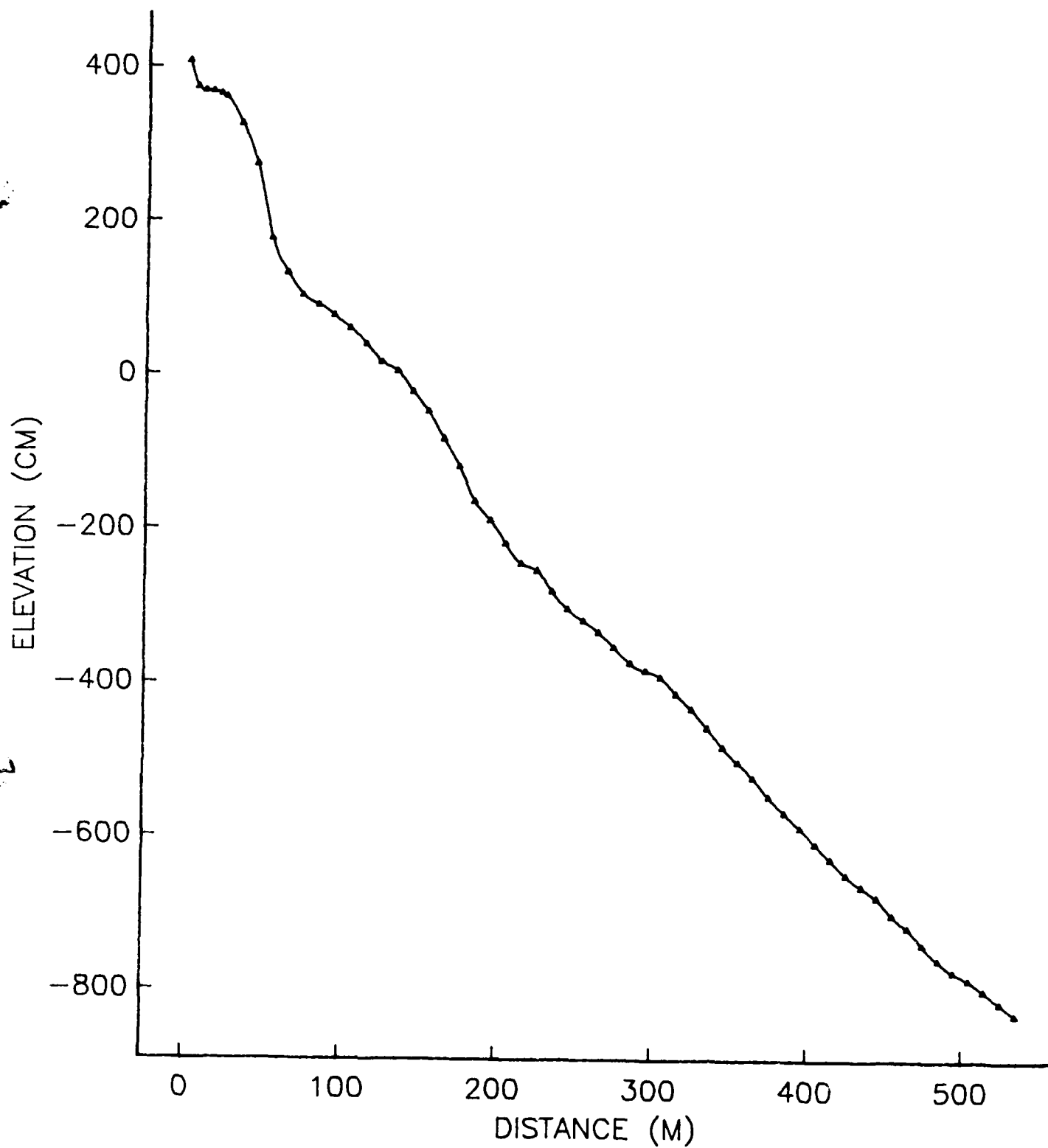


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 310 RUN 1
 OCT 10 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	407	414.0	-630
5.0	373	424.0	-650
10.0	368	434.0	-665
15.0	367	444.0	-679
20.0	364	454.0	-702
23.2	360	464.0	-718
33.2	325	474.0	-740
43.2	273	484.0	-760
53.2	176	494.0	-775
63.2	131	504.0	-785
73.2	102	514.0	-800
83.2	89	524.0	-815
93.3	75	534.0	-830
103.4	58		
113.5	39		
123.6	15		
133.7	3		
143.7	-24		
153.8	-50		
163.9	-85		
173.9	-120		
183.8	-165		
193.8	-190		
203.8	-220		
213.9	-246		
224.0	-255		
234.0	-282		
244.0	-305		
254.0	-320		
264.0	-335		
274.0	-355		
284.0	-375		
294.0	-385		
304.0	-393		
314.0	-415		
324.0	-435		
334.0	-460		
344.0	-485		
354.0	-505		
364.0	-525		
374.0	-550		
384.0	-570		
394.0	-590		
404.0	-610		

RANGE 0340 10 OCT 1983

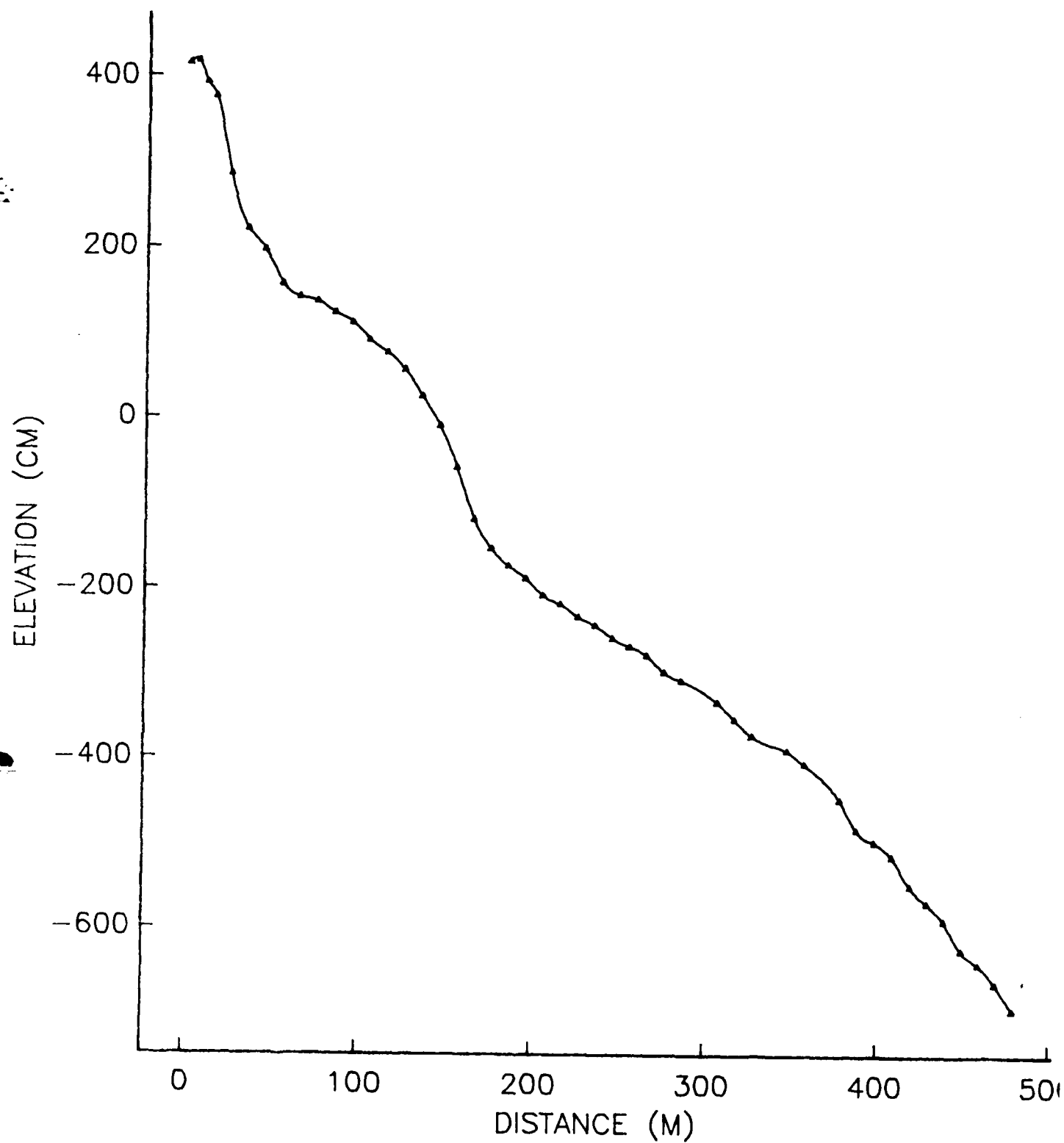
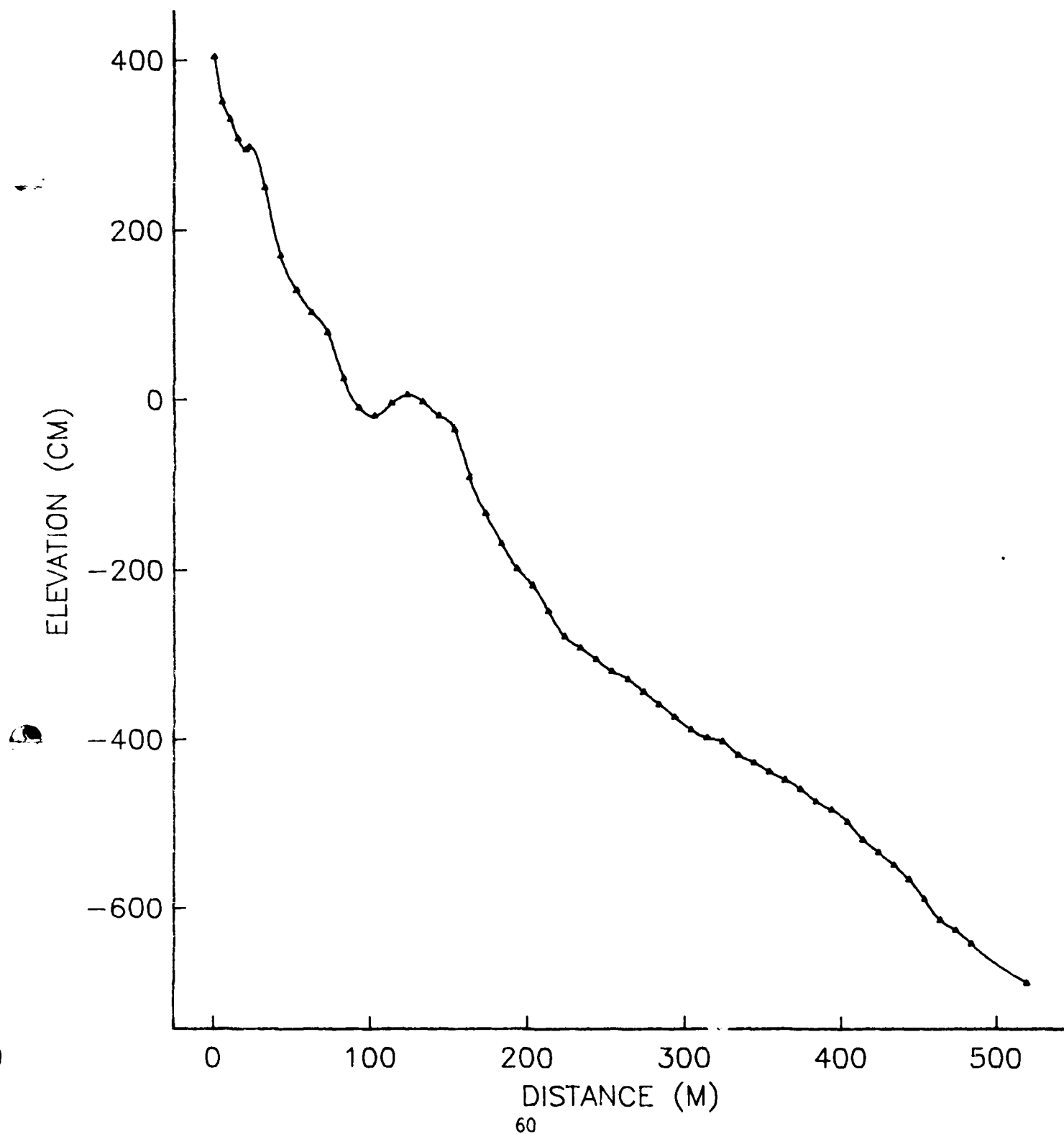


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 340 RUN 1
 OCT 10 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	414	458.8	-642
5.0	417	468.8	-665
10.0	392	478.8	-695
15.0	375		
24.2	284		
34.2	220		
44.3	195		
54.4	156		
64.5	140		
74.6	135		
84.7	122		
94.7	110		
104.8	90		
114.9	75		
125.0	55		
135.1	24		
145.2	-11		
155.2	-60		
165.3	-120		
175.3	-155		
185.3	-175		
195.3	-190		
205.3	-210		
215.4	-220		
225.4	-235		
235.4	-245		
245.4	-260		
255.4	-270		
265.4	-280		
275.4	-300		
285.4	-310		
306.2	-335		
316.2	-355		
326.2	-375		
346.9	-392		
356.9	-408		
377.7	-450		
387.7	-485		
397.7	-500		
408.0	-516		
418.8	-550		
428.8	-570		
438.8	-591		
448.8	-625		

RANGE 0384 10 OCT 1983



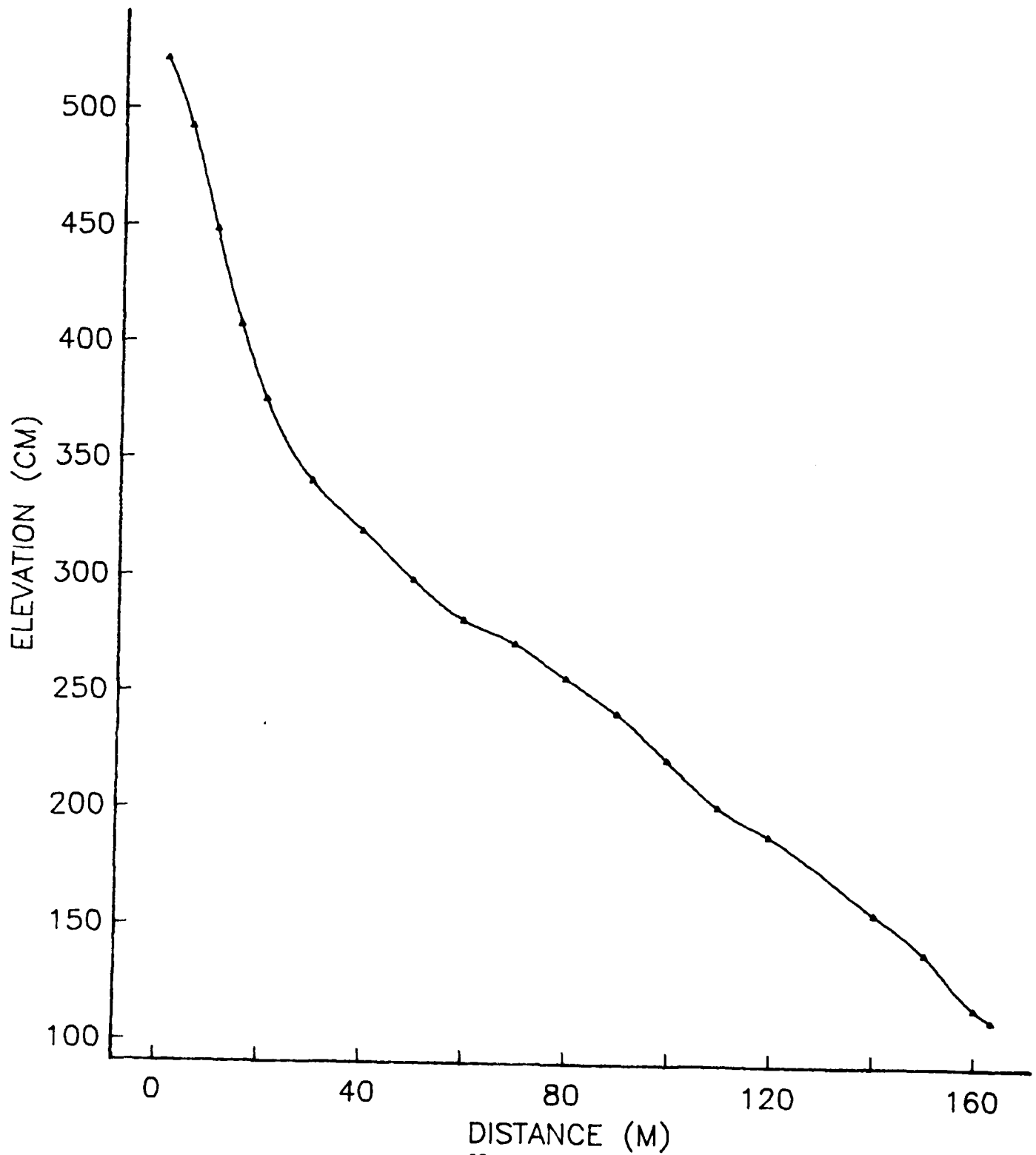
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TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 384 RUN 1
 OCT 10 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	404	413.7	-520
5.0	351	423.7	-535
10.0	330	433.7	-550
15.0	307	443.6	-567
20.0	295	453.6	-590
22.2	298	463.6	-615
32.2	250	473.6	-627
42.2	169	483.6	-643
52.2	129	493.6	-665
62.2	103	503.6	-675
72.2	79	514.4	-707
82.2	25		
92.2	-10		
102.2	-20		
112.9	-5		
122.9	5		
132.9	-3		
142.9	-20		
152.9	-36		
162.9	-92		
172.9	-135		
182.9	-170		
192.9	-200		
202.9	-220		
212.9	-250		
222.9	-280		
232.9	-293		
242.9	-307		
252.9	-321		
262.9	-330		
272.9	-345		
282.9	-360		
292.9	-375		
302.9	-390		
313.7	-400		
323.7	-404		
333.7	-420		
343.7	-429		
353.7	-440		
363.7	-450		
373.7	-460		
383.7	-475		
393.7	-485		
403.7	-499		

RANGE 0408

1 NOV 1983



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TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 408 RUN 2
NOV 01 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL
0.0	521
5.0	492
10.0	448
15.0	407
20.0	375
29.2	340
39.2	319
49.2	298
59.2	281
69.2	271
79.2	256
89.2	241
99.2	221
109.2	201
119.2	189
139.9	156
149.9	139
159.9	116
163.4	111

RANGE 0450

8 OCT 1983

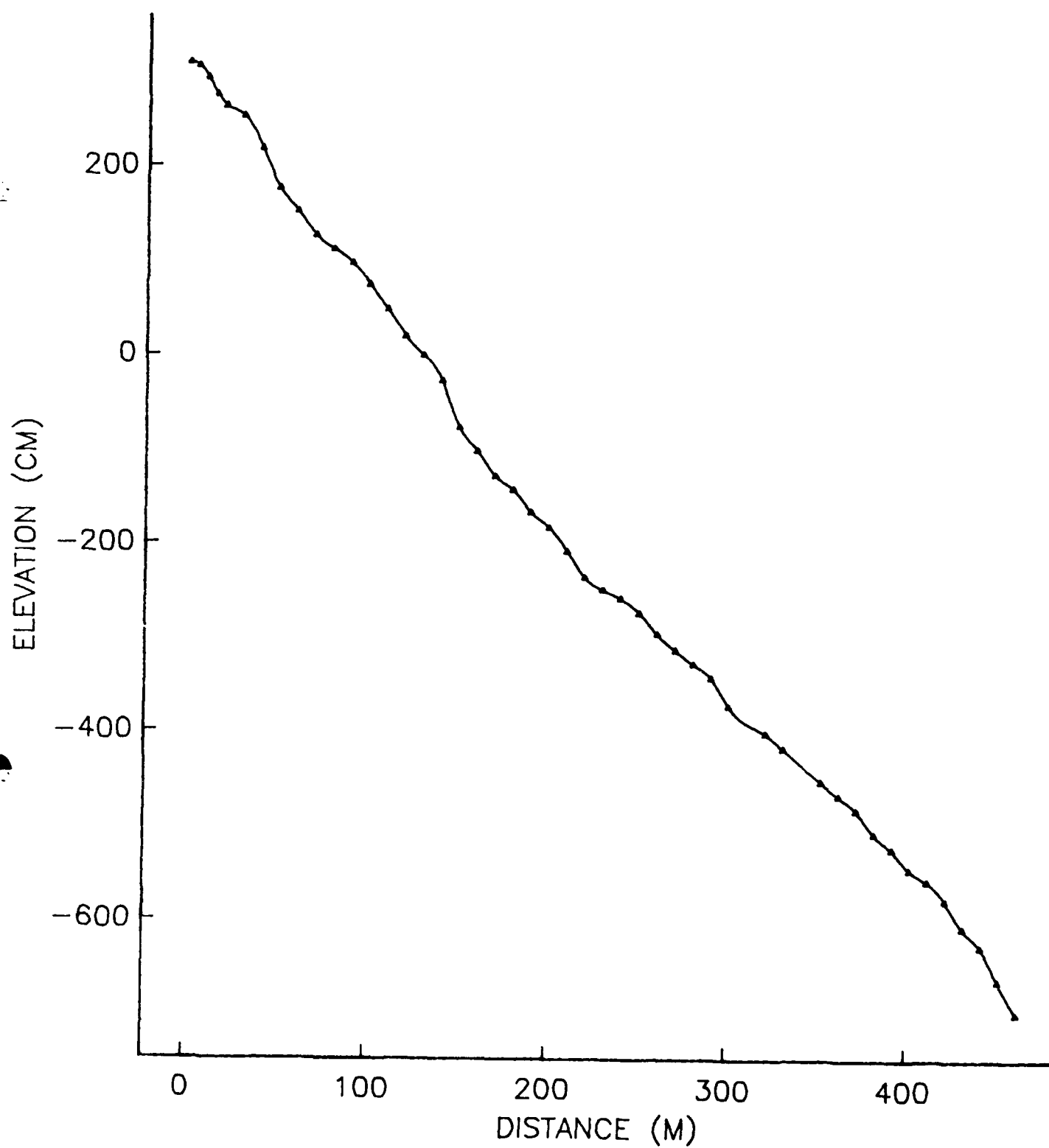


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 450 RUN 1
 OCT 08 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	308	442.0	-628
5.0	304	452.0	-664
10.0	292	462.0	-699
15.0	274	472.0	-741
20.0	262	482.0	-791
30.0	251	492.0	-855
40.0	217	509.5	-913
50.1	175		
60.1	151		
70.1	125		
80.1	111		
90.1	96		
100.1	73		
110.1	47		
120.1	18		
130.1	-2		
140.1	-29		
150.1	-79		
160.1	-104		
170.1	-130		
180.1	-145		
190.1	-168		
200.1	-184		
210.1	-209		
220.1	-237		
230.1	-250		
240.1	-259		
250.5	-274		
260.5	-297		
270.5	-314		
280.5	-329		
290.5	-344		
300.5	-374		
321.2	-403		
331.2	-419		
352.0	-454		
362.0	-469		
372.0	-484		
382.0	-509		
392.0	-525		
402.0	-546		
412.0	-559		
422.0	-579		
432.0	-608		

RANGE 0460 17 OCT 1983

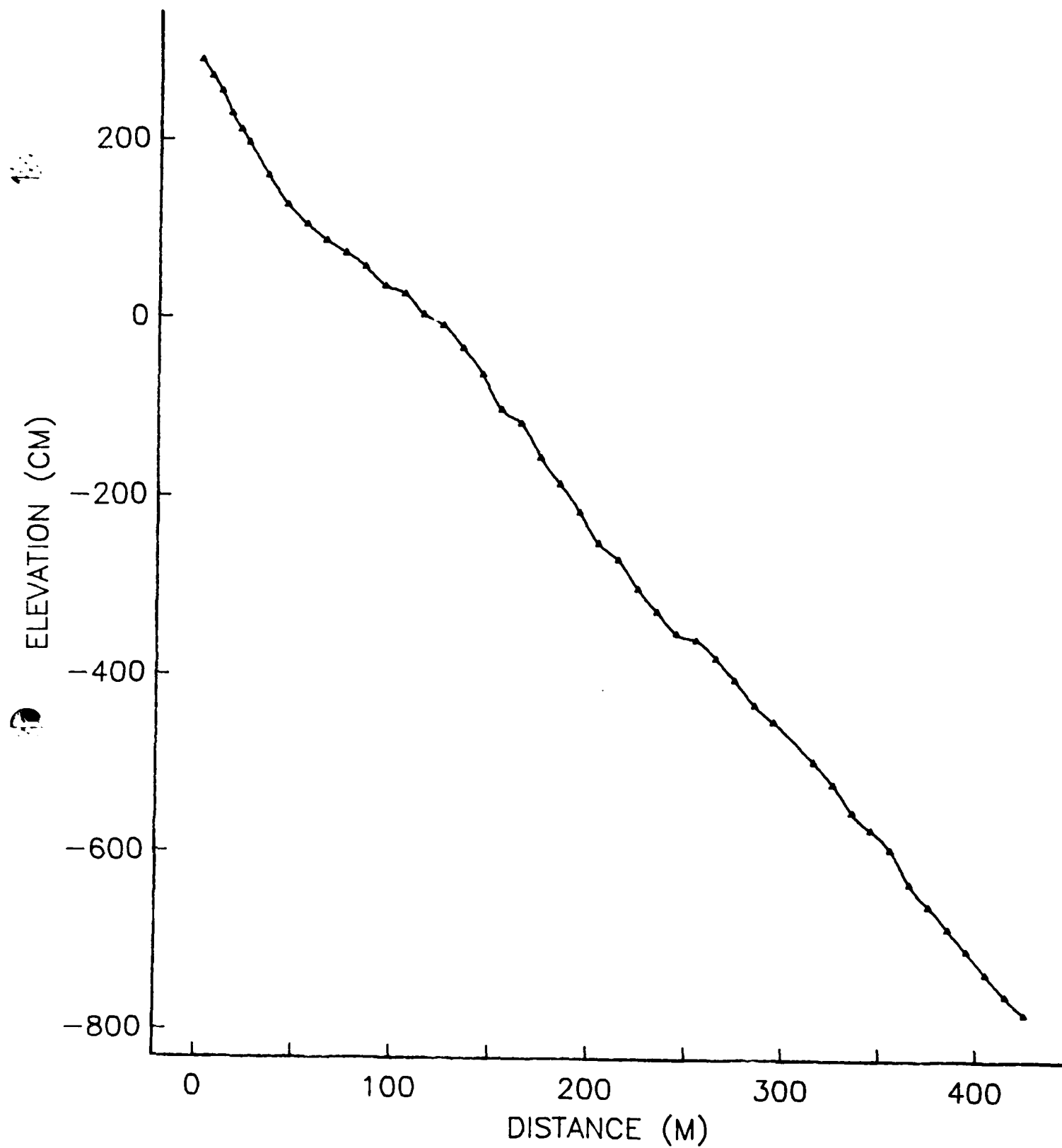
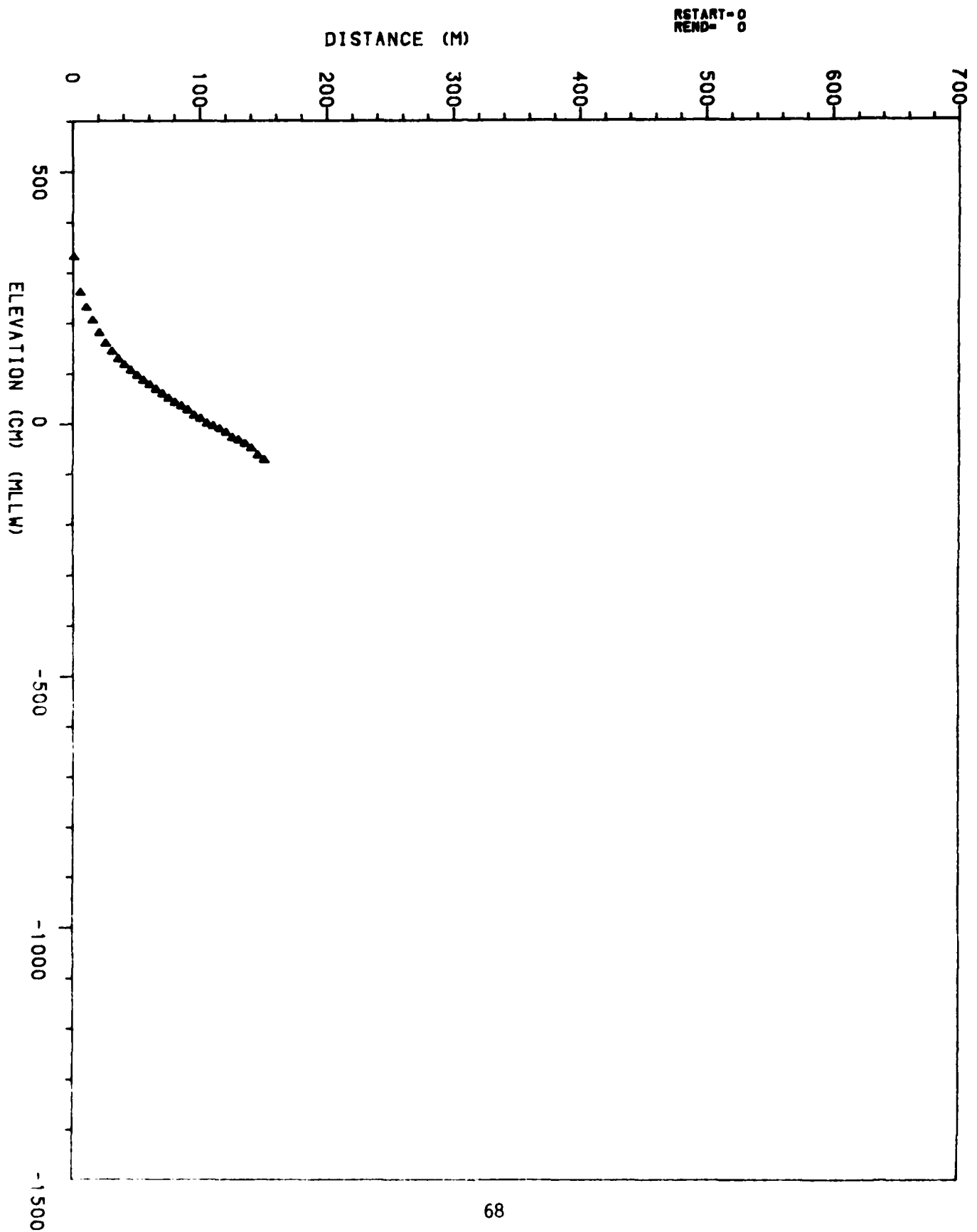


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 460 RUN 1
 OCT 17 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	288	424.8	-779
5.0	270	434.8	-788
10.0	253	444.8	-815
15.0	228	454.8	-849
20.0	210	464.8	-879
24.1	196		
34.1	159		
44.1	126		
54.1	104		
64.1	86		
74.1	72		
84.1	56		
94.1	35		
104.1	26		
114.1	3		
124.1	-9		
134.1	-34		
144.1	-64		
154.1	-104		
164.1	-119		
174.1	-157		
184.1	-187		
194.1	-218		
204.1	-253		
214.1	-271		
224.1	-304		
234.1	-329		
244.1	-354		
254.1	-361		
264.1	-381		
274.1	-406		
284.1	-434		
294.1	-453		
314.8	-498		
324.8	-523		
334.8	-554		
344.8	-574		
354.8	-596		
364.8	-634		
374.8	-658		
384.8	-684		
394.8	-709		
404.8	-734		
414.8	-759		

RANGE= 470

NOV 07 1983



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TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 470 RUN 9
NOV 07 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL

0.0	332
5.0	261
10.0	231
15.0	205
20.0	180
25.0	159
30.0	143
35.0	128
40.0	116
45.0	105
50.0	95
55.0	85
60.0	76
65.0	67
70.0	58
75.0	49
80.0	41
85.0	34
90.0	26
95.0	15
100.0	9
105.0	-1
110.0	-6
115.0	-11
120.0	-19
125.0	-29
130.0	-34
135.0	-41
140.0	-50
145.0	-64
150.0	-73

RANGE 0520 17 OCT 1983

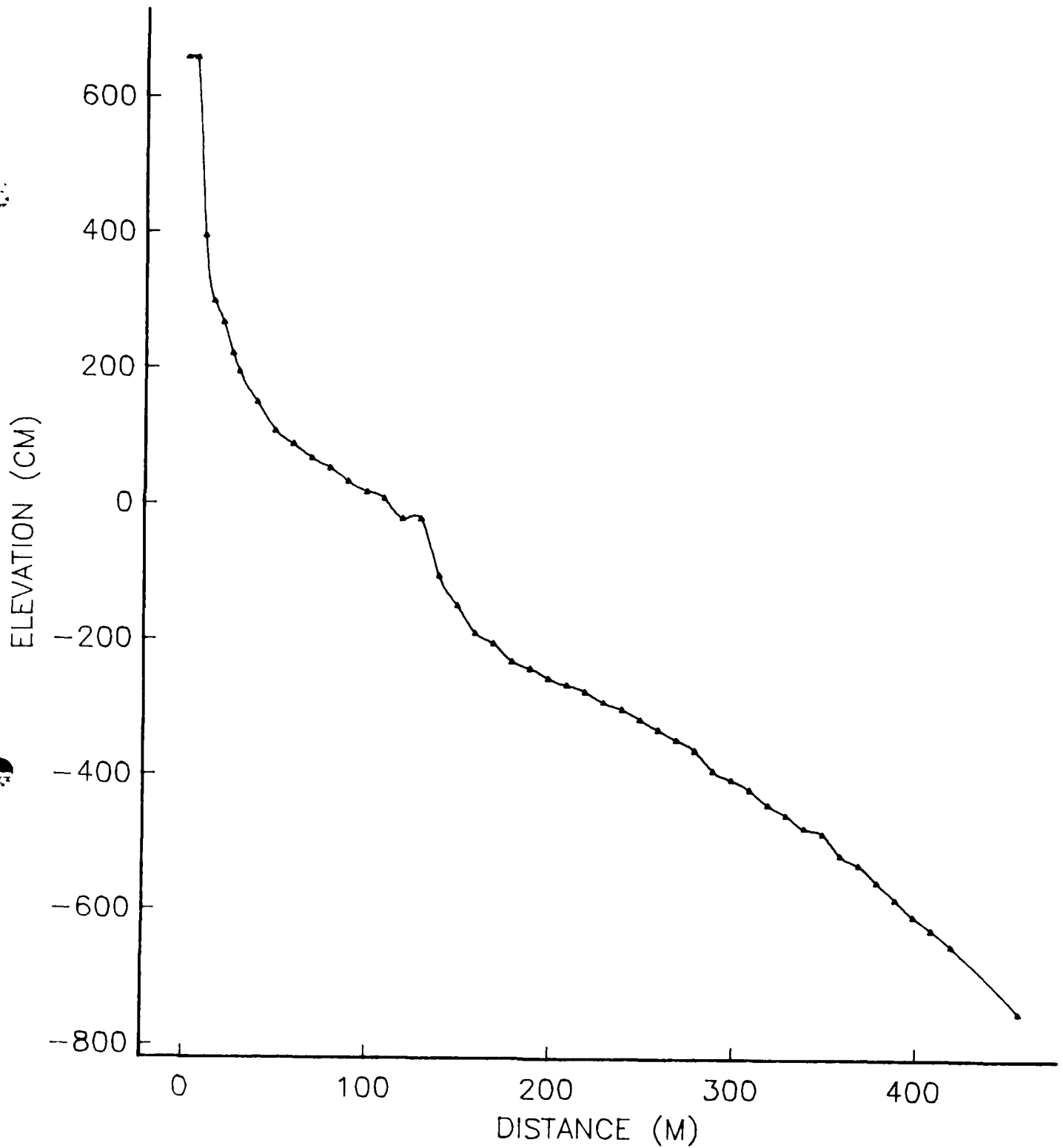


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 520 RUN 1
 OCT 17 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	657	408.5	-629
5.0	656	419.7	-653
10.0	394		
15.0	297		
20.0	265		
25.0	220		
28.5	193		
38.5	148		
48.5	106		
58.5	86		
68.5	66		
78.5	51		
88.5	31		
98.5	16		
108.5	6		
118.5	-24		
128.5	-24		
138.5	-108		
148.5	-152		
158.5	-192		
168.5	-208		
178.5	-234		
188.5	-244		
198.5	-259		
208.5	-269		
218.5	-278		
228.5	-294		
238.5	-304		
248.5	-319		
258.5	-334		
268.5	-349		
278.5	-364		
288.5	-394		
298.5	-407		
308.5	-422		
318.5	-444		
328.5	-459		
338.5	-479		
348.5	-487		
358.5	-519		
368.5	-534		
378.5	-559		
388.5	-584		
398.5	-609		

RANGE 0580 28 OCT 1983

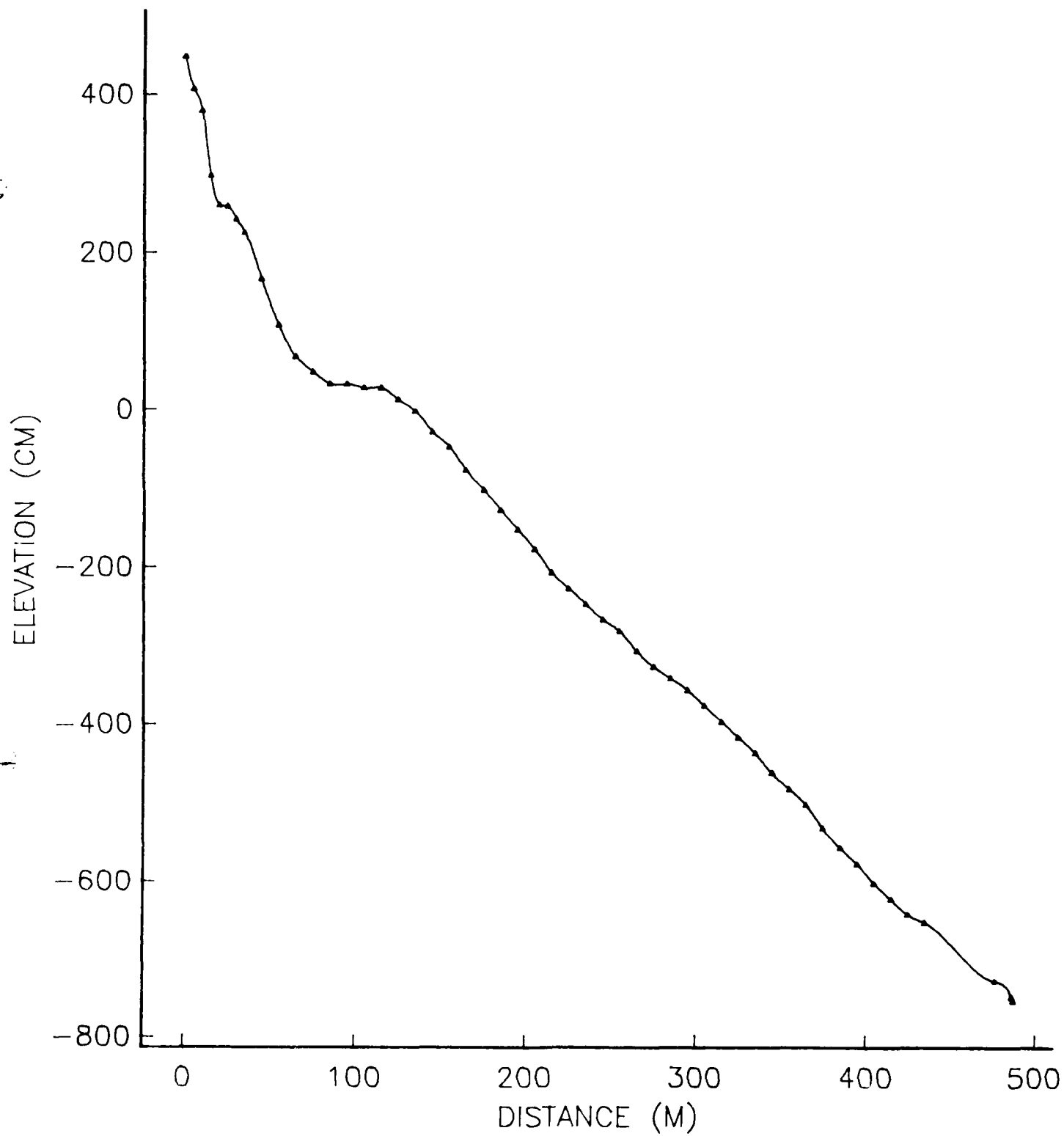


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 580 RUN 1
 OCT 28 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	447	404.7	-604
5.0	406	414.7	-624
10.0	378	424.7	-644
15.0	296	434.7	-654
20.0	259	466.1	-704
25.0	257	476.1	-729
30.0	241	486.1	-749
35.0	224	486.9	-754
44.7	165		
54.7	106		
64.7	66		
74.7	46		
84.7	31		
94.7	31		
104.7	26		
114.7	26		
124.7	11		
134.7	-4		
144.7	-30		
154.7	-49		
164.7	-79		
174.7	-104		
184.7	-129		
194.7	-154		
204.7	-179		
214.7	-209		
224.7	-229		
234.7	-249		
244.7	-269		
254.7	-284		
264.7	-309		
274.7	-329		
284.7	-344		
294.7	-359		
304.7	-379		
314.7	-399		
324.7	-419		
334.7	-439		
344.7	-464		
354.7	-484		
364.7	-504		
374.7	-534		
384.7	-559		
394.7	-579		

RANGE 0600 11 OCT 1983

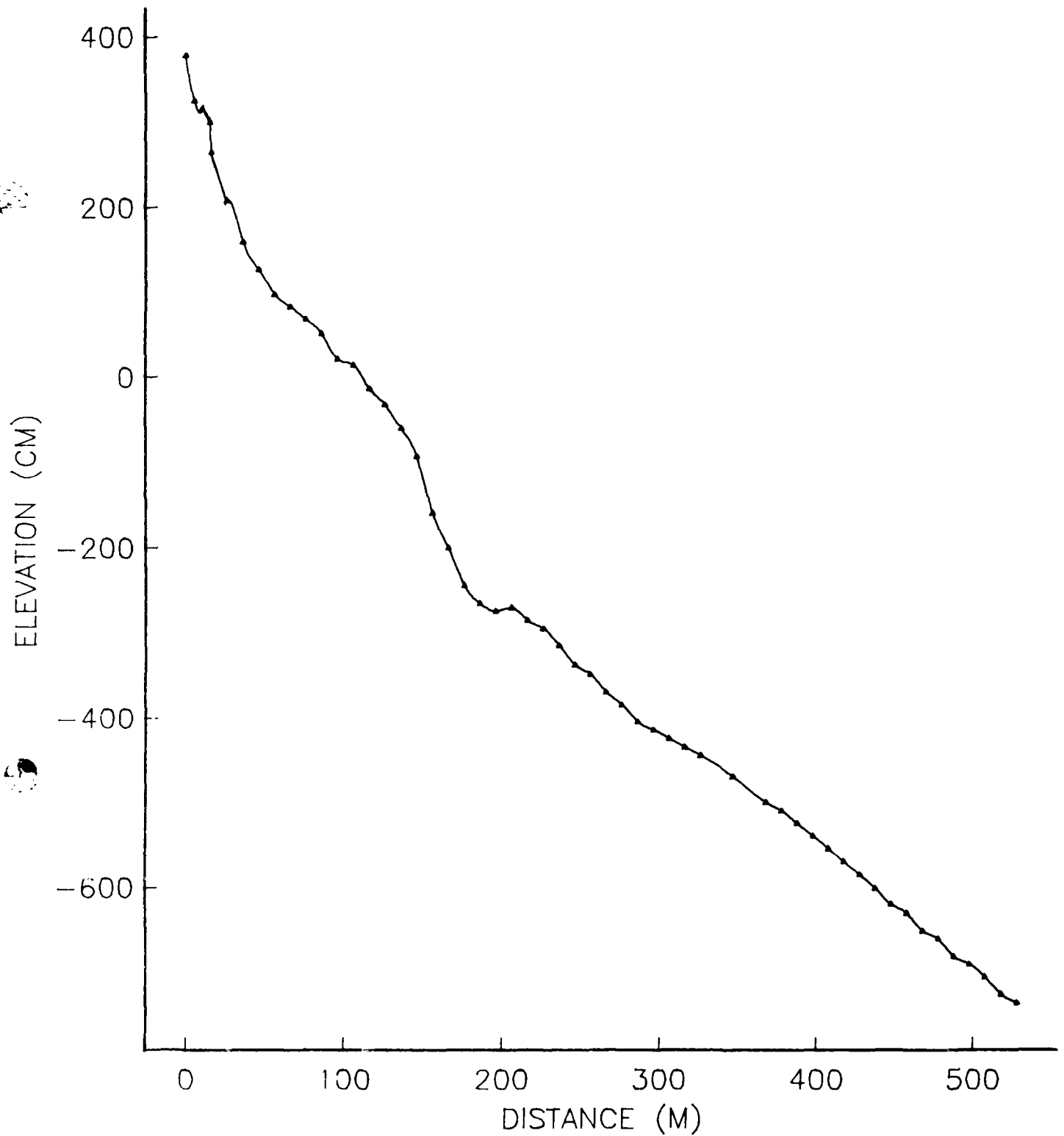


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 600 RUN 1
 OCT 11 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	378	437.5	-602
5.0	325	447.5	-621
10.0	315	457.5	-631
15.0	300	467.5	-652
16.0	265	477.5	-840
26.0	207	487.5	-682
36.0	159	497.5	-691
46.0	126	507.5	-706
56.0	97	517.9	-726
66.0	82	527.9	-736
76.0	67		
86.0	50		
96.0	20		
106.0	13		
116.0	-14		
126.0	-33		
136.0	-61		
146.0	-94		
156.0	-160		
166.0	-201		
176.0	-245		
186.0	-266		
196.0	-275		
206.0	-271		
216.0	-286		
226.0	-296		
236.0	-316		
246.0	-339		
256.0	-350		
266.0	-371		
276.0	-386		
286.0	-406		
296.0	-416		
306.0	-426		
316.0	-436		
326.0	-446		
346.7	-471		
367.5	-501		
377.5	-511		
387.5	-526		
397.5	-541		
407.5	-556		
417.5	-571		
427.5	-586		

RANGE 0630 11 OCT 1983

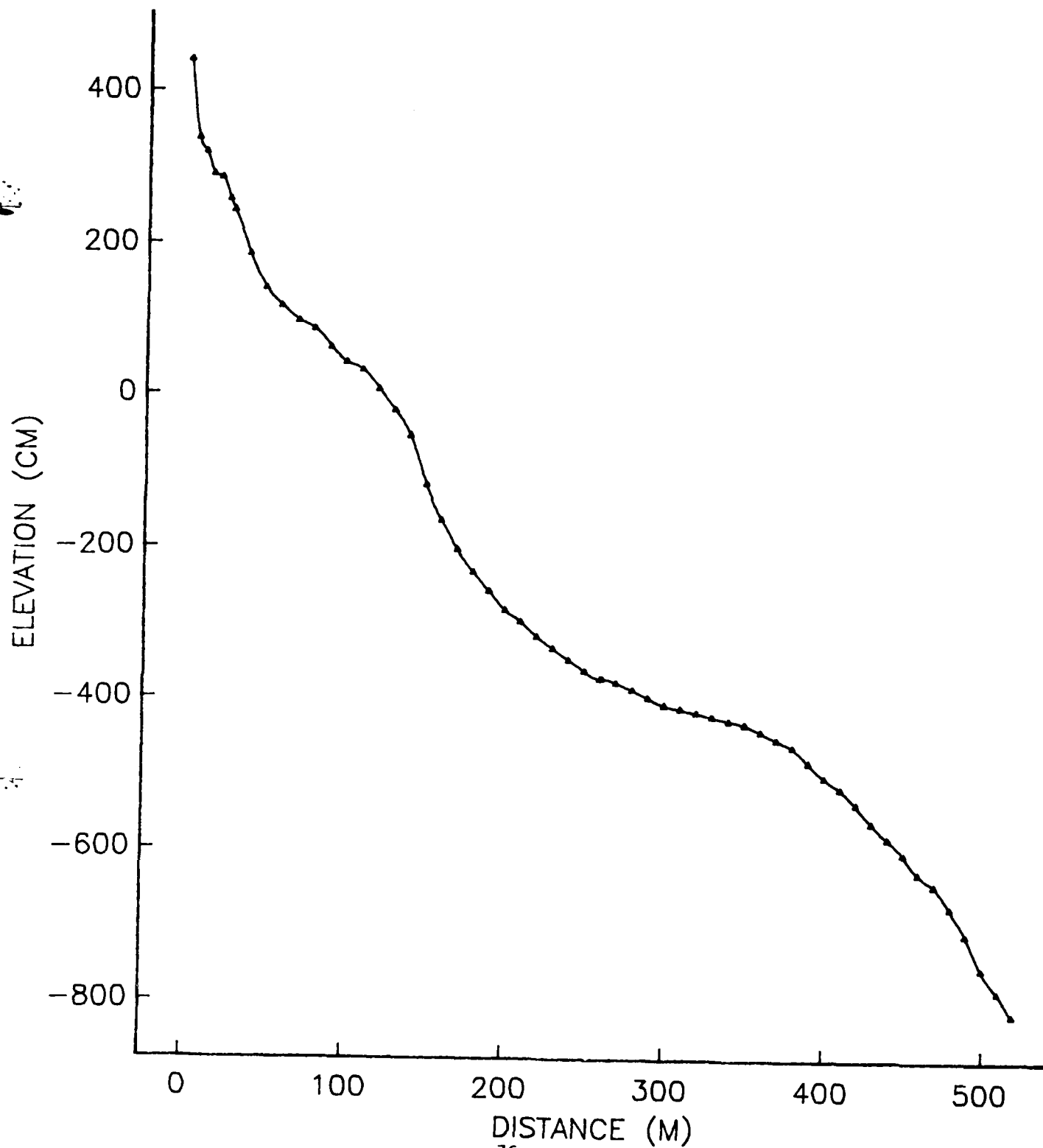
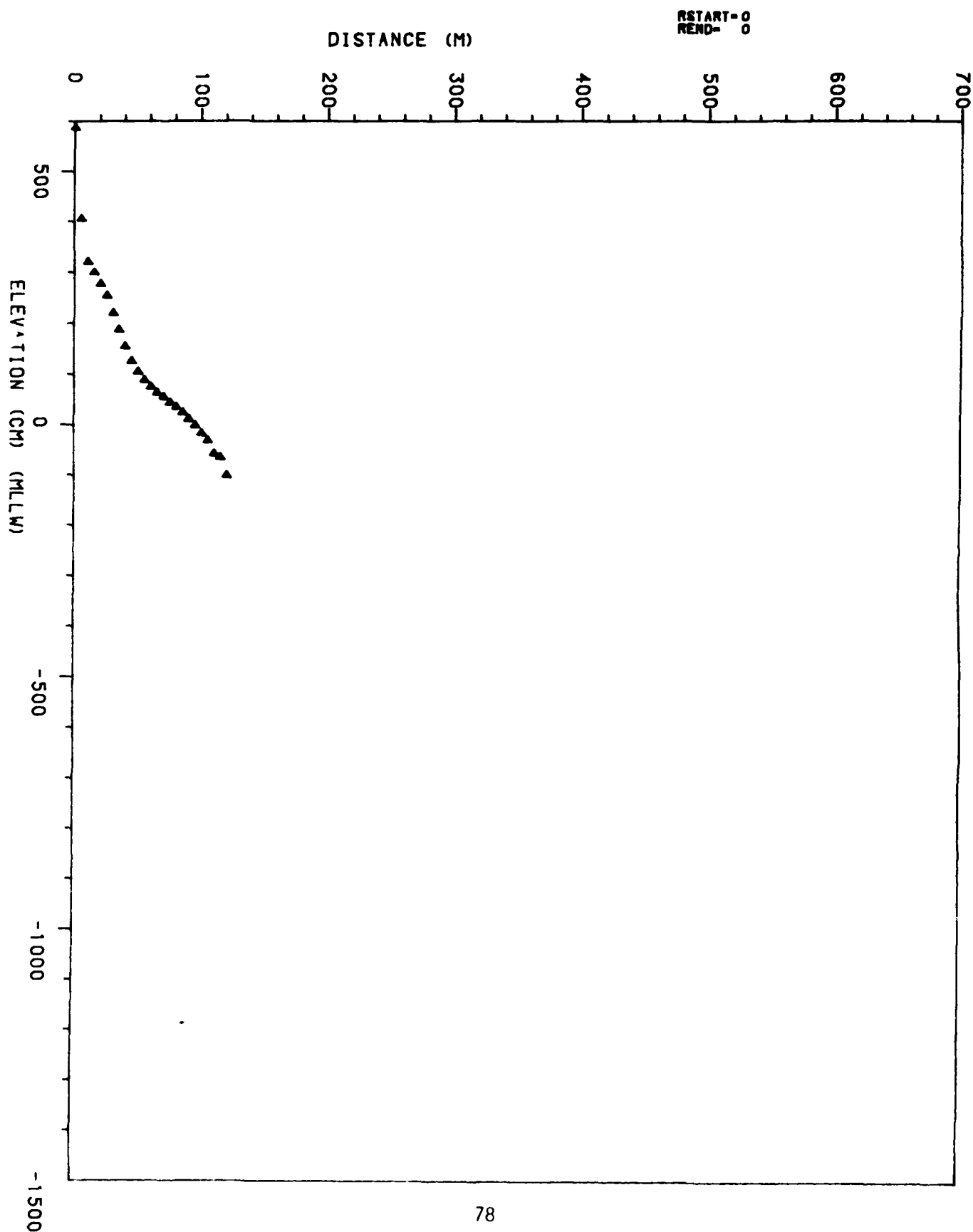


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 630 RUN 1
 OCT 11 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	439	398.7	-504
5.0	337	408.7	-519
10.0	319	418.7	-539
15.0	290	428.7	-564
20.0	286	438.7	-584
25.0	257	448.6	-604
27.7	243	458.6	-629
37.7	185	468.6	-645
47.7	139	478.6	-674
57.7	116	488.6	-709
68.5	96	498.6	-754
78.5	85	508.6	-784
88.6	61	518.6	-814
98.6	41		
108.6	31		
118.6	6		
128.6	-22		
138.6	-55		
148.6	-119		
158.6	-166		
168.6	-204		
178.6	-234		
188.6	-259		
198.6	-284		
208.6	-299		
218.6	-319		
228.6	-334		
238.6	-349		
248.6	-364		
258.6	-374		
259.6	-374		
268.6	-379		
278.7	-389		
288.7	-399		
298.7	-409		
308.7	-414		
318.7	-419		
328.7	-424		
338.7	-429		
348.7	-434		
358.7	-444		
368.7	-454		
378.7	-464		
388.7	-484		

RANGE= 670

OCT 18 1983



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 670 RUN 1
OCT 18 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL
0.0	587
5.0	406
10.0	321
15.0	300
20.0	277
25.0	254
30.0	220
35.0	187
40.0	154
45.0	125
50.0	104
55.0	87
60.0	74
65.0	62
70.0	54
75.0	43
80.0	34
85.0	23
90.0	10
95.0	-3
100.0	-19
105.0	-33
110.0	-59
115.0	-66
120.0	-102

RANGE 0720 18 OCT 1983

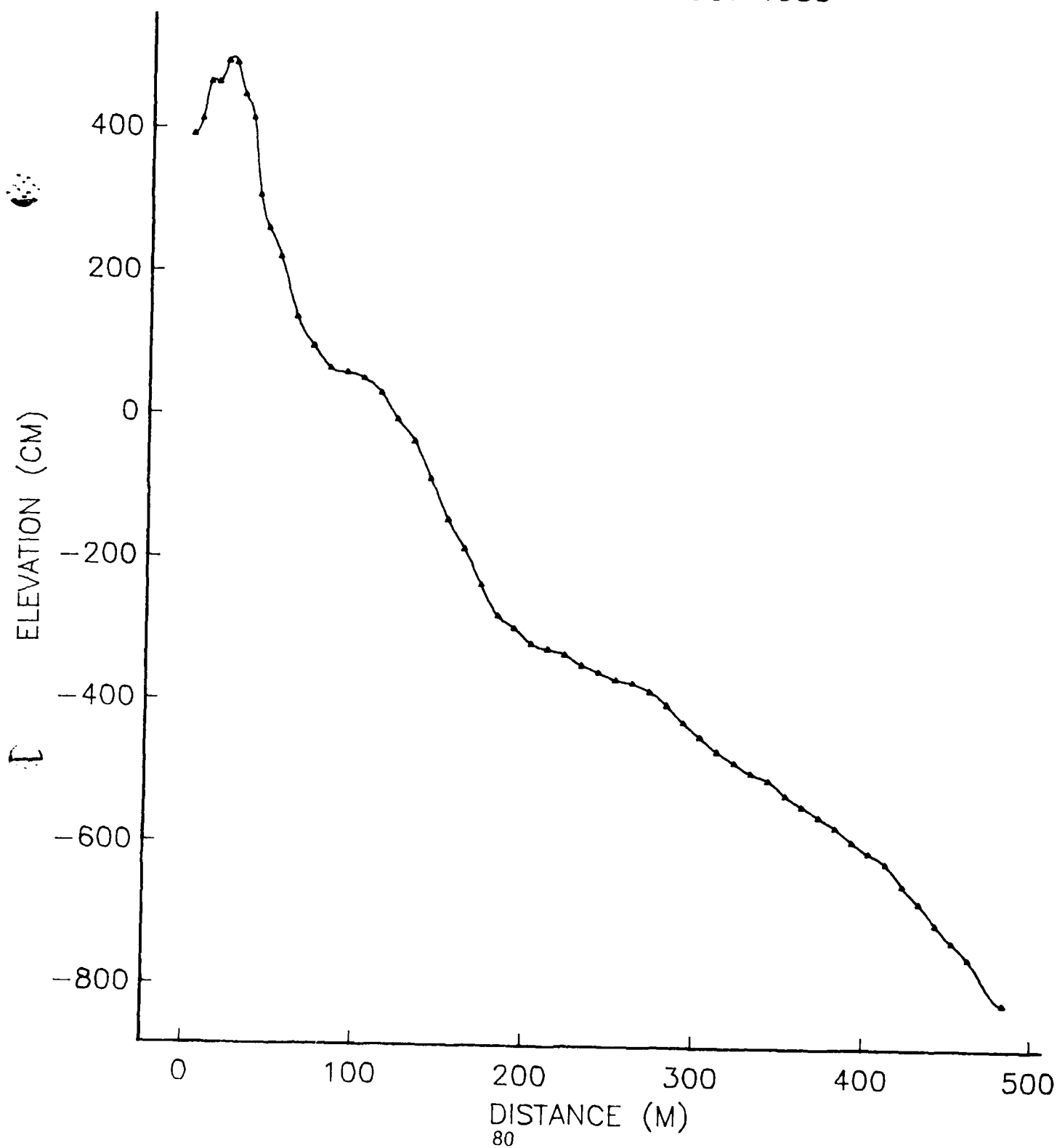


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 720 RUN 1
 OCT 18 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	390	392.2	-595
5.0	411	402.2	-610
10.0	463	412.2	-625
15.0	463	422.2	-655
20.0	492	432.2	-680
25.0	489	442.2	-709
30.0	445	452.2	-735
35.0	413	462.2	-757
40.0	306	483.0	-820
45.0	259	483.4	-820
52.2	220		
62.2	134		
72.2	94		
82.2	63		
92.2	57		
102.2	49		
112.2	29		
122.2	-8		
132.2	-38		
142.2	-90		
152.2	-147		
162.2	-187		
172.2	-238		
182.2	-281		
192.2	-298		
202.2	-320		
212.2	-327		
222.2	-335		
232.2	-350		
242.2	-360		
252.2	-370		
262.2	-375		
272.2	-386		
282.2	-405		
292.2	-430		
302.2	-450		
312.2	-470		
322.2	-485		
332.2	-500		
342.2	-510		
352.2	-530		
362.2	-545		
372.2	-560		
382.2	-575		

RANGE 0760 27 OCT 1983

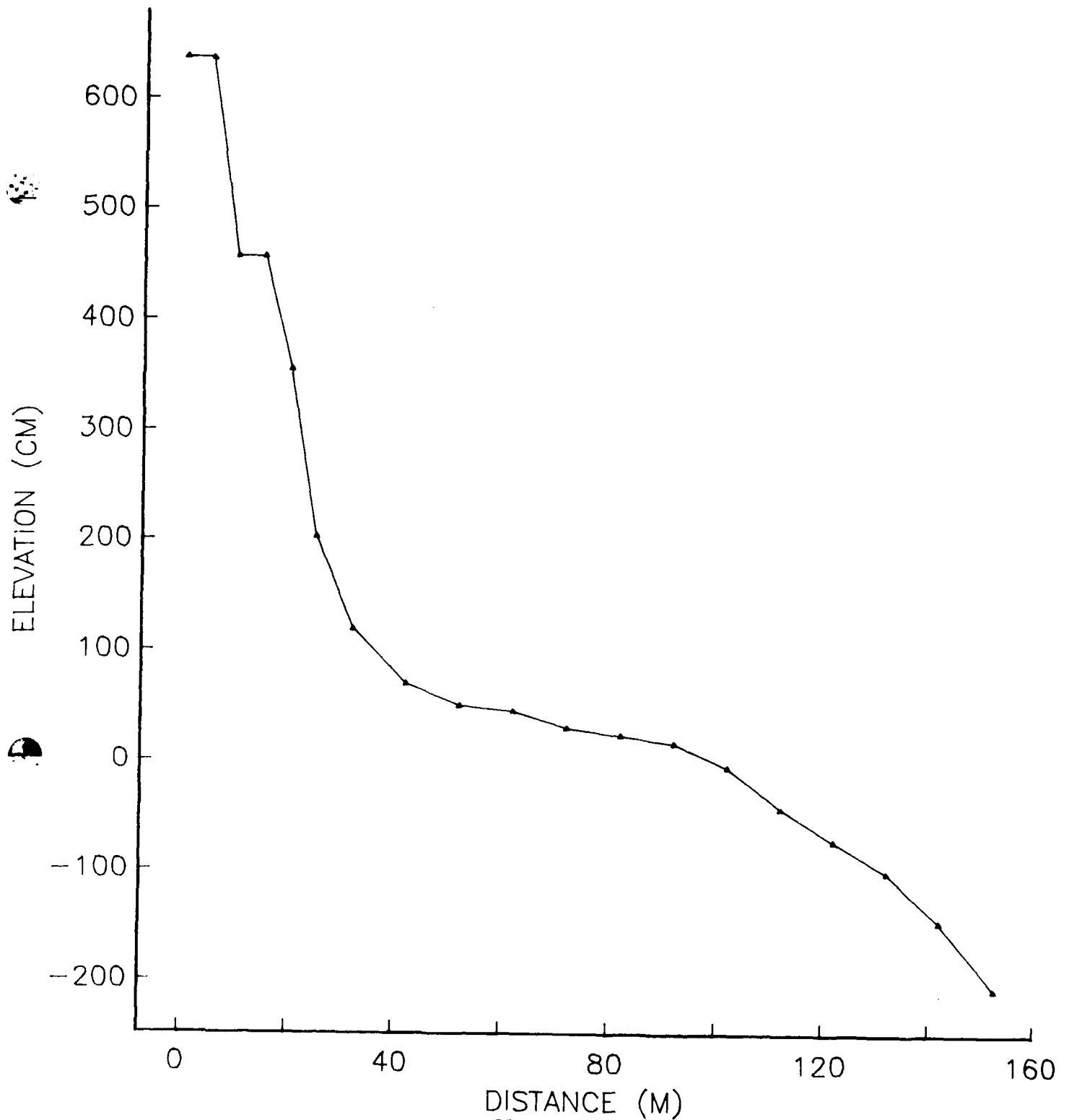
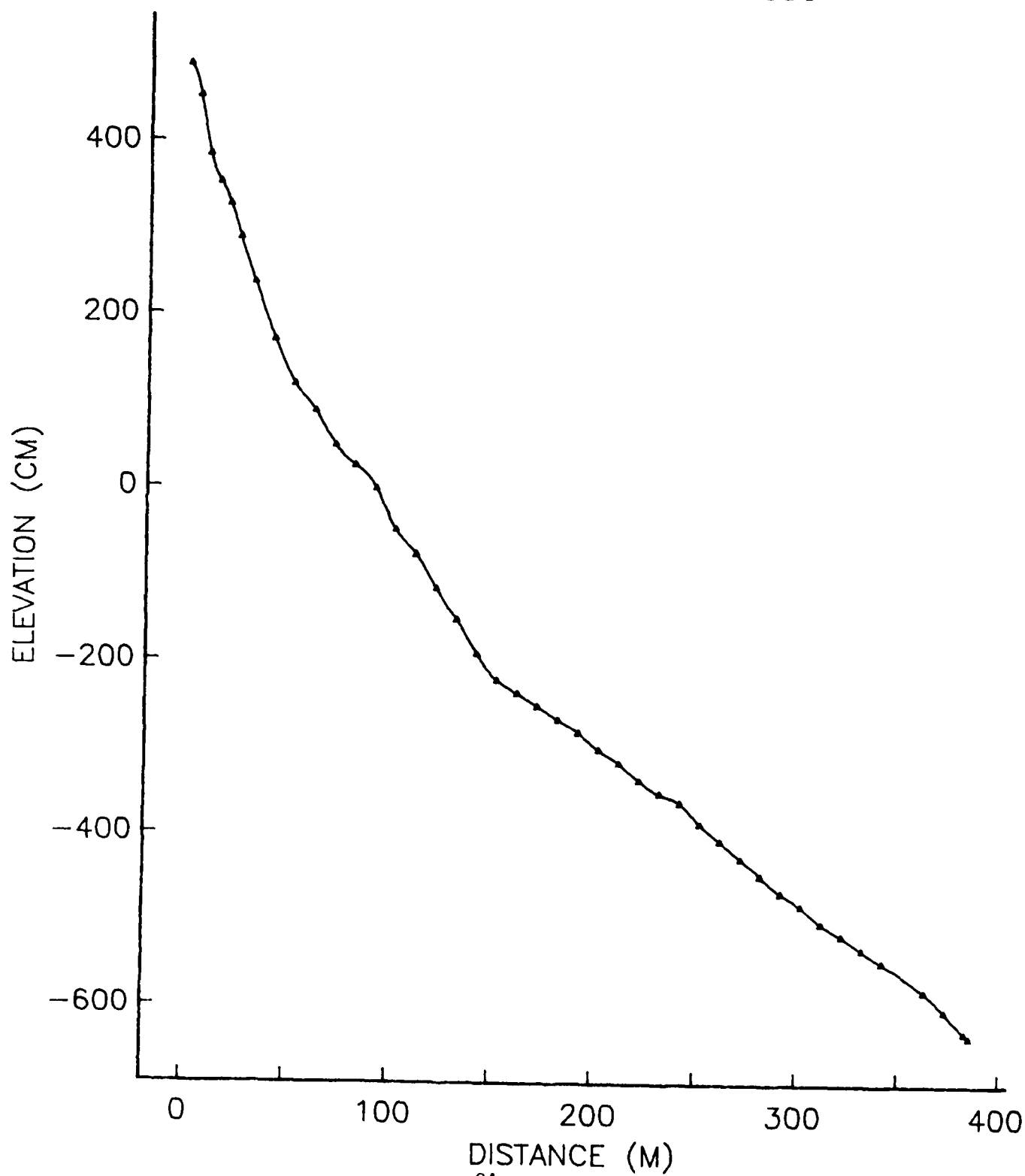


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 760 RUN 1
OCT 27 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL

0.0	637
5.0	636
10.0	456
15.0	456
20.0	354
25.0	202
32.0	119
42.0	69
52.0	49
62.0	44
72.0	29
82.0	22
92.0	15
102.0	-7
112.0	-44
122.0	-74
132.0	-102
142.0	-147
152.5	-207

RANGE 0820 26 OCT 1983



1

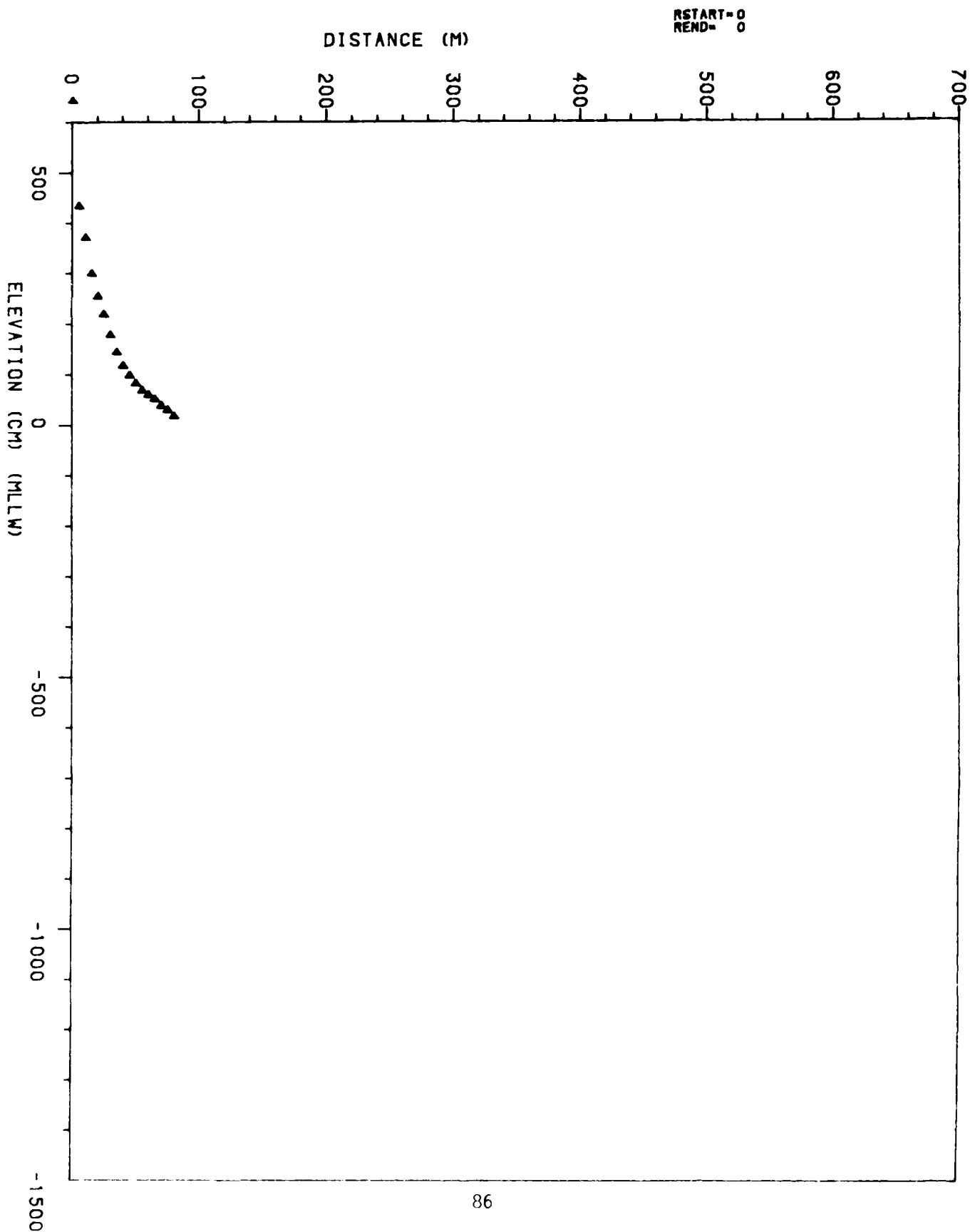
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 820 RUN 1
OCT 26 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL

0.0	487
5.0	451
10.0	383
15.0	351
20.0	325
25.0	287
32.2	235
42.2	169
52.2	117
62.2	86
72.3	46
82.3	23
92.3	-3
102.3	-51
112.3	-79
122.3	-119
132.3	-154
142.3	-194
152.3	-224
162.3	-239
172.3	-254
182.3	-269
192.3	-284
202.3	-304
212.3	-319
222.3	-339
232.3	-354
242.3	-365
252.3	-389
262.3	-409
272.3	-429
282.3	-449
292.3	-469
302.3	-484
312.3	-504
322.3	-518
332.3	-534
342.3	-549
363.1	-582
373.1	-604
383.1	-629
385.4	-634

RANGE = 880

OCT 31 1983



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 880 RUN 3
OCT 31 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL

0.0	642
5.0	434
10.0	371
15.0	300
20.0	254
25.0	219
30.0	178
35.0	144
40.0	117
45.0	98
50.0	82
55.0	68
60.0	59
65.0	51
70.0	38
75.0	29
80.0	17

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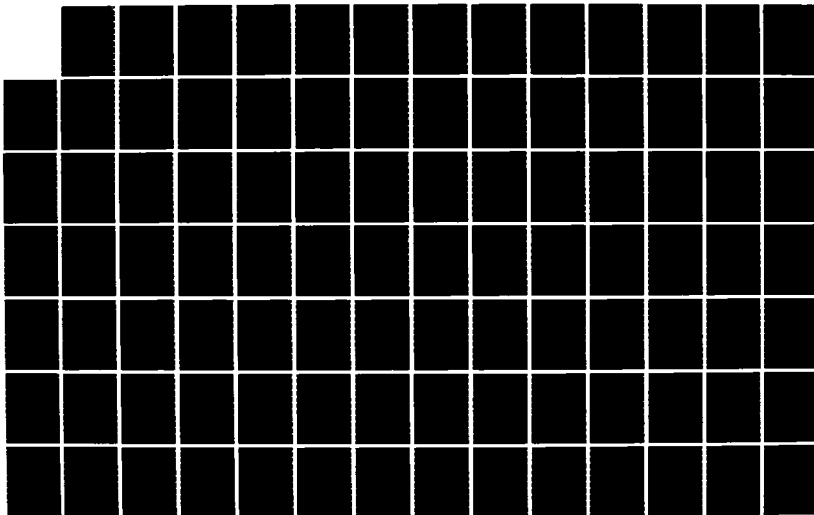
COAST OF CALIFORNIA STORM AND TIDAL WAVES STUDY
NEARSHORE BATHYMETRIC SUR. (U) SCRIPPS INSTITUTION OF
OCEANOGRAPHY LA JOLLA CA OCEAN ENGINEER..
C GABLE ET AL. DEC 85 CCSTWS-85-3

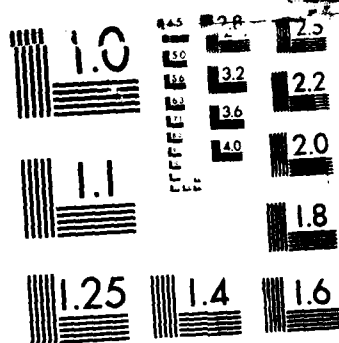
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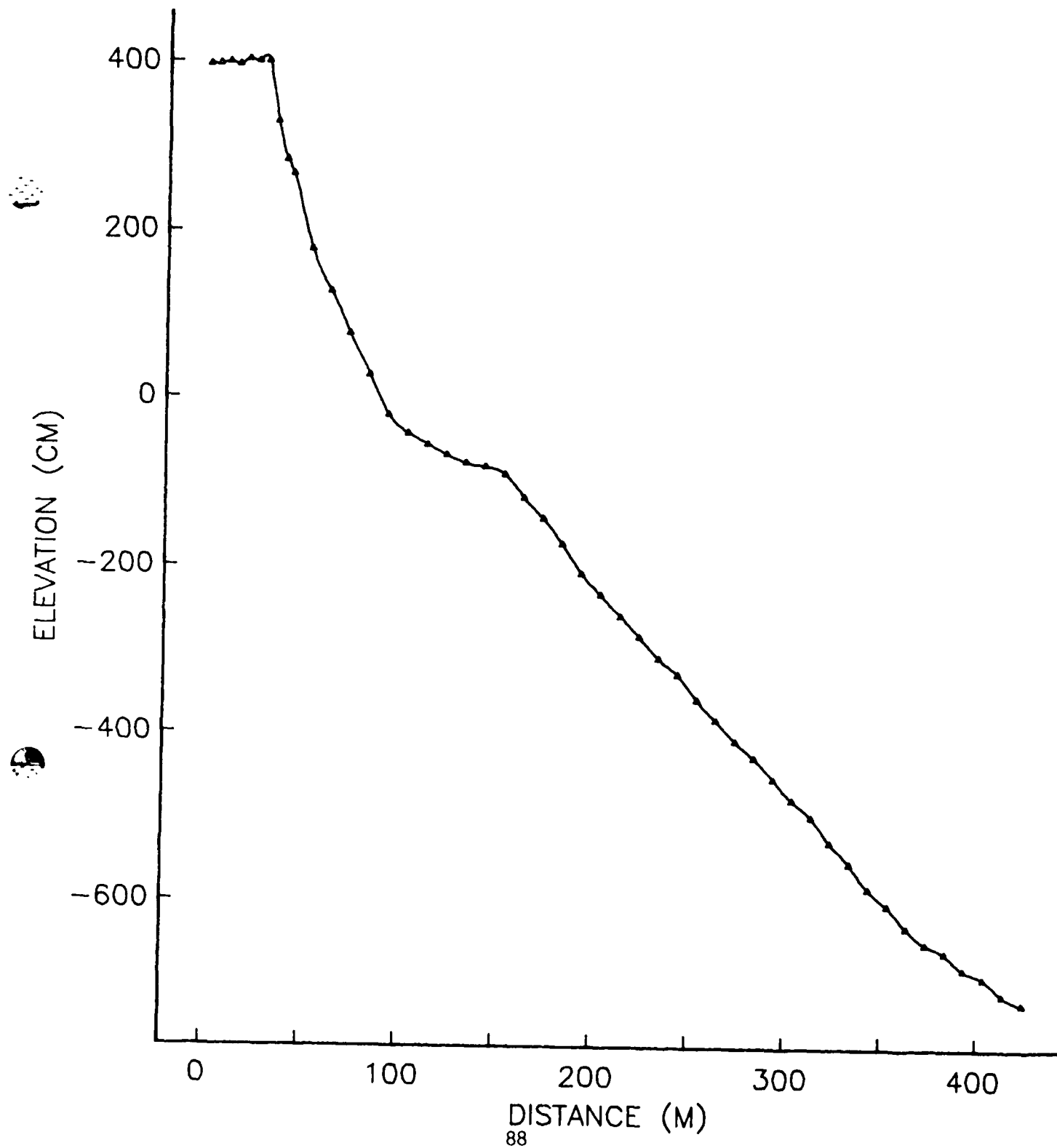
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MICROCOPY RESOLUTION TEST CHART
 NATIONAL BUREAU OF STANDARDS-1963-A

RANGE 0930 26 OCT 1983



1

TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 930 RUN 1
 OCT 26 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	396	393.5	-679
5.0	397	403.5	-689
10.0	399	413.5	-709
15.0	396	424.0	-719
20.0	402		
25.0	400		
30.0	400		
35.0	328		
40.0	283		
43.2	266		
53.2	176		
63.2	126		
73.2	76		
83.3	26		
93.4	-22		
103.5	-44		
113.5	-57		
123.5	-69		
133.5	-79		
143.5	-83		
153.5	-92		
163.5	-119		
173.5	-144		
183.5	-174		
193.5	-209		
203.5	-234		
213.5	-259		
223.5	-284		
233.5	-309		
243.5	-329		
253.5	-359		
263.5	-384		
273.5	-409		
283.5	-429		
293.5	-454		
303.5	-479		
313.5	-499		
323.5	-529		
333.5	-554		
343.5	-584		
353.5	-604		
363.5	-629		
373.5	-649		
383.5	-659		

RANGE 1000 26 OCT 1983

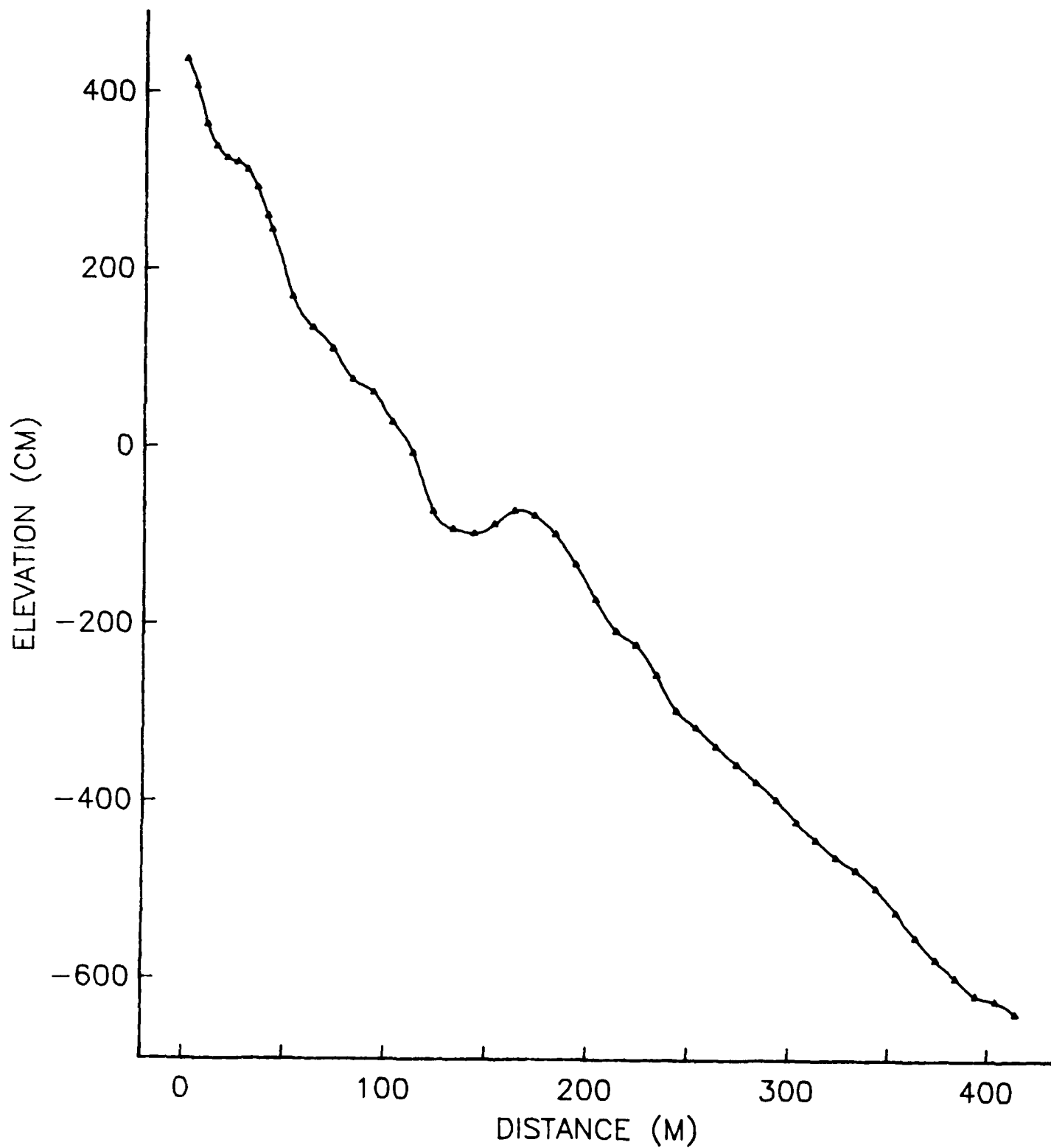


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1000 RUN 1
 OCT 26 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	436	393.7	-619
5.0	406	403.7	-625
10.0	363	413.7	-639
15.0	338	423.7	-654
20.0	325	433.7	-668
25.0	320	443.7	-699
30.0	311	453.7	-719
35.0	291	463.6	-739
40.0	259		
42.6	243		
52.6	168		
62.7	133		
72.7	109		
82.7	74		
92.7	60		
102.7	26		
112.7	-8		
122.8	-74		
132.9	-94		
143.0	-99		
153.1	-89		
163.2	-73		
173.2	-79		
183.3	-100		
193.3	-134		
203.4	-174		
213.5	-209		
223.6	-225		
233.7	-259		
243.7	-299		
253.7	-318		
263.7	-339		
273.7	-359		
283.7	-379		
293.7	-399		
303.7	-424		
313.7	-444		
323.7	-464		
333.7	-479		
343.7	-499		
353.7	-526		
363.7	-554		
373.7	-579		
383.7	-599		

RANGE 1070 27 OCT 1983

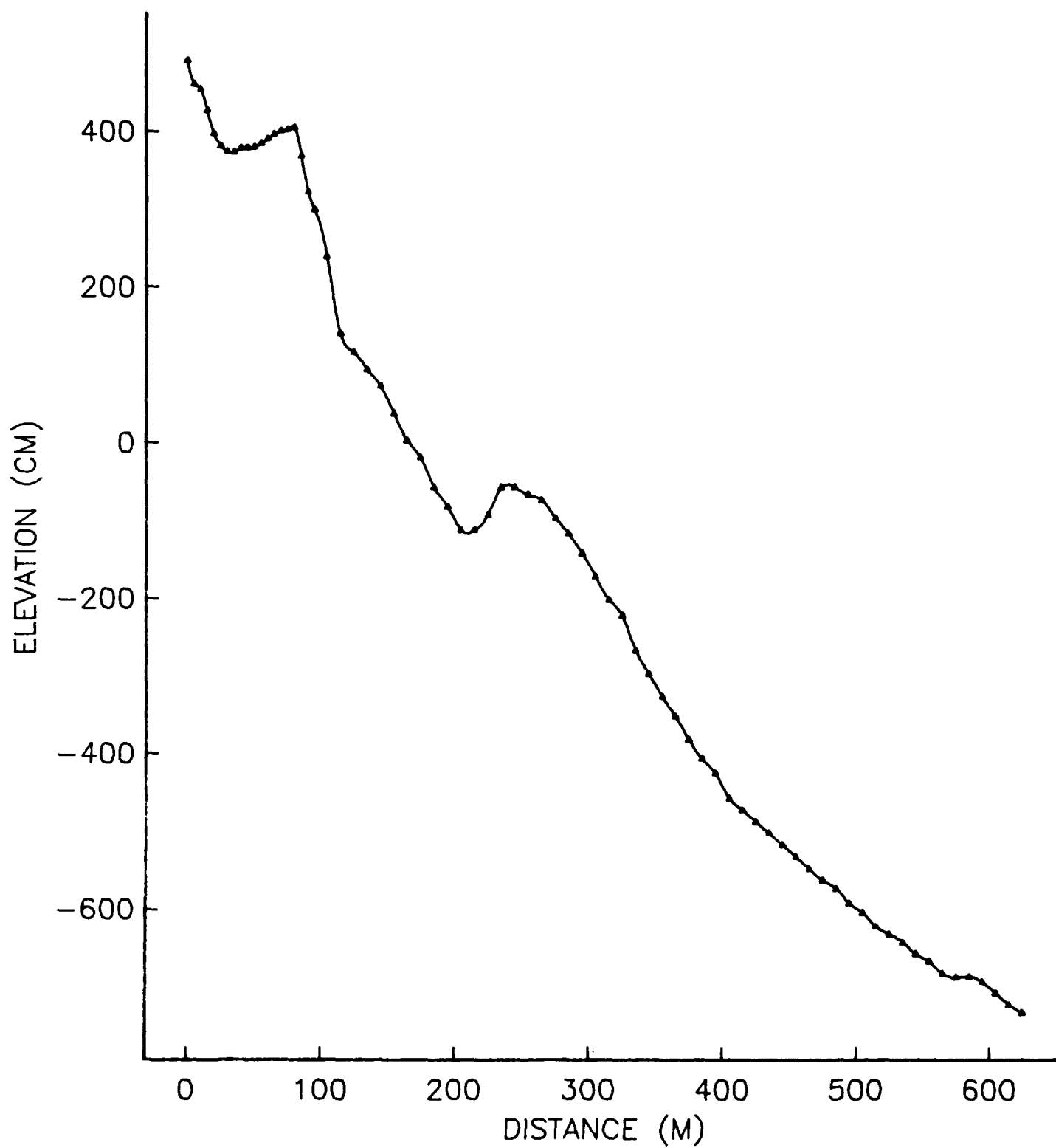


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1070 RUN 1
 OCT 27 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	490	344.3	-299
5.0	460	354.3	-329
10.0	453	364.3	-354
15.0	426	374.3	-384
20.0	396	384.3	-409
25.0	380	394.3	-427
30.0	373	404.3	-459
35.0	372	414.3	-474
40.0	377	424.3	-489
45.0	378	434.3	-504
50.0	379	444.3	-519
55.0	383	454.3	-534
60.0	389	464.3	-549
65.0	395	474.3	-564
70.0	399	484.3	-575
75.0	401	494.3	-594
80.0	403	504.3	-606
85.0	367	514.3	-624
90.0	321	524.3	-634
95.0	298	534.3	-644
104.2	238	544.3	-659
114.2	139	554.3	-669
124.2	115	564.3	-684
134.2	92	574.3	-689
144.3	71	584.3	-688
154.3	36	594.3	-695
164.3	1	604.3	-709
174.3	-21	614.3	-724
184.3	-59	624.3	-734
194.3	-84		
204.3	-114		
214.3	-114		
224.3	-94		
234.3	-59		
244.3	-59		
254.3	-69		
264.3	-76		
274.3	-99		
284.3	-119		
294.3	-144		
304.3	-174		
314.3	-204		
324.3	-224		
334.3	-269		

RANGE 1110

7 JAN 1984

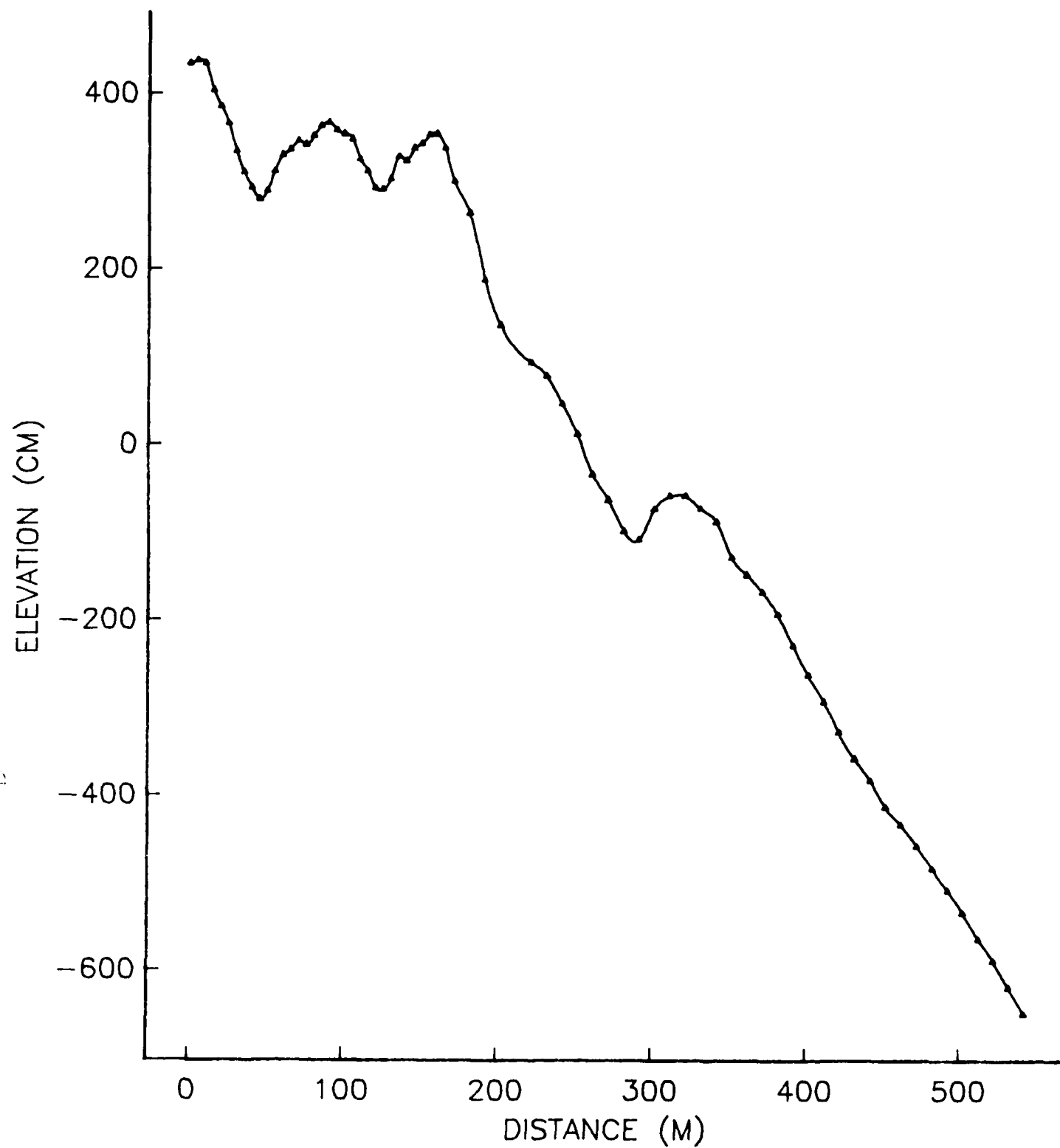
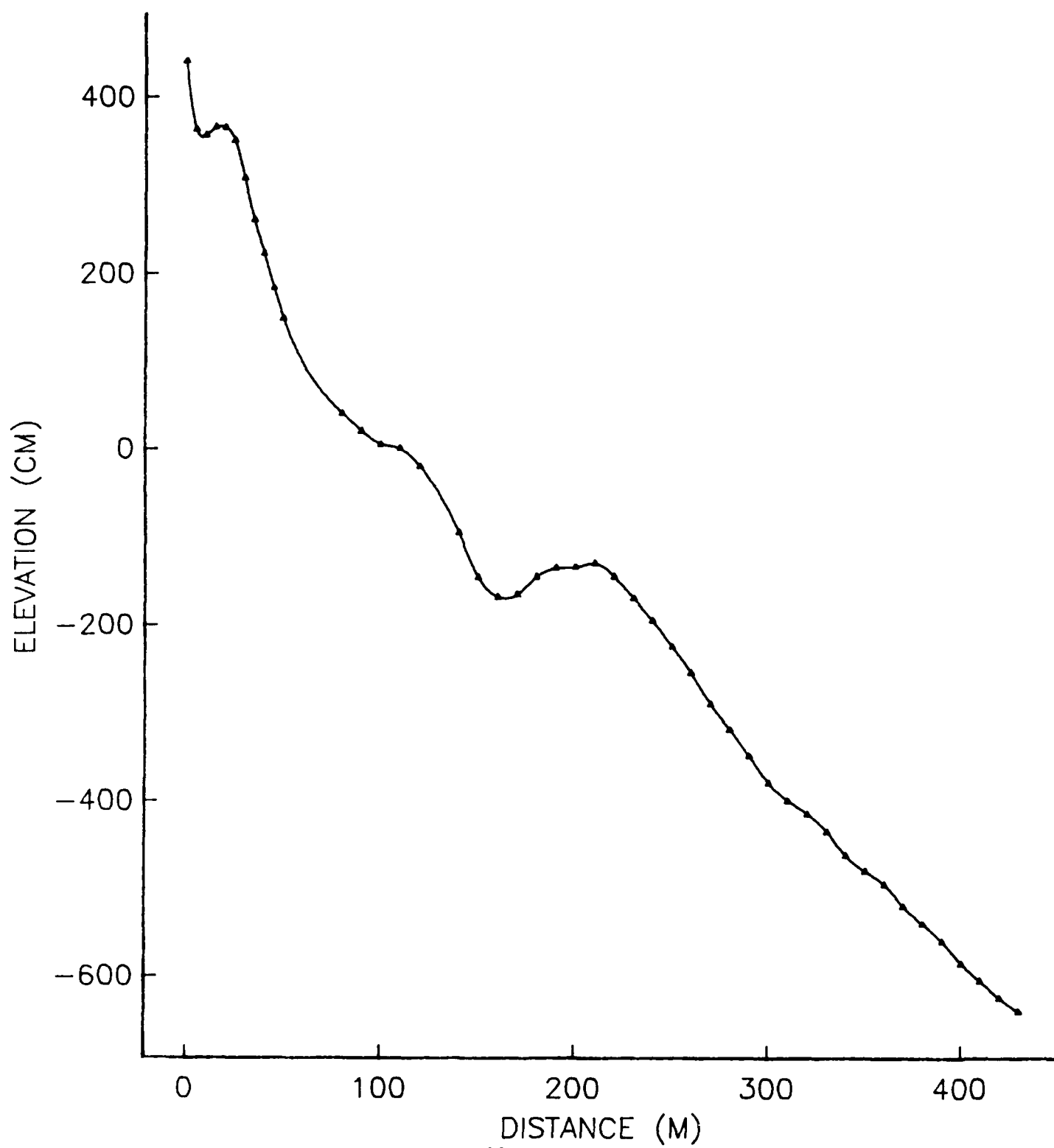


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1110 RUN 1
 JAN 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	433	281.2	-100
5.0	437	291.2	-110
10.0	433	301.2	-75
15.0	403	311.2	-60
20.0	385	321.2	-60
25.0	365	331.2	-75
30.0	334	341.2	-90
35.0	309	351.2	-130
40.0	292	361.2	-150
45.0	279	371.2	-170
50.0	288	381.2	-195
55.0	311	391.2	-231
60.0	329	401.2	-265
65.0	335	411.2	-295
70.0	345	421.2	-330
75.0	341	431.5	-360
80.0	351	441.5	-385
85.0	362	451.5	-415
90.0	366	461.5	-435
95.0	357	472.2	-460
100.0	353	482.2	-485
105.0	347	492.2	-510
110.0	324	502.2	-535
115.0	311	512.2	-565
120.0	291	522.2	-590
125.0	290	532.2	-620
130.0	302	542.2	-650
135.0	327		
140.0	322		
145.0	337		
150.0	342		
155.0	352		
160.0	353		
165.0	337		
171.1	299		
181.1	262		
191.1	186		
201.1	134		
221.2	91		
231.2	76		
241.2	45		
251.2	10		
261.2	-35		
271.2	-64		

RANGE 1180

7 JAN 1984



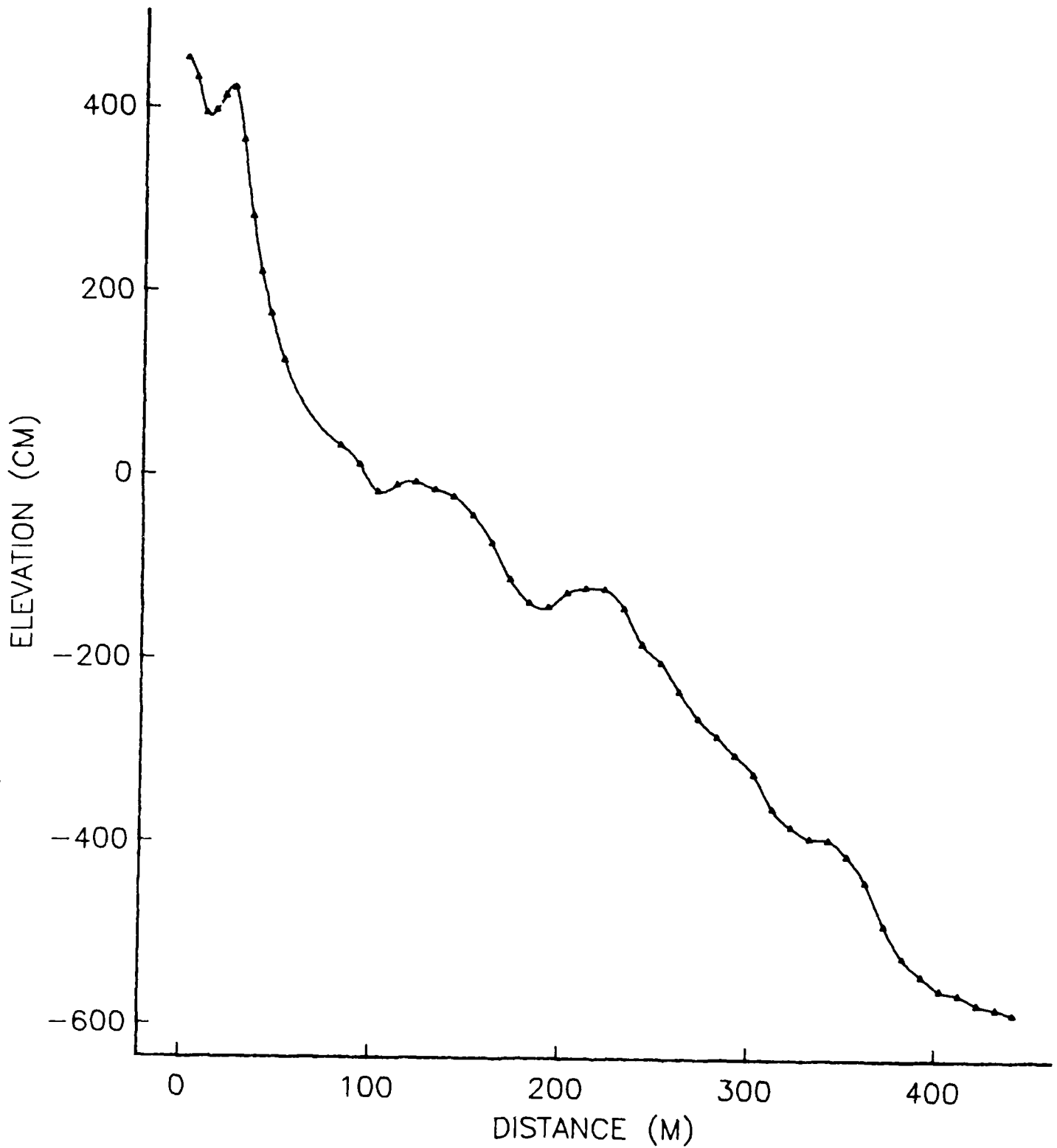
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TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1180 RUN 1
 JAN 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	440	420.0	-626
5.0	363	430.0	-641
10.0	356		
15.0	365		
20.0	364		
25.0	350		
30.0	308		
35.0	260		
40.0	222		
45.0	183		
50.0	148		
80.2	39		
90.2	19		
100.2	4		
110.2	-1		
120.2	-21		
140.2	-96		
150.2	-146		
160.2	-169		
170.2	-166		
180.2	-146		
190.2	-136		
200.2	-135		
210.2	-131		
220.2	-146		
230.1	-171		
240.1	-196		
250.1	-226		
260.1	-256		
270.1	-291		
280.1	-321		
290.1	-351		
300.1	-381		
310.1	-401		
320.1	-416		
330.1	-436		
340.0	-463		
350.0	-481		
360.0	-496		
370.0	-521		
380.0	-541		
390.0	-561		
400.0	-586		
410.0	-606		

RANGE 1240

8 JAN 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1240 RUN 1
 JAN 08 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	452	412.5	-565
5.0	431	422.5	-575
10.0	392	432.5	-580
15.0	395	441.6	-585
20.0	411		
25.0	420		
30.0	363		
35.0	280		
40.0	220		
45.0	174		
52.3	123		
32.5	30		
92.5	10		
102.5	-20		
112.5	-12		
122.5	-9		
132.5	-17		
142.5	-25		
152.5	-45		
162.5	-75		
172.5	-115		
182.5	-140		
192.5	-145		
202.5	-129		
212.5	-124		
222.5	-125		
232.5	-146		
242.5	-185		
252.5	-205		
262.5	-236		
272.5	-265		
282.5	-285		
292.5	-305		
302.5	-326		
312.5	-363		
322.5	-383		
332.5	-395		
342.5	-397		
352.5	-414		
362.5	-443		
372.5	-490		
382.5	-525		
392.5	-545		
402.5	-560		

RANGE 1290

8 JAN 1984

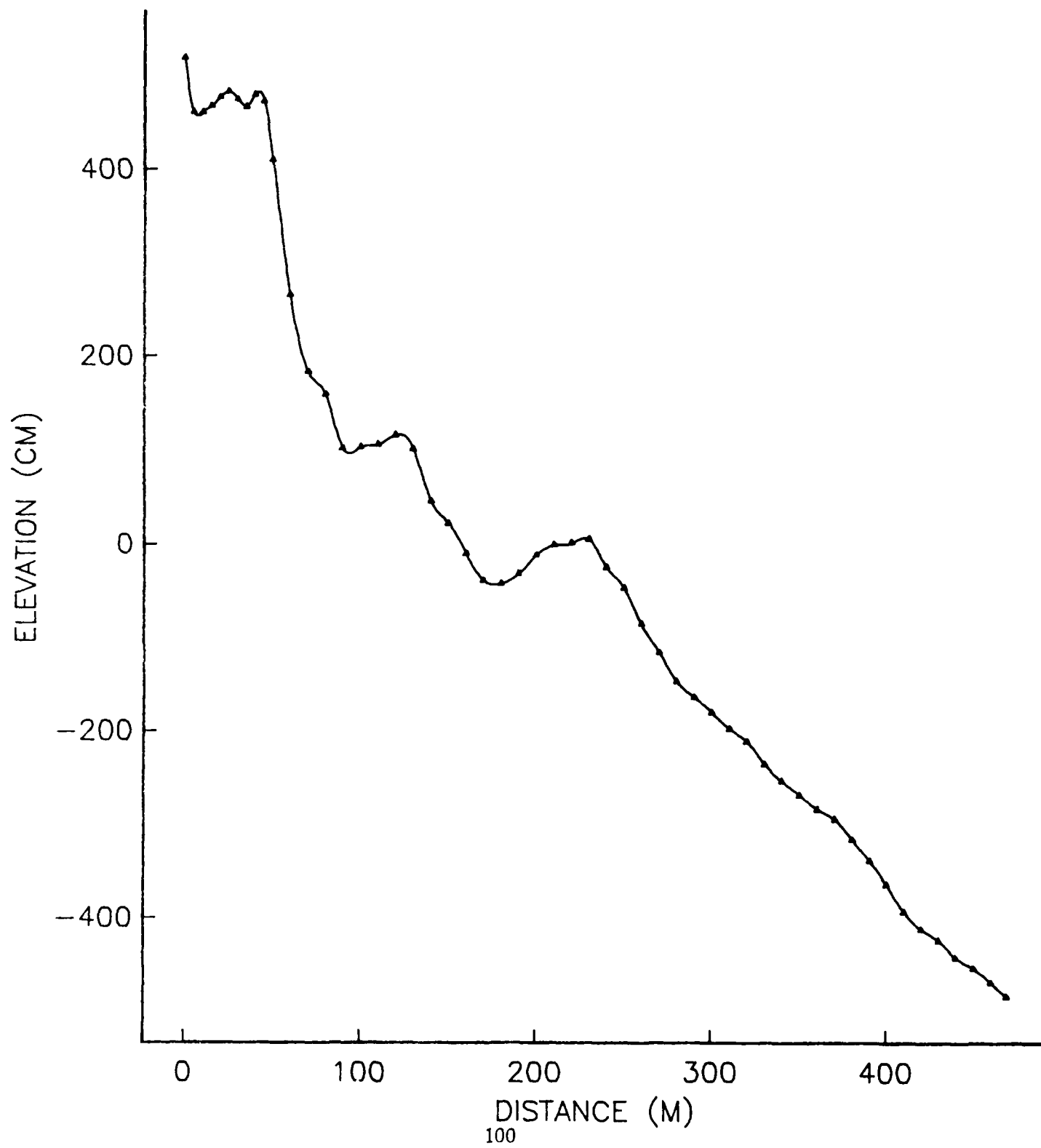


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1290 RUN 1
 JAN 08 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	518	390.0	-340
5.0	460	400.0	-365
10.0	460	410.0	-394
15.0	467	420.0	-413
20.0	476	430.0	-425
25.0	482	440.0	-443
30.0	474	450.0	-455
35.0	466	460.0	-470
40.0	479	469.2	-485
45.0	472		
50.0	409		
60.0	264		
70.0	182		
80.0	158		
90.0	101		
100.0	102		
110.0	105		
120.0	115		
130.0	100		
140.0	45		
150.0	21		
160.0	-11		
170.0	-40		
180.0	-43		
190.0	-33		
200.0	-13		
210.0	-2		
220.0	0		
230.0	4		
240.0	-26		
250.0	-48		
260.0	-87		
270.0	-118		
280.0	-149		
290.0	-166		
300.0	-182		
310.0	-200		
320.0	-213		
330.0	-237		
340.0	-255		
350.0	-270		
360.0	-285		
370.0	-296		
380.0	-317		

RANGE 1340 20 JAN 1984

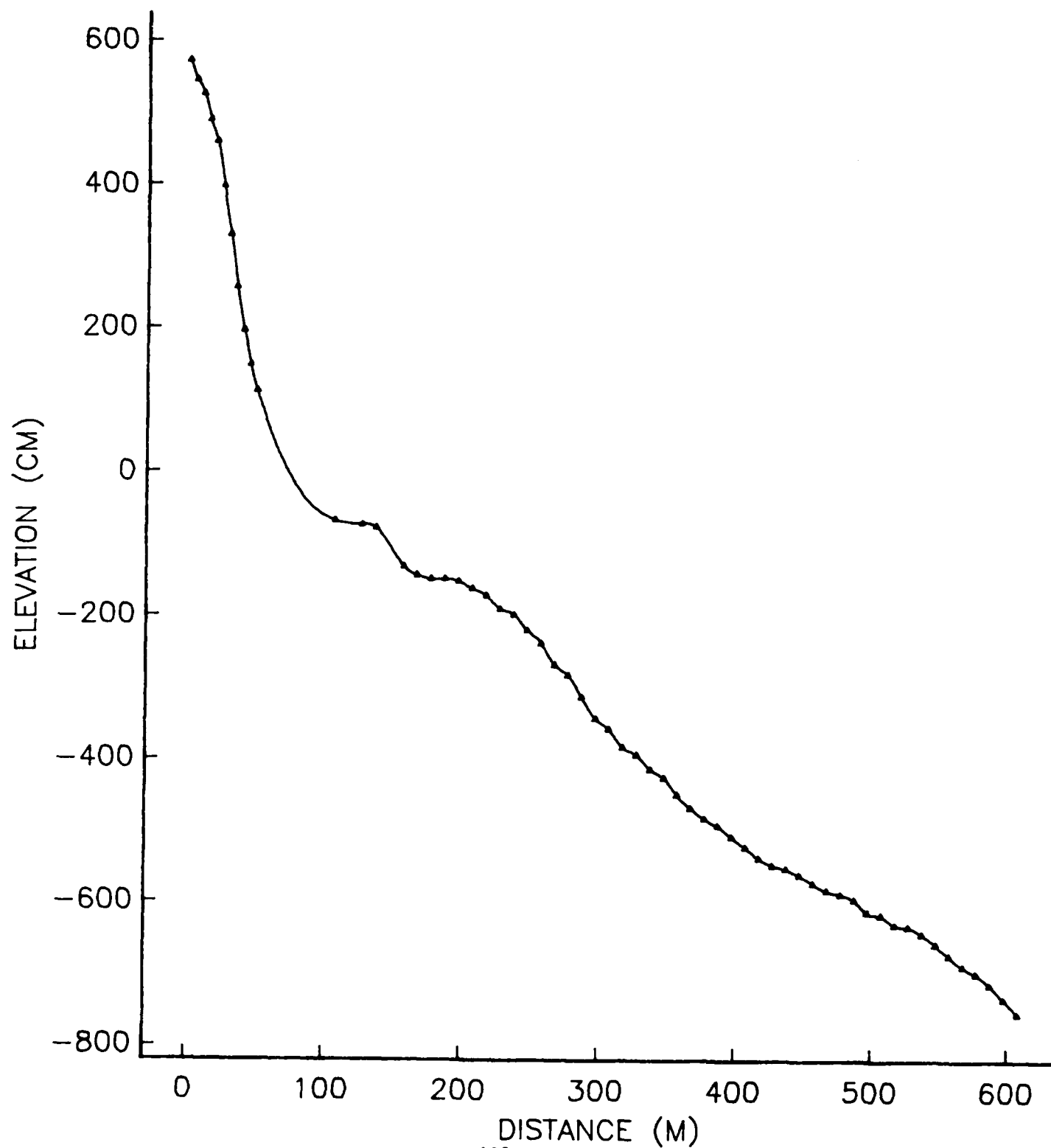
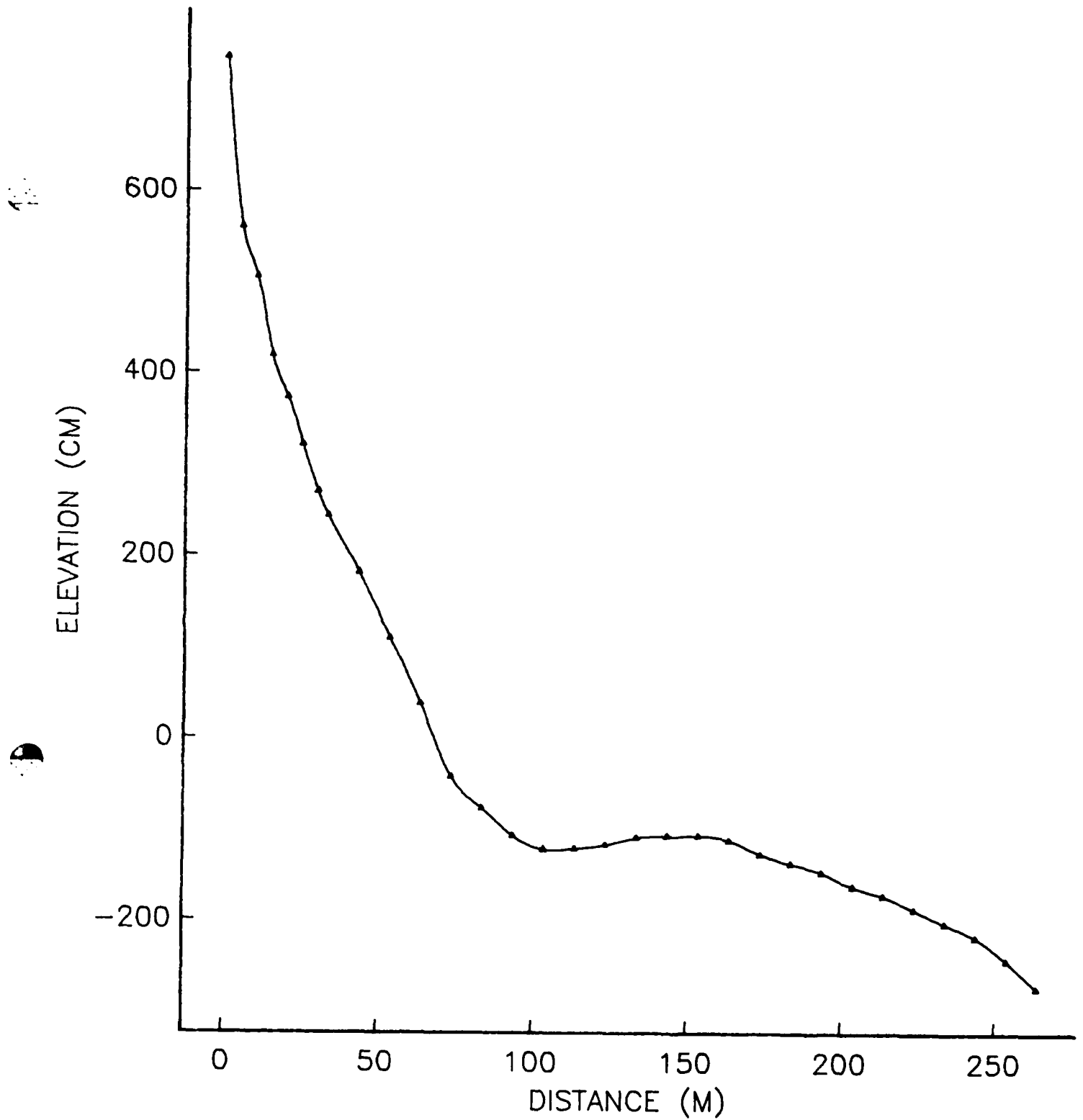


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1340 RUN 1
 JAN 20 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	571	457.2	-575
5.0	544	467.1	-585
10.0	525	477.1	-590
15.0	489	487.1	-598
20.0	459	497.1	-615
25.0	397	507.1	-619
30.0	329	517.1	-632
35.0	256	527.1	-635
40.0	195	537.1	-645
45.0	147	547.1	-660
50.0	111	557.1	-675
107.0	-70	567.1	-690
127.1	-75	577.1	-700
137.1	-80	587.1	-715
157.2	-134	597.1	-735
167.2	-146	607.1	-755
177.2	-151		
187.2	-151		
197.2	-155		
207.2	-165		
217.2	-175		
227.2	-192		
237.2	-200		
247.2	-222		
257.2	-240		
267.2	-270		
277.2	-285		
287.2	-315		
297.2	-345		
307.2	-360		
317.2	-385		
327.2	-395		
337.2	-415		
347.2	-427		
357.2	-451		
367.2	-470		
377.2	-485		
387.2	-495		
397.2	-510		
407.2	-525		
417.2	-540		
427.2	-550		
437.2	-555		
447.2	-563		

RANGE 1470

8 DEC 1983



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1470 RUN 2
DEC 08 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL

0.0	745
5.0	559
10.0	505
15.0	418
20.0	372
25.0	320
30.0	269
33.4	242
43.5	180
53.5	109
63.5	37
73.5	-44
83.5	-79
93.5	-109
103.5	-124
113.5	-123
123.5	-119
133.5	-111
143.5	-109
153.5	-109
163.5	-114
173.5	-129
183.5	-139
193.5	-149
203.5	-164
213.5	-174
223.5	-189
233.5	-204
243.5	-219
253.5	-244
263.5	-274

RANGE 1530 10 NOV 1983

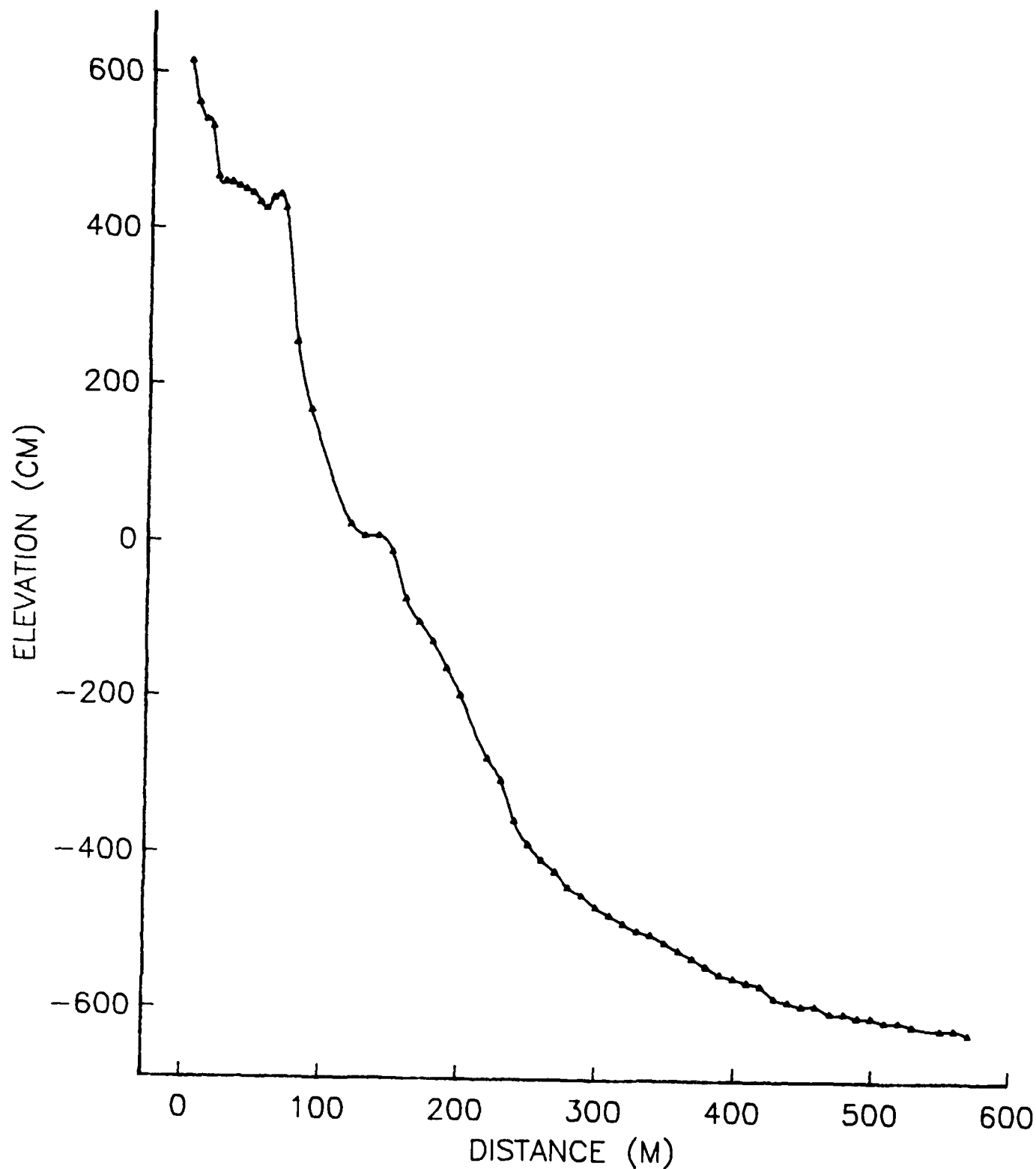
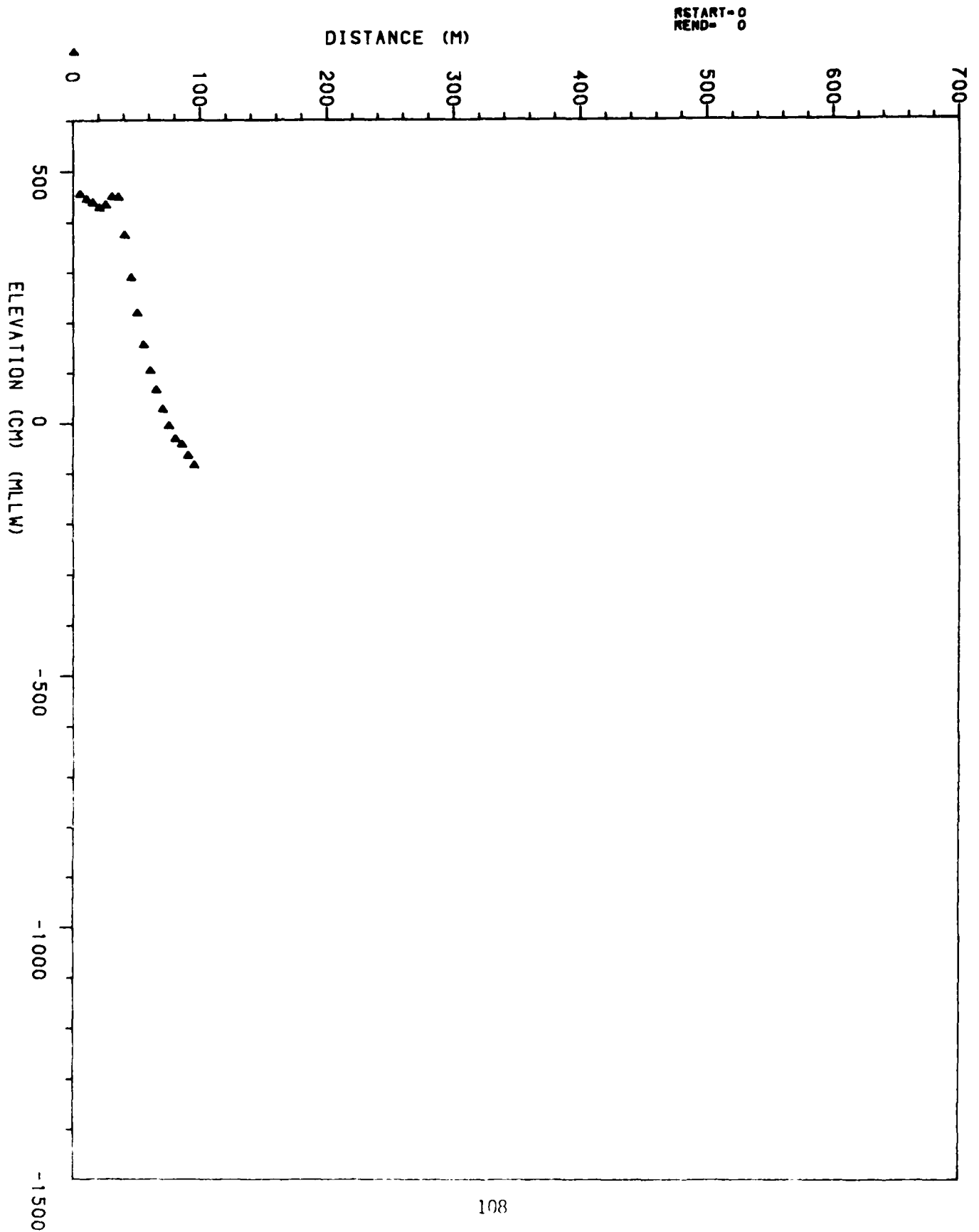


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1530 RUN 1
 NOV 10 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	613	399.2	-559
5.0	560	409.2	-564
10.0	539	419.2	-569
15.0	529	429.2	-584
20.0	465	439.2	-589
25.0	459	449.2	-594
30.0	458	459.2	-594
35.0	453	469.9	-604
40.0	449	479.9	-604
45.0	445	489.9	-609
50.0	433	499.9	-609
55.0	425	509.9	-614
60.0	439	519.9	-614
65.0	443	529.9	-619
68.9	425	550.6	-624
78.9	254	560.6	-624
88.9	167	570.6	-629
119.1	21		
129.1	6		
139.1	6		
149.1	-14		
159.1	-74		
169.1	-104		
179.1	-129		
189.1	-164		
199.1	-199		
219.2	-279		
229.2	-307		
239.2	-359		
249.2	-389		
259.2	-409		
269.2	-424		
279.2	-444		
289.2	-454		
299.2	-469		
309.2	-479		
319.2	-489		
329.2	-499		
339.2	-504		
349.2	-514		
359.2	-524		
369.2	-534		
379.2	-544		
389.2	-554		

RANGE= 1623

NOV 05 1983



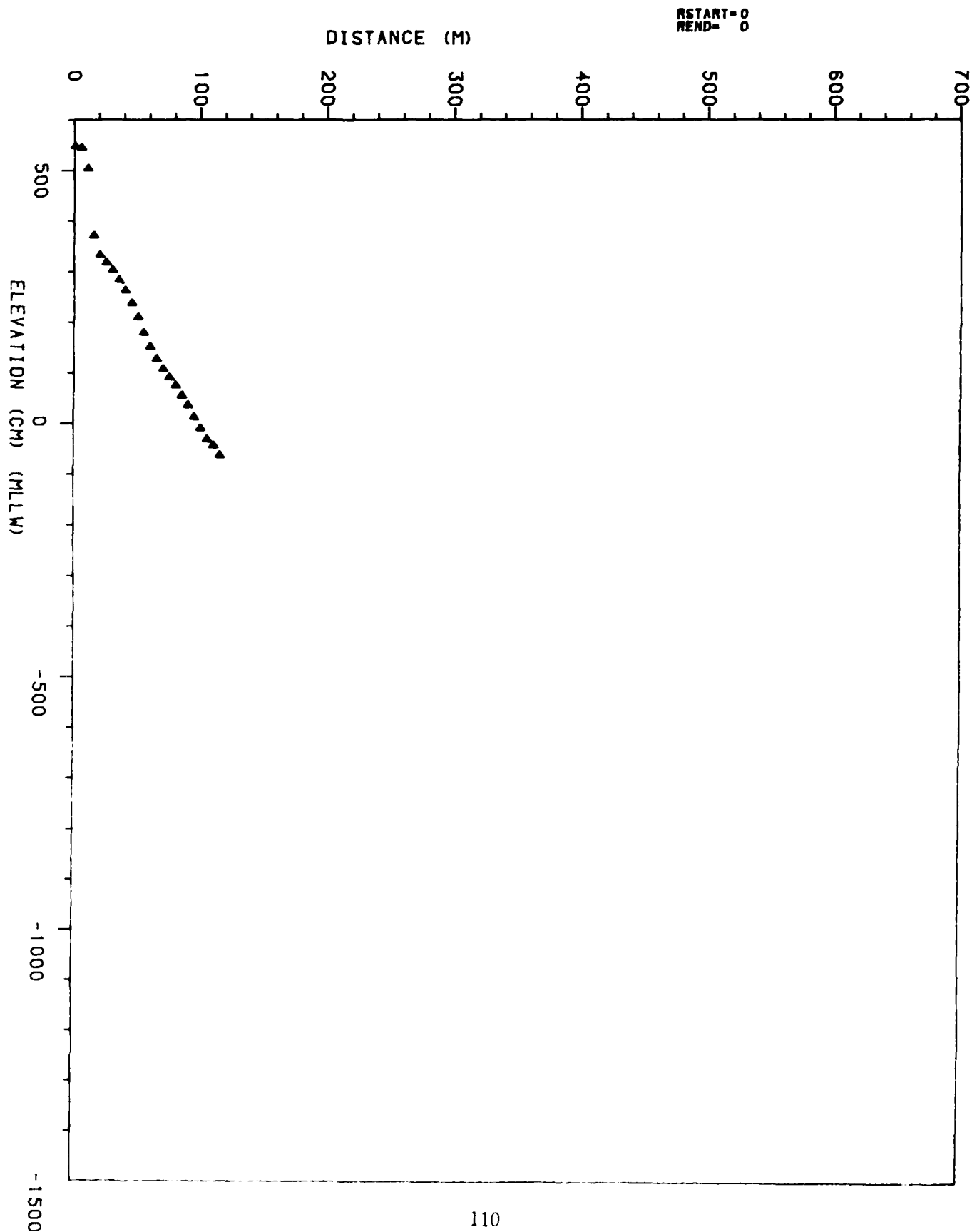
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TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1623 RUN 9
NOV 05 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL
0.0	734
5.0	455
10.0	445
15.0	438
20.0	428
25.0	434
30.0	450
35.0	449
40.0	374
45.0	290
50.0	219
55.0	155
60.0	104
65.0	65
70.0	27
75.0	-6
80.0	-32
85.0	-43
90.0	-65
95.0	-84

RANGE= 1660

NOV 05 1983



1

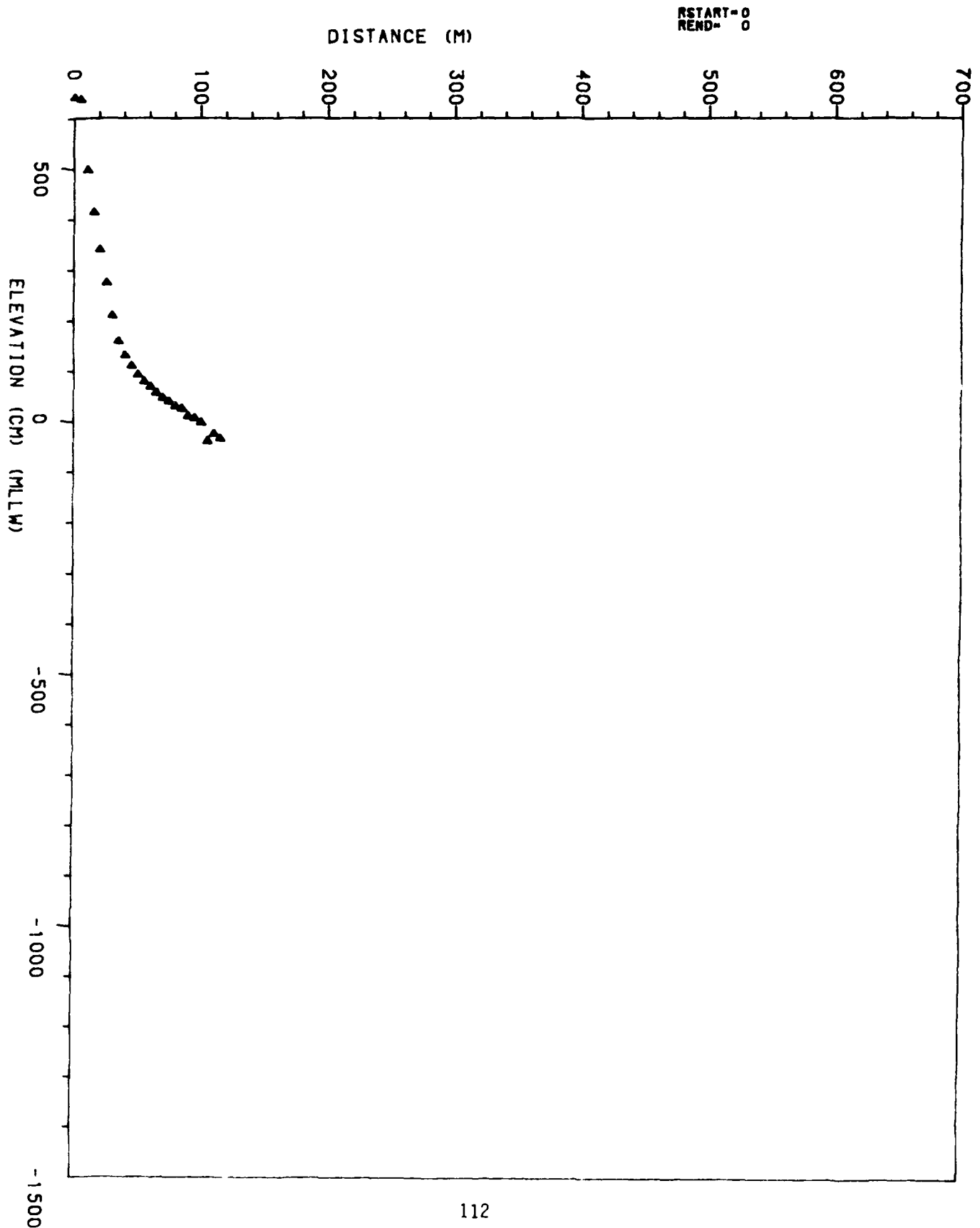
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1660 RUN 9
NOV 05 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL

0.0	548
5.0	545
10.0	504
15.0	371
20.0	333
25.0	318
30.0	303
35.0	283
40.0	263
45.0	238
50.0	210
55.0	179
60.0	151
65.0	127
70.0	107
75.0	90
80.0	74
85.0	54
90.0	35
95.0	12
100.0	-10
105.0	-32
110.0	-44
115.0	-63

RANGE= 1720

NOV 05 1983



1

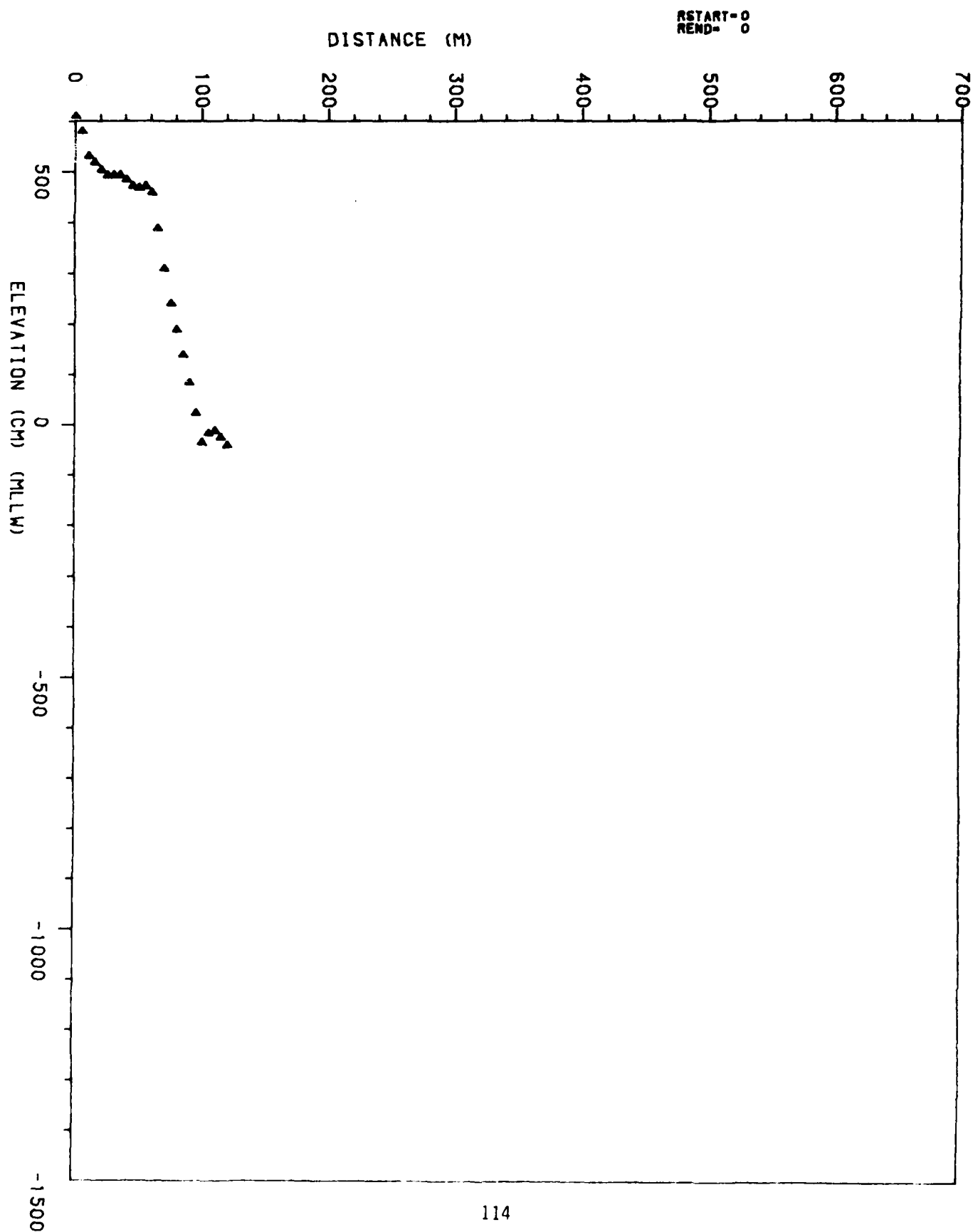
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1720 RUN 9
NOV 05 1983

PROFILER DISTANCE(M) REL BENCHMARK	PROFILER ELEVATION(CM) REL MSL

0.0	640
5.0	637
10.0	498
15.0	415
20.0	341
25.0	275
30.0	210
35.0	159
40.0	131
45.0	110
50.0	92
55.0	78
60.0	68
65.0	56
70.0	46
75.0	39
80.0	30
85.0	25
90.0	10
95.0	6
100.0	-3
105.0	-40
110.0	-26
115.0	-35

RANGE= 1805

NOV 17 1983



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1805 RUN 1
NOV 17 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MSL
0.0	610
5.0	580
10.0	531
15.0	518
20.0	504
25.0	493
30.0	494
35.0	494
40.0	485
45.0	472
50.0	468
55.0	472
60.0	459
65.0	389
70.0	310
75.0	241
80.0	189
85.0	139
90.0	84
95.0	23
100.0	-36
105.0	-17
110.0	-12
115.0	-26
120.0	-42

RANGE 1850

8 DEC 1983

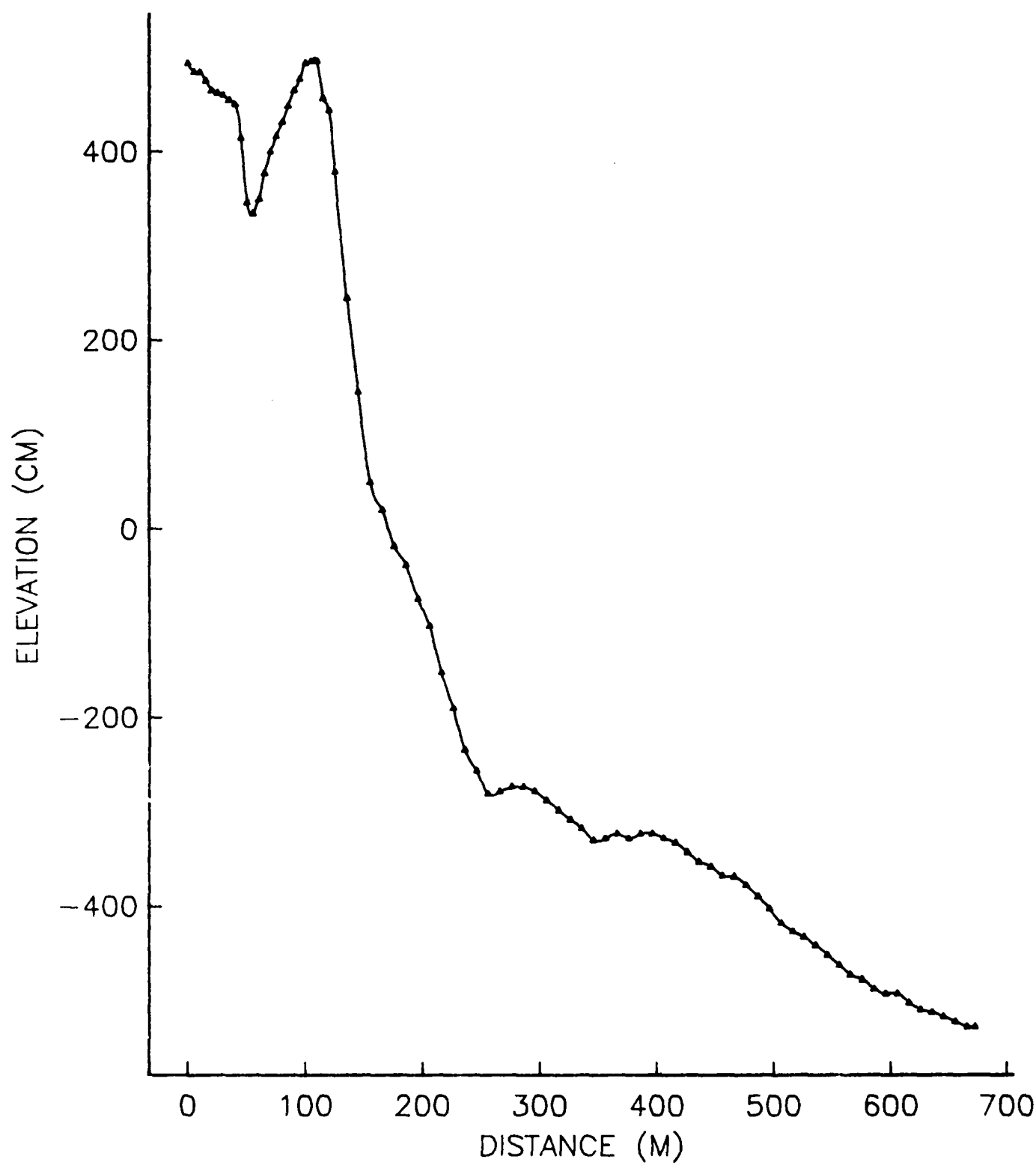


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1850 RUN 1
 DEC 08 1983

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	492	315.6	-299
5.0	483	325.6	-309
10.0	483	335.6	-318
15.0	474	345.6	-331
20.0	464	355.6	-329
25.0	461	365.6	-324
30.0	459	375.6	-329
35.0	453	385.6	-324
40.0	449	395.6	-324
45.0	414	405.6	-329
50.0	346	415.6	-334
55.0	334	425.6	-344
60.0	349	435.6	-354
65.0	376	445.6	-359
70.0	399	455.6	-369
75.0	415	465.6	-370
80.0	430	475.6	-379
85.0	447	485.6	-391
90.0	463	495.6	-404
95.0	475	505.6	-419
100.0	492	515.6	-428
105.0	494	525.6	-434
110.0	494	535.6	-443
115.0	455	545.6	-453
120.0	442	555.6	-464
125.0	377	565.6	-474
135.0	244	575.6	-479
145.0	144	585.6	-489
155.1	48	595.6	-494
165.2	19	605.6	-494
175.3	-19	615.6	-504
185.4	-39	625.6	-511
195.5	-74	635.6	-514
205.6	-103	645.6	-519
215.6	-153	655.6	-524
225.6	-191	665.6	-529
235.6	-235	672.2	-529
245.6	-257		
255.6	-281		
265.6	-279		
275.6	-274		
285.6	-274		
295.6	-279		
305.6	-289		

6.2 Survey 2 (February, 1984-July, 1984)

6.2.1 Chronologic Range Summary of Profiling Events

6.2 Survey 2 (February, 1984-July, 1984)

6.2.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

DATE	RANGE	TYPE CP= COMPLETE PROFILE W= WADE ONLY	SEDIMENT SAMPLES X= YES	COMMENTS
2/29/84	SS0000	W	--	Raw Sewage
2/29/84	SS0003	W	X	Raw Sewage
2/29/84	SS0005	W	--	Raw Sewage
2/29/84	SS0007	W	X	Raw Sewage
2/29/84	SS0010	W	--	Raw Sewage
2/29/84	SS0015	W	X	Raw Sewage, 0 Distance Elevation is different--BM re-established.
3/27/84	SS0020	W	--	Too dangerous to profile, several offshore bars with deep, wide troughs, strong longshore currents and large waves
3/02/84	SS0035	W	X	
3/05/84	SS0035	CP	--	
3/26/84	SS0050	CP	--	Steep Foreshore
5/01/84	SS0060	CP	--	T.B.M. offset 135.2M south of SS0060 due to SS0060 being too close to jetty and rip currents.
5/01/84	SS0070	CP	X	
5/01/84	SS0077	CP		
3/23/84	SS0090	CP	X	
3/19/84	SS0100	CP		
5/17/84	SS0110	CP		
5/17/84	SS0125	CP	X	

6.2 Survey 2 (February, 1984-July, 1984)

6.2.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

DATE	RANGE	TYPE CP= COMPLETE PROFILE W= WADE ONLY	SEDIMENT SAMPLES X= YES	COMMENTS
3/27/84	SS0140	W		No access to beach remains of old concrete ship on the range
3/21/84	SS0160	CP	X	
3/15/84	SS0170	CP	--	
3/14/84	SS0180	CP	--	Ran out of cable before reaching -6M depths.
3/16/84	SS0200	CP	X	Ran out of cable before reaching -6M depths.
4/24/84	OB0230	W	X	Reef offshore, distance elevation offset not at BM.
7/01/84	OB0260	W	X	Large Surf, Dangerous
6/27/84	MB0270	CP	X	
6/27/84	MB0300	CP	--	
4/30/84	MB0310	CP	X	
4/30/84	MB0340	CP	X	
6/28/84	MB0360	W	--	Electronic problems with profiler.
5/02/84	MB0384	CP	X	
6/28/84	PB0390	CP	--	
4/24/84	PB0408	W	--	Rocky distance elevation offset, not at bench mark.
6/30/84	LJ0443	W	X	
7/03/84	LJ0445	CP	--	
5/03/84	LJ0450	CP	--	
4/23/84	LJ0460	CP	X	
5/11/84	TP0470	W	--	Access Road Washed Out
5/09/84	TP0520	CP	X	

6.2 Survey 2 (February, 1984-July, 1984)

6.2.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

DATE	RANGE	TYPE	SEDIMENT SAMPLES		COMMENTS
		CP= COMPLETE PROFILE W= WADE ONLY	X	YES	
7/03/84	TP0530	W	--		Access Problem
6/30/84	TP0540	W	X		Offshore Rock
5/09/84	DM0580	CP	X		
5/18/84	SD0600	CP	--		
5/18/84	SD0630	CP	X		
5/10/84	SD0670	W	X		Reef
5/21/84	CB0720	CP	X		
5/10/84	CB0760	W	--		Rock, Reef
7/02/84	CB0800	W	--		Rock, Reef
5/22/84	CB0820	CP	X		
5/22/84	CB0830	W	--		Rock 110M Offshore
5/25/84	CB0880	W	X		Rock
7/02/84	OS0900	W	--		
5/24/84	OS0930	CP	X		
6/04/84	OS0960	CP	--		
5/23/84	OS0990	CP	--		
5/23/84	OS1000	CP	X		
5/29/84	OS1030	CP	--		
5/14/84	OS1070	CP	--		
5/30/84	PN1080	CP	--		
5/31/84	PN1110	CP	X		
5/31/84	PN1120	CP	--		
6/01/84	PN1180	CP	--		
6/02/84	PN1240	CP	X		
6/02/84	PN1290	CP	X		
6/05/84	PN1340	CP	X		
6/06/84	SO1470	CP	X		
6/07/84	SO1530	W	X		Wade only, equip- ment problems & strong current.
7/11/84	SO1570	W	--		Rock
7/11/84	SO1590	W	X		Rock
7/11/84	SO1600	W	X		Rock
6/07/84	SC1623	W	X		Rock
6/20/84	SC1660	W	--		Rock
7/19/84	SC1680	W	--		Rock

6.2 Survey 2 (February, 1984-July, 1984)

6.2.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

DATE	RANGE	TYPE	SEDIMENT SAMPLES	COMMENTS
		CP= COMPLETE PROFILE W= WADE ONLY	X= YES	
7/19/84	SC1700	W	--	Rock
6/20/84	SC1720	W	X	Rock
7/19/84	DB1780	W	X	Rock
6/08/84	DB1805	W	X	Rock
6/08/84	DB1850	W	--	Rock

6.2.2 Location and Inventory of Sand Samples

(NOTE: Due to a sea level datum error, some samples were not collected at the specified elevation. In these cases the actual elevation is listed.)

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
SS0003	02/29/84	1230PST	+ 1M	65M
SS0003	02/29/84	1230PST	+ 3M	45M
SS0007	02/29/84	1400PST	+ 3M	15M
SS0015	02/29/84	1500PST	+ .57M	70M
SS0015	02/29/84	1500PST	+ 1.68M	40M
SS0015	02/20/84	1500PST	+ 2.69M	25M
SS0015	02/29/84	1500PST	+ 3.85M	0-5M
SS0035	03/02/84	1200PST	-6M	383M
SS0035	03/02/84	1200PST	-3M	270M
SS0035	03/02/84	1200PST	+ .40M	65M
SS0035	03/02/84	1200PST	+ 1.46M	40M
SS0035	03/02/84	1200PST	+ 2.5M	30M
SS0035	03/02/84	1200PST	+ 4.39M	5M
*SS0035	07/10/84	1200PDT	-6M	
*SS0035	07/10/84	1230PDT	-10M	
SS0070	05/01/84	1000PDT	-6M	405M
SS0070	05/01/84	1000PDT	-3M	335M
SS0070	05/01/84	1000PDT	0M	140M
SS0070	05/01/84	1000PDT	+ 1M	110M
SS0070	05/01/84	1000PDT	+ 3M	90M
SS0090	03/23/84	1300PST	-6M	340M

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
SS0090	03/23/84	-1300PST	-3M	250M
SS0090	03/23/84	1300PST	+ .58M	90M
SS0090	03/23/84	1300PST	+ 1.55M	65M
SS0090	03/23/84	1300PST	+ 2.60M	50M
SS0090	03/23/84	1300PST	+ 4.56M	30M
SS0125	05/17/84	1100PDT	-6M	482M
SS0125	05/17/84	1100PDT	-3M	362M
SS0125	05/17/84	1100PDT	+ .49M	190M
SS0125	05/17/84	1100PDT	+ 1.59M	165M
SS0125	05/17/84	1100PDT	+ 2.05M	160M
SS0125	05/17/84	1100PDT	+ 4.56	150M
SS0160	03/21/84	1100PST	-6M	505M
SS0160	03/21/84	1100PST	-3M	405M
SS0160	03/21/84	1100PST	+ .55M	200M
SS0160	03/21/84	1100PST	+ 1.48M	165M
SS0160	03/21/84	1100PST	+ 2.55M	140M
SS0160	03/21/84	1100PST	+ 4.25M	40M
*SS0160	06/13/84	1130PDT	-6M	505M
*SS0160	06/13/84	1200PDT	-10M	
SS0200	03/16/84	1130PST	-3M	622M
SS0200	03/16/84	1130PST	-2.8M	587M

SAND SAMPLES

RANGE ID	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
SS0200	93 16 84	1130PST	-1M	140M
SS0200	03 16 84	1130PST	0M	70M
SS0200	03 16 84	1130PST	-1M	50M
SS0200	03 16 84	1130PST	-3M	20M
OB0230	04 24 84	1100PST	0M	95M
OB0230	04 24 84	1100PST	-1M	80M
OB0230	04 24 84	1100PST	-3M	55M
OB0260	07 01 84	0840PST	-0.05M	170M
OB0260	07 01 84	0840PST	-0.92M	345M
OB0260	07 01 84	0840PST	-1.81M	100M
OB0260	07 01 84	0840PST	-4.03M	45M
MB0270	06 27 84	1100PDT	-6M	
MB0270	06 27 84	1100PDT	-3M	385M
MB0270	06 27 84	1100PDT	-14M	155M
MB0270	06 27 84	1100PDT	-1.07M	95M
MB0270	06 27 84	1100PDT	-2.48M	65M
MB0270	06 27 84	1100PDT	-4.20M	20M
MB0310	04 30 84	1130PDT	-6M	400M
MB0310	04 30 84	1130PDT	-3M	318M
MB0310	04 30 84	1130PDT	-1M	194M
MB0310	04 30 84	1130PDT	0M	85M

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
MB0310	04/30/84	1130PDT	+ 1M	65M
MB0310	04/30/84	1130PDT	+ 3M	45M
MB0340	04/30/84	1430PDT	-6M	378M
MB0340	04/30/84	1430PDT	-3M	300M
MB0340	04/30/84	1430PDT	-1M	120M
MB0340	04/30/84	1430PDT	0M	85M
MB0340	04/30/84	1430PDT	+ 1M	40M
MB0340	04/30/84	1430PDT	+ 3M	20M
MB0384	05/02/84	1330PDT	-6M	440M
MB0384	05/02/84	1330PDT	-3M	310M
MB0384	05/02/84	1330PDT	-1M	150M
MB0384	05/02/84	1330PDT	0M	70M
MB0384	05/02/84	1330PDT	+ 1M	40M
MB0384	05/02/84	1330PDT	+ 3M	15M
LJ0443	06/30/84	0730PDT	-1.08M	185M
LJ0443	06/30/84	0730PDT	+ .52M	100M
LJ0443	06/30/84	0730PDT	+ 1.42M	45M
LJ0460	04/23/84	1100PST	-6M	341M
LJ0460	04/23/84	1100PST	-3M	231M
LJ0460	04/23/84	1100PST	+ .58M	40M
LJ0460	04/23/84	1110PST	+ 1.46M	15M

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
LJ0460	04/23/84	1110PST	+ 2.06M	5M
*LJ0460	06/18/84	1130PDT	-6M	341M
*LJ0460	06/18/84	1130PDT	-10M	
*LJ0460	06/18/84	1200PDT	-15M	
TP0520	05/09/84	1400PDT	-6M	380M
TPO520	05/09/84	1400PDT	-3M	282M
TP0520	05/09/84	1400PDT	+ .62M	60M
TP0520	05/09/84	1400PDT	+ 1.71M	30M
TP0520	05/09/84	1400PDT	+ 2.61M	15M
TP0520	05/09/84	1400PDT	+ 4.13M	10M
TP0540	06/30/84	0930PDT	-.30	85M
TP0540	06/30/84	0930PDT	+ .50M	40M
TP0540	06/30/84	0930PDT	+ 2.67M	5M
DM0580	05/09/84	1030PDT	-6M	389M
DM0580	05/09/84	1030PST	-3M	290M
DM0580	05/09/84	1030PDT	+ .60M	45M
DM0580	05/09/84	1030PDT	+ 2.03M	25M
DM0580	05/09/84	1030PDT	+ 3.12M	15M
*DM0580	06/19/84	1030PDT	-6M	389M
*DM0580	06/19/84	1100PDT	-10M	
*DM0580	06/19/84	1130PDT	-15M	

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
SD0630	05/18/84	1030PDT	-6M	383M
SD0630	05/18/84	1030PDT	-3M	223M
SD0630	05/18/84	1030PDT	+ .56M	45M
SD0630	05/18/84	1030PDT	+ 1.51M	20M
SD0630	05/18/84	1030PDT	+ 2.49M	10M
SD0670	05/10/84	1440PDT	+ .48M	45M
SD0670	05/10/84	1440PDT	+ 1.49	25M
SD0670	05/10/84	1440PDT	+ 2.97M	10M
SD0670	5/10/84	1440PDT	+ 3.99M	5M
CB0720	05/21/84	1330PDT	-6M	365M
CB0720	05/21/84	1330PDT	-3M	255M
CB0720	05/21/84	1330PDT	-1M	140M
CB0720	05/21/84	1330PDT	0M	60M
CB0720	05/21/84	1330PDT	+ 1M	50M
CB0720	05/21/84	1330PDT	+ 3M	45M
CB0720	05/22/84	1330PDT	-6M	365M
CB0820	05/22/84	1330PDT	-3M	205M
CB0820	05/22/84	1330PDT	+ .57M	45M
CB0820	05/22/84	1330PDT	+ 1.73M	30M
CB0820	05/22/84	1330PDT	+ 2.48M	20M
CB0820	05/22/84	1330PDT	+ 4.51M	5M

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
CB0880	05/25/84	--	+ .51M	55M
CB0880	05/25/84	--	+ 1.37M	35M
CB0880	05/25/84	--	+ 2.64M	15M
CB0880	05/25/84	--	+ 4.22M	5M
OSO930	05/24/84	1000PDT	-6M	381M
OSO930	05/24/84	1000PDT	-3M	300M
OSO930	05/24/84	1000PDT	+ .33M	60M
OSO930	05/24/84	1000PDT	+ 1.49M	50M
OSO930	05/24/84	1000PDT	+ 2.69M	35M
OS1000	05/23/84	1200PDT	-6M	388M
OS1000	05/23/84	1200PDT	-3M	280M
OS1000	05/23/84	1200PDT	+ .52M	90M
OS1000	05/23/84	1200PDT	+ 1.64M	50M
OS1000	05/23/84	1200PDT	+ 2.36M	35M
*OS1000	06/15/84	1200PDT	-6M	388M
*OS1000	06/15/84	1230PDT	-10M	
*OS1000	06/15/84	1300PDT	-15M	
PN1110	05/31/84	1045PDT	-6M	555M
PN1110	05/31/84	1045PDT	-3M	415M
PN1110	05/31/84	1045PDT	-1M	290M
PN1110	05/31/84	1045PDT	0M	260M

SAND SAMPLES

RANGE ID.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
PN1110	05/31/84	1045PDT	+ 1M	205M
PN1110	05/31/84	1045PDT	+ 3M	120M
*PN1110	06/21/84	1130PDT	-6M	555M
*PN1110	06/21/84	1200PDT	-10M	
*PN1110	06/21/84	1230PDT	-15M	
PN1240	06/02/84	1015PDT	-6M	500M
PN1240	06/02/84	1015PDT	-3M	310M
PN1240	06/02/84	1015PDT	-1M	110M
PN1240	06/02/84	1015PDT	0M	85M
PN1240	06/02/84	1015PDT	+ 1M	65M
PN1240	06/02/84	1015PDT	+ 3M	45M
PN1290	06/02/84	1430PDT	-6M	
PN1290	06/02/84	1430PDT	-3M	312M
PN1290	06/02/84	1430PDT	-.50M	110M
PN1290	06/02/84	1430PDT	-.13M	90M
PN1290	06/02/84	1430PDT	+ 1.23M	70M
PN1290	06/02/84	1430PDT	+ 3.28M	55M
PN1340	06/05/84	1030PDT	-6M	
PN1340	06/05/84	1030PDT	-3M	285M
PN1340	06/05/84	1030PDT	-1M	143M
PN1340	06/05/84	1030PDT	+ .20M	55M

SAND SAMPLES

RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
PN1340	06/05/84	1030PDT	+ 1.16M	45M
PN1340	06/05/84	1030PDT	+ 3.31M	30M
SO1470	06/06/84	1100PDT	-6M	474M
SO1470	06/06/84	1100PDT	-3M	285M
SO1470	06/06/84	1100PDT	+ .50M	50M
SO1470	06/06/84	1100PDT	+ 1.36M	40M
SO1470	06/06/84	1100PDT	+ 2.63M	30M
SO1470	06/06/84	1100PDT	+ 4.90M	10M
*SO1470	07/05/84	1100PDT	-6M	474M
*SO1470	07/05/84	1130PDT	-10M	
SO1530	06/07/84	1200PDT	+ .55M	100M
SO1530	06/07/84	1200PDT	+ 1.60M	90M
SO1530	06/07/84	1200PDT	+ 2.31M	85M
SO1530	06/07/84	1200PDT	+ 4.60M	30M
SO1530	07/05/84	1200PDT	-6M	
SO1530	07/02/84	1230PDT	-3M	
*SO1530	07/05/84	1300PDT	-6M	
SO1590	07/11/84	1100PDT	+ 1.81M	45M
SO1590	07/11/84	1100PDT	+ 3.57M	5M
SO1600	07/11/84	1200PDT	+ .58M	80M
SO1600	07/11/84	1200PDT	+ 1.62M	70M

SAND SAMPLES

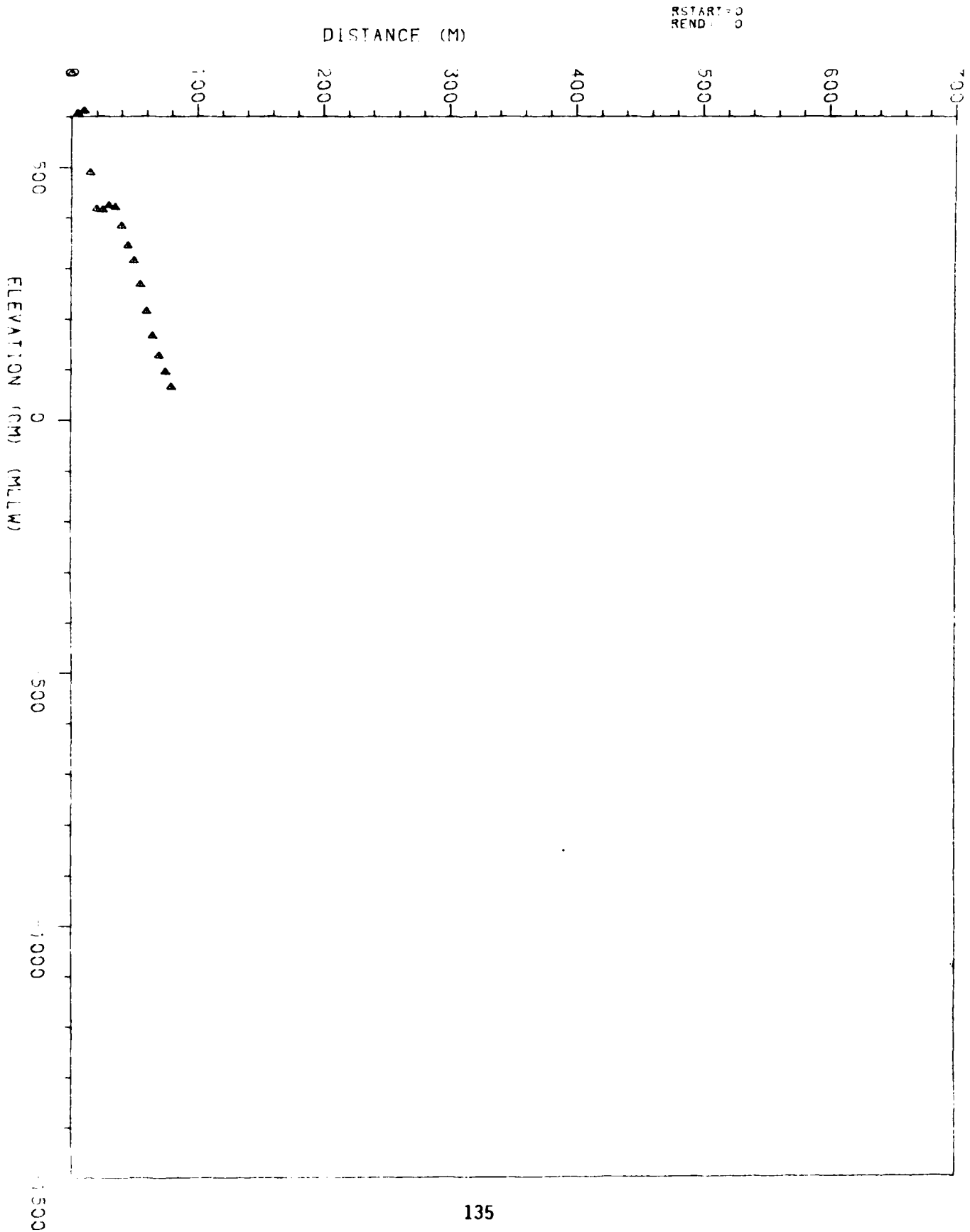
RANGE I.D.	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*Taken at Reference Rods				
SO1600	07/11/84	1200PDT	+ 3.91M	55M
SC1623	06/07/84	1400PDT	+ .60M	55M
SC1623	06/07/84	1400PDT	+ 1.10M	50M
SC1623	06/07/84	1400PDT	+ 2.69M	40M
SC1720	06/20/84	1030PDT	+ .52M	65M
SC1720	06/20/84	1030PDT	+ 1.63M	35M
SC1720	06/20/84	1030PDT	+ 2.93M	25M
SC1720	06/20/84	1030PDT	+ 5.02M	10M
DB1805	06/08/84	1217PDT	+ .75M	90M
DB1805	06/08/84	1217PDT	2.39M	85M
DB1805	06/08/84	1217PDT	2.56M	75M
DB1805	06/08/84	1217PDT	4.80M	60M

6.2.3 Profile Data Plots and Distance Elevation Tables

(NOTE: Δ denotes rod and level survey points)

RANGE= 0

FEB 29 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 0
FEB 29 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	685
5.0	606
10.0	611
15.0	489
20.0	417
25.0	416
30.0	424
35.0	420
40.0	383
45.0	344
50.0	315
55.0	268
60.0	215
65.0	166
70.0	127
75.0	95
80.0	65

RANGE= 3

FEB 29 1984

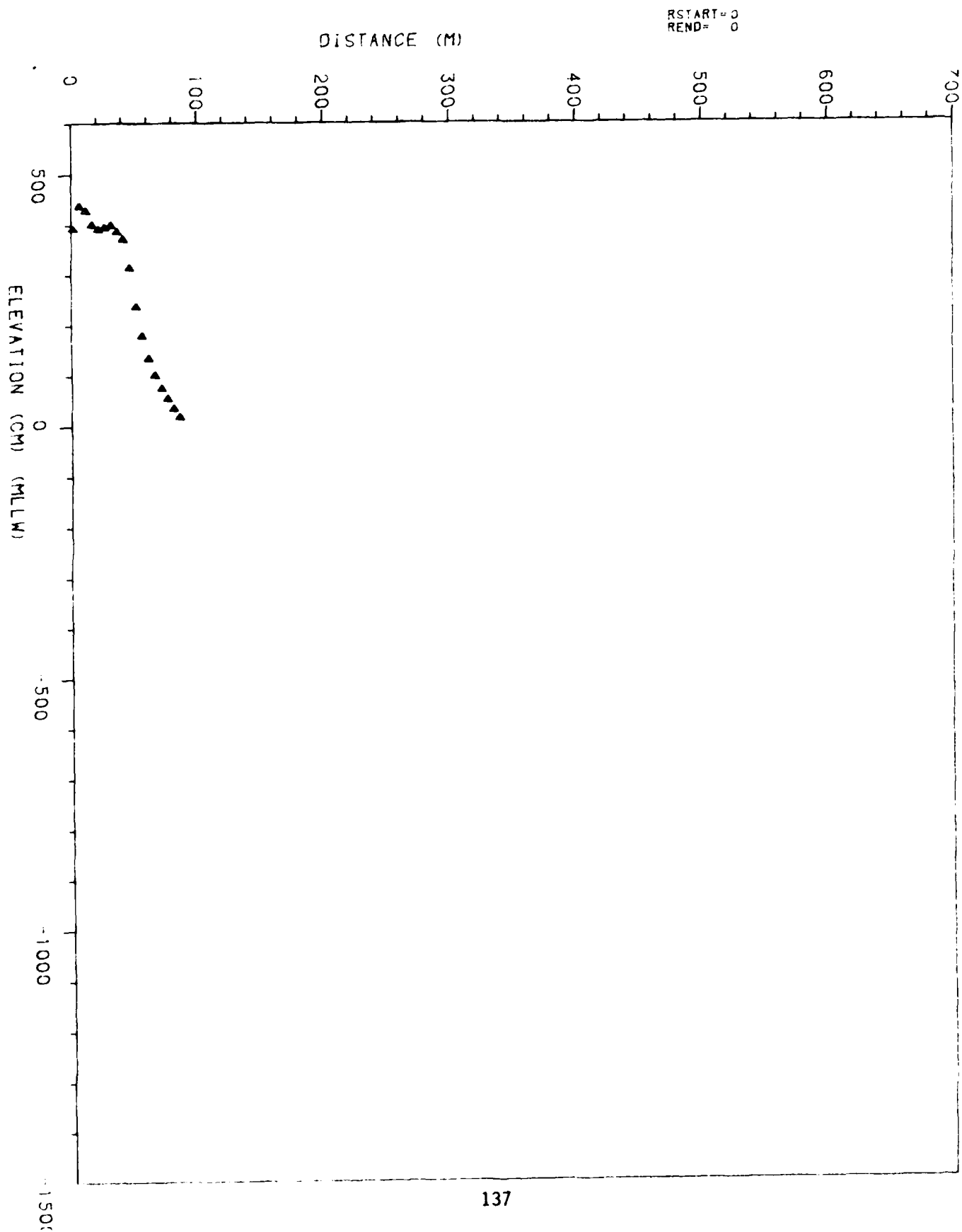


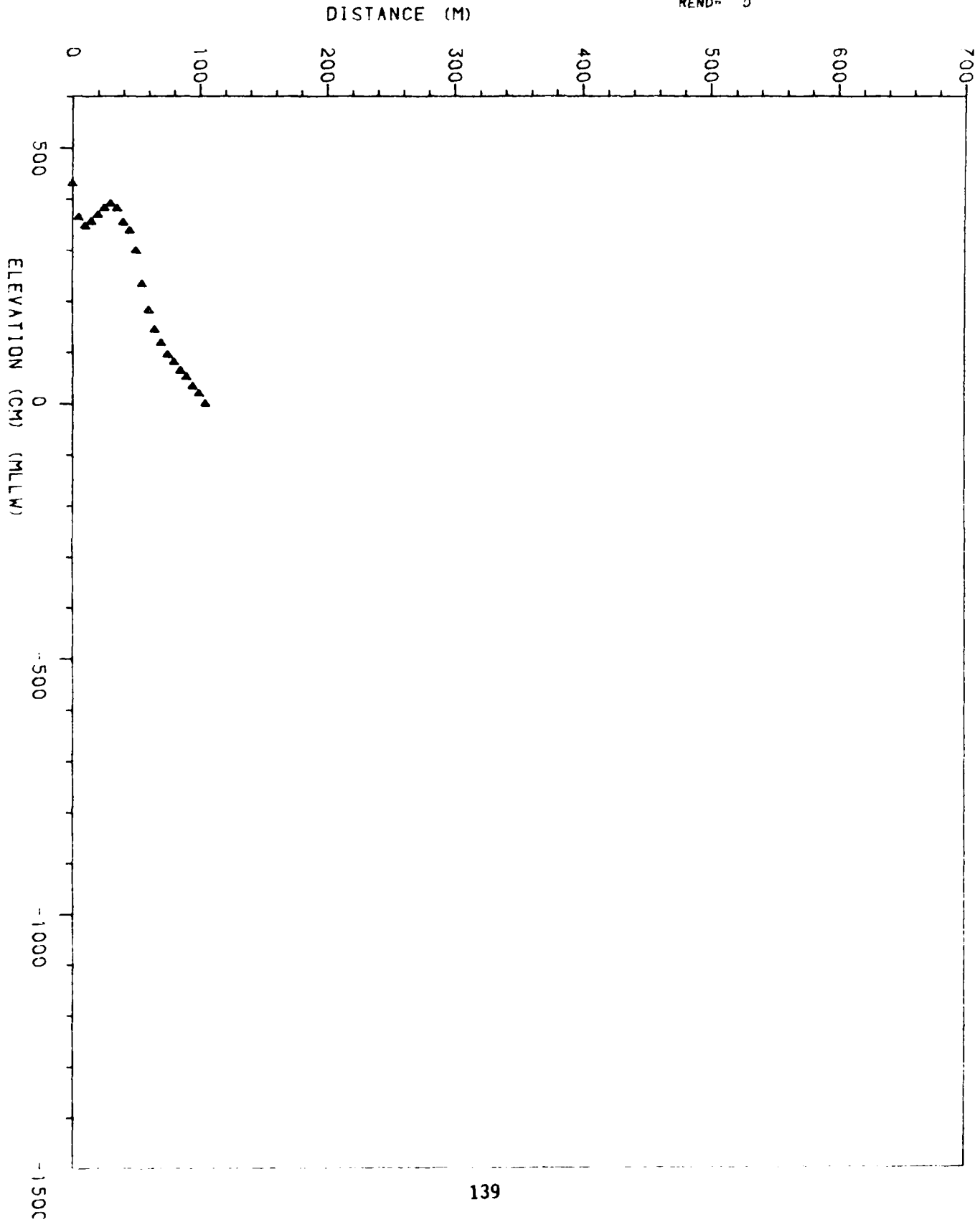
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 3
FEB 29 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	392
5.0	437
10.0	428
15.0	400
20.0	391
25.0	395
30.0	399
35.0	386
40.0	371
45.0	315
50.0	238
55.0	180
60.0	135
65.0	102
70.0	75
75.0	54
80.0	35
85.0	18

RANGE= 5

FEB 29 1984

RSTART=0
REND=0



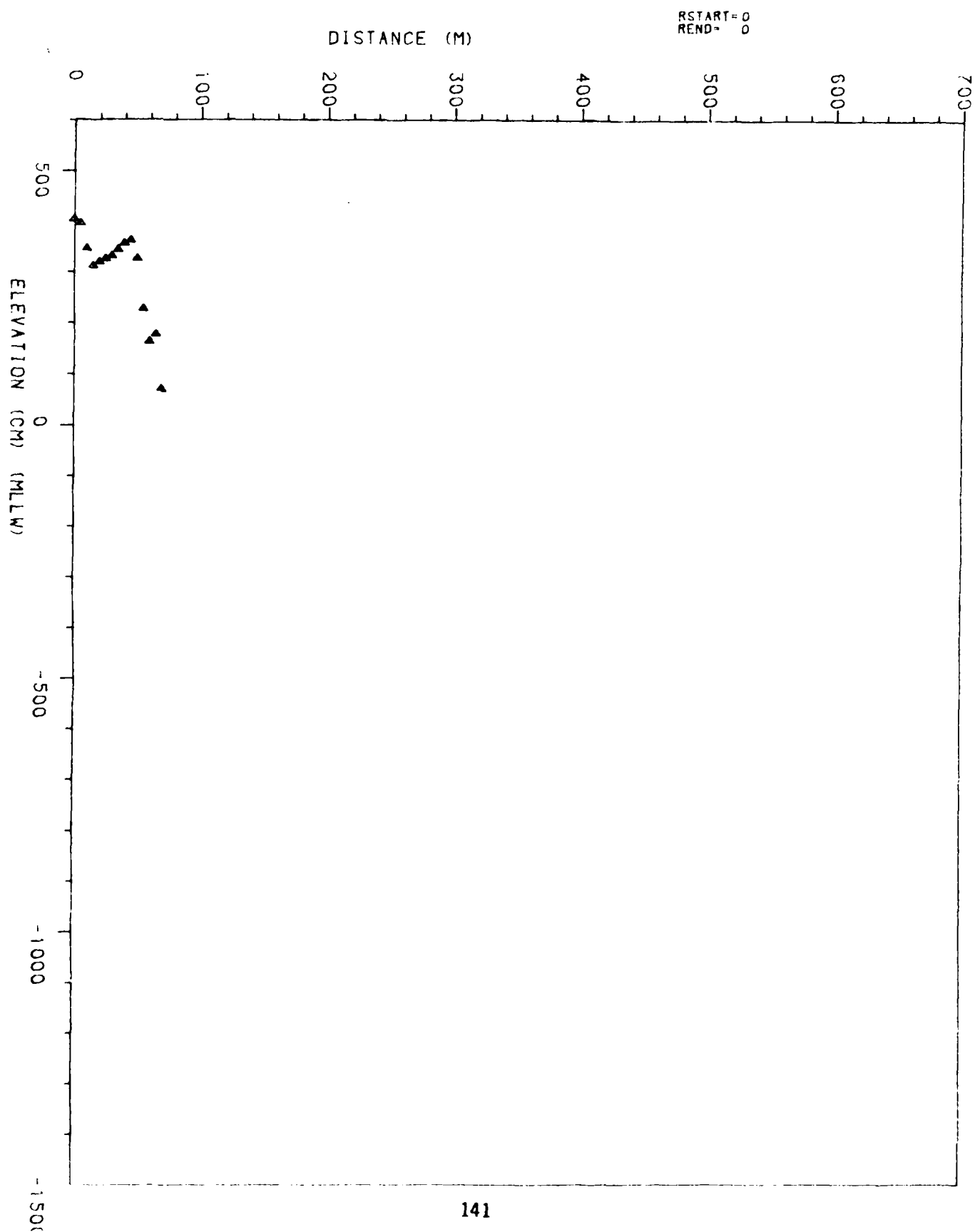
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TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 5
FEB 29 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	430
5.0	363
10.0	346
15.0	355
20.0	368
25.0	382
30.0	391
35.0	381
40.0	353
45.0	337
50.0	298
55.0	233
60.0	182
65.0	144
70.0	118
75.0	95
80.0	80
85.0	63
90.0	51
95.0	33
100.0	19
105.0	-1

RANGE= 7

FEB 29 1984



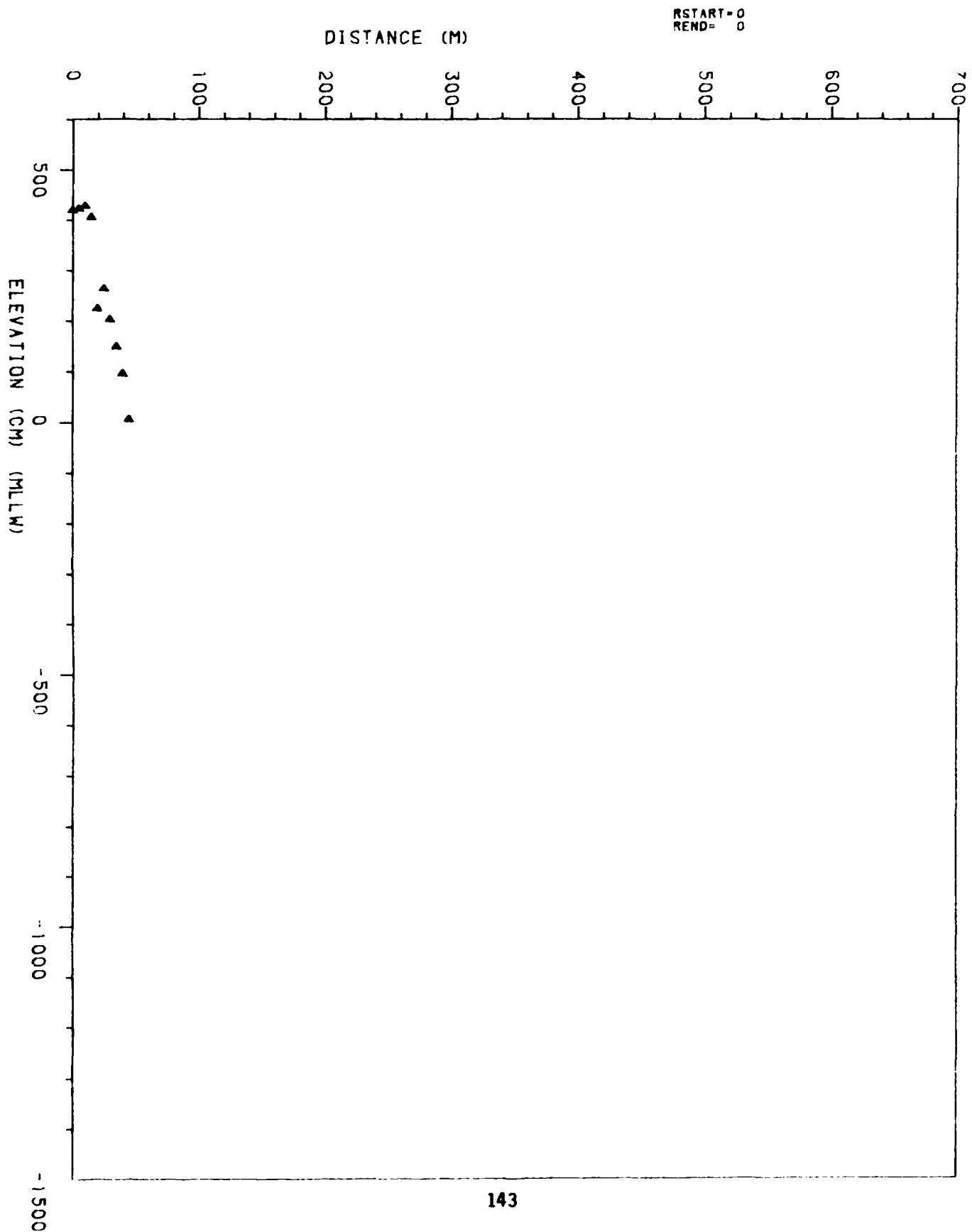
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TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 7
FEB 29 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	404
5.0	395
10.0	345
15.0	311
20.0	319
25.0	325
30.0	331
35.0	343
40.0	355
45.0	361
50.0	325
55.0	227
60.0	163
65.0	177
70.0	70

RANGE= 10

FEB 29 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 10
FEB 29 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	419
5.0	422
10.0	428
15.0	405
20.0	225
25.0	264
30.0	203
35.0	149
40.0	96
45.0	6

RANGE= 15

FEB 29 1984

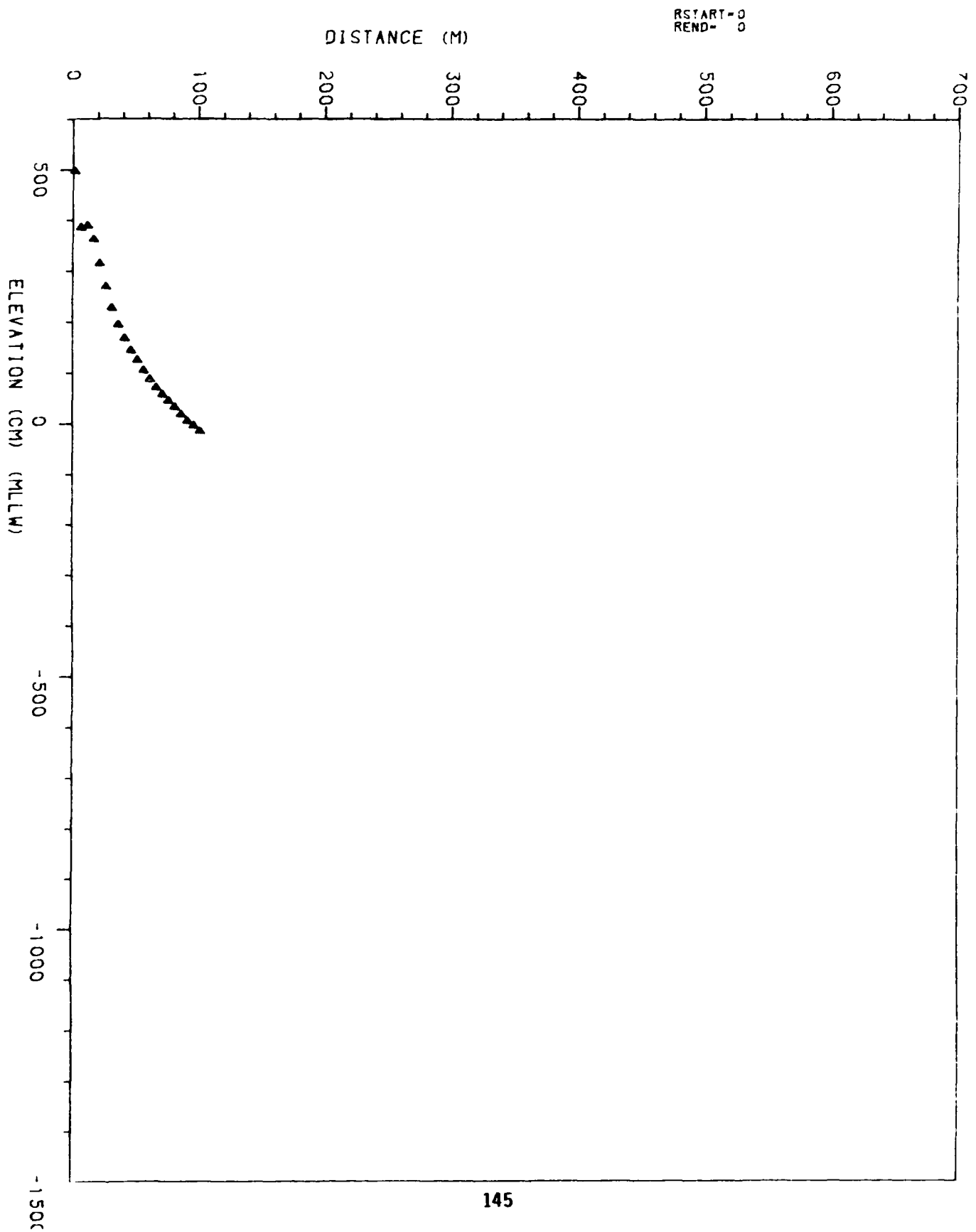


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 15
FEB 29 1984

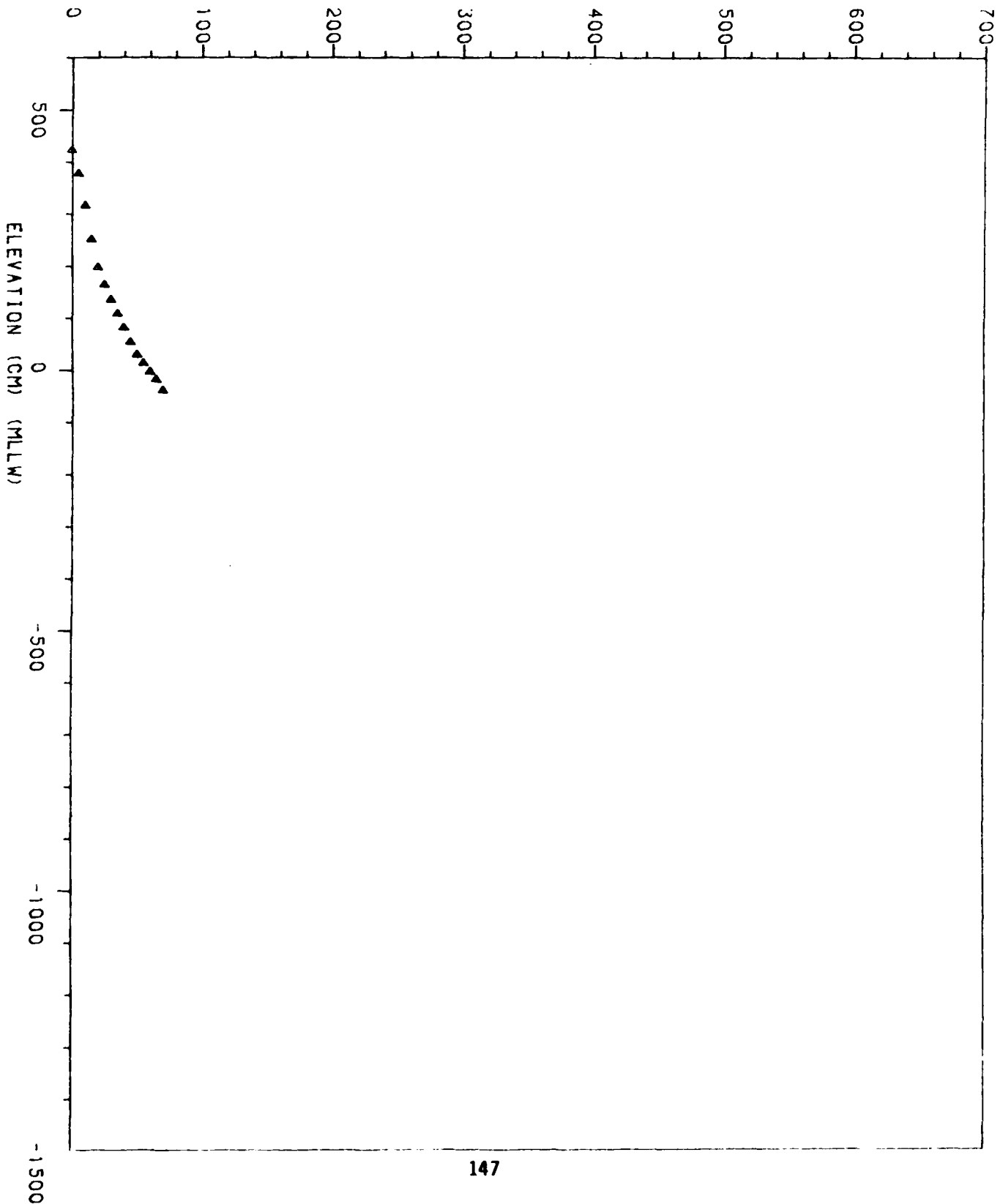
PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	497
5.0	385
10.0	389
15.0	362
20.0	315
25.0	269
30.0	228
35.0	195
40.0	168
45.0	144
50.0	125
55.0	105
60.0	87
65.0	71
70.0	57
75.0	45
80.0	33
85.0	18
90.0	5
95.0	-4
100.0	-15

RANGE= 20

MAR 27 1984

DISTANCE (M)

RSTART= 0
REND= 0



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 20
MAR 27 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	422
5.0	377
10.0	316
15.0	251
20.0	198
25.0	164
30.0	135
35.0	108
40.0	81
45.0	53
50.0	29
55.0	13
60.0	-4
65.0	-19
70.0	-40

RANGE= 35

MAR 05 1984

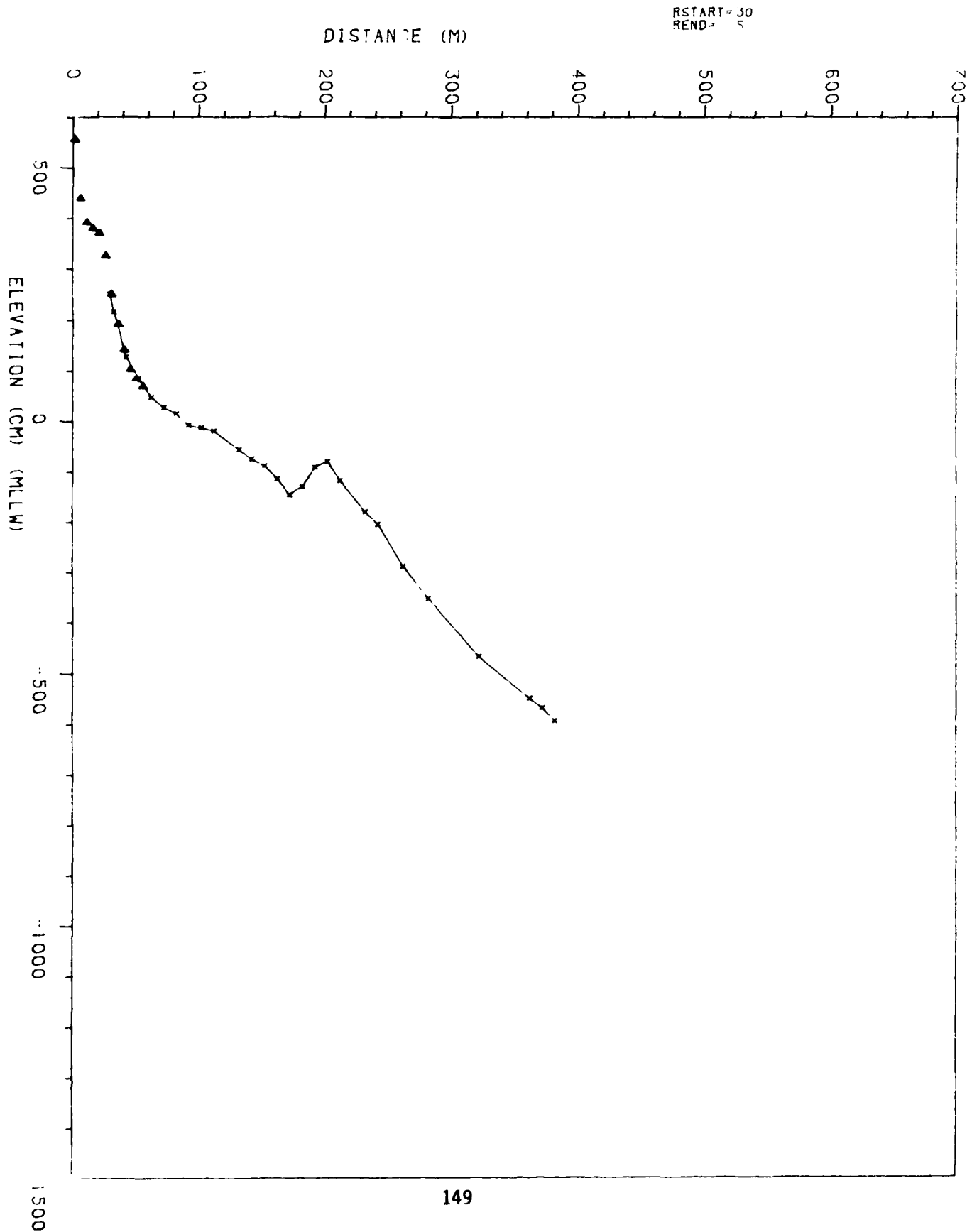


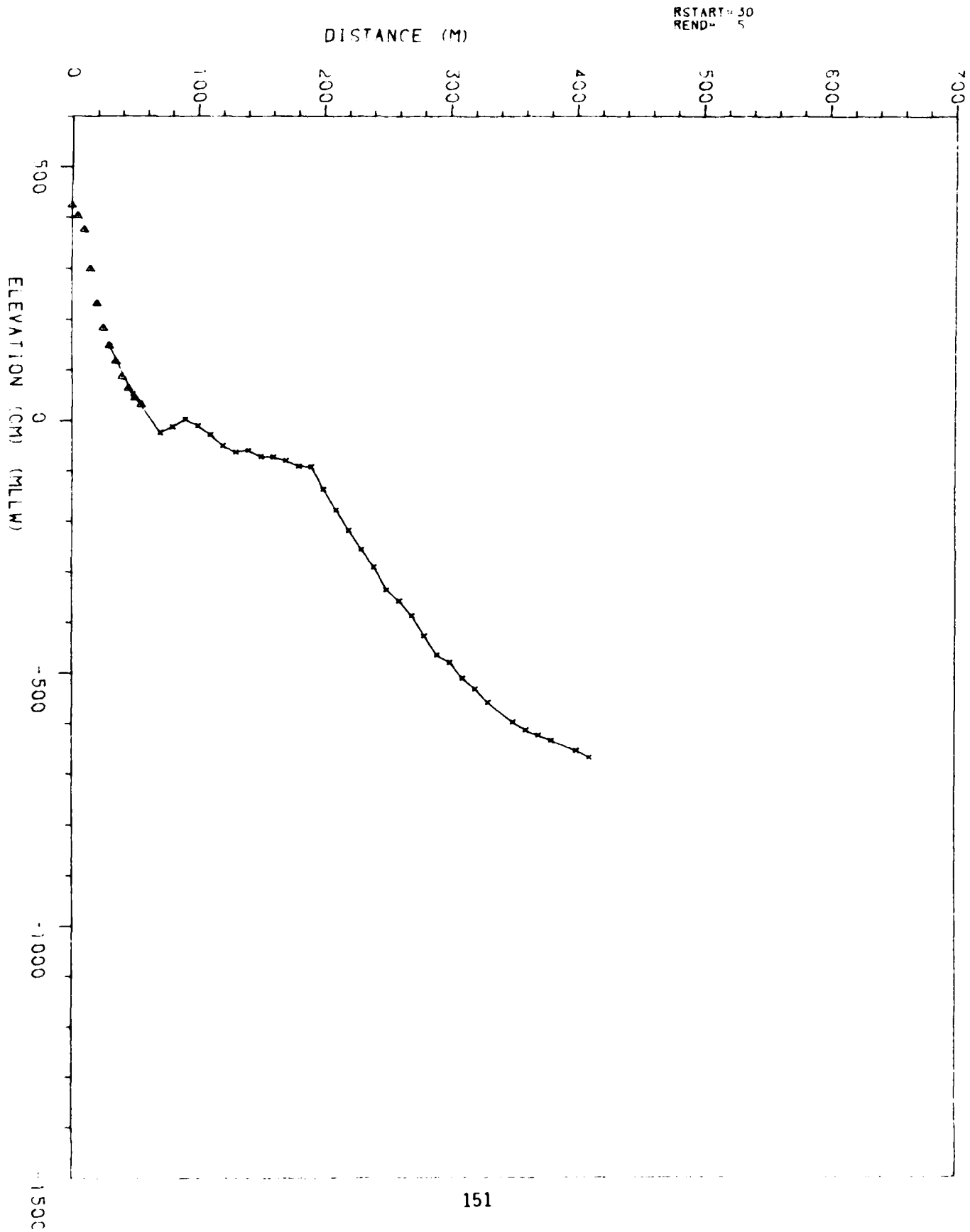
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 35
MAR 05 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW

0.0	556
5.0	439
10.0	391
15.0	379
20.0	370
25.0	326
30.0	251
32.9	215
42.9	126
52.9	84
62.9	47
72.9	27
82.9	15
92.9	-7
102.9	-12
112.9	-18
132.9	-55
142.9	-74
152.9	-88
162.9	-114
172.9	-145
182.9	-129
192.9	-91
202.9	-80
212.9	-117
232.9	-179
242.9	-204
262.9	-289
282.9	-353
322.9	-466
362.9	-549
372.9	-568
382.9	-594

RANGE = 50

MAR 26 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION

RANGE 50

MAR 26 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	423
5.0	402
10.0	375
15.0	299
20.0	231
25.0	183
30.0	148
48.2	52
70.2	-23
80.2	-12
90.3	2
100.3	-10
110.3	-28
120.3	-50
130.3	-62
140.3	-59
150.3	-71
160.3	-72
170.3	-79
180.3	-91
190.3	-91
200.3	-136
210.3	-178
220.3	-218
230.3	-255
240.3	-290
250.3	-335
260.3	-358
270.3	-387
280.3	-427
290.3	-465
300.3	-480
310.3	-510
320.3	-531
330.3	-559
350.3	-597
360.3	-613
370.3	-624
380.3	-634
400.3	-654
410.3	-668

RANGE= 60

MAY 01 1984

RSTART= 30
REND= 5

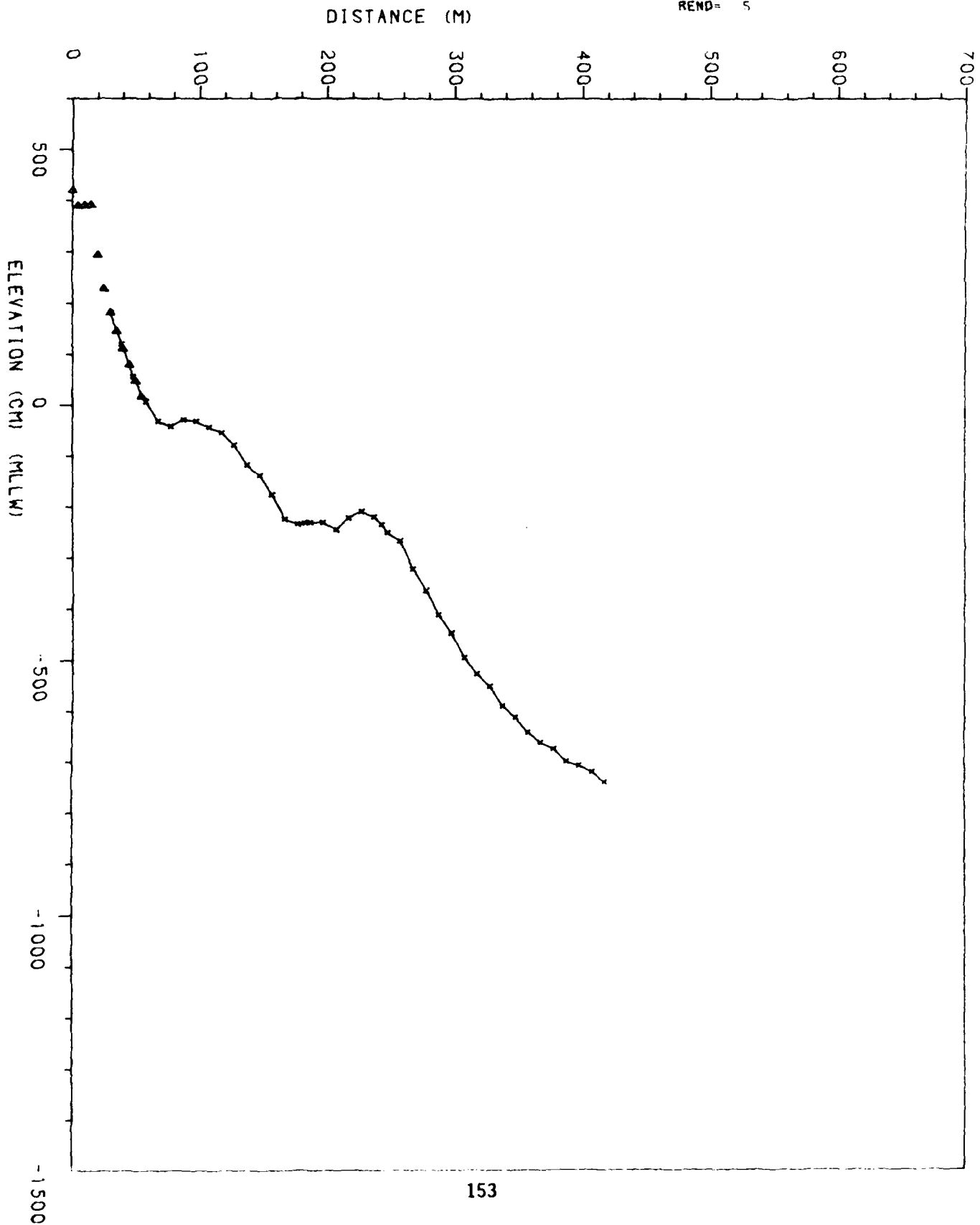


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 60
 MAY 01 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	419	388.2	-697
5.0	389	398.2	-706
10.0	390	408.2	-719
15.0	391	418.2	-740
20.0	294		
25.0	229		
30.0	182		
39.1	120		
48.1	56		
58.1	7		
68.2	-31		
78.2	-41		
88.2	-28		
98.2	-31		
108.2	-43		
118.2	-53		
128.2	-78		
138.2	-117		
148.2	-137		
158.2	-175		
168.2	-223		
178.2	-232		
183.8	-231		
188.2	-229		
198.2	-229		
208.2	-244		
218.2	-221		
228.2	-208		
238.2	-218		
243.7	-234		
248.2	-249		
258.2	-266		
268.3	-321		
278.3	-363		
288.3	-410		
298.3	-446		
308.3	493		
318.2	-525		
328.2	-549		
338.2	-588		
348.2	-610		
358.2	-640		
368.2	-660		
378.2	-673		

RANGE= 70

MAY 01 1984

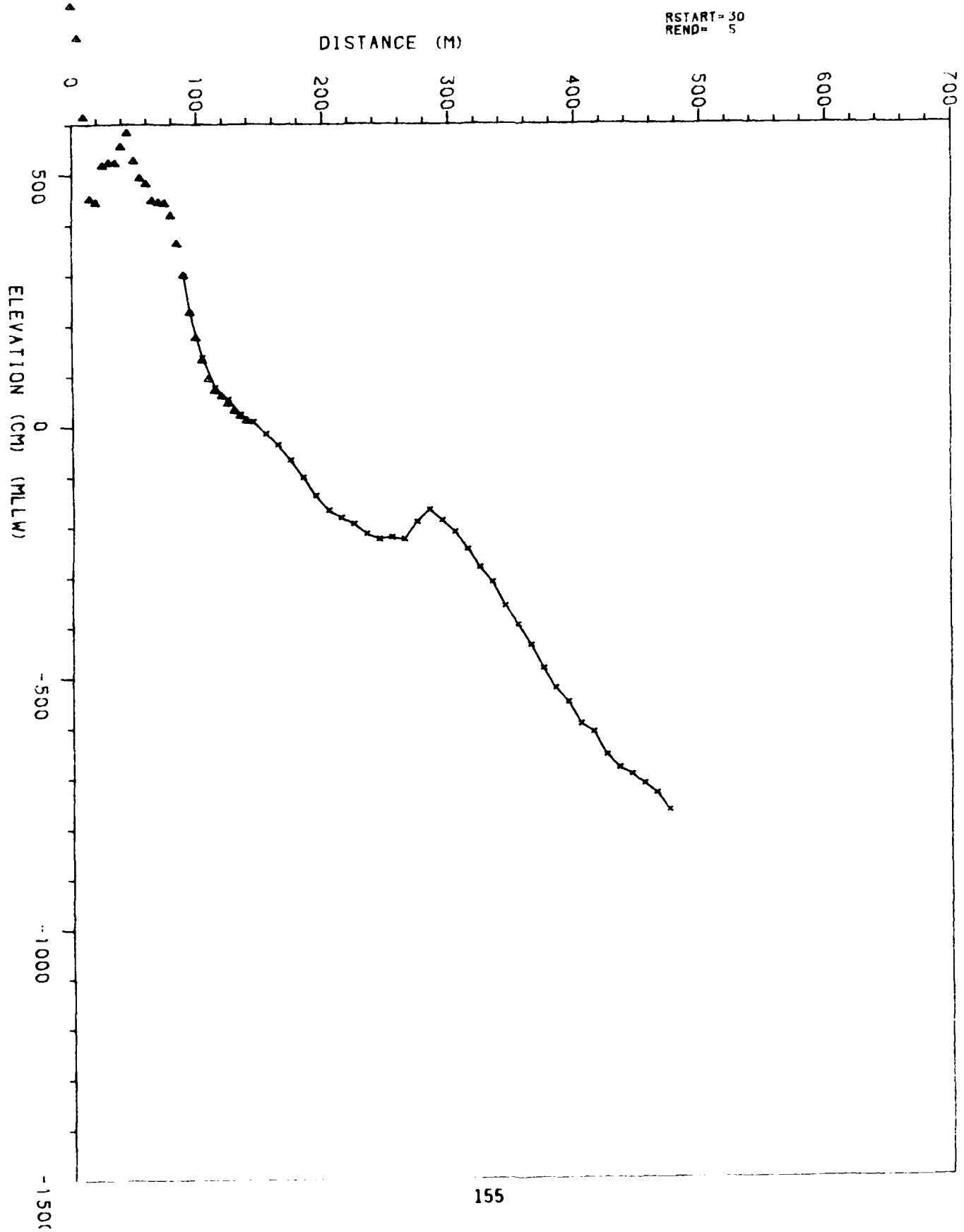


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 70
 MAY 01 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	836	345.1	-359
5.0	772	355.1	-396
10.0	614	365.1	-437
15.0	451	375.1	-483
20.0	444	385.1	-522
25.0	518	395.1	-551
30.0	523	405.1	-594
35.0	522	415.1	-610
40.0	555	425.1	-656
45.0	583	435.1	-682
50.0	527	445.1	-694
55.0	493	455.1	-713
60.0	481	465.1	-731
65.0	448	475.1	-766
70.0	445		
75.0	443		
80.0	418		
85.0	362		
90.0	300		
95.1	225		
105.1	138		
115.1	78		
125.1	54		
135.1	23		
145.1	9		
155.1	-14		
165.1	-35		
175.1	-66		
185.1	-100		
195.1	-137		
205.1	-167		
215.1	-181		
225.1	-194		
235.1	-214		
245.1	-224		
255.1	-221		
265.1	-224		
275.1	-190		
285.1	-166		
295.1	-188		
305.1	-210		
315.1	-245		
325.1	-282		
335.1	-311		

RANGE= 77

MAY 01 1984

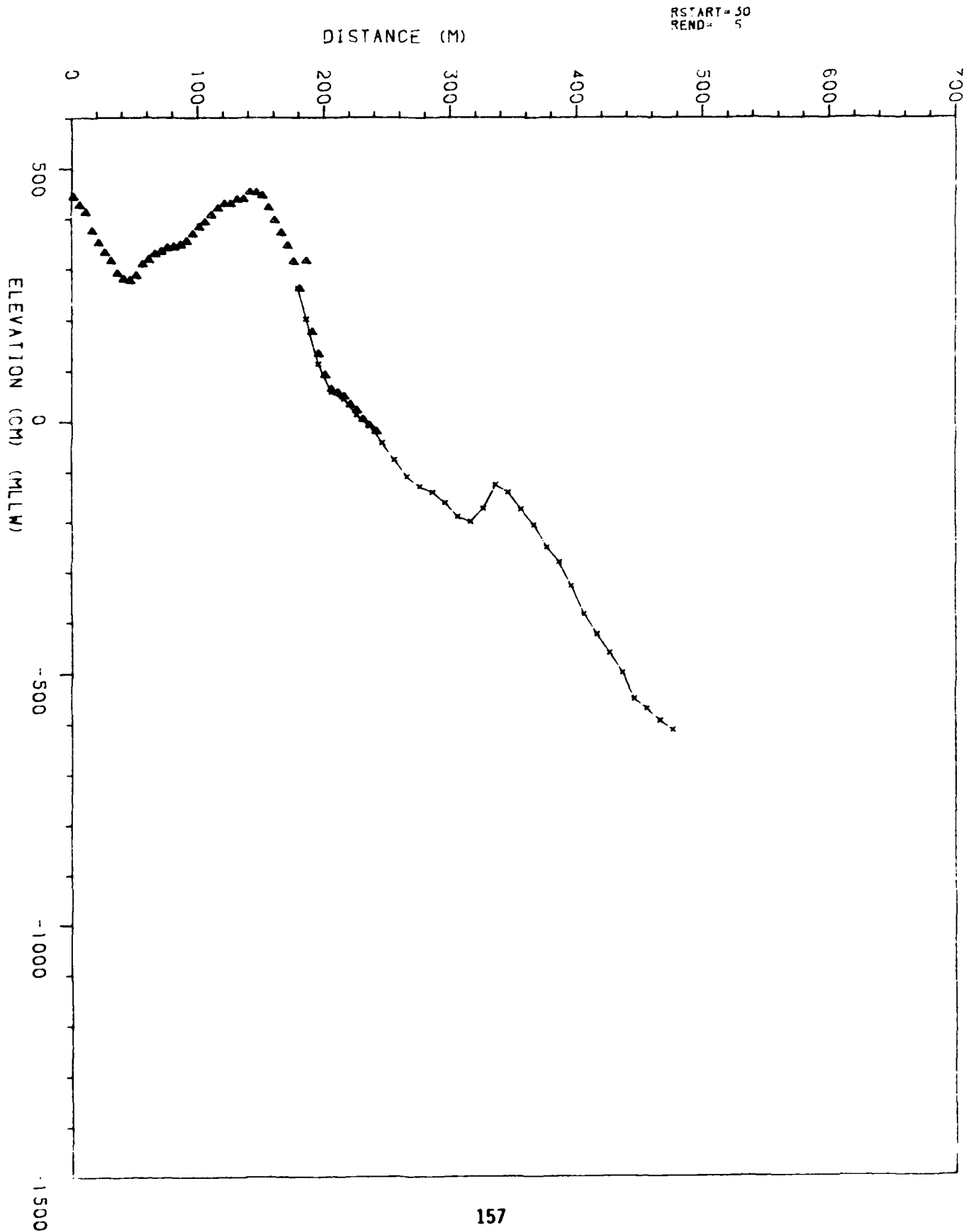


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 77
 MAY 01 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	443	256.3	-77
5.0	426	266.3	-110
10.0	412	276.3	-129
15.0	375	286.3	-141
20.0	352	296.3	-162
25.0	333	306.3	-190
30.0	317	316.3	-200
35.0	292	326.3	-174
40.0	280	336.3	-126
45.0	278	346.3	-142
50.0	288	356.3	-176
55.0	310	366.3	-207
60.0	319	376.3	-251
65.0	330	386.3	-281
70.0	335	396.3	-329
75.0	342	406.3	-385
80.0	344	416.3	-425
85.0	348	426.3	-461
90.0	355	436.3	-500
95.0	369	446.3	-552
100.0	383	456.3	-571
105.0	393	466.3	-595
110.0	407	476.3	-613
115.0	420		
120.0	429		
125.0	429		
130.0	438		
135.0	438		
140.0	452		
145.0	451		
150.0	445		
155.0	421		
160.0	396		
165.0	371		
170.0	346		
175.0	315		
180.0	262		
186.3	201		
196.3	112		
206.3	57		
216.3	44		
226.3	12		
236.3	-9		
246.3	-43		

RANGE= 90

MAR 23 1984

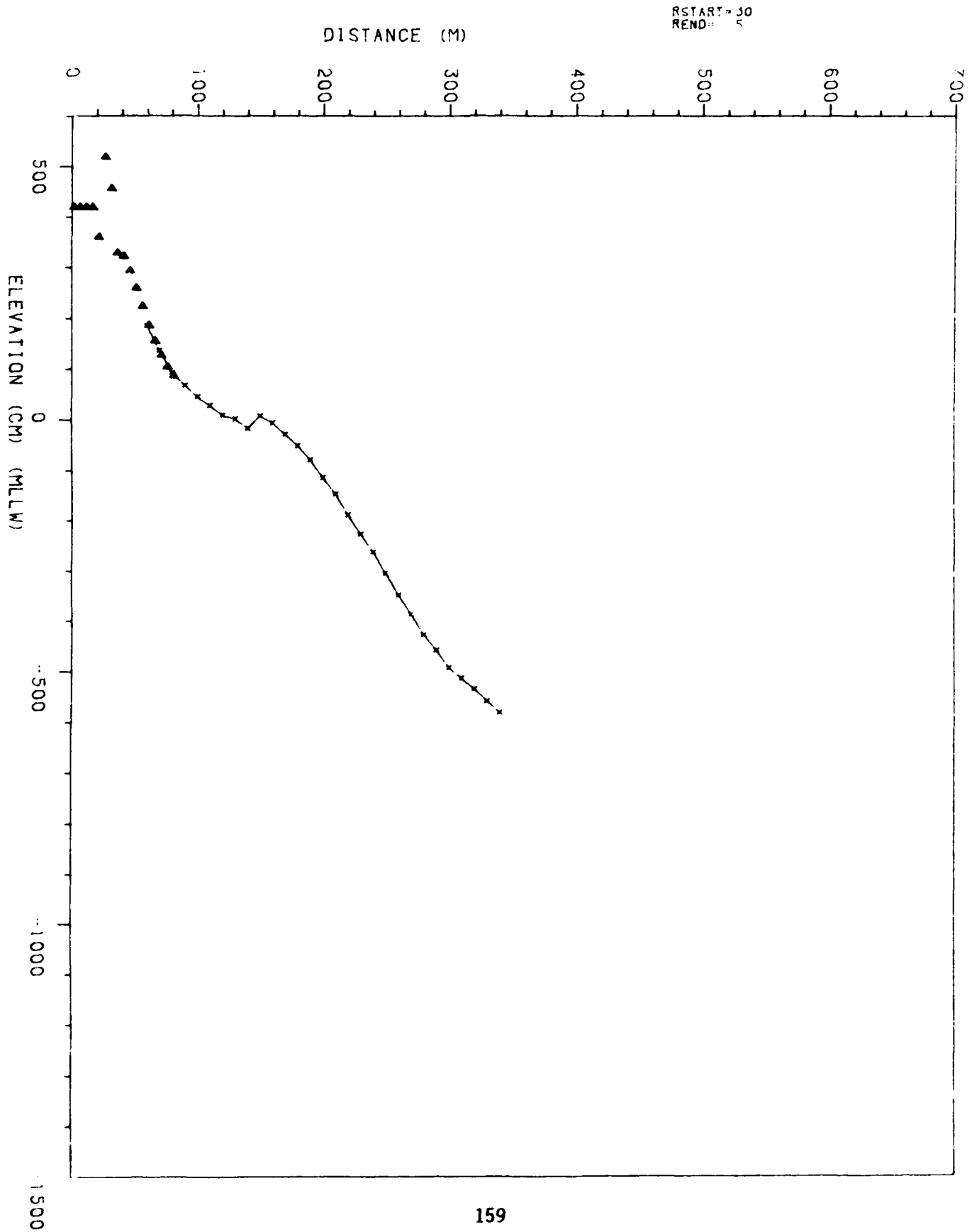


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 90
MAR 23 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	419
5.0	419
10.0	419
15.0	419
20.0	360
25.0	519
30.0	456
35.0	329
40.0	323
45.0	294
50.0	260
55.0	224
60.0	186
69.9	136
80.2	92
90.2	67
100.2	46
110.3	28
120.4	9
130.5	1
140.5	-16
150.5	7
160.3	-5
170.3	-27
180.3	-50
190.3	-79
200.3	-114
210.3	-147
220.2	-188
230.2	-226
240.2	-262
250.2	-304
260.2	-348
270.2	-386
280.2	-426
290.2	-457
300.2	-492
310.2	-512
320.2	-533
330.2	-557
340.2	-580

RANGE= 100

MAR 19 1984

RSTART= 30
REND= 5

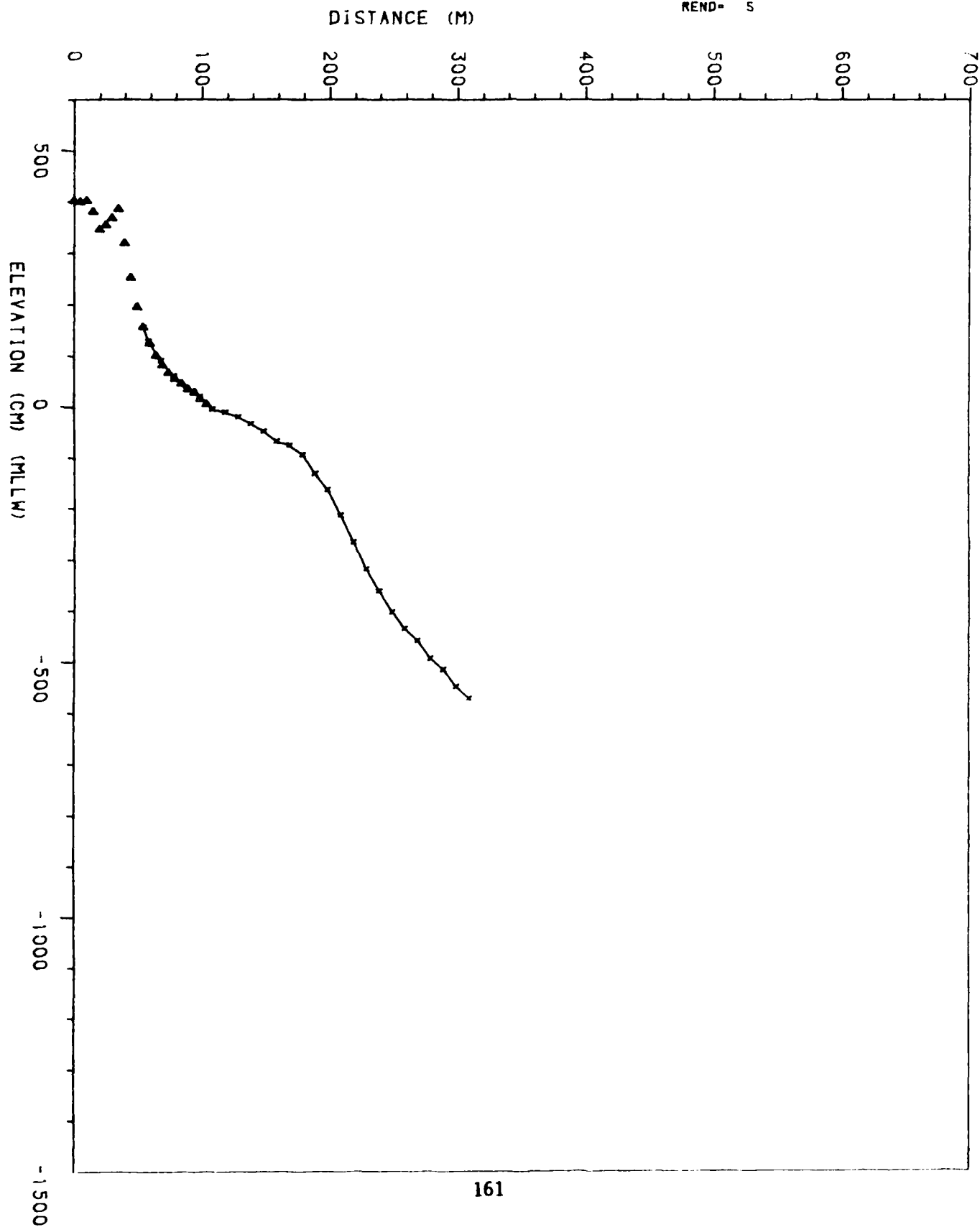


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 100
MAR 19 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	401
5.0	399
10.0	401
15.0	380
20.0	345
25.0	354
30.0	367
35.0	385
40.0	319
45.0	252
50.0	195
55.0	156
58.7	128
68.7	91
78.7	61
89.1	34
99.2	19
109.3	-4
119.4	-10
129.5	-19
139.5	-33
149.5	-47
159.6	-67
169.7	-75
179.7	-93
189.7	-131
199.7	-162
209.7	-213
219.7	-265
229.7	-317
239.7	-361
249.7	-402
259.7	-434
269.7	-458
279.7	-493
289.7	-514
299.7	-548
309.7	-571

RANGE= 110

MAY 17 1984

RSTART= 30
REND= 5

DISTANCE (M)

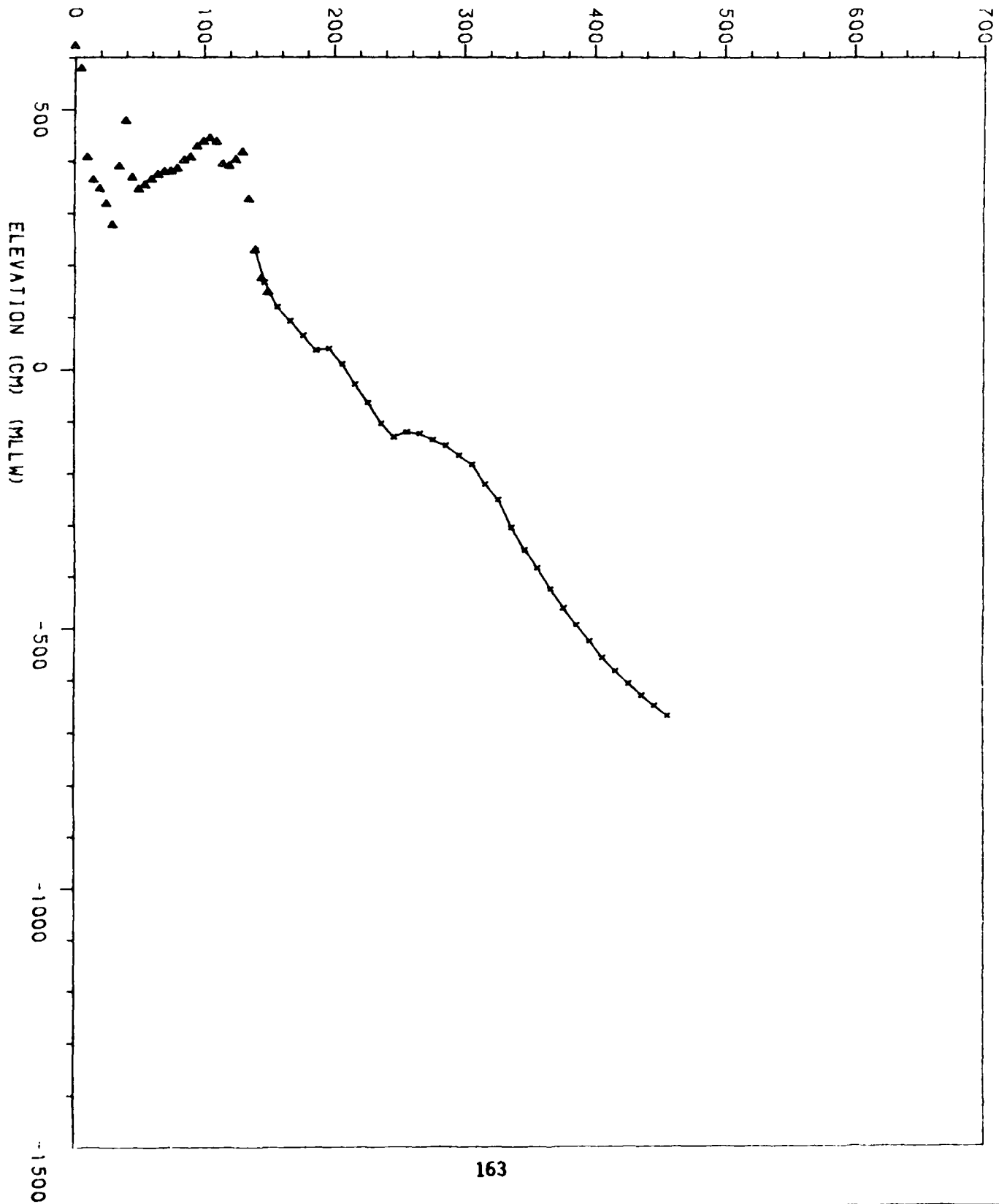


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 110
MAY 17 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	622	297.2	-165
5.0	578	307.2	-182
10.0	407	317.2	-220
15.0	363	327.2	-250
20.0	346	337.2	-304
25.0	318	347.2	-348
30.0	277	357.2	-383
35.0	389	367.2	-424
40.0	477	377.2	-461
45.0	367	387.2	-494
50.0	345	397.2	-525
55.0	353	407.2	-556
60.0	364	417.2	-583
65.0	373	427.2	-606
70.0	379	437.2	-629
75.0	380	447.2	-649
80.0	385	457.2	-668
85.0	401		
90.0	407		
95.0	428		
100.0	437		
105.0	444		
110.0	437		
115.0	394		
120.0	390		
125.0	402		
130.0	417		
135.0	326		
140.0	228		
147.2	166		
157.2	118		
167.2	92		
177.2	64		
187.2	36		
197.2	39		
207.2	9		
217.2	-28		
227.2	-64		
237.2	-103		
247.2	-129		
257.2	-120		
267.2	-123		
277.2	-134		
287.2	-145		

RANGE= 125

MAY 17 1984

RSTART= 30
REND= 5

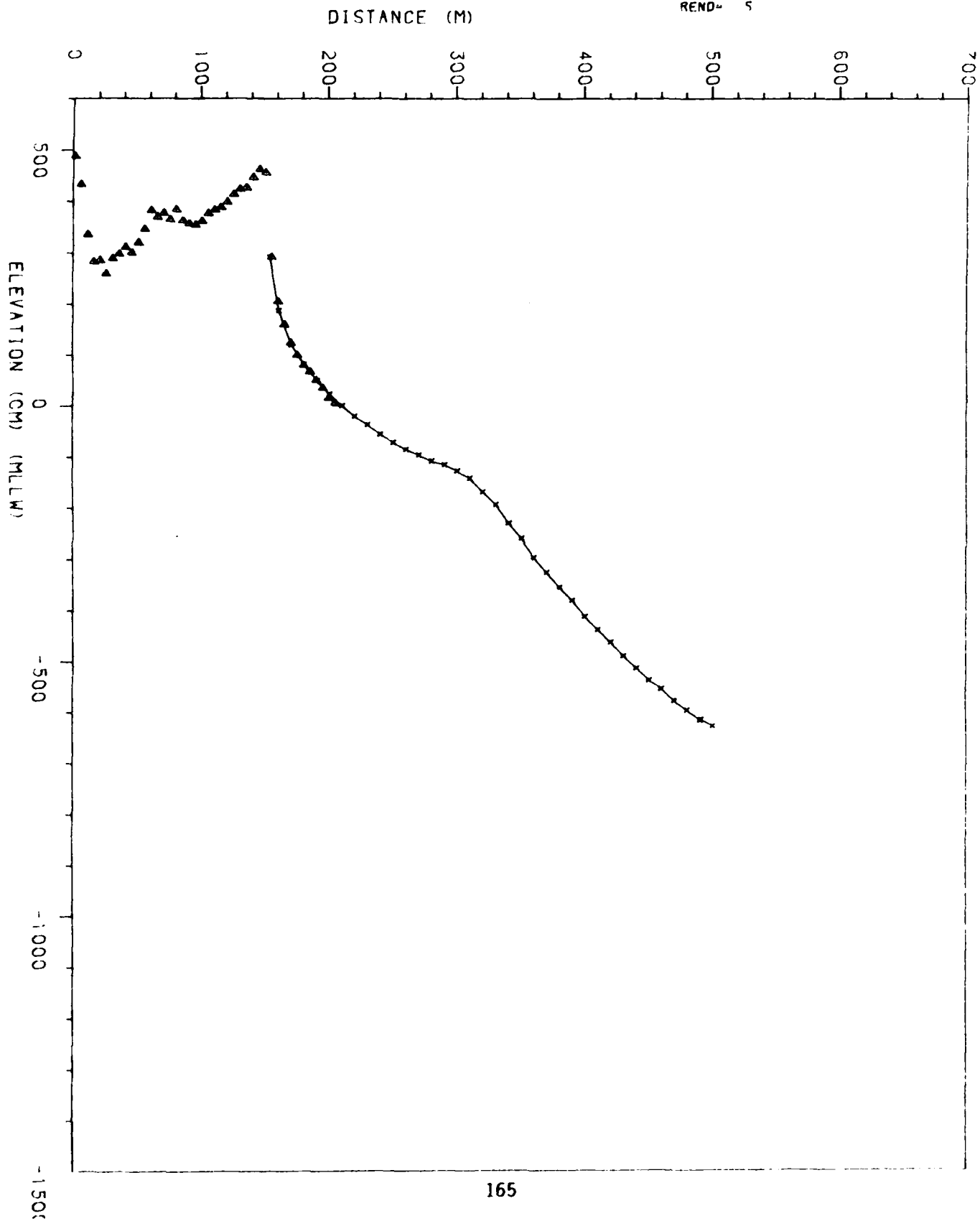


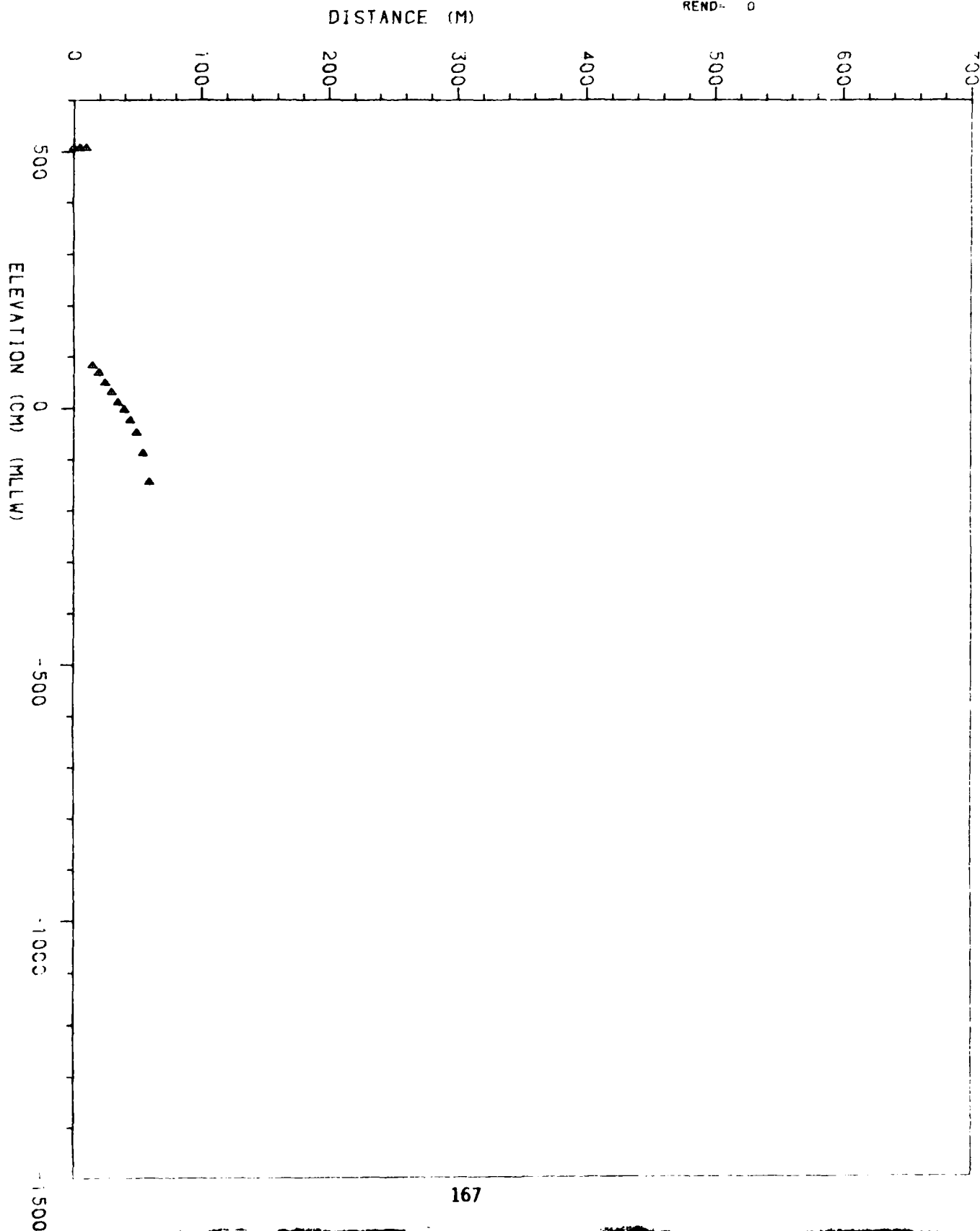
TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 125
 MAY 17 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	488	281.8	-108
5.0	433	291.8	-115
10.0	336	301.8	-128
15.0	283	311.8	-141
20.0	286	321.8	-168
25.0	260	331.8	-193
30.0	290	341.8	-229
35.0	299	351.8	-259
40.0	312	361.8	-297
45.0	301	371.8	-325
50.0	321	381.8	-355
55.0	347	391.8	-380
60.0	383	401.8	-411
65.0	370	411.8	-438
70.0	378	421.8	-462
75.0	365	431.8	-489
80.0	385	441.8	-513
85.0	363	451.8	-536
90.0	357	461.8	-554
95.0	355	471.8	-577
100.0	362	481.8	-596
105.0	377	491.8	-615
110.0	384	492.7	-614
115.0	389	501.8	-626
120.0	399		
125.0	414		
130.0	424		
135.0	427		
140.0	447		
145.0	462		
150.0	456		
155.0	293		
161.8	187		
171.8	119		
181.8	81		
191.8	49		
201.8	22		
211.8	0		
221.8	-20		
231.8	-36		
241.8	-55		
251.8	-71		
261.8	-85		
271.8	-96		

RANGE= 140

MAR 27 1984

RSTART=0
REND=0



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 140
MAR 27 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	507
5.0	507
10.0	507
15.0	83
20.0	69
25.0	49
30.0	31
35.0	11
40.0	-3
45.0	-24
50.0	-48
55.0	-88
60.0	-144

RANCE= 160

MAR 21 1984

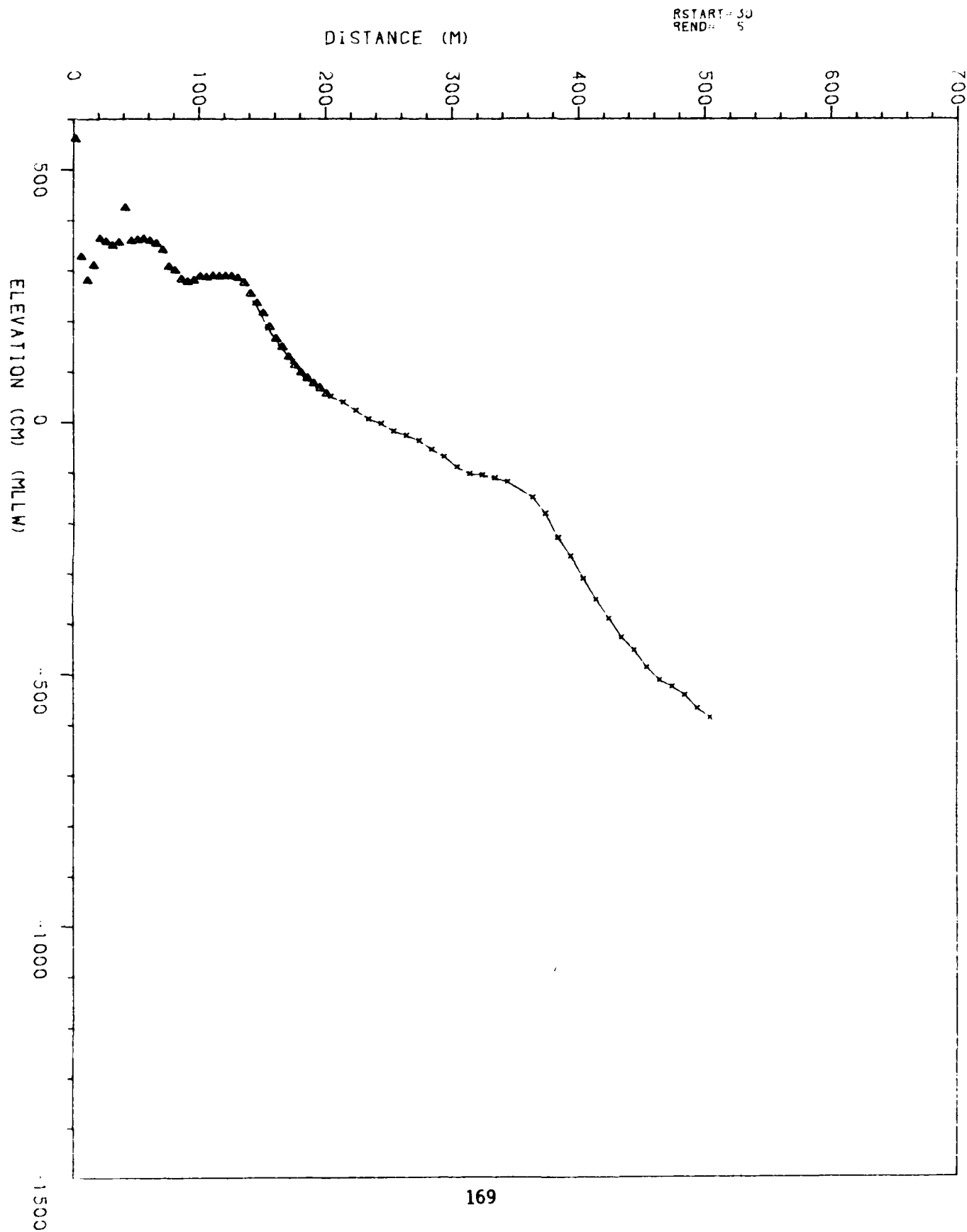


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 160
 MAR 21 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	561	294.7	-68
5.0	328	304.7	-90
10.0	281	314.7	-102
15.0	311	324.7	-105
20.0	363	334.7	-111
25.0	357	344.7	-118
30.0	350	364.7	-149
35.0	356	374.7	-183
40.0	425	384.7	-230
45.0	359	394.7	-267
50.0	361	404.7	-311
55.0	363	414.7	-353
60.0	359	424.7	-391
65.0	354	434.7	-428
70.0	341	444.7	-453
75.0	308	454.7	-487
80.0	301	464.7	-512
85.0	283	474.7	-525
90.0	278	484.7	-542
95.0	281	494.7	-568
100.0	289	504.7	-587
105.0	287		
110.0	290		
115.0	289		
120.0	290		
125.0	289		
130.0	286		
135.0	276		
140.0	255		
145.0	236		
155.2	186		
165.2	149		
174.6	119		
184.6	87		
194.7	72		
204.7	51		
214.7	39		
224.7	23		
234.7	5		
244.7	-3		
254.7	-18		
264.7	-26		
274.7	-37		
284.7	-54		

RANGE= 170

MAR 15 1984

DISTANCE (M)

RSTART= 30
REND= 5

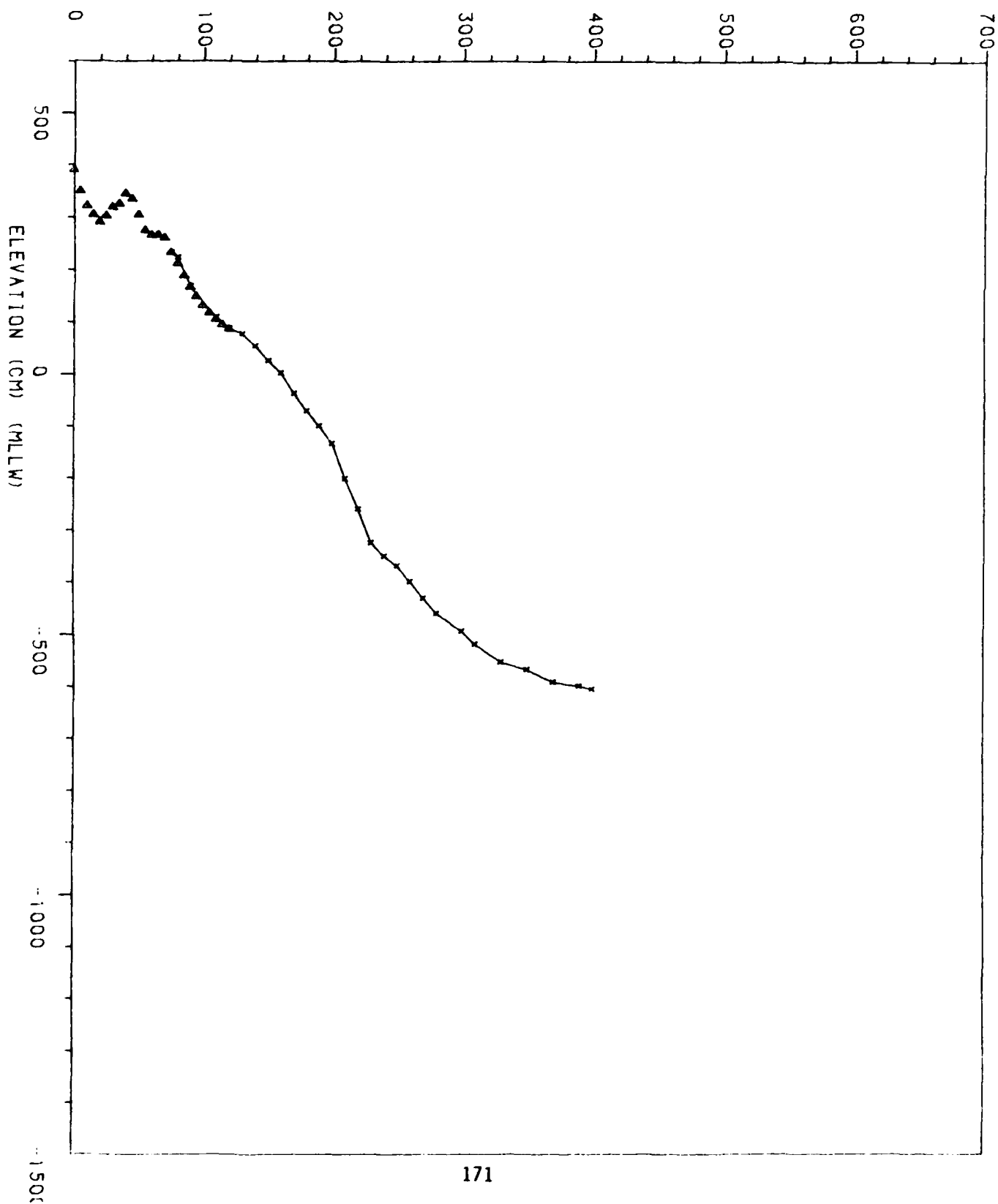


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 170
MAR 15 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	389
5.0	349
10.0	321
15.0	304
20.0	290
25.0	302
30.0	319
35.0	325
40.0	344
45.0	334
50.0	304
55.0	274
60.0	265
65.0	266
70.0	260
75.0	232
80.0	222
90.0	167
110.1	109
120.1	88
130.1	77
140.1	54
150.1	26
159.7	2
169.7	-36
179.7	-70
189.7	-99
199.7	-133
209.7	-200
219.7	-258
229.7	-323
239.7	-349
249.7	-367
259.7	-397
269.7	-429
279.7	-459
299.7	-492
309.7	-517
329.7	-551
349.7	-565
369.7	-590
389.7	-597
399.7	-603

RANGE= 180

MAR 14 1984

RSTART= 30
REND= 5

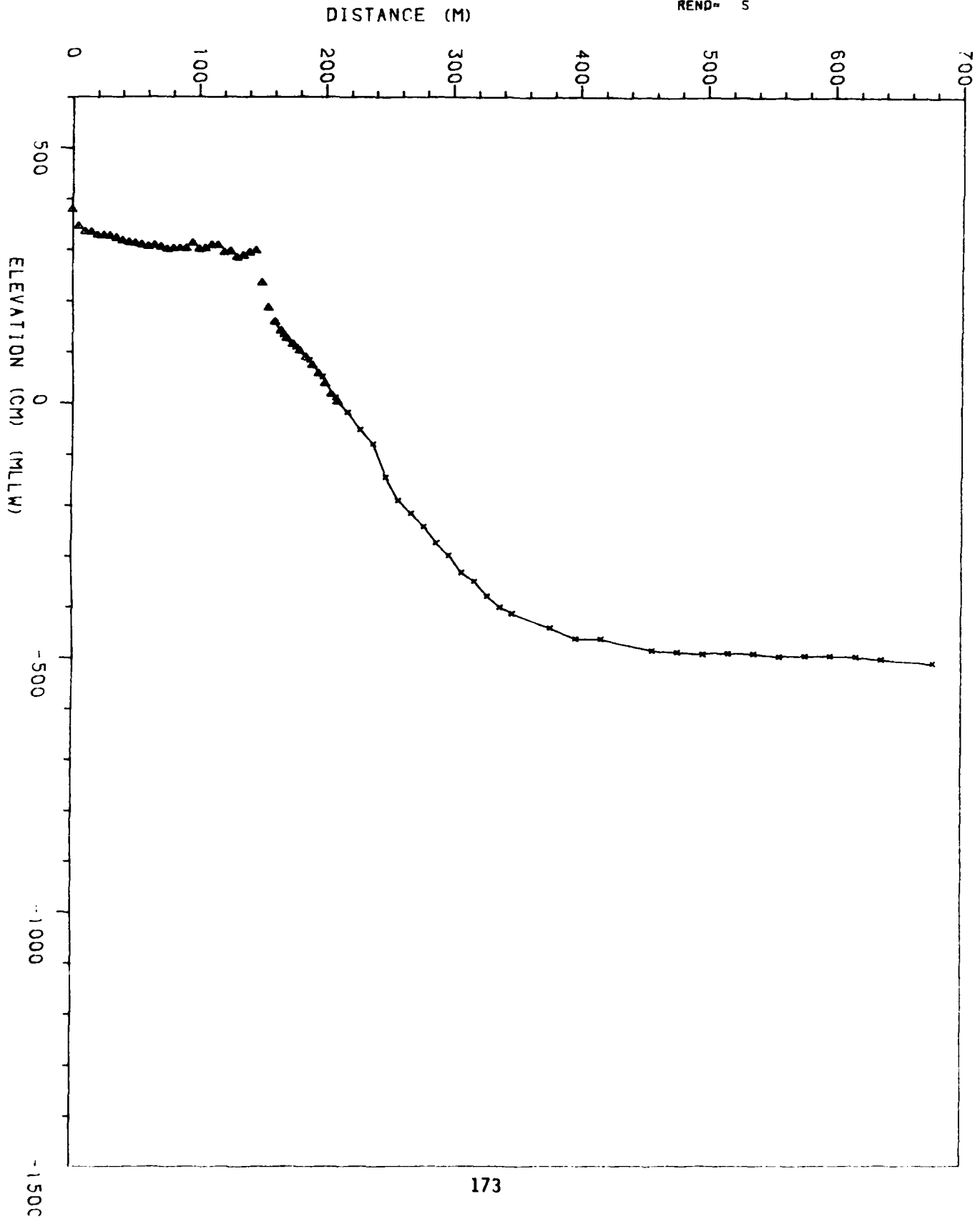
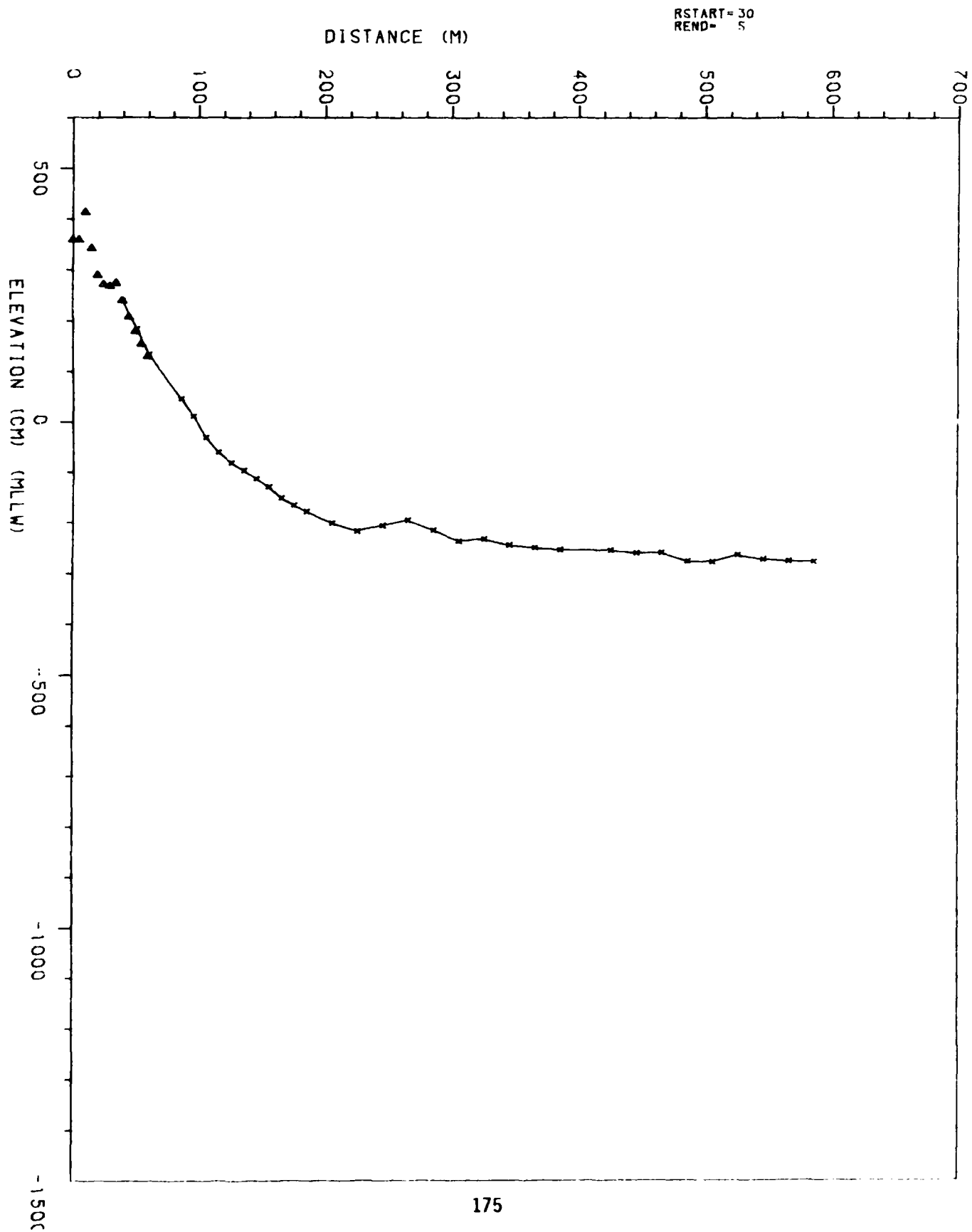


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 180
MAR 14 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	378	278.0	-242
5.0	345	288.0	-274
10.0	334	298.0	-299
15.0	333	307.9	-332
20.0	327	317.9	-350
25.0	327	327.9	-379
30.0	326	337.9	-401
35.0	322	347.9	-412
40.0	317	377.9	-440
45.0	314	397.9	-463
50.0	312	417.9	-463
55.0	309	457.9	-485
60.0	306	477.9	-488
65.0	308	497.9	-492
70.0	304	517.9	-490
75.0	300	537.9	-491
80.0	302	557.9	-497
85.0	302	577.9	-496
90.0	302	597.9	-496
95.0	312	617.9	-497
100.0	300	637.9	-502
105.0	302	677.9	-510
110.0	308		
115.0	308		
120.0	294		
125.0	296		
130.0	284		
135.0	288		
140.0	294		
145.0	298		
150.0	235		
155.0	186		
160.0	158		
166.6	133		
176.5	108		
187.6	83		
198.0	51		
208.0	9		
218.0	-18		
228.0	-52		
238.0	-80		
248.0	-145		
258.0	-191		
268.0	-216		

RANGE= 200

MAR 16 1984



1

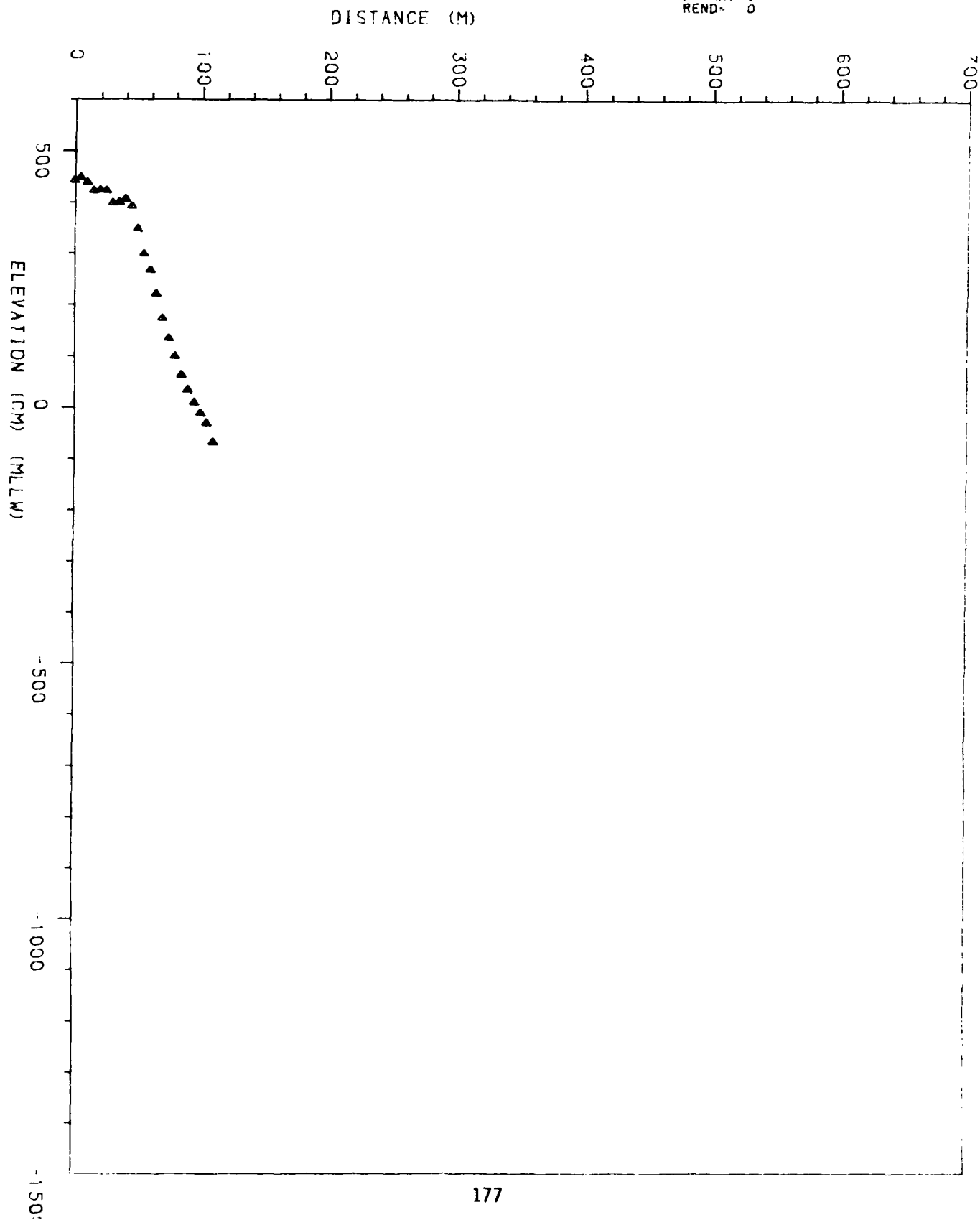
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 200
MAR 16 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	358
5.0	358
10.0	413
15.0	342
20.0	290
25.0	272
30.0	268
35.0	274
40.0	240
51.0	184
61.0	133
86.6	46
96.6	11
106.6	-30
116.6	-59
126.6	-81
136.6	-96
146.6	-112
156.6	-128
166.6	-151
176.6	-165
186.6	-177
206.6	-200
226.6	-216
246.6	-205
266.6	-194
286.6	-214
306.6	-235
326.6	-231
346.6	-243
366.6	-248
386.6	-253
426.6	-254
446.6	-259
466.6	-259
486.6	-276
506.6	-277
526.6	-263
546.6	-272
566.6	-276
586.6	-277

RANGE= 230

APR 24 1984

RSTART= 0
REND= 0



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 230
APR 24 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	442
5.0	448
10.0	438
15.0	422
20.0	423
25.0	423
30.0	399
35.0	400
40.0	406
45.0	392
50.0	348
55.0	300
60.0	268
65.0	222
70.0	174
75.0	135
80.0	100
85.0	63
90.0	34
95.0	10
100.0	-11
105.0	-30
110.0	-67

RANGE= 260

JUL 01 1984

RSTART=0
REND=0

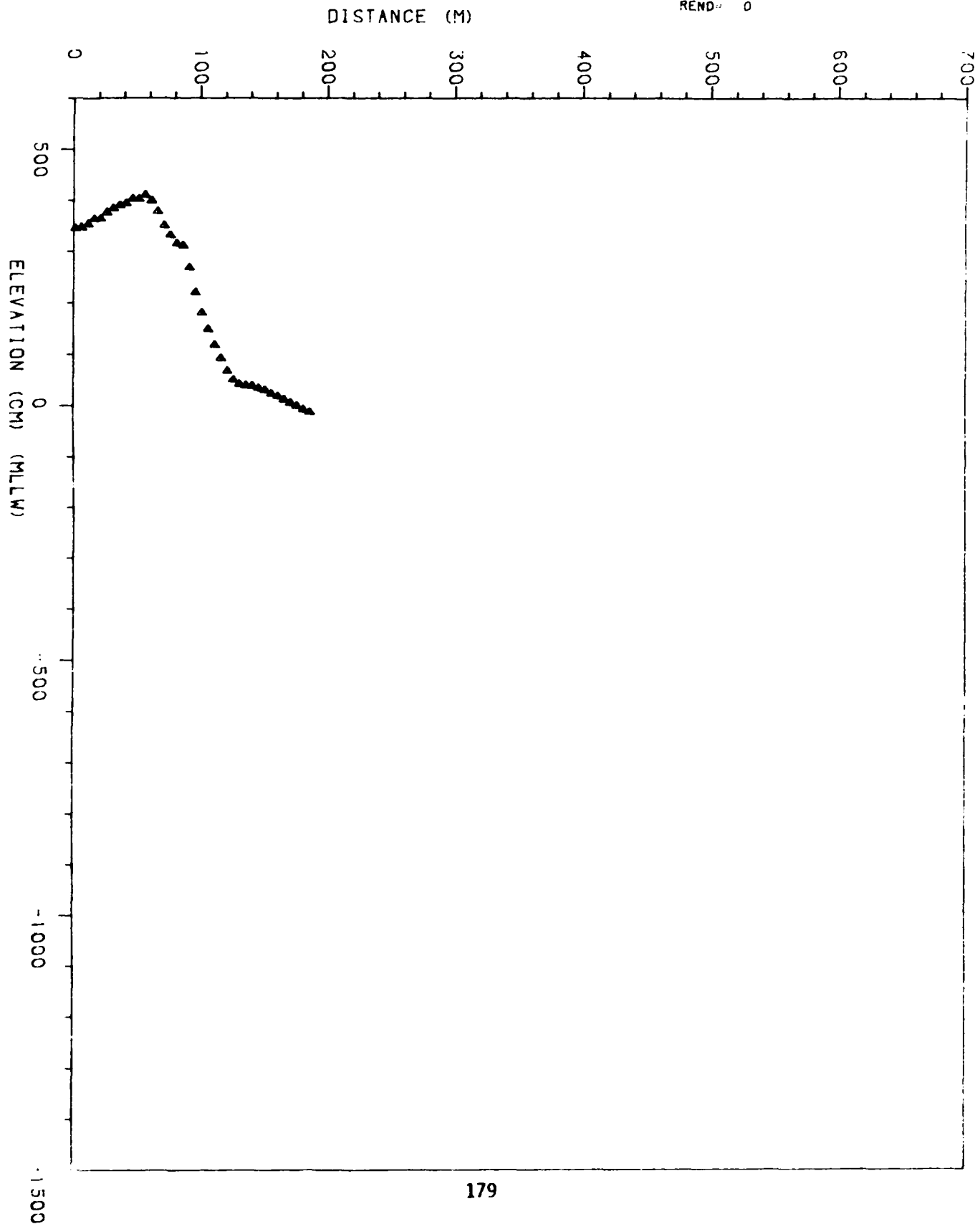


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 260
JUL 01 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	345
5.0	347
10.0	353
15.0	363
20.0	364
25.0	376
30.0	384
35.0	390
40.0	394
45.0	403
50.0	402
55.0	411
60.0	399
65.0	378
70.0	351
75.0	332
80.0	316
85.0	312
90.0	269
95.0	221
100.0	181
105.0	149
110.0	118
115.0	92
120.0	67
125.0	50
130.0	42
135.0	39
140.0	38
145.0	34
150.0	30
155.0	23
160.0	18
165.0	12
170.0	5
175.0	-1
180.0	-8
185.0	-13

RANGE= 270

JUN 27 1984

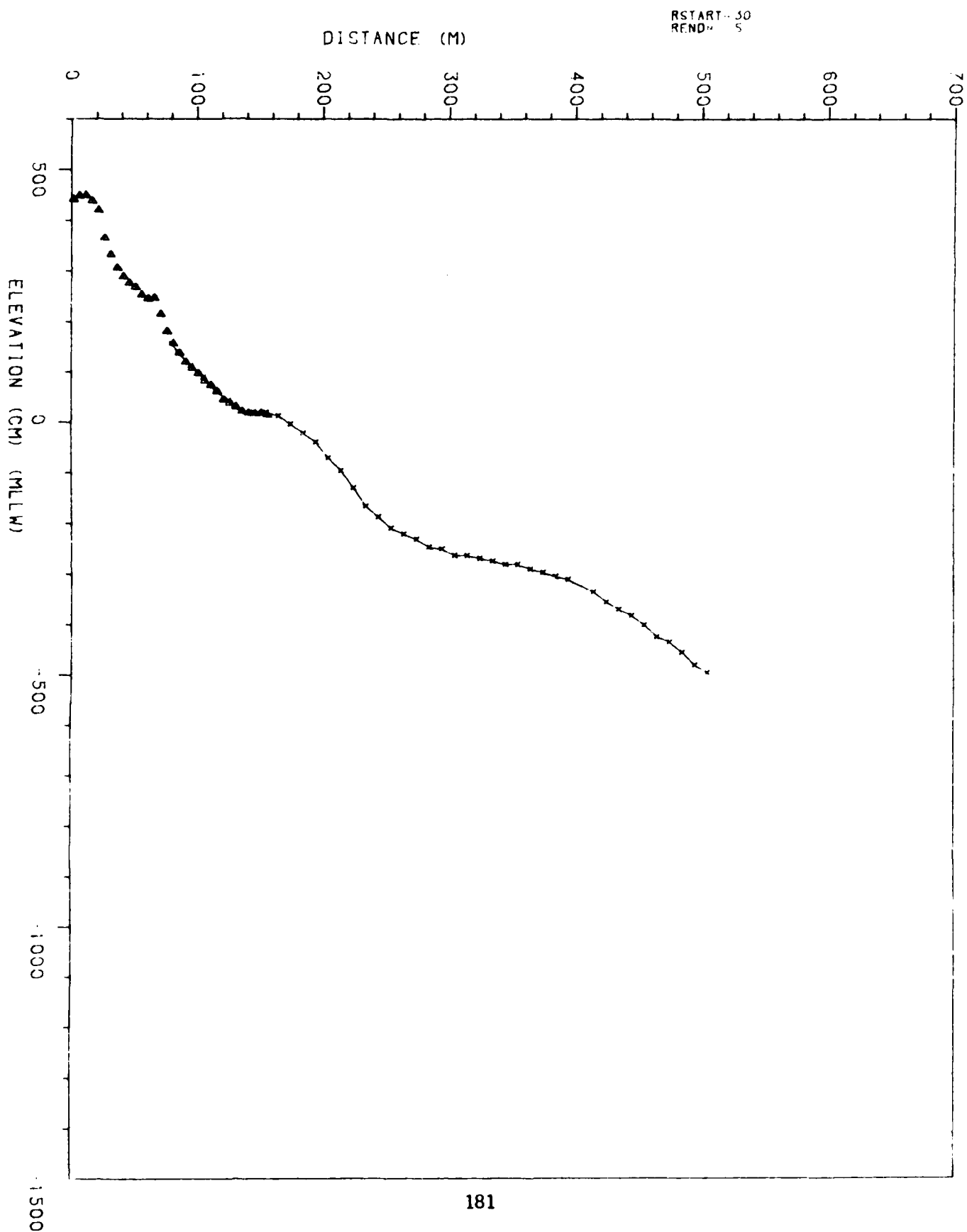
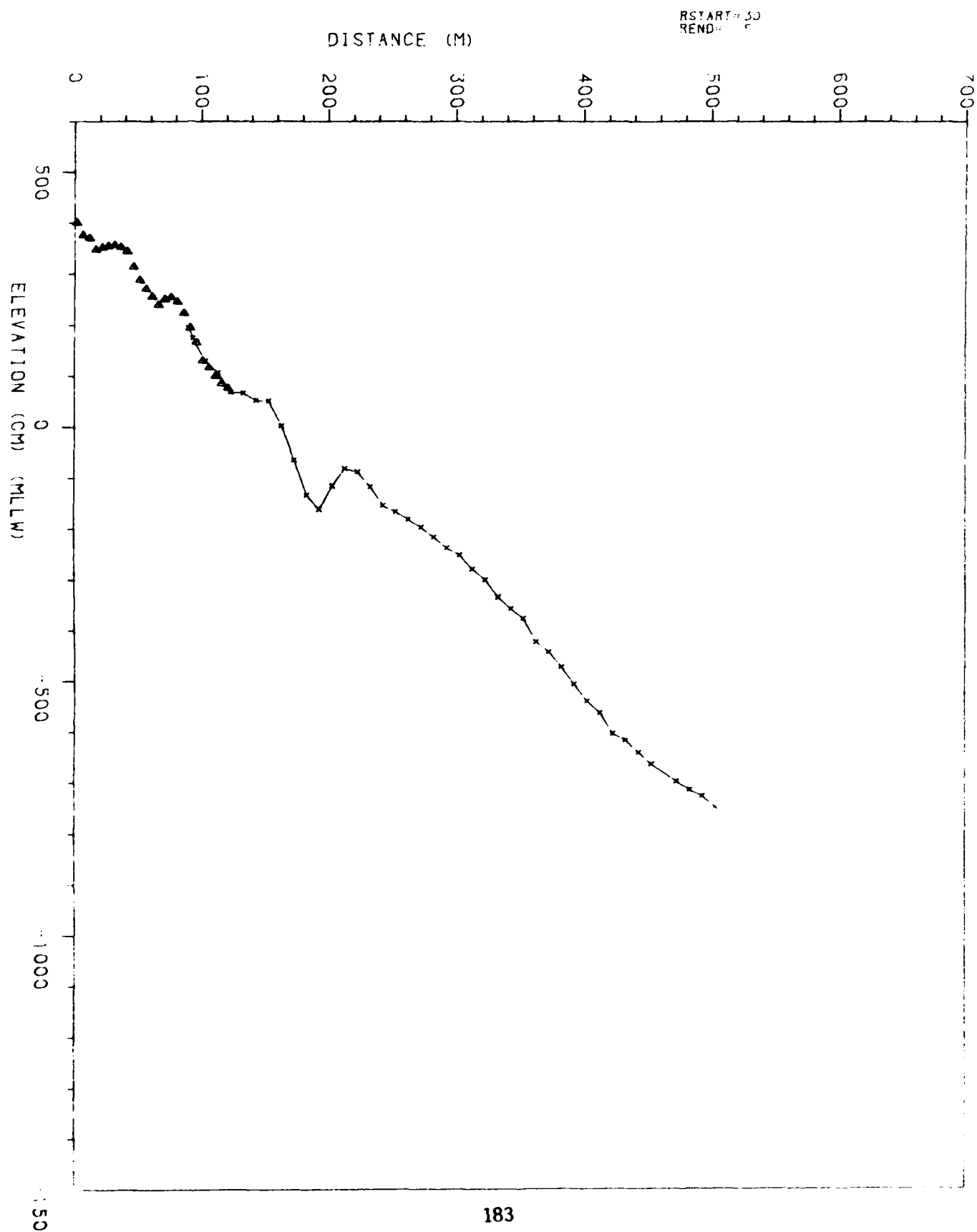


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 270
JUN 27 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	441	355.2	-280
5.0	448	365.2	-289
10.0	449	375.2	-296
15.0	438	385.2	-304
20.0	420	395.2	-309
25.0	365	415.2	-335
30.0	333	425.2	-355
35.0	307	435.2	-370
40.0	290	445.2	-382
45.0	277	455.2	-401
50.0	269	465.2	-424
55.0	254	475.2	-435
60.0	246	485.2	-455
65.0	248	495.1	-480
70.0	216	505.1	-495
75.0	181		
80.0	157		
85.2	140		
95.2	112		
105.2	89		
115.2	63		
125.2	42		
135.2	21		
145.2	20		
155.2	19		
165.2	12		
175.2	-3		
185.2	-21		
195.2	-39		
205.2	-70		
215.2	-95		
225.2	-129		
235.2	-166		
245.2	-187		
255.2	-208		
265.2	-219		
275.2	-230		
285.2	-245		
295.2	-249		
305.2	-262		
315.2	-262		
325.2	-268		
335.2	-273		
345.2	-280		

RANGE= 300

JUN 27 1984



AD-A168 119

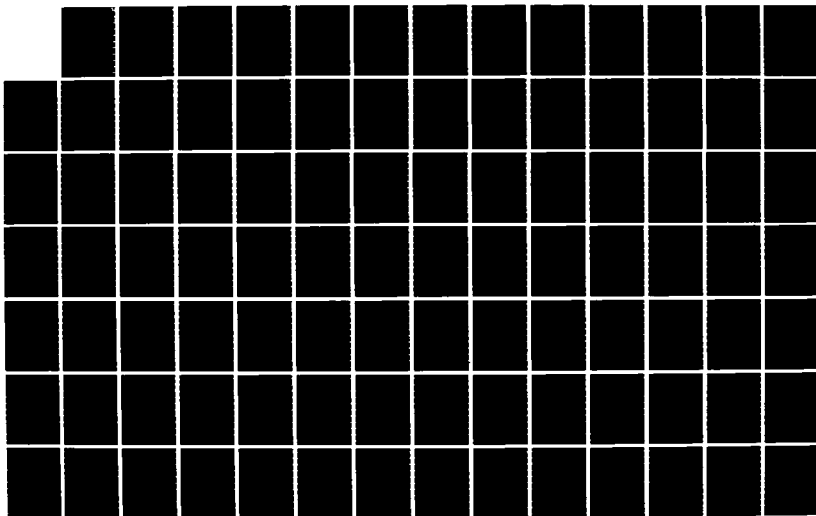
COAST OF CALIFORNIA STORM AND TIDAL WAVES STUDY
NEARSHORE BATHYMETRIC SUR. (U) SCRIPPS INSTITUTION OF
OCEANOGRAPHY LA JOLLA CA OCEAN ENGINEER..
C GABLE ET AL. DEC 85 CCSTWS-85-3

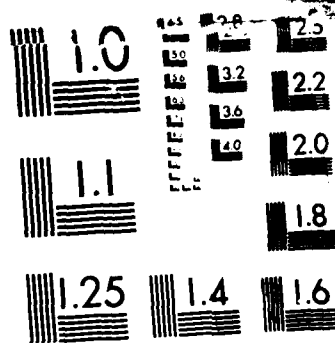
3/6

UNCLASSIFIED

F/G 8/10

NL





MICROCOPY RESOLUTION TEST CHART
 100% 100% 100% 100% 100%

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 300
JUN 27 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	400	343.5	-357
5.0	375	353.5	-376
10.0	370	363.5	-422
15.0	348	373.5	-442
20.0	352	383.6	-472
25.0	355	393.6	-505
30.0	357	403.6	-539
35.0	353	413.6	-562
40.0	345	423.6	-603
45.0	315	433.6	-616
50.0	289	443.7	-640
55.0	272	453.7	-663
60.0	257	473.7	-697
65.0	241	483.7	-713
70.0	252	493.7	-726
75.0	256	503.7	-748
80.0	247		
85.0	225		
90.0	196		
93.5	175		
103.5	129		
113.5	106		
123.5	68		
133.5	66		
143.5	53		
153.5	51		
163.5	2		
173.5	-64		
183.5	-133		
193.5	-161		
203.5	-114		
213.5	-81		
223.5	-88		
233.5	-116		
243.5	-153		
253.5	-166		
263.5	-181		
273.5	-196		
283.5	-216		
293.5	-237		
303.5	-251		
313.5	-278		
323.5	-299		
333.5	-333		

RANGE= 310

APR 30 1984

RSTART= 30
REND= 5

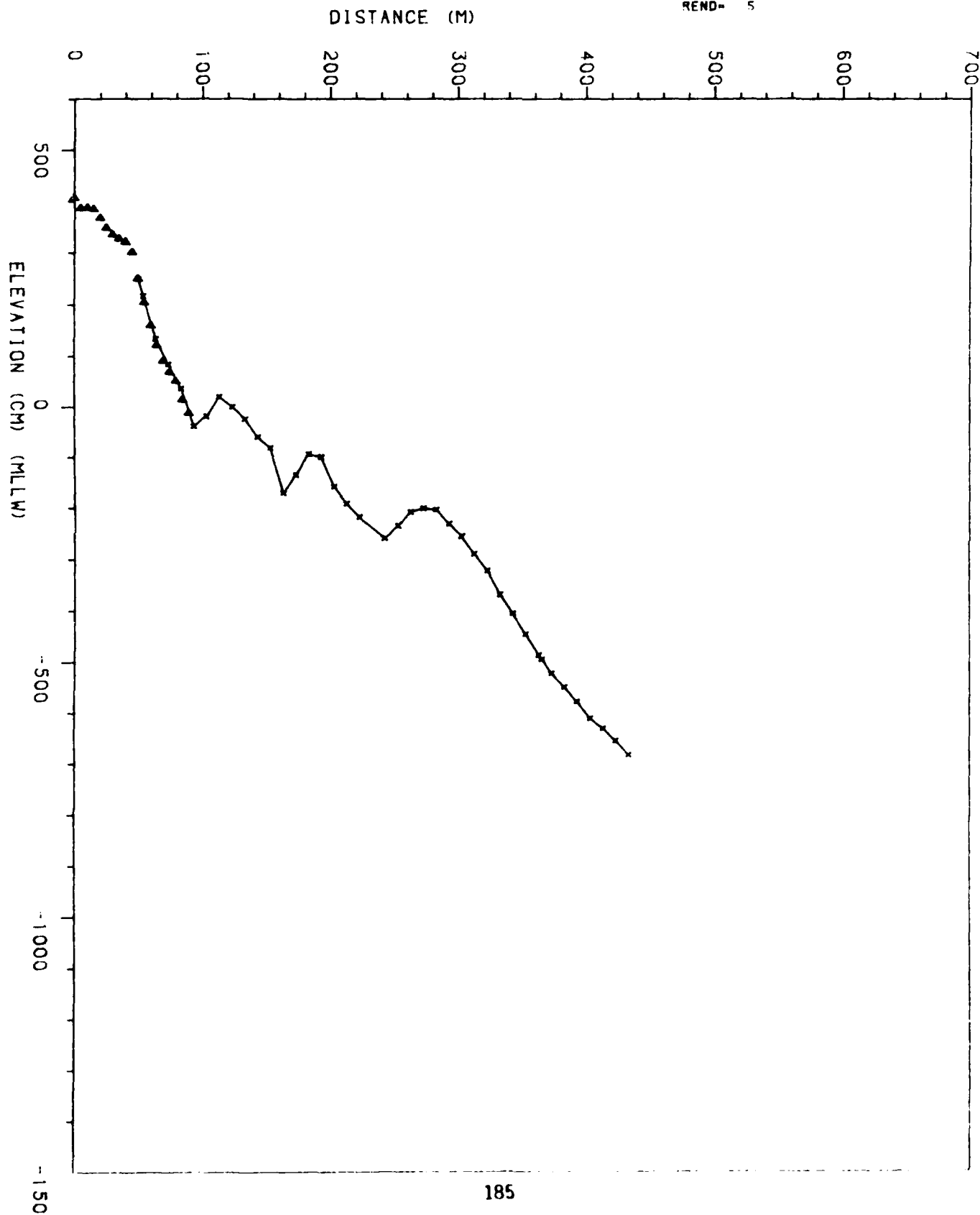


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 310
 APR 30 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	407	384.0	-549
5.0	386	394.0	-578
10.0	387	404.0	-611
15.0	385	414.0	-630
20.0	367	424.0	-655
25.0	348	434.0	-683
30.0	335		
35.0	327		
40.0	321		
45.0	301		
50.0	250		
54.0	216		
64.0	133		
74.0	83		
84.0	35		
94.0	-38		
104.0	-18		
114.0	19		
124.0	0		
134.0	-24		
144.0	-59		
154.0	-81		
164.0	-170		
174.0	-135		
184.0	-94		
194.0	-100		
204.0	-158		
214.0	-192		
224.0	-218		
244.0	-259		
254.0	-235		
264.0	-208		
274.0	-201		
284.0	-204		
294.0	-231		
304.0	-256		
314.0	-290		
324.0	-323		
334.0	-370		
344.0	-407		
354.0	-446		
364.0	-487		
366.7	-495		
374.0	-523		

RANGE= 340

APR 30 1984

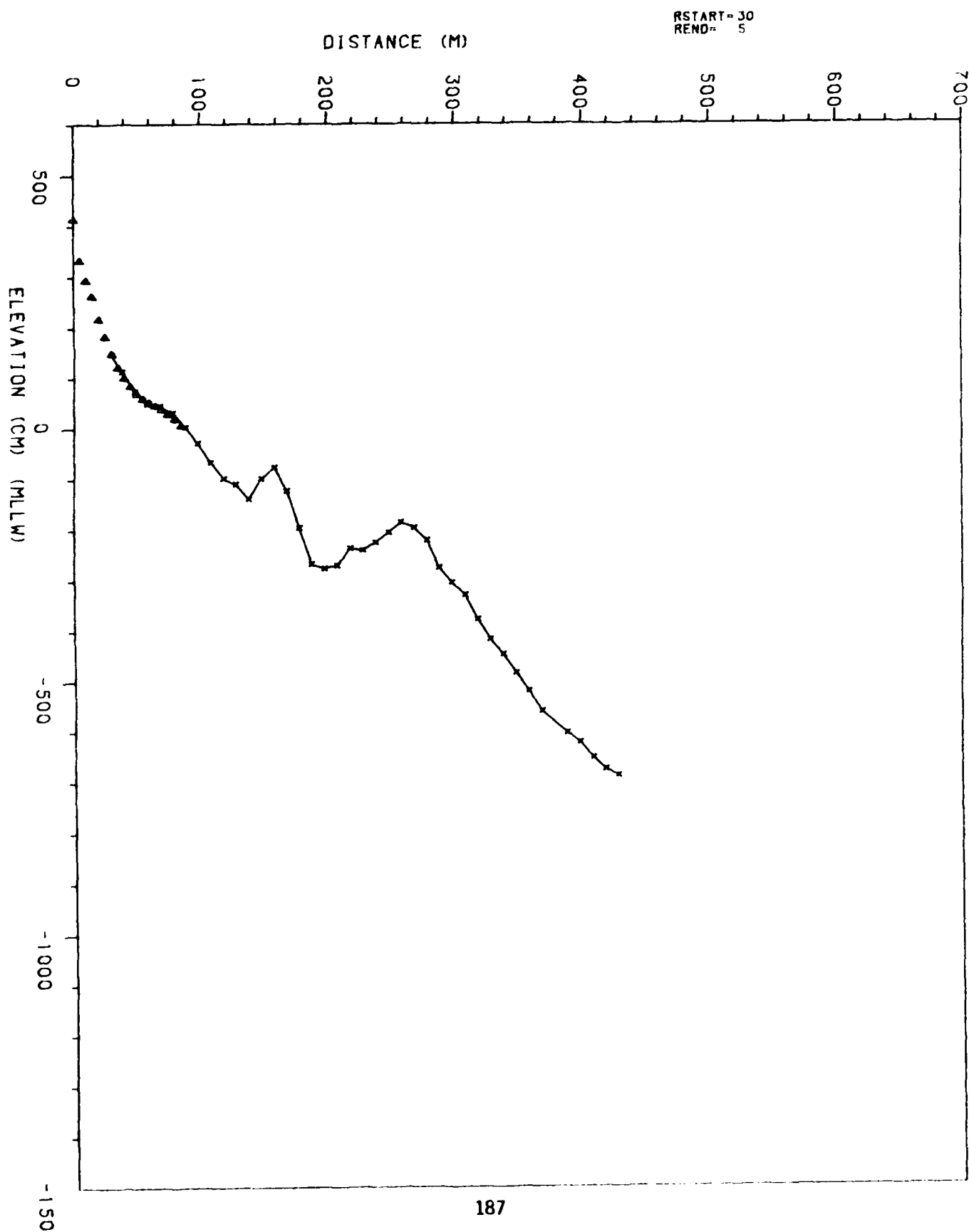


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 340
 APR 30 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	414	418.4	-675
5.0	332	428.4	-687
10.0	293		
15.0	262		
20.0	217		
25.0	182		
30.0	148		
38.4	113		
48.4	74		
58.4	49		
68.4	44		
78.4	31		
88.4	2		
98.4	-28		
108.4	-66		
118.4	-97		
128.4	-110		
138.4	-138		
148.4	-98		
158.4	-77		
168.4	-123		
178.4	-195		
188.4	-267		
198.4	-276		
208.4	-270		
218.4	-236		
228.4	-240		
238.4	-224		
248.4	-205		
258.4	-185		
268.4	-196		
278.4	-221		
288.4	-275		
298.4	-305		
308.4	-330		
318.4	-378		
328.4	-417		
338.4	-447		
348.4	-484		
358.4	-519		
368.4	-560		
388.4	-603		
398.4	-622		
408.4	-652		

RANGE= 360

JUN 28 1984

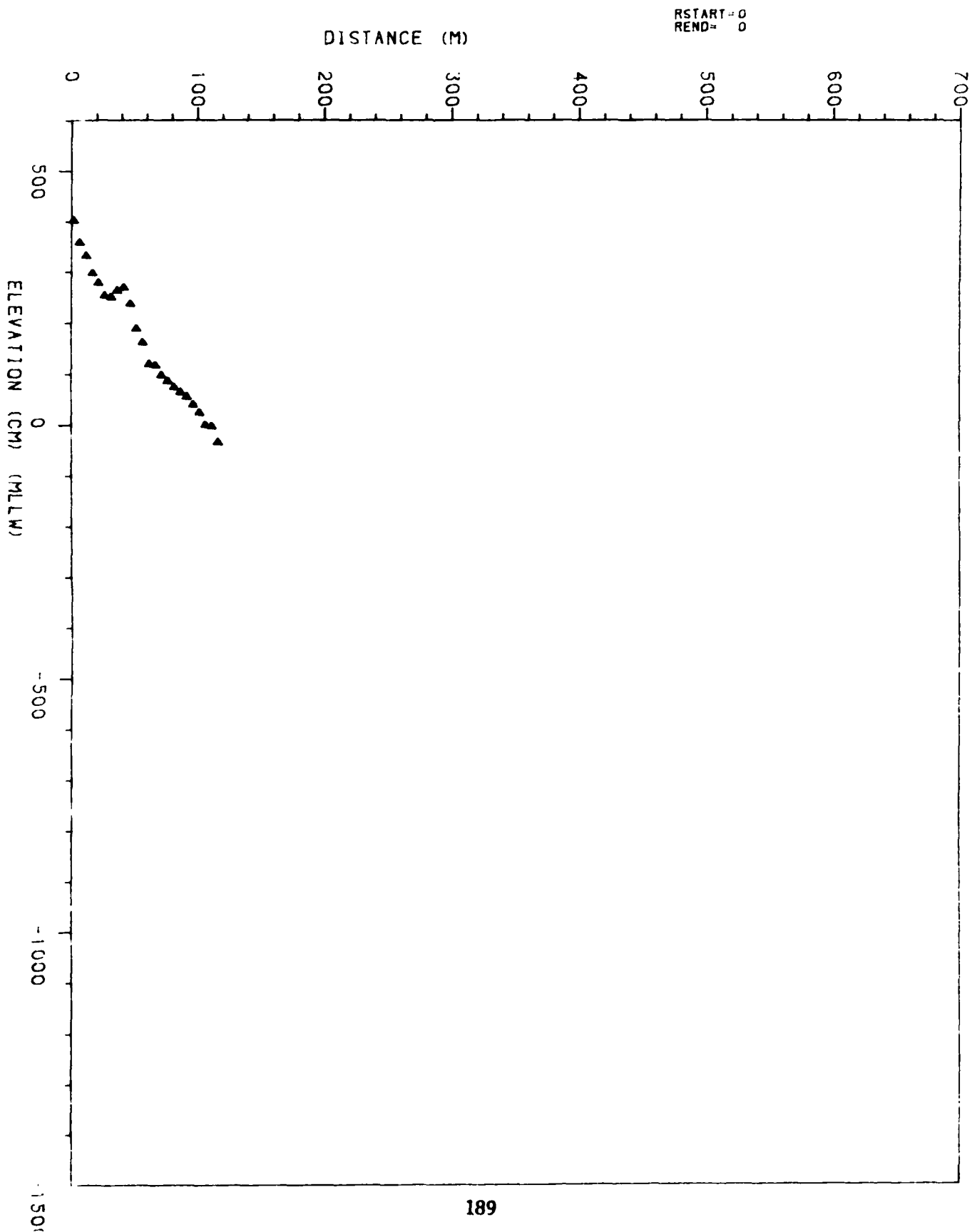


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 360
JUN 28 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	402
5.0	358
10.0	332
15.0	298
20.0	279
25.0	254
30.0	251
35.0	264
40.0	270
45.0	238
50.0	189
55.0	162
60.0	119
65.0	117
70.0	98
75.0	86
80.0	74
85.0	64
90.0	55
95.0	40
100.0	24
105.0	0
110.0	-3
115.0	-34

RANGE= 384

MAY 02 1984

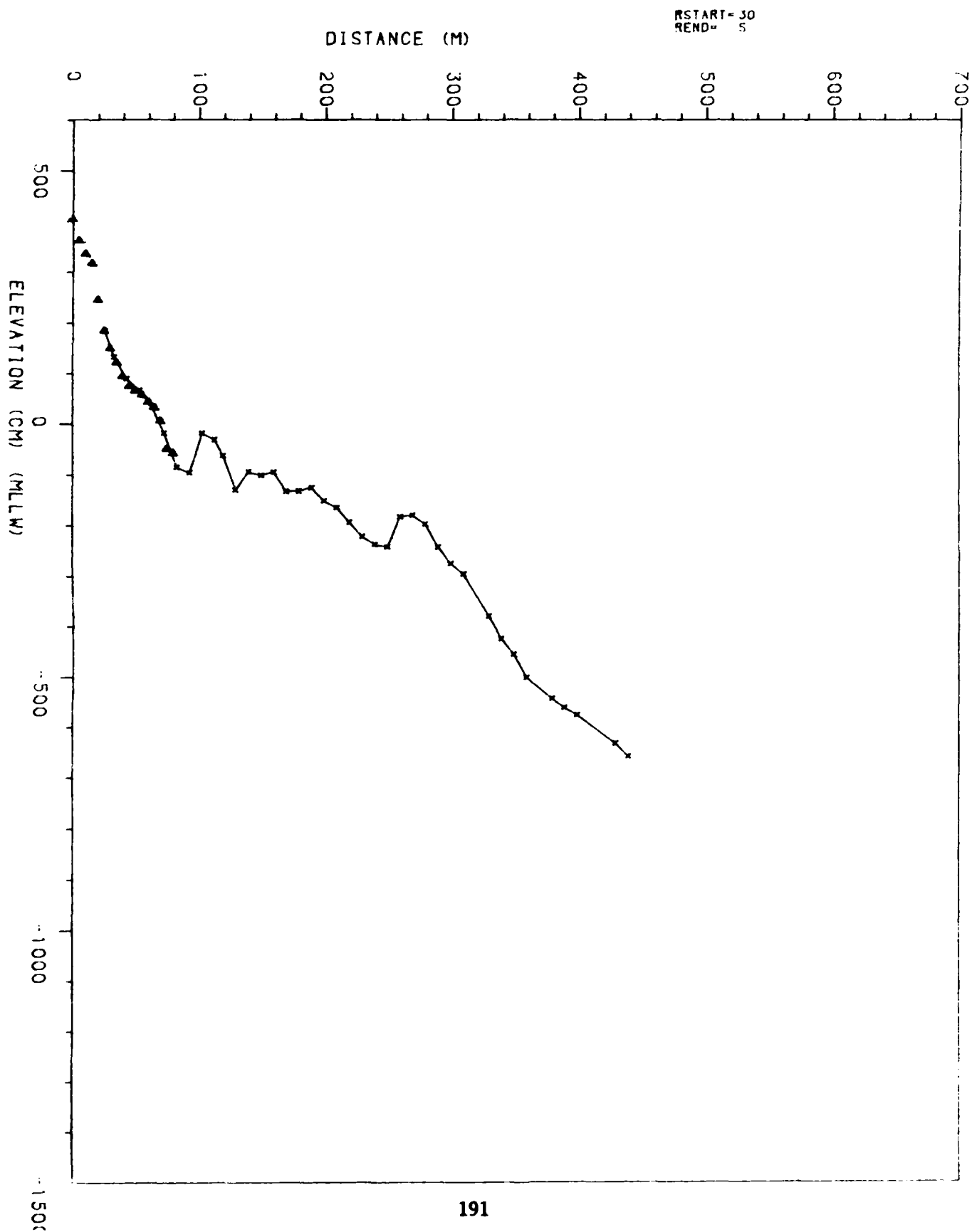


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 384
MAY 02 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	404
5.0	361
10.0	335
15.0	317
20.0	245
25.0	184
32.7	132
42.7	89
52.7	66
62.7	33
72.7	-17
82.7	-85
92.7	-96
102.7	-18
112.7	-31
119.3	-62
129.3	-129
139.3	-94
149.3	-101
159.3	-95
169.3	-132
179.3	-132
189.3	-124
199.3	-151
209.3	-164
219.3	-193
229.3	-221
239.3	-237
249.3	-242
259.3	-182
269.3	-180
279.3	-197
289.3	-242
299.3	-275
309.3	-296
329.3	-379
339.3	-424
349.3	-455
359.3	-501
379.3	-543
389.3	-561
399.3	-576
429.3	-632
439.3	-658

RANGE= 390

JUN 28 1984

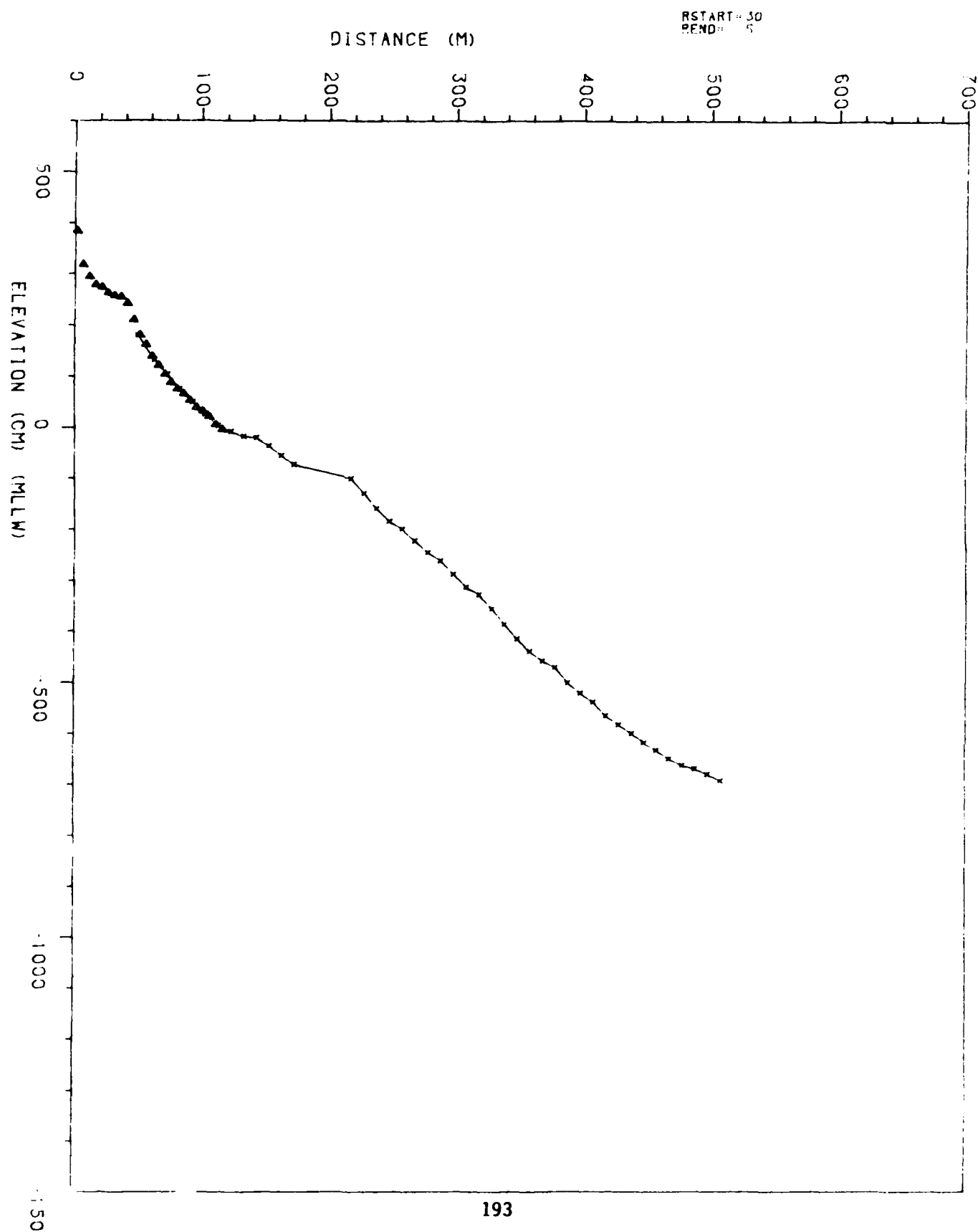


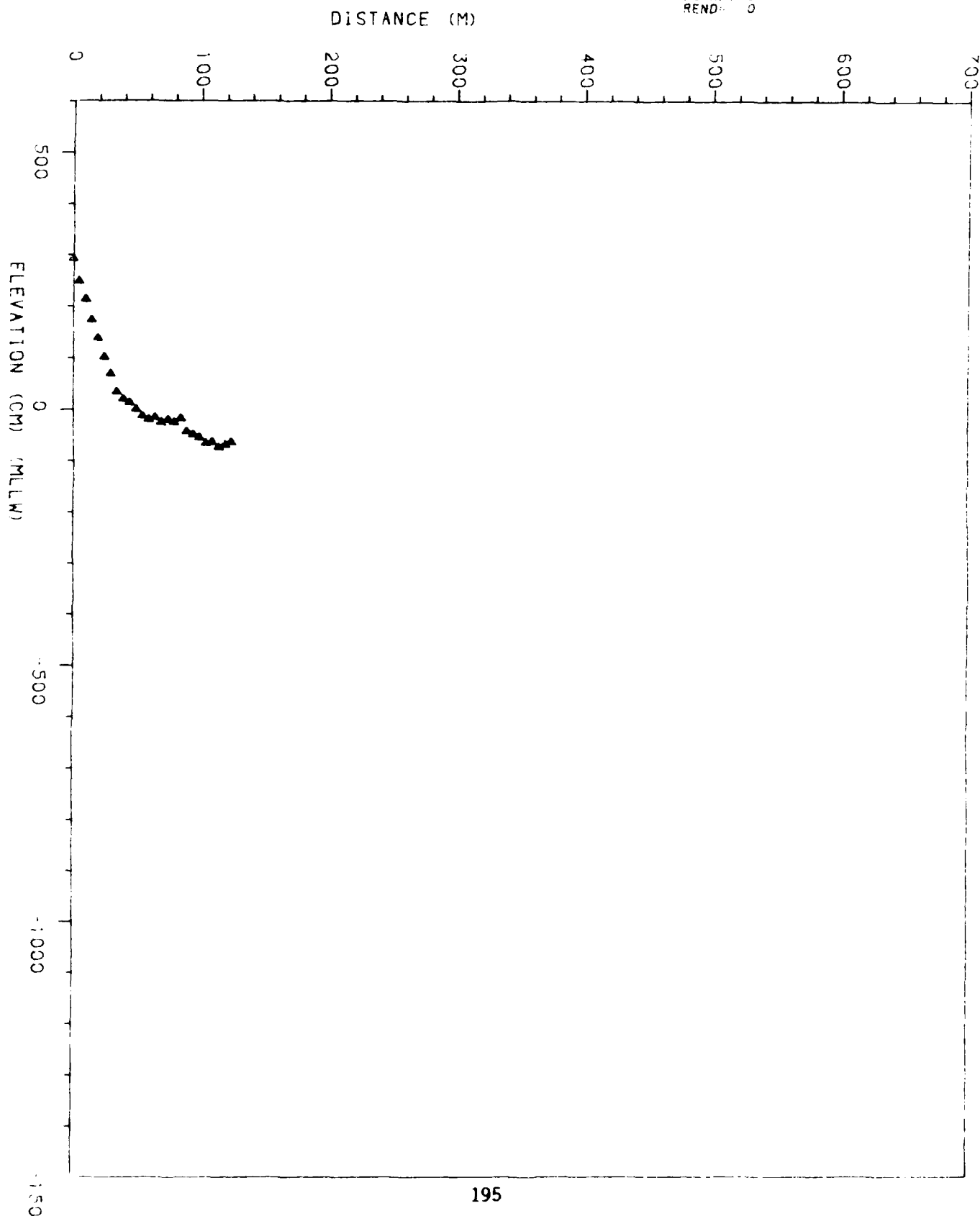
TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 390
 JUN 28 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	384	428.2	-581
5.0	319	438.2	-599
10.0	295	448.2	-616
15.0	279	458.2	-631
20.0	274	468.1	-648
25.0	263	478.1	-661
30.0	258	488.1	-668
35.0	256	498.1	-679
40.0	243	508.1	-691
45.0	211		
50.0	181		
63.2	132		
73.2	103		
83.2	76		
93.2	50		
103.2	26		
113.2	4		
123.2	-7		
133.2	-16		
143.2	-19		
153.2	-35		
163.2	-55		
173.2	-72		
218.2	-99		
228.2	-128		
238.2	-158		
248.2	-183		
258.2	-198		
268.2	-221		
278.2	-244		
288.2	-260		
298.2	-286		
308.2	-311		
318.2	-325		
328.2	-354		
338.2	-384		
348.2	-413		
358.2	-438		
368.2	-457		
378.2	-470		
388.2	-500		
398.2	-520		
408.2	-537		
418.2	-564		

RANGE= 408

APR 24 1984

PSTART=0
REND=0



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 408
APR 24 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	293
5.0	249
10.0	214
15.0	173
20.0	138
25.0	102
30.0	69
35.0	34
40.0	20
45.0	13
50.0	0
55.0	-13
60.0	-20
65.0	-16
70.0	-25
75.0	-20
80.0	-25
85.0	-17
90.0	-43
95.0	-49
100.0	-55
105.0	-66
110.0	-64
115.0	-74
120.0	-69
125.0	-64

RANGE= 443

JUN 30 1984

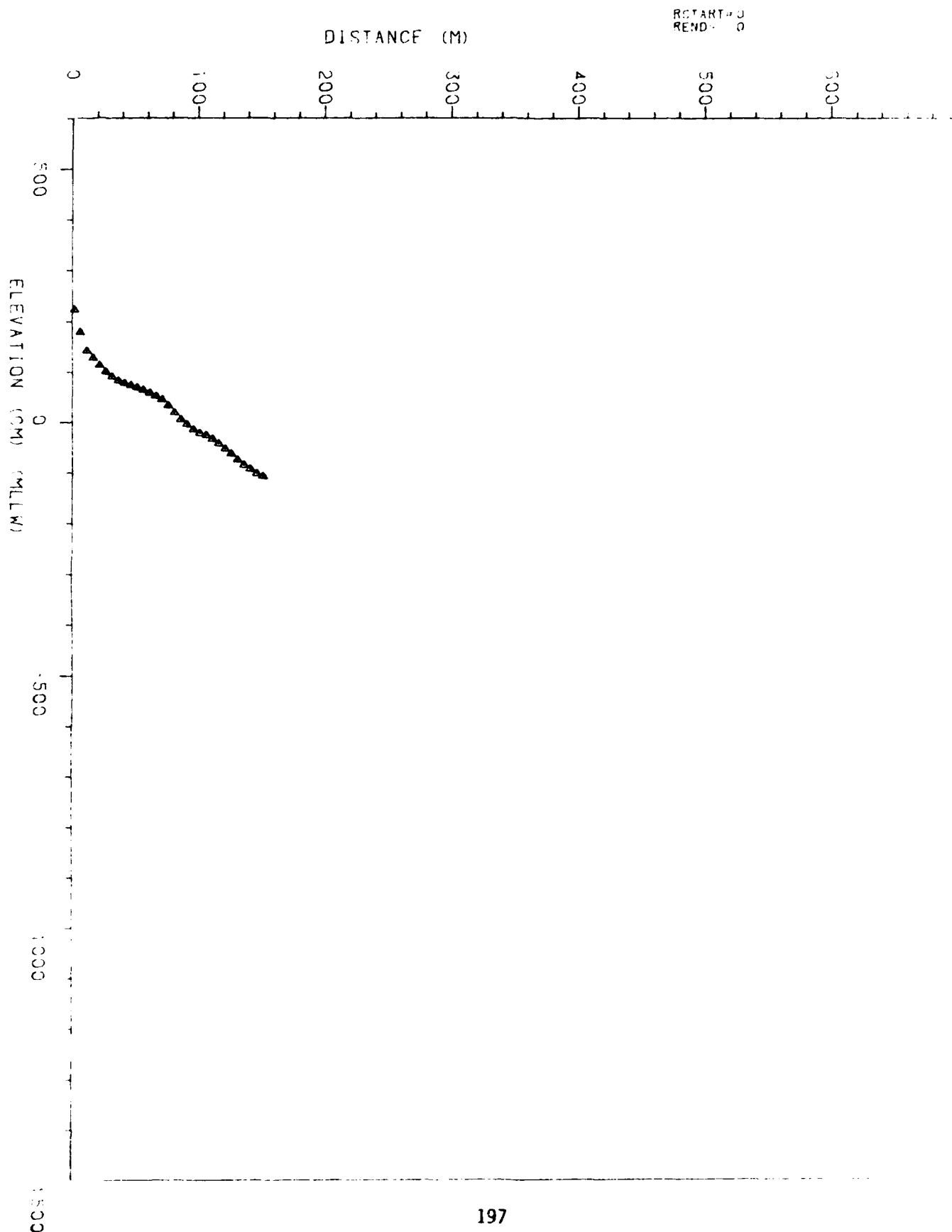


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 443
JUN 30 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	224
5.0	179
10.0	142
15.0	128
20.0	114
25.0	101
30.0	91
35.0	83
40.0	78
45.0	74
50.0	69
55.0	64
60.0	58
65.0	52
70.0	45
75.0	33
80.0	19
85.0	5
90.0	-5
95.0	-15
100.0	-22
105.0	-26
110.0	-34
115.0	-43
120.0	-53
125.0	-63
130.0	-75
135.0	-85
140.0	-93
145.0	-102
150.0	-108

RANGE= 445

JUL 03 1984

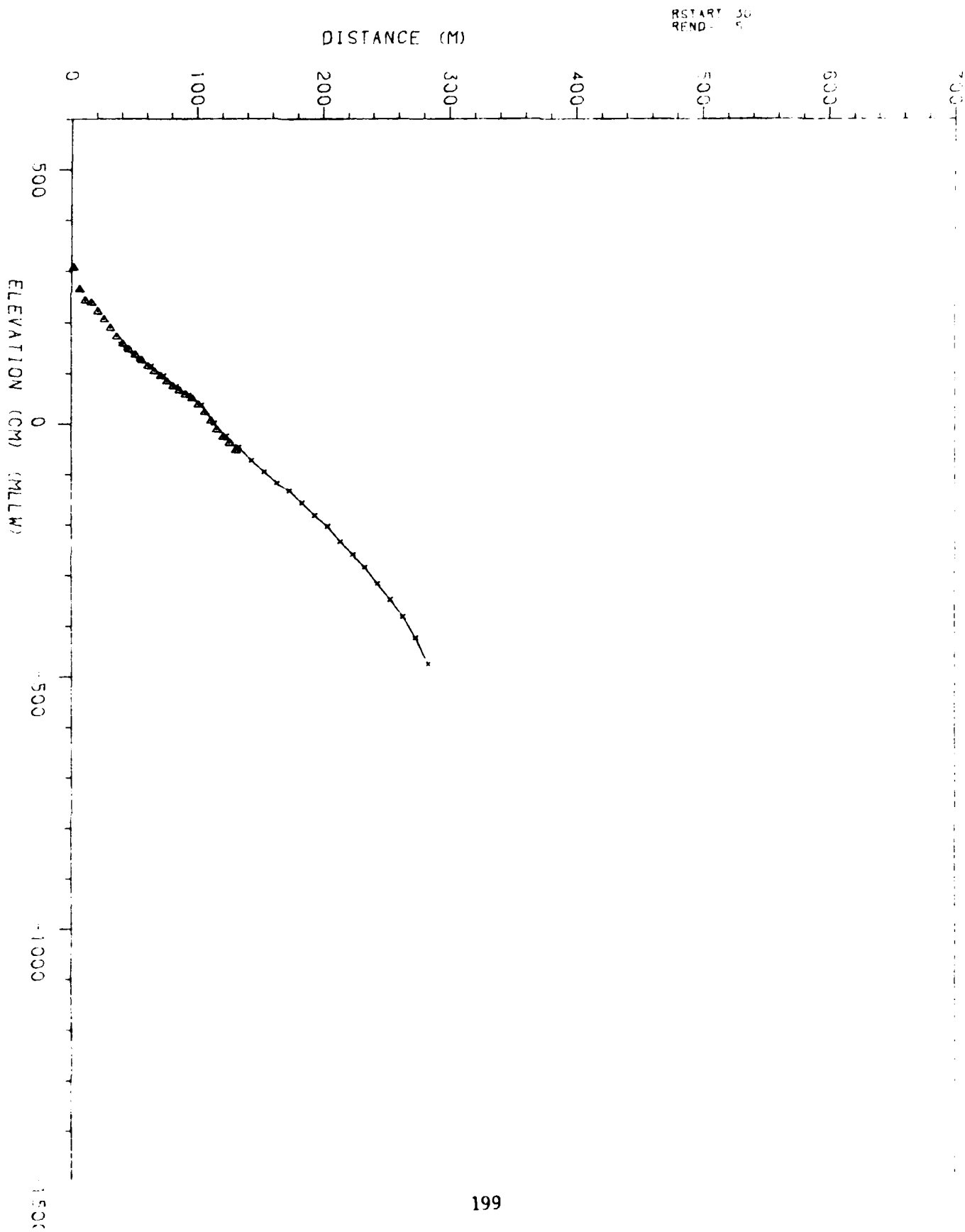


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 445
JUL 03 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	308
5.0	265
10.0	243
15.0	239
20.0	222
25.0	206
30.0	189
35.0	172
40.0	158
43.9	149
53.9	127
63.9	114
73.9	94
83.9	73
93.9	56
103.9	36
113.9	0
123.9	-24
133.9	-47
143.9	-73
153.9	-96
163.9	-118
173.9	-133
183.9	-157
193.9	-182
203.9	-204
213.9	-234
223.9	-260
233.9	-285
243.9	-317
253.9	-349
263.9	-383
273.9	-424
283.9	-477

RANGE = 450

MAY 03 1984

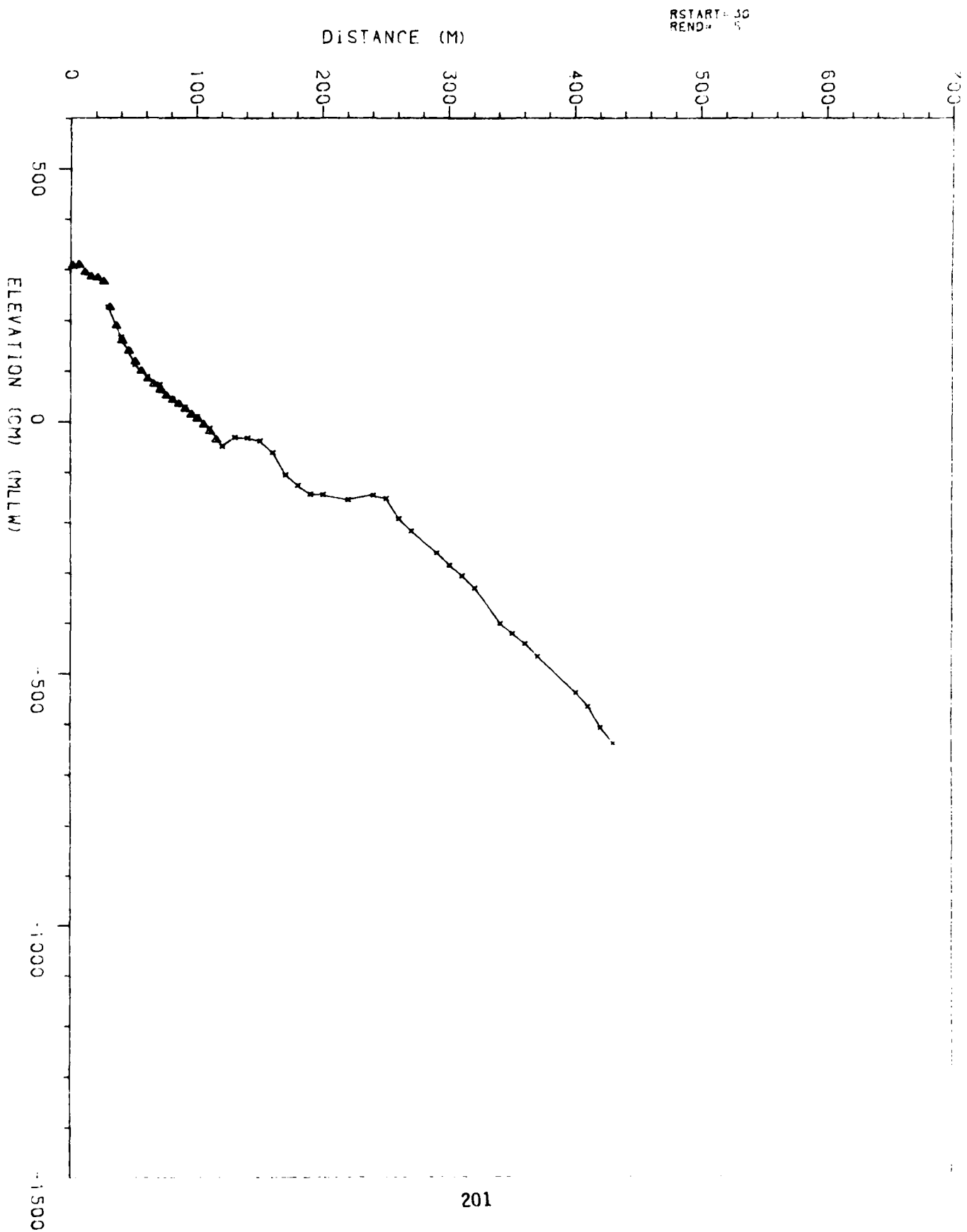


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 450
MAY 03 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	308
5.0	310
10.0	295
15.0	286
20.0	284
25.0	276
30.0	226
40.4	165
51.3	111
61.3	87
71.3	72
81.3	44
91.3	27
101.3	9
111.3	-13
121.3	-48
131.3	-30
141.3	-31
151.3	-37
161.3	-61
171.3	-104
181.3	-126
191.3	-143
201.3	-144
221.3	-154
241.3	-145
251.3	-151
261.3	-192
271.3	-216
291.3	-261
301.3	-285
311.3	-306
321.3	-331
341.3	-402
351.3	-421
361.3	-441
371.3	-467
401.3	-539
411.3	-566
421.3	-607
431.3	-638

RANGE= 460

APR 23 1984

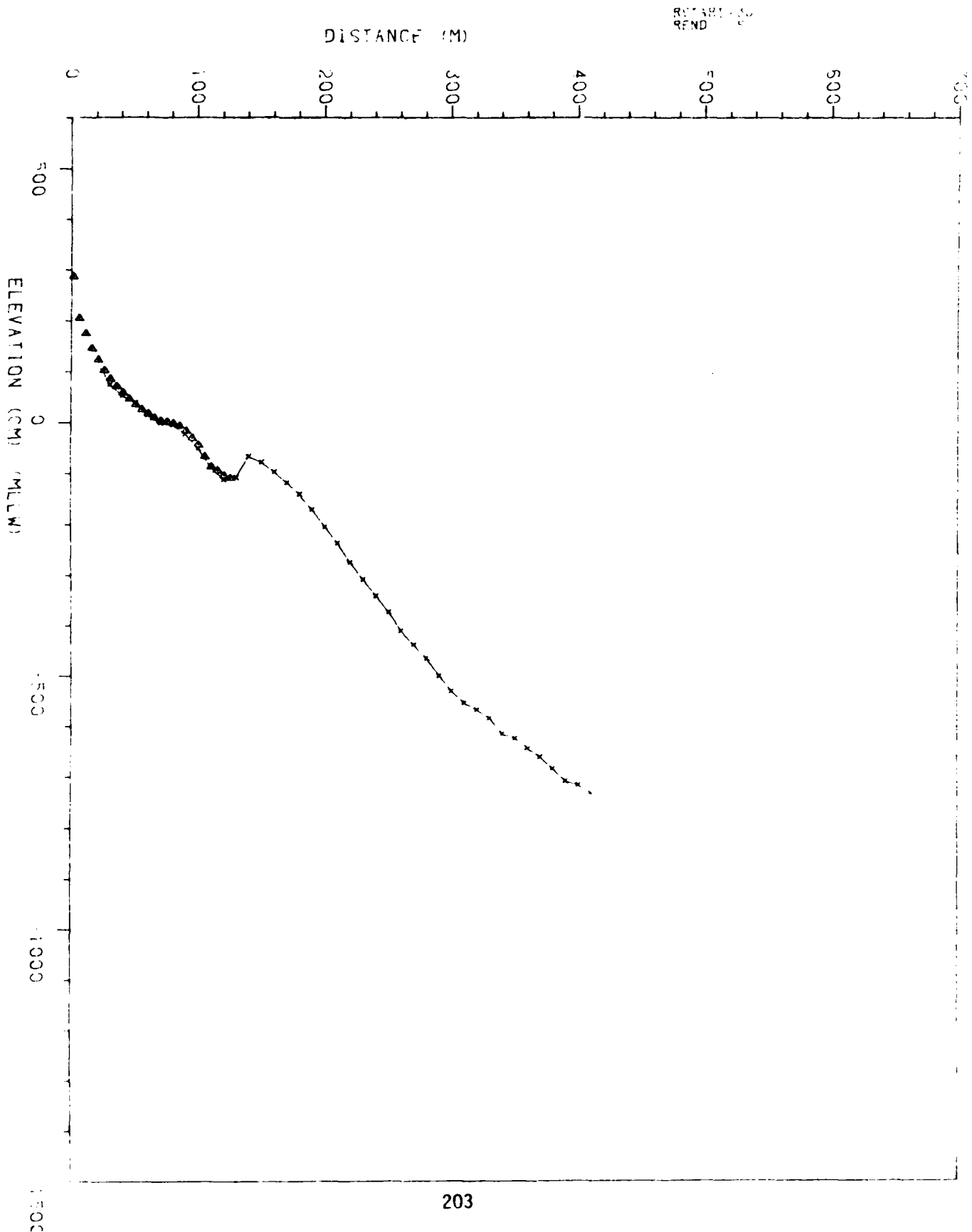


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 460
APR 23 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	288
5.0	206
10.0	175
15.0	146
20.0	124
25.0	103
31.0	74
41.0	53
51.0	39
61.0	14
71.0	0
81.0	-3
91.0	-22
101.2	-50
111.2	-86
121.2	-111
131.2	-107
141.2	-66
151.2	-77
161.2	-96
171.2	-117
181.2	-139
191.2	-170
201.2	-203
211.2	-235
221.2	-273
231.2	-307
241.2	-339
251.2	-372
261.2	-410
271.2	-437
281.2	-464
291.2	-499
301.2	-529
311.2	-552
321.2	-566
331.2	-583
341.2	-614
351.2	-622
361.2	-642
371.2	-660
381.2	-683
391.2	-707
401.2	-714

RANGE= 470

MAY 11 1984

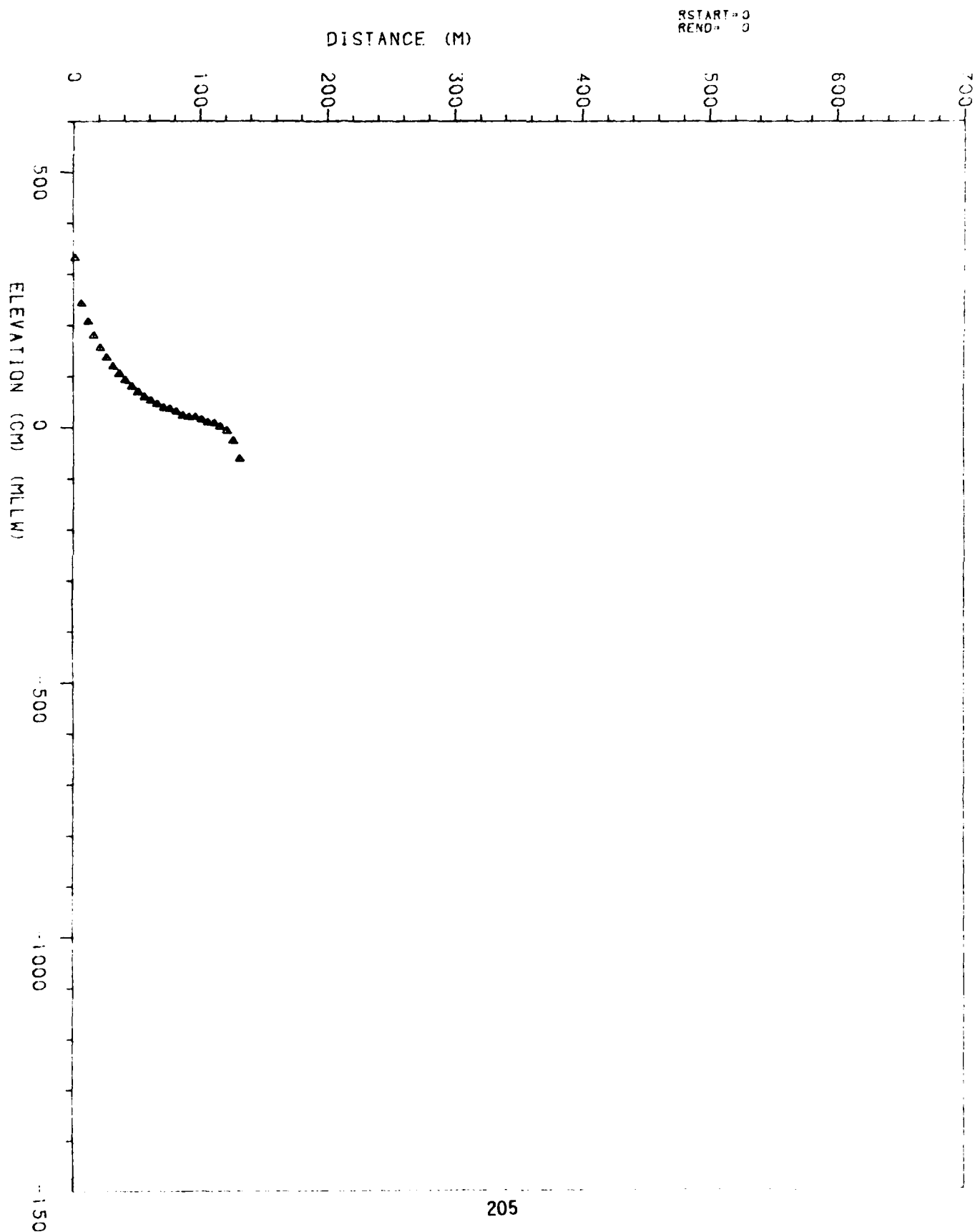


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 470
MAY 11 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	332
5.0	243
10.0	208
15.0	180
20.0	156
25.0	137
30.0	119
35.0	105
40.0	92
45.0	80
50.0	69
55.0	59
60.0	52
65.0	45
70.0	38
75.0	36
80.0	31
85.0	23
90.0	20
95.0	20
100.0	15
105.0	9
110.0	8
115.0	1
120.0	-7
125.0	-27
130.0	-62

RANGE= 520

MAY 09 1984

RSTART=30
REND=15

DISTANCE (M)

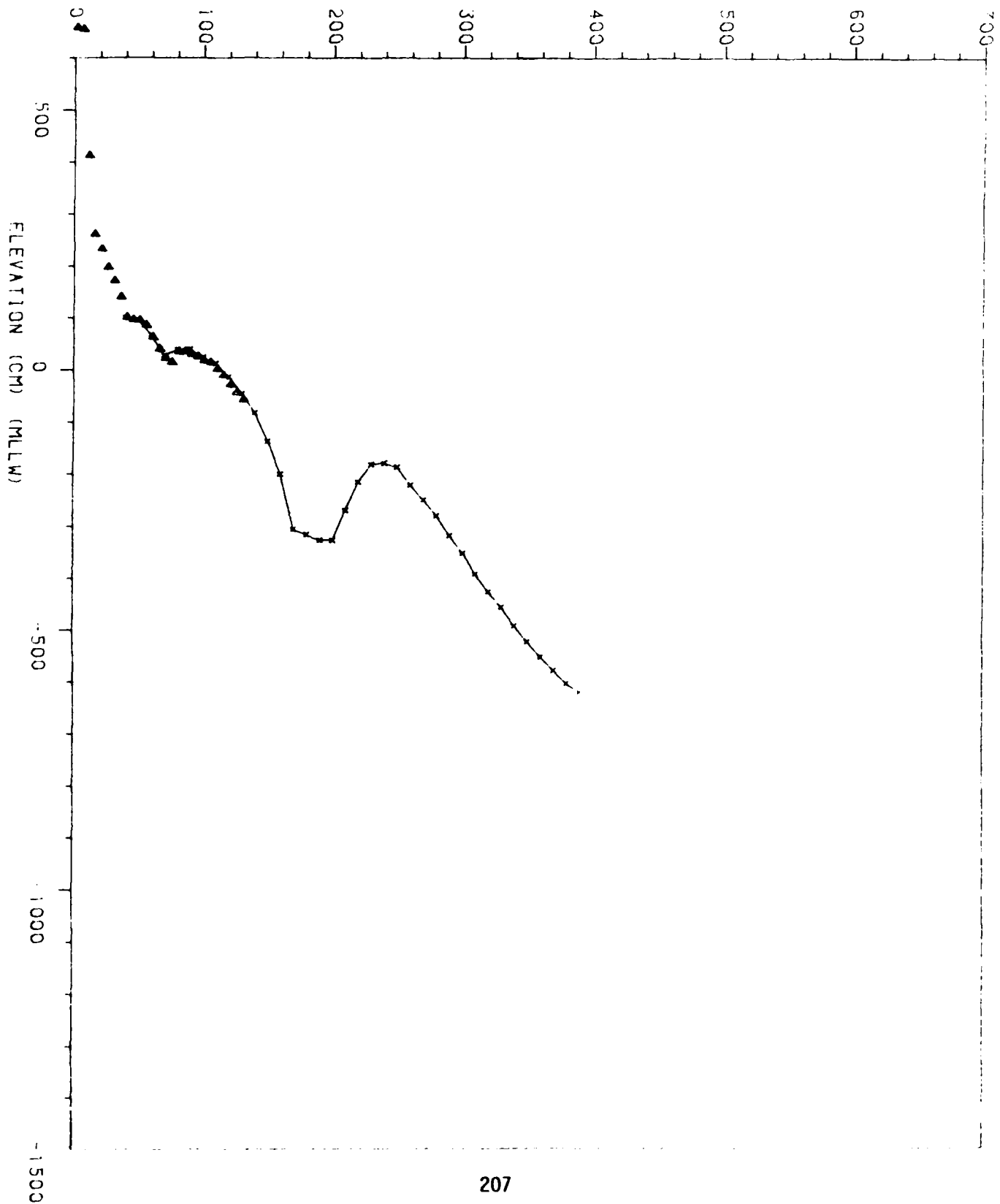


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 520
MAY 09 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	657
5.0	654
10.0	413
15.0	261
20.0	233
25.0	198
30.0	171
35.0	140
40.0	101
49.9	95
59.9	66
69.9	27
79.9	39
89.9	39
99.9	24
109.9	12
119.9	-13
129.9	-45
139.9	-83
149.9	-136
159.9	-200
169.9	-306
179.9	-316
189.9	-326
199.9	-326
209.9	-269
219.9	-215
229.9	-181
239.9	-179
249.9	-187
259.9	-221
269.9	-249
279.9	-280
289.9	-318
299.9	-352
309.9	-391
319.9	-425
329.9	-455
339.9	-491
349.9	-522
359.9	-551
369.9	-578
379.9	-603
389.9	-619

RANGE= 530

JUL 03 1984

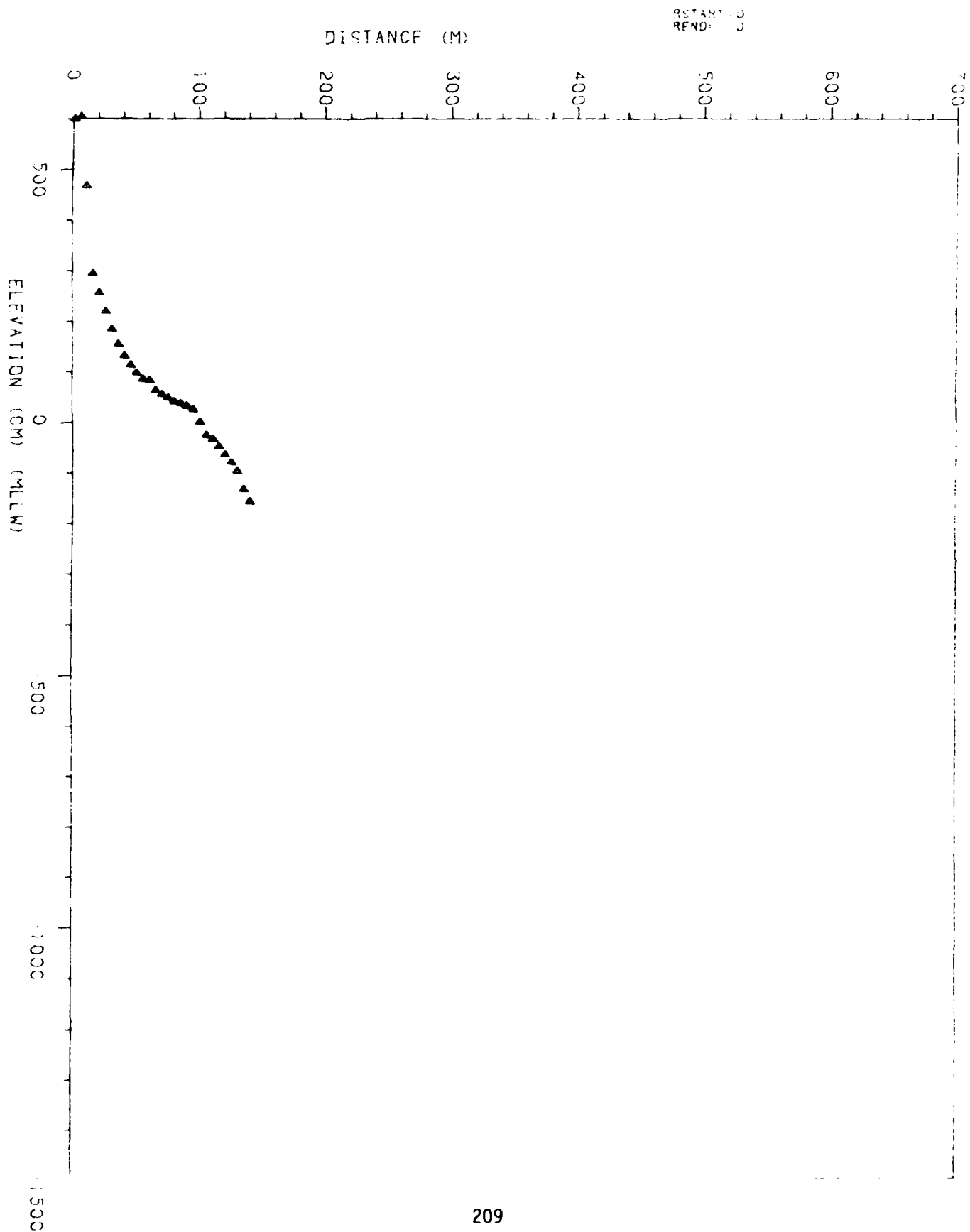
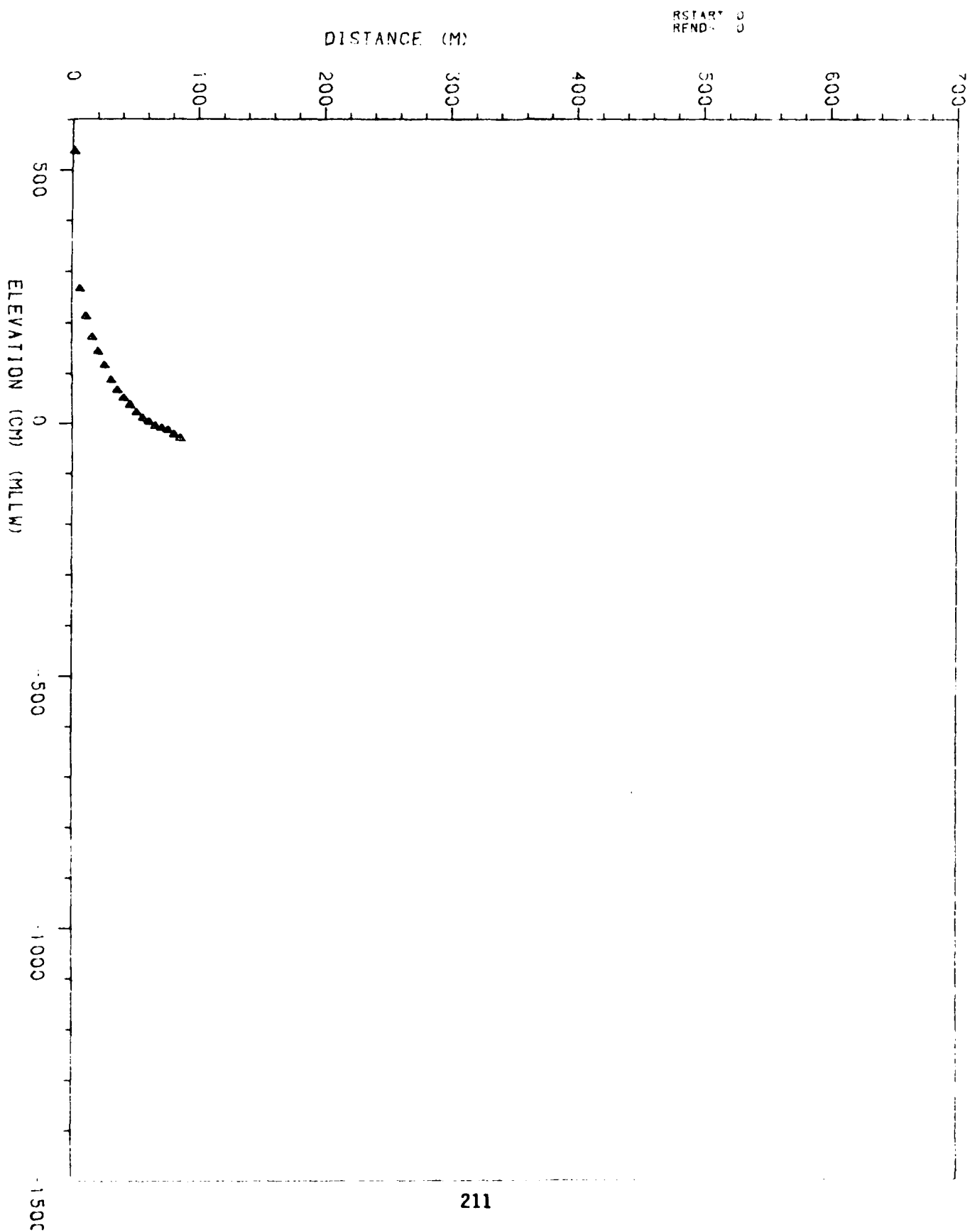


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 530
JUL 03 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	600
5.0	605
10.0	468
15.0	295
20.0	257
25.0	220
30.0	184
35.0	154
40.0	131
45.0	113
50.0	98
55.0	85
60.0	83
65.0	63
70.0	55
75.0	48
80.0	41
85.0	37
90.0	32
95.0	25
100.0	0
105.0	-26
110.0	-34
115.0	-49
120.0	-65
125.0	-80
130.0	-97
135.0	-133
140.0	-157

RANGE= 540

JUN 30 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 540
JUN 30 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	537
5.0	267
10.0	213
15.0	171
20.0	143
25.0	116
30.0	86
35.0	66
40.0	50
45.0	36
50.0	21
55.0	10
60.0	3
65.0	-6
70.0	-10
75.0	-14
80.0	-23
85.0	-30

RANGE= 580

MAY 09 1984

DISTANCE (M)

RSTART=30
REND=10

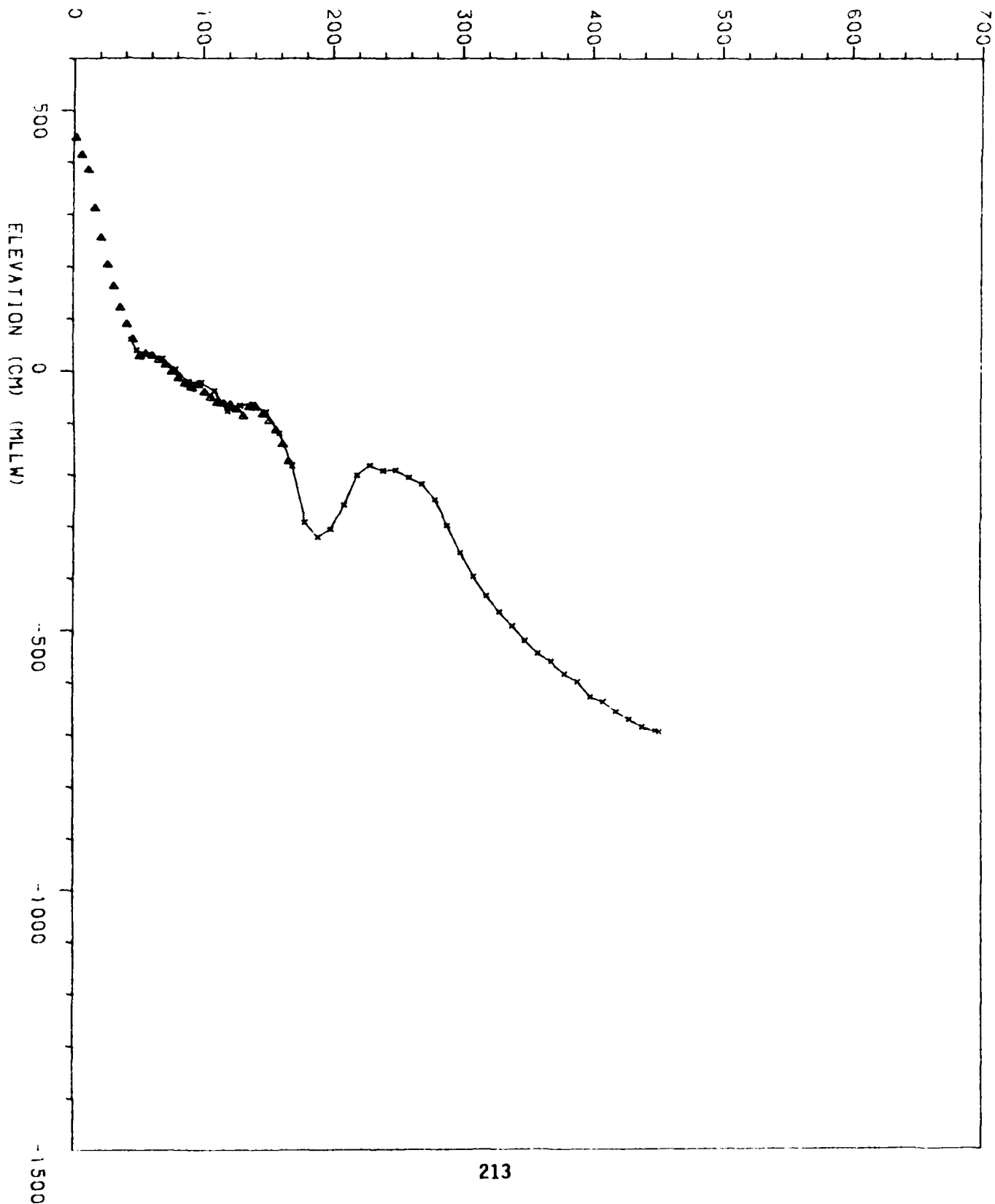


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 580
 MAY 09 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	447	389.1	-599
5.0	414	399.0	-628
10.0	385	409.0	-638
15.0	312	419.0	-656
20.0	255	429.0	-671
25.0	203	439.0	-686
30.0	161	449.0	-694
35.0	120	452.0	-695
40.0	88		
45.0	60		
49.2	39		
59.2	31		
69.2	23		
79.2	2		
89.2	-21		
99.2	-21		
109.2	-37		
119.2	-77		
129.2	-66		
139.2	-63		
149.2	-79		
159.2	-120		
169.2	-182		
179.2	-292		
189.2	-321		
199.2	-305		
209.2	-258		
219.2	-201		
229.2	-183		
239.2	-192		
249.2	-192		
259.2	-205		
269.1	-218		
279.1	-249		
289.1	-298		
299.1	-351		
309.1	-397		
319.1	-434		
329.1	-465		
339.1	-492		
349.1	-520		
359.1	-544		
369.1	-561		
379.1	-584		

RANGE= 600

MAY 18 1984

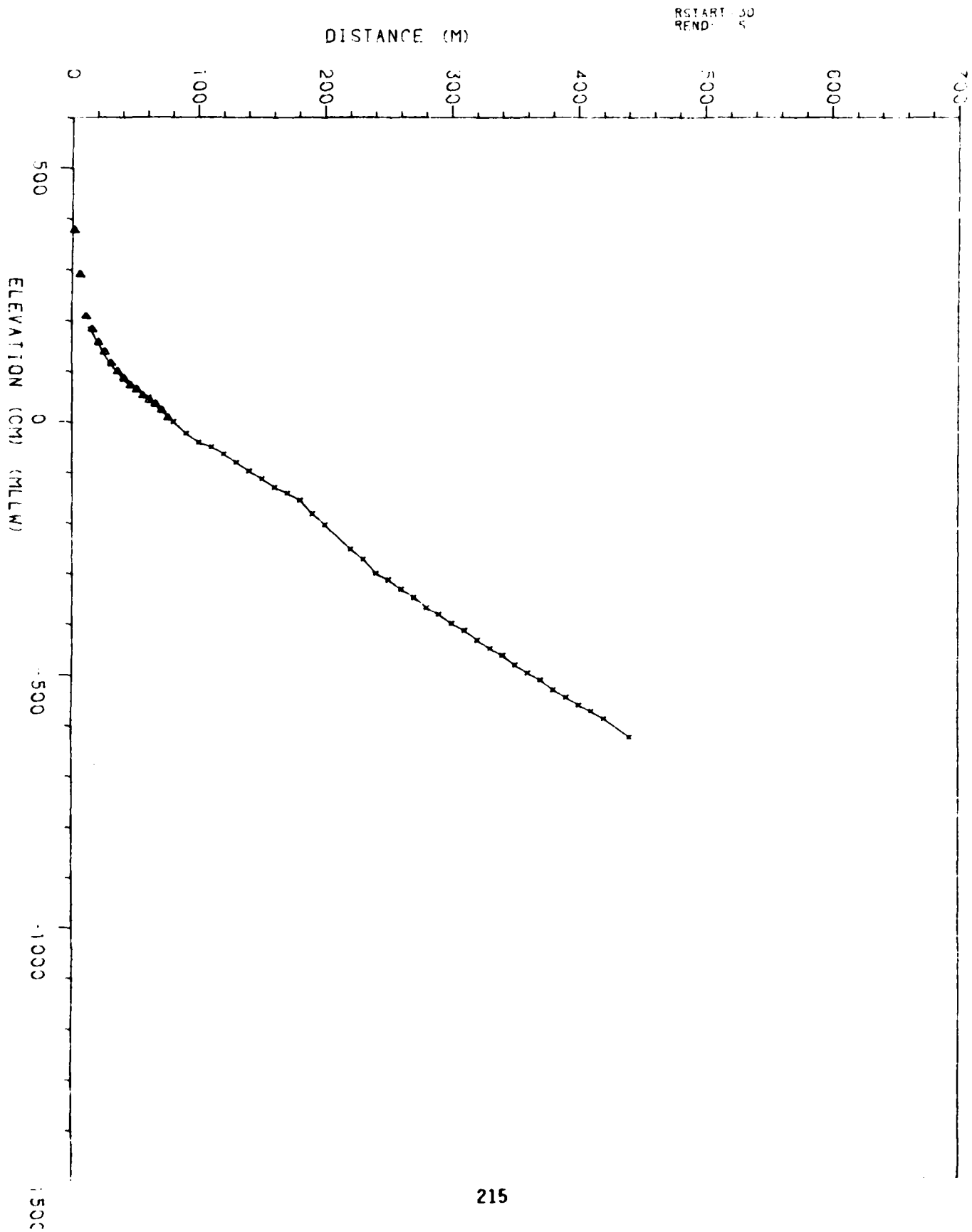


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 600
MAY 18 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	378
5.0	292
10.0	209
15.0	183
20.8	154
30.8	113
40.8	84
50.8	65
60.8	47
70.8	22
80.8	0
90.8	-23
100.8	-40
110.8	-50
120.8	-63
130.8	-80
140.8	-97
150.8	-113
160.8	-129
170.8	-141
180.8	-155
190.8	-182
200.8	-203
220.8	-252
230.8	-273
240.8	-300
250.8	-313
260.8	-331
270.8	-347
280.8	-367
290.8	-381
300.8	-399
310.8	-413
320.8	-432
330.8	-448
340.8	-462
350.8	-481
360.8	-497
370.8	-510
380.8	-530
390.8	-545
400.8	-560
410.8	-572
420.8	-587

RANGE= 630

MAY 18 1984

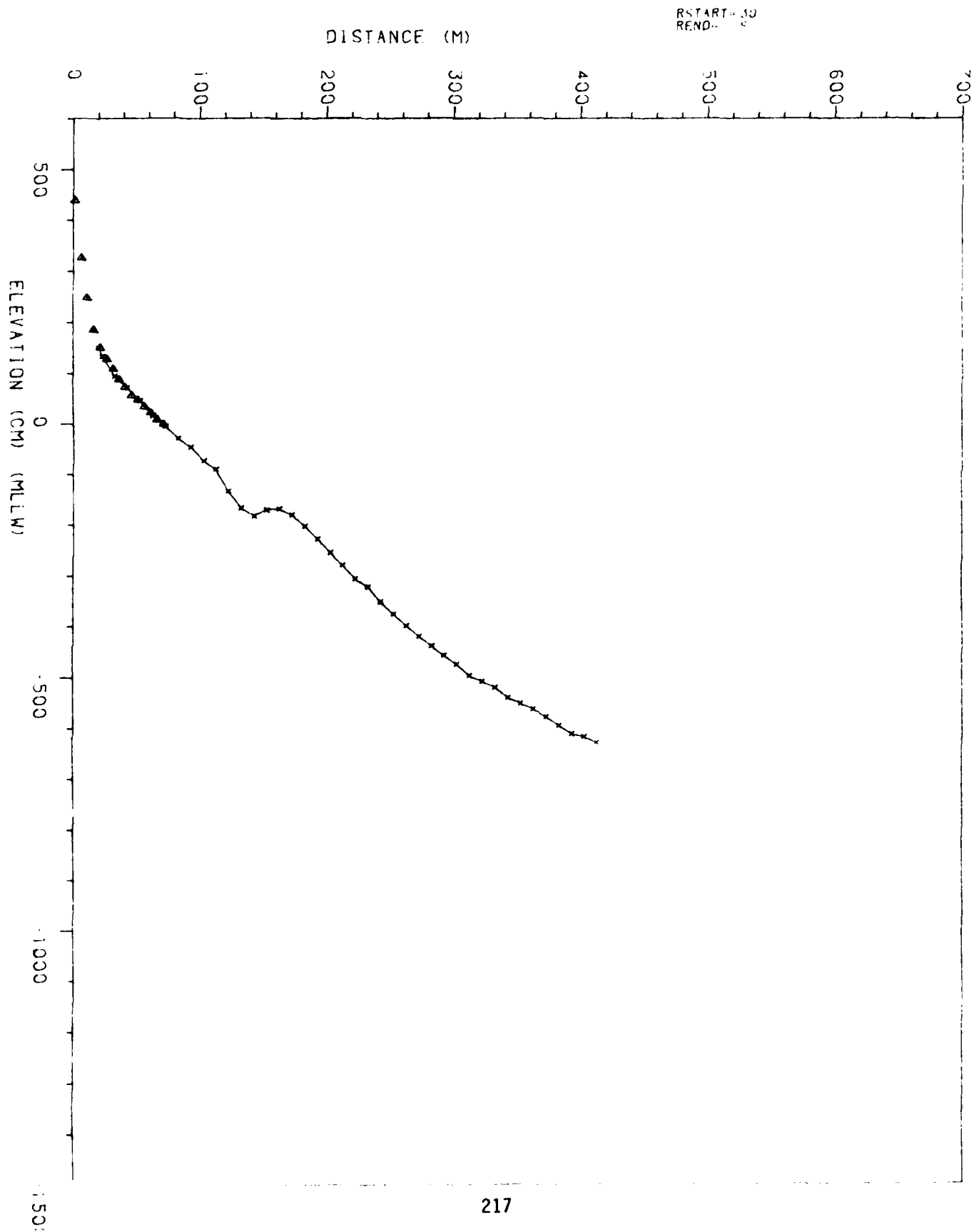


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 630
MAY 18 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	439
5.0	327
10.0	249
15.0	186
20.0	151
23.1	133
33.1	94
43.1	72
53.1	45
63.1	16
73.1	-4
83.1	-27
93.1	-45
103.1	-72
113.1	-89
123.1	-132
133.1	-166
143.1	-182
153.1	-170
163.1	-167
173.0	-179
183.0	-202
193.0	-227
203.0	-254
213.0	-279
223.0	-306
233.0	-321
243.0	-350
253.0	-376
263.0	-399
273.0	-419
283.0	-438
293.0	-457
303.0	-474
313.0	-496
323.0	-507
333.0	-519
343.0	-539
353.0	-550
363.0	-562
373.0	-576
383.0	-594
393.0	-610
403.0	-616

RANGE= 670

MAY 10 1984

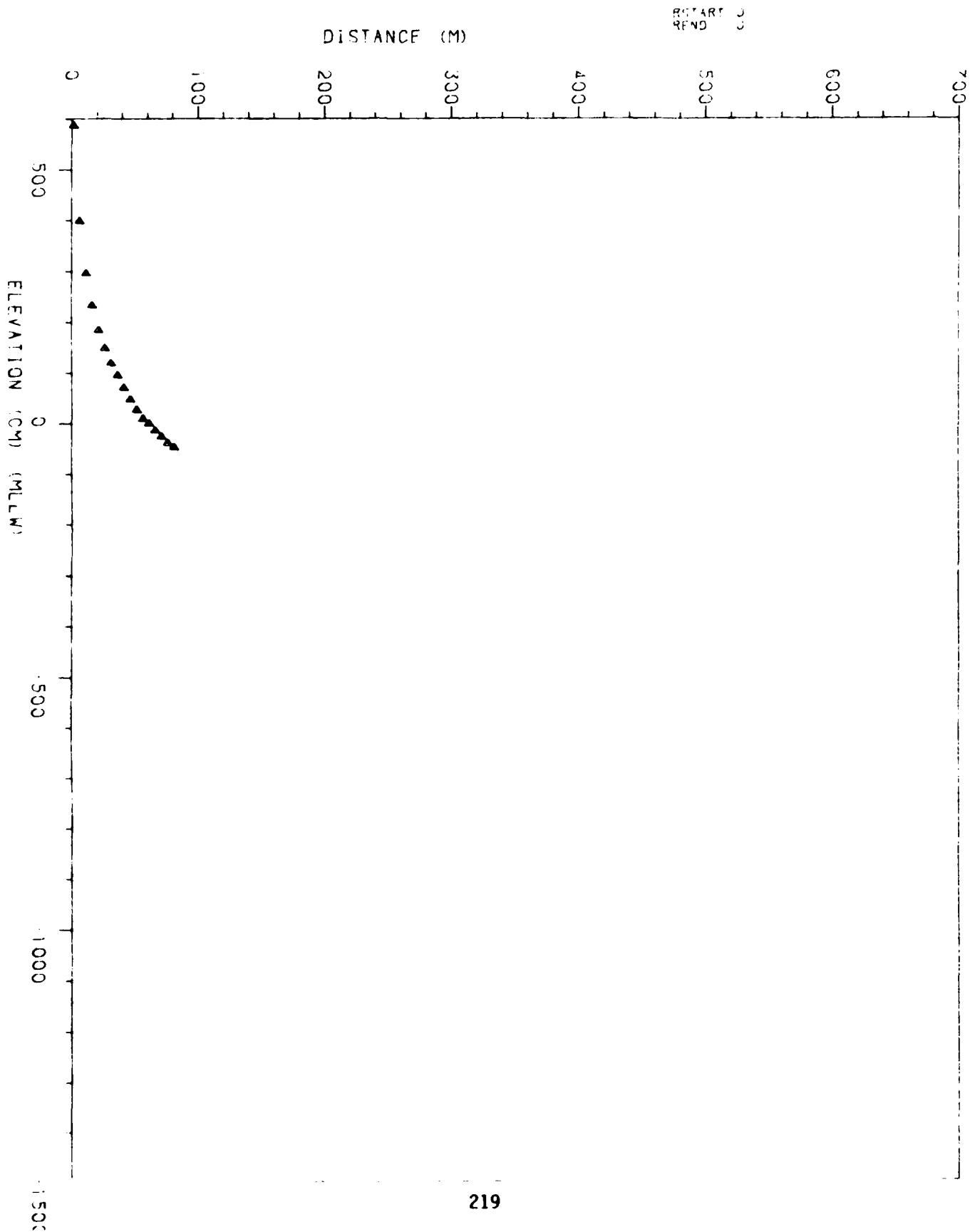


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 670
MAY 10 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	587
5.0	399
10.0	297
15.0	234
20.0	185
25.0	149
30.0	120
35.0	96
40.0	71
45.0	48
50.0	27
55.0	10
60.0	0
65.0	-14
70.0	-26
75.0	-39
80.0	-47

RANGE= 720

MAY 21 1984

RSTART 00
REND 00

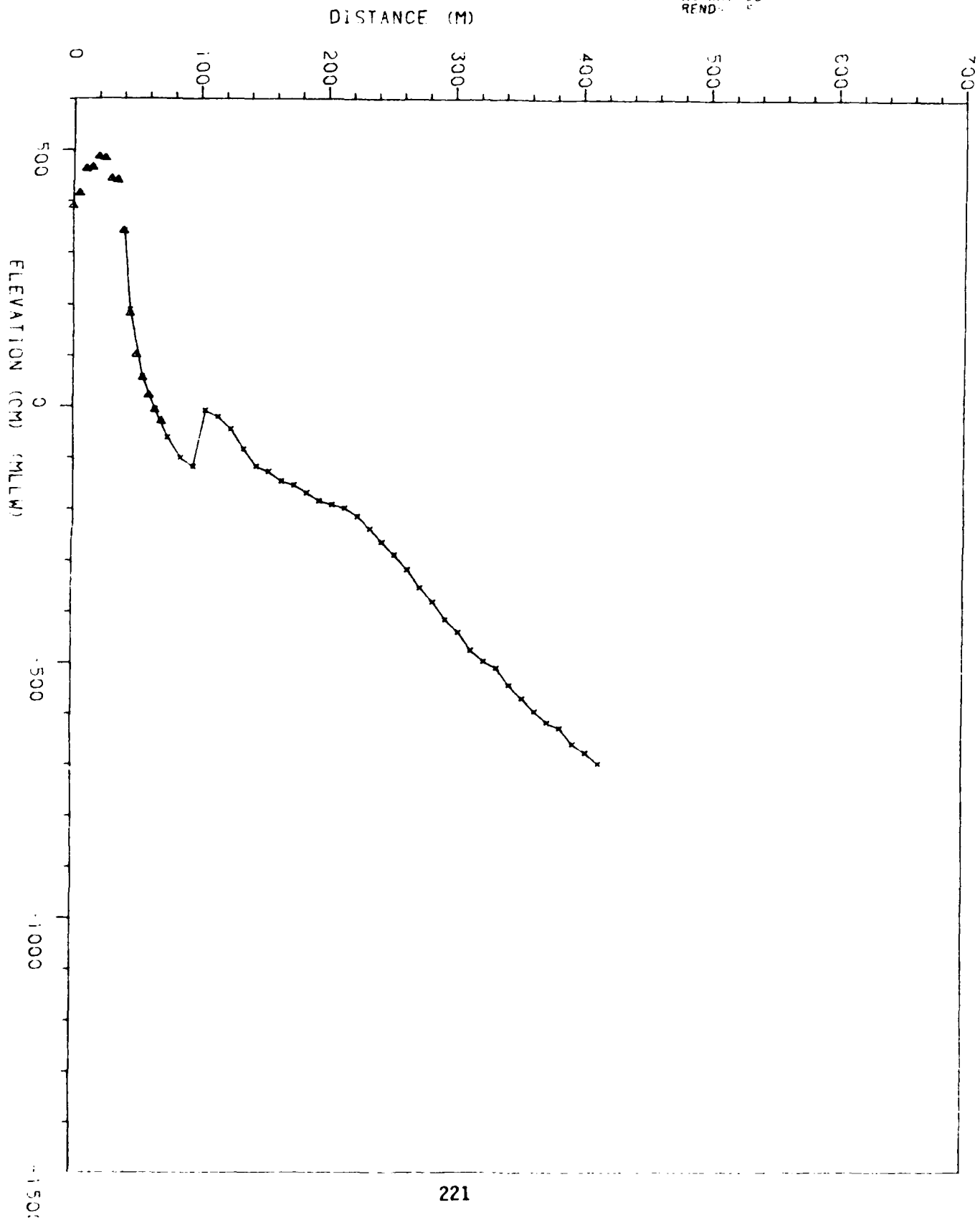


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 720
 MAY 21 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	390	394.6	-659
5.0	415	404.6	-676
10.0	462	414.6	-698
15.0	465		
20.0	486		
25.0	483		
30.0	443		
35.0	440		
40.0	342		
44.6	189		
54.6	58		
64.6	-6		
74.6	-60		
84.6	-100		
94.6	-117		
104.6	-8		
114.6	-20		
124.6	-44		
134.6	-84		
144.6	-117		
154.6	-127		
164.6	-146		
174.6	-154		
184.6	-169		
194.6	-184		
204.6	-191		
214.6	-198		
224.6	-214		
234.6	-238		
244.6	-264		
254.6	-289		
264.6	-317		
274.6	-353		
284.6	-380		
294.6	-415		
304.6	-439		
314.6	-475		
324.6	-496		
334.6	-509		
344.6	-544		
354.6	-568		
364.6	-594		
374.6	-616		
384.6	-627		

RANGE= 760

MAY 10 1984

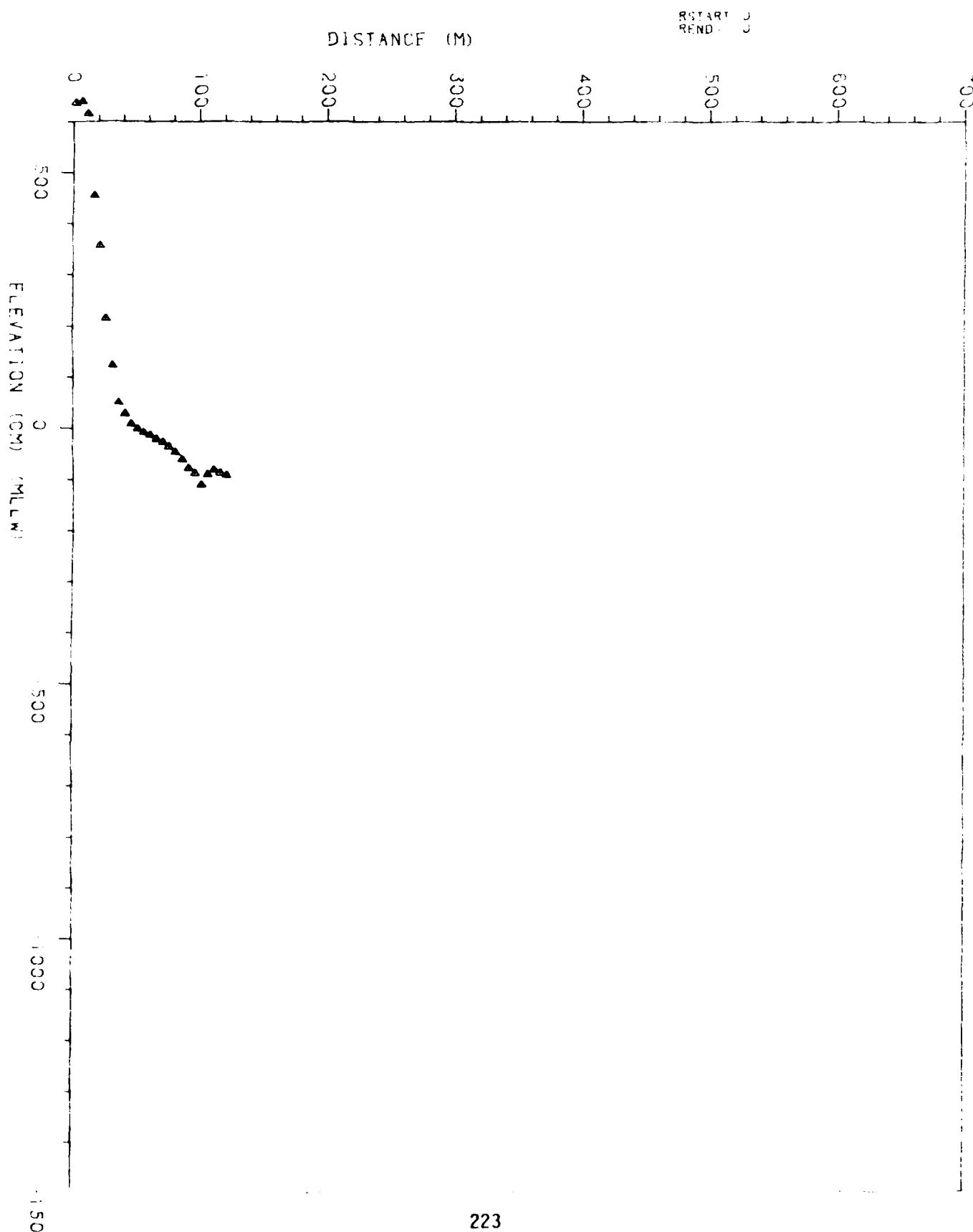


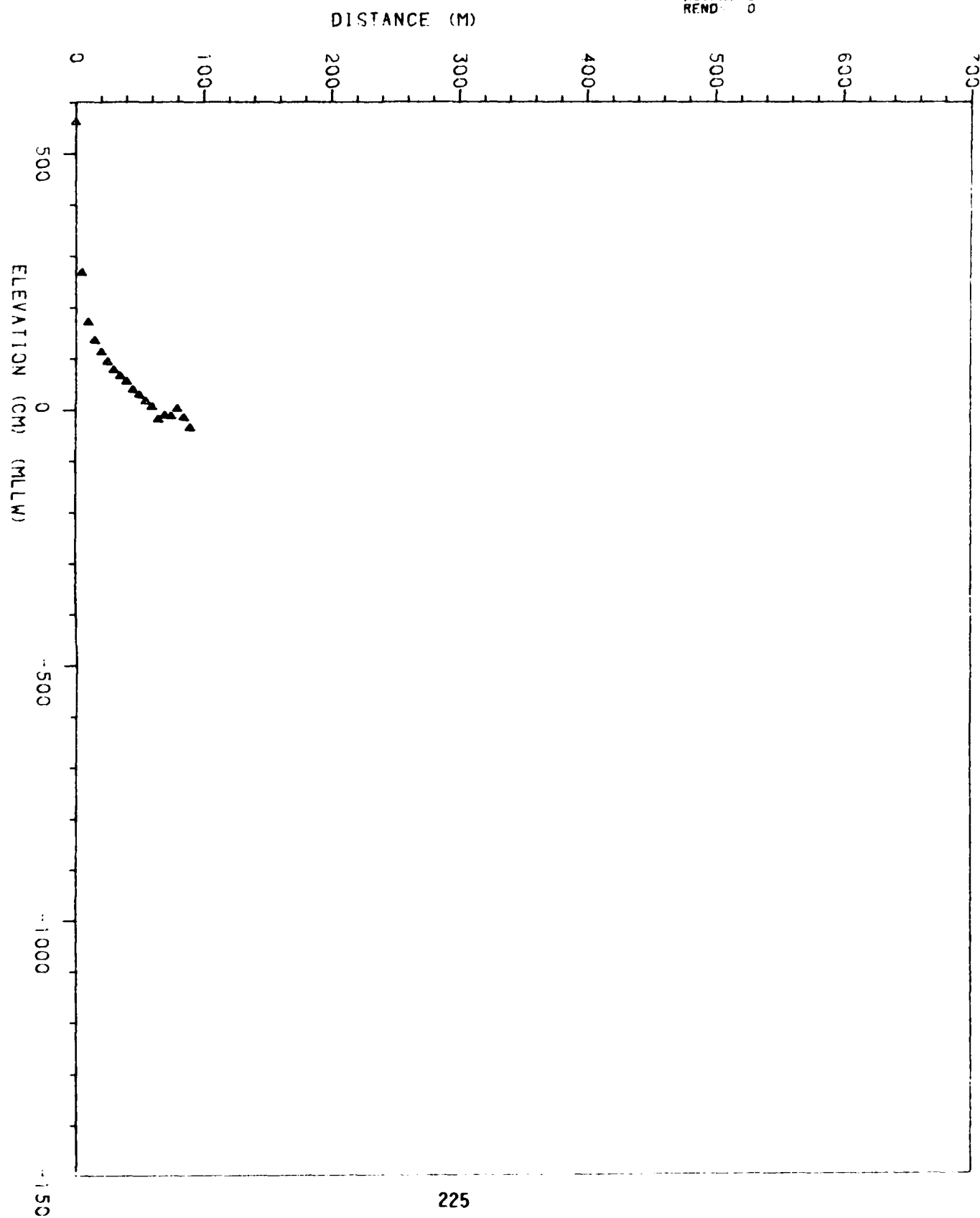
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 760
MAY 10 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	637
5.0	640
10.0	616
15.0	455
20.0	357
25.0	215
30.0	123
35.0	50
40.0	28
45.0	8
50.0	-2
55.0	-9
60.0	-14
65.0	-22
70.0	-28
75.0	-37
80.0	-47
85.0	-61
90.0	-78
95.0	-88
100.0	-111
105.0	-91
110.0	-82
115.0	-88
120.0	-93

RANGE= 800

JUL 02 1984

RSTART= 0
REND= 0



1

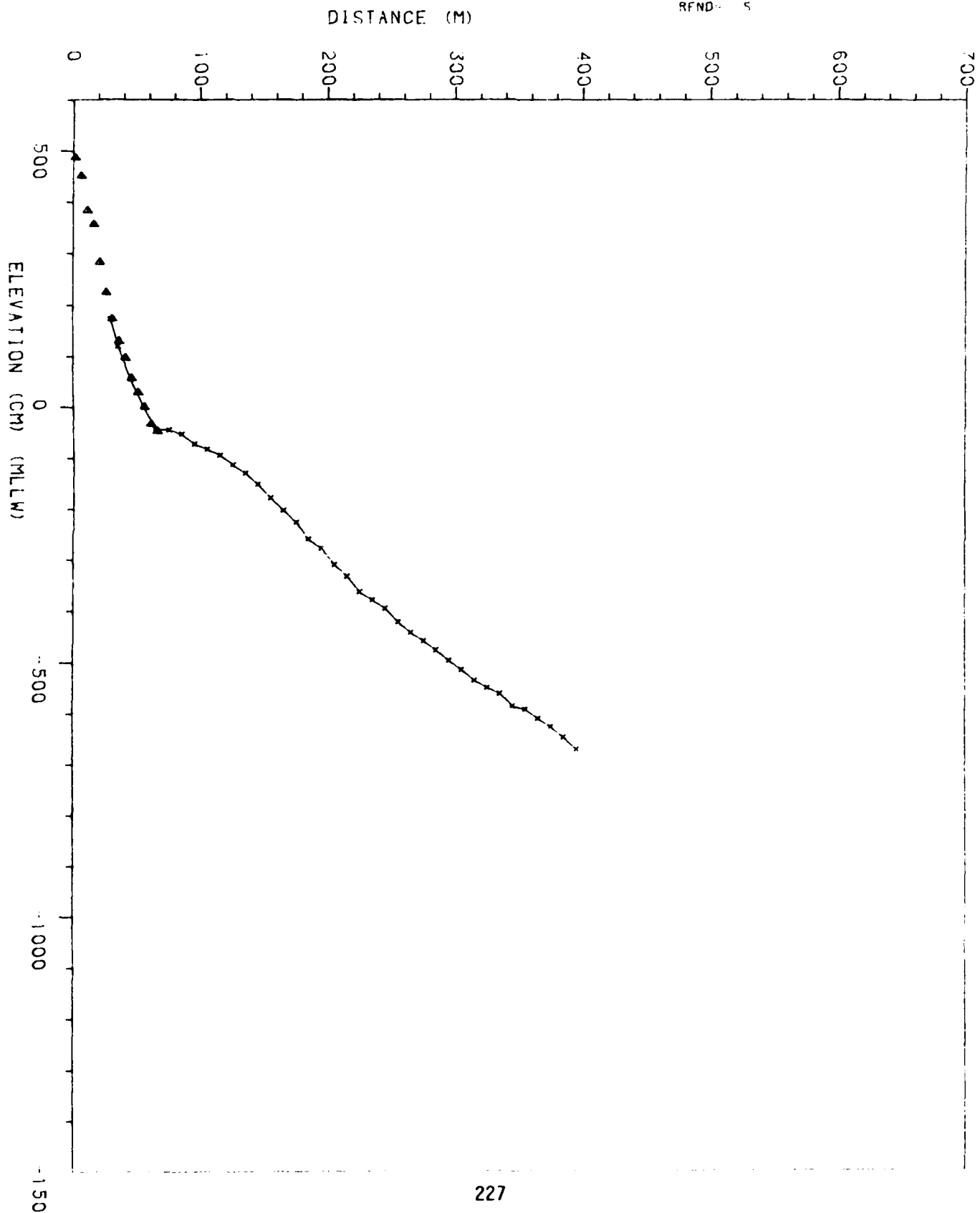
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 800
JUL 02 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW
0.0	561
5.0	268
10.0	171
15.0	136
20.0	113
25.0	94
30.0	78
35.0	66
40.0	55
45.0	39
50.0	29
55.0	17
60.0	6
65.0	-19
70.0	-11
75.0	-13
80.0	2
85.0	-16
90.0	-36

RANGE= 820

MAY 22 1984

RSTART= 30
RFND= 5



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 820
MAY 22 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	487
5.0	451
10.0	384
15.0	357
20.0	284
25.0	225
30.0	173
35.7	119
45.7	55
55.7	0
65.7	-44
75.7	-44
85.7	-52
95.7	-72
105.7	-82
115.7	-94
125.7	-112
135.7	-128
145.7	-151
155.7	-177
165.7	-202
175.7	-225
185.7	-259
195.7	-278
205.7	-310
215.7	-332
225.7	-363
235.7	-379
245.7	-395
255.7	-421
265.7	-442
275.7	-458
285.7	-476
295.7	-496
305.7	-513
315.7	-534
325.7	-548
335.7	-561
345.7	-584
355.7	-591
365.7	-609
375.7	-626
385.7	-647
395.7	-670

RANGE = 830

MAY 22 1984

RSTART = 0
REND = 0

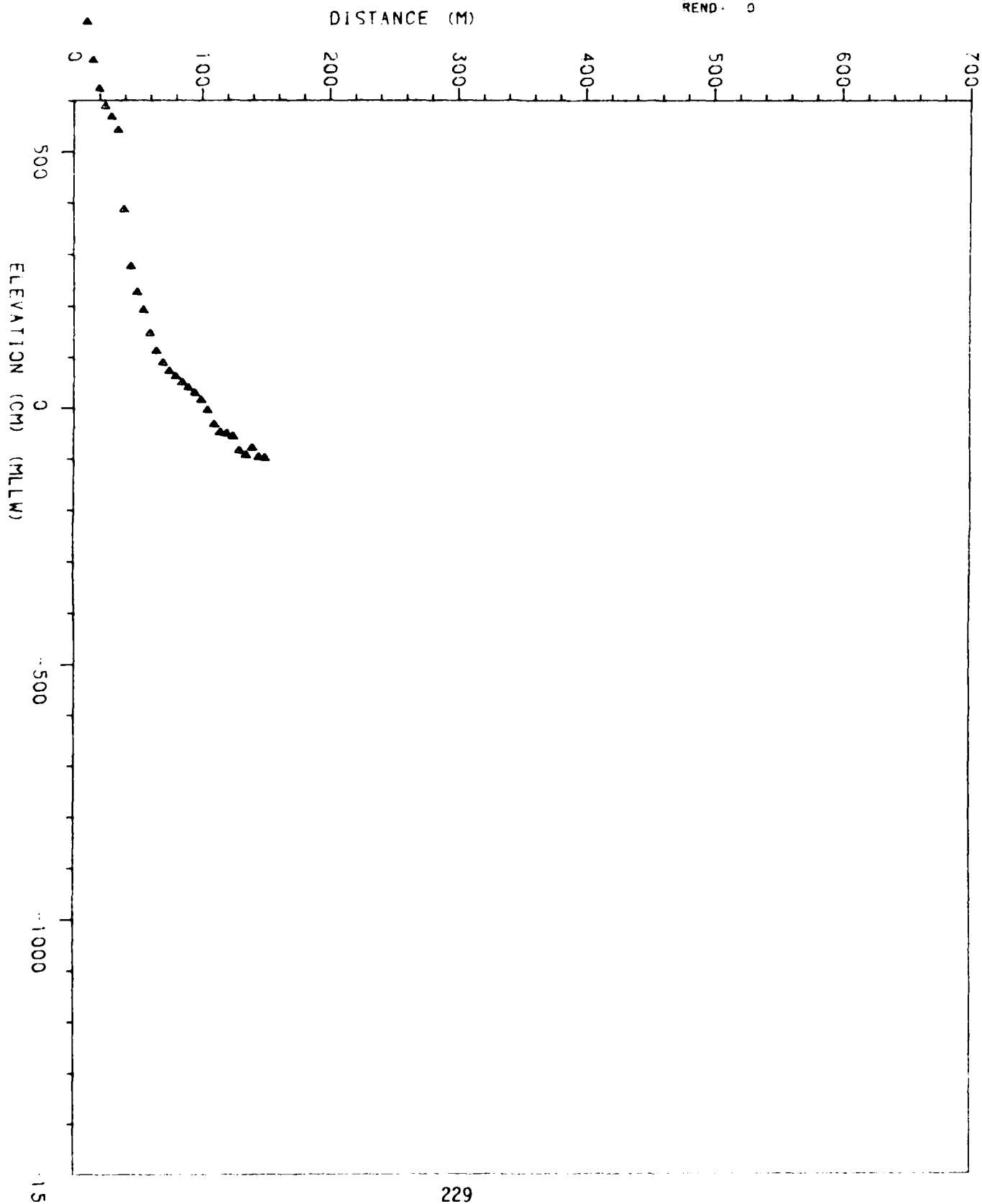


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 830
MAY 22 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	1101
5.0	939
10.0	754
15.0	679
20.0	623
25.0	589
30.0	568
35.0	542
40.0	387
45.0	277
50.0	227
55.0	192
60.0	147
65.0	112
70.0	89
75.0	72
80.0	61
85.0	49
90.0	39
95.0	29
100.0	15
105.0	-5
110.0	-33
115.0	-49
120.0	-51
125.0	-57
130.0	-84
135.0	-93
140.0	-79
145.0	-97
150.0	-99

RANGE= 880

MAY 25 1984

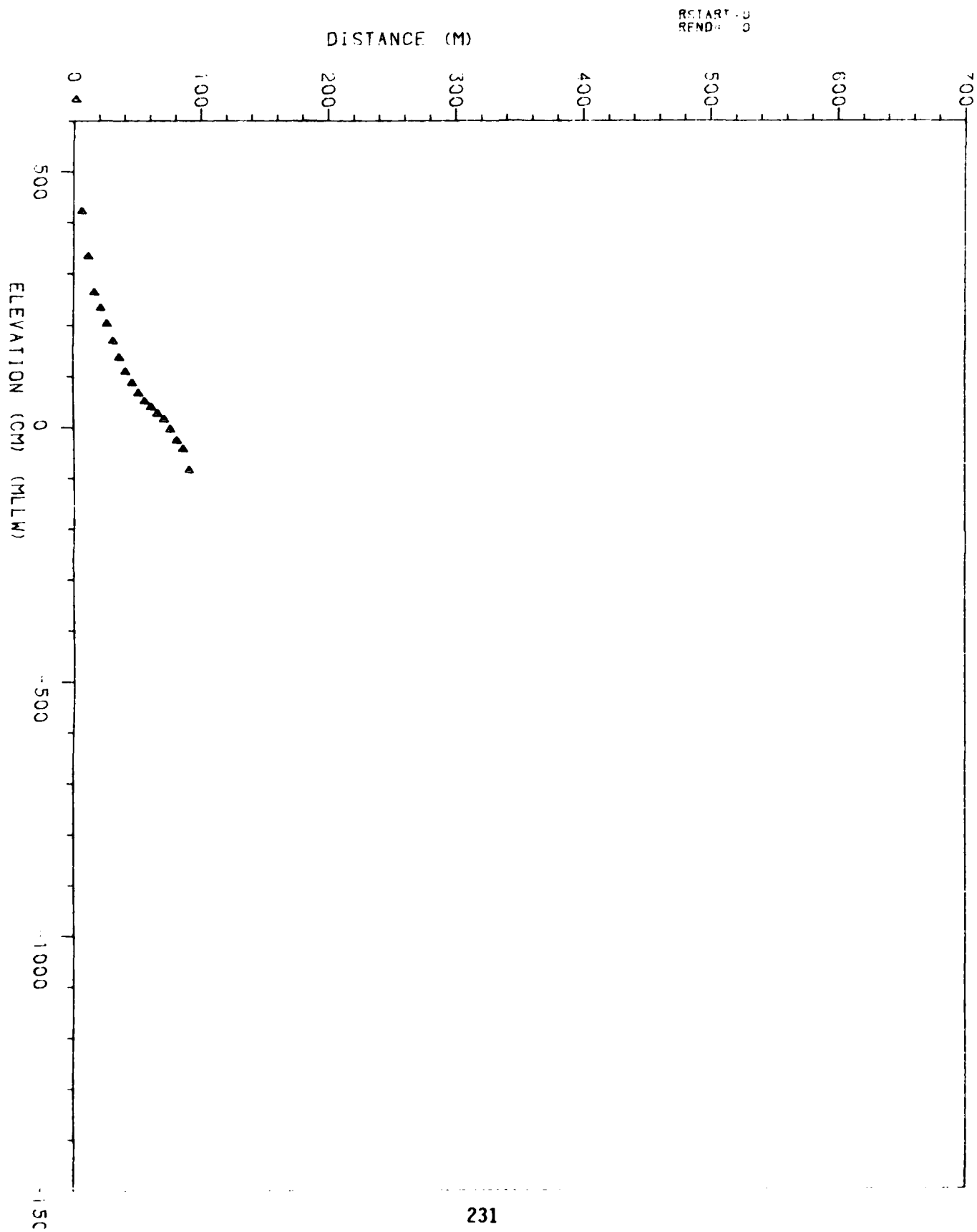
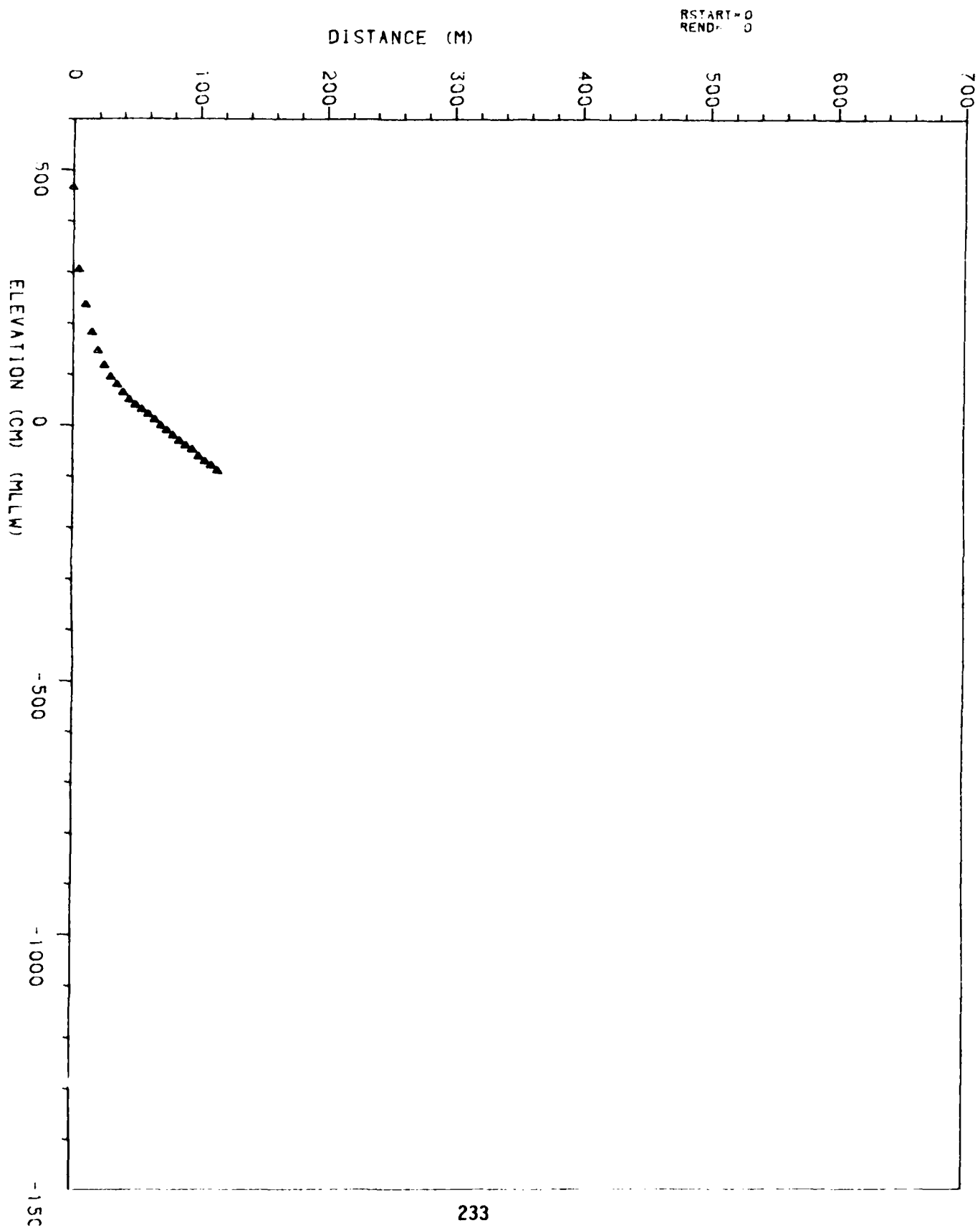


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 880
MAY 25 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	642
5.0	422
10.0	334
15.0	264
20.0	234
25.0	203
30.0	169
35.0	137
40.0	109
45.0	87
50.0	67
55.0	51
60.0	40
65.0	27
70.0	16
75.0	-4
80.0	-26
85.0	-43
90.0	-84

RANGE = 900

JUL 02 1984



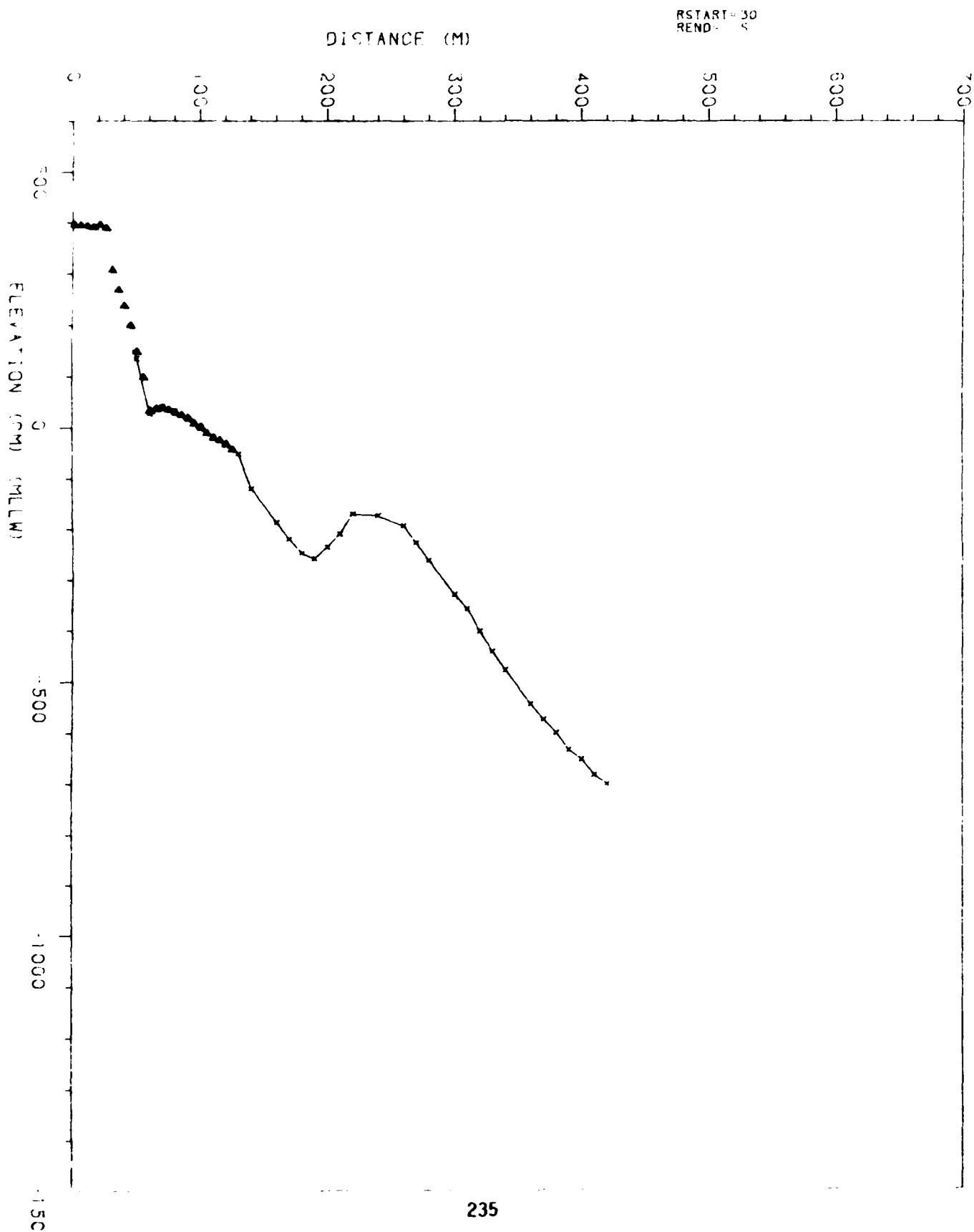
1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 900
JUL 02 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	466
5.0	306
10.0	237
15.0	182
20.0	146
25.0	117
30.0	94
35.0	79
40.0	63
45.0	49
50.0	39
55.0	30
60.0	21
65.0	10
70.0	-2
75.0	-11
80.0	-21
85.0	-32
90.0	-41
95.0	-49
100.0	-62
105.0	-72
110.0	-80
115.0	-90

RANGE= 930

MAY 24 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 930
MAY 24 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	396
5.0	395
10.0	394
15.0	392
20.0	397
25.0	390
30.0	308
35.0	269
40.0	238
45.0	200
50.0	149
51.2	135
61.2	27
71.2	41
81.2	33
91.2	16
101.2	-1
111.2	-17
121.2	-33
131.2	-50
141.2	-119
161.2	-186
171.2	-219
181.2	-246
191.2	-257
201.2	-234
211.2	-208
221.2	-168
241.2	-172
261.2	-192
271.2	-226
281.2	-261
301.2	-328
311.2	-356
321.2	-400
331.2	-440
341.2	-476
361.2	-543
371.2	-573
381.2	-599
391.2	-632
401.2	-651
411.2	-682
421.2	-699

RANGE= 960

JUN 04 1984

RSTART= 50
REND= 960

DISTANCE (M)

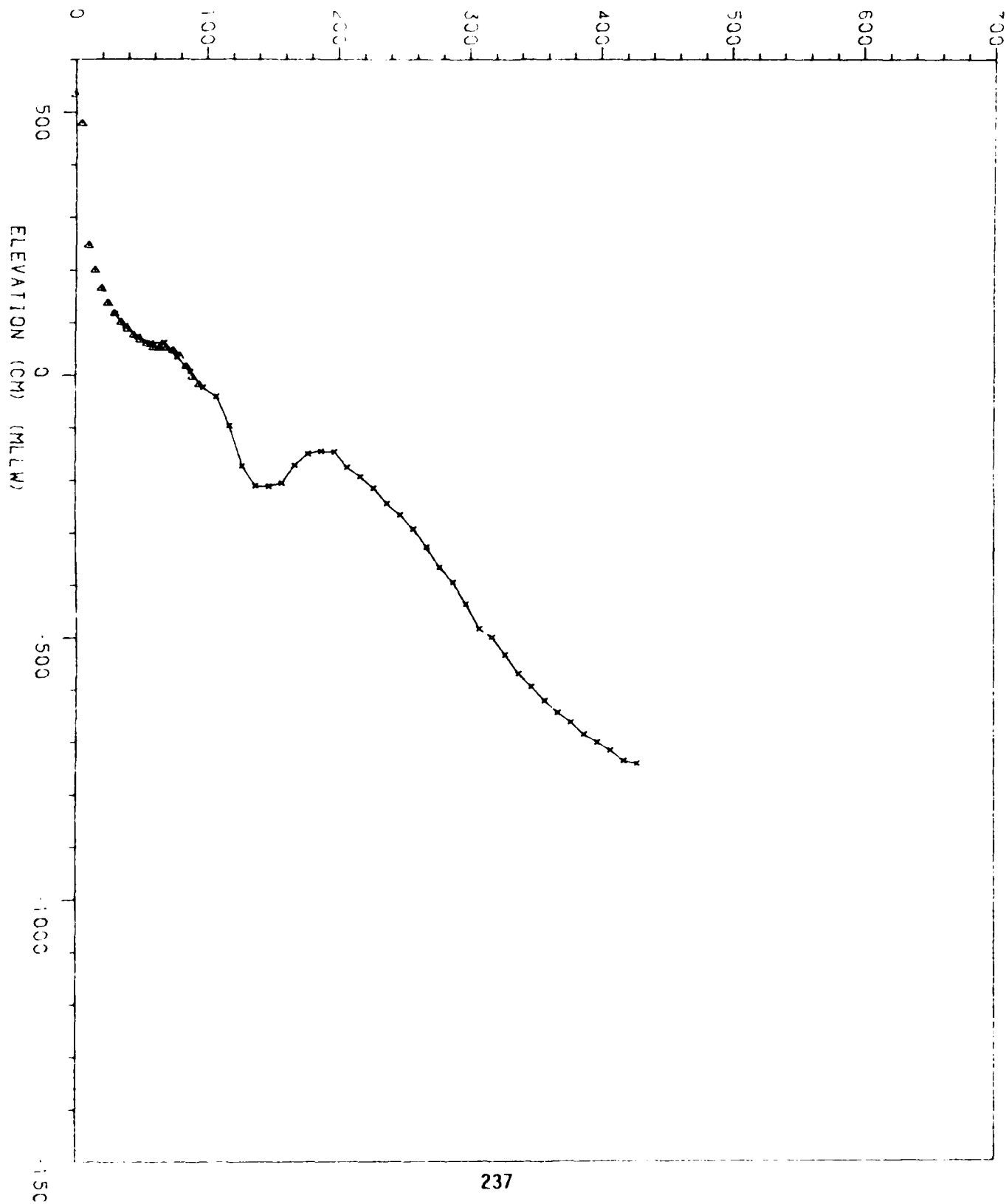


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 960
JUN 04 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	533	408.0	-716
5.0	478	418.0	-735
10.0	246	428.0	-741
15.0	199		
20.0	164		
25.0	137		
30.0	117		
38.0	93		
48.0	72		
58.0	61		
68.0	62		
78.0	34		
88.0	6		
98.0	-23		
108.0	-40		
118.0	-96		
128.0	-172		
138.0	-210		
148.0	-211		
158.0	-204		
168.0	-171		
178.0	-149		
188.0	-144		
198.0	-145		
208.0	-175		
218.0	-193		
228.0	-214		
238.0	-244		
248.0	-266		
258.0	-292		
268.0	-326		
278.0	-365		
288.0	-394		
298.0	-435		
308.0	-483		
318.0	-498		
328.0	-532		
338.0	-569		
348.0	-593		
358.0	-621		
368.0	-643		
378.0	-662		
388.0	-685		
398.0	-700		

RANGE= 990

MAY 23 1984

RESTART=30
REND=5

DISTANCE (M)

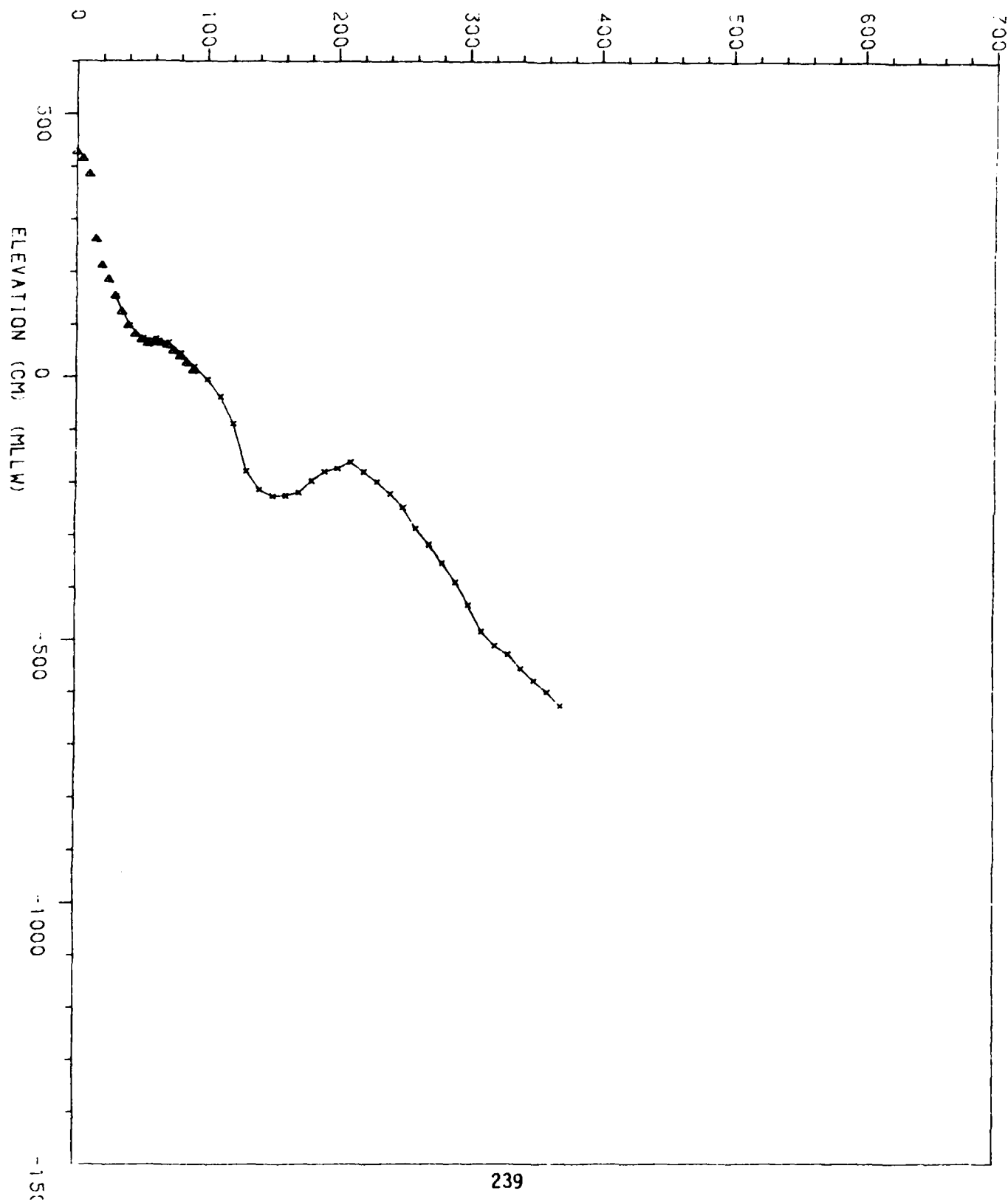


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 990
MAY 23 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	427
5.0	414
10.0	384
15.0	261
20.0	211
25.0	184
30.0	153
40.7	97
50.7	72
60.7	71
70.7	64
80.7	44
90.7	19
100.7	-5
110.7	-37
120.7	-88
130.7	-178
140.7	-214
150.7	-225
160.7	-225
170.7	-218
180.7	-197
190.7	-179
200.7	-173
210.7	-161
220.7	-179
230.7	-198
240.7	-221
250.7	-247
260.7	-287
270.7	-317
280.7	-352
290.7	-390
300.7	-432
310.7	-483
320.7	-510
330.7	-527
340.7	-554
350.7	-577
360.7	-598
370.7	-625

RANGE= 1000

MAY 23 1984

RSTART= 30
REND= 5

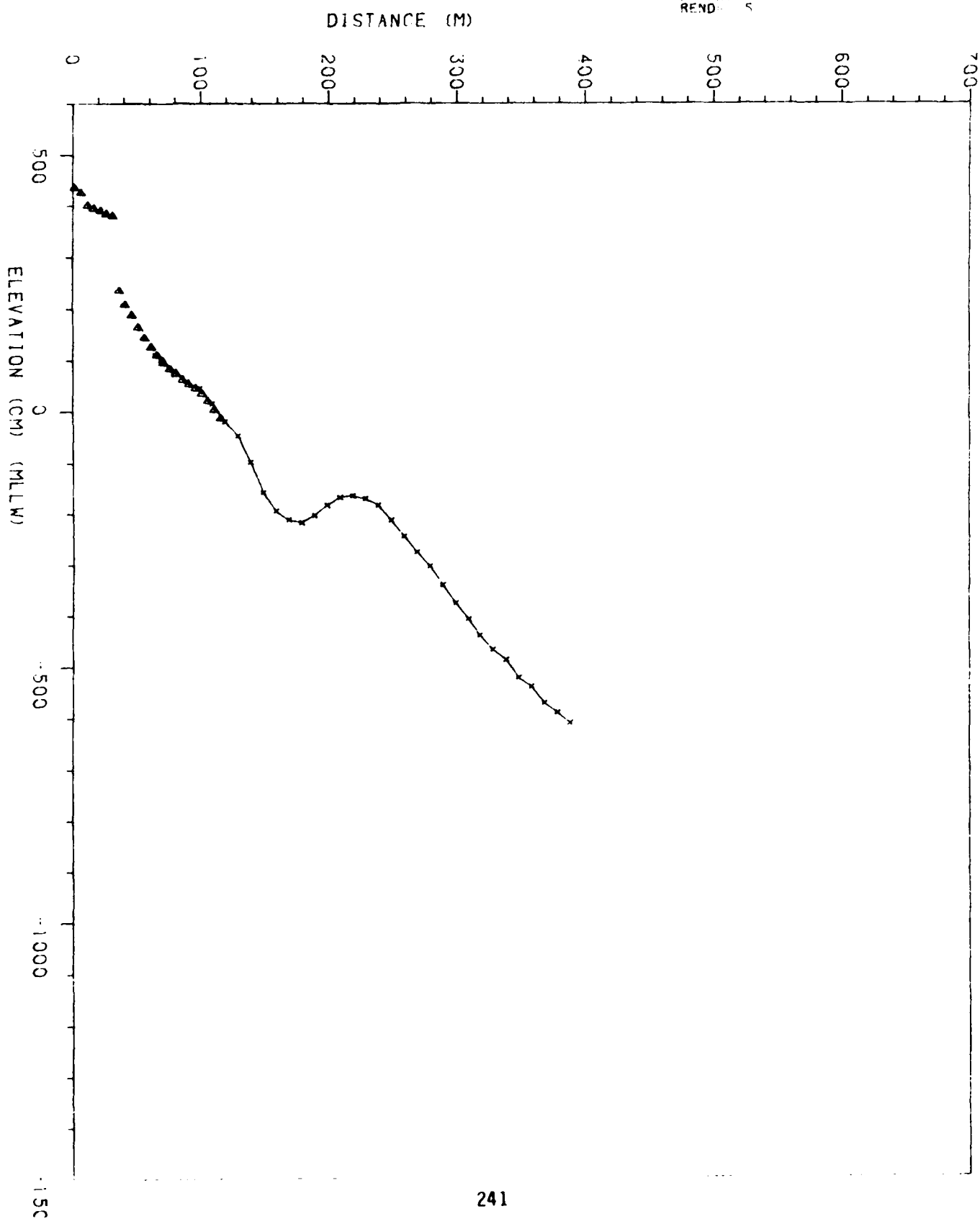


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1000
 MAY 23 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	436	368.7	-571
5.0	426	378.7	-590
10.0	401	388.7	-609
15.0	395		
20.0	391		
25.0	385		
30.0	381		
35.0	236		
40.0	209		
45.0	188		
50.0	164		
55.0	144		
60.0	126		
65.0	110		
69.6	101		
79.6	77		
89.6	57		
99.6	45		
109.6	15		
119.6	-20		
129.6	-46		
139.6	-98		
149.6	-158		
159.6	-194		
169.6	-211		
179.6	-216		
189.6	-203		
199.6	-183		
209.6	-167		
219.6	-164		
229.6	-170		
239.6	-182		
249.6	-212		
259.6	-244		
269.6	-276		
279.6	-303		
289.6	-340		
299.6	-375		
309.6	-406		
318.7	-438		
328.7	-466		
338.7	-486		
348.7	-521		
358.7	-538		

RANGE= 1030

MAY 29 1984

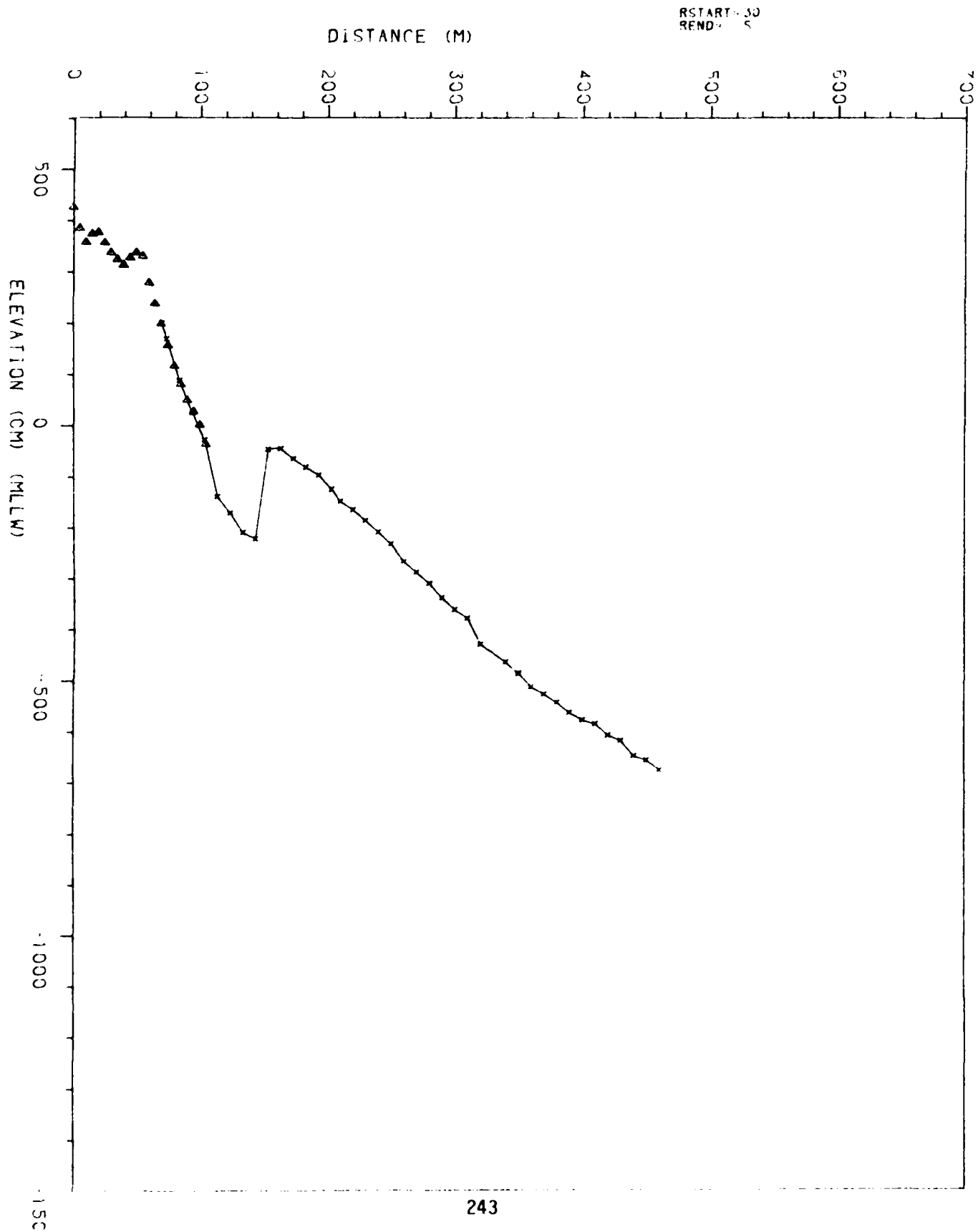


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1030
 MAY 29 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	426	360.4	-512
5.0	385	370.4	-527
10.0	357	380.4	-543
15.0	373	390.4	-563
20.0	376	400.4	-578
25.0	356	410.4	-585
30.0	337	420.4	-607
35.0	324	430.4	-618
40.0	313	440.4	-648
45.0	327	450.4	-657
50.0	337	460.4	-676
55.0	330		
60.0	278		
65.0	238		
70.0	199		
73.5	169		
83.5	87		
93.5	24		
103.5	-28		
113.5	-139		
123.5	-171		
133.5	-210		
143.5	-222		
153.5	-47		
163.5	-44		
173.5	-65		
183.5	-82		
193.5	-97		
203.5	-125		
210.4	-149		
220.4	-166		
230.4	-187		
240.4	-209		
250.4	-232		
260.4	-267		
270.4	-288		
280.4	-310		
290.4	-338		
300.4	-361		
310.4	-379		
320.4	-429		
340.4	-464		
350.3	-487		
350.4	-486		

RANGE- 1070

MAY 14 1984

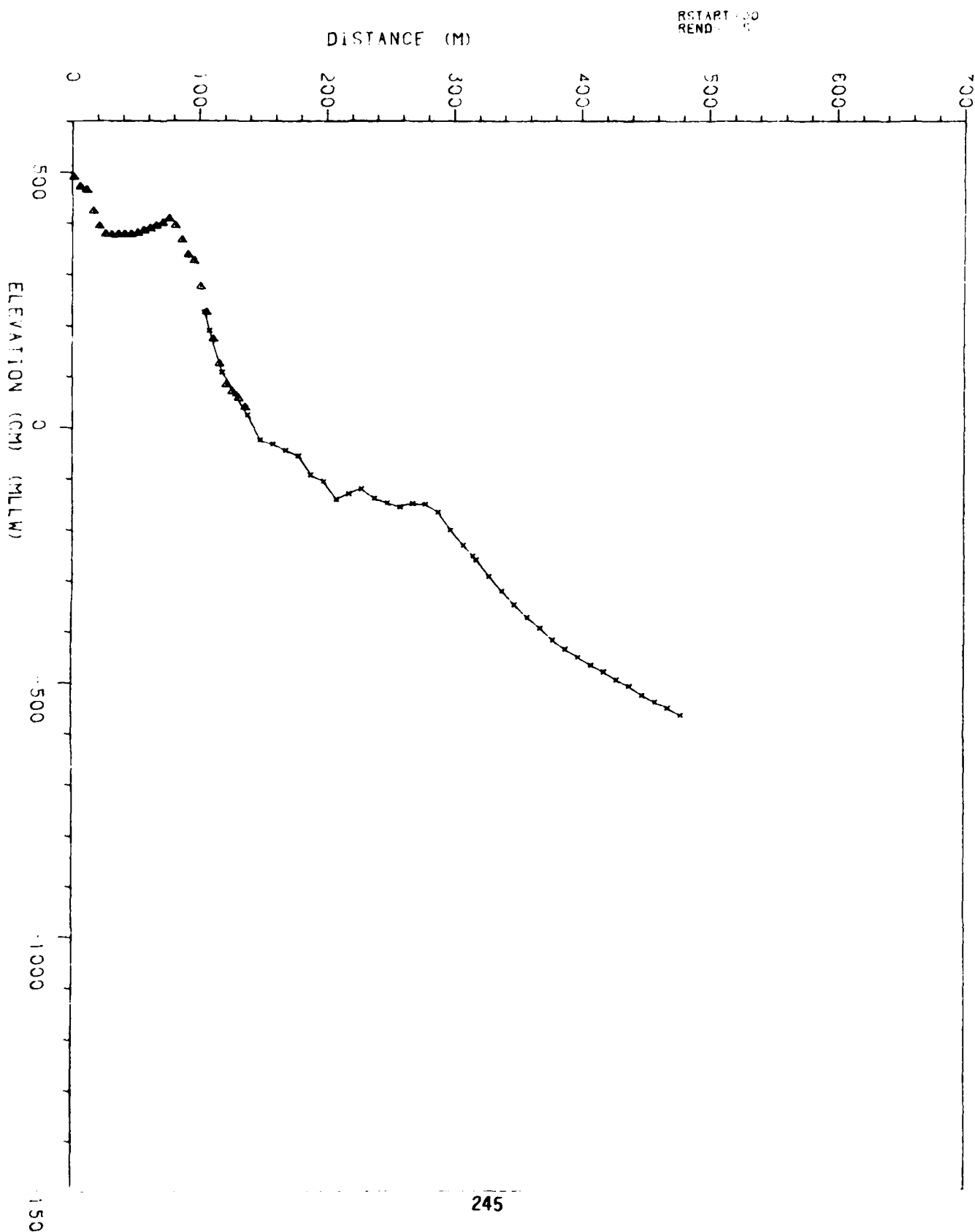


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1070
MAY 14 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	490	318.4	-259
5.0	471	328.4	-292
10.0	465	338.4	-320
15.0	424	348.4	-347
20.0	395	358.4	-372
25.0	379	368.4	-393
30.0	378	378.4	-417
35.0	379	388.4	-435
40.0	379	398.4	-450
45.0	379	408.4	-466
50.0	381	418.4	-479
55.0	386	428.4	-495
60.0	390	438.4	-507
65.0	396	448.4	-525
70.0	401	458.4	-538
75.0	409	468.4	-549
80.0	396	478.2	-564
85.0	367		
90.0	338		
95.0	327		
100.0	277		
105.0	227		
108.4	190		
118.4	107		
128.4	65		
138.4	24		
148.4	-24		
158.4	-32		
168.4	-44		
178.4	-55		
188.4	-92		
198.4	-105		
208.4	-140		
218.4	-128		
228.4	-120		
238.4	-138		
248.4	-147		
258.4	-155		
268.4	-148		
278.4	-150		
288.4	-165		
298.4	-200		
308.4	-230		
316.0	-251		

RANGE= 1080

MAY 30 1984

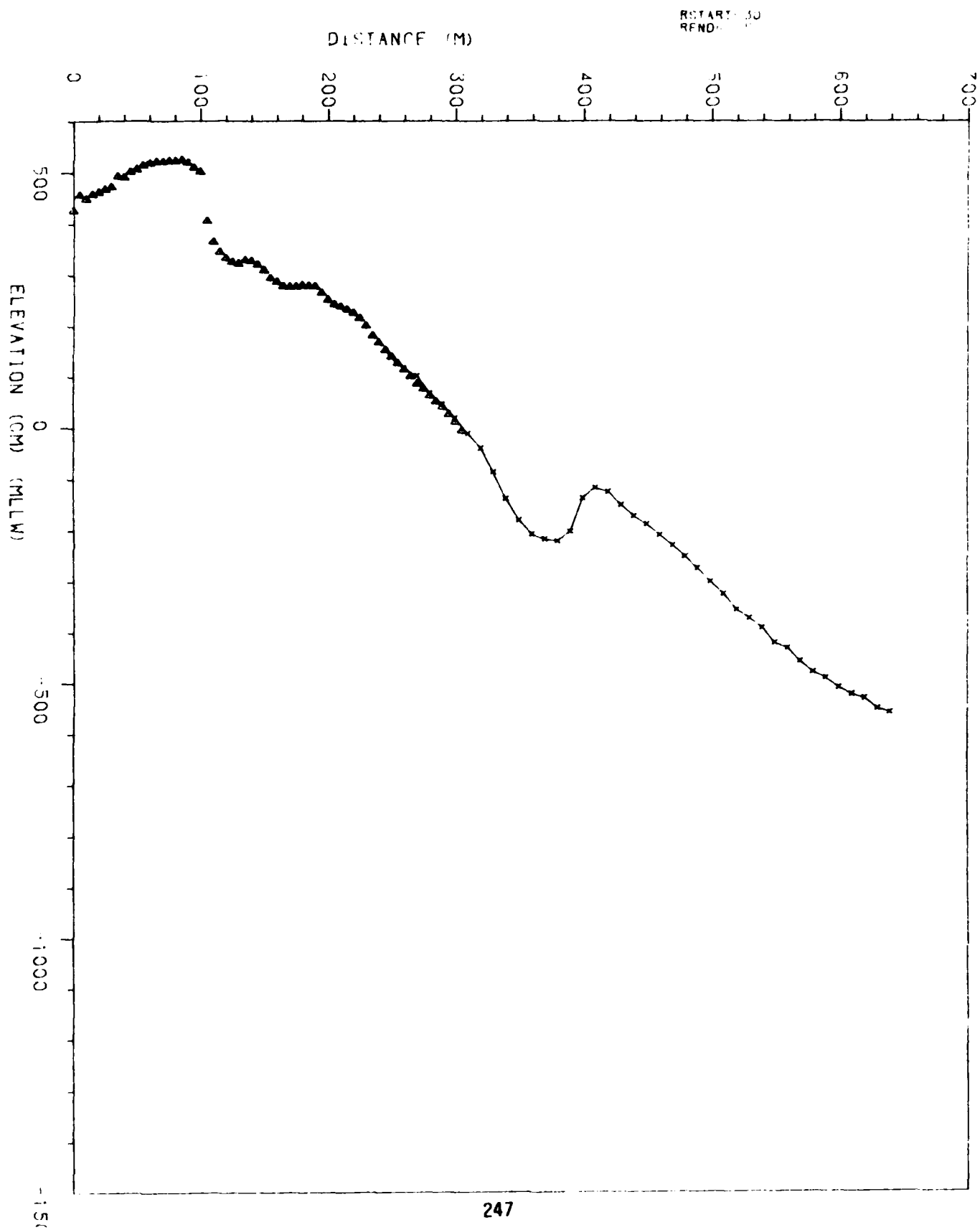


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1080
 MAY 30 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	426	220.0	225
5.0	456	225.0	215
10.0	448	230.0	200
15.0	457	235.0	180
20.0	461	240.0	166
25.0	467	245.0	152
30.0	472	249.2	138
35.0	493	259.2	116
40.0	491	269.2	101
45.0	502	279.2	66
50.0	507	289.2	46
55.0	514	299.2	17
60.0	519	309.2	-11
65.0	522	319.2	-40
70.0	522	329.2	-86
75.0	523	339.2	-138
80.0	523	349.2	-180
85.0	525	359.2	-208
90.0	520	369.2	-217
95.0	510	379.2	-221
100.0	502	389.2	-202
105.0	406	399.2	-137
110.0	365	409.2	-117
115.0	345	419.2	-125
120.0	333	429.2	-150
125.0	326	439.2	-172
130.0	323	449.2	-188
135.0	329	459.2	-209
140.0	328	469.2	-230
145.0	321	479.2	-251
150.0	310	489.2	-275
155.0	294	499.2	-301
160.0	287	509.2	-325
165.0	278	519.2	-356
170.0	277	529.2	-373
175.0	277	539.2	-392
180.0	280	549.2	-421
185.0	279	559.2	-432
190.0	278	569.2	-458
195.0	265	579.2	-479
200.0	251	589.2	-491
205.0	242	599.2	-509
210.0	237	609.2	-522
215.0	232	619.2	-530

RANGE= 1110

MAY 31 1984

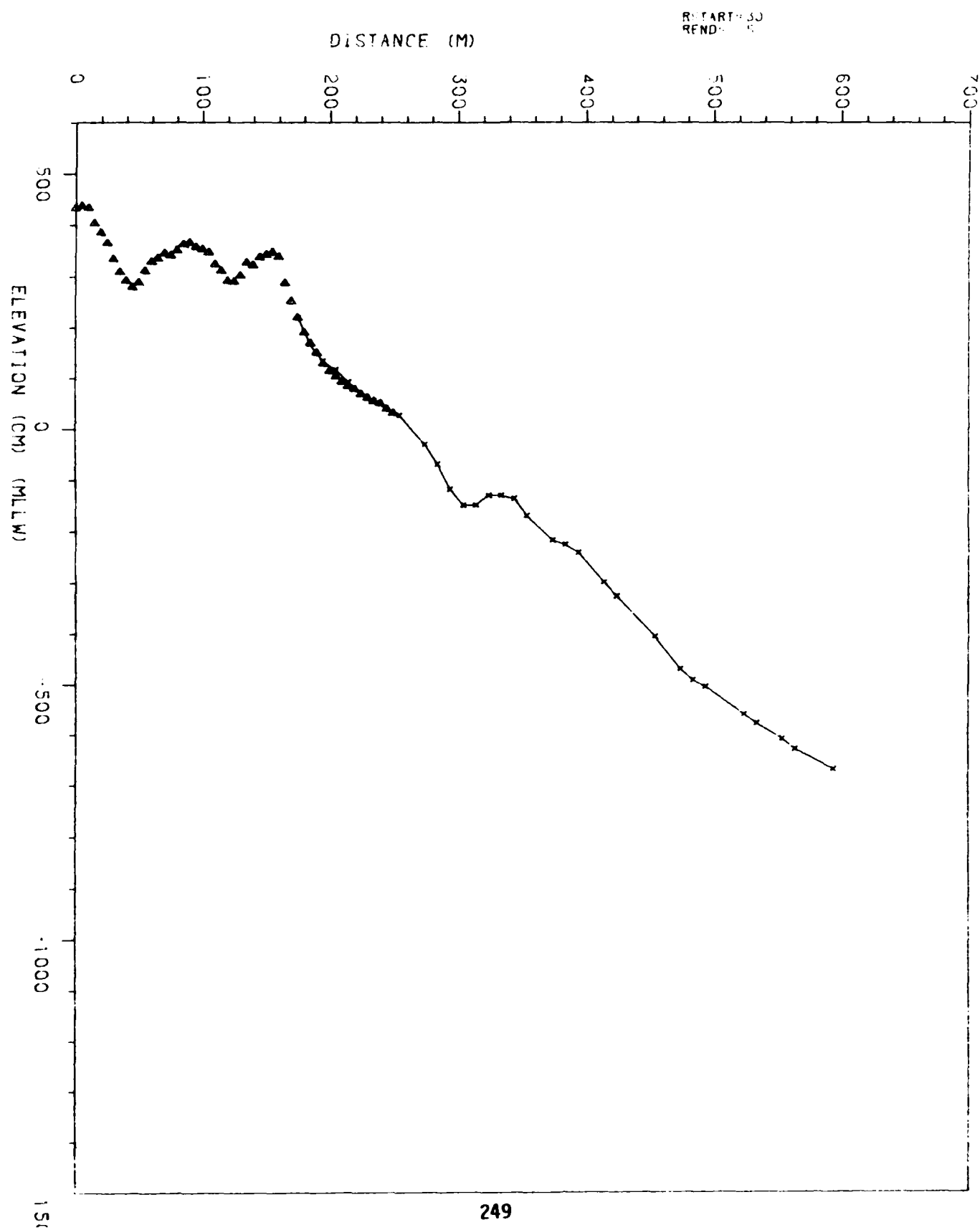


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1110
MAY 31 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	433	294.5	-117
5.0	437	304.5	-149
10.0	433	314.5	-149
15.0	403	324.5	-129
20.0	385	334.5	-129
25.0	365	344.5	-135
30.0	334	354.5	-170
35.0	309	374.5	-217
40.0	292	384.5	-226
45.0	279	394.5	-241
50.0	288	414.5	-299
55.0	311	424.5	-326
60.0	329	454.4	-405
65.0	335	474.4	-470
70.0	345	484.4	-492
75.0	341	494.4	-505
80.0	351	524.3	-559
85.0	362	534.3	-577
90.0	366	554.3	-608
95.0	357	564.3	-628
100.0	353	594.3	-669
105.0	347		
110.0	324		
115.0	311		
120.0	291		
125.0	290		
130.0	302		
135.0	327		
140.0	322		
145.0	337		
150.0	342		
155.0	347		
160.0	338		
165.0	287		
170.0	251		
175.0	219		
184.5	166		
194.5	133		
204.5	116		
214.5	92		
234.5	55		
254.5	26		
274.5	-30		
284.5	-69		

RANGE= 1120

MAY 31 1984

RSTART= 50
REND= 1120

DISTANCE (M)

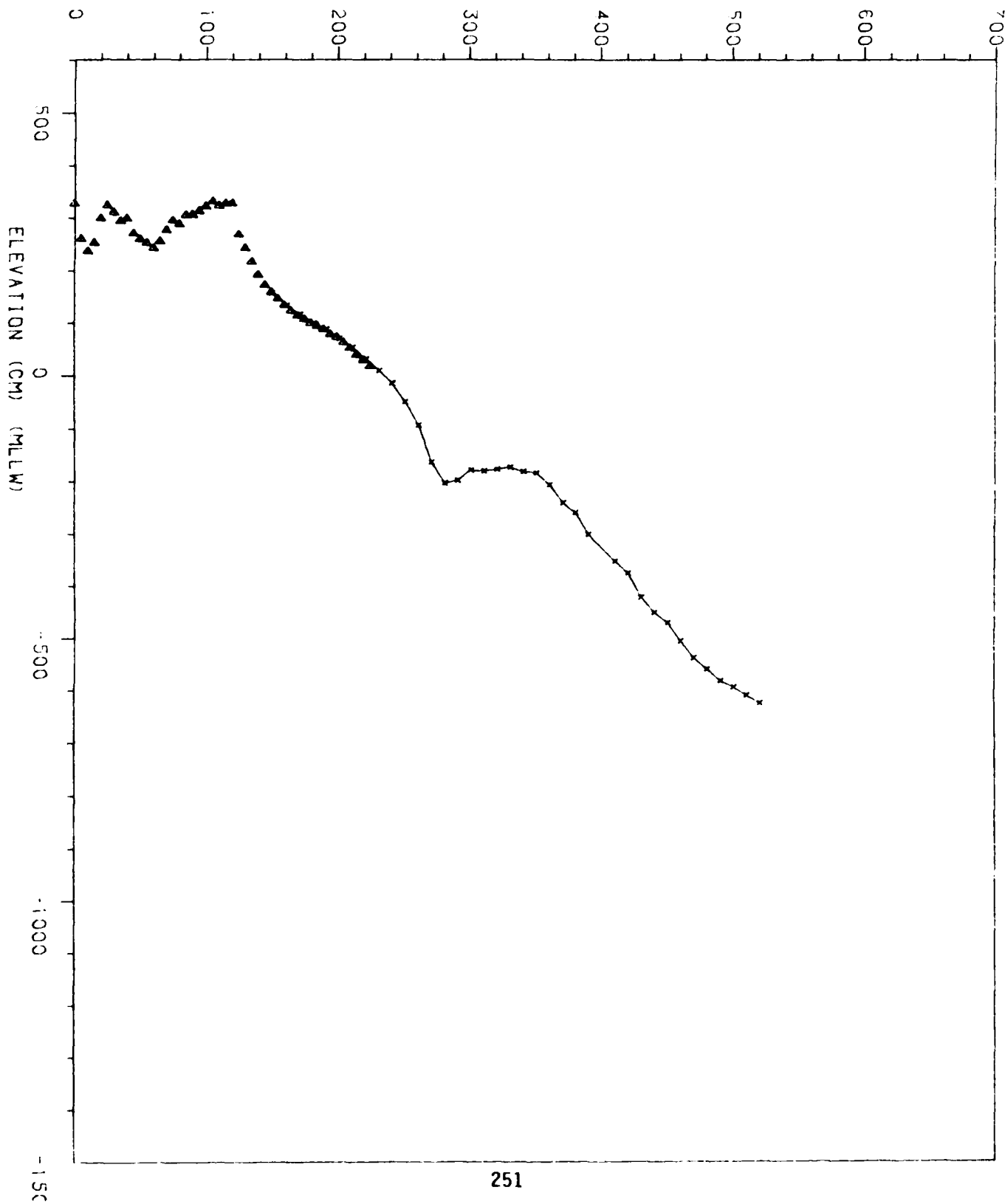


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1120
MAY 31 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	327	291.8	-198
5.0	260	301.8	-179
10.0	236	311.8	-180
15.0	252	321.8	-177
20.0	299	331.8	-174
25.0	324	341.8	-182
30.0	311	351.8	-183
35.0	294	361.8	-206
40.0	299	371.8	-240
45.0	270	381.8	-259
50.0	259	391.8	-301
55.0	252	411.8	-353
60.0	242	421.8	-375
65.0	255	431.8	-422
70.0	276	441.8	-451
75.0	295	451.8	-471
80.0	288	461.8	-506
85.0	305	471.8	-538
90.0	306	481.8	-560
95.0	313	491.8	-581
100.0	322	501.8	-594
105.0	331	511.8	-609
110.0	323	521.8	-624
115.0	327		
120.0	328		
125.0	268		
130.0	242		
135.0	216		
140.0	191		
145.0	171		
150.0	157		
161.8	132		
171.8	115		
181.8	99		
191.8	87		
201.8	70		
211.8	52		
221.8	30		
231.8	8		
241.8	-15		
251.8	-50		
261.8	-94		
271.8	-163		
281.8	-204		

RANGE= 1180

JUN 01 1984

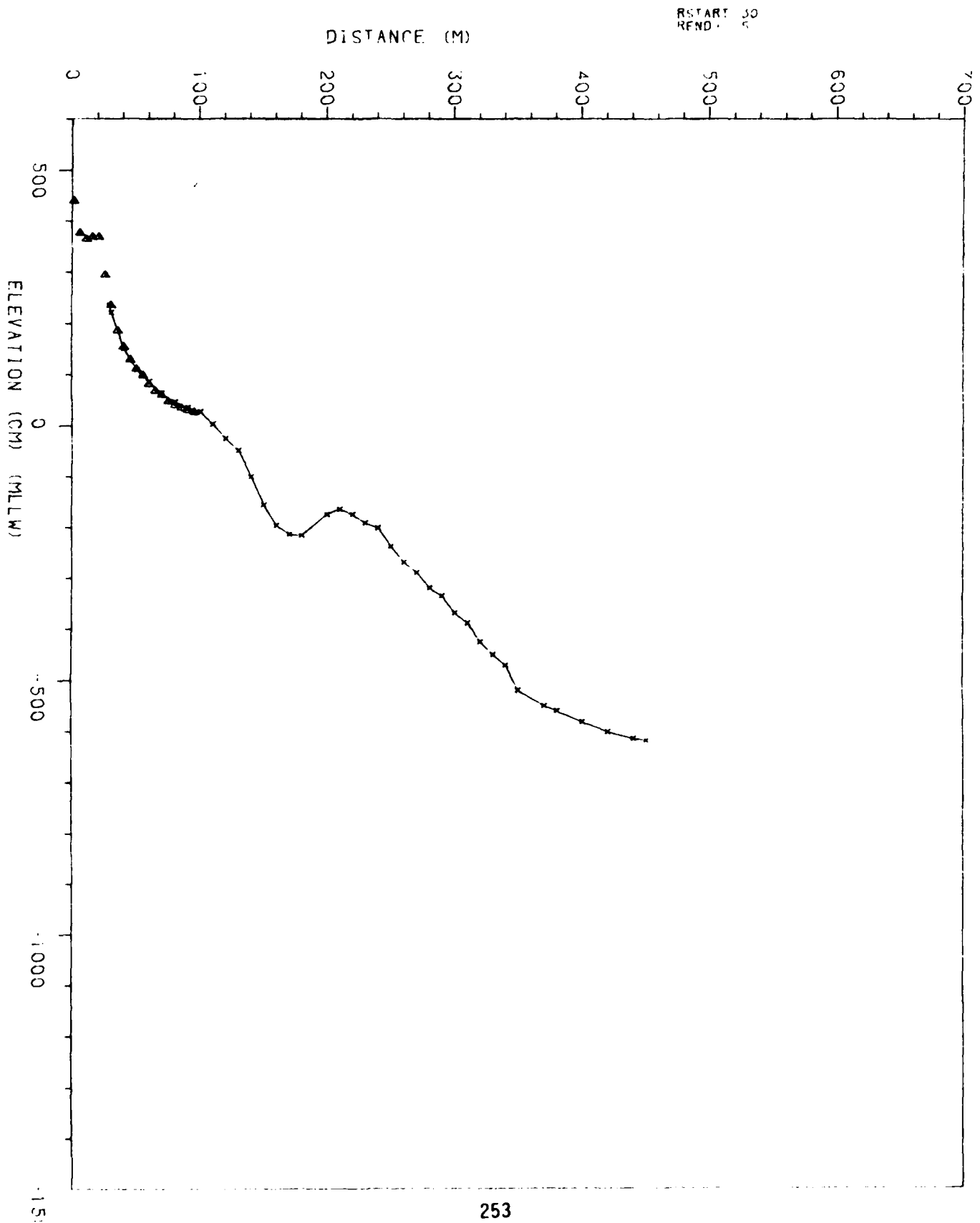


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1180
JUN 01 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	440
5.0	377
10.0	365
15.0	369
20.0	370
25.0	296
30.0	236
31.5	221
41.5	150
51.5	109
61.5	86
71.5	64
81.5	46
91.5	35
101.5	27
111.5	2
121.5	-24
131.5	-48
141.5	-99
151.5	-155
161.4	-195
171.4	-212
181.4	-214
201.4	-174
211.4	-163
221.4	-173
231.4	-190
241.4	-200
251.4	-237
261.6	-268
271.6	-289
281.6	-319
291.6	-334
301.6	-368
311.6	-388
321.6	-424
331.6	-450
341.6	-470
351.6	-519
371.6	-550
381.6	-559
401.6	-581
421.6	-600
441.6	-614

RANCE= 1240

JUN 02 1984

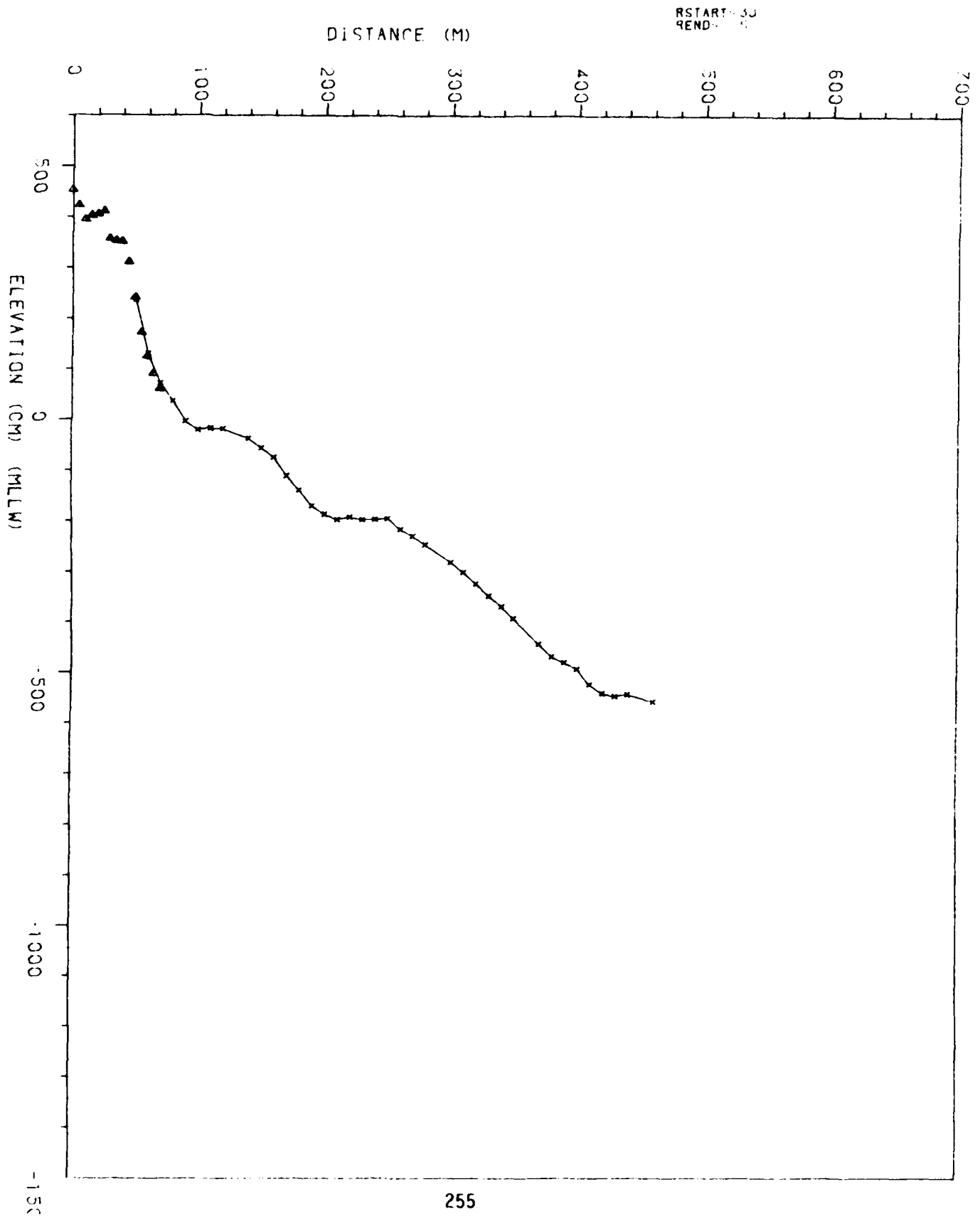


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1240
 JUN 02 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW	PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW
0.0	452	410.3	-522
5.0	422	420.3	-540
10.0	394	430.3	-546
15.0	402	440.3	-542
20.0	405	460.3	-557
25.0	411		
30.0	356		
35.0	352		
40.0	351		
45.0	311		
50.0	241		
50.3	236		
60.3	131		
70.3	71		
80.3	35		
90.3	-3		
100.3	-21		
110.3	-17		
120.3	-18		
140.3	-37		
150.3	-56		
160.3	-74		
170.3	-110		
180.3	-138		
190.3	-169		
200.3	-186		
210.3	-196		
220.3	-191		
230.3	-196		
240.3	-195		
250.3	-194		
260.3	-215		
270.3	-228		
280.3	-245		
300.3	-281		
310.3	-300		
320.3	-322		
330.3	-346		
340.3	-368		
350.3	-392		
370.3	-443		
380.3	-468		
390.3	-480		
400.3	-492		

RANGE= 1290

JUN 02 1984

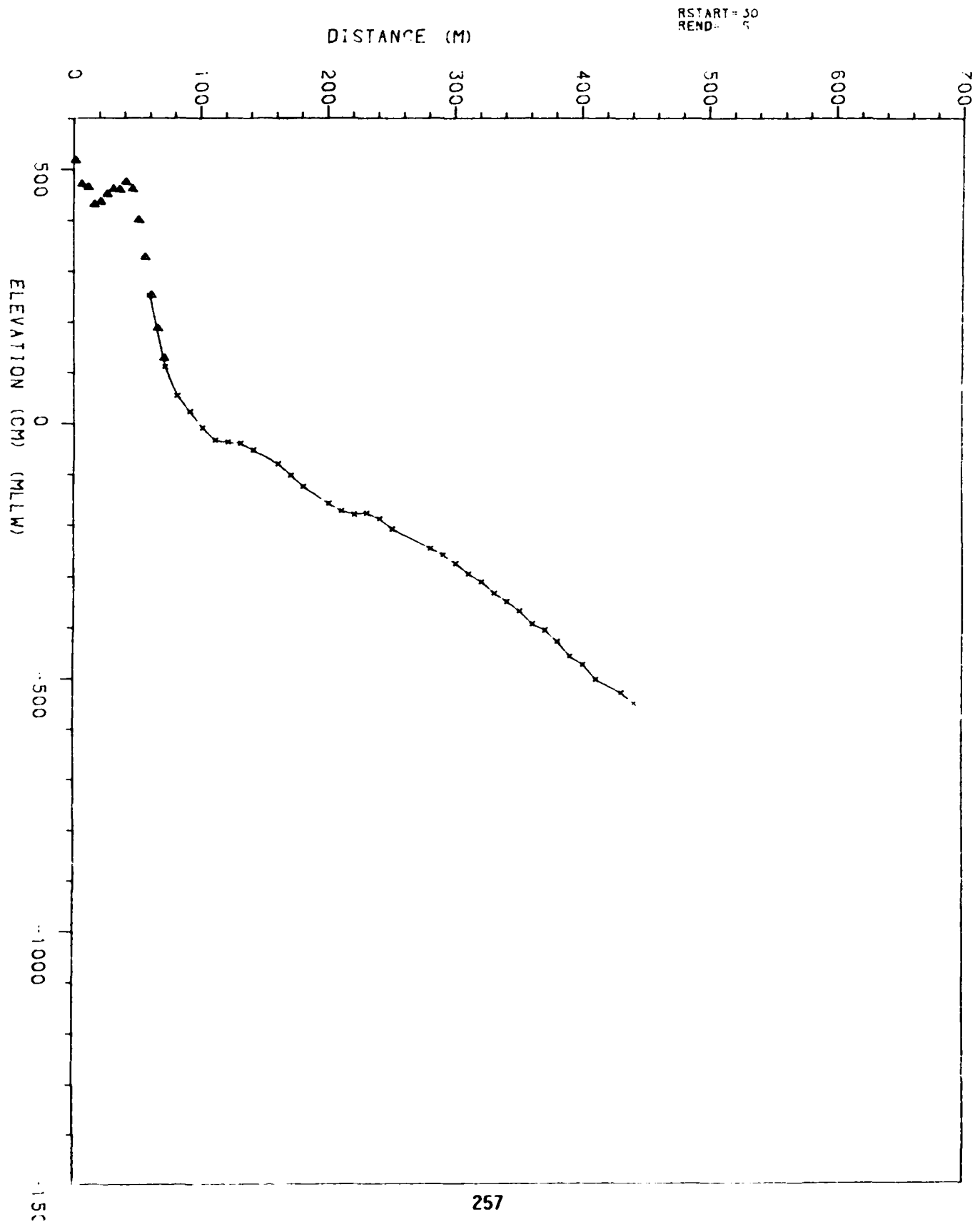


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1290
 JUN 02 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	518	432.0	-528
5.0	471	442.0	-549
10.0	465		
15.0	431		
20.0	437		
25.0	452		
30.0	462		
35.0	461		
40.0	476		
45.0	462		
50.0	401		
55.0	328		
60.0	253		
72.0	111		
82.0	54		
92.0	23		
102.0	-8		
112.0	-32		
122.0	-35		
132.0	-38		
142.0	-51		
162.0	-79		
172.0	-101		
182.0	-123		
202.0	-156		
212.0	-171		
222.0	-178		
232.0	-176		
242.0	-187		
252.0	-207		
282.0	-245		
292.0	-257		
302.0	-275		
312.0	-295		
322.0	-310		
332.0	-332		
342.0	-349		
352.0	-367		
362.0	-392		
372.0	-404		
382.0	-427		
392.0	-456		
402.0	-473		
412.0	-502		

RANGE= 1340

JUN 05 1984

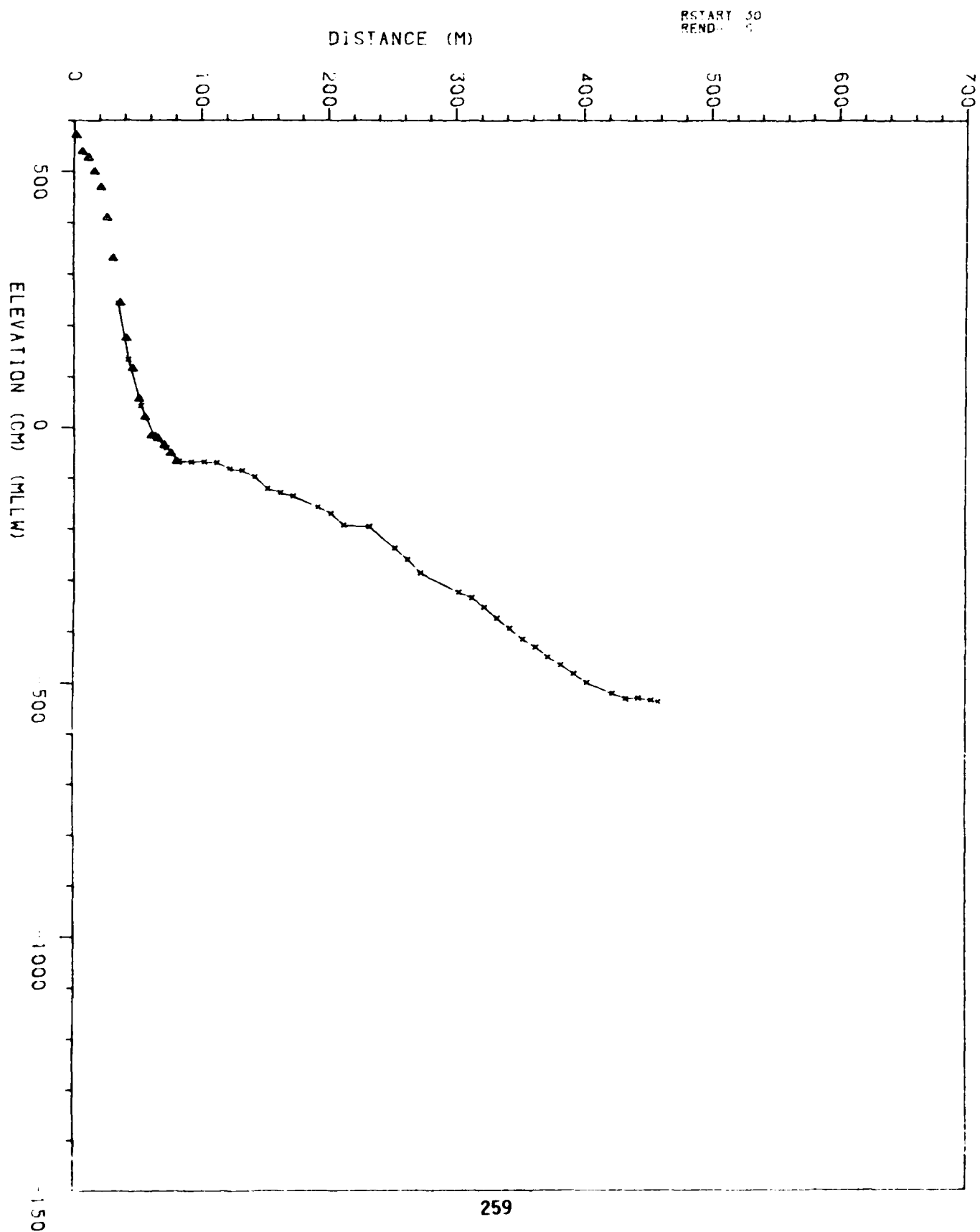


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1340
JUN 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	571
5.0	539
10.0	527
15.0	500
20.0	469
25.0	410
30.0	331
35.0	244
43.2	134
53.2	43
63.2	-13
73.2	-39
83.2	-66
93.2	-67
103.2	-67
113.2	-69
123.2	-81
133.2	-84
143.2	-97
153.2	-121
163.2	-128
173.2	-135
193.2	-157
203.2	-169
213.2	-192
233.2	-196
253.2	-237
263.2	-259
273.2	-286
303.2	-323
313.2	-333
323.2	-352
333.2	-374
343.2	-393
353.2	-415
363.2	-430
373.2	-449
383.2	-465
393.2	-482
403.2	-499
423.2	-520
433.2	-531
443.2	-529
453.2	-533

RANGE= 1470

JUN 06 1984

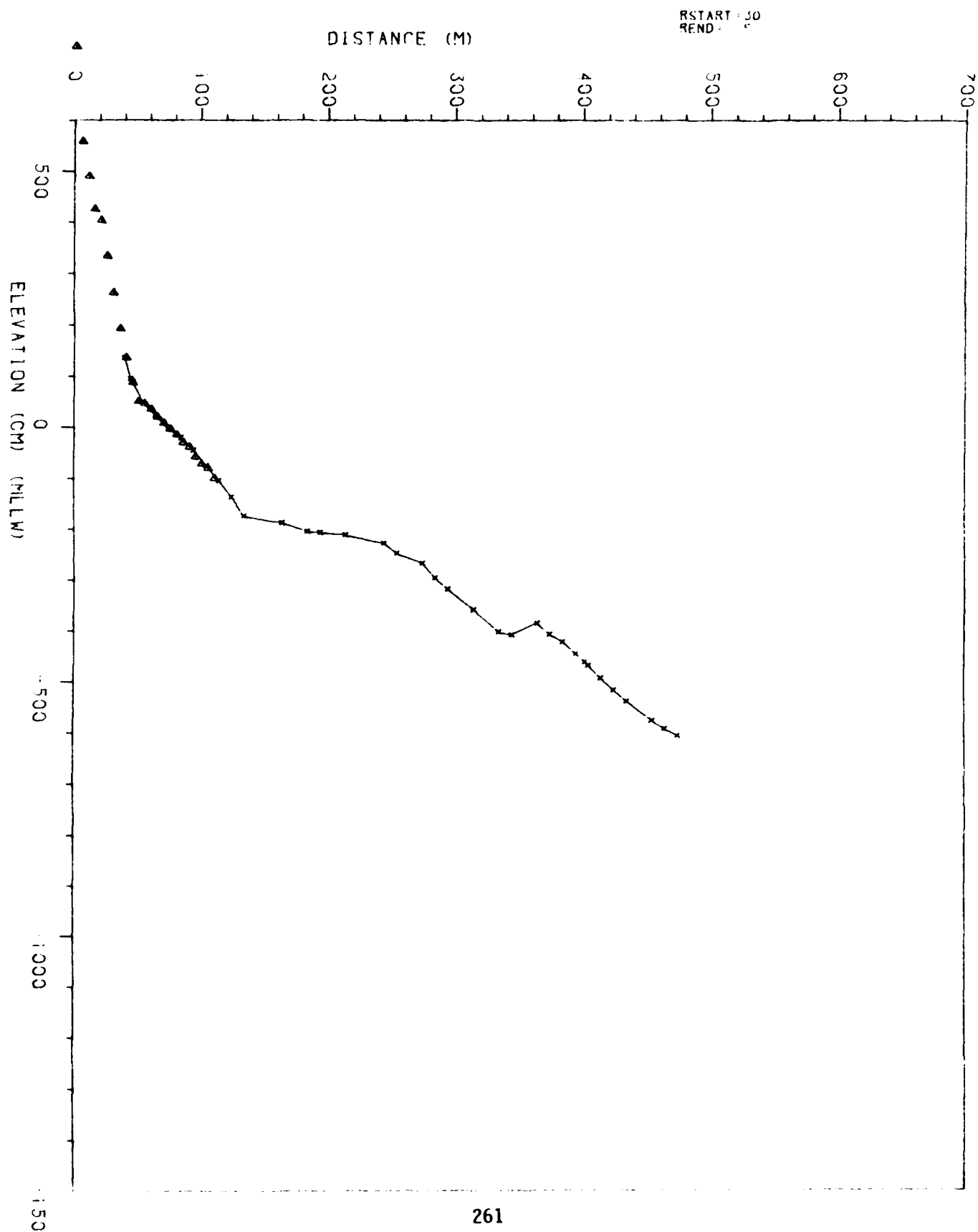


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1470
JUN 06 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	745
5.0	558
10.0	490
15.0	426
20.0	405
25.0	335
30.0	263
35.0	193
40.0	136
44.7	94
54.7	48
64.7	24
74.7	-2
84.7	-20
94.7	-45
104.7	-74
114.7	-104
124.7	-136
134.7	-174
164.7	-187
184.7	-204
194.7	-206
214.7	-211
244.7	-227
254.7	-247
274.7	-267
284.7	-296
294.7	-318
314.7	-358
334.7	-402
344.7	-408
364.7	-385
374.7	-407
384.7	-422
394.7	-445
401.8	-461
404.7	-468
414.7	-492
424.7	-516
434.7	-538
454.6	-575
464.6	-591
474.6	-605

RANGE- 1530

JUN 07 1984

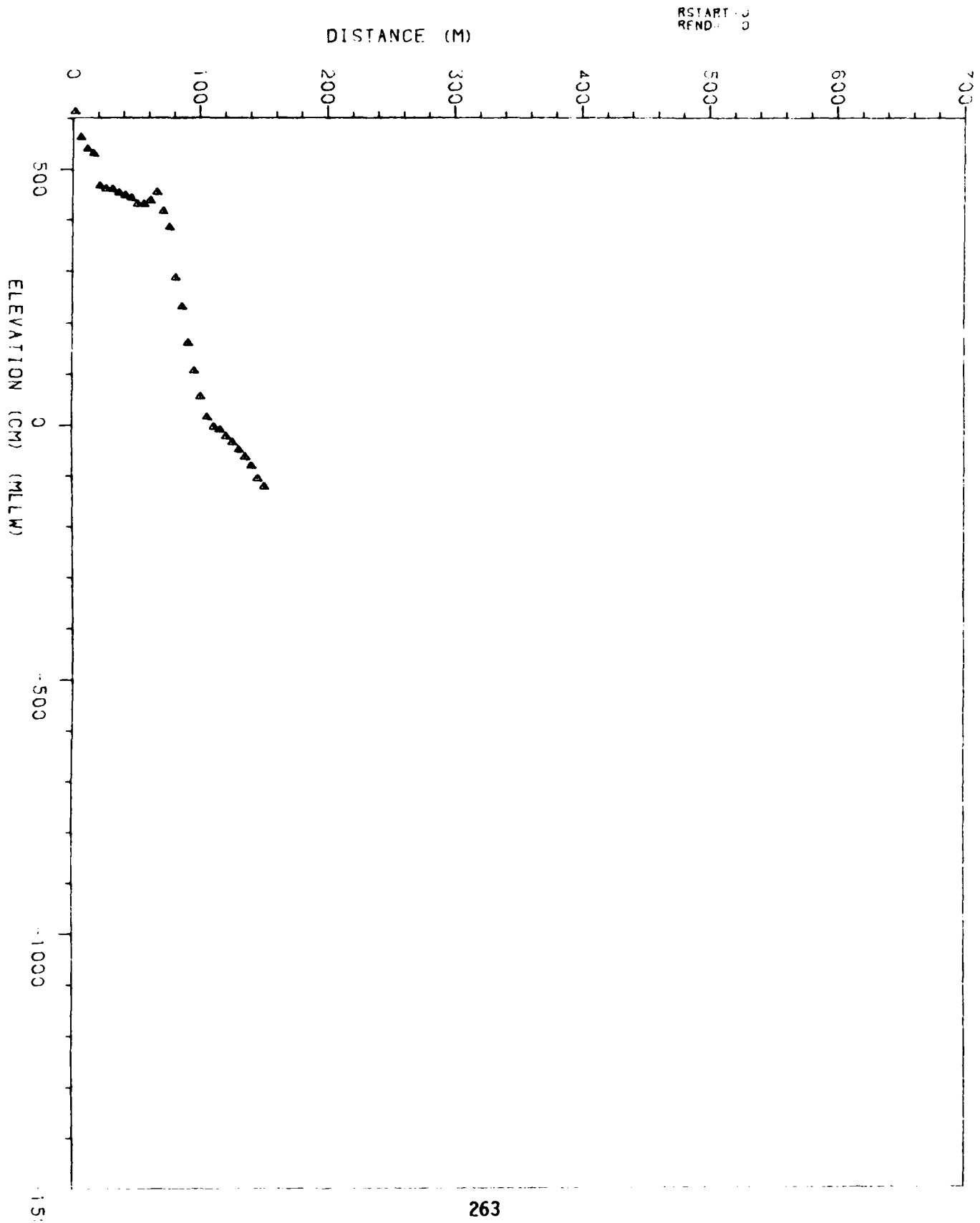


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1530
JUN 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	613
5.0	562
10.0	539
15.0	530
20.0	467
25.0	461
30.0	460
35.0	453
40.0	448
45.0	443
50.0	431
55.0	431
60.0	438
65.0	454
70.0	417
75.0	385
80.0	288
85.0	231
90.0	160
95.0	106
100.0	55
105.0	15
110.0	-4
115.0	-10
120.0	-23
125.0	-35
130.0	-50
135.0	-64
140.0	-81
145.0	-106
150.0	-122

RANGE = 1570

JUL 11 1984

RSTART = 0
REND = 0

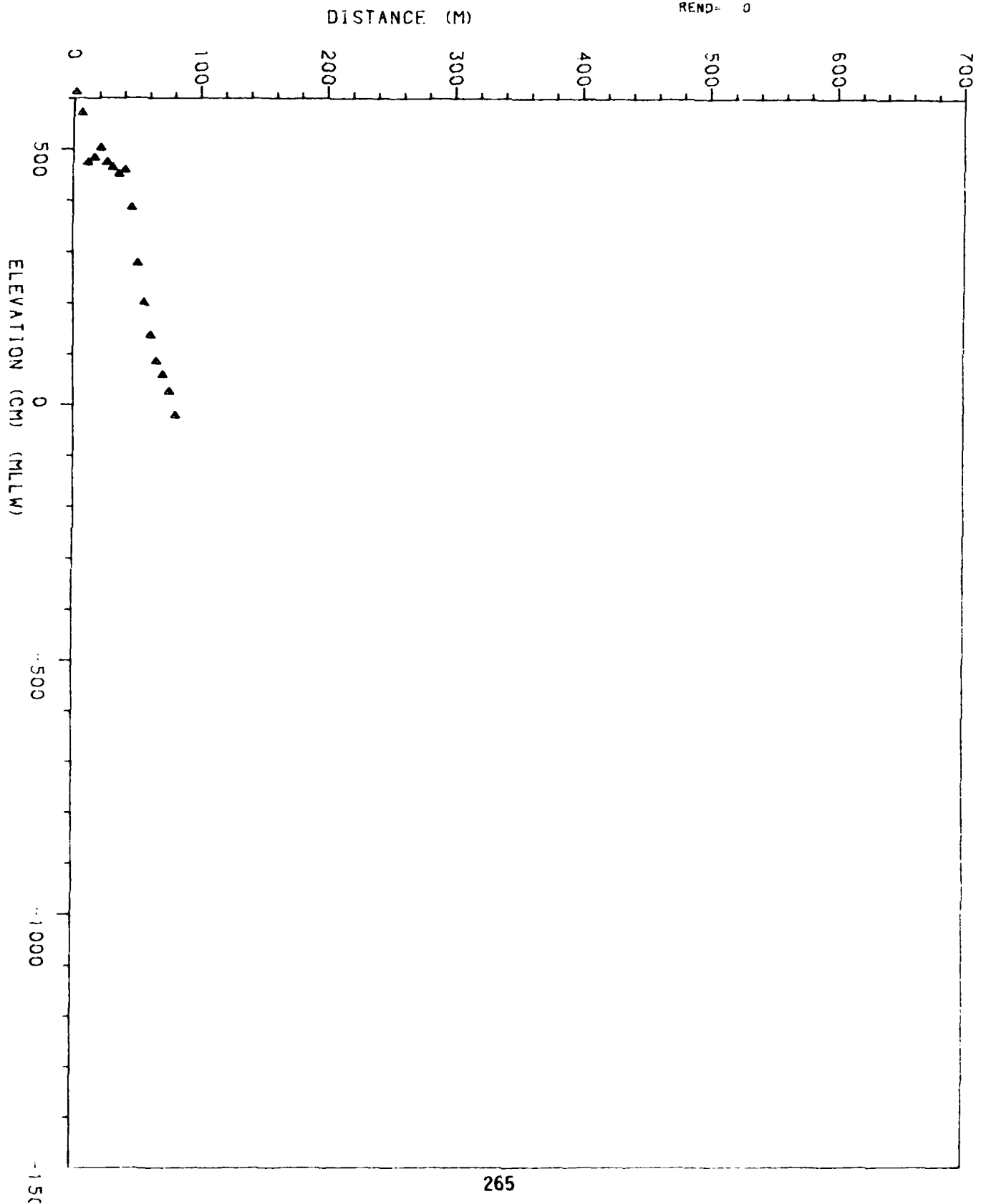
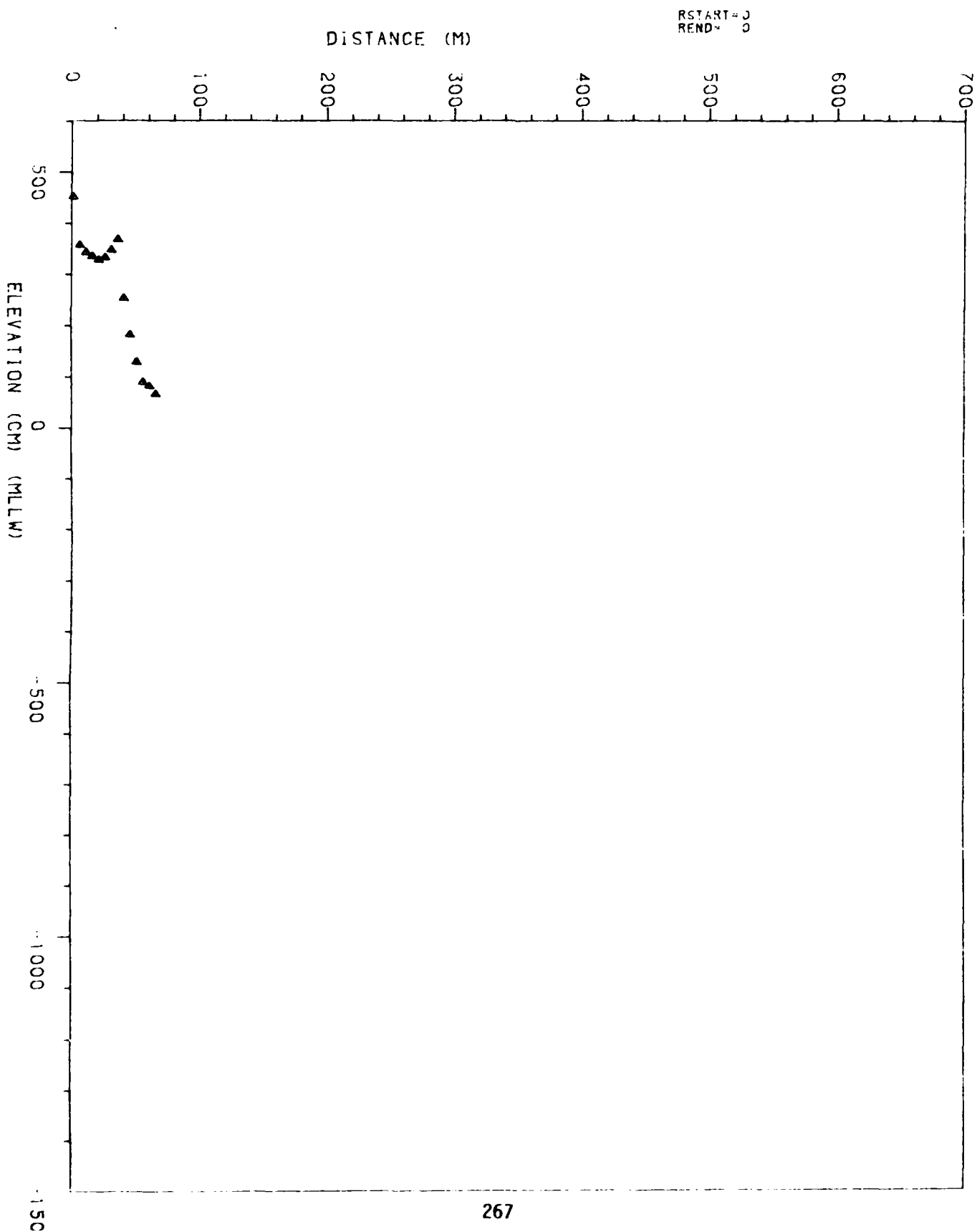


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1570
JUL 11 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW
0.0	612
5.0	571
10.0	474
15.0	483
20.0	503
25.0	475
30.0	464
35.0	451
40.0	459
45.0	386
50.0	277
55.0	200
60.0	137
65.0	85
70.0	58
75.0	25
80.0	-22

RANGE= 1590

JUL 11 1984



1

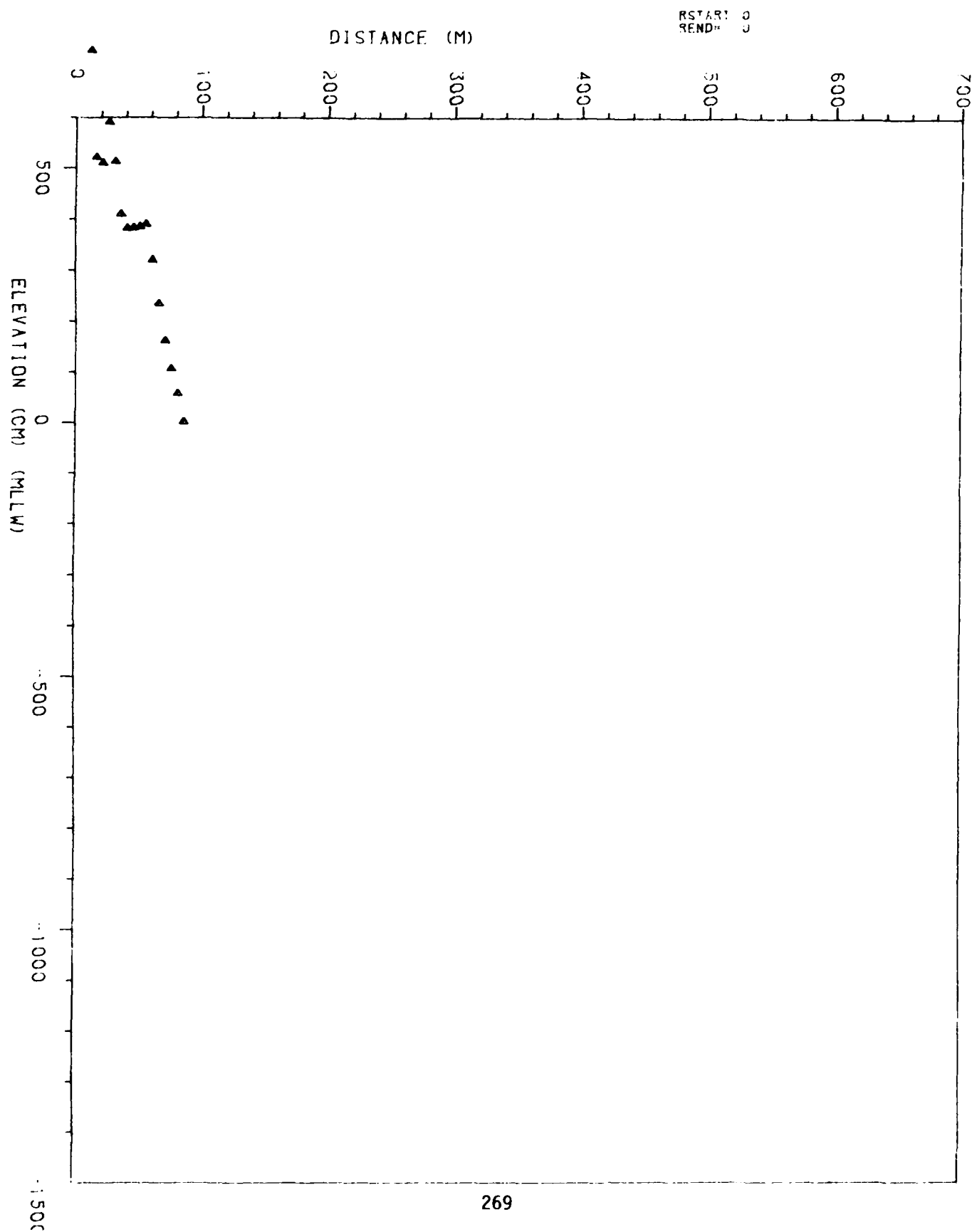
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1590
JUL 11 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	452
5.0	357
10.0	343
15.0	335
20.0	328
25.0	333
30.0	348
35.0	368
40.0	253
45.0	181
50.0	128
55.0	88
60.0	81
65.0	65

RANGE= 1600

JUL 11 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1600
JUL 11 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	998
5.0	930
10.0	733
15.0	522
20.0	511
25.0	592
30.0	514
35.0	411
40.0	383
45.0	384
50.0	386
55.0	391
60.0	321
65.0	235
70.0	162
75.0	107
80.0	58
85.0	2

RANGE= 1623

JUN 07 1984

RSTART= 0
REND= 0

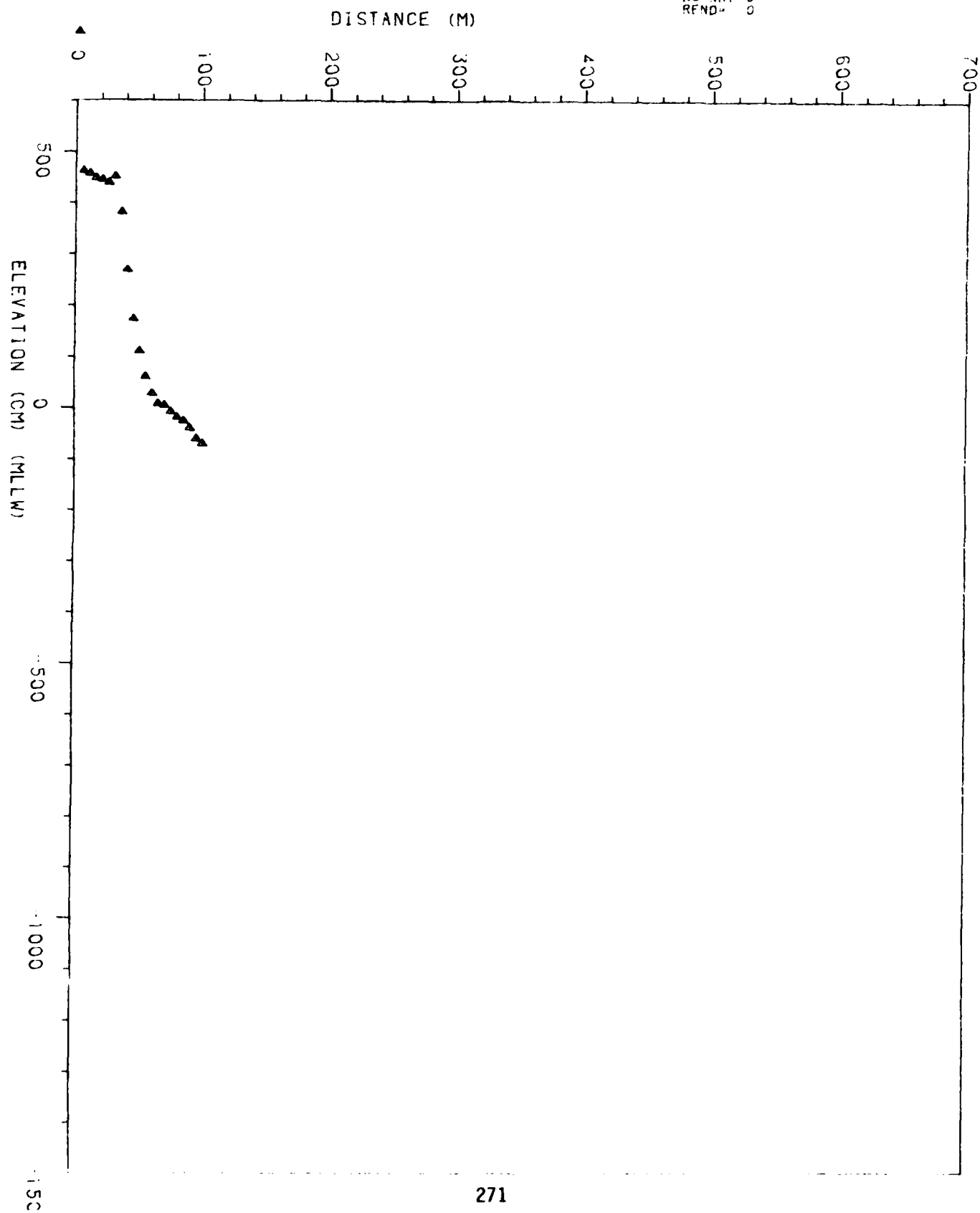


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1623
JUN 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	734
5.0	462
10.0	457
15.0	448
20.0	445
25.0	439
30.0	451
35.0	381
40.0	269
45.0	173
50.0	110
55.0	60
60.0	28
65.0	8
70.0	5
75.0	-8
80.0	-19
85.0	-26
90.0	-40
95.0	-60
100.0	-70

RANGE- 1660

JUN 20 1984

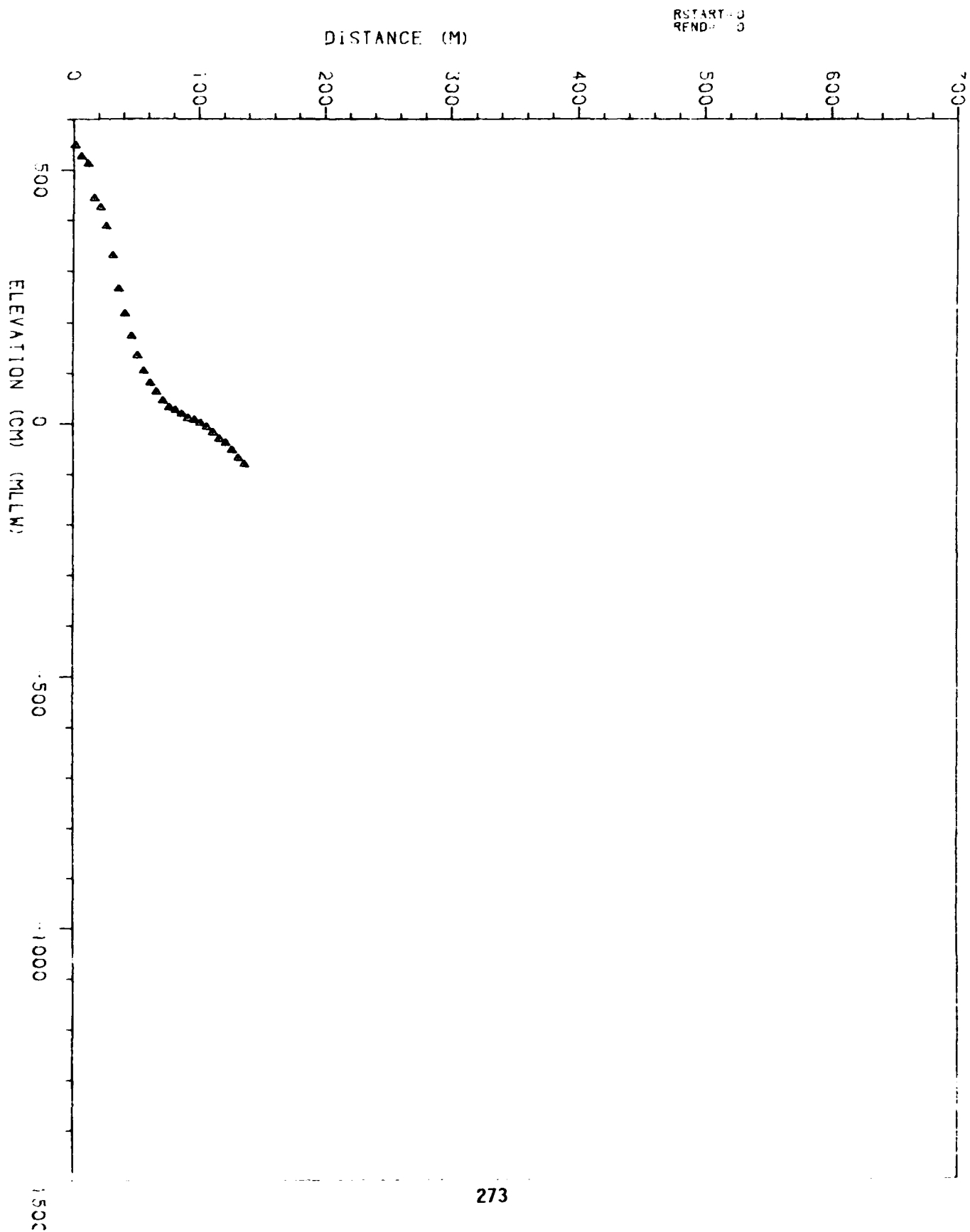


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1660
JUN 20 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	548
5.0	526
10.0	512
15.0	444
20.0	426
25.0	389
30.0	332
35.0	266
40.0	217
45.0	173
50.0	135
55.0	104
60.0	80
65.0	62
70.0	45
75.0	31
80.0	26
85.0	19
90.0	11
95.0	7
100.0	1
105.0	-7
110.0	-18
115.0	-31
120.0	-39
125.0	-53
130.0	-69
135.0	-81

RANGE= 1680

JUL 19 1984

RSTART=0
REND=0

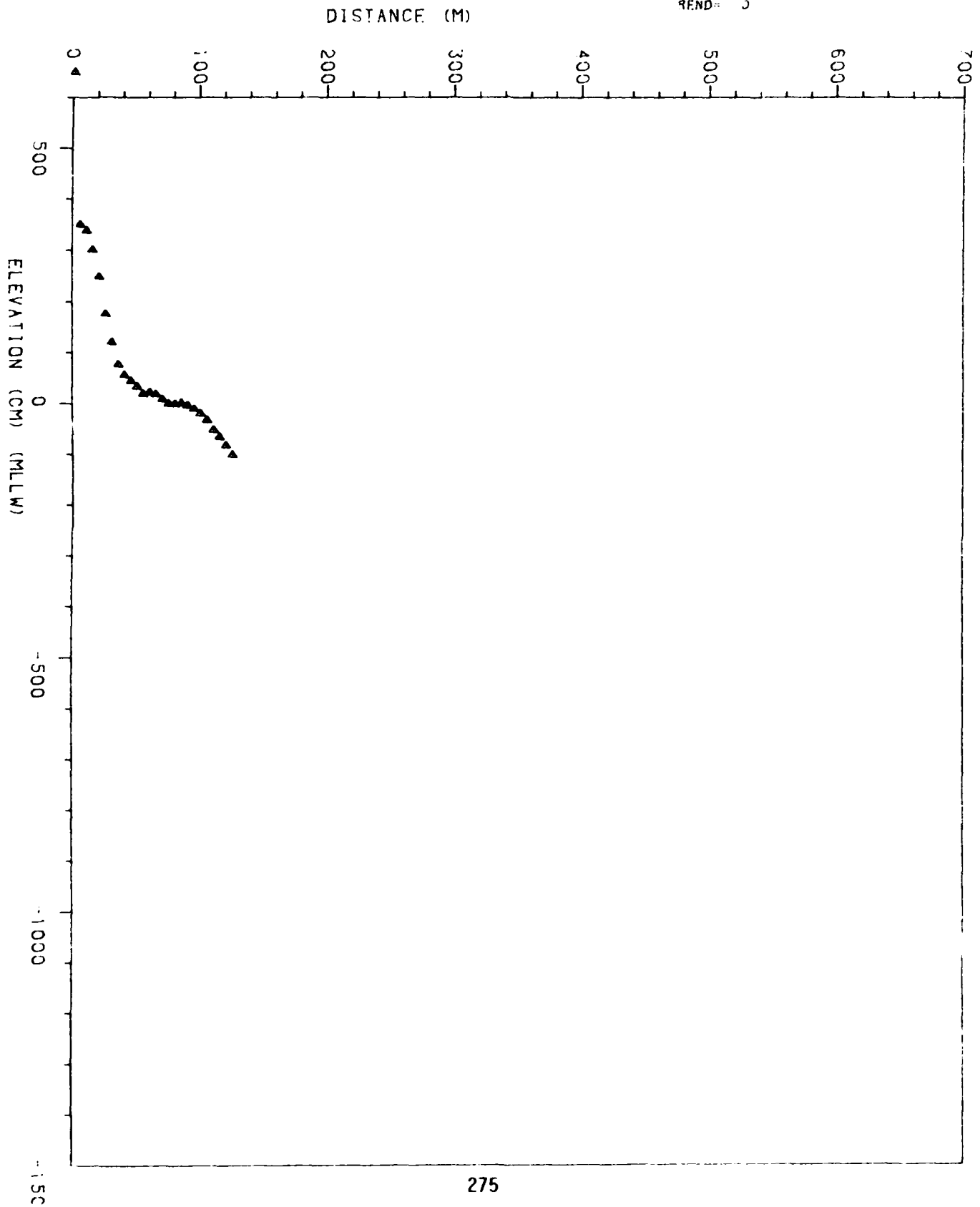


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1680
JUL 19 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	649
5.0	350
10.0	338
15.0	301
20.0	248
25.0	175
30.0	120
35.0	76
40.0	55
45.0	44
50.0	33
55.0	19
60.0	22
65.0	18
70.0	8
75.0	-1
80.0	-1
85.0	1
90.0	-4
95.0	-11
100.0	-20
105.0	-33
110.0	-52
115.0	-66
120.0	-82
125.0	-101

RANGE- 1700

JUL 19 1984

RSTART: 0
REND: 0

DISTANCE (M)

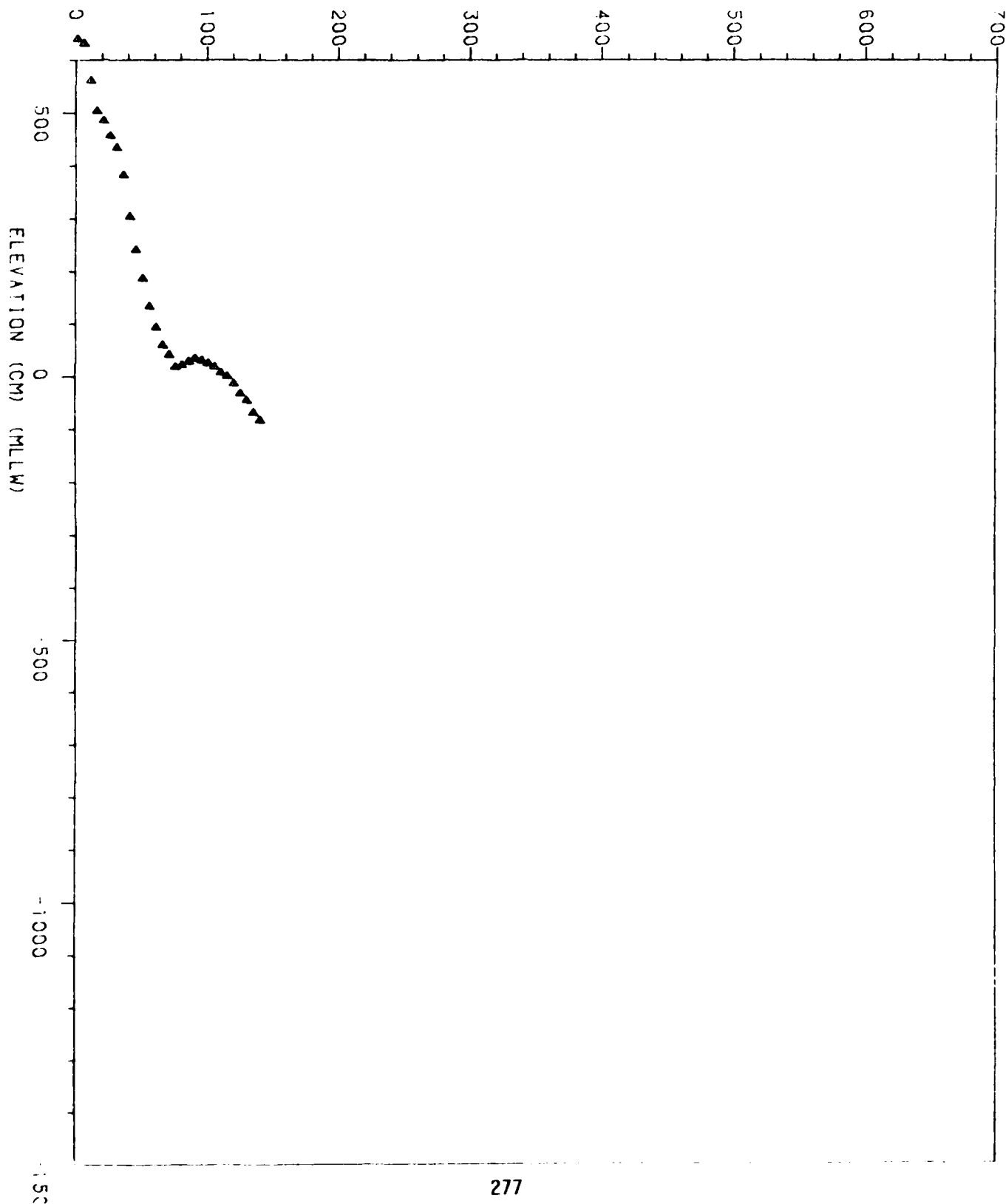


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1700
JUL 19 1984

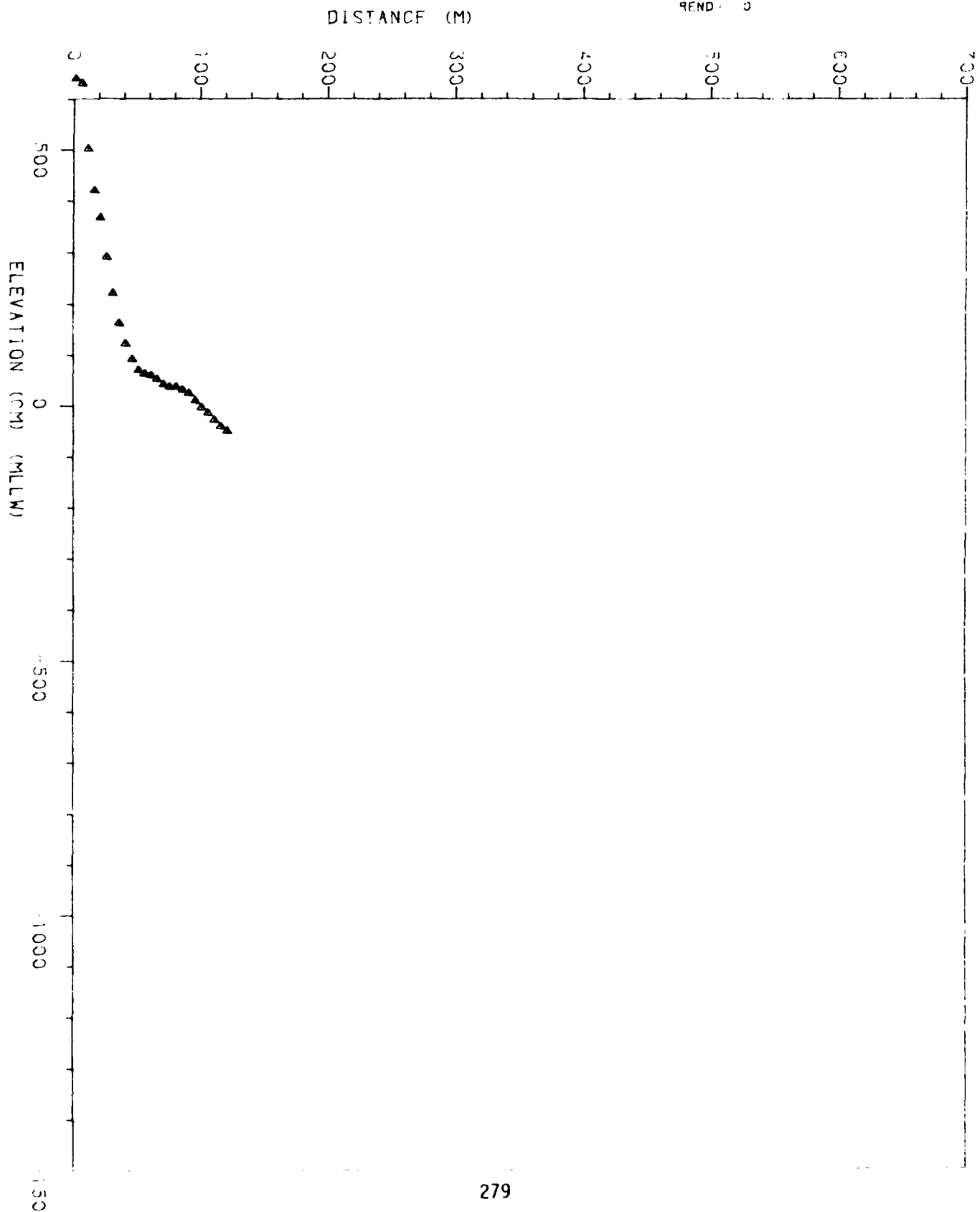
PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	639
5.0	631
10.0	561
15.0	504
20.0	486
25.0	458
30.0	435
35.0	383
40.0	304
45.0	241
50.0	186
55.0	133
60.0	93
65.0	59
70.0	41
75.0	18
80.0	22
85.0	28
90.0	34
95.0	30
100.0	25
105.0	18
110.0	7
115.0	0
120.0	-14
125.0	-33
130.0	-46
135.0	-69
140.0	-83

RANGE= 1720

JUN 20 1984

RSTART=0
REND=0



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COAST OF CALIFORNIA STORM AND TIDAL WAVES STUDY
NEARSHORE BATHYMETRIC SUR. (U) SCRIPPS INSTITUTION OF
OCEANOGRAPHY LA JOLLA CA OCEAN ENGINEER..

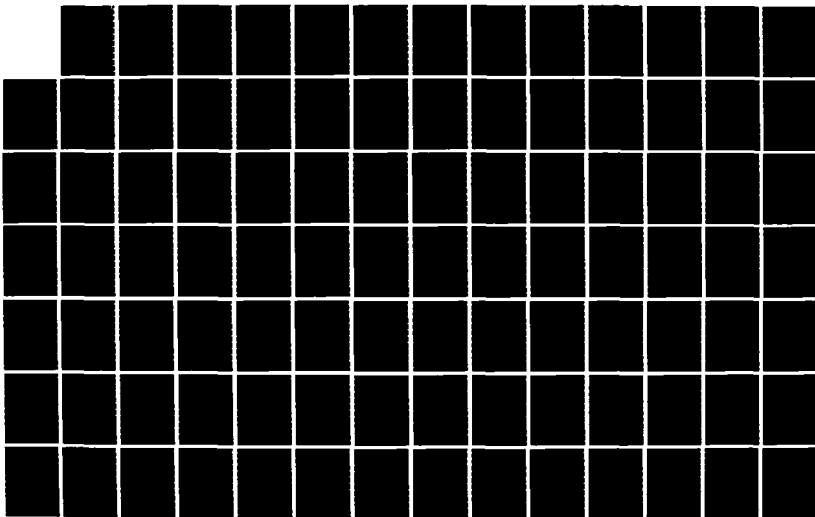
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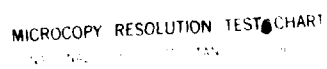
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C GABLE ET AL. DEC 85 CCSTNS-85-3

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MICROCOPY RESOLUTION TEST CHART

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1720
JUN 20 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW

0.0	640
5.0	631
10.0	502
15.0	421
20.0	368
25.0	293
30.0	222
35.0	163
40.0	123
45.0	92
50.0	70
55.0	63
60.0	60
65.0	52
70.0	42
75.0	37
80.0	37
85.0	31
90.0	24
95.0	10
100.0	-3
105.0	-14
110.0	-28
115.0	-41
120.0	-50

RANGE= 1780

JUL 19 1984

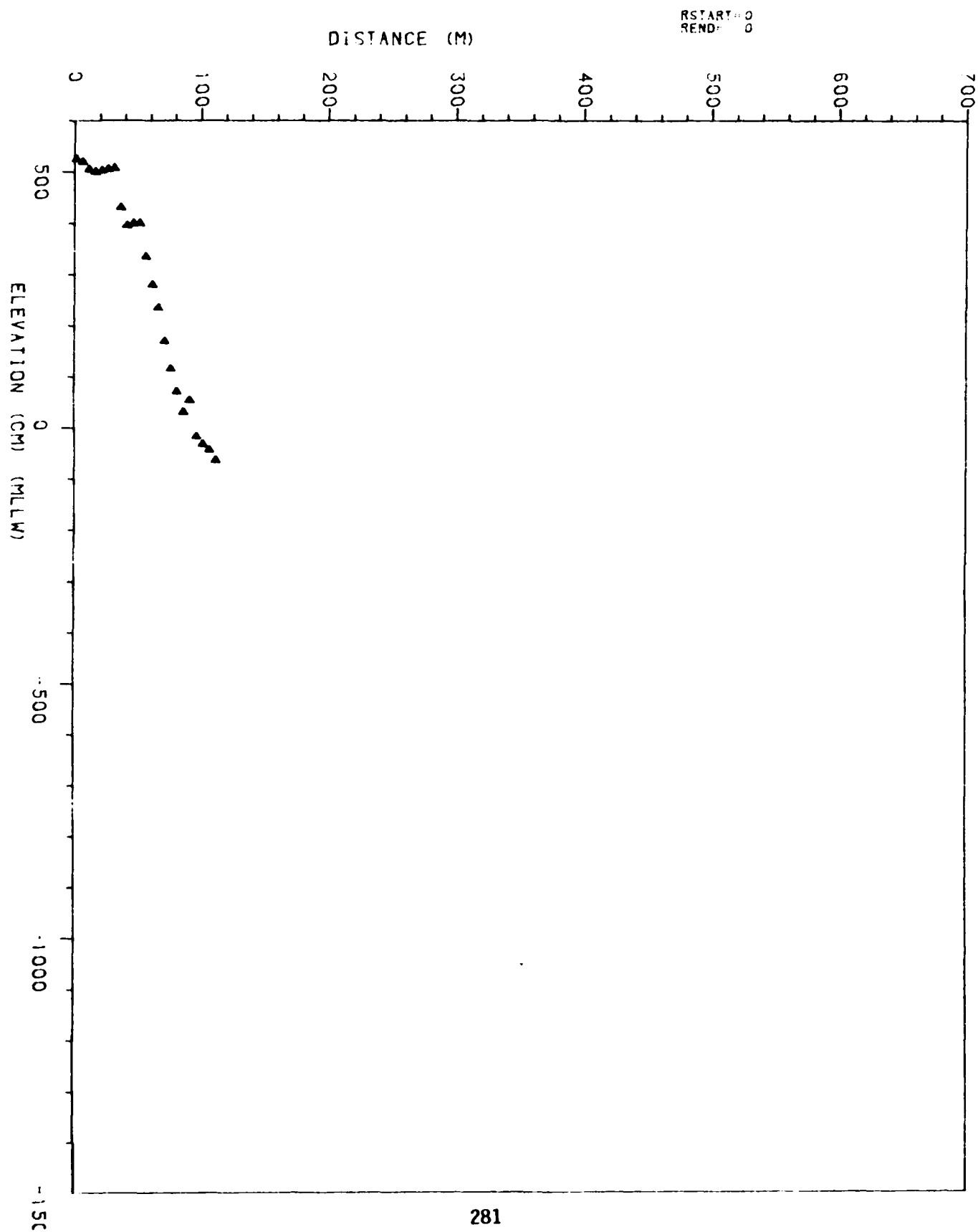


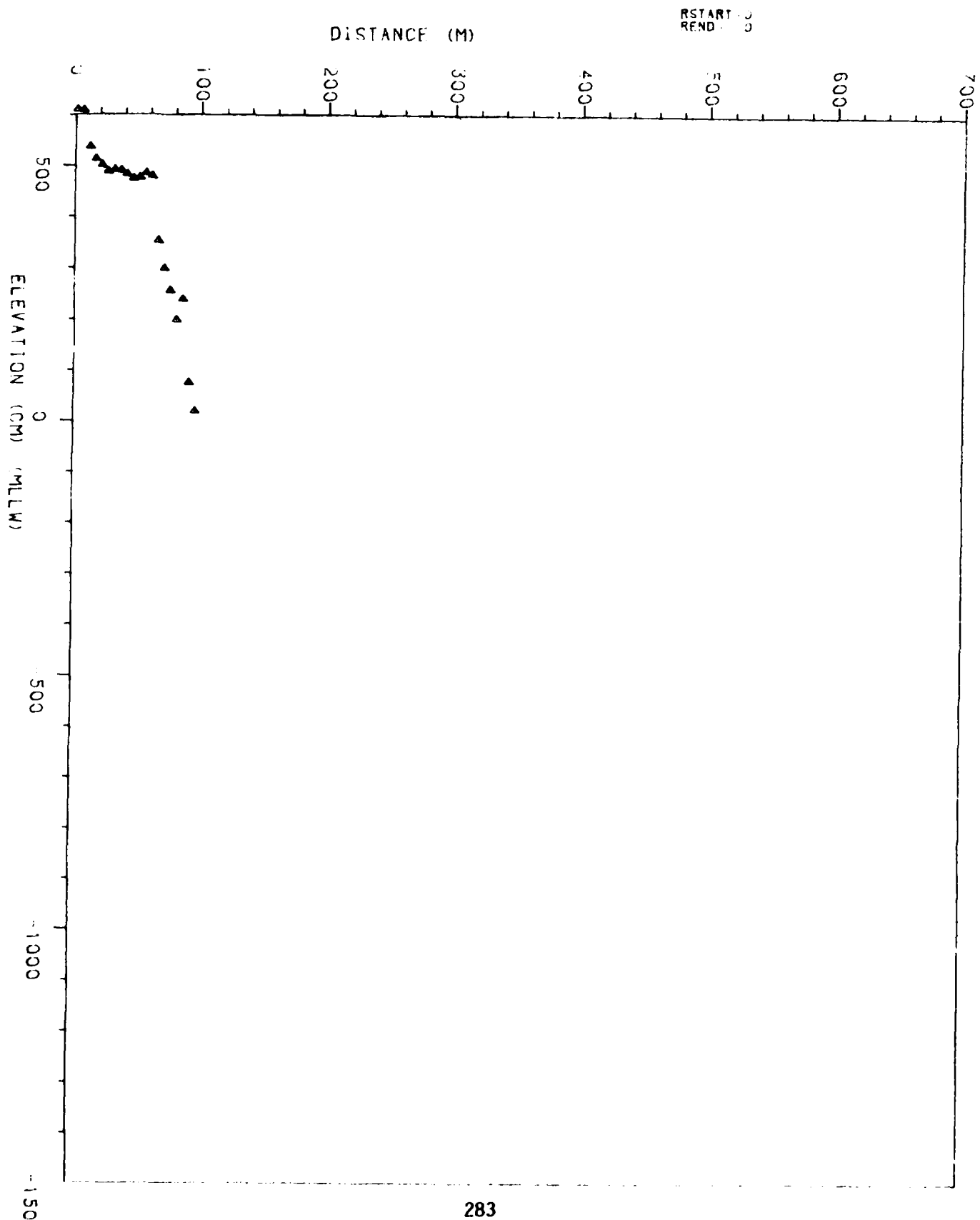
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1780
JUL 19 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW

0.0	525
5.0	520
10.0	505
15.0	500
20.0	503
25.0	506
30.0	508
35.0	431
40.0	396
45.0	400
50.0	400
55.0	335
60.0	280
65.0	235
70.0	169
75.0	115
80.0	70
85.0	30
90.0	53
95.0	-18
100.0	-33
105.0	-44
110.0	-64

RANGE = 1805

JUN 08 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1805
JUN 08 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	610
5.0	609
10.0	537
15.0	513
20.0	501
25.0	489
30.0	492
35.0	491
40.0	483
45.0	475
50.0	477
55.0	486
60.0	480
65.0	354
70.0	300
75.0	256
80.0	199
85.0	239
90.0	75
95.0	19

RANGE = 1850

JUN 08 1984

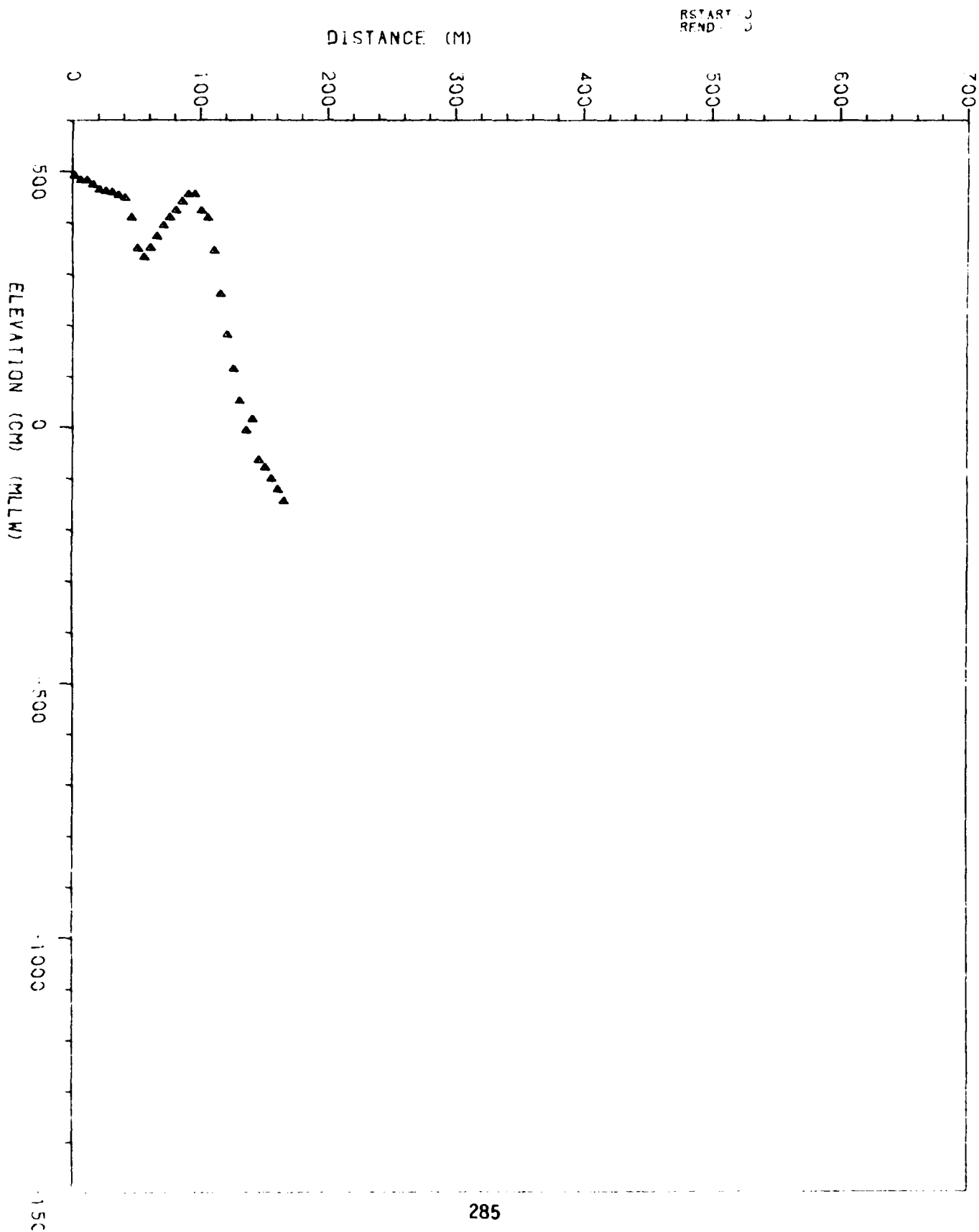


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1850
JUN 08 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	492
5.0	483
10.0	483
15.0	474
20.0	464
25.0	461
30.0	459
35.0	453
40.0	449
45.0	411
50.0	351
55.0	334
60.0	352
65.0	374
70.0	395
75.0	411
80.0	425
85.0	442
90.0	456
95.0	456
100.0	424
105.0	410
110.0	346
115.0	261
120.0	181
125.0	114
130.0	51
135.0	-7
140.0	15
145.0	-65
150.0	-80
155.0	-102
160.0	-123
165.0	-145

6.3 Survey 3 (October, 1984-February, 1985)

6.3.1 Chronologic Range Summary of Profiling Events

6.3 Survey 3 (October, 1984-February 1985)

6.3.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

Date	Range	Type	Sediment	Comments
		CP= Complete		
		Profiler		
		W= Wade only	X= yes	
12/19/84	SS0000	W		Raw sewage, gently sloping foreshore, sandy.
09/27/84	SS0003	W	X	Raw sewage, gently sloping foreshore, sandy.
12/19/84	SS0005	W		Raw sewage, gently sloping foreshore, sandy.
09/27/84	SS0007	W	X	Raw sewage, berm blocking off slough inlet.
12/19/84	SS0010	W		Raw sewage, near dredged opening of slough, flat foreshore with steep scarp
09/27/84	SS0015	W	X	Raw sewage, wide beach, gently sloping foreshore.
12/20/84	SS0020	W		Raw sewage, narrow berm, flat foreshore.
10/19/84	SS0035	CP	X	Fairly steep foreshore, well nourished beach.
02/12/85	SS0050	CP		Flat foreshore, gently sloping back beach approximately 100m from rock groin 100m from rock groin.
02/12/85	SS0060	CP		Flat foreshore, near rock groin.
02/11/85	SS0070	CP	X	Beach backed by dunes, gently sloping sandy foreshore.
10/24/84	SS0077	CP		Flat, dune-backed beach, steep foreshore offshore bar.
10/19/84	SS0090	CP	X	Flat beach, small scarp with fairly steep foreshore.
02/13/85	SS0100	CP		Flat, sandy berm with 1.5m scarp.
02/13/85	SS0110	CP		Flat, sandy back beach with shells. Steep foreshore and flat swash zone.

6.3 Survey 3 (October, 1984-February 1985)

6.3.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

Date	Range	Type CP= Complete Profiler W= Wade only	Sediment Samples X= yes	Comments
12/02/84	SS0125	CP	X	Flat back beach, irregular bar and trough pattern.
12/20/84	SS0140	W		Flat beach, exposed rock, outcroppings.
10/14/84	SS0160	CP	X	Flat beach with gently sloping foreshore.
01/11/85	SS0170	CP		Sandy wide beach, gently sloping foreshore.
10/10/84	SS0180	CP		Very flat, wide beach.
10/11/84	SS0200	CP	X	Narrow beach, fine sand.
10/24/84	OB0230	W	X	Wide, flat back beach, gently sloping foreshore.
12/20/84	OB0260	W	X	Wide beach, flat foreshore.
01/28/85	MB0270	CP	X	Wide, sandy beach with gently sloping foreshore.
				Shallow troughs in surf zone.
01/28/85	MB0300	CP		Wide beach, many bars and troughs in surf zone.
10/22/84	MB0310	CP	X	Wide berm with gently sloping foreshore.
10/18/84	MB0340	CP	X	Narrow beach, steep foreshore.
01/31/85	MB0360	CP		
10/18/84	MB0384	CP	X	Flat beach, gently sloping foreshore.

6.3 Survey 3 (October, 1984-February 1985)

6.3.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

Date	Range	Type CP= Complete Profiler	Sediment Samples	Comments
		W= Wade only	X= yes	
01/31/85	PB0390	CP		
10/22/84	PB0408	W		Flat, cobbly, rocky beach.
10/22/84	LJ0443	W	X	Flat beach.
10/16/84	LJ0445	CP		Flat beach with gently sloping foreshore.
10/16/84	LJ0450	CP		Flat beach with gently sloping foreshore.
10/05/85	LJ0460	CP	X	Flat beach with gently sloping foreshore.
10/24/84	TP0470	W		Spotty rocky areas near station 110m.
11/02/84	TP0520	CP	X	Gently sloping back beach and foreshore with trough/bar in close. Scattered cobbles.
11/02/84	TP0530	CP		Gently sloping back beach foreshore with trough/bar in close. Scattered cobbles
10/25/84	TP0540	W	X	Flat beach with scattered cobbles and rock offshore.
10/25/84	DM0560	W		Flat, sandy beach.
11/01/84	DM0580	CP	X	Flat, sandy back beach with steep foreshore. Deep trough, shallow bar.
11/01/84	DM0590	W		

6.3 Survey 3 (October, 1984-February 1985)

6.3.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

Date	Range	Type CP= Complete Profiler	Sediment Samples X= yes	Comments
		W= Wade only		
				Mouth of slough, reef offshore 160m station. station. Flat foreshore, trough/bar system.
11/03/84	SD0600	CP		Gently sloping foreshore.
11/03/84	SD0630	CP	X	Gently sloping foreshore.
12/07/84	SD0640	W	X	Seacliff, cobbly foreshore, exposed bedrock.
10/25/84	SD0670	W	X	Seacliff steep, cobbly foreshore, flat offshore.
11/27/84	CB0720	CP	X	Cobble berm, steep cobble foreshore. Flat, sandy offshore.
12/21/84	CB0740	W		Cobble berm and scarp. Rock outcroppings in foreshore/offshore.
11/05/84	CB0760	W		Steep, cobbly terraced foreshore.
12/21/84	CB0780	W	X	Cobble berm, flat foreshore with exposed bedrock, rock offshore.
12/07/84	CB0800	W		Seawall, rip rap, sandy gentle foreshore, rock offshore.
11/12/84	CB0820	CP	X	Cobbly beach, steep foreshore.
12/07/84	CB0830	W		Cobbly berm/back beach. Flat foreshore with rock and silty sand.
11/05/84	CB0880	W	X	Flat, sandy beach, gently sloping foreshore.

6.3 Survey 3 (October, 1984-February 1985)

6.3.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

Date	Range	Type	Sediment Samples	Comments
		CP Complete Profiler W= Wade only		
02/04/85	OS0900	W		
11/07/84	OS0930	CP	X	Flat back beach, gently sloping foreshore, flat offshore
01/14/85	OS0960	CP		Gently sloping foreshore.
01/30/85	OS0990	CP		Gently sloping foreshore, trough/bar system offshore.
11/06/84	OS1000	CP	X	Flat, sandy beach with gently sloping foreshore.
11/07/84	OS1030	CP		Flat, sandy beach with gently sloping foreshore.
01/30/85	OS1050	CP		Flat, sandy beach. Scour pockets in swash zone. 60m from rock groin.
11/19/85	OS1070	CP		Flat, sandy back beach, flat offshore.
11/15/85	PN1080	CP		0-105m level parking lot, flat and sandy foreshore.
11/27/85	PN1110	CP	X	Flat, sandy back beach, flat offshore.
11/26/84	PN1180	CP		40m bluff, 20m sandy back beach, gently sloping foreshore.
01/13/85	PN1210	CP		15m bluff, wide, sandy berm.
01/13/85	PN1240	CP	X	40m seacliff. Wide, sandy berm. Gently sloping foreshore.
01/15/85	PN1280	CP	X	Steep foreshore, wide back beach.
01/15/85	PN1290	CP	X	Steep foreshore, wide back beach.

6.3 Survey 3 (October, 1984-February 1985)

6.3.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

Date	Range	Type	Sediment Samples	Comments
		CP= Complete Profiler W= Wade only		
02/01/85	PN1310	CP		Narrow back beach, steep foreshore.
02/01/85	PN1340	CP	X	Flat foreshore, steep beach face, sandy berm.
02/01/85	PN1340	CP	X	Flat foreshore, steep beach face, sandy berm backed by seacliffs.
12/06/84	PN1380	W		Flat back beach, gently sloping foreshore.
12/06/84	PN1410	W	X	Range line at mouth of canyon. Tall seacliffs. Sandy offshore to -1m.
12/06/84	SO1440	W		Rocky foreshore with rock outcroppings and cobbles.
11/20/84	SO1470	W	X	Sandy beach, few cobbles.
12/06/84	SO1500	W		Coarse, loose sand on back beach holes, bars offshore.
11/20/84	SO1530	W	X	Flat back beach with coarse sand.
12/05/84	SO1570	W		Steep foreshore. Large rocks and cobble in swash zone and offshore.
12/05/84	SO1590	W	X	Flat back beach, gently sloping foreshore. Rock and cobble offshore.
12/05/84	SO1600	W	X	Large cobbles foreshore out to -1m (MLLW), start of seacliffs.
11/20/84	SC1623	W	X	Steep foreshore.
12/05/84	SC1640	W		Wide foreshore, steep scarp.
11/20/84	SC1660	W		Narrow berm, wide foreshore an

6.3 Survey 3 (October, 1984-February 1985)

6.3.1 CHRONOLOGIC RANGE SUMMARY OF PROFILING EVENTS

Date	Range	Type CP= Complete Profiler	Sediment Samples	Comments
		W= Wade only	X= yes	
				scattered cobbles.
12/05/84	SC1680	W		Gently sloping foreshore with fine, hard packed sand due to storm drain runoff.
12/04/84	SC1700	W		Steep foreshore.
11/08/84	SC1720	W	X	Seacliff, gently sloping foreshore.
12/04/84	DB1740	W		Steep scarp and foreshore. No back beach. Scattered rocks offshore.
12/04/84	DB1780	W		Flat back beach with coarse sand. Scattered small cobbles in swash zone.
11/21/84	DB1805	W	X	Flat back beach, steep foreshore.
11/21/84	DB1850	W		Flat back beach, steep foreshore.
12/04/84	DB1890	W	X	Flat back beach, steep foreshore, rocky offshore.
11/08/85	DB1894	W	X	Very narrow beach, rocky area at elbow of breakwater.
11/08/84	DB1900	W	X	Flat, sandy beach, flat foreshore, kelp and rock offshore.

6.3.2 Location and Inventory of Sand Samples

(NOTE: Due to a sea level datum error, some samples were not collected at the specified elevation. In these cases, the actual elevation is listed.)

SAND SAMPLES

RANGE I.D. *Taken at Reference Rods	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
SS0003	09/27/84	1450PDT	+ 4.33	5M
SS0003	09/27/84	1450PDT	+ 2.68	70M
SS0003	09/27/84	1450PDT	+ 1.57	80M
SS0007	09/27/84	1545PDT	+ 3.00	15M
SS0007	09/27/84	1545PDT	+ 1.00	90M
SS0015	09/27/84	1615PDT	+ 3.91	5M
SS0015	09/27/84	1615PDT	+ 2.39	60M
SS0015	09/27/84	1615PDT	+ 1.58	70M
SS0015	09/27/84	1615PDT	+ .55	110M
SS0035	10/19/84	1000PDT	+ 4.39	5M
SS0035	10/19/84	1000PDT	+ 2.67	45M
SS0035	10/19/84	1000PDT	+ 1.56	58M
SS0035	10/19/84	1000PDT	+ .58	83M
SS0035	10/19/84	1000PDT	-3.00	232M
SS0035	10/19/84	1000PDT	-6.00	382M
*SS0035	09/19/84		-6.00	382M
SS0070	02/11/85	1230PST	+ 3	88M
SS0070	02/11/85	1230PST	+ 1	112M
SS0070	02/11/85	1230PST	0	173M
SS0070	02/11/85	1230PST	-1	243M
SS0070	02/11/85	1230PST	-3	303M
SS0070	02/11/85	1230PST	-6	400M
SS0090	10/19/84	1400RDT	+ 4.56	28M
SS0090	10/19/84	1400RDT	+ 2.37	65M
SS0090	10/19/84	1400RDT	+ 1.56	73M
SS0090	10/19/84	1400RDT	+ .64	92M
SS0090	10/19/84	1400RDT	-3.00	230M
SS0090	10/19/84	1400RDT	-6.00	350M
SS0125	10/23/84	1130PDT	+ 4.34	5M
SS0125	10/23/84	1130PDT	+ 2.44	162M
SS0125	10/23/84	1130PDT	+ 1.58	170M
SS0125	10/23/84	1130PDT	-1.00	276M

SAND SAMPLES

RANGE I.D. *Taken at Reference Rods	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
SS0125	10/23/84	1130PDT	-3.00	363M
SS0125	10/23/84	1130PDT	-6.00	478M
SS0125	12/02/84	1330PST	+ 3	20M
SS0125	12/02/84	1330PST	+ 1	177M
SS0125	12/02/84	1330PST	0	214M
SS0125	12/02/84	1330PST	-1	276M
SS0125	12/02/84	1330PST	-3	363M
SS0125	12/02/84	1330PST	-6	478M
SS0160	10/14/84	1200PDT	+ 4.11	40M
SS0160	10/14/84	1200PDT	+ 2.49	160M
SS0160	10/14/84	1200PDT	+ 1.46	209M
SS0160	10/14/84	1200PDT	+ .56	235M
SS0160	10/14/84	1200PDT	-3.00	354M
SS0160	10/14/84	1030PDT	-6.00	504M
SS0200	10/11/84	1030PDT	+ 3.00	18M
SS0200	10/11/84	1030PDT	+ 1.00	60M
SS0200	10/11/84	1030PDT	0	105M
SS0200	10/11/84	1030PDT	-1.00	160M
OB0200	10/11/84	1030PDT	-3.00	520M
OB0230	10/24/84	1400PDT	+ 3.00	65M
OB0230	10/24/84	1400PDT	+ 1.00	105M
OB0230	10/24/84	1400PDT	0.00	150M
OB0230	10/24/84	1400PDT	-1.00	245M
OB0260	12/20/84	1445PST	+ 3	82M
OB0260	12/20/84	1445PST	+ 1	115M
OB0260	12/20/84	1445PST	0	160M
OB0260	12/20/84	1445PST	-1	225M
MB0270	01/28/84	1130PST	+ 3	38M
MB0270	01/28/84	1130PST	+ 1	100M
MB0270	01/28/84	1130PST	0	160M
MB0270	01/28/84	1130PST	- .46	210M
MB0270	01/28/84	1130PST	-3	340M
MB0270	01/28/84	1130PST	-6	510M

SAND SAMPLES

RANGE I.D. *Taken at Reference Rods	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
MB0310	10/22/84	1130PDT	+ 3	62M
MB0310	10/22/84	1130PDT	+ 1	85M
MB0310	10/22/84	1130PDT	0	125M
MB0310	10/22/84	1130PDT	-1	192M
MB0310	10/22/84	1130PDT	-3	256M
MB0310	10/22/84	1130PDT	-6	398M
MB0340	10/18/84	1400PDT	+ 3	10M
MB0340	10/18/84	1400PDT	+ 1	55M
MB0340	10/18/84	1400PDT	0	120M
MB0340	10/18/84	1400PDT	-1	174M
MB0340	10/18/84	1400PDT	-3	249M
MB0340	10/18/84	1400PDT	-6	390M
MB0384	10/18/84	1100PDT	+ 3	30M
MB0384	10/18/84	1100PDT	+ 1	70M
MB0384	10/18/84	1100PDT	+ 0	138M
MB0384	10/18/84	1100PDT	-3	258M
MB0384	10/18/84	1100PDT	-6	425M
LJ0443	10/22/84	1630PDT	+ 1.50	12M
LJ0443	10/22/84	1630PDT	+ .48	65M
LJ0460	10/05/84	1330PDT	+ 2.38	5M
LJ0460	10/05/84	1330PDT	+ 1.56	32M
LJ0460	10/05/84	1330PDT	-1	147M
LJ0460	10/05/84	1330PDT	-3	212M
LJ0460	10/05/84	1330PDT	-6	340M
*LJ0460	09/20/84		-6	340M
*LJ0460	09/20/84		-10	
*LJ0460	09/20/84		-15	
TP0520	11/02/84	1030PST	+ 3	13M
TP0520	11/02/84	1030PST	+ 1	76M
TP0520	11/02/84	1030PST	0	96M
TP0520	11/02/84	1030PST	-1	168M
TP0520	11/02/84	1030PST	-3	242M
TP0520	11/02/84	1030PST	-6	376M

SAND SAMPLES

RANGE I.D. *Taken at Reference Rods	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
TP0540	10/25/84	1500PDT	+ 1.92	5M
TP0540	10/25/84	1500PDT	+ 1.35	15M
TP0540	10/25/84	1500PDT	+ .33	55M
DM0580	11/01/84	1100PST	+ 3	17M
DM0580	11/01/84	1100PST	+ 1	68M
DM0580	11/01/84	1100PST	0	90M
DM0580	11/01/84	1100PST	-1	117M
DM0580	11/01/84	1100PST	-3	238M
DM0580	11/01/84	1100PST	-6	378M
*DM0580	09/20/84		-6	378M
*DM0580	09/20/84		-10	
*DM0580	09/20/84		-15	
SD0630	11/03/84	1400PST	+ 3	27M
SD0630	11/03/84	1400PST	+ 1	50M
SD0630	11/03/84	1400PST	0	106M
SD0630	11/03/84	1400PST	-3	190M
SD0630	11/03/84	1400PST	-6	394M
SD0670	10/25/84	1700PDT	+ 2.56	17M
SD0670	10/25/84	1700PDT	+ 1.51	30M
SD0670	10/25/84	1700PDT	+ .57	60M
SD0670	10/25/84	1700PDT	-1.42	145M
CB0720	11/27/84	1430PST	+ 3	42M
CB0720	11/27/84	1430PST	+ 1	55M
CB0720	11/27/84	1430PST	0	97M
CB0720	11/27/84	1430PST	-1	173M
CB0720	11/27/84	1430PST	-3	230M
CB0720	11/27/84	1430PST	-6	355M
*CB0720	09/18/84		-6	355M
*CB0720	09/18/84		-10	
*CB0720	09/18/84		-15	
*CB0720	01/03/85		-6	355M
*CB0720	01/03/85		-10	
*CB0720	01/03/85		-15	

SAND SAMPLES

RANGE I.D. *Taken at Reference Rods	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
CB0780	12/21/84	1430PST	+ 3	12M
CB0780	12/21/84	1430PST	+ 1	26M
CB0780	12/21/84	1430PST	0	73M
CB0820	11/12/84	1400PST	+ 3	18M
CB0820	11/12/84	1400PST	+ 1	34M
CB0820	11/12/84	1400PST	0	74M
CB0820	11/12/84	1400PST	-1	124M
CB0820	11/12/84	1400PST	-3	176M
CB0820	11/12/84	1400PST	-6	365M
CB0880	11/05/84	1400PST	+ 3	14M
CB0880	11/05/84	1400PST	+ 1	40M
CB0880	11/05/85	1400PST	0	75M
CB0880	11/05/85	1400PST	-.68	130M
OS0930	11/07/84	1400PST	+ 3	28M
OS0930	11/07/84	1400PST	+ 1	60M
OS0930	11/07/84	1400PST	0	116M
OS0930	11/07/84	1400PST	-3	240M
OS0930	11/07/84	1400PST	-6	370M
OS1000	11/06/84	1130PST	+ 3	47M
OS1000	11/06/84	1130PST	+ 1	72M
OS1000	11/06/84	1130PST	0	112M
OS1000	11/06/84	1130PST	-1	185M
OS1000	11/06/84	1130PST	-3	244M
OS1000	11/06/84	1130PST	-6	375M
*OS1000	09/18/84		-6	375M
*OS1000	01/03/85		-6	375M
PN1110	11/27/84	1100PST	+ 3	35M
PN1110	11/27/84	1100PST	+ 1	218M
PN1110	11/27/84	1100PST	0	272M
PN1110	11/27/84	1100PST	-1	322M
PN1110	11/27/84	1100PST	-3	390M
PN1110	11/27/84	1100PST	-6	512M
*PN1110	09/18/84		-6	512M

SAND SAMPLES

RANGE I.D. *Taken at Reference Rods	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
*PN1110	01/03/85		-6	512M
PN1240	01/13/85	1030PST	+ 3	38M
PN1240	01/13/85	1030PST	+ 1	62M
PN1240	01/13/85	1030PST	0	109M
PN1240	01/13/85	1030PST	-1	172M
PN1240	01/13/85	1030PST	-1	307M
PN1240	01/13/85	1030PST	6	452
PN1280	01/15/85	1300PST	+ 3	34M
PN1280	01/15/85	1300PST	+ 1	48M
PN1280	01/15/85	1300PST	0	66M
PN1280	01/15/85	1300PST	-1	145M
PN1280	01/15/85	1300PST	-3	300M
PN1280	01/15/85	1300PST	-6	391M
PN1290	01/15/85	1100PST	+ 3	54M
PN1290	01/15/85	1100PST	+ 1	74M
PN1290	01/15/85	1100PST	0	97M
PN1290	01/15/85	1100PST	-1	177M
PN1290	01/15/85	1100PST	-3	325M
PN1290	01/15/85	1100PST	-6	451M
PN1340	02/01/85	1130PST	+ 3	30M
PN1340	02/01/85	1130PST	+ 1	53M
PN1340	02/01/85	1130PST	0	95M
PN1340	02/01/85	1130PST	-1	156M
PN1340	02/01/85	1130PST	-3	306M
PN1340	02/01/85	1130PST	-6	
PN1410	12/06/84	1400PST	+ 3	24M
PN1410	12/06/84	1400PST	+ 1	44M
PN1410	12/06/84	1400PST	0	80M
PN1410	12/06/84	1400PST	-1	130M
SO1470	11/20/84	1300PST	+ 3	34M
SO1470	11/20/84	1300PST	+ 1	50M
SO1470	11/20/84	1300PST	0	73M
SO1470	11/20/84	1300PST	-1	115M

SAND SAMPLES

RANGE I.D. *Taken at Reference Rods	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
SO1530	11/20/84	1130PST	+ 3	69M
SO1530	11/20/84	1130PST	+ 1	88M
SO1530	11/20/84	1130PST	0	125M
SO1530	11/20/84	1130PST	-.51	145M
SO1590	12/05/84	1100PST	+ 3	34M
SO1590	12/05/84	1100PST	+ 1	65M
SO1590	12/05/84	1100PST	0	95M
SO1600	12/05/84	1230PST	+ 3	60M
SO1600	12/05/84	1230PST	+ 1	75M
SO1600	12/05/84	1230PST	0	97M
SO1600	12/05/84	1230PST	-1	144M
SC1623	11/20/84	1400PST	+ 3	
SC1623	11/20/84	1400PST	+ 1	
SC1623	11/20/84	1400PST	0	
SC1623	11/20/84	1400PST	-1	
SC1720	11/08/84	1630PST	+ 3	20M
SC1720	11/08/84	1630PST	+ 1	55M
SC1720	11/08/84	1630PST	0	120M
SC1720	11/08/84	1630PST	-1	145M
DB1805	11/21/84	1300PST	+ 3	74M
DB1805	11/21/84	1300PST	+ 1	87M
DB1805	11/21/84	1300PST	0	98M
DB1805	11/21/84	1300PST	-1	125M
DB1890	12/04/84	1100PST	+ 3	45M
DB1890	12/04/84	1100PST	+ 1	122M
DB1890	12/04/84	1100PST	0	228M
DB1895	11/08/84	1430PST	+ 3	11M
DB1895	11/08/84	1430PST	+ 1	29M
DB1895	11/08/84	1430PST	0	40M
DB1900	11/08/84	1530PST	+ 3	15M
DB1900	11/08/84	1530PST	+ 1	49M
DB1900	11/08/84	1530PST	0	85M

SAND SAMPLES

RANGE I.D. Taken at Reference Rods	DATE OF SAMPLE	TIME OF SAMPLE	ELEVATION OF SAMPLES M (MLLW)	APPROXIMATE DISTANCE FROM B.M.
DB1900	11/08/84	1530PST	-1	117M

6.3.3 Profile Data Plots and Distance/Elevation Tables

(NOTE: Δ denotes rod and level survey points)

RANGE- 0

DEC 19 1984

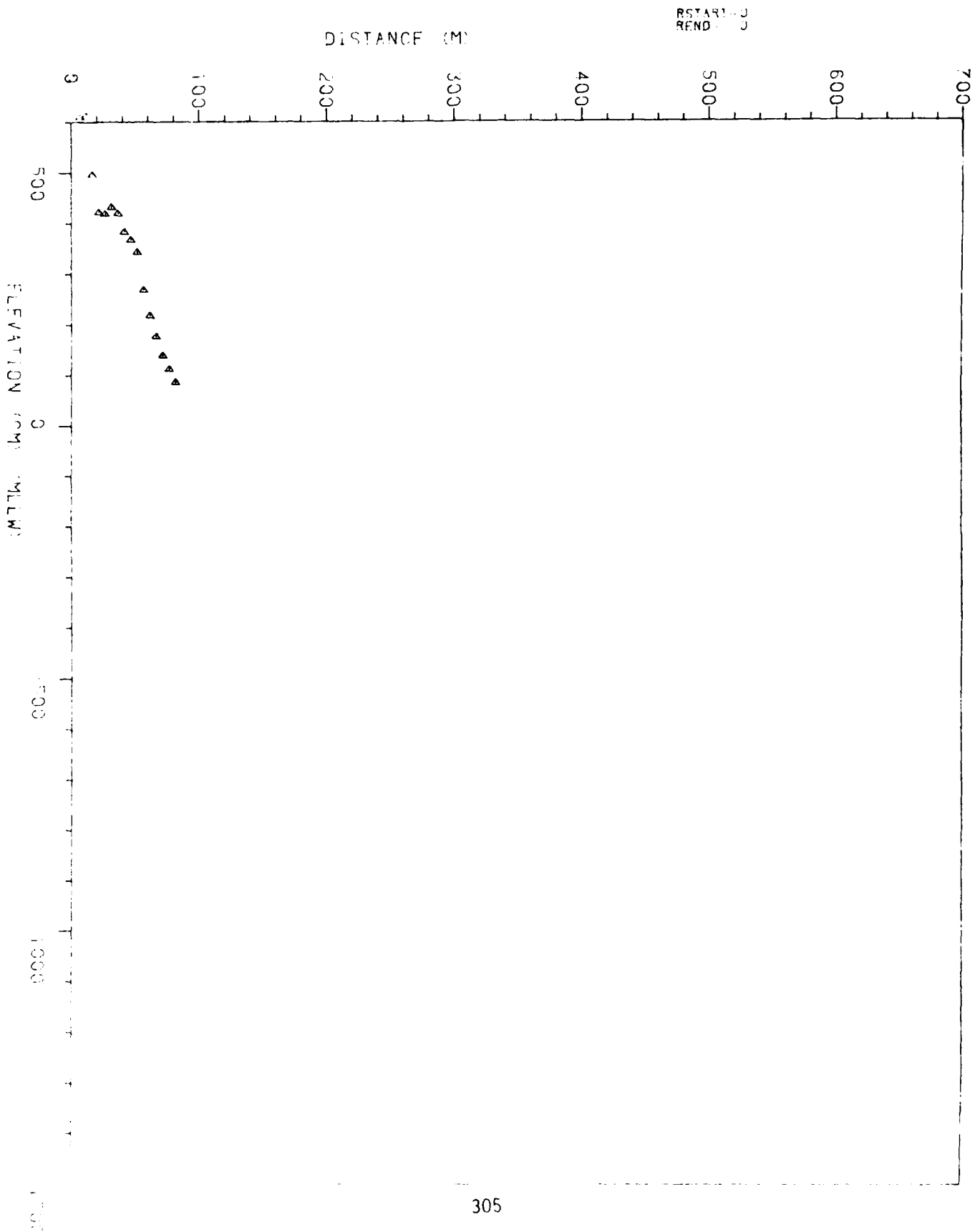
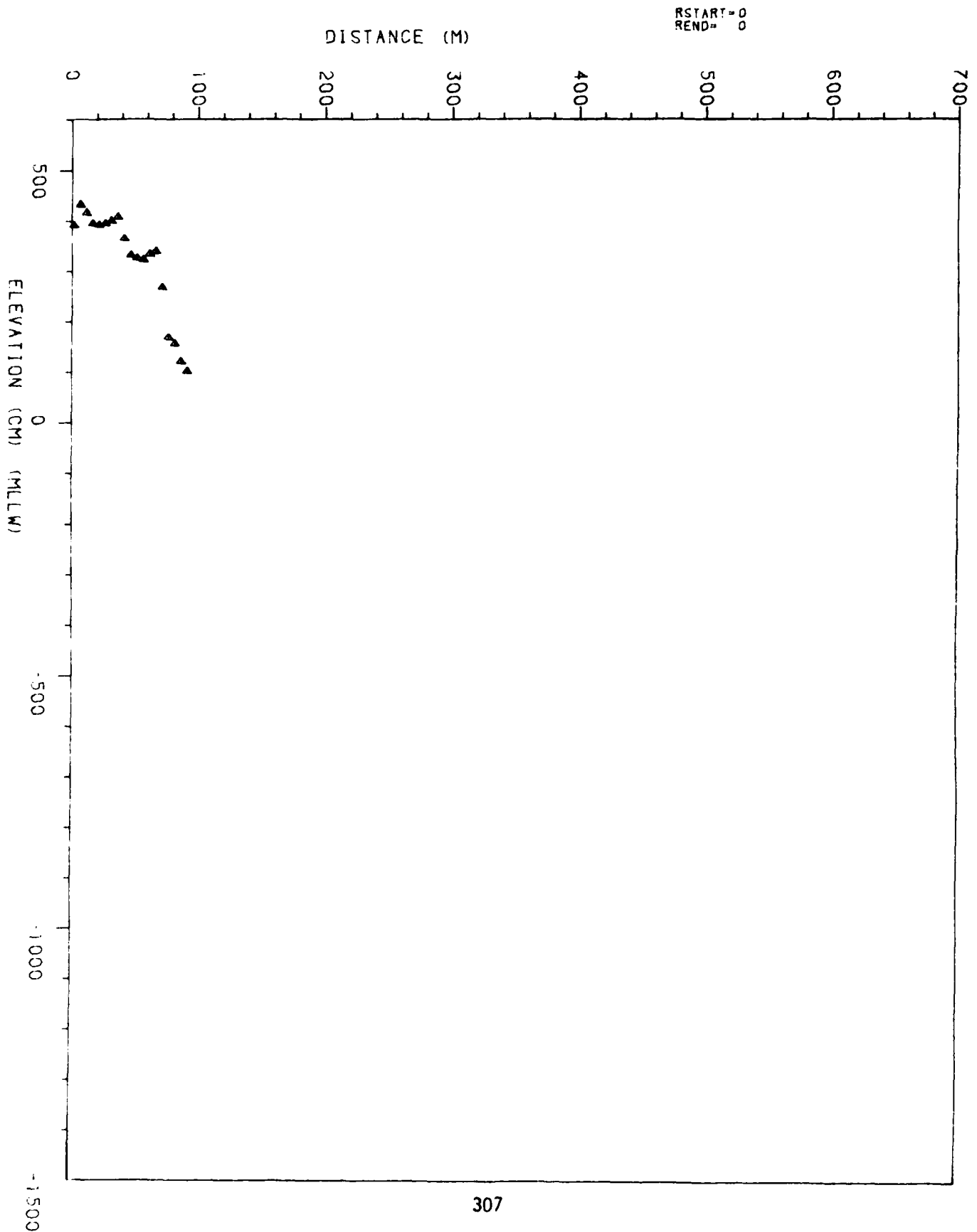


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 0
DEC 19 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	685
5.0	609
10.0	612
15.0	496
20.0	422
25.0	419
30.0	432
35.0	420
40.0	384
45.0	368
50.0	344
55.0	269
60.0	218
65.0	177
70.0	139
75.0	112
80.0	85

RANGE= 3

SEP 27 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 3
SEP 27 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	392
5.0	433
10.0	417
15.0	396
20.0	393
25.0	396
30.0	401
35.0	409
40.0	366
45.0	333
50.0	327
55.0	324
60.0	335
65.0	341
70.0	268
75.0	169
80.0	157
85.0	122
90.0	103

RANGE= 5

DEC 19 1984

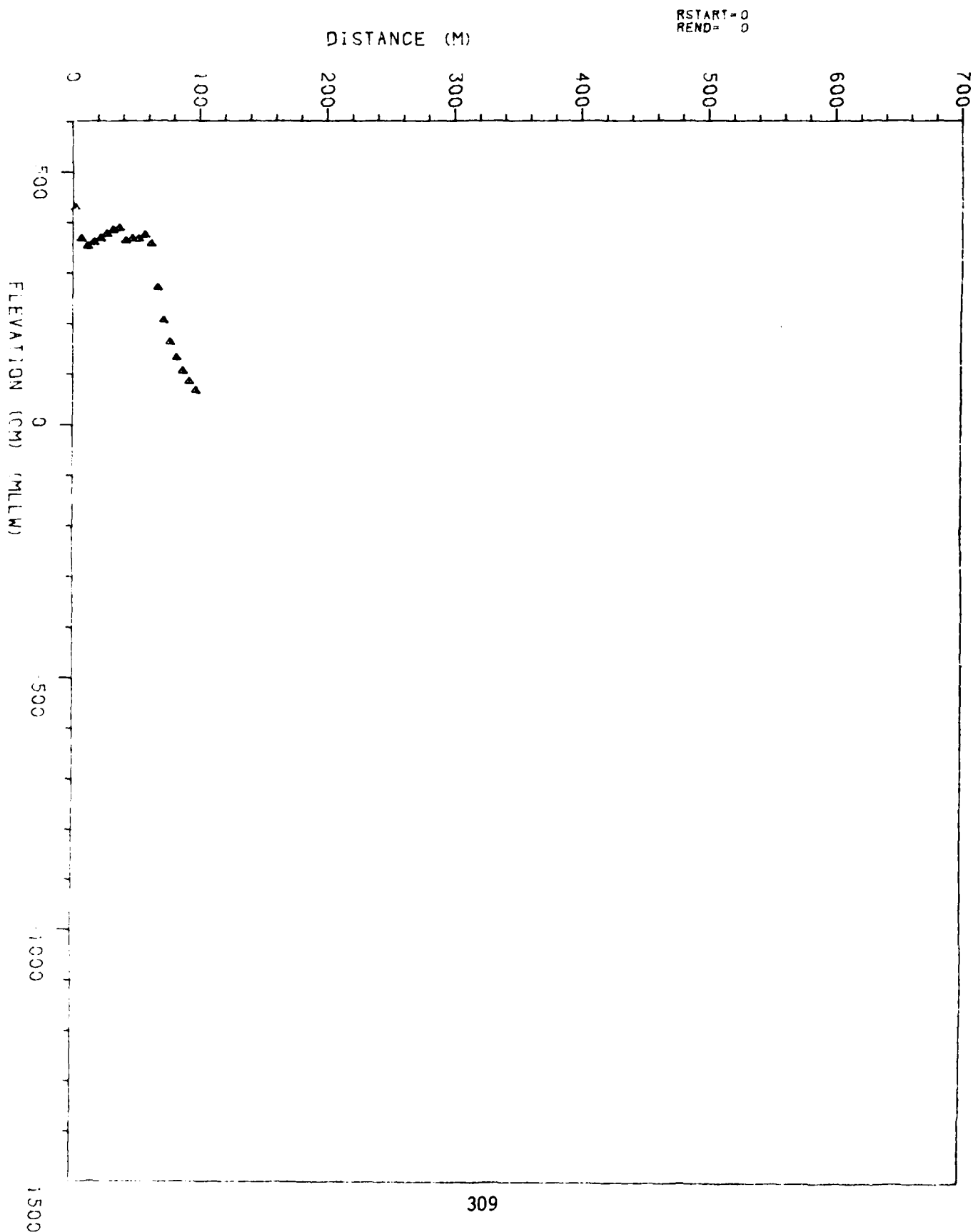


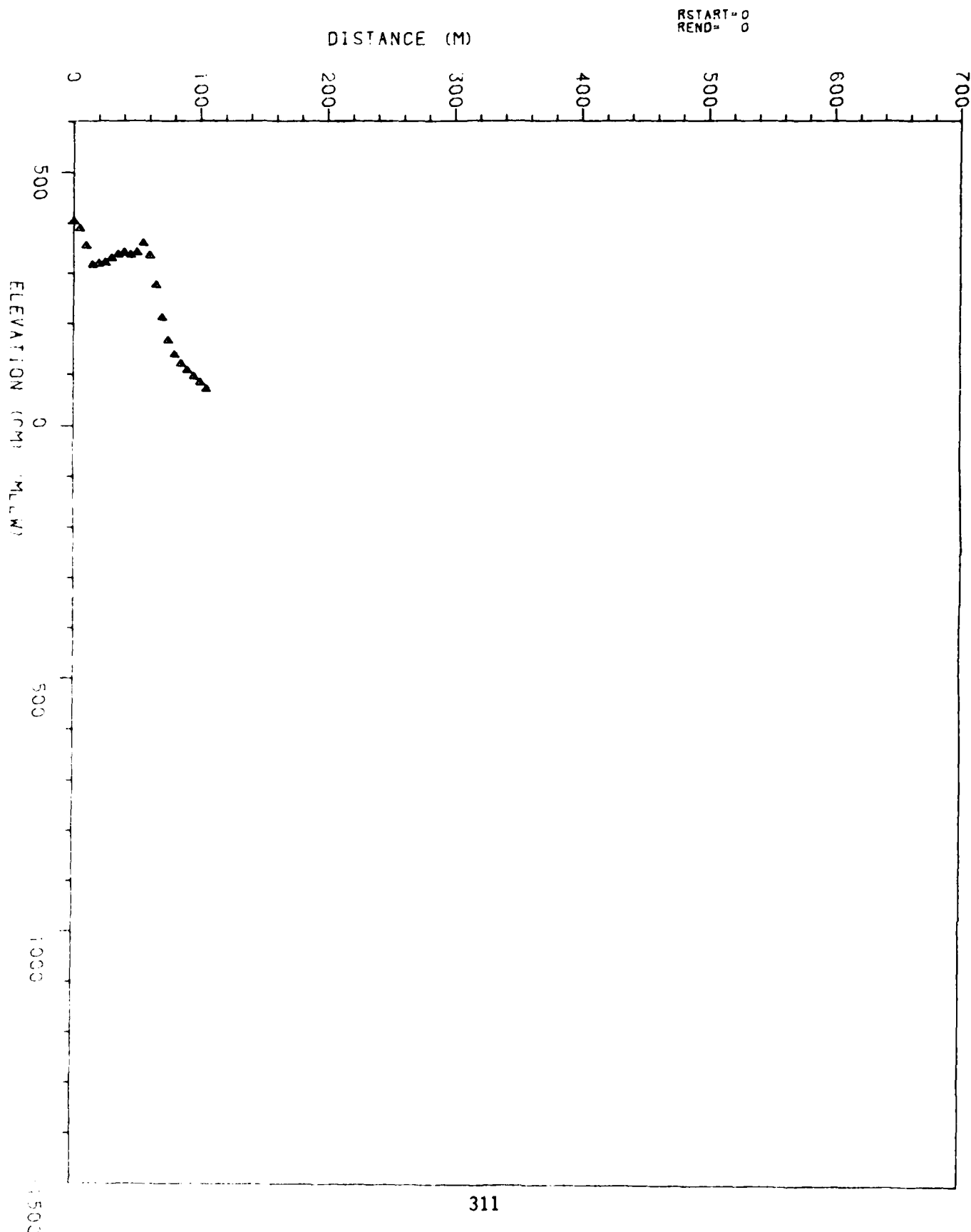
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 5
DEC 19 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	430
5.0	368
10.0	353
15.0	361
20.0	369
25.0	378
30.0	386
35.0	389
40.0	364
45.0	368
50.0	368
55.0	376
60.0	358
65.0	271
70.0	206
75.0	163
80.0	132
85.0	105
90.0	84
95.0	66

RANGE= 7

SEP 27 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 7
SEP 27 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	404
5.0	389
10.0	355
15.0	317
20.0	320
25.0	322
30.0	331
35.0	338
40.0	342
45.0	337
50.0	342
55.0	360
60.0	336
65.0	277
70.0	213
75.0	168
80.0	140
85.0	122
90.0	109
95.0	97
100.0	85
105.0	72

RANGE= 10

DEC 19 1984

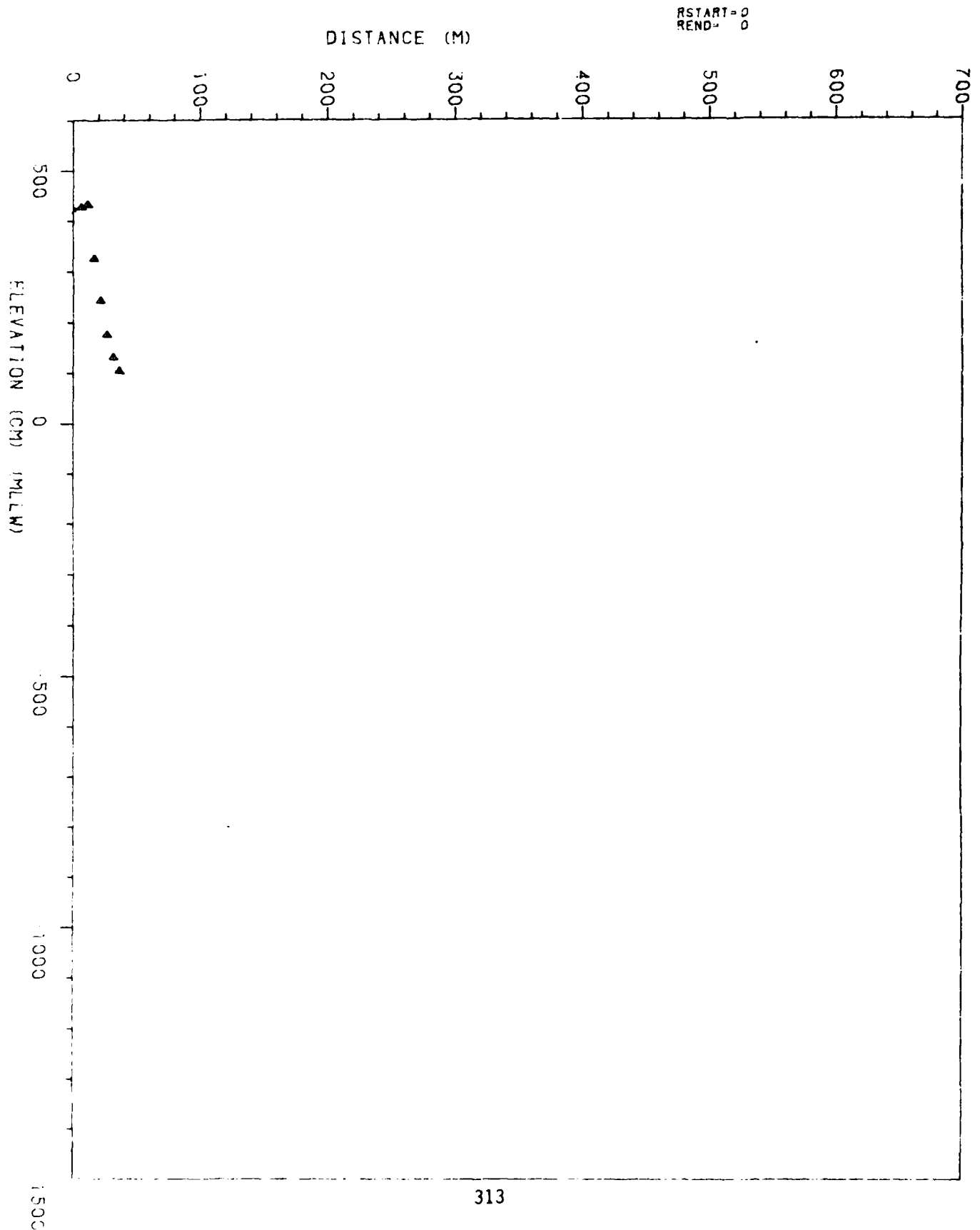


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 10
DEC 19 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	419
5.0	427
10.0	432
15.0	326
20.0	243
25.0	175
30.0	131
35.0	104

RANGE= 15

SEP 27 1984

DISTANCE (M)

RSTART=0
REND=0

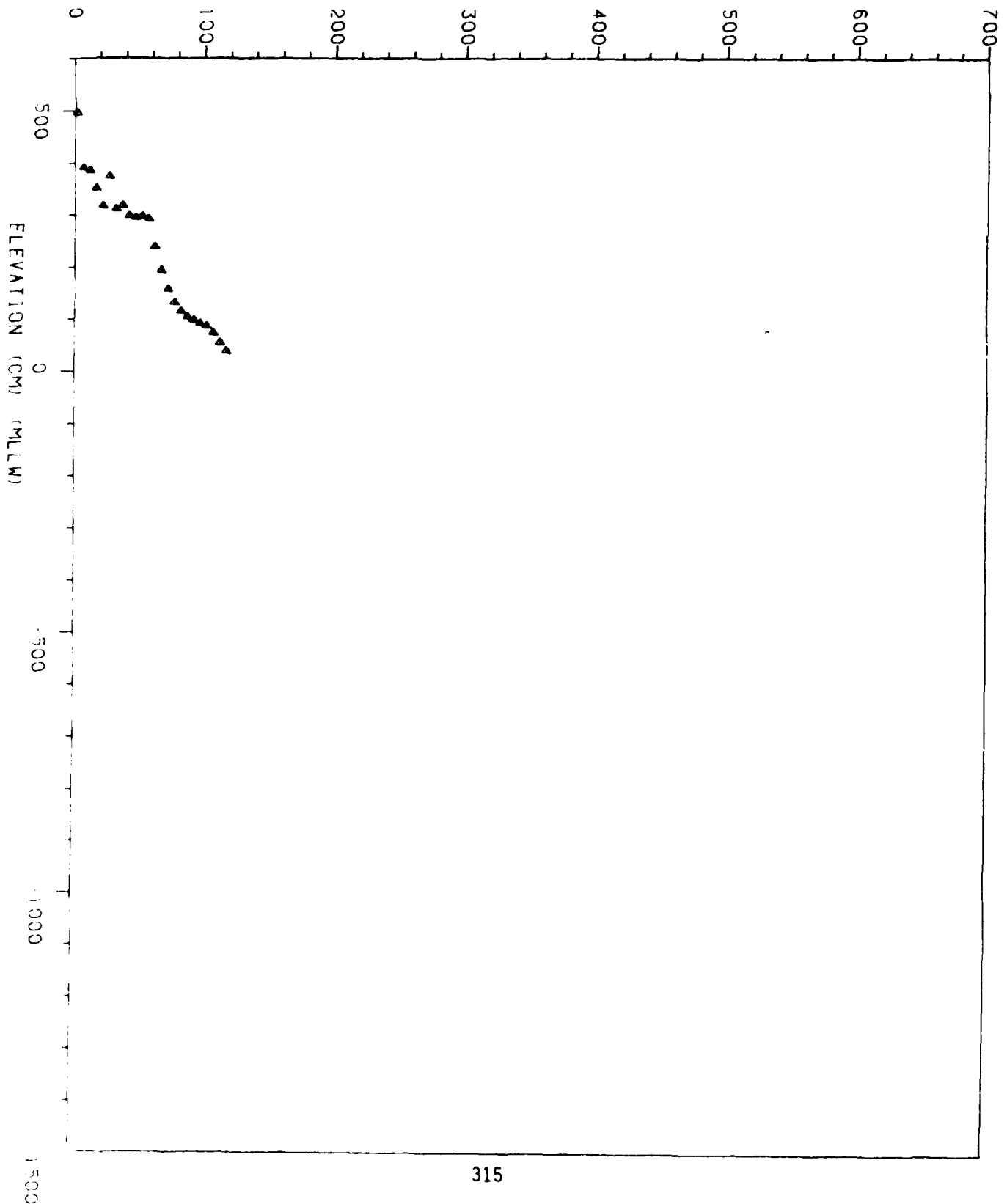


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 15
SEP 27 1984

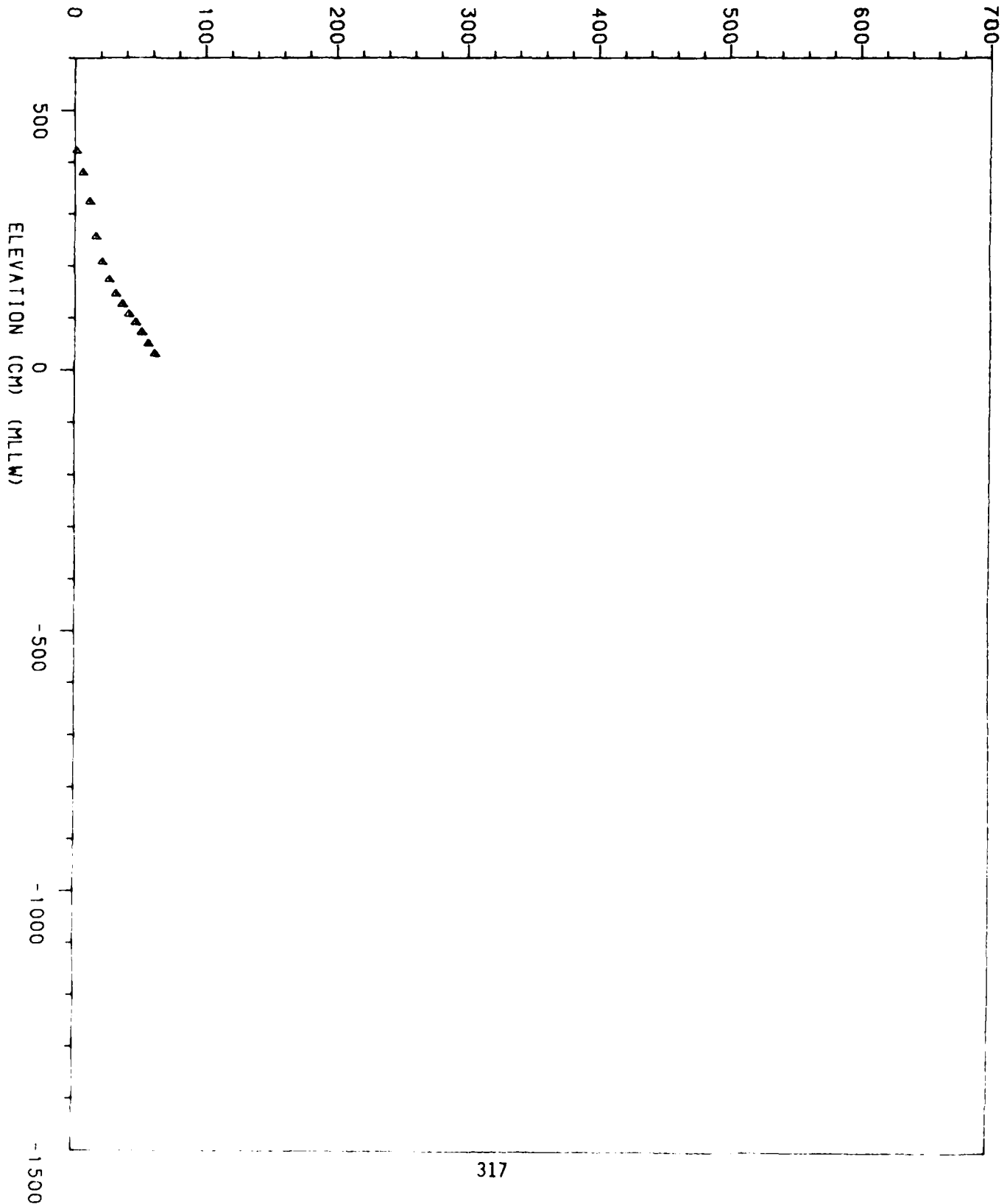
PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	497
5.0	391
10.0	386
15.0	352
20.0	318
25.0	375
30.0	312
35.0	319
40.0	299
45.0	295
50.0	298
55.0	293
60.0	239
65.0	194
70.0	158
75.0	133
80.0	116
85.0	105
90.0	99
95.0	92
100.0	87
105.0	74
110.0	55
115.0	39

RANGE= 20

DEC 20 1984

RSTART=0
REND=0

DISTANCE (M)



1

TABLE OF PROFILER DISTANCE AND ELEVATION

RANGE 20

DEC 20 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	422
5.0	380
10.0	324
15.0	256
20.0	207
25.0	173
30.0	146
35.0	126
40.0	107
45.0	91
50.0	72
55.0	50
60.0	31

RANGE= 35

OCT 19 1984

RSTART= 30
REND= 5

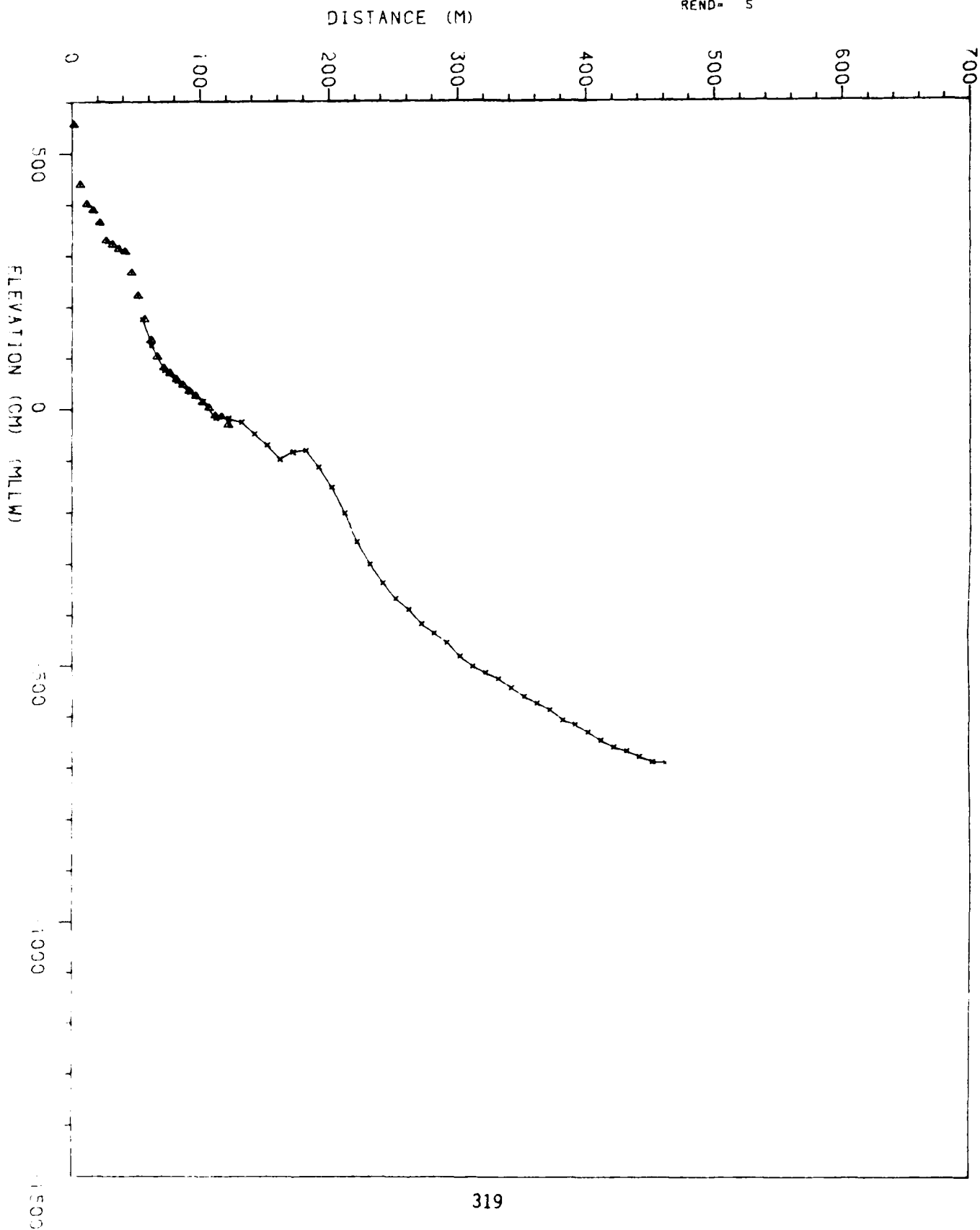


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 35
 OCT 19 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	556	382.2	-608
5.0	439	392.2	-616
10.0	401	402.2	-631
15.0	389	412.2	-648
20.0	365	422.2	-661
25.0	330	432.2	-668
30.0	323	442.2	-680
35.0	314	452.2	-689
40.0	309	462.2	-692
45.0	267		
50.0	222		
55.0	176		
62.2	124		
72.2	76		
82.2	54		
92.2	33		
102.2	15		
112.2	-17		
122.2	-17		
132.2	-25		
142.2	-47		
152.2	-69		
162.2	-97		
172.2	-84		
182.2	-80		
192.2	-112		
202.2	-152		
212.2	-202		
222.2	-257		
232.2	-301		
242.2	-338		
252.2	-368		
262.2	-390		
272.2	-418		
282.2	-436		
292.2	-455		
302.2	-483		
312.2	-502		
322.2	-514		
332.2	-526		
342.2	-544		
352.2	-562		
362.2	-575		
372.2	-587		

RANGE = 50

FEB 12 1985

RSTART = 30
REND = 5

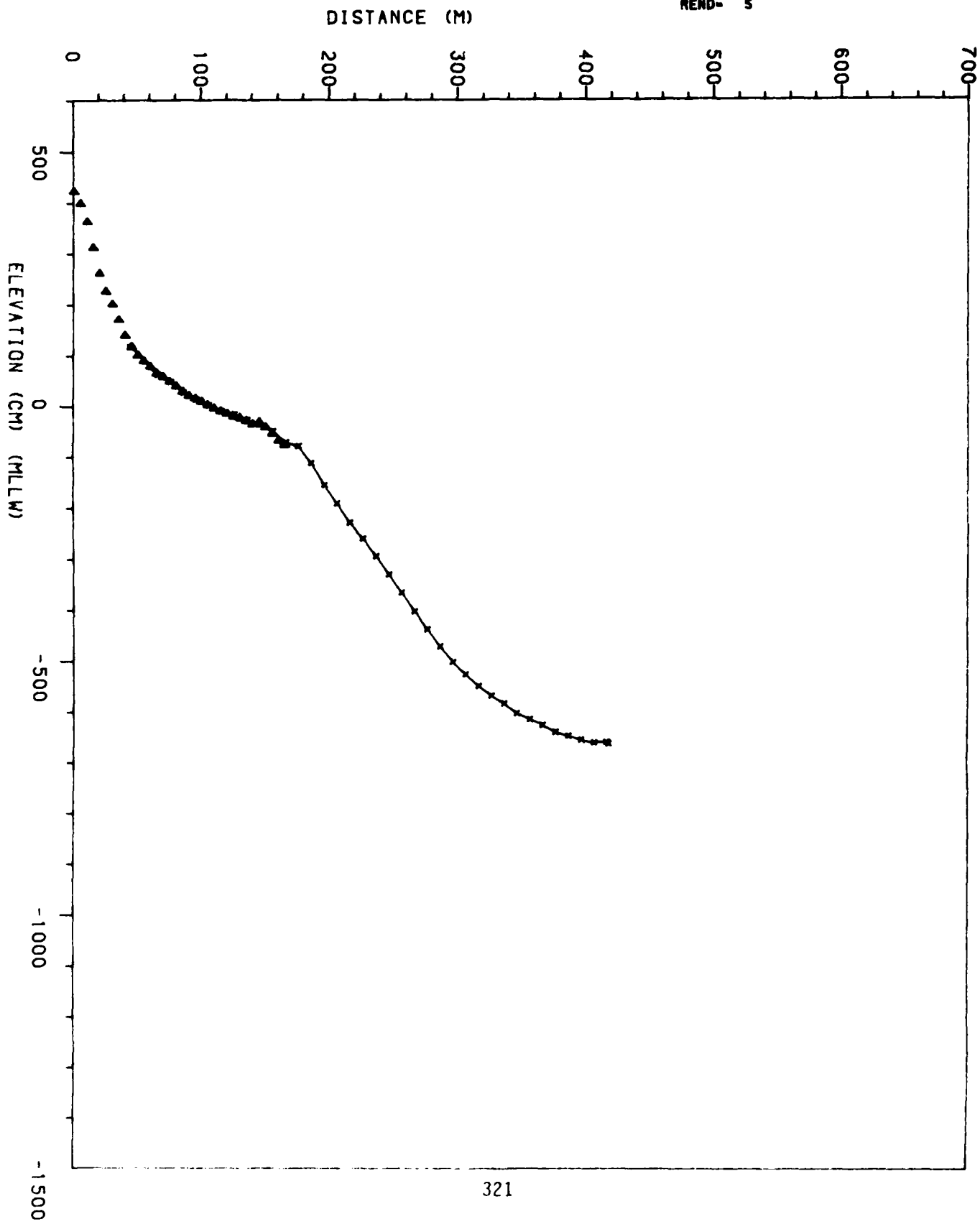


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 50
 FEB 12 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	423	406.7	-661
5.0	399	416.7	-660
10.0	363	418.2	-663
15.0	312		
20.0	261		
25.0	226		
30.0	201		
35.0	170		
40.0	139		
45.0	117		
66.7	63		
76.7	48		
86.7	27		
96.7	13		
106.7	2		
116.7	-9		
126.7	-15		
136.7	-26		
146.7	-36		
156.7	-49		
166.7	-71		
176.7	-78		
186.7	-112		
196.7	-154		
206.7	-190		
216.7	-228		
226.7	-260		
236.7	-294		
246.7	-330		
256.7	-366		
266.7	-402		
276.7	-437		
286.7	-471		
296.7	-501		
306.7	-525		
316.7	-549		
326.7	-568		
336.7	-584		
346.7	-603		
356.7	-615		
366.7	-626		
376.7	-640		
386.7	-648		
396.7	-656		

RANGE= 60

FEB 12 1985

RSTART= 30
REND= 5

DISTANCE (M)

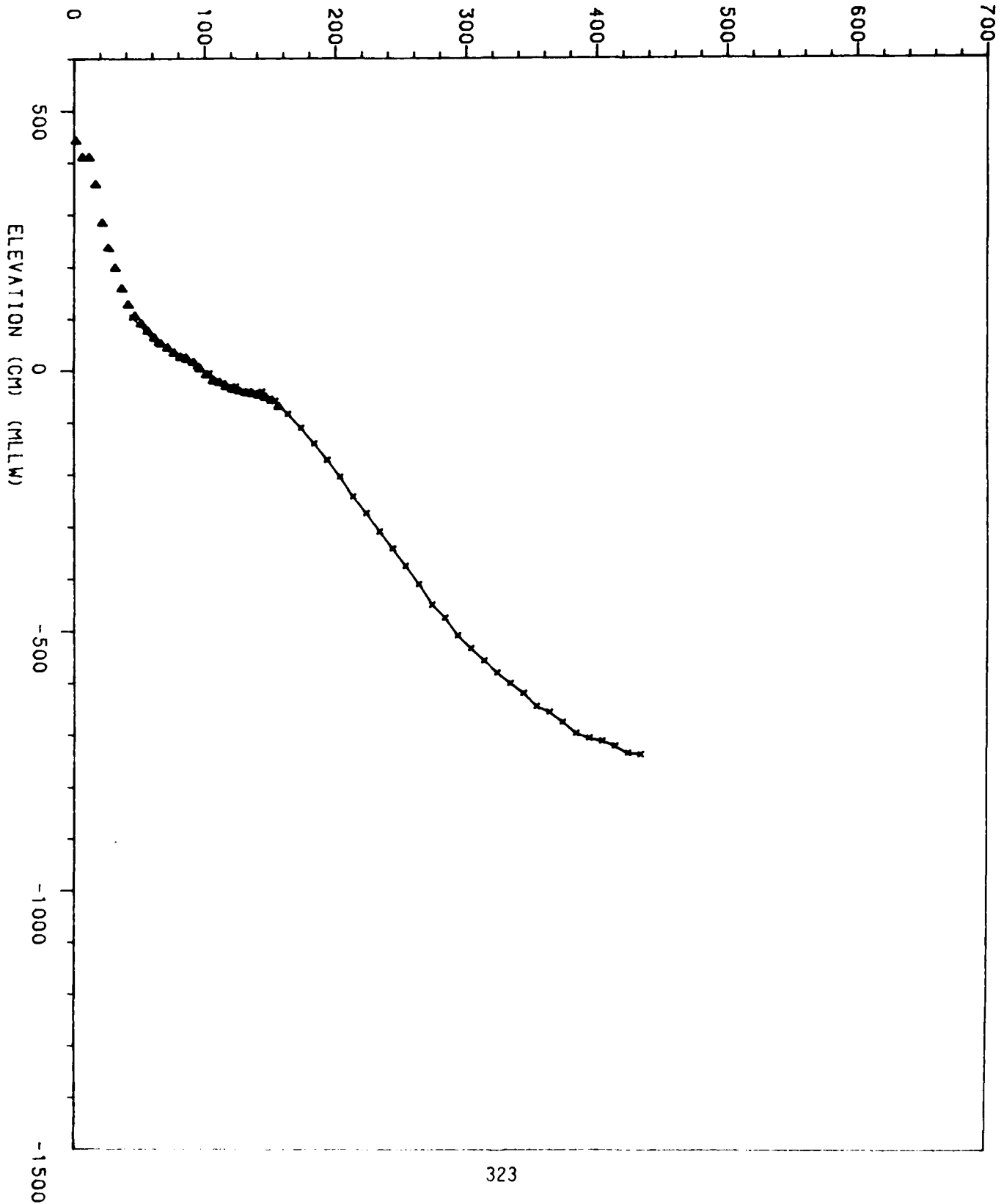


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 60
 FEB 12 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	440	414.0	-722
5.0	408	424.0	-735
10.0	408	434.0	-738
15.0	356		
20.0	282		
25.0	234		
30.0	196		
35.0	156		
40.0	125		
45.0	103		
64.0	54		
84.0	26		
94.0	8		
104.0	-5		
114.0	-24		
124.0	-30		
134.0	-39		
144.0	-40		
154.0	-58		
164.0	-83		
174.0	-110		
184.0	-140		
194.0	-171		
204.0	-204		
214.0	-242		
224.0	-273		
234.0	-308		
244.0	-341		
254.0	-375		
264.0	-409		
274.0	-449		
284.0	-475		
294.0	-508		
304.0	-533		
314.0	-557		
324.0	-580		
334.0	-600		
344.0	-620		
354.0	-645		
364.0	-657		
374.0	-676		
384.0	-697		
394.0	-706		
404.0	-712		

RANGE= 70

FEB 11 1985

DISTANCE (M)

RSTART=30
REND=5

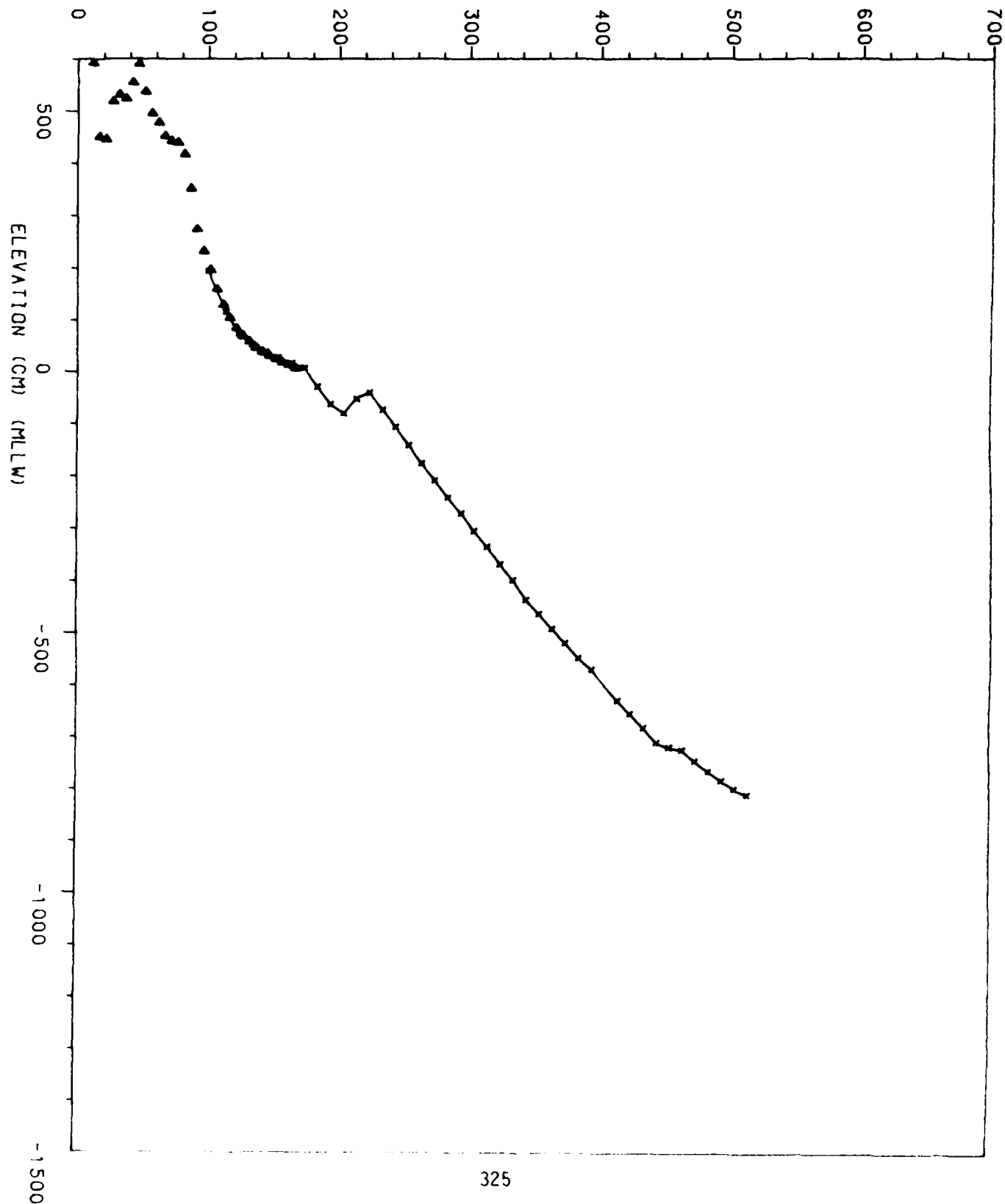


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 70
 FEB 11 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	836	343.7	-436
5.0	768	353.7	-463
10.0	591	363.7	-492
15.0	449	373.7	-519
20.0	444	383.7	-548
25.0	517	393.7	-570
30.0	530	413.7	-630
35.0	522	423.7	-655
40.0	553	433.7	-683
45.0	589	443.7	-711
50.0	536	453.7	-720
55.0	494	463.7	-725
60.0	476	473.7	-746
65.0	450	483.7	-767
70.0	441	493.7	-784
75.0	438	503.7	-800
80.0	416	513.6	-811
85.0	350		
90.0	272		
95.0	230		
100.0	194		
113.7	115		
123.7	73		
133.7	51		
143.7	36		
153.7	26		
163.7	15		
173.7	6		
183.7	-28		
193.7	-62		
203.7	-80		
213.7	-52		
223.7	-40		
233.7	-73		
243.7	-106		
253.7	-141		
263.7	-176		
273.7	-209		
283.7	-241		
293.7	-272		
303.7	-305		
313.7	-335		
323.7	-369		
333.7	-399		

RANGE= 77

OCT 24 1984

RSTART= 30
REND= 5

DISTANCE (M)

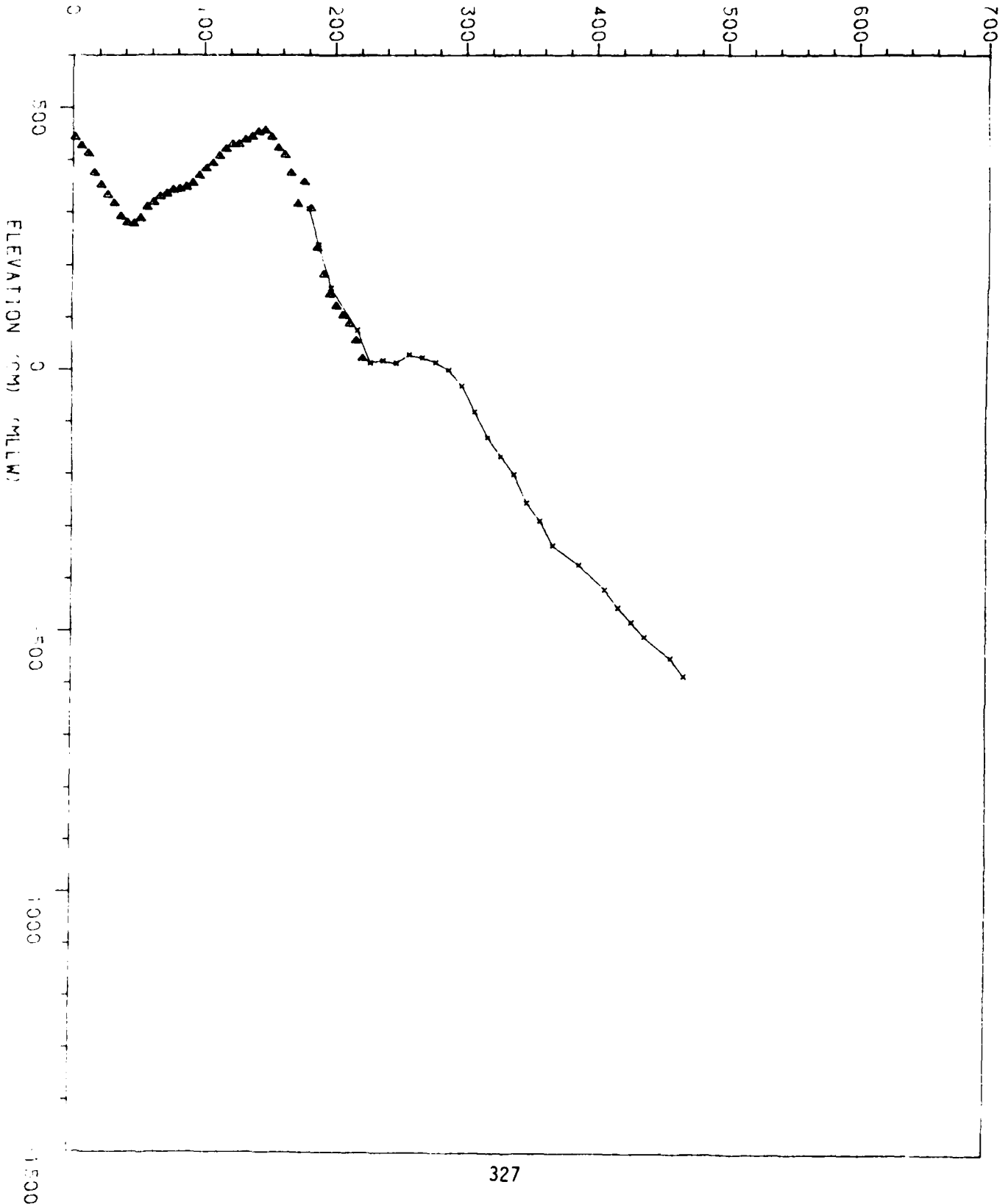


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 77
 OCT 24 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	443	267.5	22
5.0	426	277.5	13
10.0	412	287.5	0
15.0	375	297.5	-30
20.0	352	307.5	-81
25.0	333	317.5	-130
30.0	317	327.5	-166
35.0	292	337.5	-200
40.0	280	347.5	-255
45.0	278	357.5	-289
50.0	288	367.5	-336
55.0	310	387.5	-373
60.0	319	407.5	-421
65.0	330	417.5	-455
70.0	335	427.5	-483
75.0	342	437.5	-511
80.0	344	457.5	-552
85.0	348	467.5	-586
90.0	355		
95.0	369		
100.0	383		
105.0	393		
110.0	407		
115.0	420		
120.0	429		
125.0	429		
130.0	438		
135.0	443		
140.0	452		
145.0	456		
150.0	443		
155.0	422		
160.0	409		
165.0	374		
170.0	315		
175.0	357		
180.0	307		
187.5	239		
197.5	156		
217.5	75		
227.5	12		
237.5	17		
247.5	12		
257.5	28		

RANGE= 90

OCT 19 1984

RSTART= 30
REND= 5

DISTANCE (M)

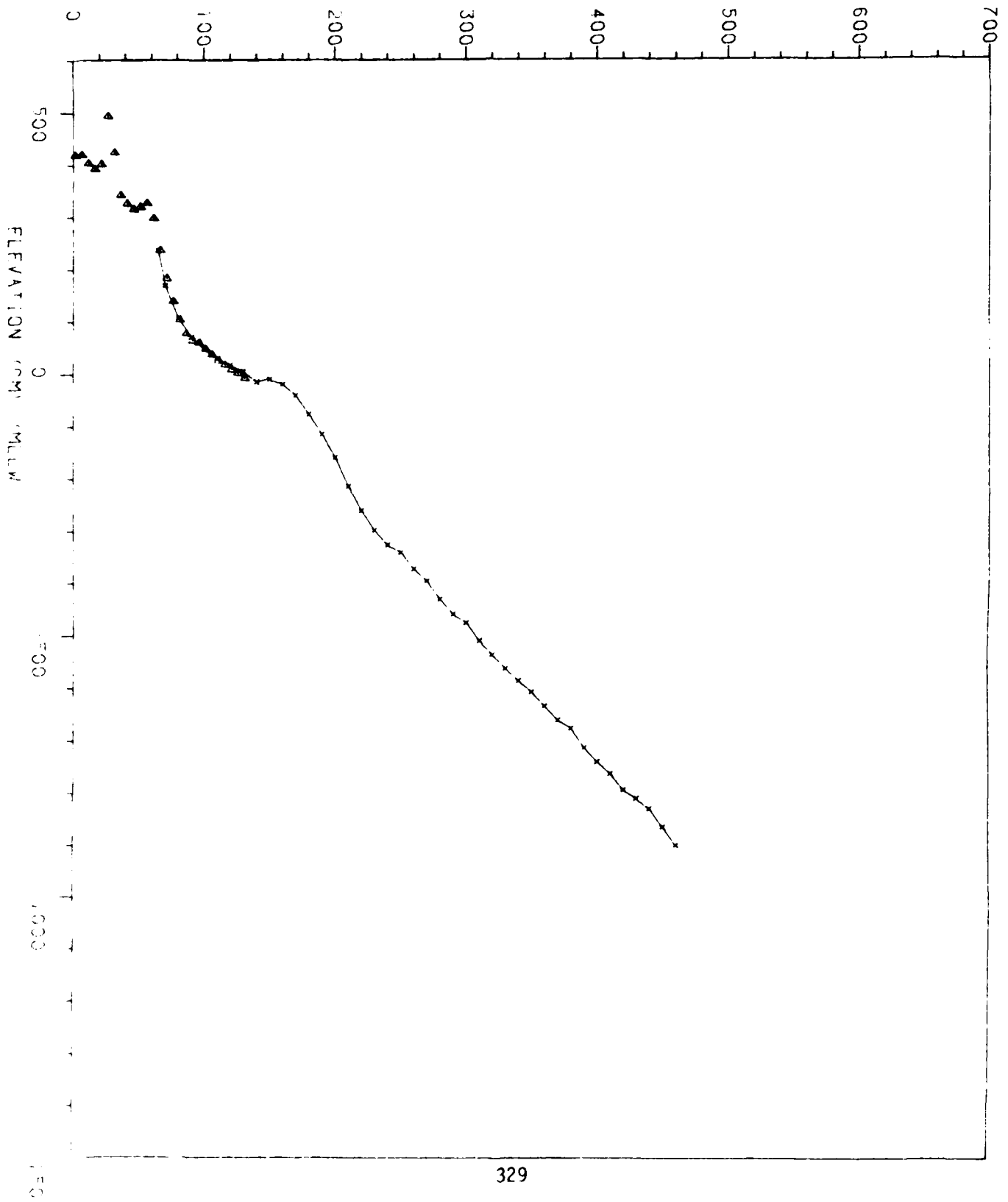


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 90
 OCT 19 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	419	370.3	-661
5.0	420	380.3	-677
10.0	403	390.3	-714
15.0	392	400.3	-741
20.0	402	410.3	-764
25.0	494	420.3	-795
30.0	424	430.3	-811
35.0	342	440.3	-831
40.0	326	450.3	-866
45.0	315	460.3	-901
50.0	320		
55.0	327		
60.0	298		
65.0	237		
70.3	170		
80.3	107		
90.3	71		
100.3	48		
110.3	30		
120.3	17		
130.3	5		
140.3	-14		
150.3	-9		
160.3	-18		
170.3	-40		
180.3	-76		
190.3	-114		
200.3	-159		
210.3	-213		
220.3	-260		
230.3	-298		
240.3	-326		
250.3	-340		
260.3	-372		
270.3	-395		
280.3	-430		
290.3	-459		
300.3	-476		
310.3	-510		
320.3	-536		
330.3	-563		
340.3	-587		
350.3	-608		
360.3	-635		

RANGE= 100

FEB 13 1985

RSTART=30
REND=5

DISTANCE (M)

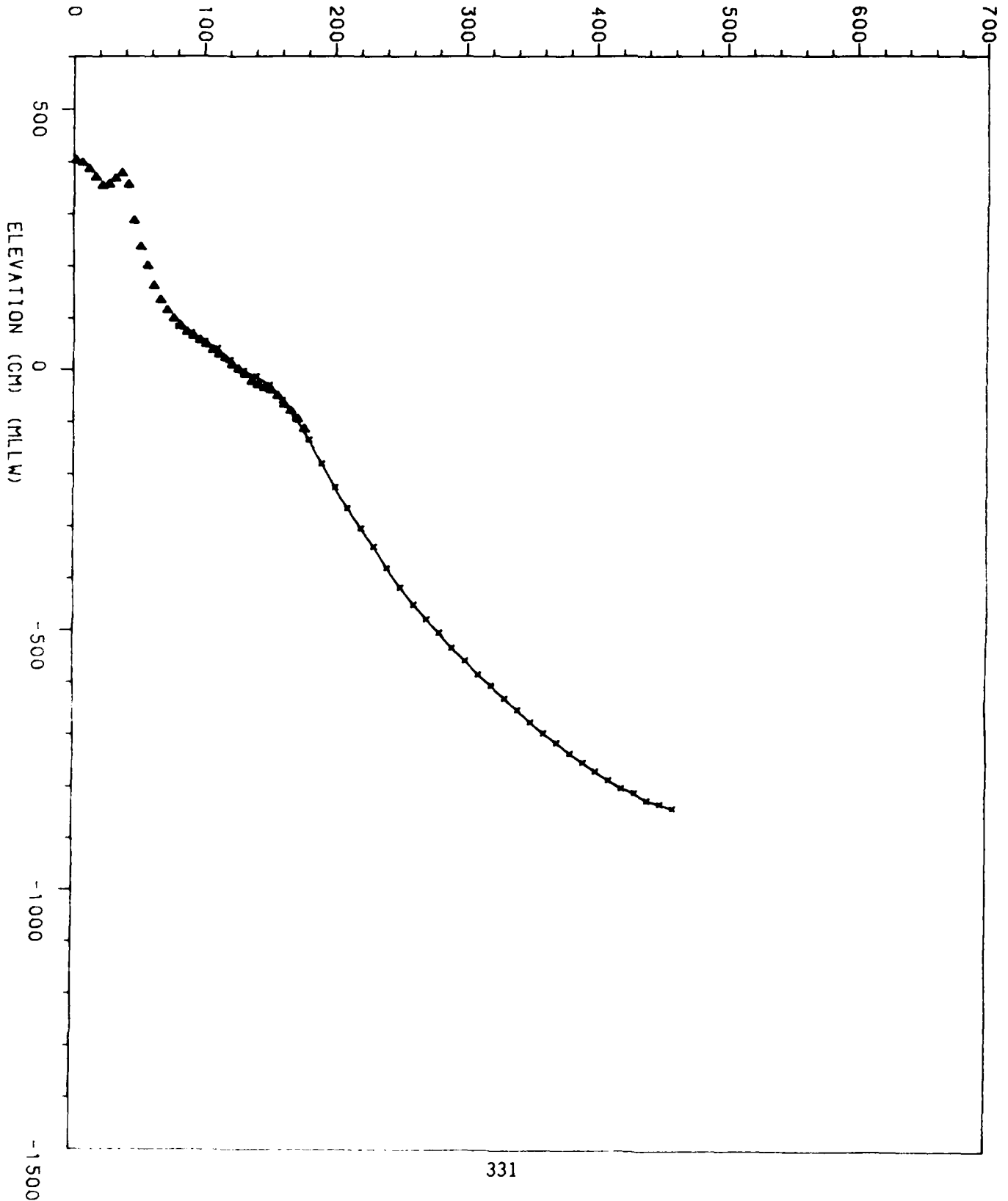


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 100
 FEB 13 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	401	359.9	-698
5.0	396	369.9	-716
10.0	384	379.9	-737
15.0	368	389.9	-754
20.0	352	399.9	-771
25.0	355	409.9	-787
30.0	366	419.9	-803
35.0	376	429.9	-811
40.0	354	439.9	-826
45.0	285	449.9	-833
50.0	234	459.9	-841
55.0	198		
60.0	159		
65.0	132		
70.0	112		
75.0	96		
80.0	83		
90.0	70		
100.0	54		
110.0	40		
120.0	18		
130.0	-2		
140.0	-13		
150.0	-30		
160.0	-59		
170.0	-92		
180.0	-134		
190.0	-180		
200.0	-225		
210.0	-266		
220.0	-304		
230.0	-339		
240.0	-381		
250.0	-418		
260.0	-451		
270.0	-479		
280.0	-505		
290.0	-534		
299.9	-559		
309.9	-585		
319.9	-607		
329.9	-631		
339.9	-653		
349.9	-677		

RANGE= 110

FEB 13 1985

RSTART=30
REND= 5

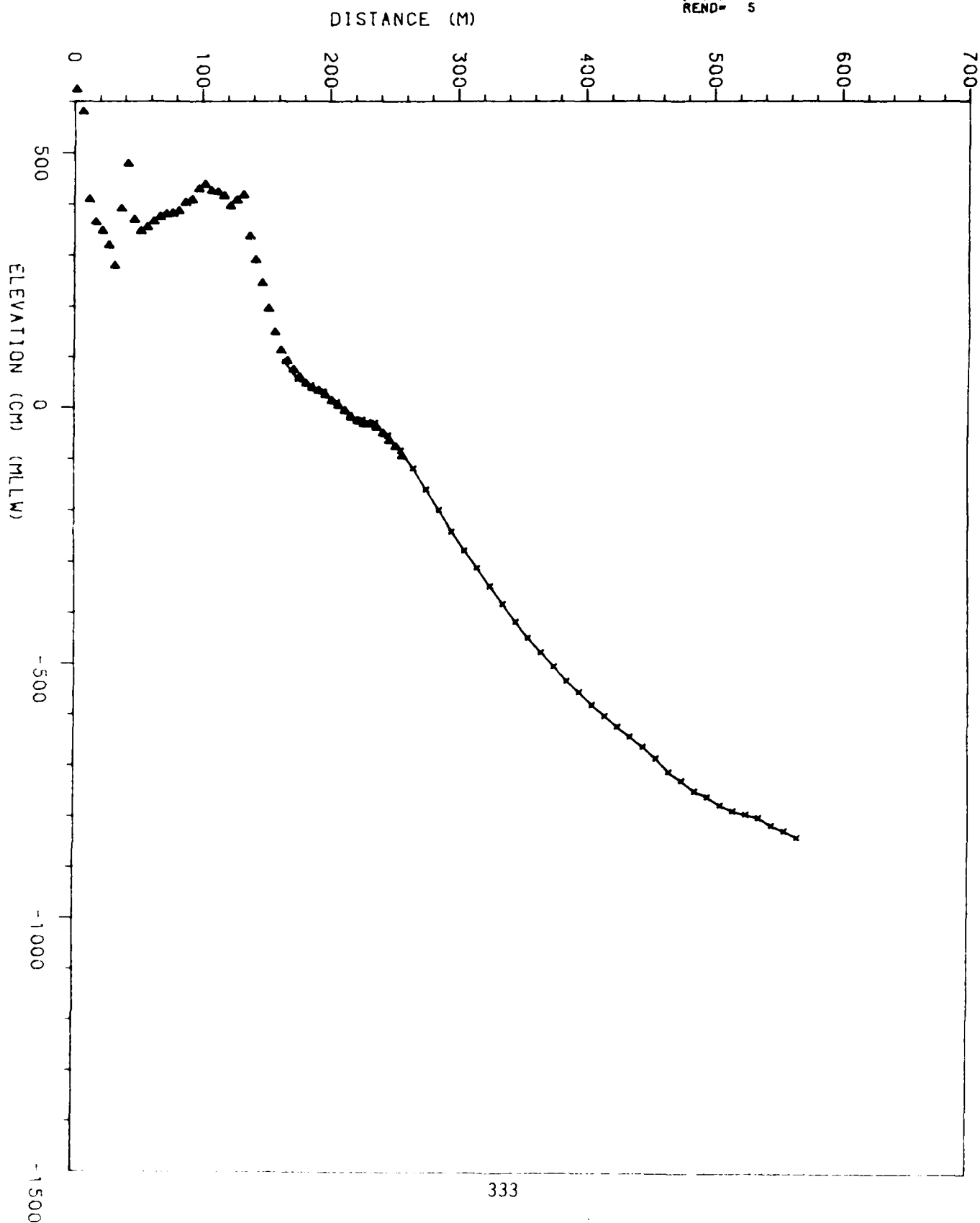


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 110
FEB 13 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	622	275.1	-159
5.0	578	285.1	-199
10.0	407	295.1	-241
15.0	363	305.1	-278
20.0	346	315.1	-311
25.0	318	325.1	-348
30.0	277	335.1	-383
35.0	389	345.1	-417
40.0	477	355.1	-448
45.0	367	365.1	-477
50.0	345	375.1	-505
55.0	353	385.1	-534
60.0	364	395.1	-556
65.0	373	405.1	-581
70.0	379	415.1	-603
75.0	380	425.1	-624
80.0	385	435.1	-643
85.0	401	445.1	-664
90.0	407	455.1	-686
95.0	428	465.1	-713
100.0	437	475.1	-730
105.0	424	485.1	-750
110.0	422	495.1	-762
115.0	414	505.1	-778
120.0	394	515.1	-789
125.0	406	525.1	-795
130.0	416	535.1	-802
135.0	335	545.1	-816
140.0	289	555.1	-827
145.0	243	565.1	-840
150.0	193		
155.0	146		
160.0	110		
165.0	90		
175.1	56		
185.1	43		
195.1	31		
205.1	10		
215.1	-15		
225.1	-24		
235.1	-30		
245.1	-54		
255.1	-84		
265.1	-118		

RANGE= 125

DEC 02 1984

RSTART= 30
REND= 5

DISTANCE (M)

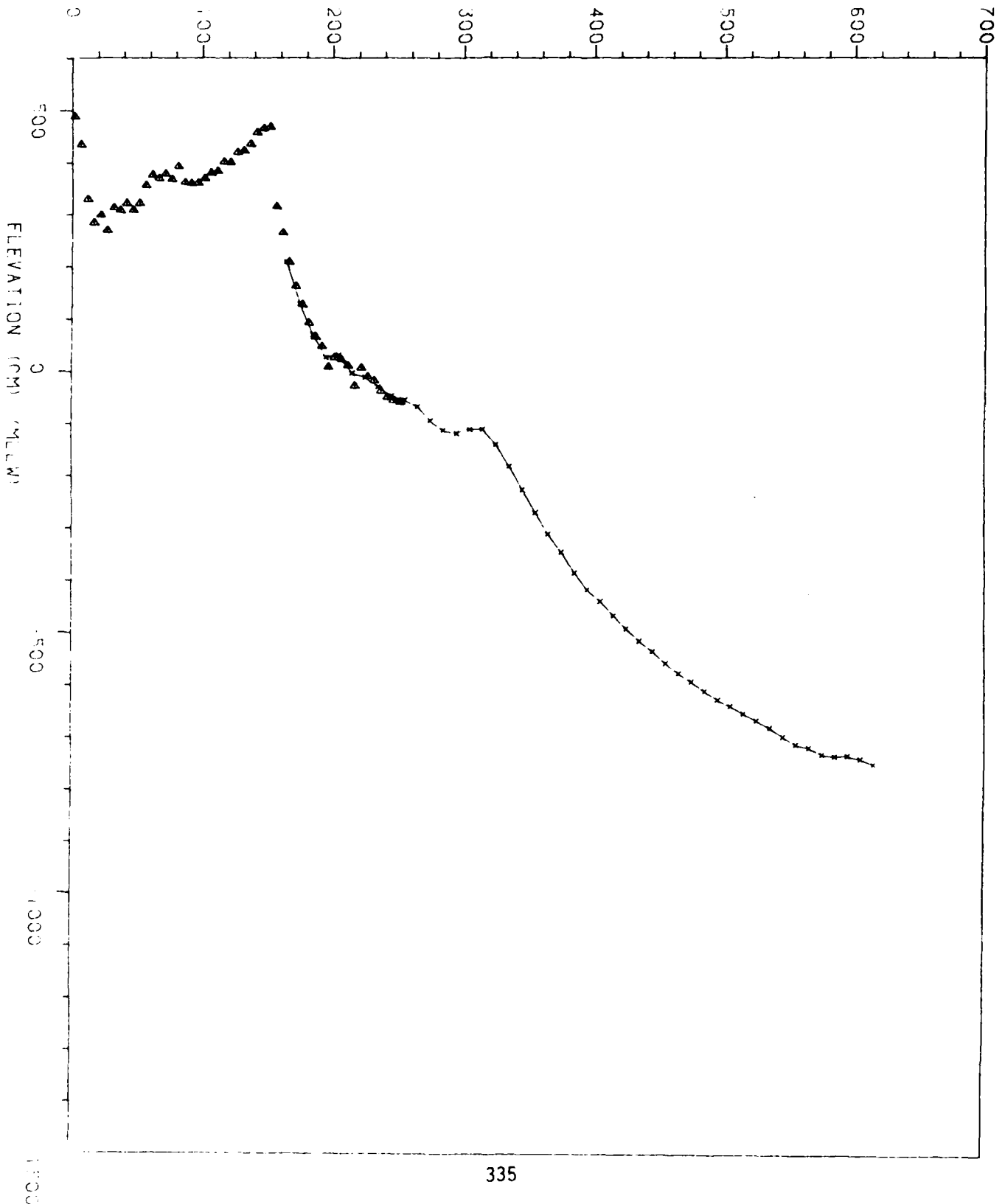


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 125
 DEC 02 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	488	274.8	-93
5.0	434	284.8	-112
10.0	329	294.8	-118
15.0	284	304.8	-110
20.0	299	314.8	-110
25.0	269	324.8	-139
30.0	313	334.8	-181
35.0	308	344.8	-225
40.0	322	354.8	-269
45.0	309	364.8	-310
50.0	322	374.3	-346
55.0	356	384.8	-386
60.0	376	394.8	-417
65.0	370	404.8	-439
70.0	379	414.8	-465
75.0	368	424.8	-491
80.0	393	434.8	-515
85.0	362	444.8	-535
90.0	360	454.8	-558
95.0	361	464.8	-577
100.0	369	474.8	-593
105.0	380	484.8	-611
110.0	384	494.8	-627
115.0	402	504.8	-639
120.0	401	514.8	-654
125.0	420	524.8	-668
130.0	423	534.8	-682
135.0	436	544.8	-699
140.0	458	554.8	-713
145.0	466	564.8	-719
150.0	469	574.8	-733
155.0	316	584.8	-736
160.0	265	594.8	-736
165.0	209	604.8	-741
174.8	128	614.8	-752
184.8	71		
194.8	27		
204.8	31		
214.8	-2		
224.8	-10		
234.8	-28		
244.8	-46		
254.8	-53		
264.8	-66		

RANGE= 140

DEC 20 1984

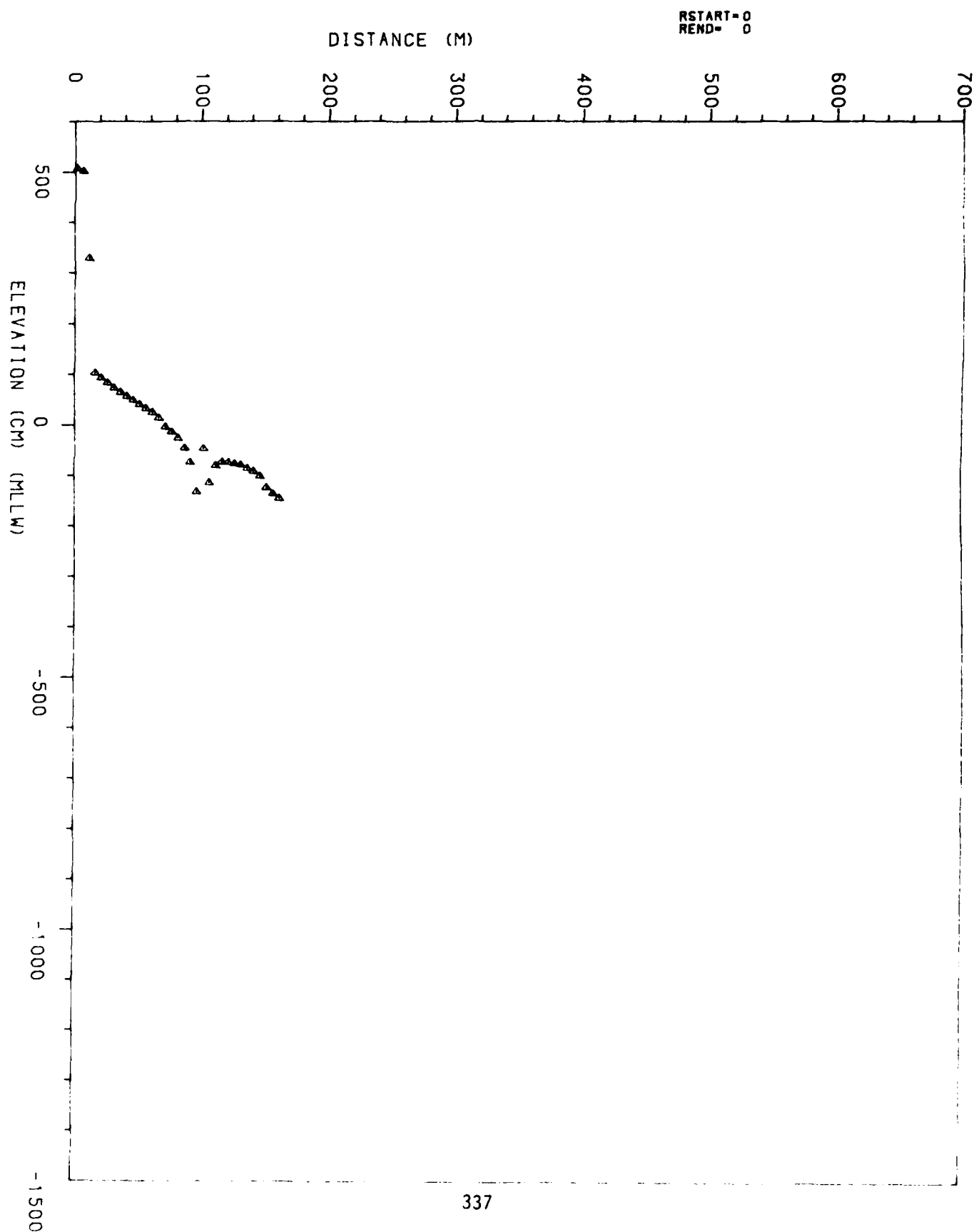


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 140
DEC 20 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	507
5.0	501
10.0	328
15.0	103
20.0	93
25.0	83
30.0	73
35.0	64
40.0	56
45.0	49
50.0	41
55.0	33
60.0	25
65.0	14
70.0	-4
75.0	-14
80.0	-26
85.0	-46
90.0	-74
95.0	-133
100.0	-47
105.0	-115
110.0	-81
115.0	-73
120.0	-74
125.0	-77
130.0	-79
135.0	-86
140.0	-92
145.0	-102
150.0	-125
155.0	-137
160.0	-146

RANGE= 160

OCT 14 1984

RSTART= 30
REND= 5

DISTANCE (M)

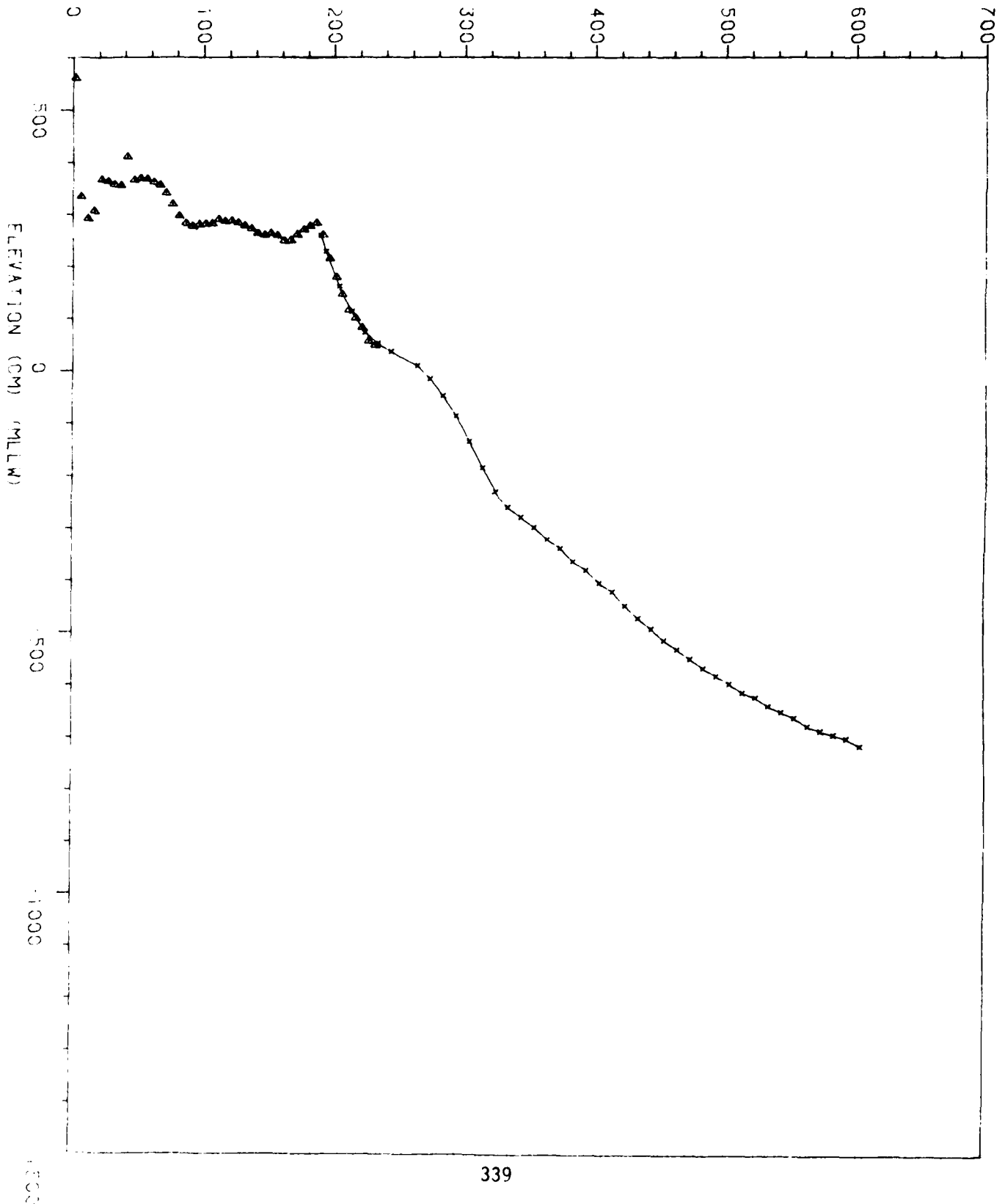


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 160
 OCT 14 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	561	243.7	36
5.0	334	263.7	10
10.0	292	273.7	-15
15.0	307	283.7	-47
20.0	367	293.7	-86
25.0	364	303.7	-133
30.0	358	313.7	-184
35.0	356	323.7	-230
40.0	411	333.7	-259
45.0	366	343.7	-278
50.0	369	353.7	-297
55.0	368	363.7	-320
60.0	362	373.7	-337
65.0	356	383.7	-363
70.0	341	393.7	-380
75.0	320	403.7	-404
80.0	297	413.7	-421
85.0	283	423.7	-448
90.0	277	433.7	-472
95.0	281	443.7	-493
100.0	282	453.7	-515
105.0	283	463.7	-532
110.0	291	473.7	-550
115.0	287	483.7	-568
120.0	288	493.7	-582
125.0	284	503.7	-597
130.0	278	513.7	-614
135.0	272	523.7	-623
140.0	263	533.7	-639
145.0	260	543.7	-651
150.0	263	553.7	-662
155.0	259	563.7	-678
160.0	249	573.7	-687
165.0	250	583.7	-695
170.0	261	593.7	-702
175.0	271	603.7	-716
180.0	278		
185.0	284		
190.0	261		
193.7	229		
203.7	161		
213.7	112		
223.7	73		
233.7	52		

RANGE= 170

JAN 11 1985

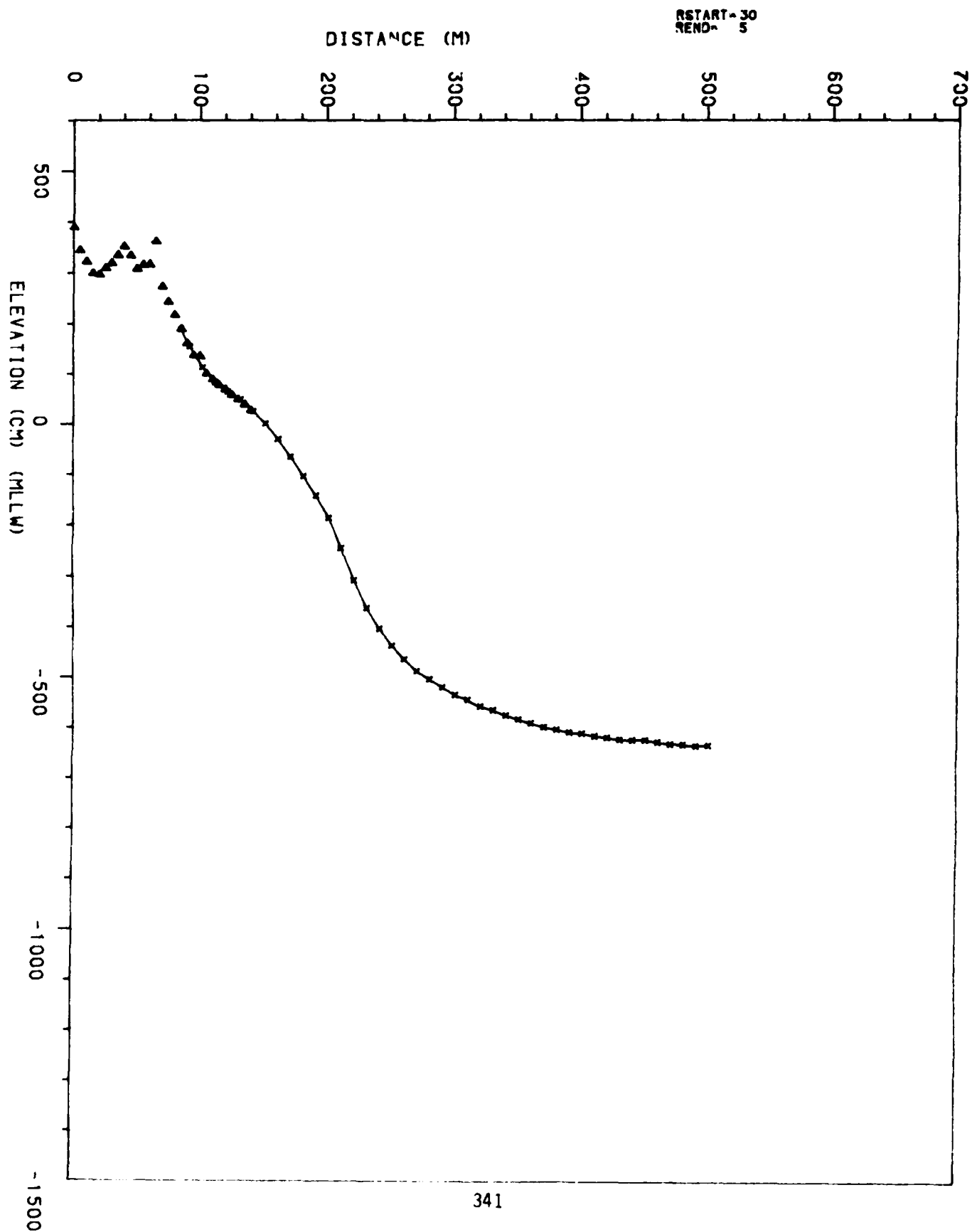


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 170
JAN 11 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	389	352.1	-584
5.0	344	362.1	-591
10.0	322	372.1	-599
15.0	299	382.1	-604
20.0	297	392.1	-609
25.0	310	402.1	-611
30.0	320	412.1	-617
35.0	335	422.1	-620
40.0	352	432.1	-624
45.0	334	442.1	-625
50.0	308	452.1	-625
55.0	316	462.1	-629
60.0	317	472.1	-633
65.0	362	482.1	-633
70.0	273	492.1	-636
75.0	243	502.1	-635
80.0	217		
85.0	189		
92.1	154		
102.1	112		
112.1	83		
122.1	64		
132.1	48		
142.1	24		
152.1	0		
162.1	-30		
172.1	-65		
182.1	-104		
192.1	-141		
202.1	-186		
212.1	-245		
222.1	-308		
232.1	-363		
242.1	-404		
252.1	-437		
262.1	-465		
272.1	-487		
282.1	-503		
292.1	-519		
302.1	-535		
312.1	-544		
322.1	-558		
332.1	-566		
342.1	-576		

RANGE= 180

OCT 10 1984

RSTART= 30
REND= 5

DISTANCE (M)

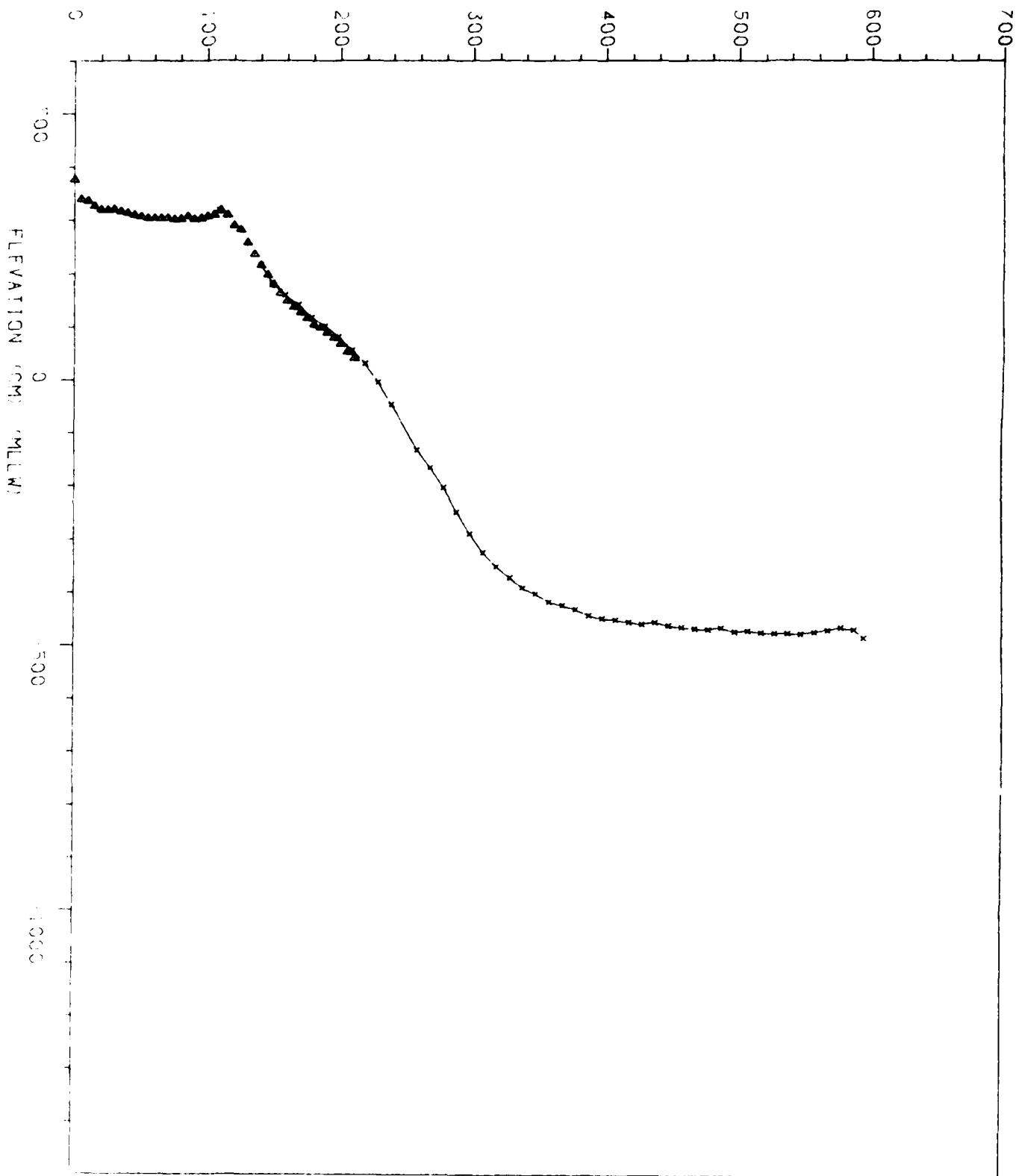


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 180
 OCT 10 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	378	307.9	-326
5.0	341	317.9	-352
10.0	338	327.9	-373
15.0	328	337.9	-391
20.0	322	347.9	-402
25.0	322	357.9	-418
30.0	323	367.9	-424
35.0	319	377.9	-431
40.0	316	387.9	-444
45.0	312	397.9	-449
50.0	309	407.9	-452
55.0	306	417.9	-456
60.0	306	427.9	-460
65.0	306	437.9	-456
70.0	306	447.9	-462
75.0	304	457.9	-465
80.0	305	467.9	-468
85.0	310	477.9	-470
90.0	304	487.9	-466
95.0	306	497.9	-474
100.0	310	507.9	-472
105.0	312	517.9	-475
110.0	321	527.9	-477
115.0	312	537.9	-477
120.0	292	547.9	-479
125.0	284	557.9	-475
130.0	260	567.9	-472
135.0	238	577.9	-466
140.0	217	587.9	-470
148.6	183	595.4	-486
158.6	160		
168.6	141		
178.6	117		
188.6	101		
198.6	81		
208.6	56		
218.6	30		
228.6	-4		
238.6	-46		
257.9	-132		
267.9	-165		
277.9	-203		
287.9	-249		
297.9	-290		

RANGE= 200

OCT 11 1984

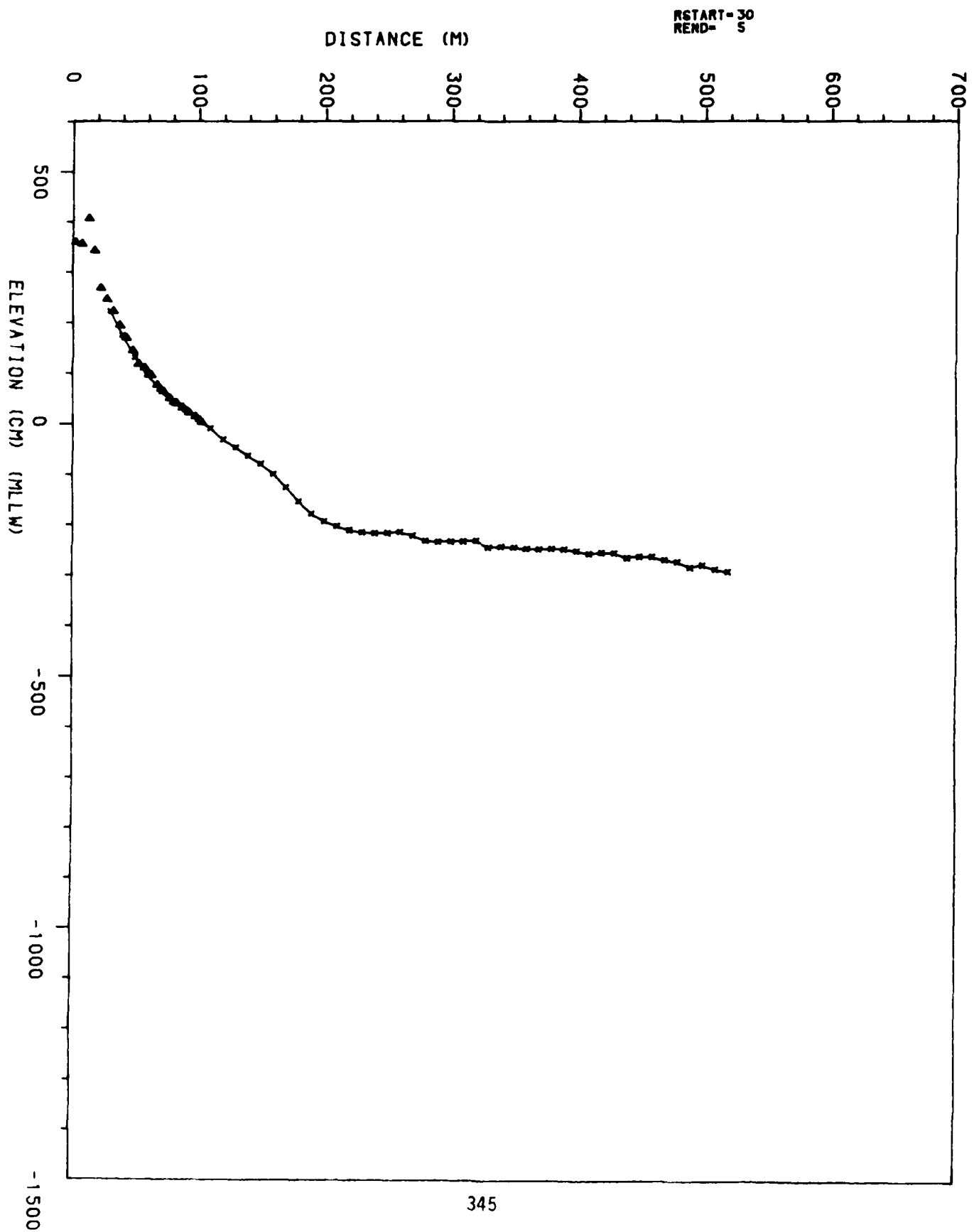


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 200
OCT 11 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	358	409.1	-256
5.0	355	419.1	-254
10.0	405	429.1	-256
15.0	341	439.1	-265
20.0	267	449.1	-263
25.0	245	459.1	-263
30.0	222	469.1	-270
39.2	175	479.1	-272
49.2	132	489.1	-284
59.2	97	499.1	-279
69.2	68	509.1	-288
79.2	43	519.1	-293
89.2	28		
99.2	9		
109.2	-8		
119.2	-30		
129.2	-45		
139.2	-62		
149.2	-78		
159.2	-99		
169.2	-125		
179.2	-153		
189.2	-178		
199.2	-193		
209.2	-202		
219.2	-210		
229.2	-214		
239.2	-216		
249.2	-216		
259.2	-213		
269.2	-221		
279.2	-231		
289.2	-233		
299.2	-232		
309.2	-232		
319.2	-231		
329.2	-244		
339.2	-242		
349.2	-244		
359.2	-247		
369.1	-248		
379.1	-247		
389.1	-248		
399.1	-251		

RANGE= 230

OCT 24 1984

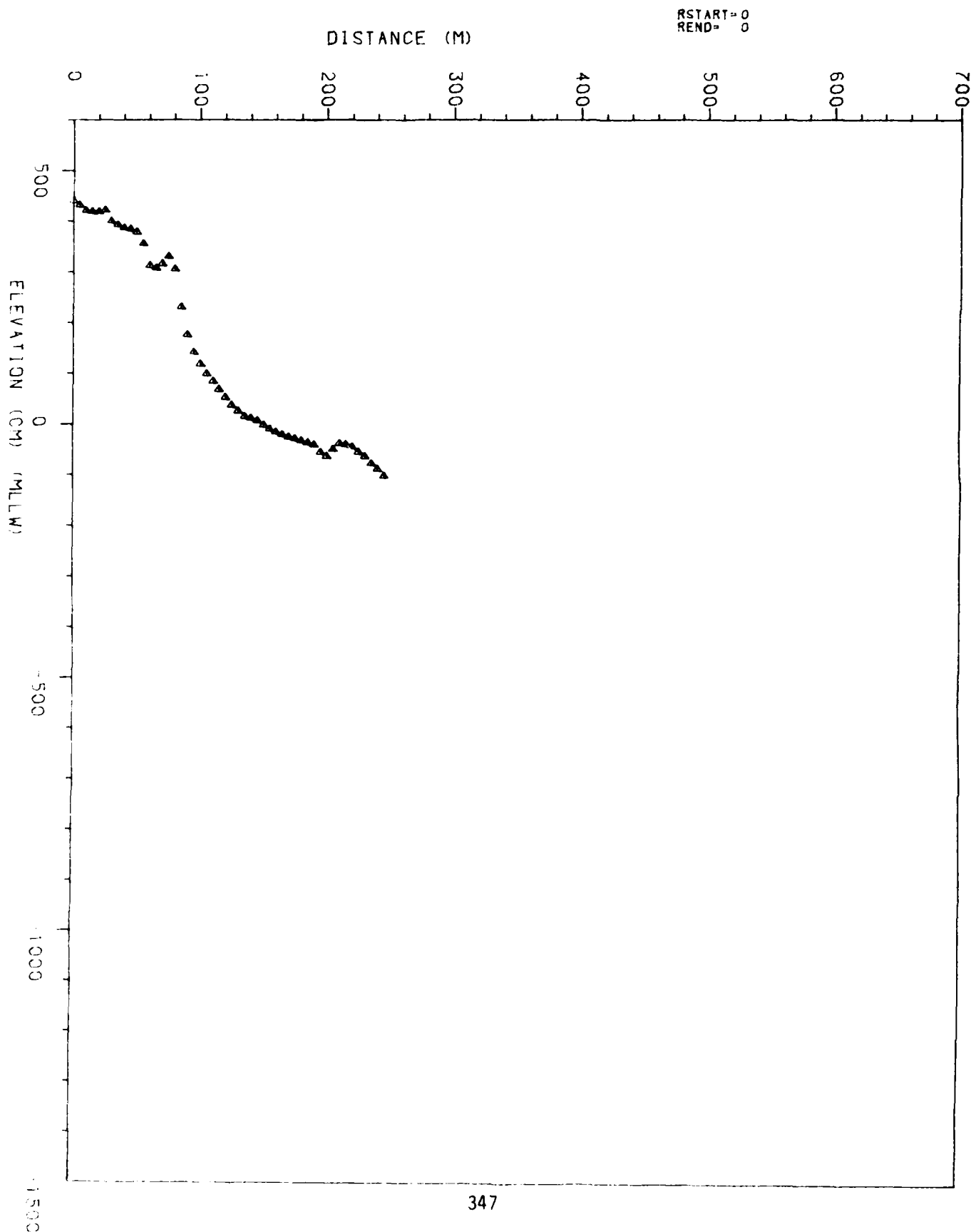


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 230
 OCT 24 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	441	220.0	-43
5.0	432	225.0	-53
10.0	421	230.0	-62
15.0	419	235.0	-76
20.0	420	240.0	-87
25.0	423	245.0	-101
30.0	401		
35.0	394		
40.0	388		
45.0	386		
50.0	380		
55.0	357		
60.0	314		
65.0	309		
70.0	318		
75.0	332		
80.0	307		
85.0	232		
90.0	177		
95.0	143		
100.0	120		
105.0	101		
110.0	86		
115.0	70		
120.0	54		
125.0	39		
130.0	28		
135.0	17		
140.0	14		
145.0	9		
150.0	0		
155.0	-8		
160.0	-14		
165.0	-19		
170.0	-24		
175.0	-27		
180.0	-31		
185.0	-35		
190.0	-39		
195.0	-54		
200.0	-62		
205.0	-48		
210.0	-37		
215.0	-39		

RANGE= 260

DEC 20 1984

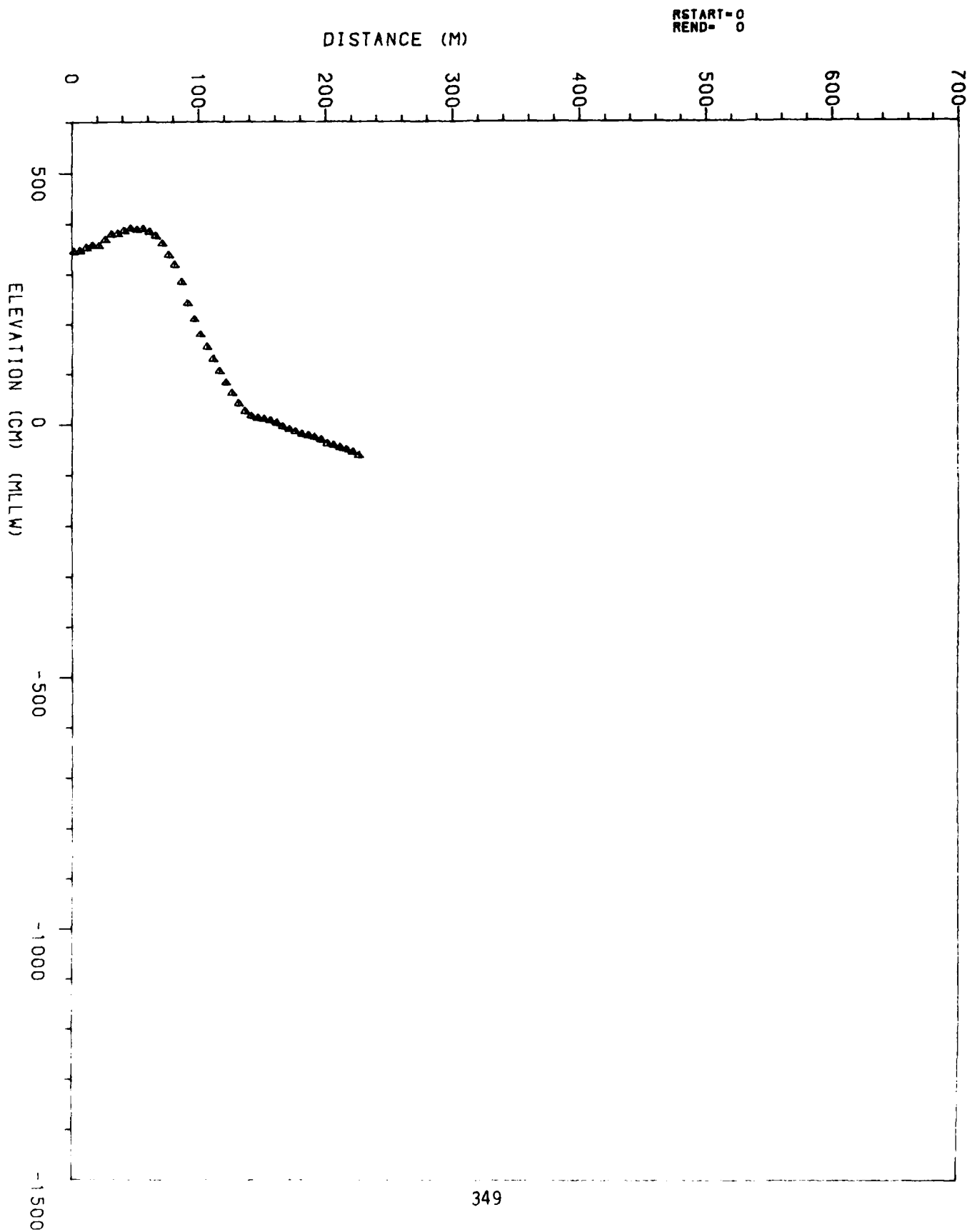


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 260
 DEC 20 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	345	220.0	-55
5.0	346	225.0	-62
10.0	352		
15.0	357		
20.0	356		
25.0	368		
30.0	379		
35.0	380		
40.0	386		
45.0	391		
50.0	388		
55.0	390		
60.0	384		
65.0	376		
70.0	361		
75.0	338		
80.0	319		
85.0	284		
90.0	241		
95.0	209		
100.0	178		
105.0	153		
110.0	129		
115.0	105		
120.0	82		
125.0	61		
130.0	41		
135.0	25		
140.0	16		
145.0	12		
150.0	10		
155.0	7		
160.0	2		
165.0	-5		
170.0	-10		
175.0	-15		
180.0	-20		
185.0	-23		
190.0	-26		
195.0	-31		
200.0	-39		
205.0	-42		
210.0	-47		
215.0	-50		

RANGE= 270

JAN 28 1985

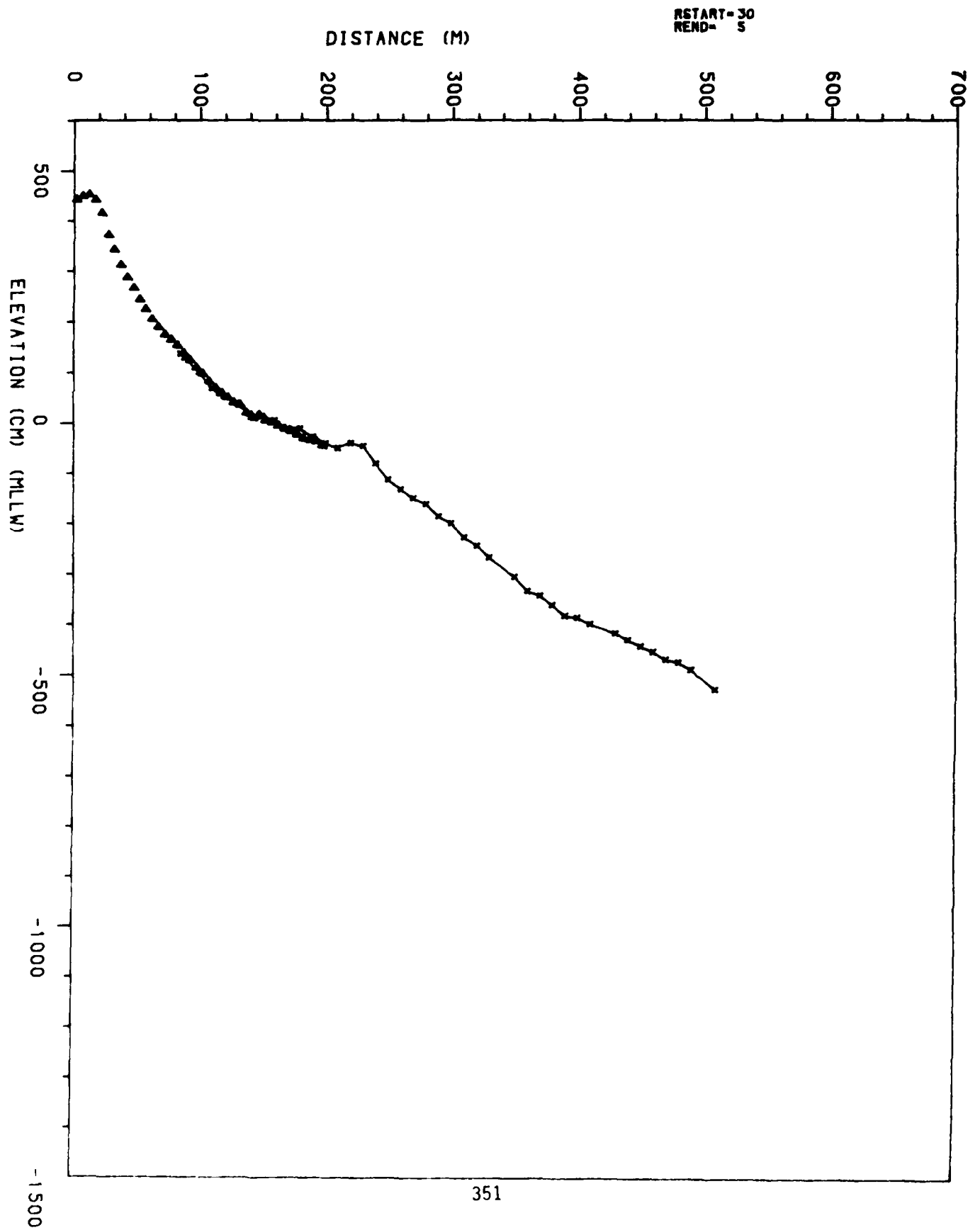


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 270
 JAN 28 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	441	359.7	-333
5.0	448	369.7	-343
10.0	451	379.7	-362
15.0	440	389.7	-382
20.0	414	399.7	-386
25.0	371	409.7	-399
30.0	342	429.7	-417
35.0	312	439.5	-430
40.0	287	449.5	-442
45.0	266	459.5	-454
50.0	243	469.5	-468
55.0	224	479.5	-475
60.0	204	489.5	-489
65.0	189	508.2	-527
70.0	174		
75.0	164		
80.0	153		
85.0	138		
88.2	129		
99.7	100		
109.7	69		
119.7	53		
129.7	39		
139.7	18		
149.7	14		
159.7	5		
169.7	-10		
179.7	-11		
189.7	-26		
199.7	-39		
209.7	-48		
219.7	-39		
229.7	-44		
239.7	-80		
249.7	-112		
259.7	-131		
269.7	-148		
279.7	-160		
289.7	-185		
299.7	-199		
309.7	-227		
319.7	-243		
329.7	-267		
349.7	-305		

RANGE= 300

JAN 28 1985

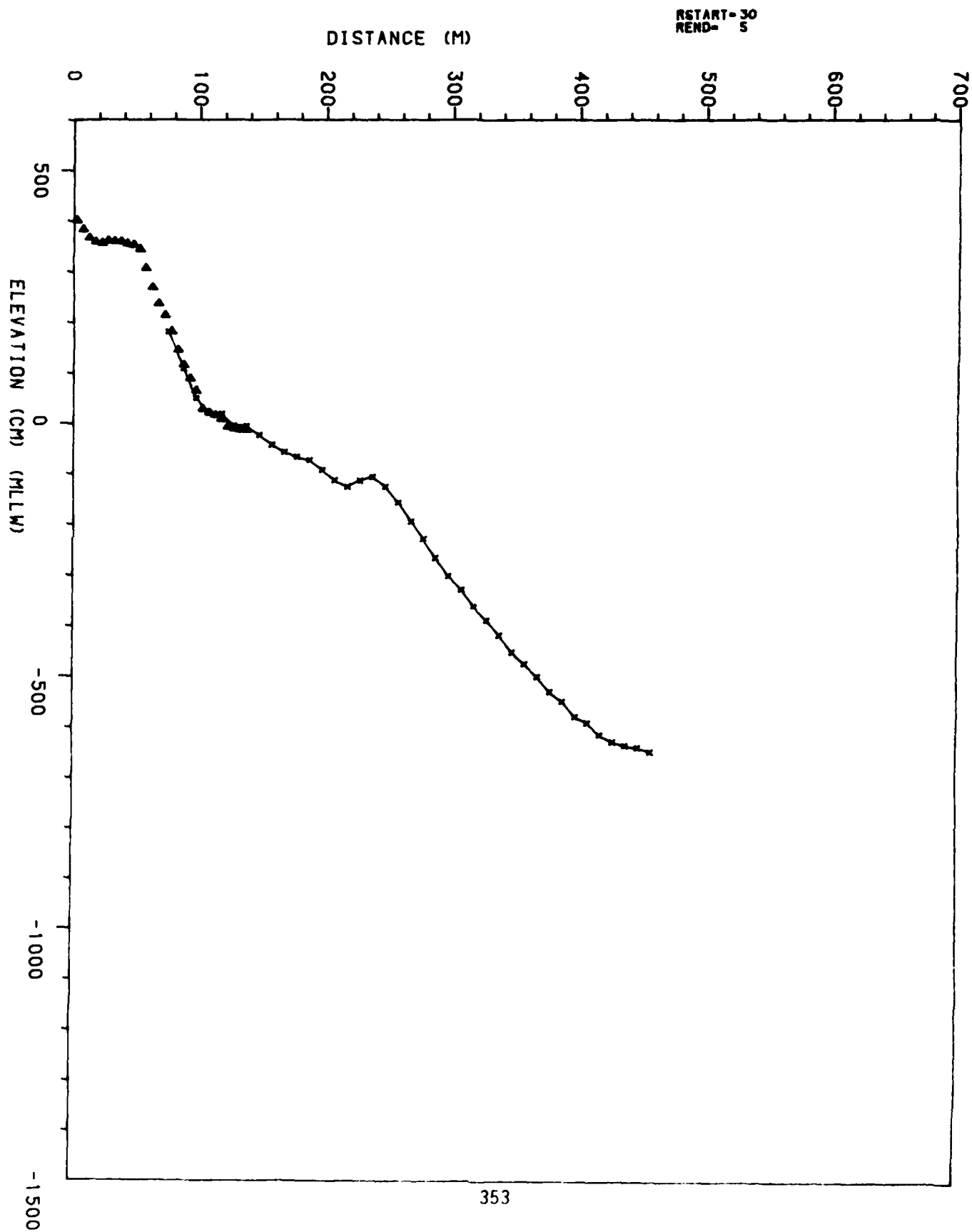


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 300
 JAN 28 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	400	367.4	-499
5.0	382	377.4	-529
10.0	365	387.4	-549
15.0	357	397.4	-578
20.0	355	407.4	-591
25.0	360	417.4	-614
30.0	359	427.4	-628
35.0	358	437.4	-636
40.0	354	447.4	-640
45.0	352	457.4	-647
50.0	343		
55.0	306		
60.0	268		
65.0	236		
70.0	213		
75.0	181		
87.4	108		
97.4	50		
107.4	21		
117.4	19		
127.4	-4		
137.4	-4		
147.4	-23		
157.4	-42		
167.4	-57		
177.4	-66		
187.4	-72		
197.4	-92		
207.4	-112		
217.4	-126		
227.4	-113		
237.4	-106		
247.4	-125		
257.4	-156		
267.4	-194		
277.4	-228		
287.4	-266		
297.4	-301		
307.4	-328		
317.4	-361		
327.4	-388		
337.4	-418		
347.4	-452		
357.4	-475		

RANGE= 310

OCT 22 1984

RSTART= 30
REND= 5

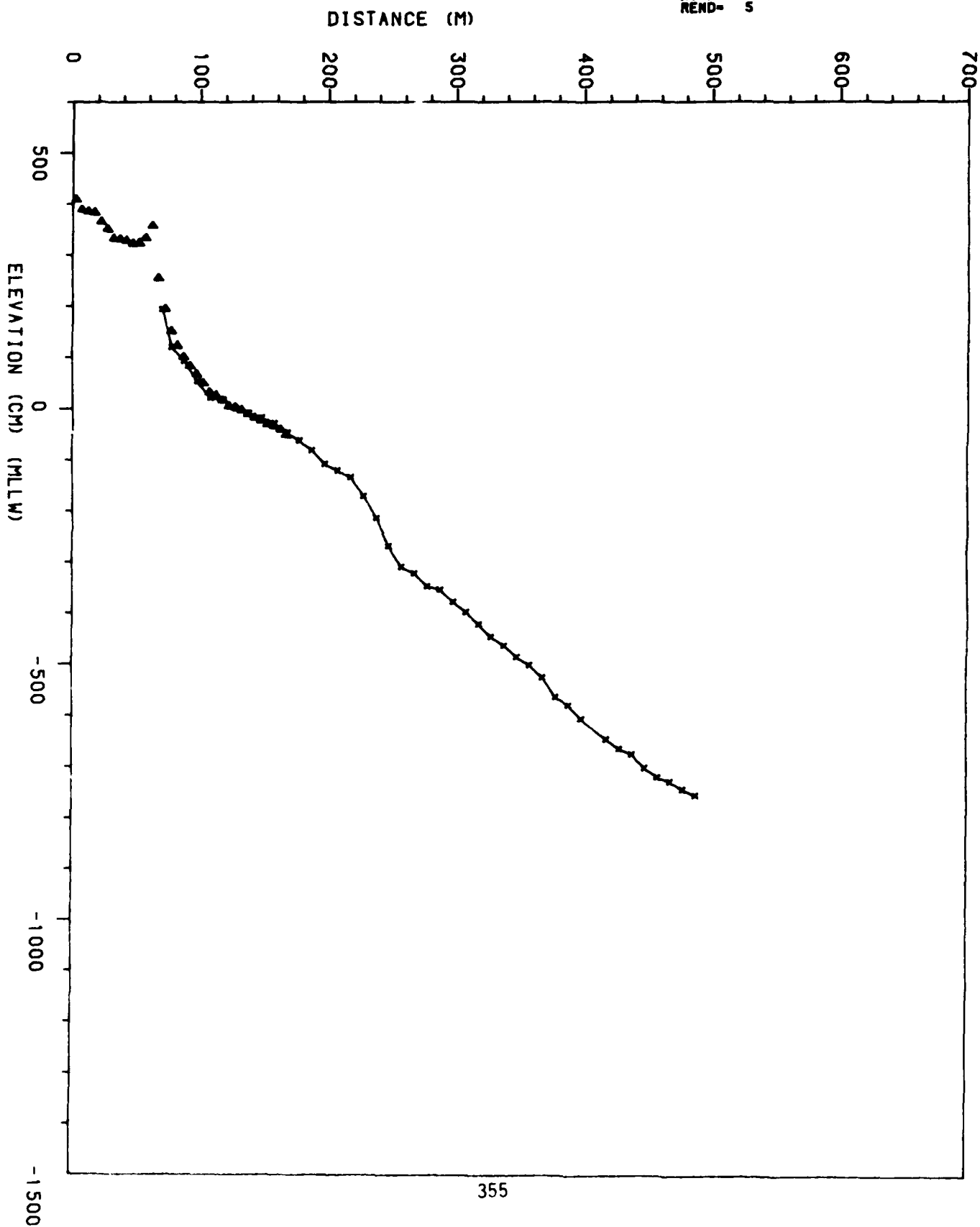


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 310
 OCT 22 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	407	367.9	-525
5.0	387	377.9	-563
10.0	384	387.9	-579
15.0	382	397.9	-605
20.0	364	417.9	-645
25.0	350	427.9	-665
30.0	332	437.9	-675
35.0	331	447.9	-702
40.0	328	457.9	-719
45.0	322	467.9	-728
50.0	323	477.9	-743
55.0	333	487.9	-755
60.0	356		
65.0	254		
70.0	194		
77.9	119		
87.9	93		
97.9	53		
107.9	21		
117.9	18		
127.9	0		
137.9	-7		
147.9	-17		
157.9	-28		
167.9	-45		
177.9	-61		
187.9	-80		
197.9	-107		
207.9	-120		
217.9	-133		
227.9	-170		
237.9	-212		
247.9	-268		
257.9	-309		
267.9	-321		
277.9	-347		
287.9	-354		
297.9	-378		
307.9	-398		
317.9	-420		
327.9	-445		
337.9	-463		
347.9	-485		
357.9	-501		

RANGE= 340

OCT 18 1984

RSTART= 30
REND= 5

DISTANCE (M)

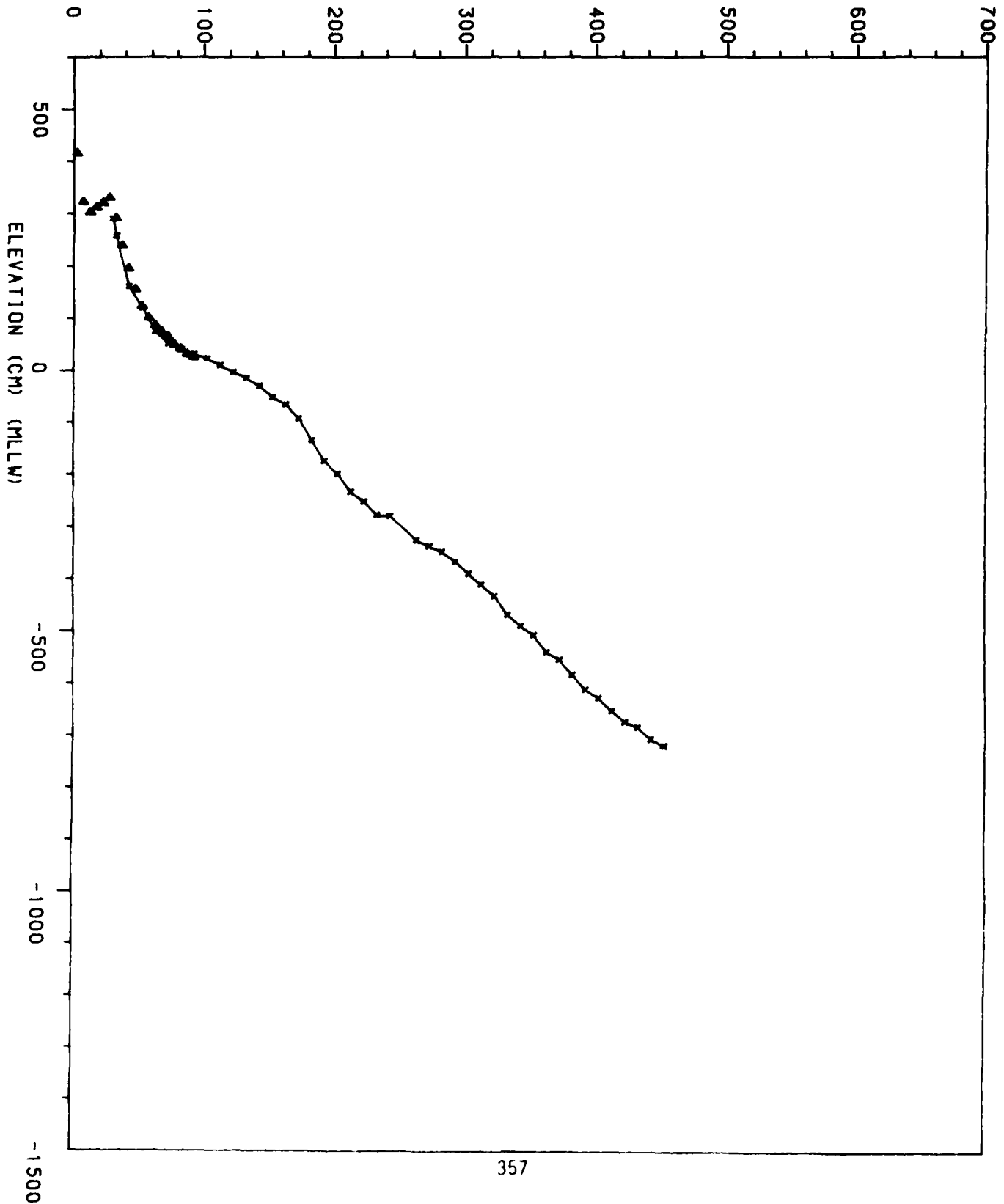


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 340
 OCT 18 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	414	412.7	-653
5.0	322	422.7	-674
10.0	302	432.7	-684
15.0	311	442.7	-707
20.0	320	452.7	-720
25.0	330	452.9	-721
30.0	291		
32.7	257		
42.7	161		
52.7	119		
62.7	75		
72.7	51		
82.7	40		
92.7	30		
102.7	22		
112.7	9		
122.7	-3		
132.7	-14		
142.7	-29		
152.7	-51		
162.7	-66		
172.7	-93		
182.7	-134		
192.7	-175		
202.7	-199		
212.7	-233		
222.7	-252		
232.7	-277		
242.7	-280		
262.7	-325		
272.7	-336		
282.7	-347		
292.7	-366		
302.7	-390		
312.7	-411		
322.7	-433		
332.7	-470		
342.7	-490		
352.7	-507		
362.7	-540		
372.7	-555		
382.7	-584		
392.7	-611		
402.7	-628		

RANGE= 360

JAN 31 1985

RSTART=30
REND=5

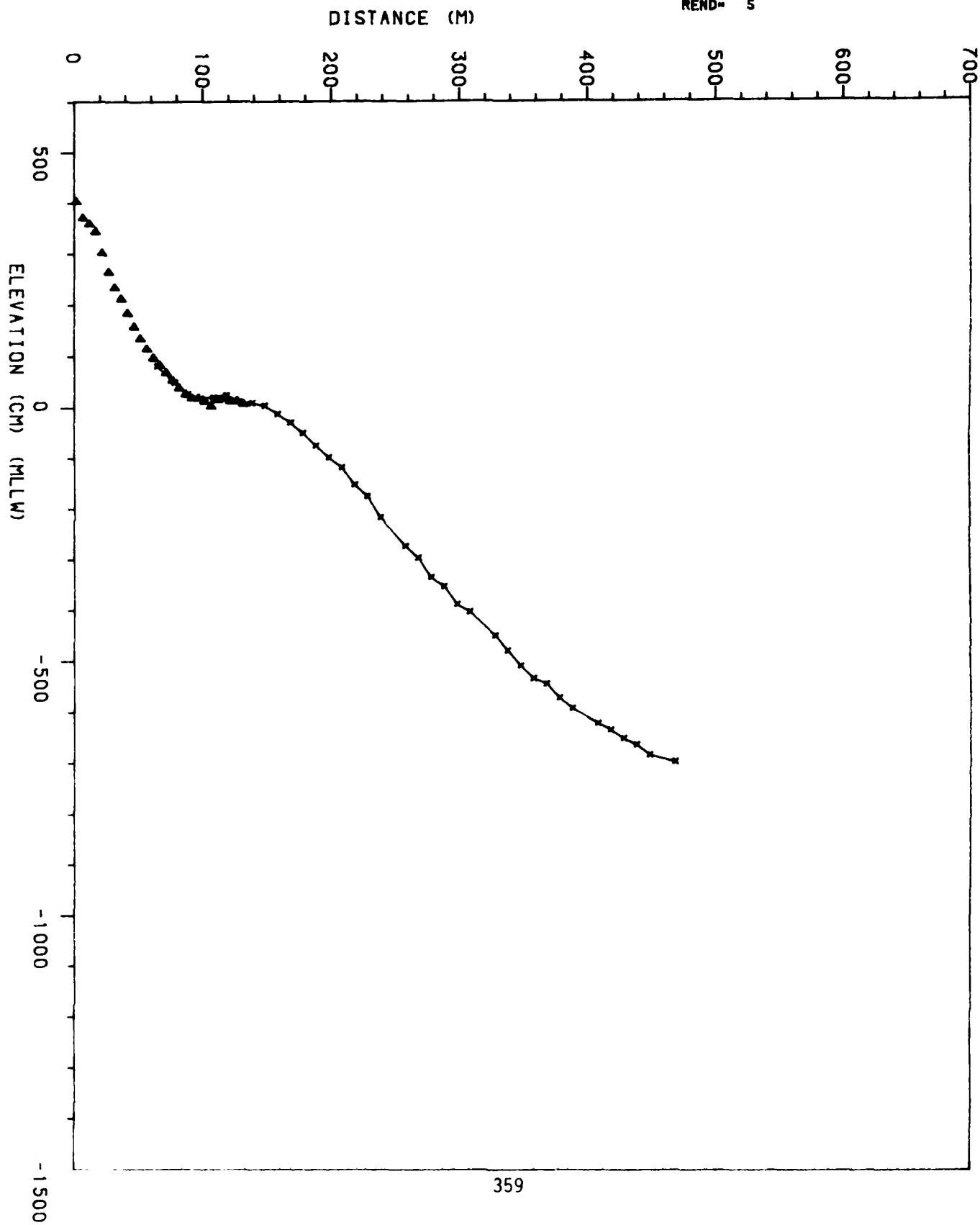


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 360
 JAN 31 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	402	408.6	-622
5.0	369	418.6	-635
10.0	357	428.6	-652
15.0	342	438.6	-664
20.0	301	448.6	-685
25.0	263	468.6	-698
30.0	233		
35.0	211		
40.0	183		
45.0	157		
50.0	134		
55.0	114		
60.0	96		
65.0	82		
78.6	49		
88.6	26		
98.6	18		
108.6	19		
118.6	24		
128.6	12		
138.6	9		
148.6	4		
158.6	-12		
168.6	-29		
178.6	-49		
188.6	-75		
198.6	-98		
208.6	-118		
218.6	-153		
228.6	-176		
238.6	-216		
258.6	-273		
268.6	-296		
278.6	-335		
288.6	-353		
298.6	-388		
308.6	-403		
328.6	-450		
338.6	-480		
348.6	-509		
358.6	-534		
368.6	-545		
378.6	-573		
388.6	-593		

RANGE= 384

OCT 18 1984

RSTART= 30
REND= 5

DISTANCE (M)

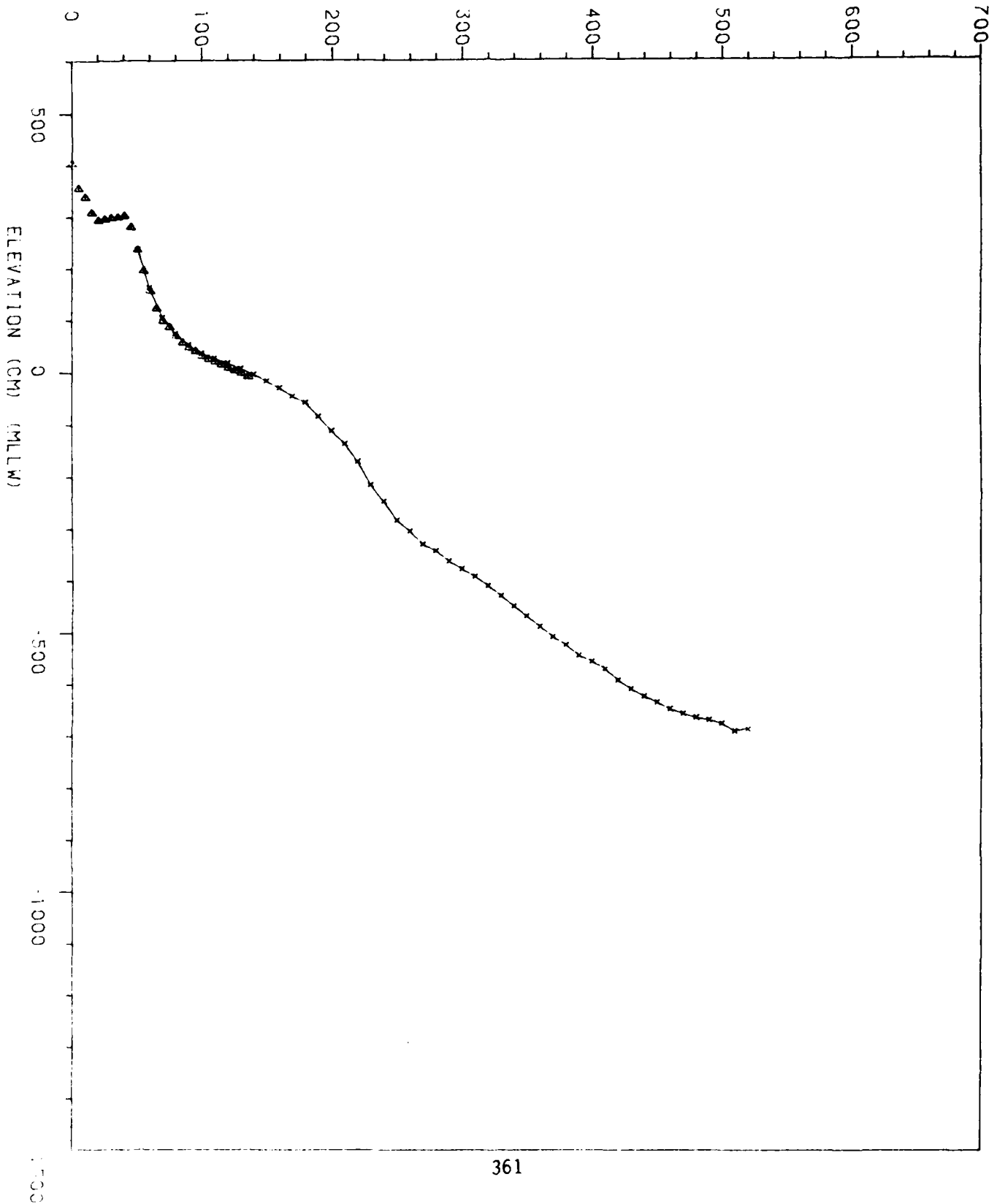


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 384
 OCT 18 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	404	389.4	-545
5.0	356	399.4	-557
10.0	339	409.4	-572
15.0	309	419.4	-593
20.0	294	429.4	-610
25.0	297	439.4	-625
30.0	300	449.4	-636
35.0	301	459.4	-649
40.0	303	469.4	-658
45.0	281	479.4	-666
50.0	237	489.4	-671
59.4	164	499.4	-678
69.4	105	509.4	-692
79.4	74	519.4	-689
89.4	52		
99.4	36		
109.4	27		
119.4	17		
129.4	7		
139.4	-3		
149.4	-16		
159.4	-29		
169.4	-45		
179.4	-57		
189.4	-84		
199.4	-111		
209.4	-136		
219.4	-171		
229.4	-215		
239.4	-247		
249.4	-284		
259.4	-305		
269.4	-330		
279.4	-343		
289.4	-363		
299.4	-378		
309.4	-392		
319.4	-410		
329.4	-430		
339.4	-450		
349.4	-470		
359.4	-489		
369.4	-509		
379.4	-525		

RANGE= 390

JAN 31 1985

RSTART=30
REND=5

DISTANCE (M)

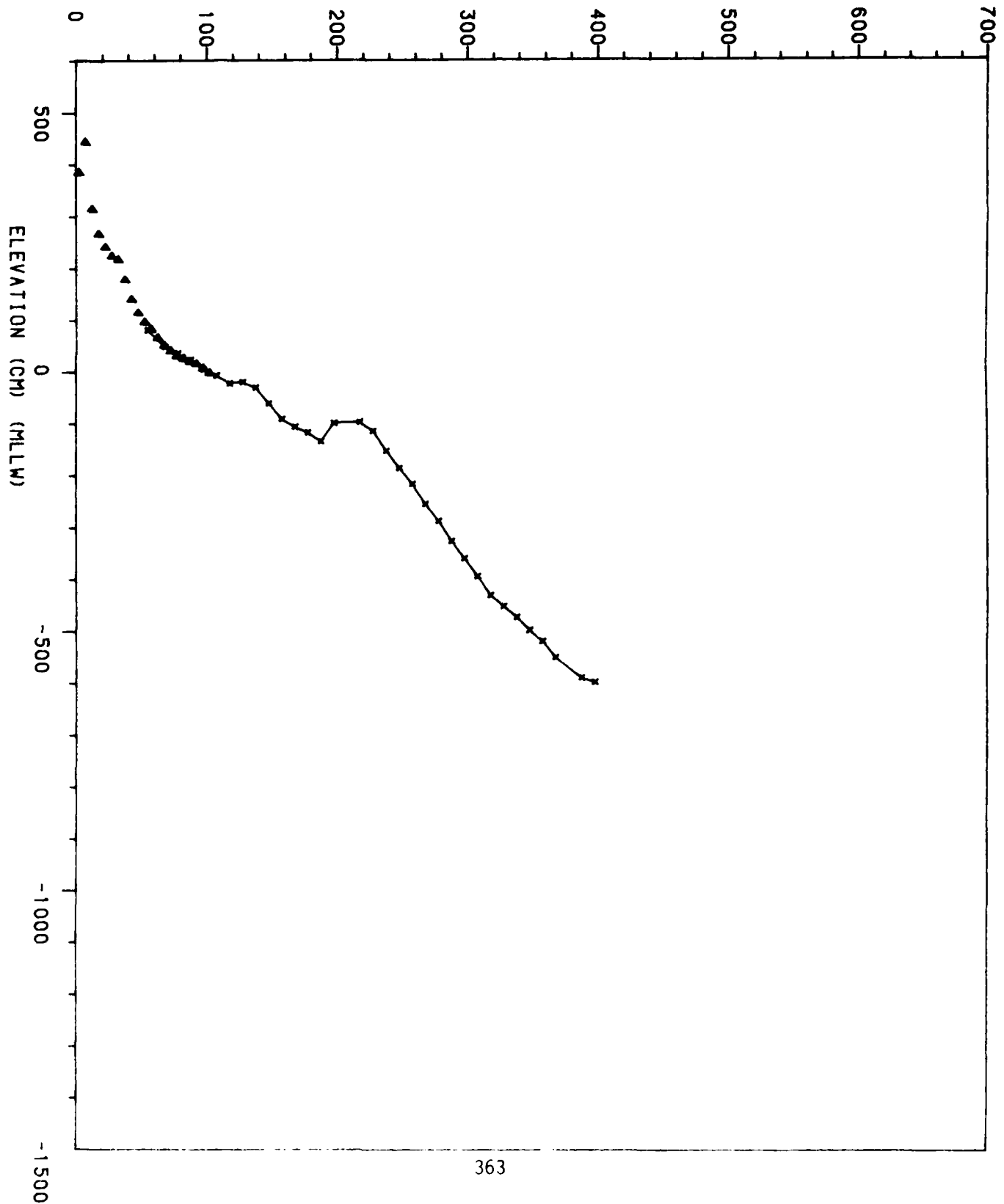


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 390
JAN 31 1985

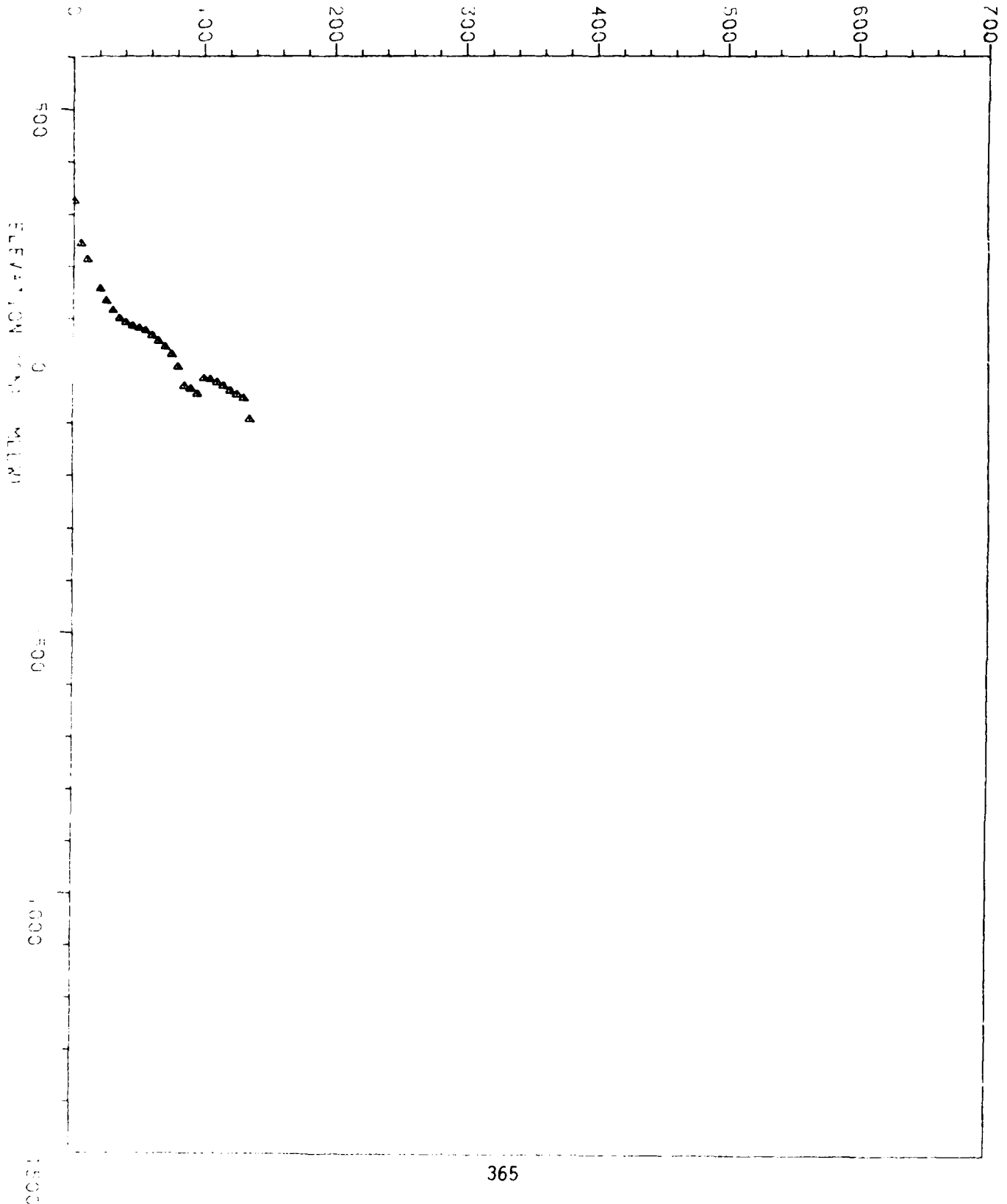
PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	384
5.0	442
10.0	314
15.0	266
20.0	241
25.0	224
30.0	217
35.0	178
40.0	140
45.0	114
50.0	96
55.0	82
68.2	49
78.2	36
88.2	23
98.2	5
108.2	-6
118.2	-21
128.2	-19
138.2	-30
148.2	-61
158.2	-91
168.2	-106
178.2	-117
188.2	-134
198.2	-99
218.2	-97
228.2	-114
238.2	-152
248.2	-186
258.2	-216
268.2	-255
278.2	-287
288.2	-326
298.2	-360
308.2	-394
318.2	-430
328.2	-451
338.2	-473
348.2	-498
358.2	-519
368.2	-551
388.2	-590
398.2	-599

RANGE= 408

OCT 22 1984

DISTANCE (M)

PSTART=0
REND=0



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 408
OCT 22 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	327
5.0	245
10.0	214
15.0	183
20.0	157
25.0	134
30.0	116
35.0	100
40.0	92
45.0	85
50.0	81
55.0	76
60.0	67
65.0	56
70.0	45
75.0	31
80.0	7
85.0	-30
90.0	-35
95.0	-45
100.0	-15
105.0	-17
110.0	-23
115.0	-30
120.0	-39
125.0	-46
130.0	-53
135.0	-93

RANGE= 443

OCT 22 1984

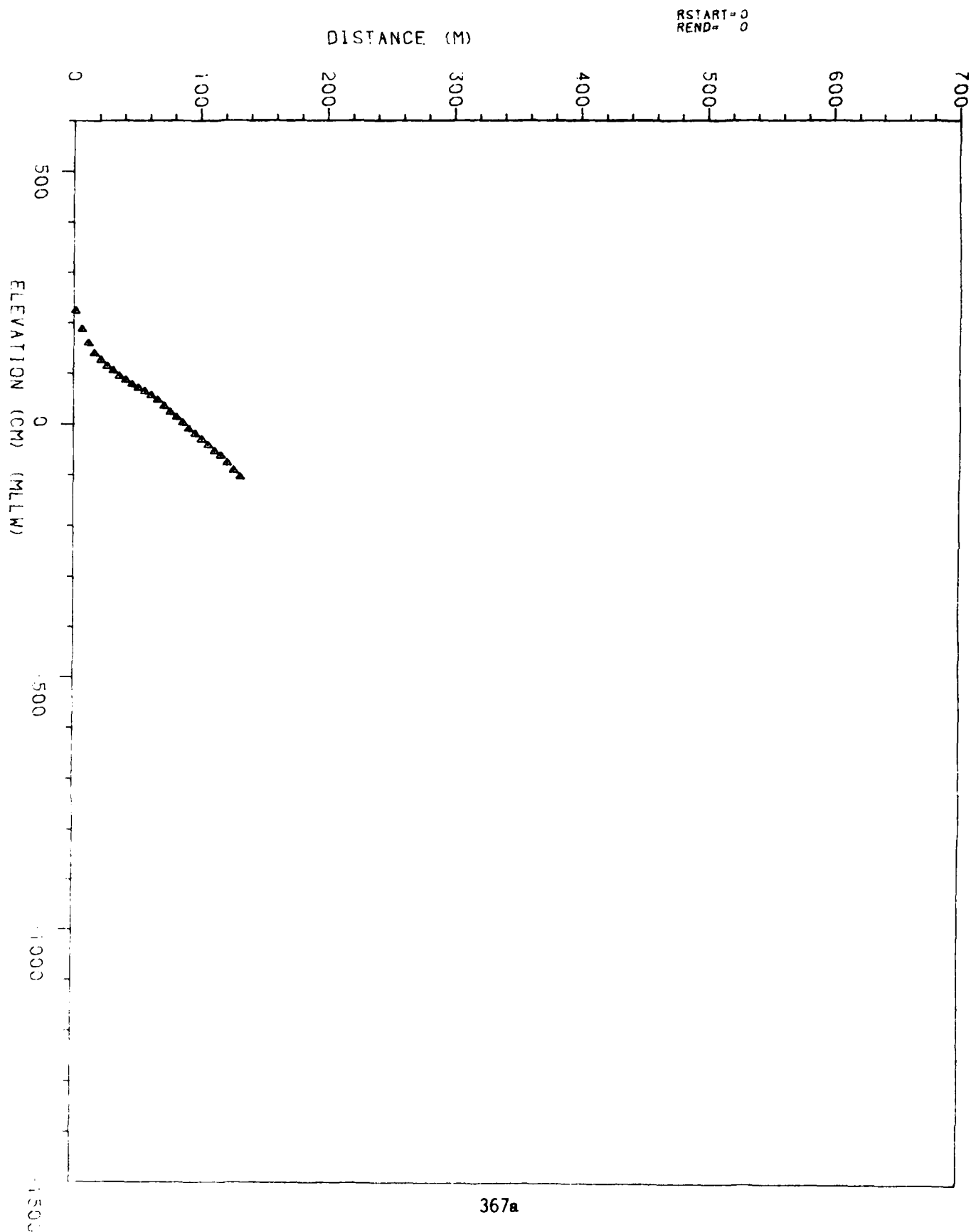


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 443
OCT 22 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	224
5.0	187
10.0	160
15.0	140
20.0	127
25.0	115
30.0	106
35.0	95
40.0	87
45.0	79
50.0	72
55.0	65
60.0	57
65.0	48
70.0	36
75.0	24
80.0	14
85.0	3
90.0	-9
95.0	-19
100.0	-30
105.0	-41
110.0	-53
115.0	-62
120.0	-76
125.0	-91
130.0	-104

RANGE= 445

OCT 16 1984

RSTART= 30
REND= 5

DISTANCE (M)

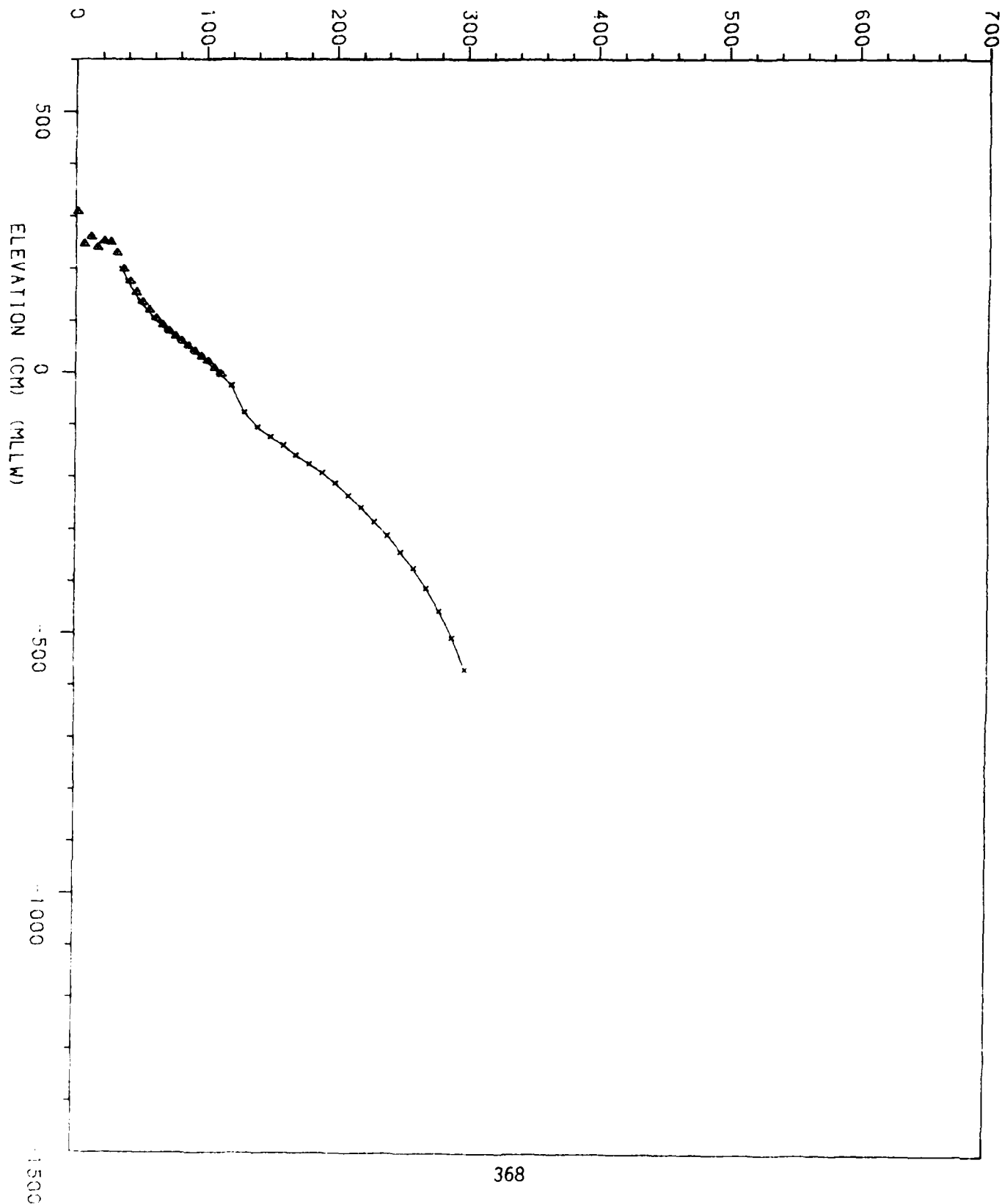


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 445
OCT 16 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	308
5.0	246
10.0	260
15.0	240
20.0	252
25.0	250
30.0	230
35.0	199
39.6	176
49.6	136
59.6	105
69.6	83
79.6	64
89.6	43
99.6	23
109.6	1
119.6	-24
129.6	-76
139.5	-105
149.5	-123
159.5	-139
169.5	-159
179.5	-175
189.5	-193
199.5	-211
209.5	-235
219.5	-258
229.5	-285
239.5	-311
249.5	-343
259.5	-374
269.5	-412
279.5	-457
289.5	-508
299.5	-571

RANGE= 450

OCT 16 1984

RSTART= 30
REND= 5

DISTANCE (M)

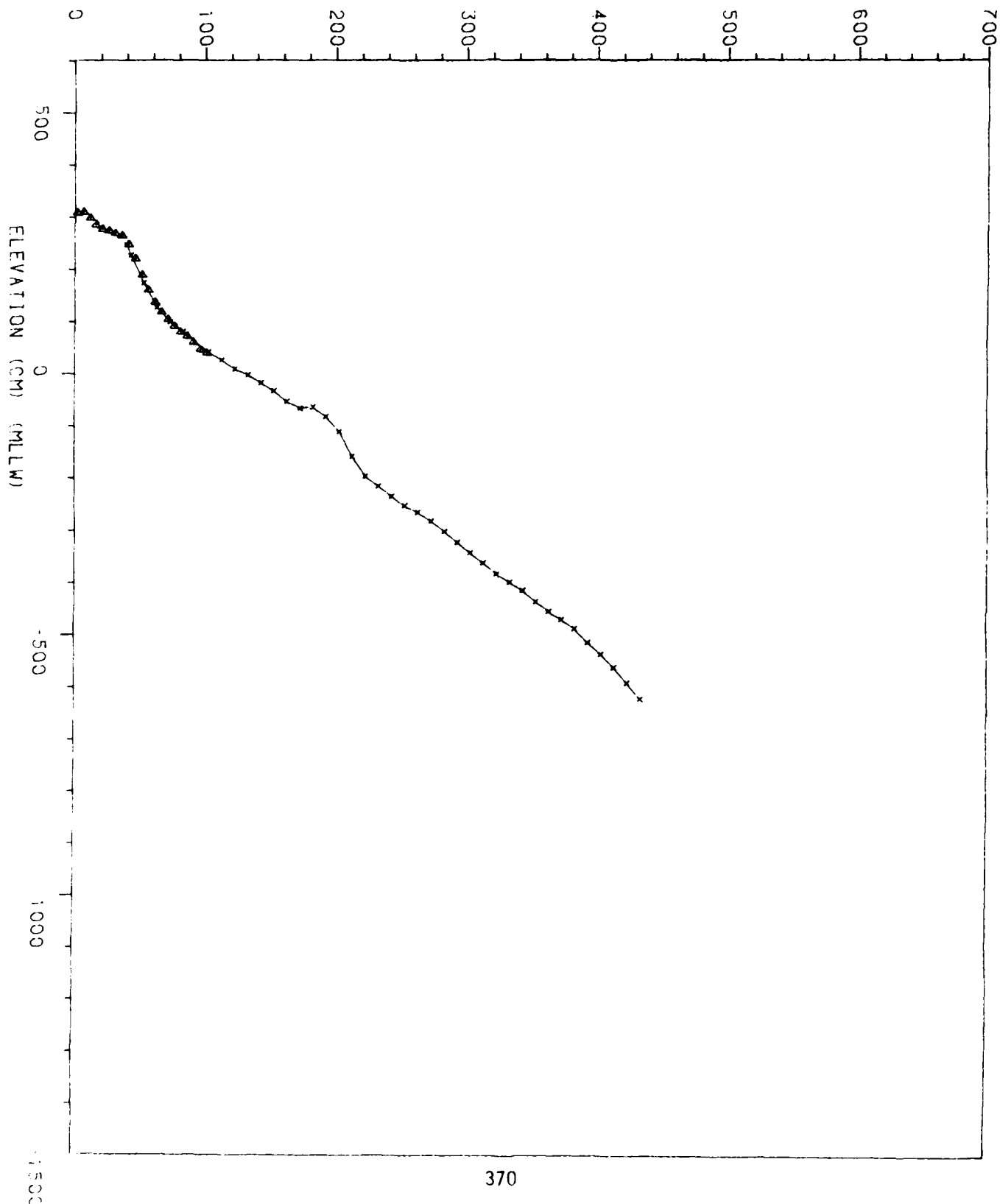


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 450
 OCT 16 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	308	403.0	-536
5.0	309	413.0	-562
10.0	297	423.0	-591
15.0	284	433.0	-622
20.0	276		
25.0	273		
30.0	268		
35.0	264		
40.0	247		
43.0	227		
53.0	173		
63.0	126		
73.0	98		
83.0	80		
103.0	41		
113.0	25		
123.0	9		
133.0	-2		
143.0	-17		
153.0	-33		
163.0	-53		
173.0	-65		
183.0	-63		
193.0	-82		
203.0	-110		
213.0	-158		
223.0	-196		
233.0	-215		
243.0	-234		
253.0	-252		
263.0	-265		
273.0	-282		
283.0	-301		
293.0	-322		
303.0	-341		
313.0	-362		
323.0	-383		
333.0	-398		
343.0	-414		
353.0	-436		
363.0	-455		
373.0	-470		
383.0	-488		
393.0	-514		

RANGE= 460

OCT 05 1984

RSTART= 30
REND= 5

DISTANCE (M)

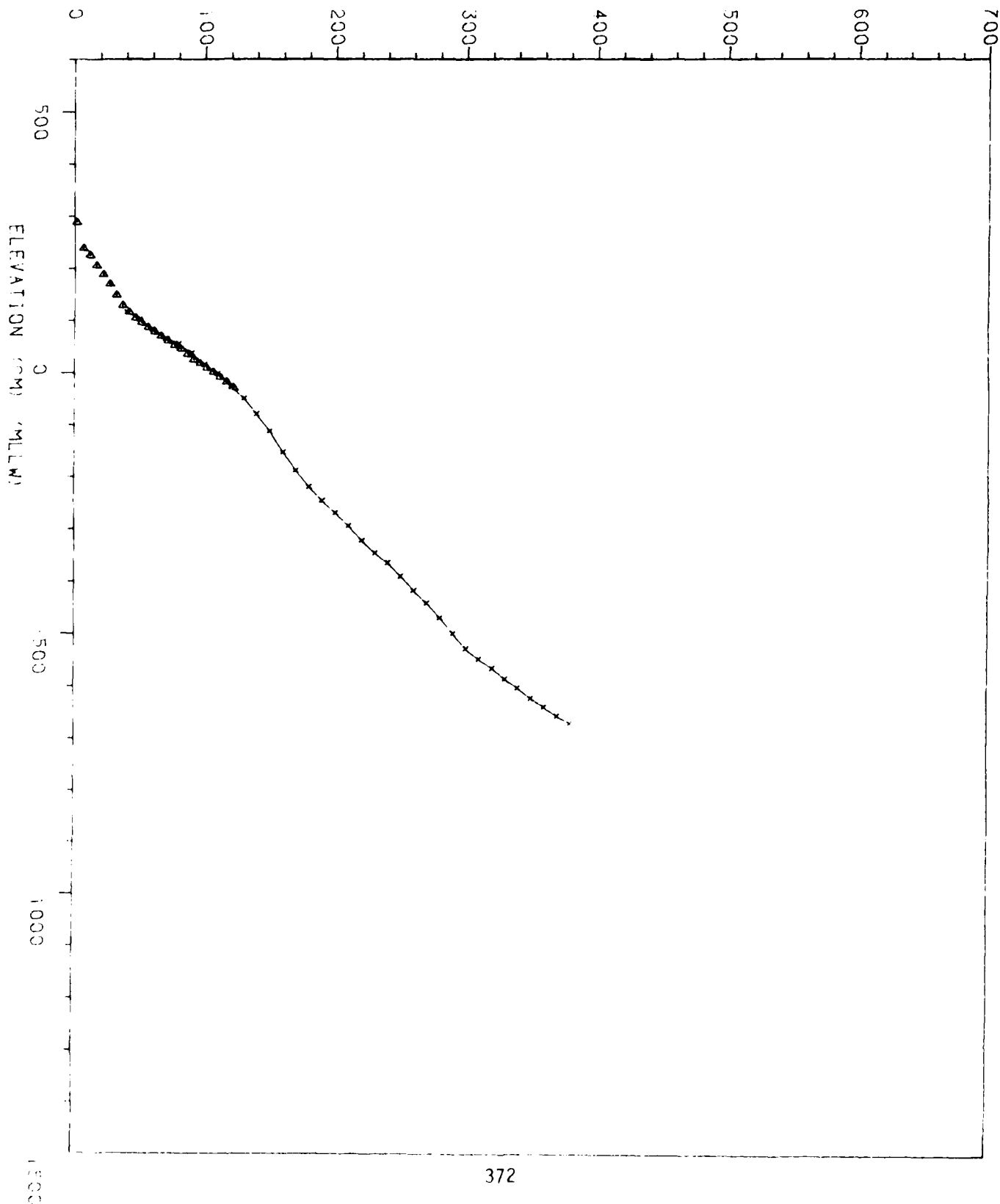
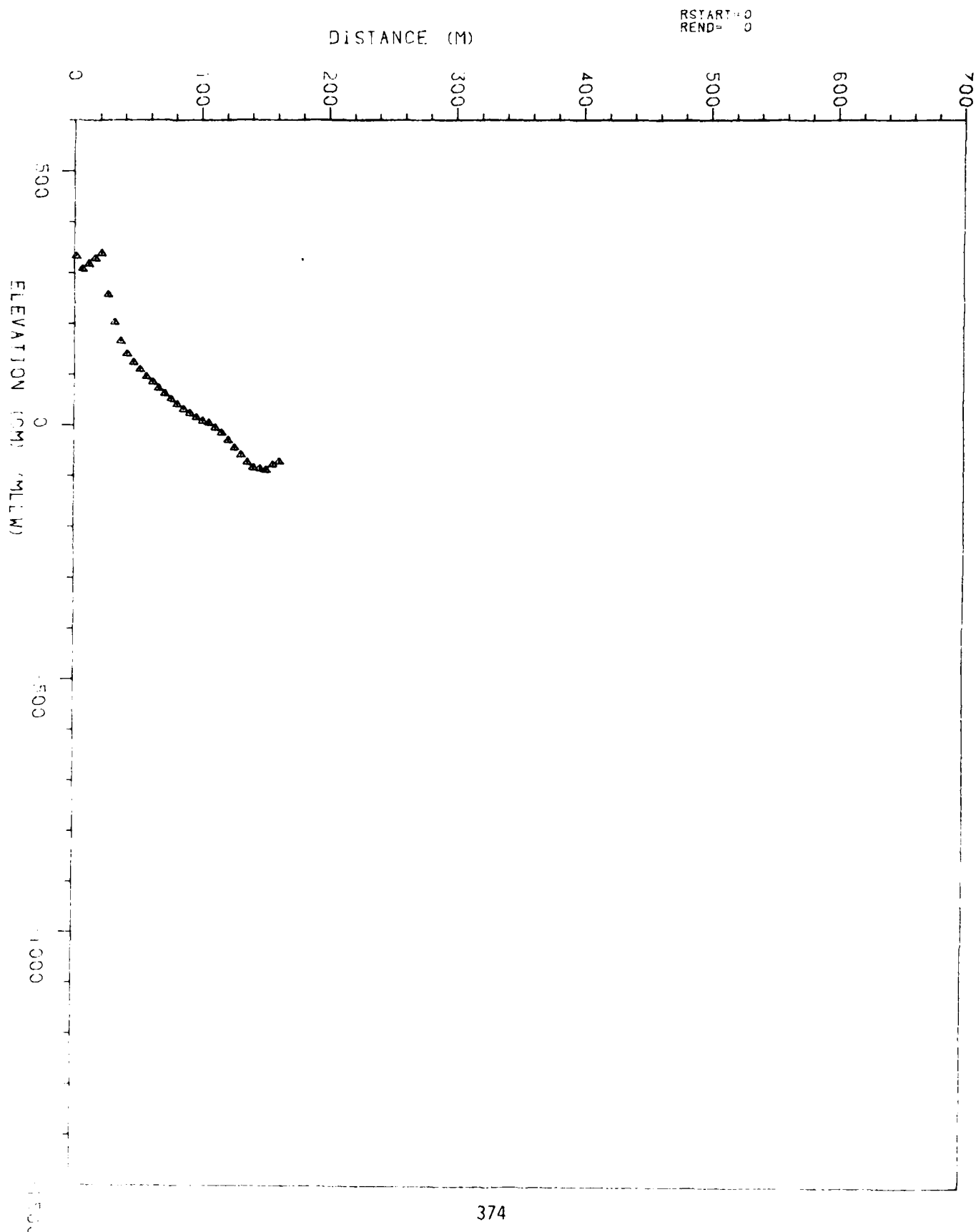


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 460
OCT 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	288
5.0	238
10.0	225
15.0	205
20.0	188
25.0	170
30.0	149
35.0	129
40.0	116
49.7	102
59.7	83
69.7	65
79.7	56
89.7	38
99.7	16
109.7	-1
119.7	-26
129.7	-48
139.7	-79
149.7	-111
159.7	-152
169.7	-187
179.7	-218
189.7	-245
199.7	-269
209.7	-293
219.7	-321
229.7	-345
239.7	-364
249.7	-390
259.7	-416
269.7	-441
279.7	-469
289.7	-499
299.7	-528
309.7	-548
319.7	-566
329.7	-586
339.7	-603
349.7	-623
359.7	-639
369.7	-656
379.7	-670

RANGE= 470

OCT 24 1984



AD-A168 119

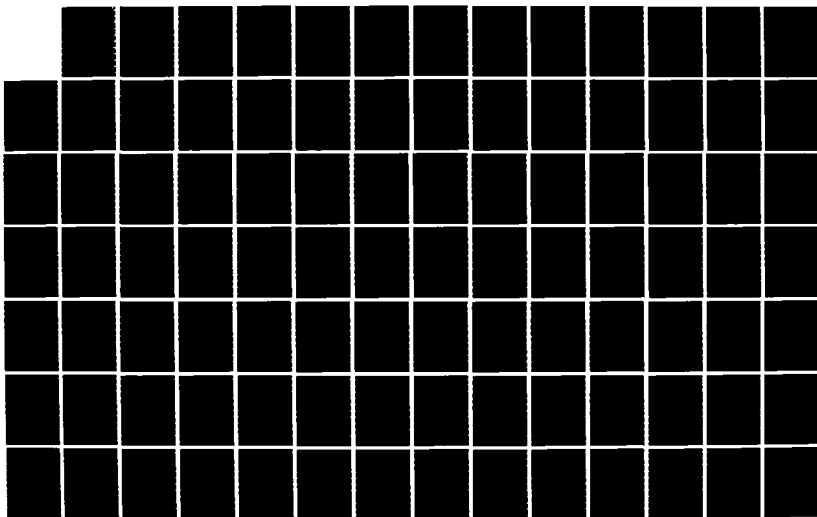
COAST OF CALIFORNIA STORM AND TIDAL WAVES STUDY
NEARSHORE BATHYMETRIC SUR. (U) SCRIPPS INSTITUTION OF
OCEANOGRAPHY LA JOLLA CA OCEAN ENGINEE..
C GABLE ET AL. DEC 85 CCSTMS-85-3

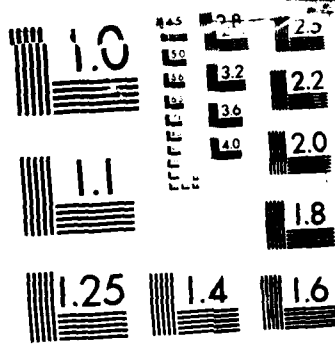
5/6

UNCLASSIFIED

F/G 8/10

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 470
OCT 24 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	332
5.0	307
10.0	317
15.0	328
20.0	338
25.0	257
30.0	203
35.0	166
40.0	141
45.0	124
50.0	110
55.0	96
60.0	85
65.0	73
70.0	62
75.0	52
80.0	42
85.0	32
90.0	24
95.0	16
100.0	9
105.0	5
110.0	-5
115.0	-15
120.0	-30
125.0	-45
130.0	-59
135.0	-74
140.0	-84
145.0	-85
150.0	-88
155.0	-78
160.0	-72

RANGE: 520

NOV 02 1984

RSTART: 30
REND: 5

DISTANCE (M)

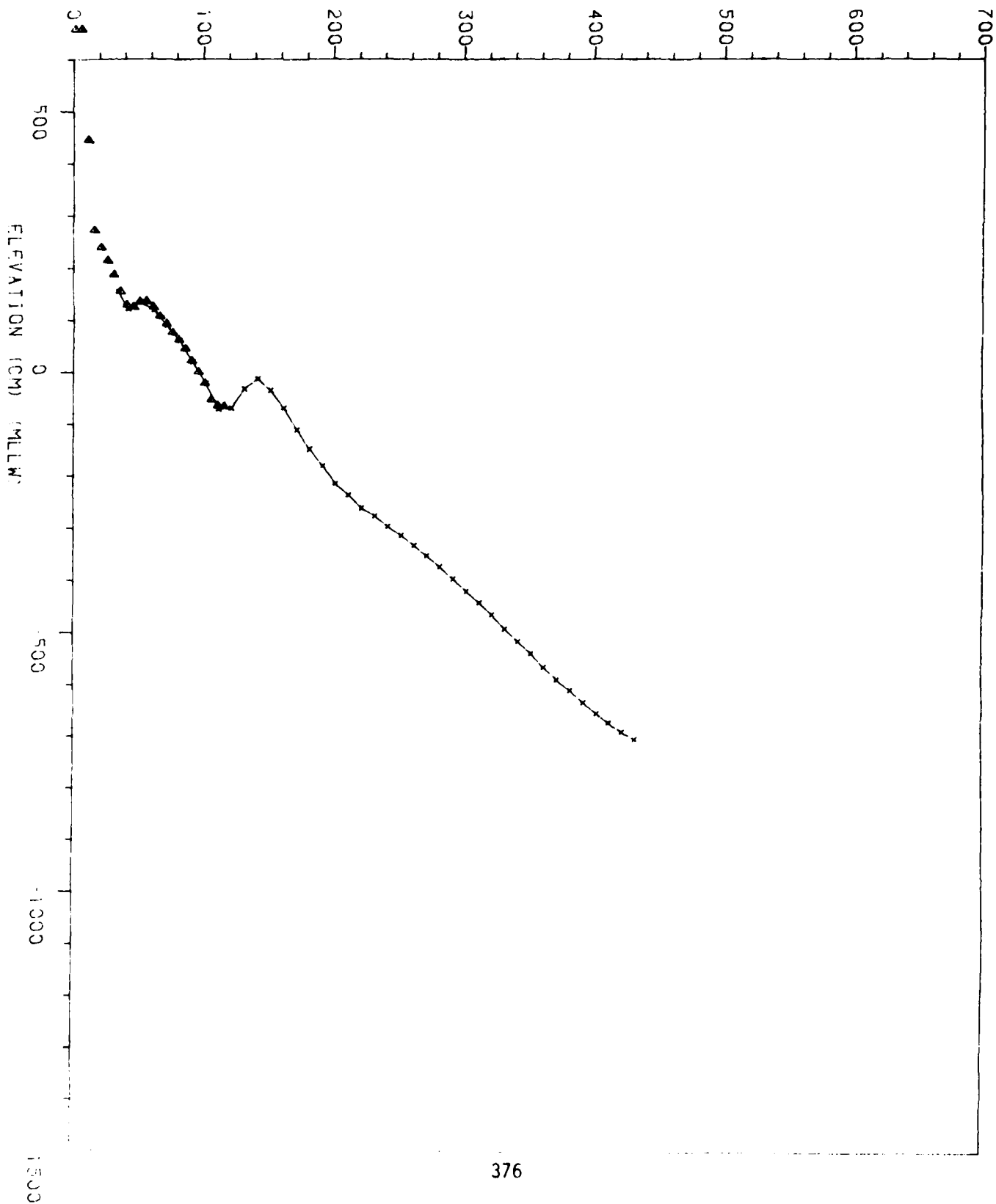


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 520
 NOV 02 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	657	401.9	-656
5.0	657	411.9	-674
10.0	445	421.9	-691
15.0	272	431.9	-705
20.0	239		
25.0	214		
30.0	187		
35.0	155		
41.9	121		
51.9	134		
61.9	119		
71.9	89		
81.9	61		
91.9	19		
101.9	-21		
111.9	-71		
121.9	-69		
131.9	-32		
141.9	-12		
151.9	-35		
161.9	-68		
171.9	-110		
181.9	-148		
191.9	-181		
201.9	-214		
211.9	-237		
221.9	-262		
231.9	-278		
241.9	-298		
251.9	-315		
261.9	-333		
271.9	-353		
281.9	-375		
291.9	-397		
301.9	-421		
311.9	-442		
321.9	-465		
331.9	-493		
341.9	-517		
351.9	-540		
361.9	-567		
371.9	-590		
381.9	-611		
391.9	-634		

RANGE= 530

NOV 02 1984

RSTART=30
REND=5

DISTANCE (M)

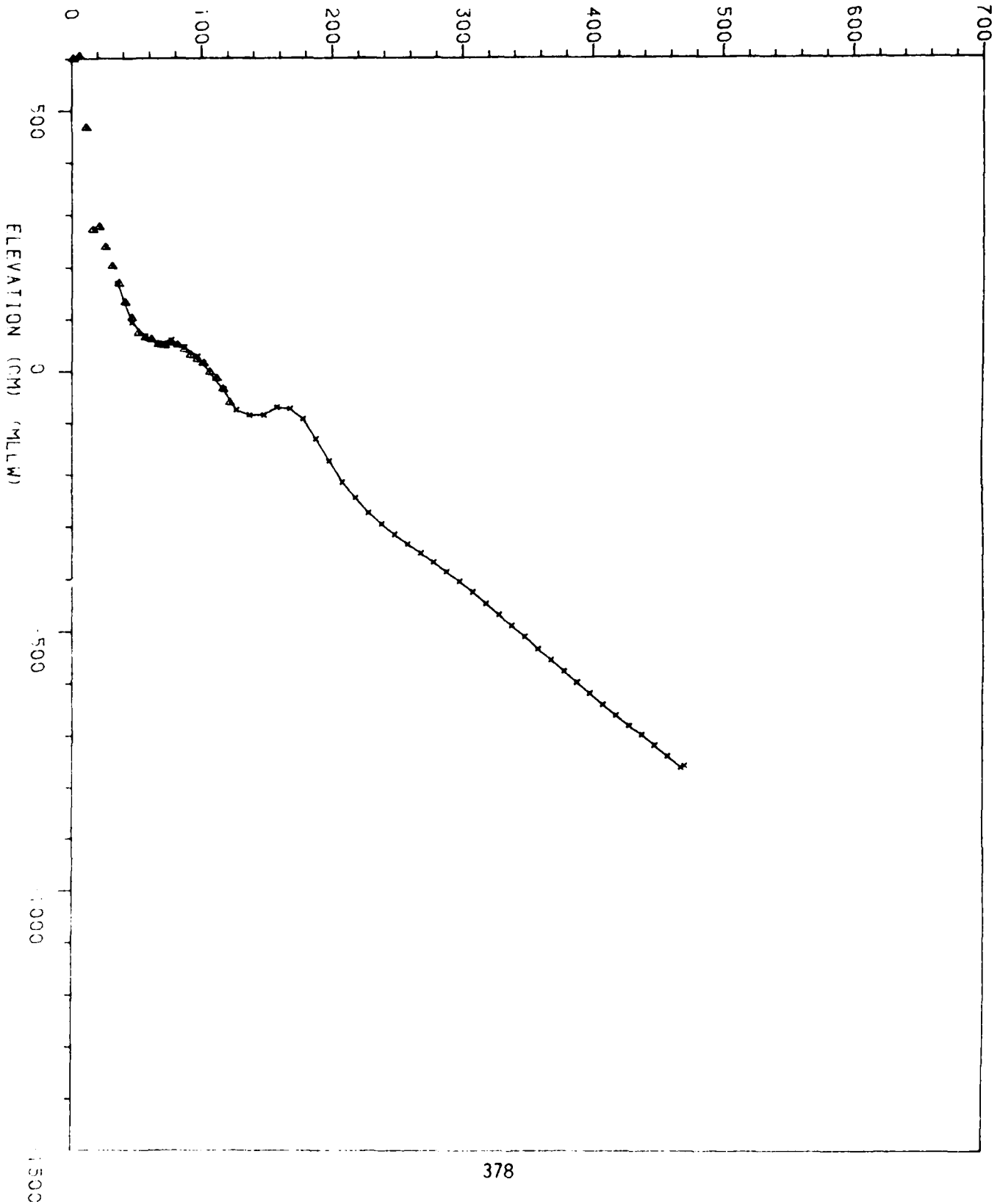


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 530
 NOV 02 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	600	417.5	-661
5.0	605	427.5	-682
10.0	467	437.5	-699
15.0	271	447.5	-719
20.0	277	457.5	-740
25.0	238	467.5	-762
30.0	201	470.4	-758
35.0	168		
46.4	93		
56.4	66		
66.4	52		
76.4	58		
86.4	45		
96.4	28		
116.4	-35		
126.4	-75		
136.4	-85		
147.4	-85		
157.5	-70		
167.5	-72		
177.5	-93		
187.5	-131		
197.5	-174		
207.5	-215		
217.5	-245		
227.5	-274		
237.5	-295		
247.5	-315		
257.5	-334		
267.5	-351		
277.5	-368		
287.5	-386		
297.5	-404		
307.5	-425		
317.5	-447		
327.5	-468		
337.5	-489		
347.5	-510		
357.5	-534		
367.5	-555		
377.5	-577		
387.5	-598		
397.5	-619		
407.5	-641		

RANGE= 540

OCT 25 1984

DISTANCE (M)

RSTART=0
REND=0

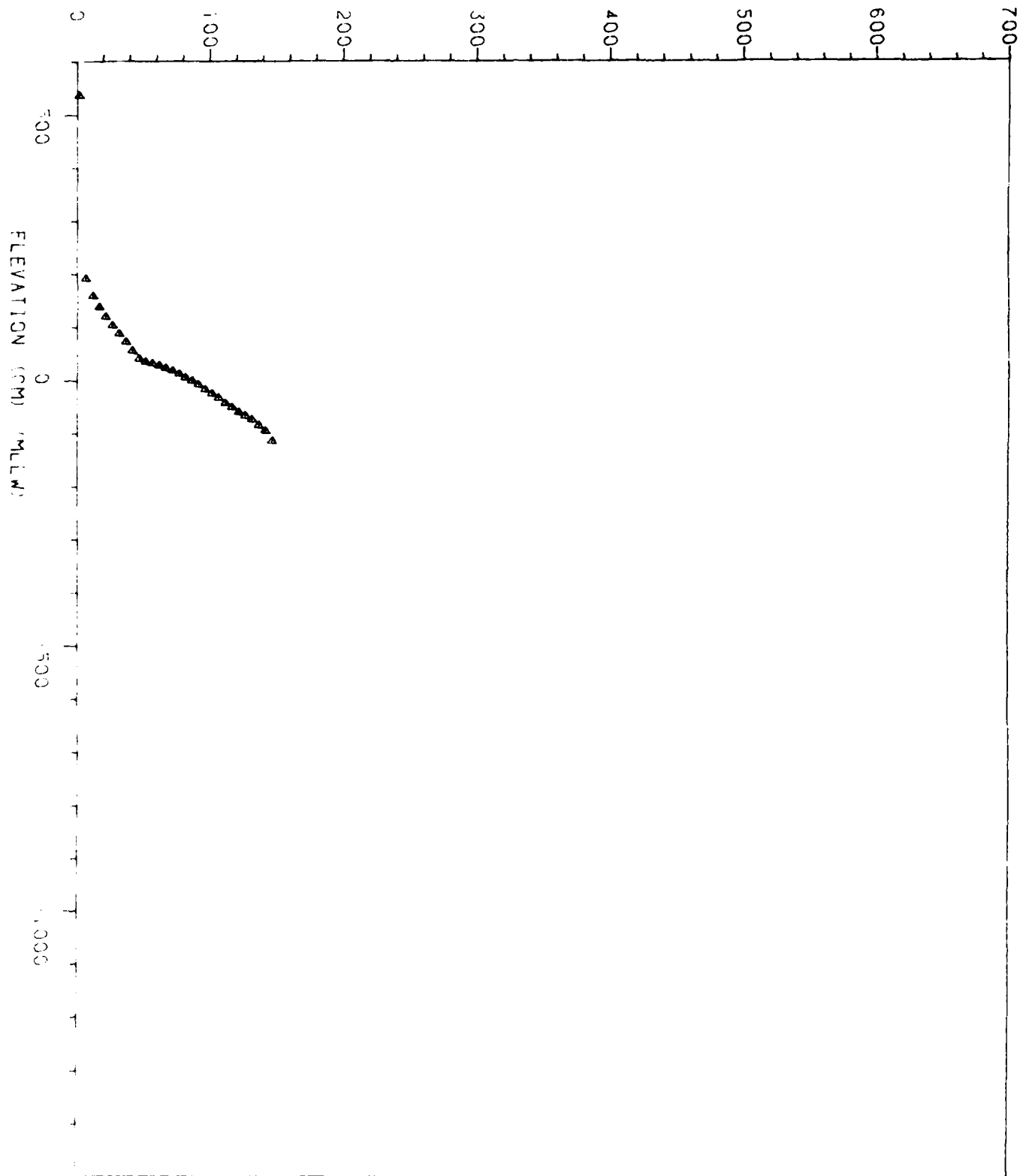


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 540
OCT 25 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	537
5.0	192
10.0	159
15.0	138
20.0	120
25.0	104
30.0	88
35.0	73
40.0	56
45.0	42
50.0	36
55.0	33
60.0	29
65.0	24
70.0	19
75.0	13
80.0	6
85.0	0
90.0	-7
95.0	-16
100.0	-24
105.0	-32
110.0	-42
115.0	-50
120.0	-59
125.0	-66
130.0	-73
135.0	-84
140.0	-94
145.0	-113

RANGE= 560

OCT 25 1984

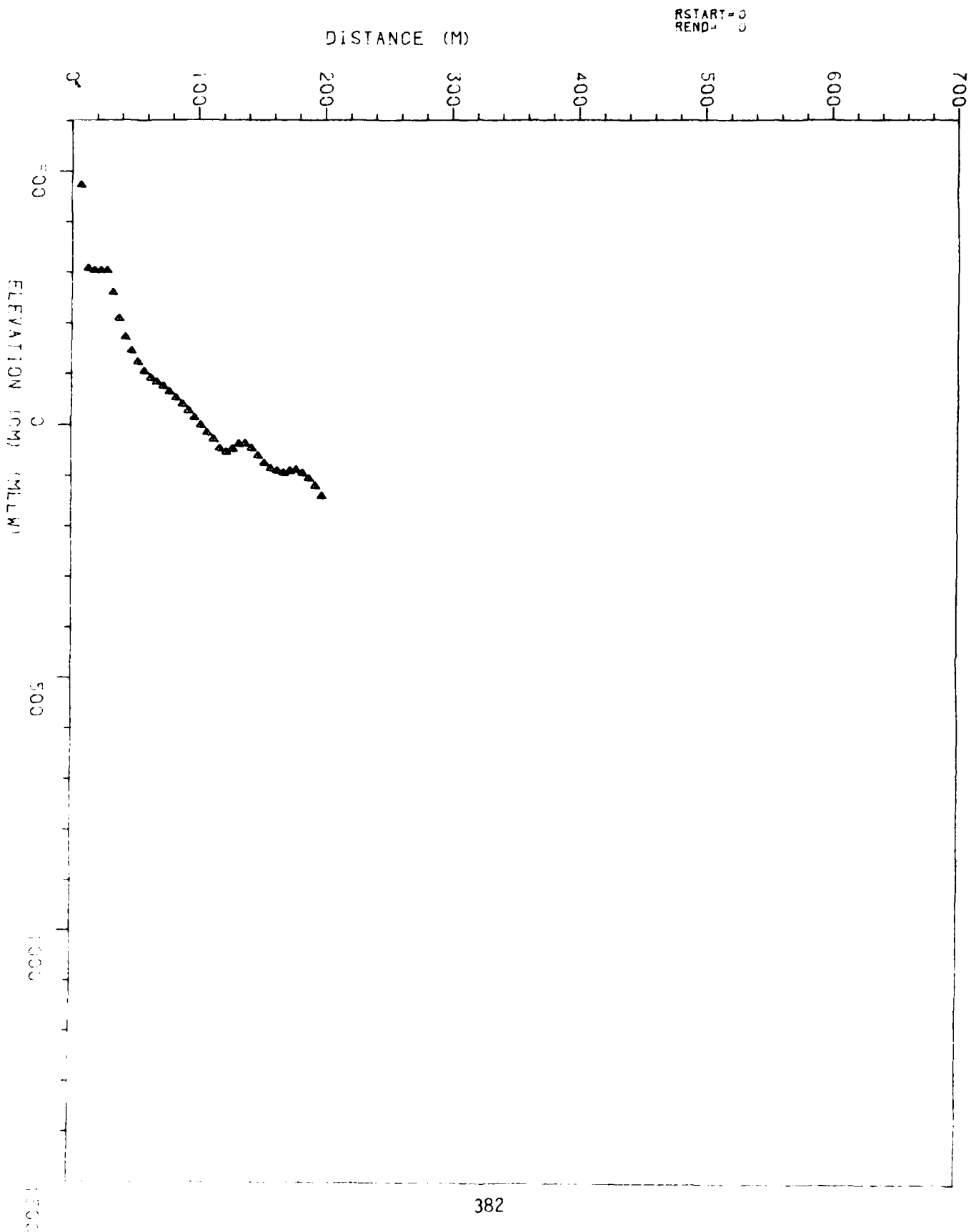


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 560
 OCT 25 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	670
5.0	472
10.0	307
15.0	303
20.0	303
25.0	303
30.0	259
35.0	208
40.0	171
45.0	145
50.0	123
55.0	105
60.0	92
65.0	83
70.0	75
75.0	64
80.0	52
85.0	40
90.0	27
95.0	13
100.0	-2
105.0	-17
110.0	-30
115.0	-48
120.0	-55
125.0	-49
130.0	-39
135.0	-38
140.0	-47
145.0	-62
150.0	-77
155.0	-87
160.0	-92
165.0	-96
170.0	-92
175.0	-90
180.0	-96
185.0	-107
190.0	-122
195.0	-142

RANGE= 580

NOV 01 1984

DISTANCE (M)

RSTART=30
REND=5

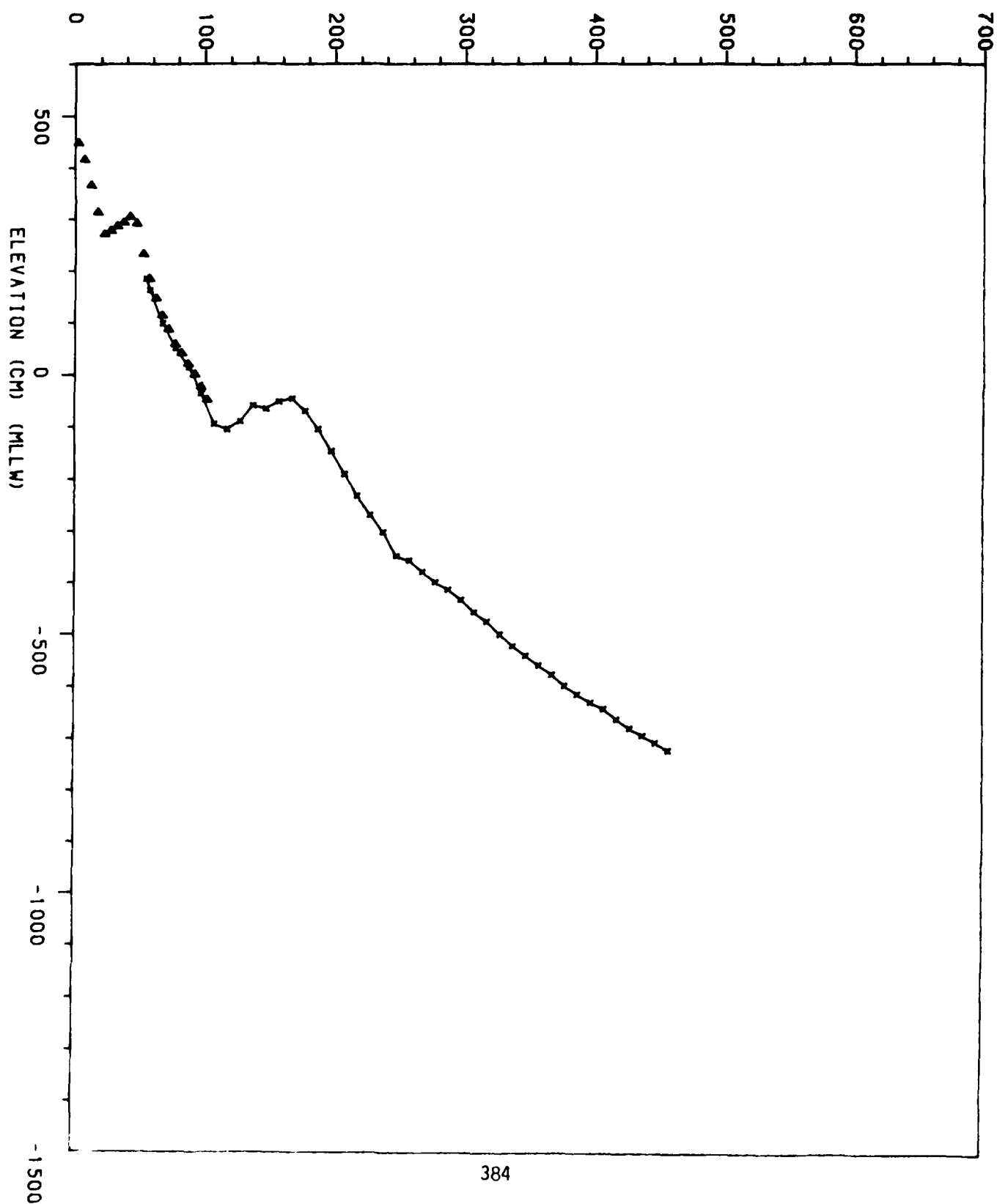


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 580
 NOV 01 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	447	377.9	-597
5.0	415	387.9	-613
10.0	365	397.9	-629
15.0	314	407.9	-641
20.0	271	417.9	-661
25.0	278	427.9	-679
30.0	287	437.9	-693
35.0	294	447.9	-707
40.0	305	457.9	-721
45.0	292		
50.0	232		
55.0	185		
57.9	163		
67.9	99		
77.9	51		
87.9	14		
97.9	-35		
107.9	-93		
117.9	-104		
127.9	-89		
137.9	-58		
147.9	-64		
157.9	-50		
167.9	-44		
177.9	-69		
187.9	-103		
197.9	-146		
207.9	-190		
217.9	-231		
227.9	-268		
237.9	-300		
247.9	-347		
257.9	-356		
267.9	-378		
277.9	-398		
287.9	-412		
297.9	-432		
307.9	-456		
317.9	-475		
327.9	-499		
337.9	-521		
347.9	-539		
357.9	-558		
367.9	-576		

RANGE= 590

NOV 01 1984

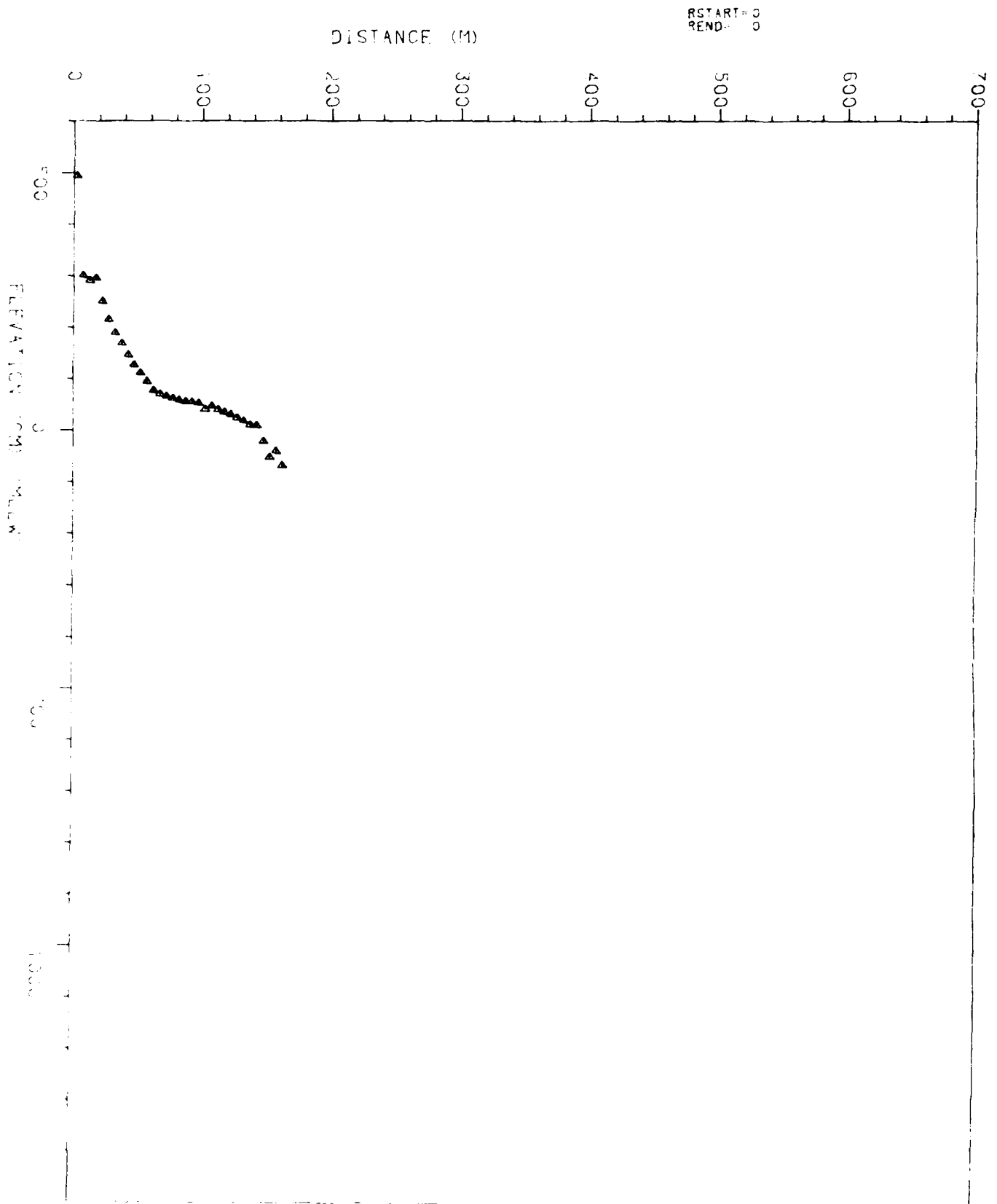


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 590
 NOV 01 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	494
5.0	301
10.0	291
15.0	296
20.0	251
25.0	216
30.0	190
35.0	169
40.0	147
45.0	128
50.0	112
55.0	95
60.0	77
65.0	70
70.0	66
75.0	62
80.0	59
85.0	56
90.0	55
95.0	53
100.0	41
105.0	47
110.0	40
115.0	35
120.0	31
125.0	24
130.0	19
135.0	11
140.0	10
145.0	-21
150.0	-52
155.0	-40
160.0	-68

RANGE= 600

NOV 03 1984

RSTART= 30
REND= 5

DISTANCE (M)

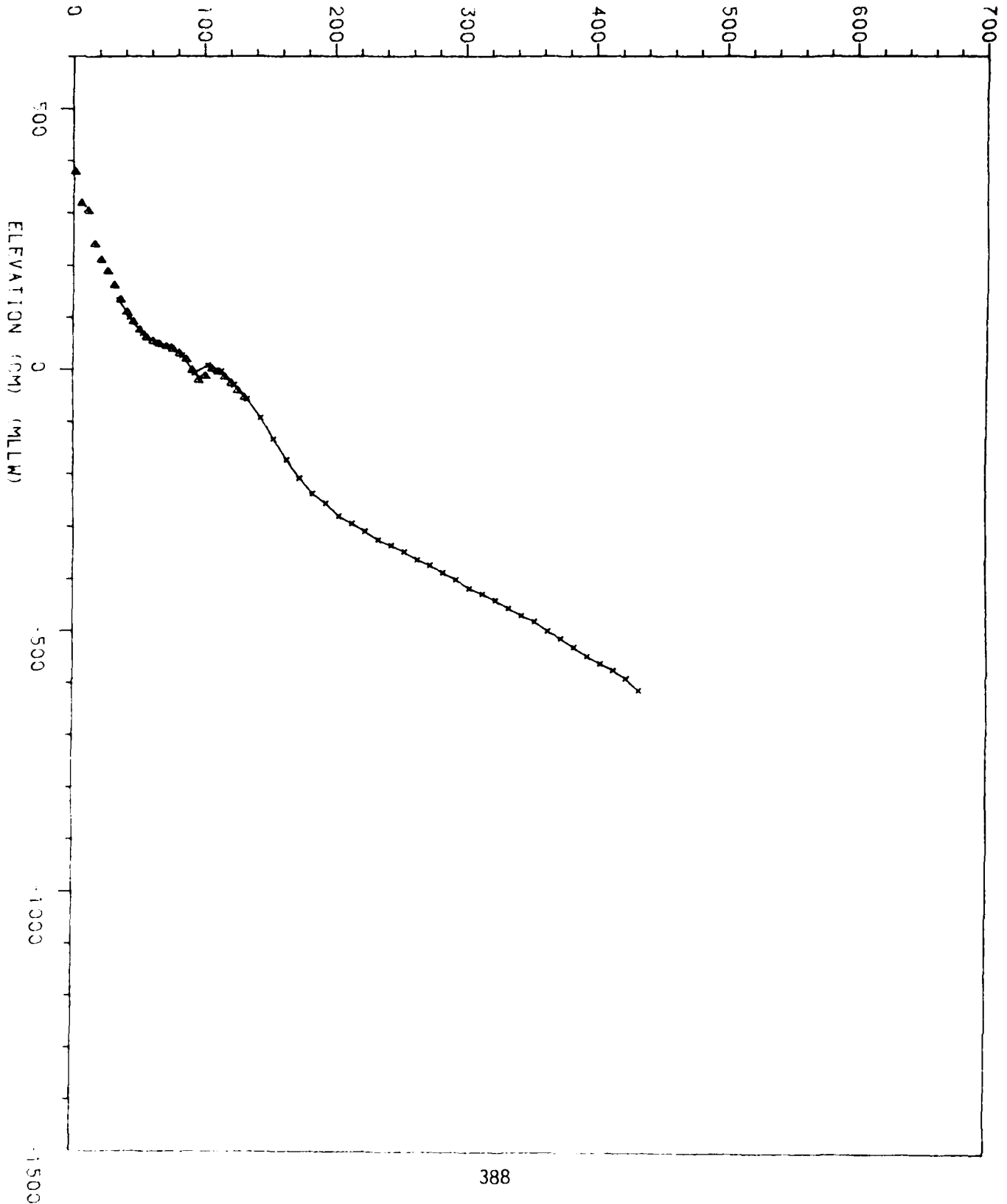


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 600
NOV 03 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	378	403.3	-562
5.0	318	413.3	-575
10.0	304	423.3	-591
15.0	240	433.3	-613
20.0	210		
25.0	188		
30.0	161		
35.0	134		
43.3	99		
53.3	68		
63.3	52		
73.3	44		
83.3	27		
93.3	-6		
103.3	8		
113.3	-2		
123.3	-29		
133.3	-56		
143.3	-92		
153.3	-133		
163.3	-172		
173.3	-207		
183.3	-237		
193.3	-255		
203.3	-280		
213.3	-294		
223.3	-309		
233.3	-325		
243.3	-335		
253.3	-348		
263.3	-363		
273.3	-374		
283.3	-388		
293.3	-400		
303.3	-417		
313.3	-428		
323.3	-441		
333.3	-456		
343.3	-470		
353.3	-481		
363.3	-499		
373.3	-513		
383.3	-530		
393.3	-548		

RANGE= 630

NOV 03 1984

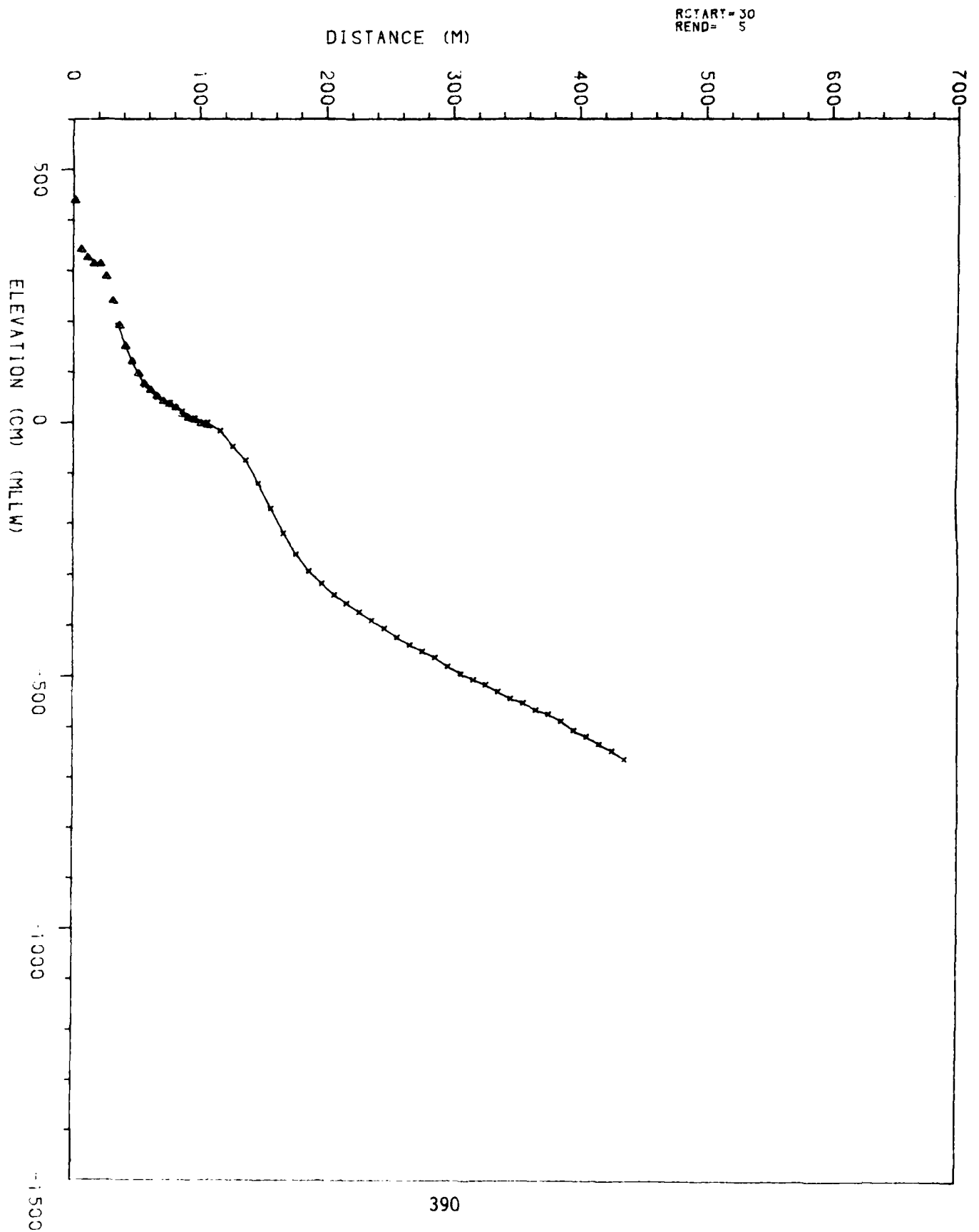


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 630
 NOV 03 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	439	406.2	-618
5.0	342	416.2	-633
10.0	326	426.2	-647
15.0	314	436.2	-663
20.0	314		
25.0	289		
30.0	240		
35.0	192		
46.2	119		
56.2	73		
66.2	49		
76.2	38		
86.2	21		
96.2	7		
106.2	0		
116.2	-16		
126.2	-47		
136.2	-74		
146.2	-120		
156.2	-170		
166.2	-219		
176.2	-260		
186.2	-294		
196.2	-318		
206.2	-340		
216.2	-357		
226.2	-374		
236.2	-390		
246.2	-406		
256.2	-423		
266.2	-437		
276.2	-451		
286.2	-463		
296.2	-480		
306.2	-495		
316.2	-506		
326.2	-516		
336.2	-530		
346.2	-543		
356.2	-552		
366.2	-566		
376.2	-574		
386.2	-588		
396.2	-607		

RANGE= 640

DEC 07 1984

DISTANCE (M)

RSTART=0
REND=0

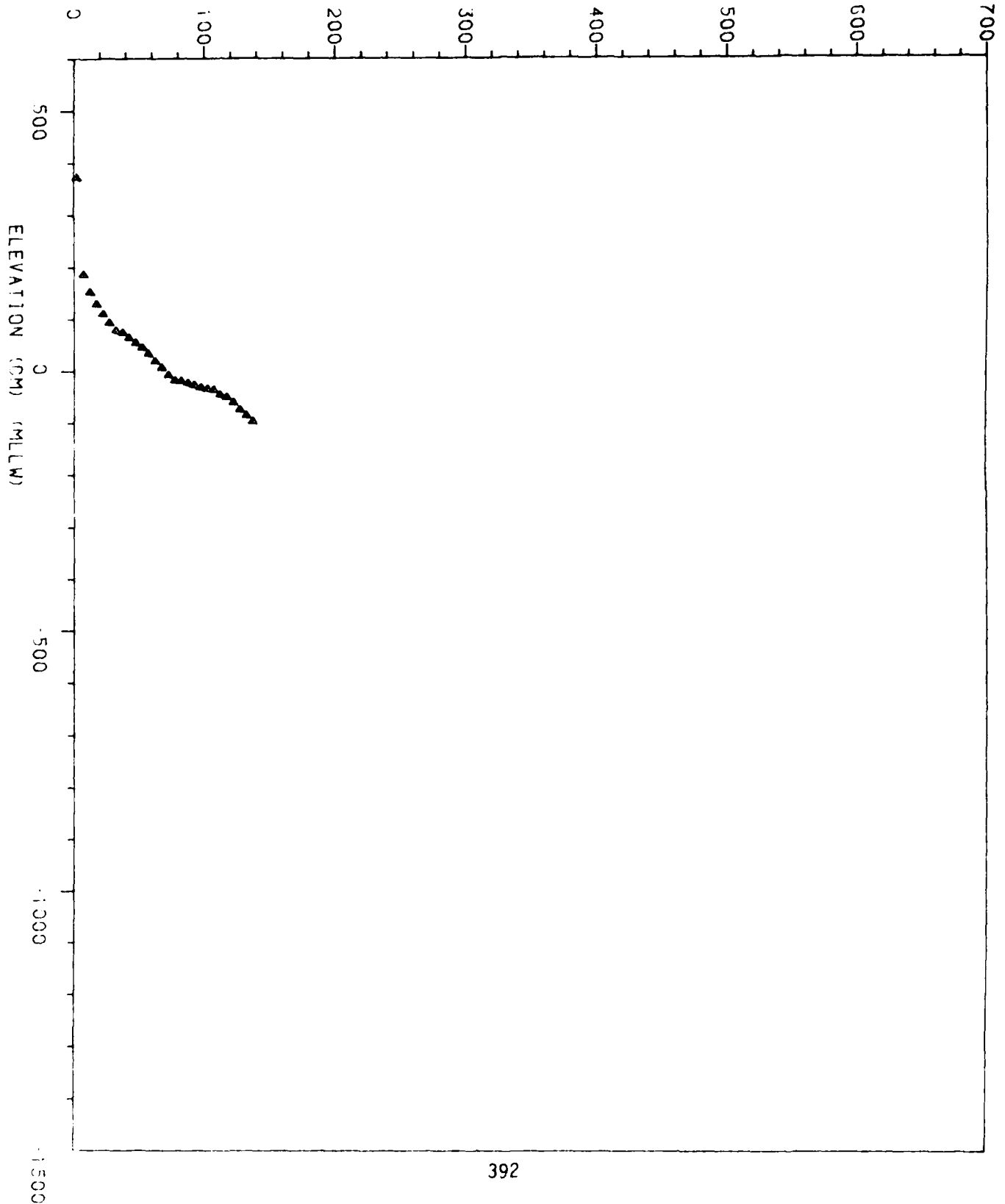


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 640
DEC 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	373
5.0	187
10.0	153
15.0	130
20.0	111
25.0	94
30.0	79
35.0	75
40.0	65
45.0	55
50.0	46
55.0	34
60.0	20
65.0	7
70.0	-7
75.0	-18
80.0	-19
85.0	-22
90.0	-26
95.0	-31
100.0	-34
105.0	-36
110.0	-45
115.0	-50
120.0	-60
125.0	-74
130.0	-85
135.0	-97

RANGE= 670

OCT 25 1984

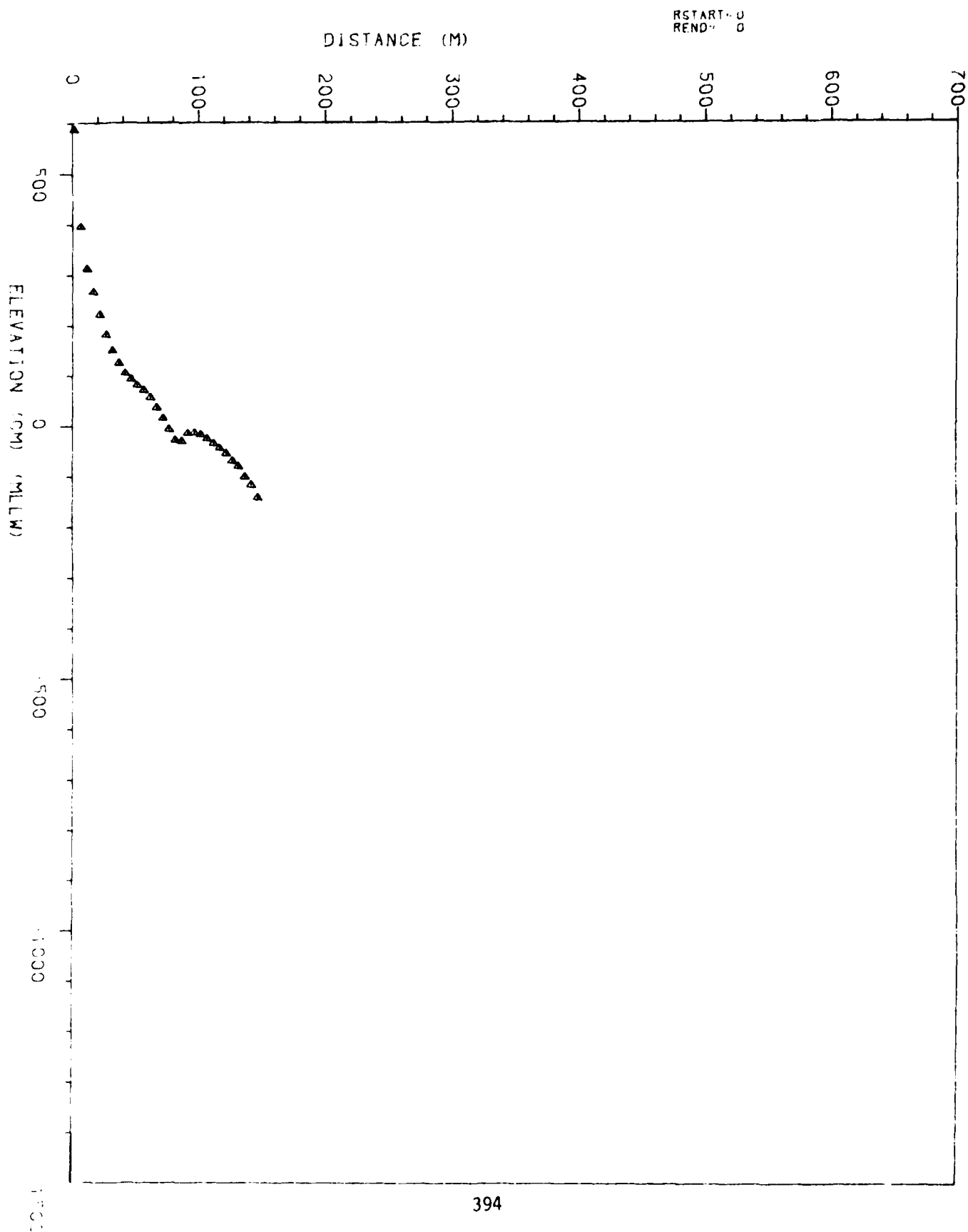


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 670
OCT 25 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	587
5.0	396
10.0	313
15.0	267
20.0	223
25.0	183
30.0	151
35.0	126
40.0	106
45.0	94
50.0	82
55.0	72
60.0	57
65.0	37
70.0	16
75.0	-6
80.0	-28
85.0	-30
90.0	-14
95.0	-13
100.0	-17
105.0	-25
110.0	-35
115.0	-44
120.0	-54
125.0	-69
130.0	-80
135.0	-101
140.0	-117
145.0	-142

RANGE= 720

NOV 27 1984

POTART= 30
RENT= 5

DISTANCE (M)

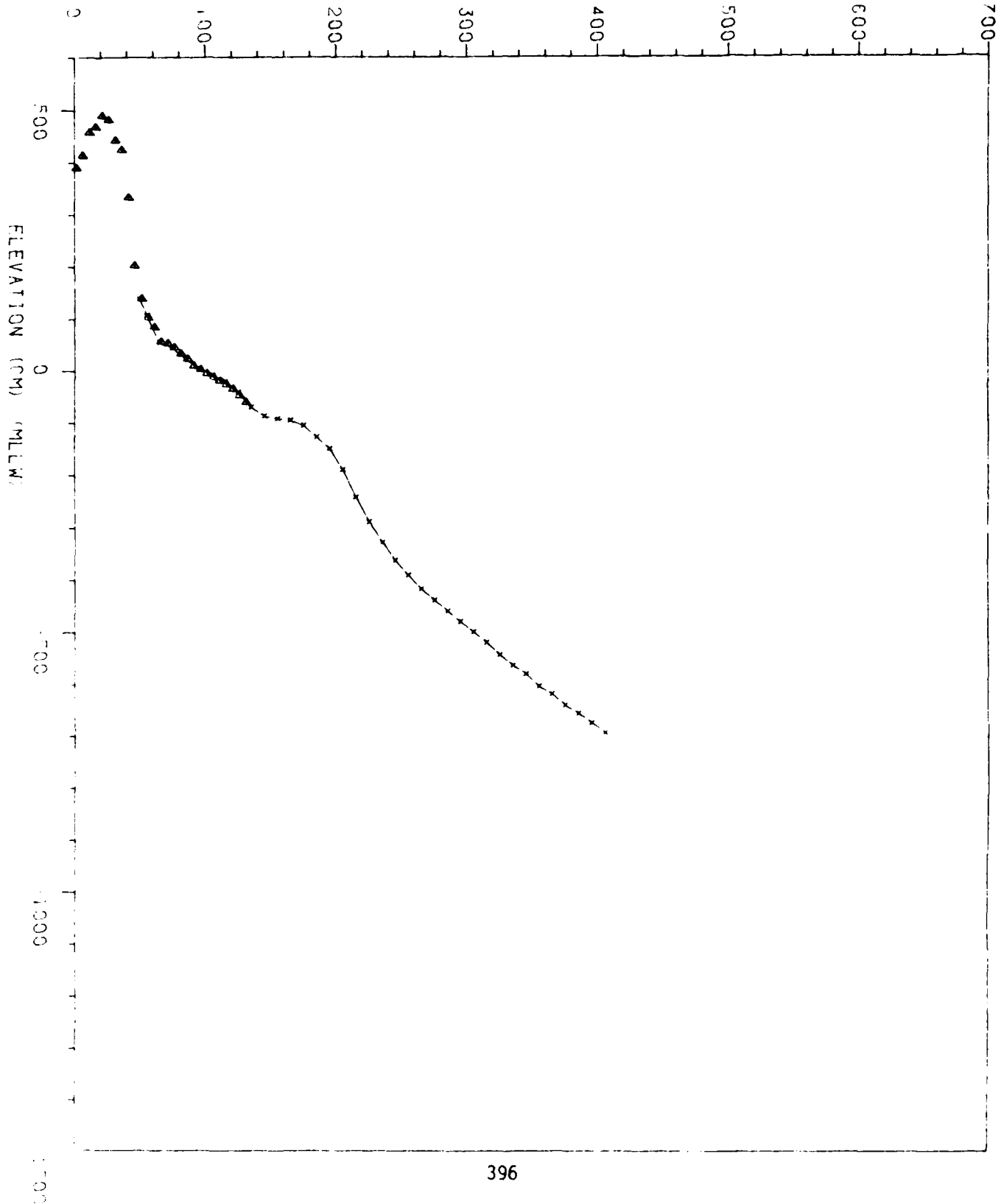


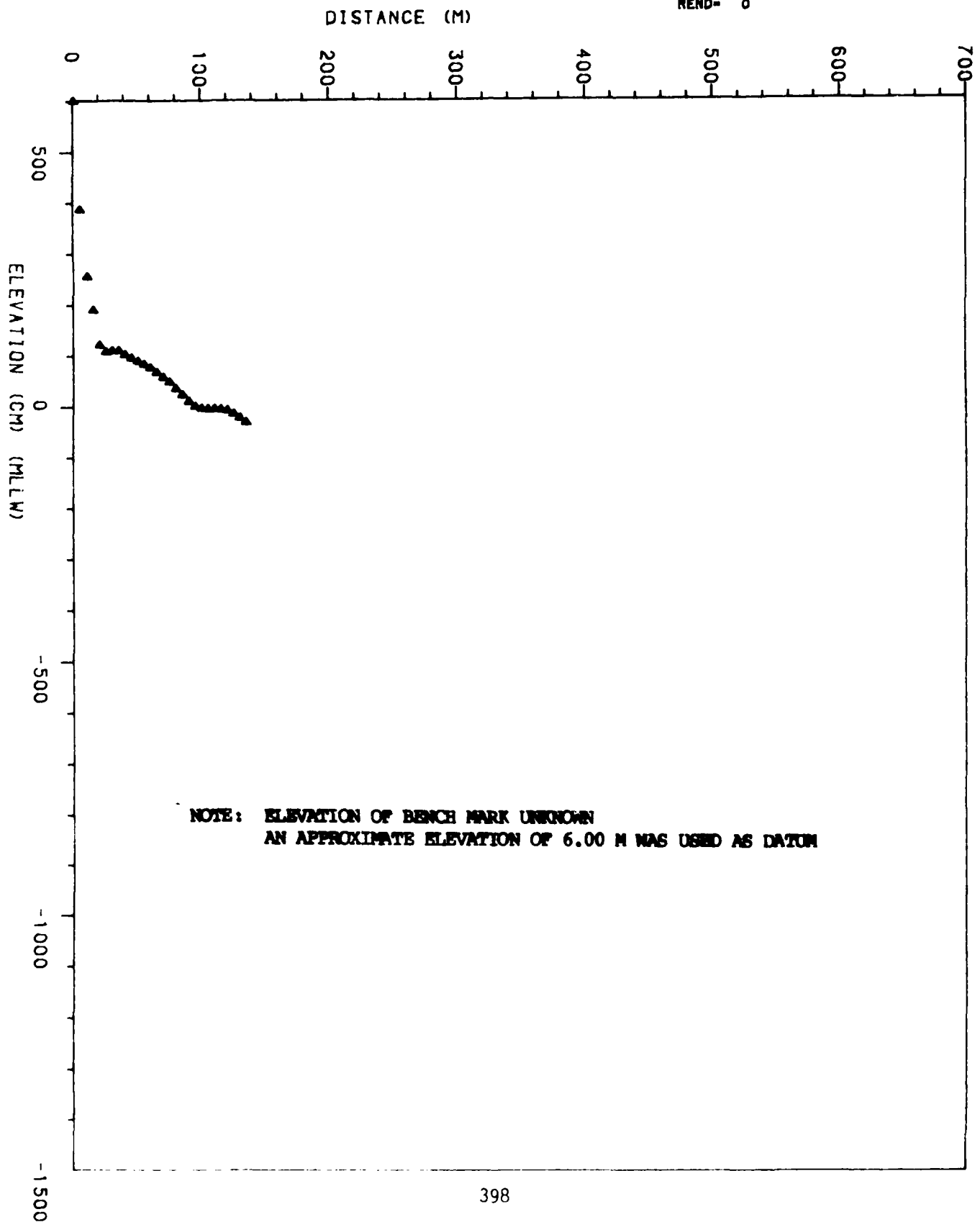
TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 720
 NOV 27 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	390	385.4	-657
5.0	414	395.4	-675
10.0	458	405.4	-695
15.0	468		
20.0	490		
25.0	482		
30.0	443		
35.0	425		
40.0	334		
45.0	203		
50.0	139		
55.4	107		
65.4	56		
75.4	44		
85.4	23		
95.4	5		
105.4	-7		
115.4	-19		
125.4	-40		
135.4	-69		
145.4	-86		
155.4	-91		
165.4	-94		
175.4	-105		
185.4	-127		
195.4	-149		
205.4	-189		
215.4	-241		
225.4	-289		
235.4	-328		
245.4	-362		
255.4	-390		
265.4	-417		
275.4	-439		
285.4	-459		
295.4	-480		
305.4	-499		
315.4	-520		
325.4	-543		
335.4	-564		
345.4	-581		
355.4	-604		
365.4	-619		
375.4	-641		

RANGE= 740

DEC 21 1984

RESTART=0
REND=0



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 740
DEC 21 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	600
5.0	388
10.0	257
15.0	191
20.0	122
25.0	109
30.0	111
35.0	111
40.0	103
45.0	96
50.0	90
55.0	84
60.0	77
65.0	68
70.0	58
75.0	49
80.0	36
85.0	24
90.0	11
95.0	1
100.0	-3
105.0	-4
110.0	-4
115.0	-5
120.0	-7
125.0	-14
130.0	-22
135.0	-31

NOTE: ELEVATION OF BENCH MARK UNKNOWN
AN APPROXIMATE ELEVATION OF 6.00 M WAS USED AS DATUM

RANGE= 760

NOV 05 1984

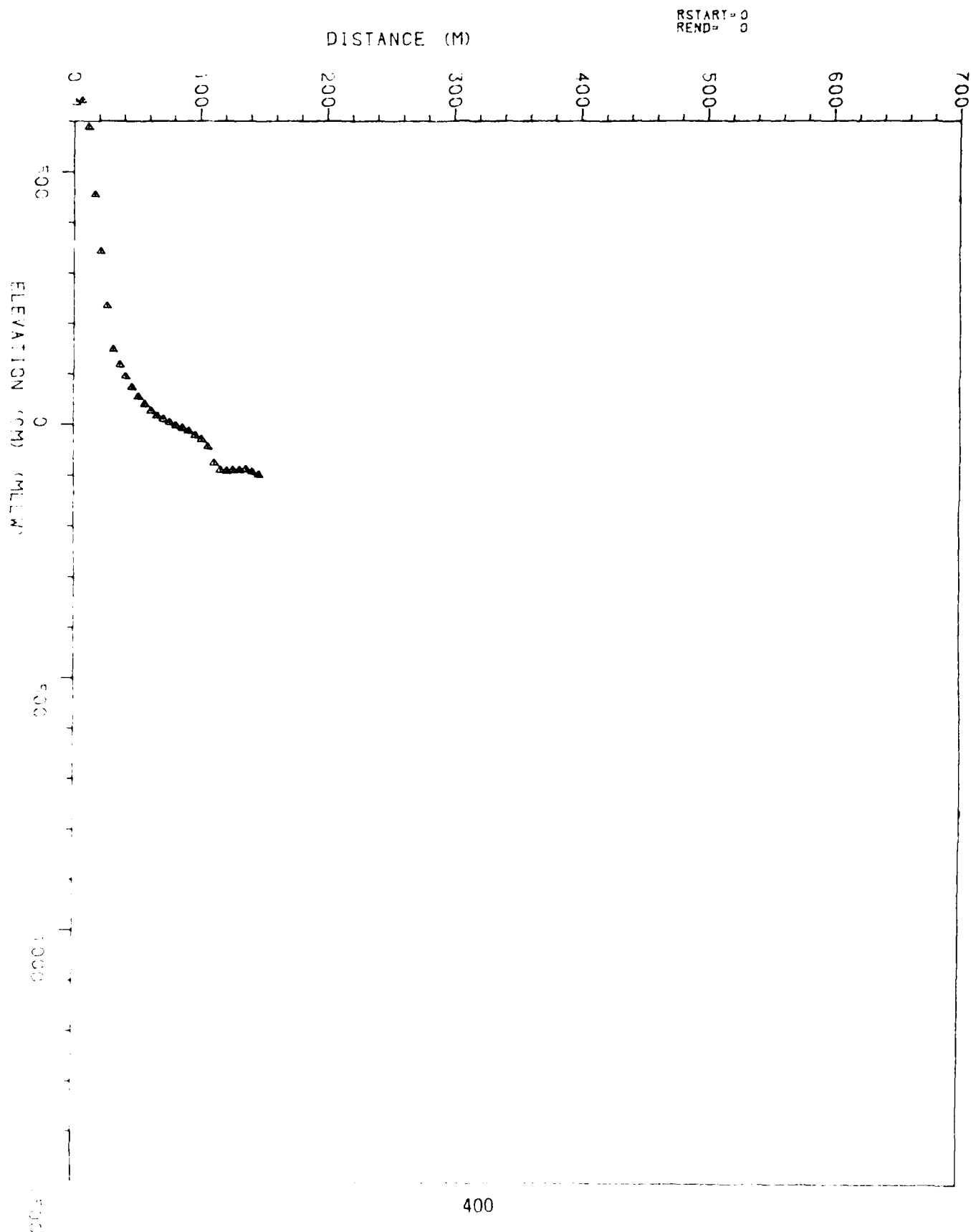


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 760
NOV 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

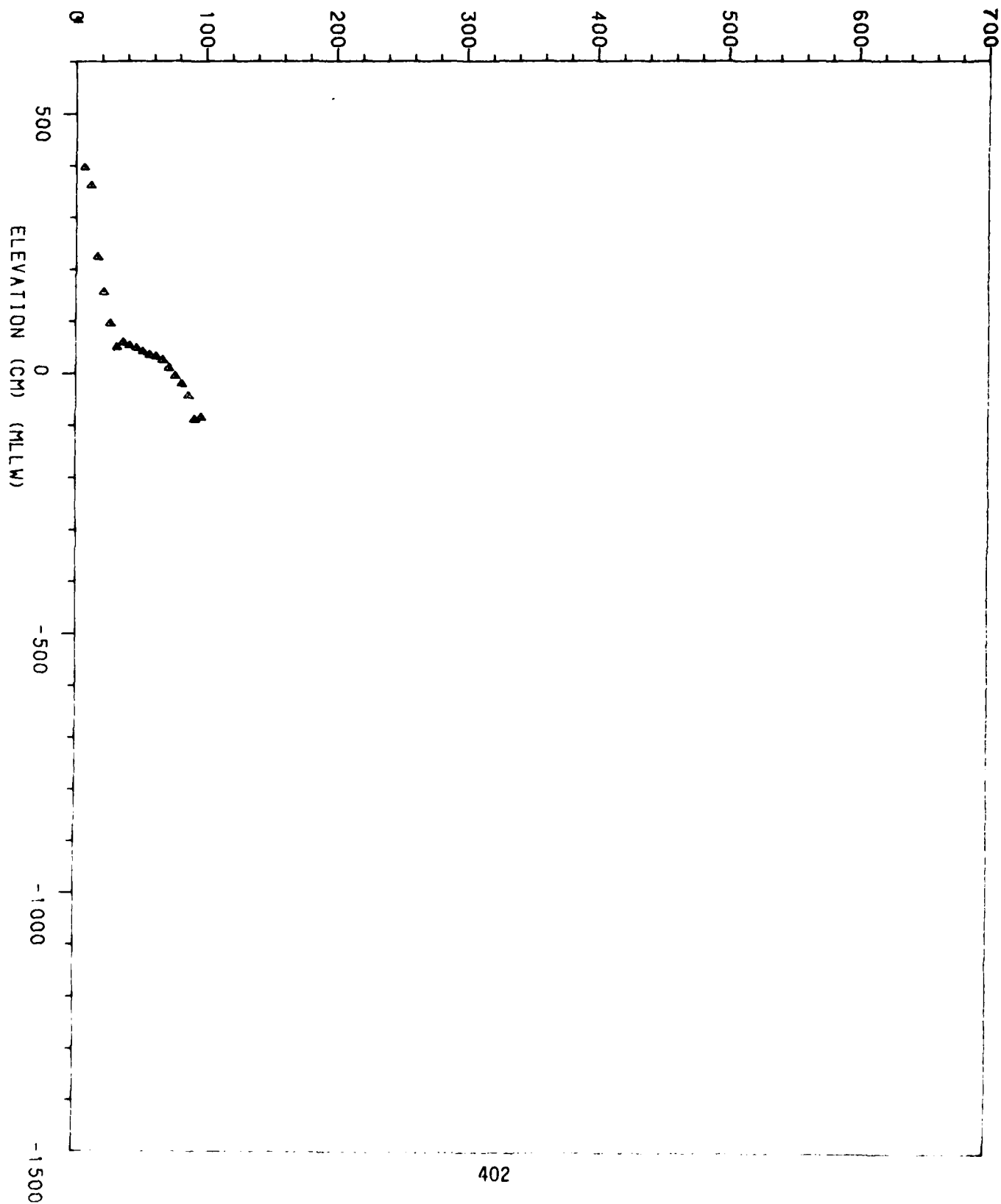
0.0	637
5.0	641
10.0	589
15.0	455
20.0	343
25.0	235
30.0	148
35.0	118
40.0	95
45.0	73
50.0	54
55.0	39
60.0	26
65.0	16
70.0	10
75.0	4
80.0	-3
85.0	-8
90.0	-14
95.0	-23
100.0	-31
105.0	-45
110.0	-76
115.0	-90
120.0	-92
125.0	-90
130.0	-90
135.0	-88
140.0	-93
145.0	-99

RANGE= 780

DEC 21 1984

RSTART=0
REND=0

DISTANCE (M)



1

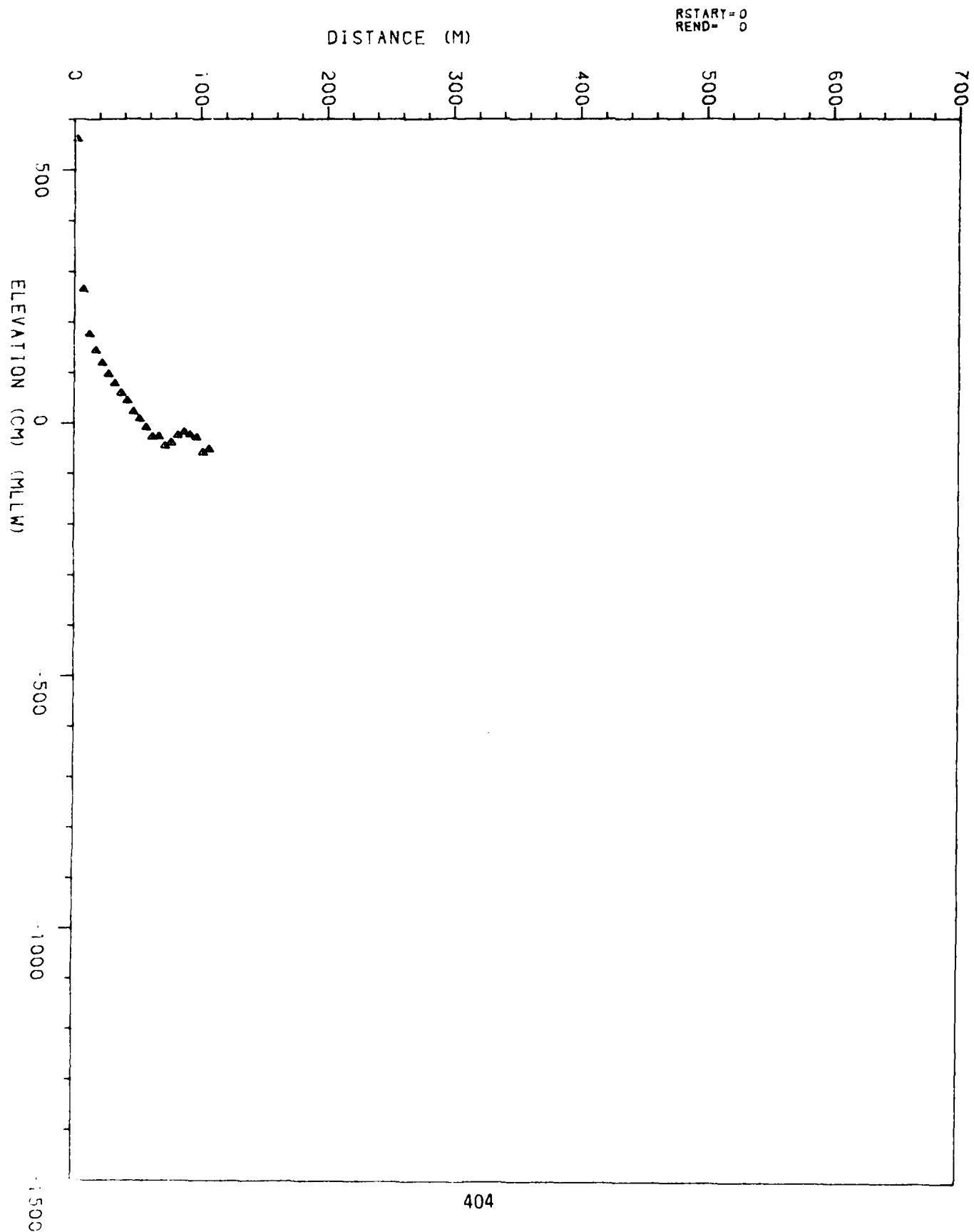
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 780
DEC 21 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	678
5.0	396
10.0	361
15.0	224
20.0	156
25.0	96
30.0	50
35.0	59
40.0	53
45.0	48
50.0	41
55.0	35
60.0	32
65.0	25
70.0	10
75.0	-6
80.0	-21
85.0	-44
90.0	-89
95.0	-85

RANGE = 800

DEC 07 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 800
DEC 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	561
5.0	265
10.0	177
15.0	145
20.0	120
25.0	98
30.0	79
35.0	60
40.0	45
45.0	23
50.0	9
55.0	-8
60.0	-27
65.0	-26
70.0	-45
75.0	-39
80.0	-24
85.0	-18
90.0	-23
95.0	-28
100.0	-58
105.0	-51

RANGE- 820

NOV 12 1984

RSTART- 30
REND- 0

DISTANCE (M)

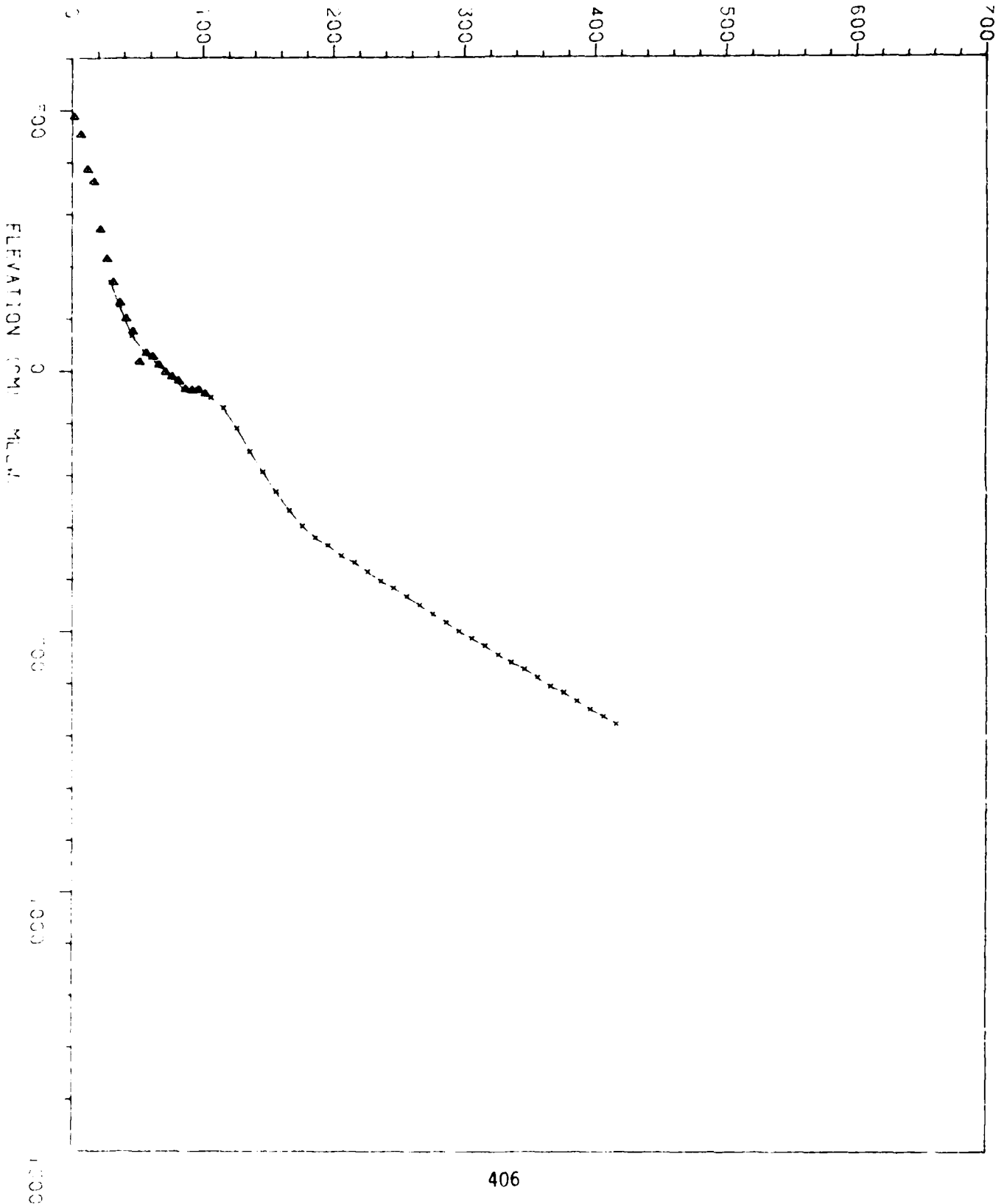


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 820
 NOV 12 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	487	406.0	-664
5.0	452	416.1	-678
10.0	385		
15.0	362		
20.0	270		
25.0	214		
30.0	170		
36.0	126		
46.0	67		
56.0	36		
66.0	13		
76.0	-8		
86.0	-34		
96.0	-34		
106.0	-50		
116.0	-70		
126.0	-109		
136.0	-154		
146.0	-194		
156.0	-231		
166.0	-268		
176.0	-298		
186.0	-320		
196.0	-335		
206.0	-355		
216.0	-368		
226.0	-385		
236.0	-403		
246.0	-416		
256.0	-433		
266.0	-449		
276.0	-467		
286.0	-483		
296.0	-500		
306.0	-513		
316.0	-528		
326.0	-546		
336.0	-560		
346.0	-573		
356.0	-589		
366.0	-606		
376.0	-618		
386.0	-634		
396.0	-650		

RANGE = 830

DEC 07 1984

RSTART=0
REND=0

DISTANCE (M)

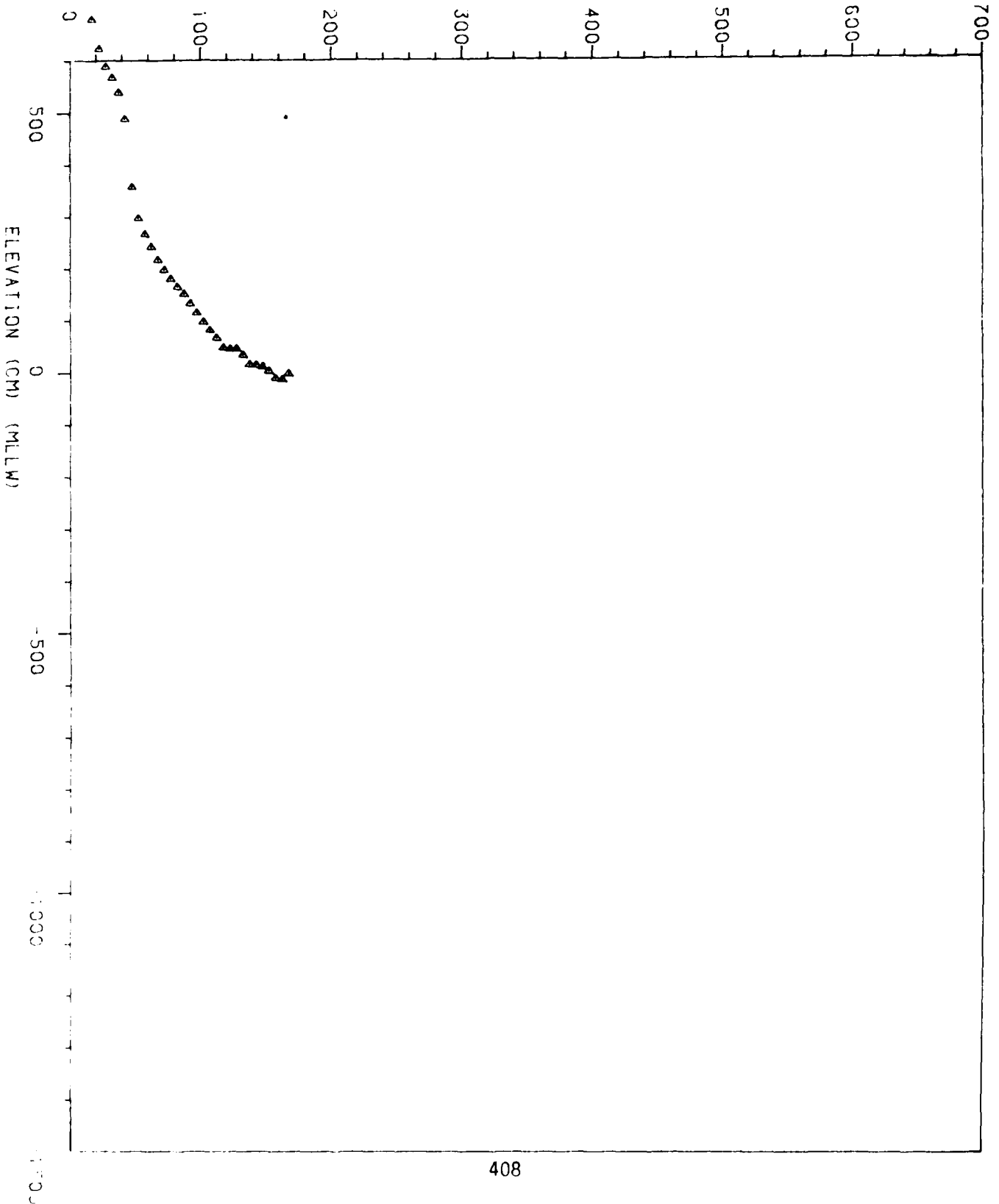


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 830
DEC 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	1101
5.0	939
10.0	754
15.0	679
20.0	623
25.0	589
30.0	568
35.0	540
40.0	489
45.0	358
50.0	298
55.0	267
60.0	243
65.0	218
70.0	199
75.0	181
80.0	166
85.0	152
90.0	134
95.0	116
100.0	98
105.0	82
110.0	67
115.0	48
120.0	46
125.0	46
130.0	34
135.0	16
140.0	15
145.0	12
150.0	3
155.0	-11
160.0	-13
165.0	-2

RANGE = 880

NOV 05 1984

DISTANCE (M)

RSTART=0
REND=0

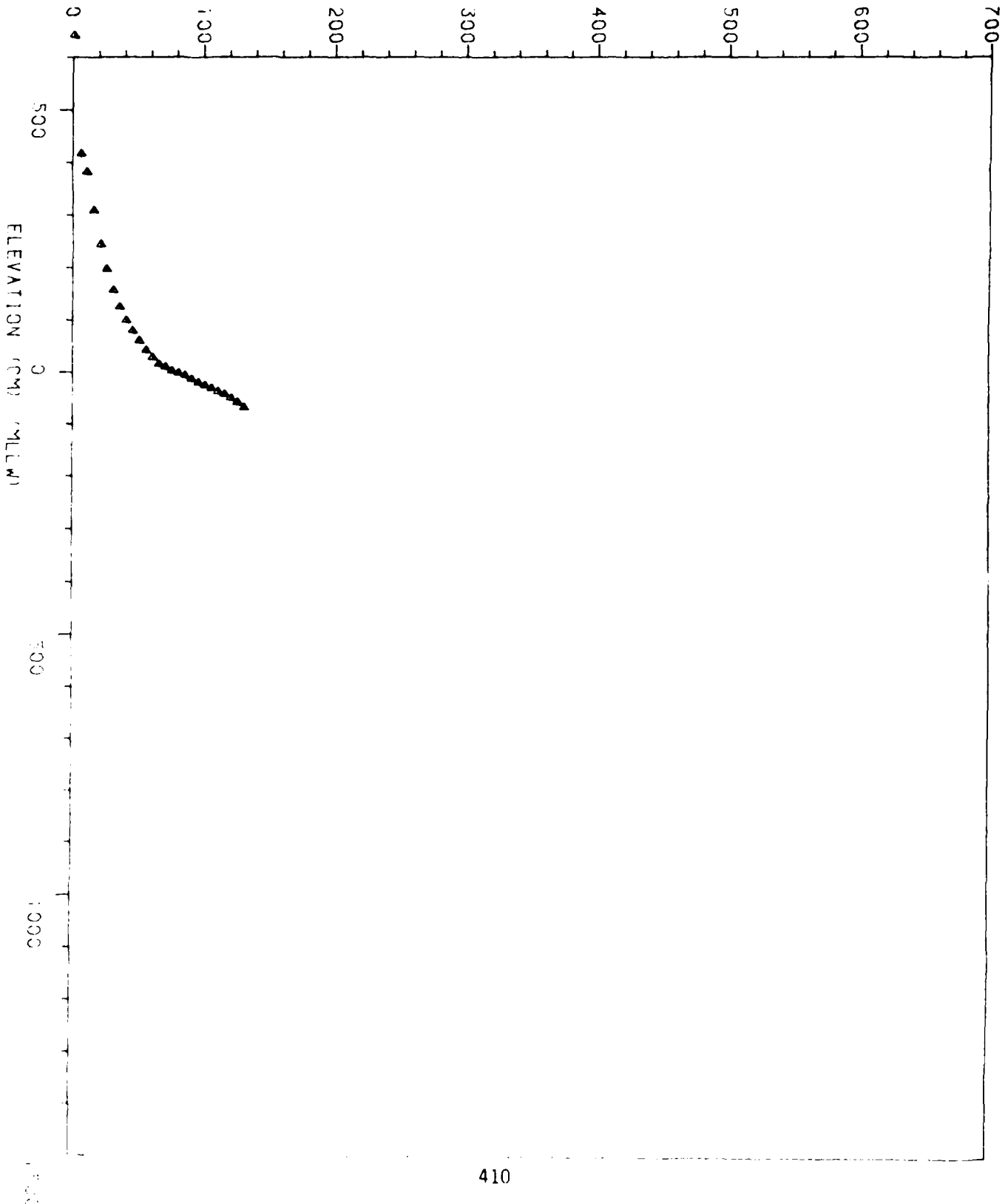


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 880
NOV 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	642
5.0	417
10.0	382
15.0	309
20.0	245
25.0	198
30.0	157
35.0	125
40.0	99
45.0	79
50.0	60
55.0	42
60.0	28
65.0	15
70.0	10
75.0	2
80.0	-2
85.0	-6
90.0	-13
95.0	-20
100.0	-25
105.0	-31
110.0	-38
115.0	-43
120.0	-50
125.0	-58
130.0	-68

RANGE= 900

FEB 04 1985

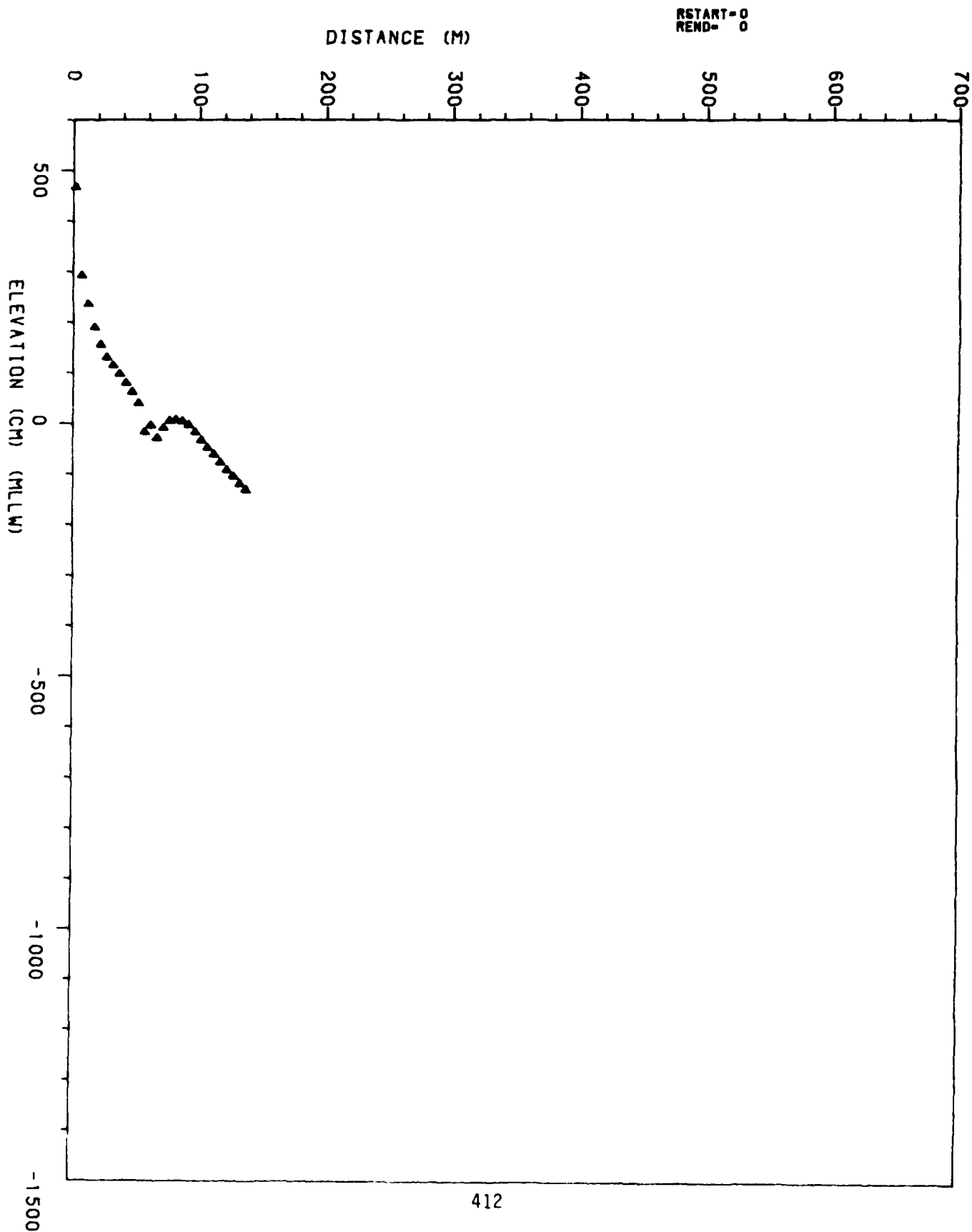


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 900
FEB 04 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	466
5.0	292
10.0	235
15.0	189
20.0	155
25.0	130
30.0	114
35.0	97
40.0	79
45.0	61
50.0	39
55.0	-18
60.0	-4
65.0	-29
70.0	-9
75.0	5
80.0	7
85.0	4
90.0	-4
95.0	-18
100.0	-34
105.0	-49
110.0	-62
115.0	-78
120.0	-93
125.0	-105
130.0	-120
135.0	-132

RANGE- 930

NOV 07 1984

DISTANCE (M)

START=00
END=15

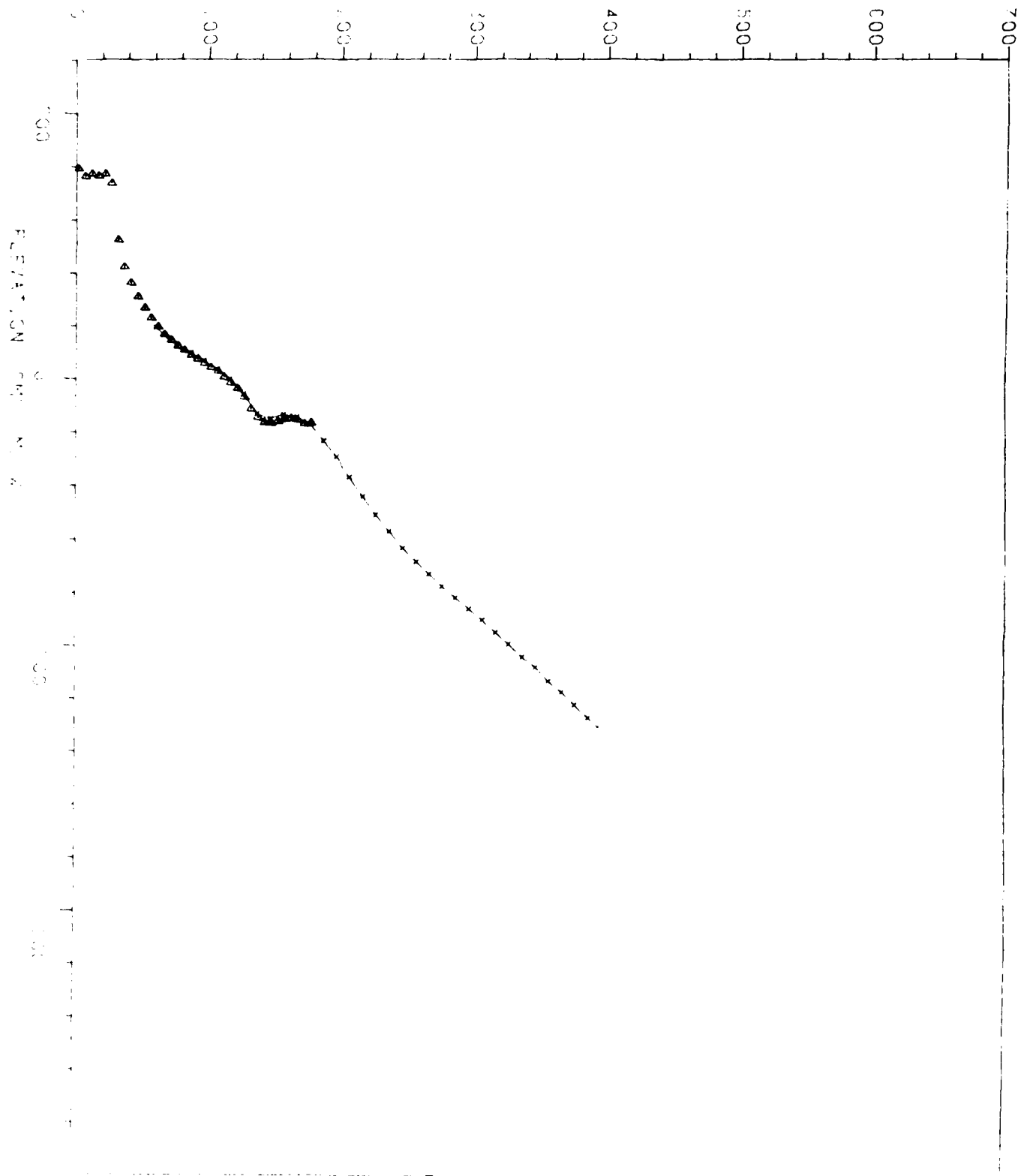


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 930
 NOV 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	396	376.0	-611
5.0	381	386.0	-635
10.0	386	393.3	-652
15.0	382		
20.0	386		
25.0	368		
30.0	262		
35.0	211		
40.0	181		
45.0	154		
50.0	133		
55.0	114		
60.0	97		
66.0	82		
76.0	59		
86.0	47		
96.0	34		
106.0	17		
116.0	0		
126.0	-29		
136.0	-65		
146.0	-75		
156.0	-67		
166.0	-71		
176.0	-87		
186.0	-116		
196.0	-145		
206.0	-184		
216.0	-221		
226.0	-255		
236.0	-286		
246.0	-317		
256.0	-342		
266.0	-366		
276.0	-389		
286.0	-409		
296.0	-430		
306.0	-451		
316.0	-474		
326.0	-496		
336.0	-520		
346.0	-540		
356.0	-566		
366.0	-587		

RANGE= 960

JAN 14 1985

RSTART= 30
REND= 5

DISTANCE (M)

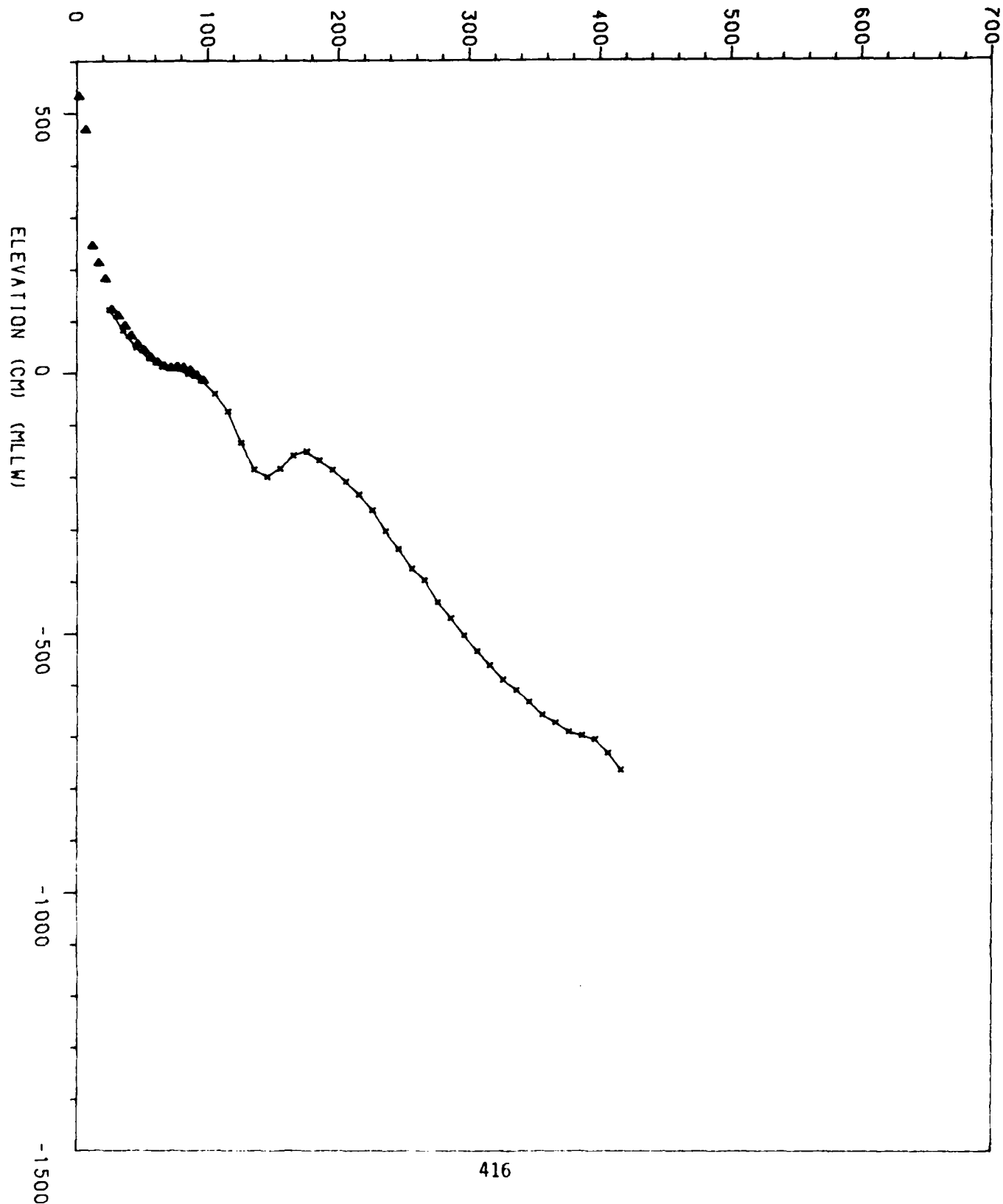


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 960
JAN 14 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	533
5.0	469
10.0	246
15.0	213
20.0	182
25.0	123
35.7	82
45.7	49
55.7	28
65.7	11
75.7	8
85.7	-1
95.7	-13
105.7	-40
115.7	-74
125.7	-134
135.7	-186
145.7	-199
155.7	-184
165.7	-159
175.7	-151
185.7	-168
195.7	-186
205.7	-209
215.7	-234
225.7	-264
235.7	-303
245.7	-338
255.7	-376
265.7	-398
275.7	-440
285.7	-471
295.7	-504
305.7	-534
315.7	-562
325.7	-590
335.7	-611
345.7	-633
355.7	-659
365.7	-674
375.7	-692
385.7	-699
395.7	-706
405.7	-732

RANGE= 990

JAN 30 1985

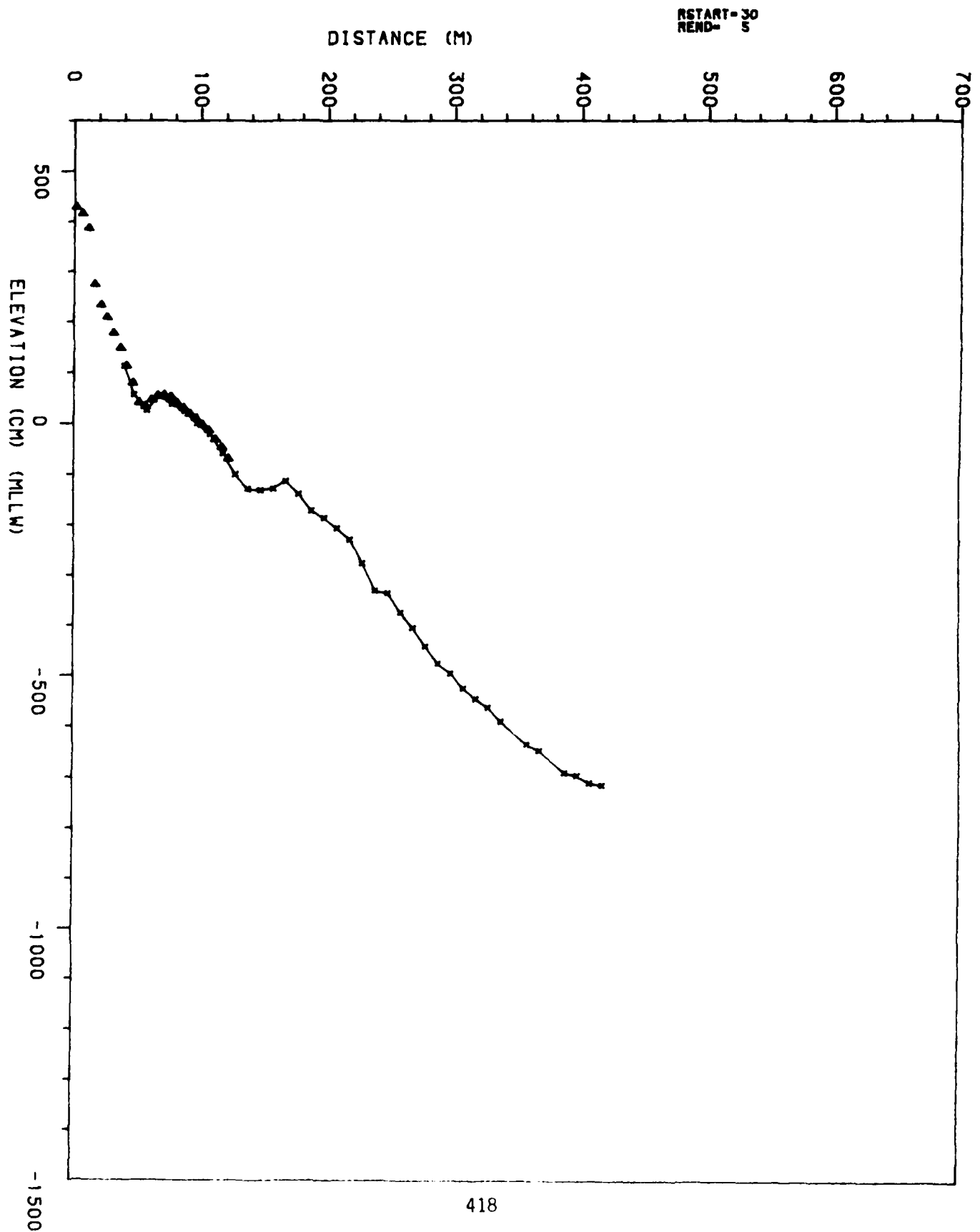


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 990
JAN 30 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	427
5.0	414
10.0	385
15.0	273
20.0	232
25.0	208
30.0	177
35.0	147
40.0	112
47.8	56
57.8	26
67.8	53
77.8	38
87.8	24
97.8	0
107.8	-20
117.8	-59
127.8	-100
137.8	-128
147.8	-130
157.8	-128
167.8	-113
177.8	-139
187.8	-172
197.8	-186
207.8	-206
217.8	-229
227.8	-276
237.8	-331
247.8	-336
257.8	-374
267.8	-405
277.8	-441
287.8	-476
297.7	-496
307.7	-525
317.7	-546
327.7	-563
337.7	-591
357.7	-635
367.7	-647
387.7	-690
397.7	-696
407.7	-711

RANGE= 1000

NOV 06 1984

DISTANCE (M)

RSTART= 30
REND= 5

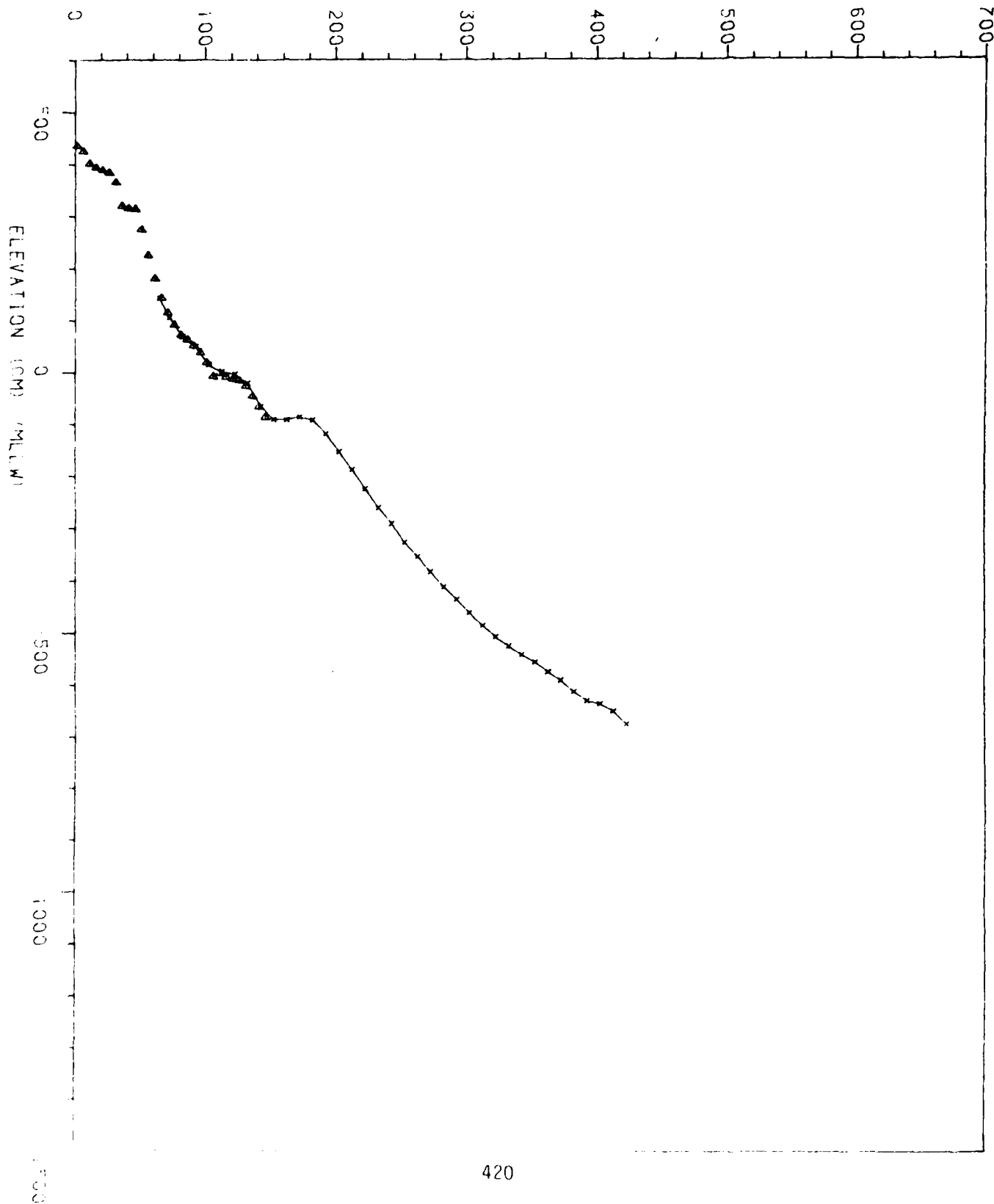


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1000
 NOV 06 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	436	372.5	-591
5.0	425	382.5	-613
10.0	401	392.5	-630
15.0	393	402.5	-636
20.0	388	412.5	-651
25.0	384	422.8	-676
30.0	365		
35.0	320		
40.0	315		
45.0	314		
50.0	274		
55.0	225		
60.0	180		
65.0	143		
72.5	105		
82.5	69		
92.5	50		
102.5	14		
112.5	1		
122.5	-3		
132.5	-20		
142.5	-65		
152.5	-90		
162.5	-91		
172.5	-86		
182.5	-92		
192.5	-119		
202.5	-153		
212.5	-188		
222.5	-224		
232.5	-261		
242.5	-292		
252.5	-327		
262.5	-354		
272.5	-384		
282.5	-411		
292.5	-435		
302.5	-461		
312.5	-485		
322.5	-507		
332.5	-525		
342.5	-542		
352.5	-557		
362.5	-575		

RANGE= 1030

NOV 07 1984

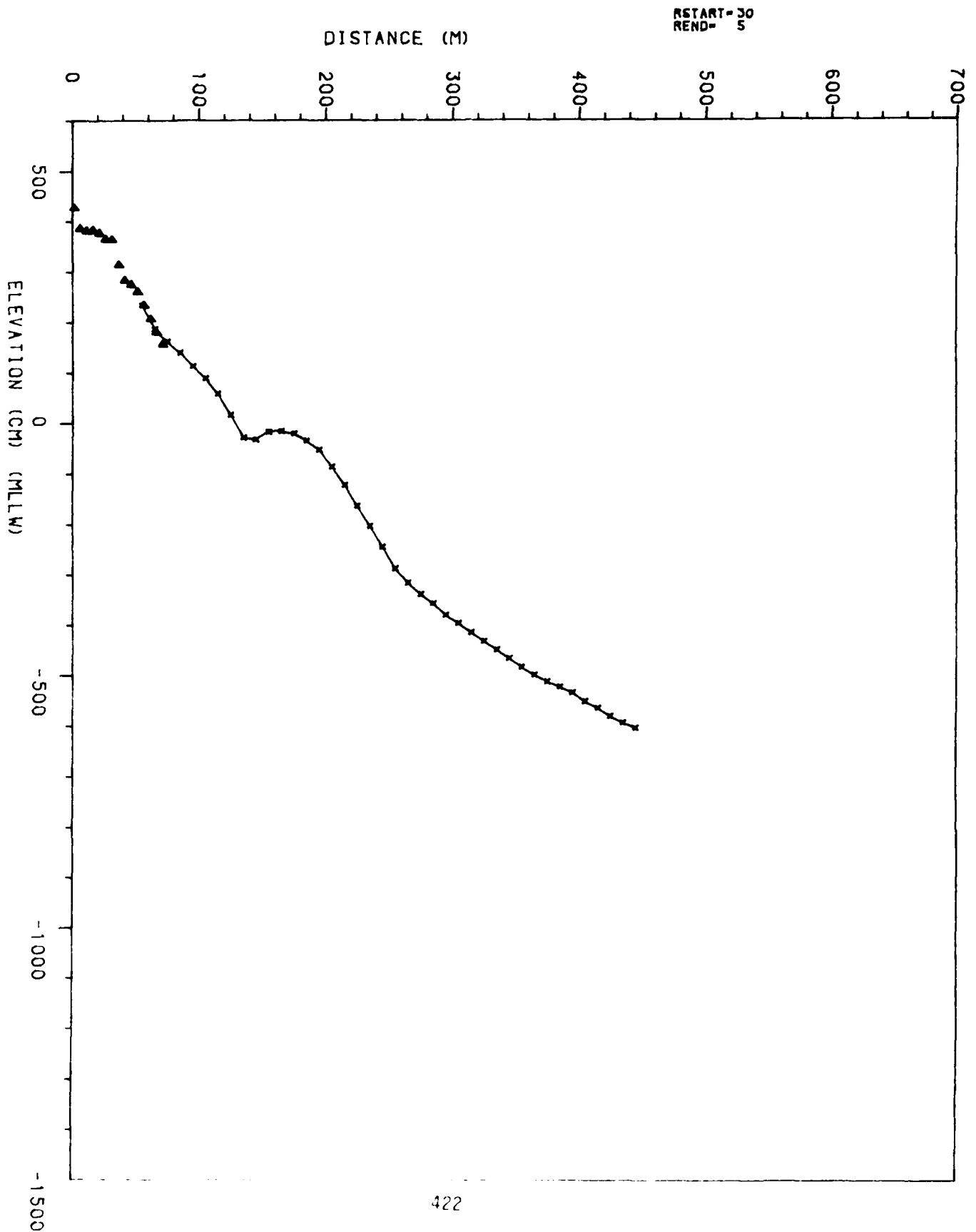


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1030
 NOV 07 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	426	385.0	-522
5.0	385	395.0	-534
10.0	380	405.0	-551
15.0	382	415.0	-565
20.0	376	425.0	-581
25.0	364	435.0	-594
30.0	363	445.0	-604
35.0	314		
40.0	283		
45.0	274		
50.0	260		
55.0	234		
65.0	187		
75.0	162		
85.0	140		
95.0	112		
105.0	89		
115.0	58		
125.0	16		
135.0	-28		
145.0	-32		
155.0	-16		
165.0	-15		
175.0	-20		
185.0	-34		
195.0	-52		
205.0	-86		
215.0	-122		
225.0	-163		
235.0	-202		
245.0	-244		
255.0	-287		
265.0	-316		
275.0	-338		
285.0	-357		
295.0	-380		
305.0	-396		
315.0	-414		
325.0	-432		
335.0	-449		
345.0	-466		
355.0	-483		
365.0	-498		
375.0	-512		

RANGE= 1050

JAN 30 1985

RESTART= 30
REND= 5

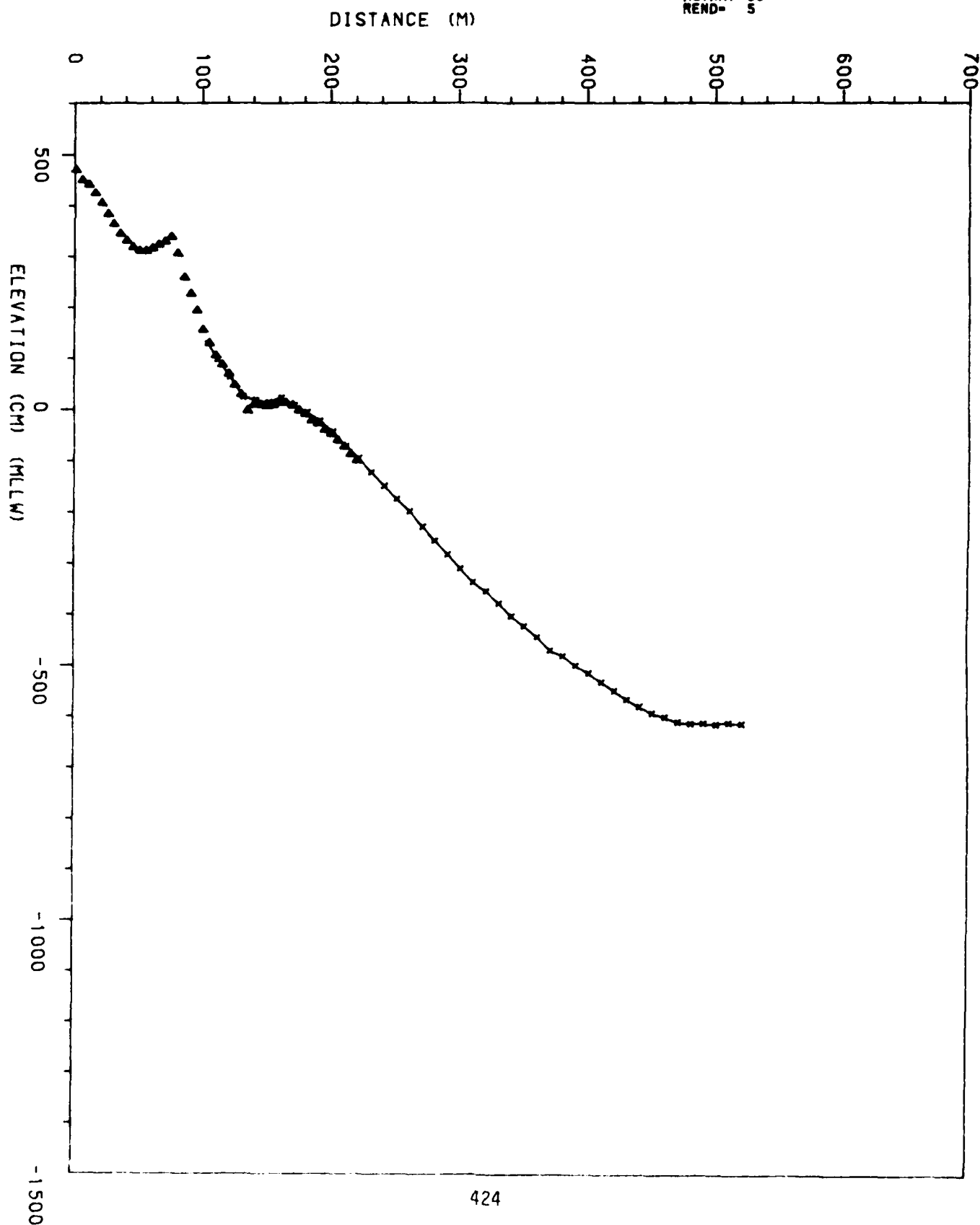


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1050
JAN 30 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	469	332.4	-378
5.0	449	342.4	-403
10.0	440	352.4	-422
15.0	423	362.4	-444
20.0	404	372.4	-471
25.0	383	382.4	-482
30.0	363	392.4	-500
35.0	344	402.4	-515
40.0	330	412.4	-532
45.0	317	422.4	-550
50.0	311	432.4	-567
55.0	311	442.4	-582
60.0	316	452.4	-594
65.0	323	462.4	-602
70.0	329	472.4	-612
75.0	338	482.4	-615
80.0	305	492.4	-614
85.0	253	502.4	-616
90.0	226	512.4	-613
95.0	193	522.4	-615
100.0	155		
105.0	129		
112.4	97		
122.4	63		
132.4	24		
142.4	18		
152.4	13		
162.4	22		
172.4	7		
182.4	-6		
192.4	-22		
202.4	-44		
212.4	-72		
222.4	-95		
232.4	-122		
242.4	-149		
252.4	-174		
262.4	-199		
272.4	-228		
282.4	-255		
292.4	-283		
302.4	-310		
312.4	-337		
322.4	-355		

RANGE= 1070

NOV 19 1984

RSTART= 30
REND= 5

DISTANCE (M)

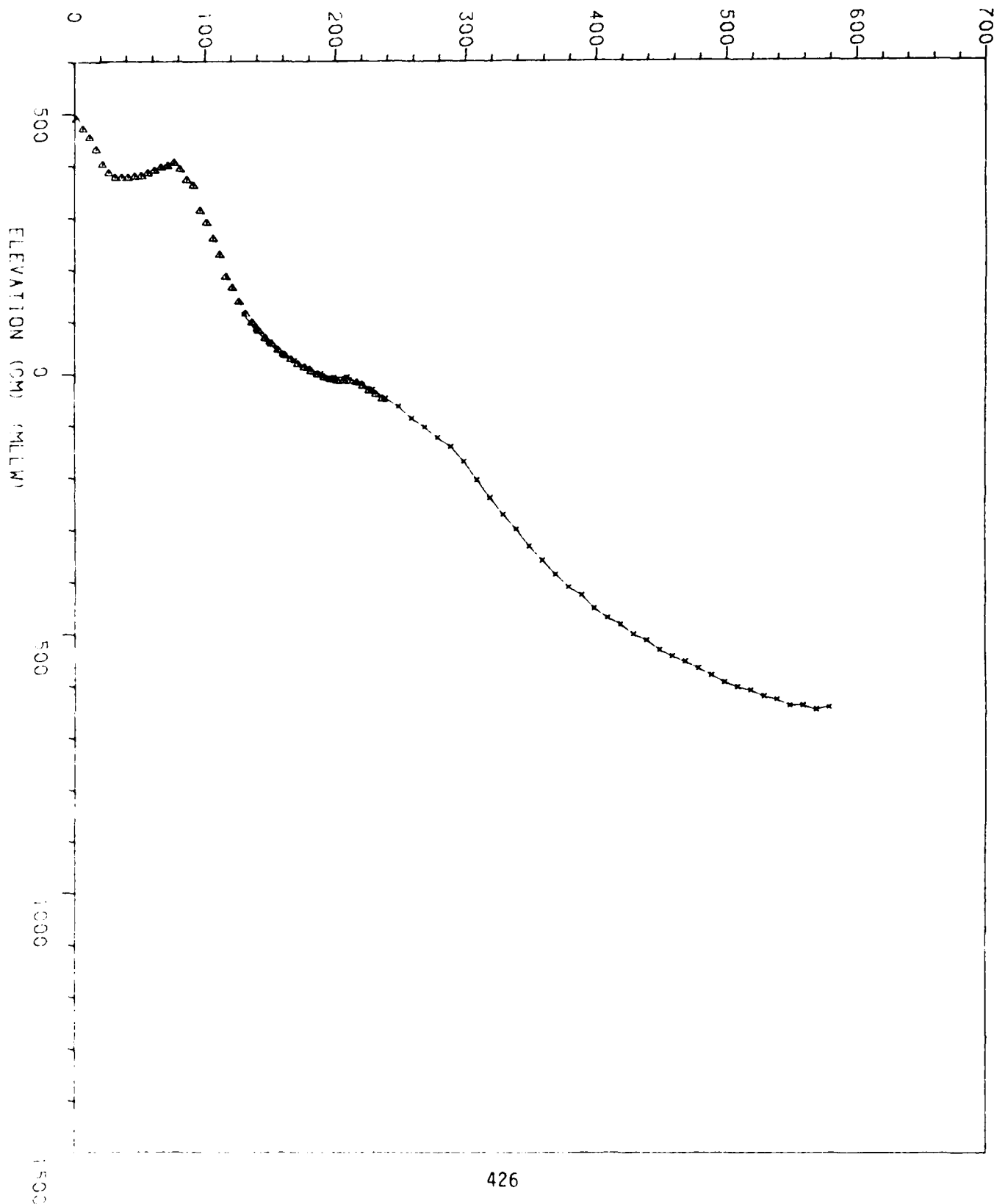


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1070
 NOV 19 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	490	308.7	-204
5.0	471	318.7	-239
10.0	454	328.7	-271
15.0	431	338.7	-299
20.0	403	348.7	-332
25.0	387	358.7	-359
30.0	378	368.7	-386
35.0	378	378.7	-410
40.0	378	388.7	-425
45.0	380	398.7	-451
50.0	381	408.7	-469
55.0	386	418.7	-482
60.0	391	428.7	-501
65.0	397	438.7	-512
70.0	400	448.7	-531
75.0	406	458.3	-543
80.0	394	468.3	-554
85.0	373	478.3	-567
90.0	362	488.3	-580
95.0	314	498.3	-594
100.0	291	508.3	-603
105.0	260	518.3	-609
110.0	229	528.3	-620
115.0	186	538.3	-626
120.0	165	548.3	-638
125.0	138	558.3	-638
130.0	115	568.3	-646
138.7	87	578.2	-642
148.7	61		
158.7	38		
168.7	26		
178.7	11		
188.7	0		
198.7	-6		
208.7	-5		
218.7	-17		
228.7	-29		
238.7	-46		
248.7	-63		
258.7	-85		
268.7	-103		
278.7	-123		
288.7	-140		
298.7	-169		

RANGE = 1080

NOV 15 1984

RSTART=30
REND=5

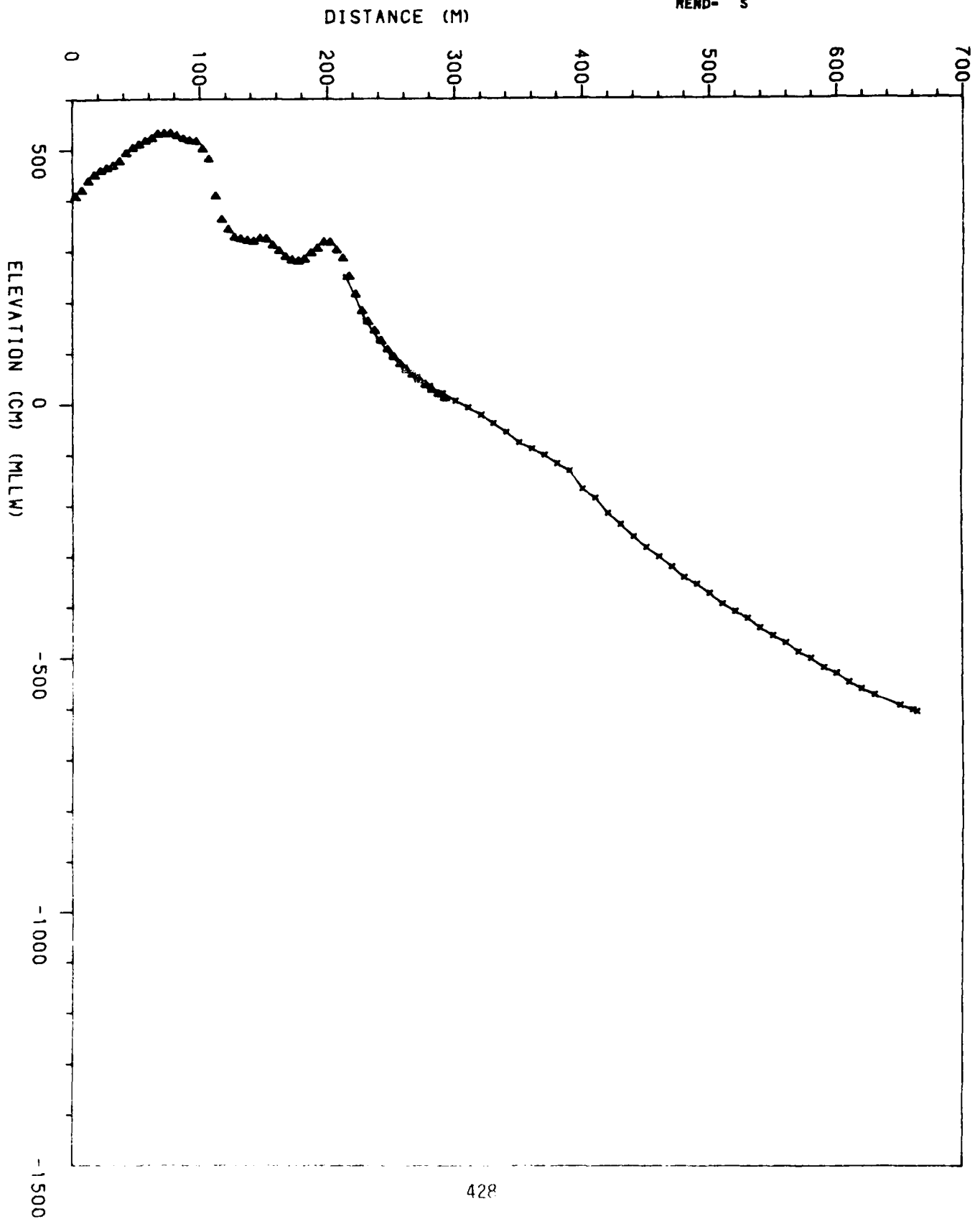


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1080
 NOV 15 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	407	230.7	163
5.0	419	240.7	126
10.0	437	250.7	95
15.0	449	260.7	71
20.0	457	270.7	53
25.0	462	280.7	34
30.0	467	290.7	20
35.0	476	300.7	6
40.0	492	310.7	-7
45.0	502	320.7	-21
50.0	509	330.7	-38
55.0	516	340.7	-55
60.0	521	350.7	-76
65.0	530	360.7	-89
70.0	531	370.7	-100
75.0	531	380.7	-117
80.0	526	390.7	-131
85.0	521	400.7	-167
90.0	517	410.7	-185
95.0	515	420.7	-215
100.0	500	430.7	-237
105.0	480	440.7	-262
110.0	407	450.7	-282
115.0	361	460.7	-301
120.0	342	470.7	-322
125.0	327	480.7	-343
130.0	324	490.7	-356
135.0	321	500.7	-374
140.0	319	510.7	-395
145.0	325	520.7	-410
150.0	324	530.7	-423
155.0	311	540.7	-442
160.0	300	550.7	-457
165.0	289	560.7	-472
170.0	282	570.7	-489
175.0	280	580.7	-502
180.0	284	590.7	-520
185.0	296	600.7	-531
190.0	305	610.7	-549
195.0	317	620.7	-562
200.0	317	630.7	-574
205.0	302	650.7	-594
210.0	286	660.7	-604
215.0	250	663.9	-607

RANGE= 1110

NOV 27 1984

RSTART=30
REND= 5

DISTANCE (M)

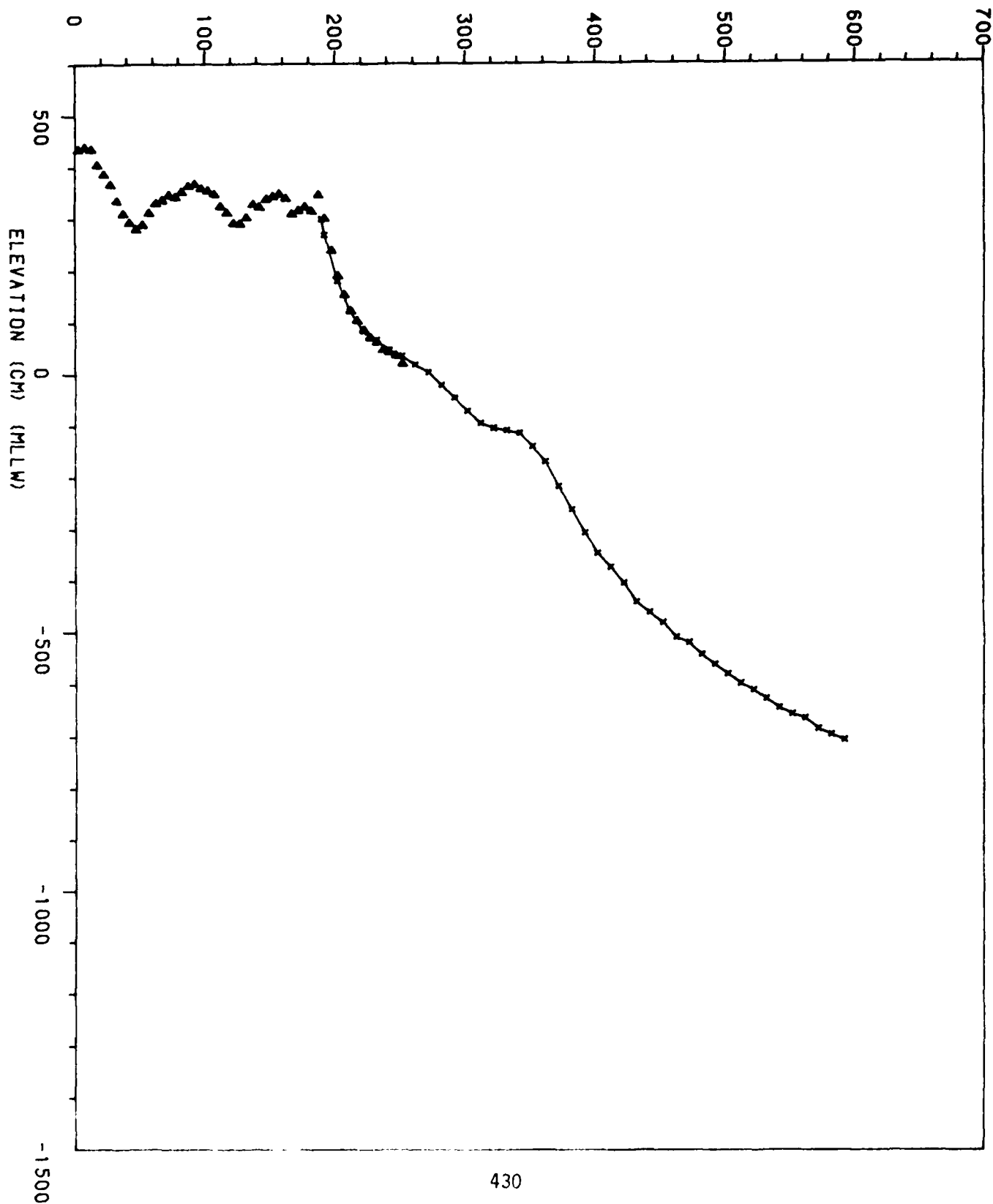


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1110
 NOV 27 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	433	242.1	46
5.0	437	252.1	35
10.0	433	262.1	18
15.0	403	272.1	3
20.0	385	282.1	-21
25.0	365	292.1	-46
30.0	334	302.1	-71
35.0	309	312.1	-95
40.0	292	322.1	-105
45.0	279	332.1	-109
50.0	288	342.1	-115
55.0	311	352.1	-141
60.0	329	362.1	-170
65.0	335	372.1	-218
70.0	345	382.1	-263
75.0	341	392.1	-308
80.0	351	402.1	-348
85.0	362	412.1	-375
90.0	366	422.1	-406
95.0	357	432.1	-443
100.0	353	442.1	-464
105.0	347	452.1	-483
110.0	324	462.1	-511
115.0	311	472.1	-522
120.0	291	482.1	-544
125.0	290	492.1	-563
130.0	302	502.1	-582
135.0	327	512.1	-600
140.0	322	522.1	-612
145.0	337	532.1	-629
150.0	342	542.1	-646
155.0	347	552.1	-659
160.0	338	562.1	-667
165.0	308	572.1	-687
170.0	315	582.1	-698
175.0	322	592.1	-708
180.0	314		
185.0	345		
190.0	300		
192.1	269		
202.1	180		
212.1	121		
222.1	83		
232.1	66		

RANGE= 1180

NOV 26 1984

DISTANCE (M)

RSTART=30
REND=5

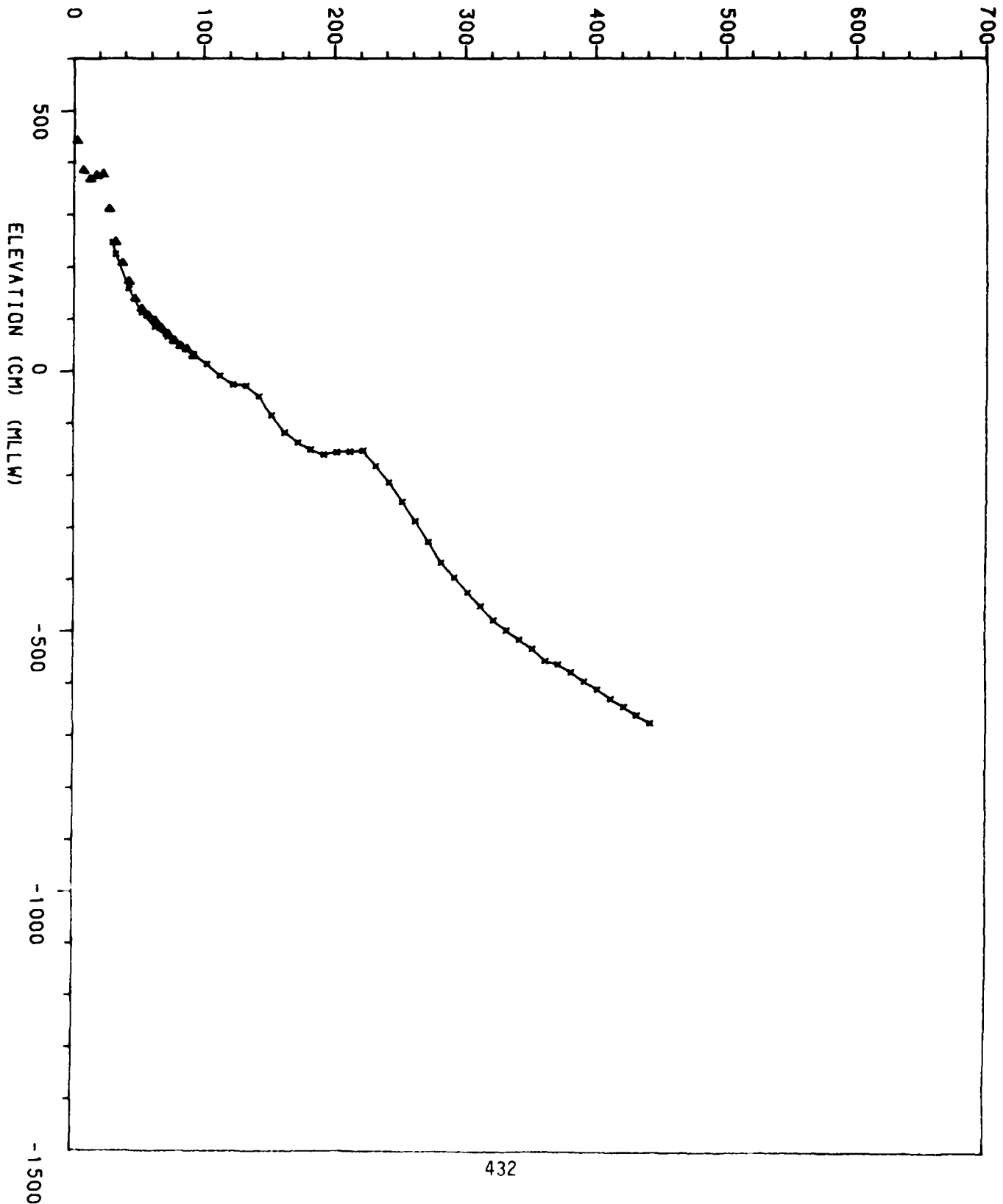


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1180
 NOV 26 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	440	402.3	-611
5.0	383	412.3	-629
10.0	366	422.3	-644
15.0	373	432.3	-661
20.0	376	442.3	-676
25.0	310		
30.0	247		
32.3	224		
42.3	158		
52.3	113		
62.3	85		
72.3	66		
82.3	48		
92.3	32		
102.3	13		
112.3	-8		
122.3	-26		
132.3	-27		
142.3	-48		
152.3	-85		
162.3	-118		
172.3	-137		
182.3	-150		
192.3	-160		
202.3	-156		
212.3	-154		
222.3	-152		
232.3	-182		
242.3	-213		
252.3	-249		
262.3	-287		
272.3	-327		
282.3	-368		
292.3	-396		
302.3	-425		
312.3	-452		
322.3	-479		
332.3	-498		
342.3	-516		
352.3	-533		
362.3	-557		
372.3	-563		
382.3	-579		
392.3	-595		

RANGE= 1210

JAN 13 1985

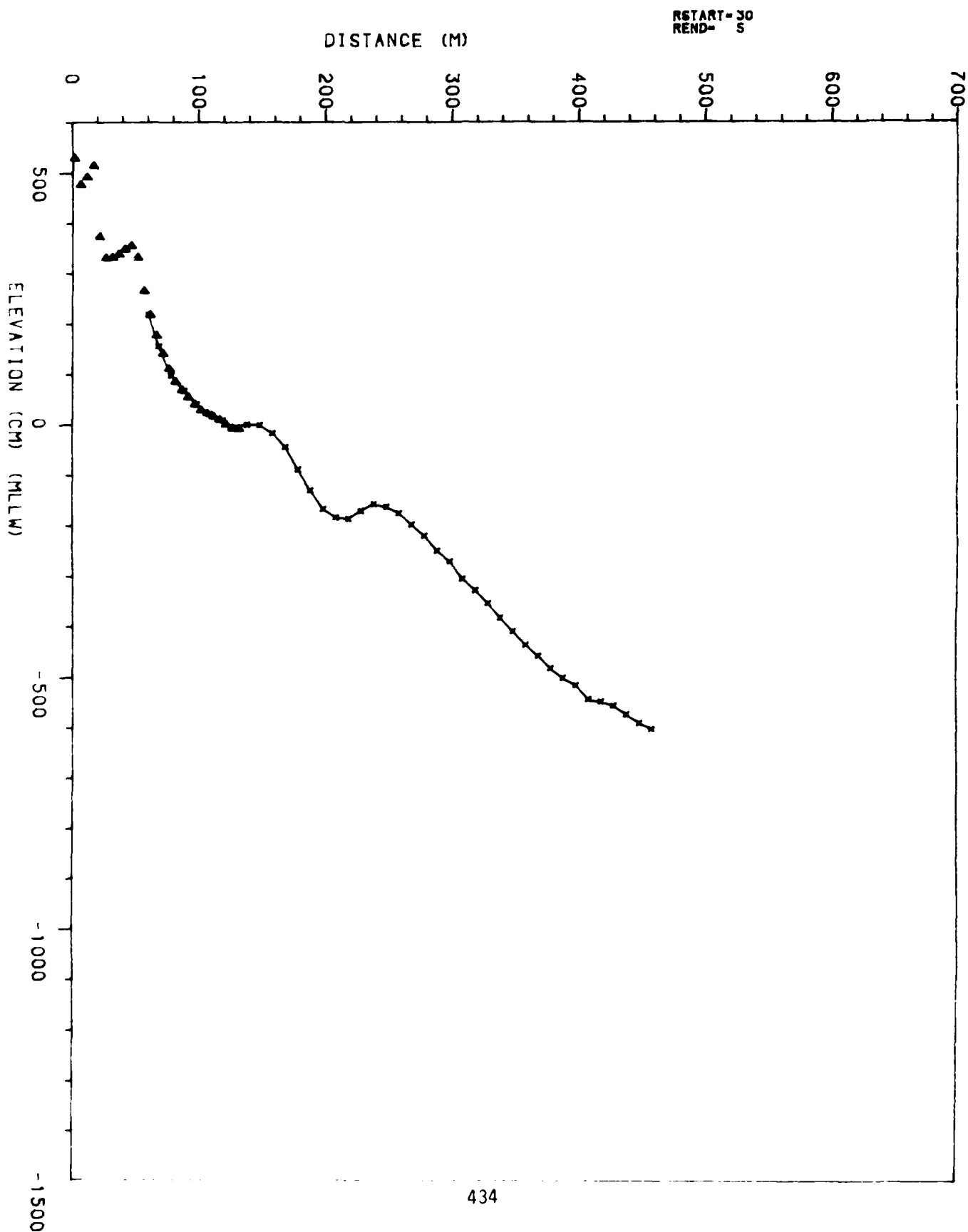


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1210
 JAN 13 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	529	378.0	-482
5.0	476	388.0	-501
10.0	491	398.0	-516
15.0	514	408.0	-544
20.0	373	418.0	-548
25.0	331	428.0	-556
30.0	332	438.0	-574
35.0	338	448.0	-591
40.0	348	458.0	-603
45.0	355		
50.0	332		
55.0	265		
60.0	218		
68.0	155		
78.0	97		
88.0	67		
98.0	39		
108.0	20		
118.0	8		
128.0	-5		
138.0	0		
148.0	-1		
158.0	-17		
168.0	-44		
178.0	-89		
188.0	-130		
198.0	-167		
208.0	-184		
218.0	-186		
228.0	-171		
238.0	-157		
248.0	-163		
258.0	-176		
268.0	-197		
278.0	-219		
288.0	-249		
298.0	-271		
308.0	-305		
318.0	-328		
328.0	-354		
338.0	-383		
348.0	-409		
358.0	-436		
368.0	-457		

RANGE= 1240

JAN 13 1985

RSTART= 30
REND= 5

DISTANCE (M)

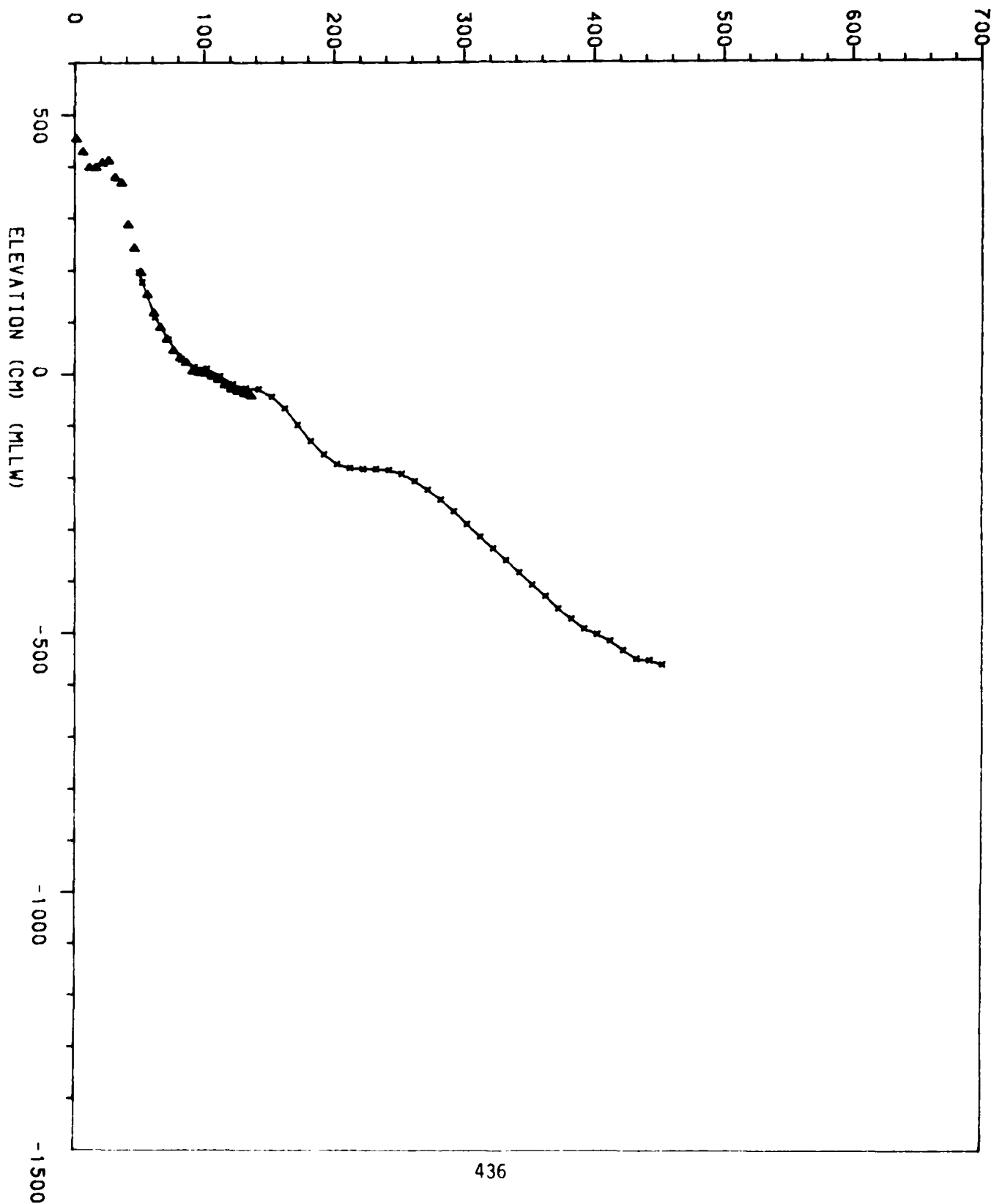


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1240
 JAN 13 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	452	382.5	-475
5.0	427	392.5	-494
10.0	397	402.5	-504
15.0	397	412.5	-517
20.0	406	422.5	-535
25.0	411	432.5	-552
30.0	378	442.5	-555
35.0	367	452.5	-563
40.0	287		
45.0	242		
50.0	196		
52.5	177		
62.5	109		
72.5	66		
82.5	27		
92.5	12		
102.5	9		
112.5	-5		
122.5	-20		
132.5	-28		
142.5	-30		
152.5	-44		
162.5	-67		
172.5	-99		
182.5	-130		
192.5	-156		
202.5	-174		
212.5	-182		
222.5	-183		
232.5	-184		
242.5	-185		
252.5	-193		
262.5	-207		
272.5	-224		
282.5	-243		
292.5	-266		
302.5	-290		
312.5	-315		
322.5	-338		
332.5	-361		
342.5	-385		
352.5	-408		
362.5	-430		
372.5	-455		

RANGE= 1280

JAN 15 1985

RSTART=30
REND=5

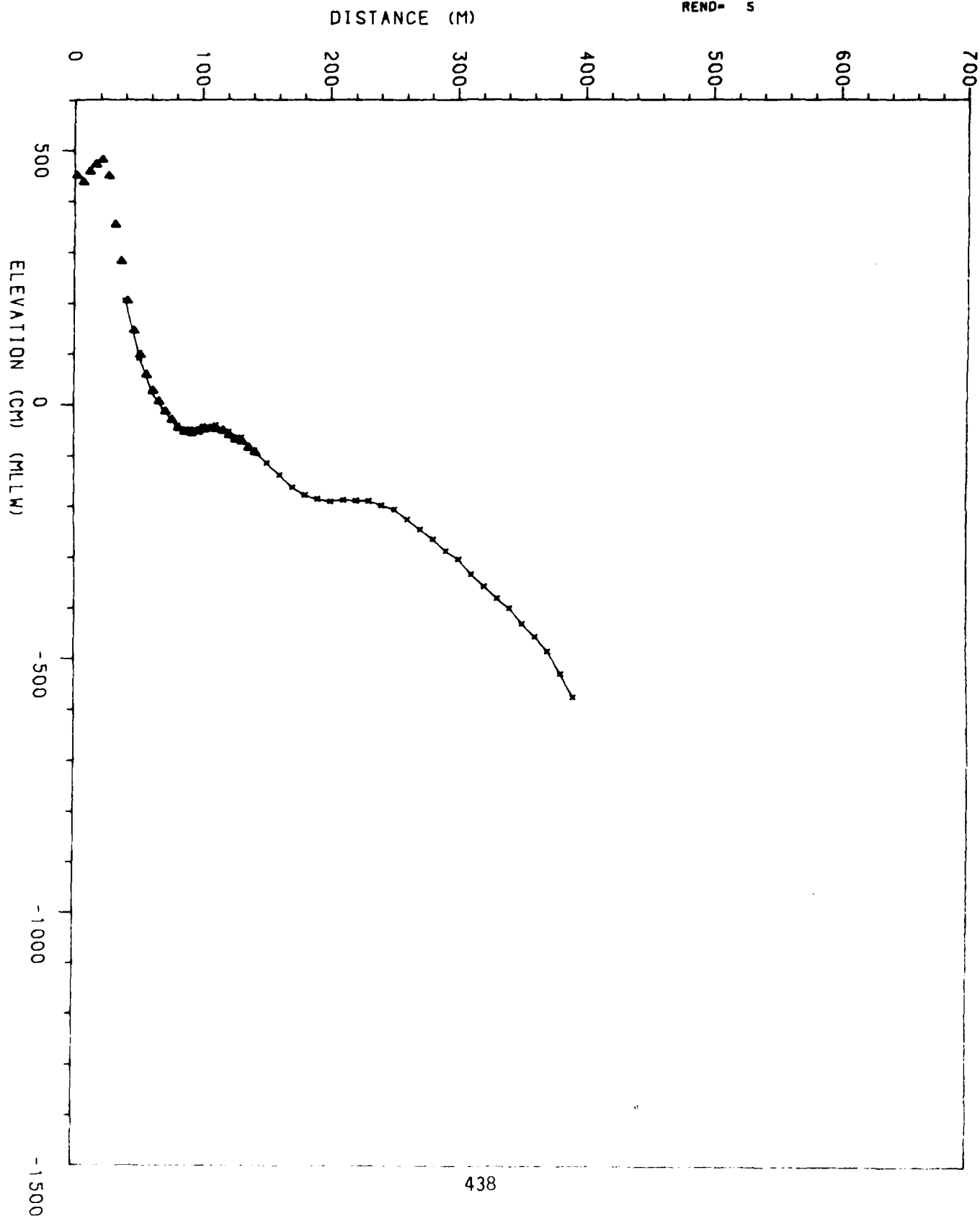


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1280
JAN 15 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	451
5.0	438
10.0	459
15.0	473
20.0	482
25.0	450
30.0	355
35.0	283
40.0	205
51.0	92
61.0	25
71.0	-11
81.0	-40
91.0	-47
101.0	-42
111.0	-40
121.0	-52
131.0	-64
141.0	-89
151.0	-114
161.0	-137
171.0	-162
181.0	-177
191.0	-184
201.0	-190
211.0	-187
221.0	-188
231.0	-189
241.0	-197
251.0	-205
261.0	-224
271.0	-244
281.0	-264
291.0	-287
301.0	-304
311.0	-333
321.0	-357
331.0	-381
341.0	-400
351.0	-430
361.0	-456
371.0	-485
381.0	-529
391.0	-576

RANGE= 1290

JAN 15 1985

RSTART=30
REND= 5

DISTANCE (M)

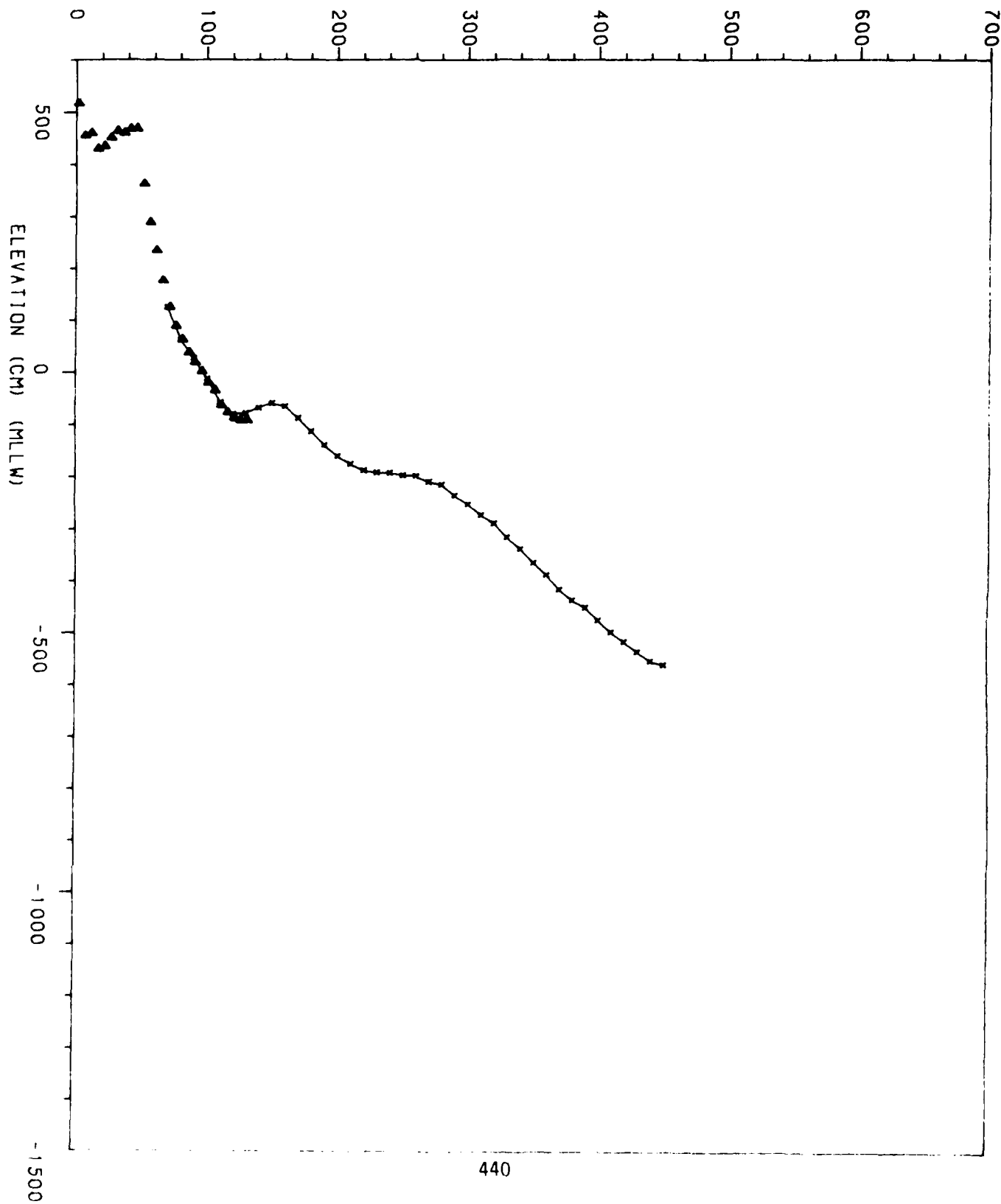


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1290
 JAN 15 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	518	370.7	-415
5.0	456	380.7	-436
10.0	461	390.7	-451
15.0	431	400.7	-476
20.0	436	410.7	-497
25.0	452	420.7	-517
30.0	465	430.7	-536
35.0	461	440.7	-554
40.0	469	450.7	-562
45.0	470		
50.0	364		
55.0	290		
60.0	235		
65.0	177		
70.0	126		
80.7	61		
90.7	26		
100.7	-12		
110.7	-57		
120.7	-80		
130.7	-78		
140.7	-68		
150.7	-59		
160.7	-65		
170.7	-87		
180.7	-112		
190.7	-138		
200.7	-160		
210.7	-175		
220.7	-187		
230.7	-191		
240.7	-192		
250.7	-197		
260.7	-198		
270.7	-208		
280.7	-214		
290.7	-235		
300.7	-252		
310.7	-272		
320.7	-288		
330.7	-315		
340.7	-338		
350.7	-365		
360.7	-388		

RANGE= 1310

FEB 01 1985

RSTART=30
REND= 5

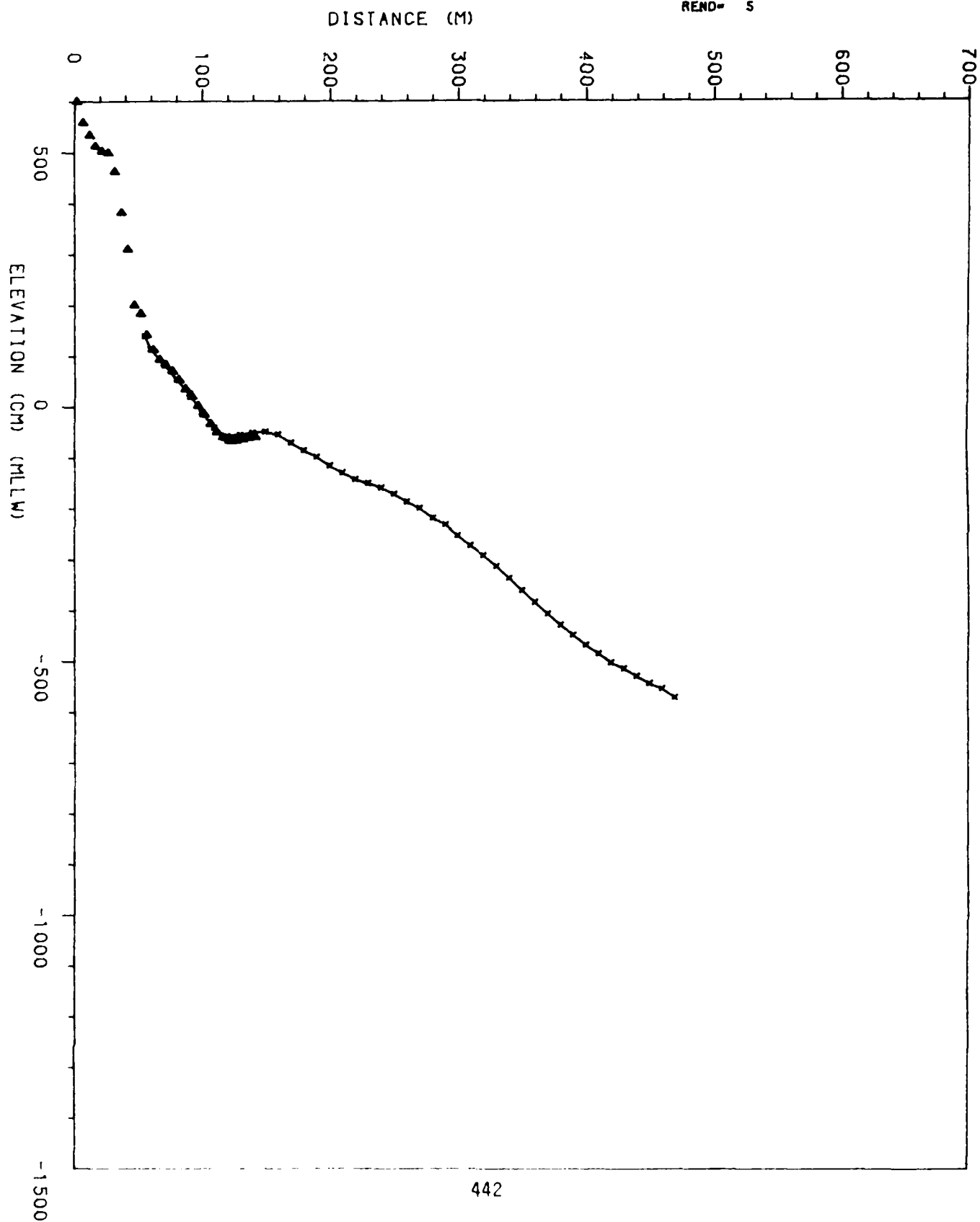


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1310
 FEB 01 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	600	379.5	-429
5.0	558	389.5	-449
10.0	533	399.5	-468
15.0	512	409.5	-485
20.0	502	419.5	-502
25.0	499	429.5	-515
30.0	461	439.5	-529
35.0	381	449.5	-544
40.0	309	459.5	-554
45.0	199	469.5	-572
50.0	182		
55.0	140		
59.5	113		
69.5	86		
79.5	55		
89.5	26		
99.5	-10		
109.5	-40		
119.5	-57		
129.5	-54		
139.5	-50		
149.5	-48		
159.5	-53		
169.5	-70		
179.5	-85		
189.5	-98		
199.5	-115		
209.5	-129		
219.5	-141		
229.5	-149		
239.5	-158		
249.5	-171		
259.5	-186		
269.5	-199		
279.5	-218		
289.5	-231		
299.5	-254		
309.5	-273		
319.5	-292		
329.5	-313		
339.5	-336		
349.5	-361		
359.5	-384		
369.5	-407		

RANGE= 1340

FEB 01 1985

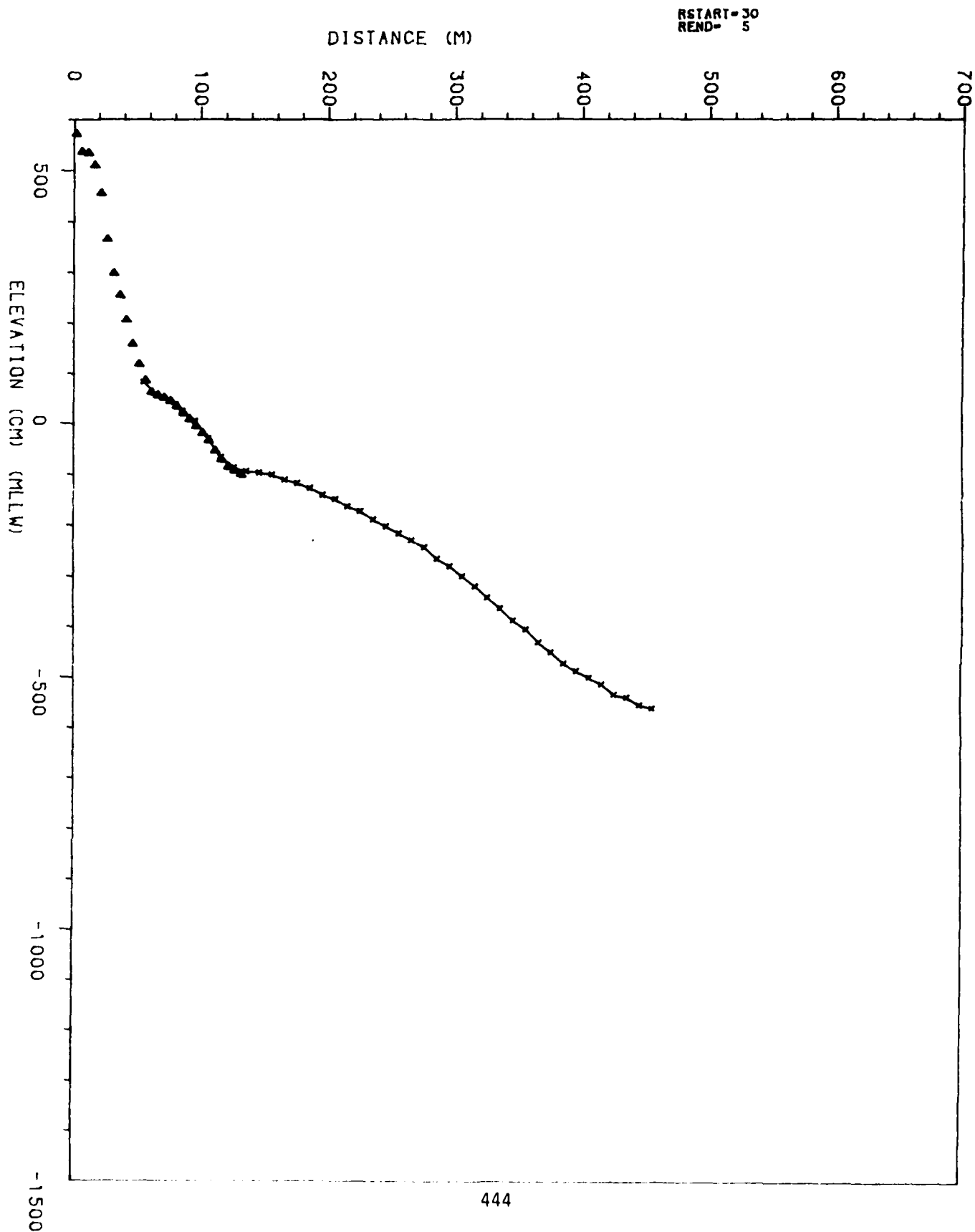


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1340
 FEB 01 1985

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	571	385.7	-473
5.0	536	395.7	-488
10.0	533	405.7	-501
15.0	509	415.7	-514
20.0	454	425.7	-534
25.0	364	435.7	-540
30.0	297	445.7	-556
35.0	253	455.7	-562
40.0	204		
45.0	156		
50.0	116		
55.0	83		
65.7	55		
75.7	44		
85.7	24		
95.7	4		
105.7	-30		
115.7	-66		
125.7	-87		
135.7	-93		
145.7	-97		
155.7	-100		
165.7	-110		
175.7	-117		
185.7	-127		
195.7	-140		
205.7	-148		
215.7	-162		
225.7	-172		
235.7	-188		
245.7	-202		
255.7	-216		
265.7	-230		
275.7	-242		
285.7	-265		
295.7	-280		
305.7	-301		
315.7	-321		
325.7	-343		
335.7	-364		
345.7	-388		
355.7	-405		
365.7	-431		
375.7	-451		

RANGE= 1380

DEC 06 1984

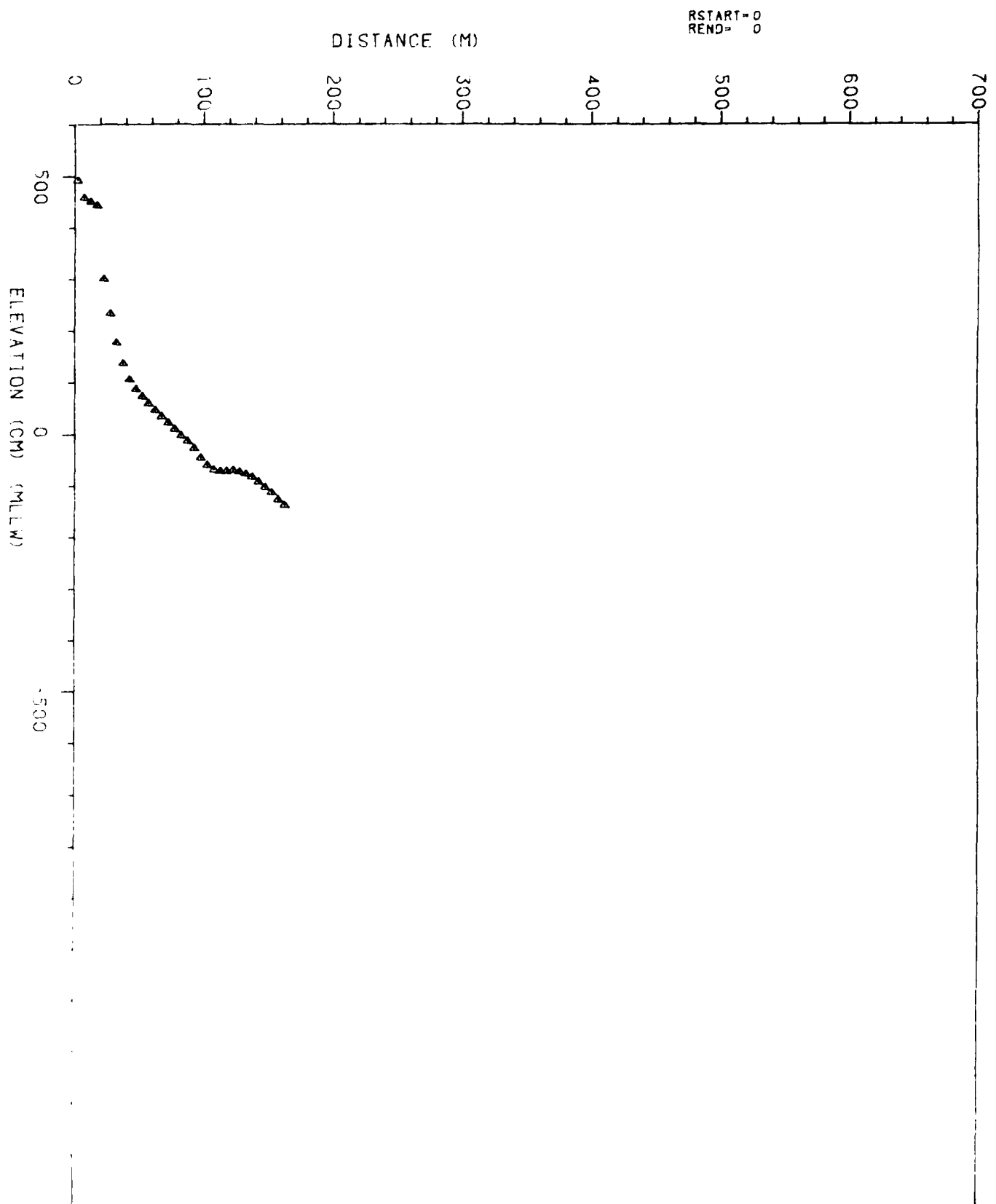


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1380
DEC 06 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	492
5.0	458
10.0	450
15.0	443
20.0	301
25.0	234
30.0	178
35.0	138
40.0	107
45.0	88
50.0	74
55.0	60
60.0	47
65.0	35
70.0	23
75.0	11
80.0	-2
85.0	-13
90.0	-26
95.0	-45
100.0	-59
105.0	-68
110.0	-71
115.0	-71
120.0	-69
125.0	-72
130.0	-76
135.0	-82
140.0	-92
145.0	-102
150.0	-112
155.0	-126
160.0	-137

RANGE= 1410

DEC 06 1984

RSTART=0
REND=0

DISTANCE (M)

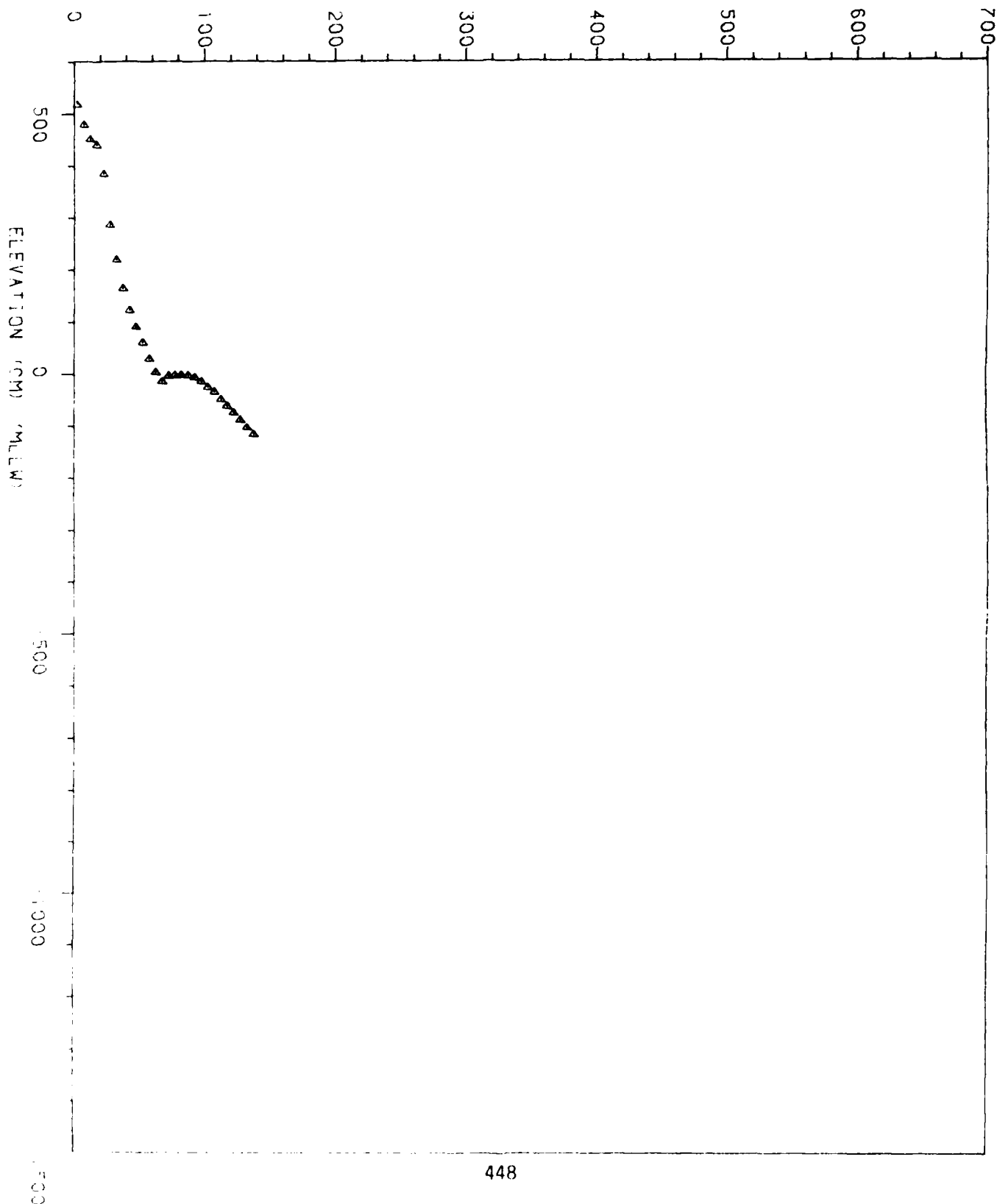


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1410
DEC 06 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

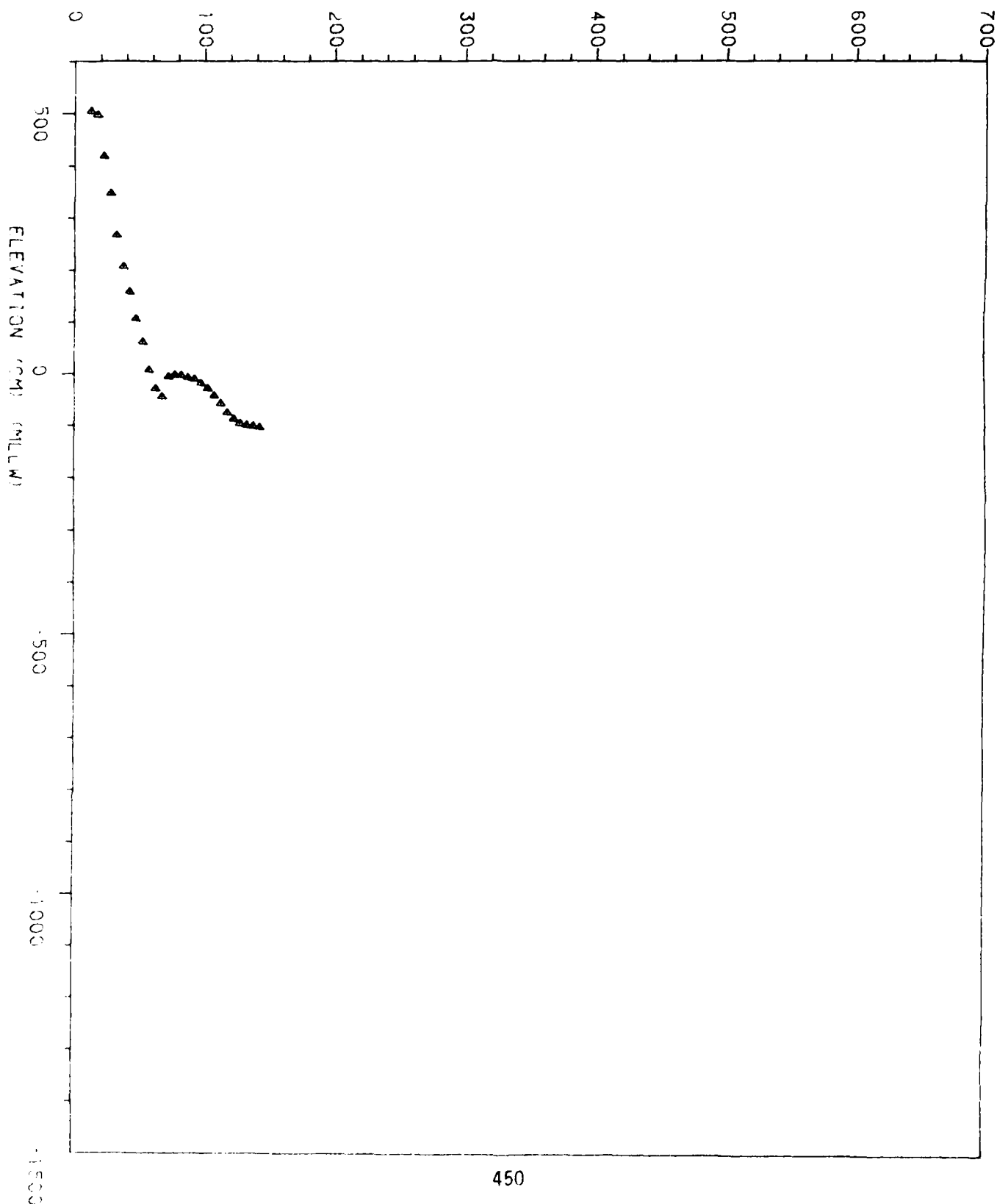
0.0	518
5.0	479
10.0	451
15.0	440
20.0	385
25.0	287
30.0	220
35.0	165
40.0	123
45.0	91
50.0	61
55.0	30
60.0	4
65.0	-14
70.0	-3
75.0	-2
80.0	-1
85.0	-2
90.0	-6
95.0	-14
100.0	-25
105.0	-34
110.0	-49
115.0	-61
120.0	-74
125.0	-88
130.0	-103
135.0	-116

RANGE= 1440

DEC 06 1984

RSTART=0
REND=0

DISTANCE (M)



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1440
DEC 06 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	941
5.0	816
10.0	504
15.0	497
20.0	418
25.0	347
30.0	267
35.0	207
40.0	159
45.0	107
50.0	62
55.0	8
60.0	-29
65.0	-45
70.0	-6
75.0	-2
80.0	-3
85.0	-8
90.0	-11
95.0	-19
100.0	-29
105.0	-43
110.0	-58
115.0	-76
120.0	-88
125.0	-97
130.0	-100
135.0	-102
140.0	-104

RANGE= 1470

NOV 20 1984

RSTART= 0
REND= 0

DISTANCE (M)

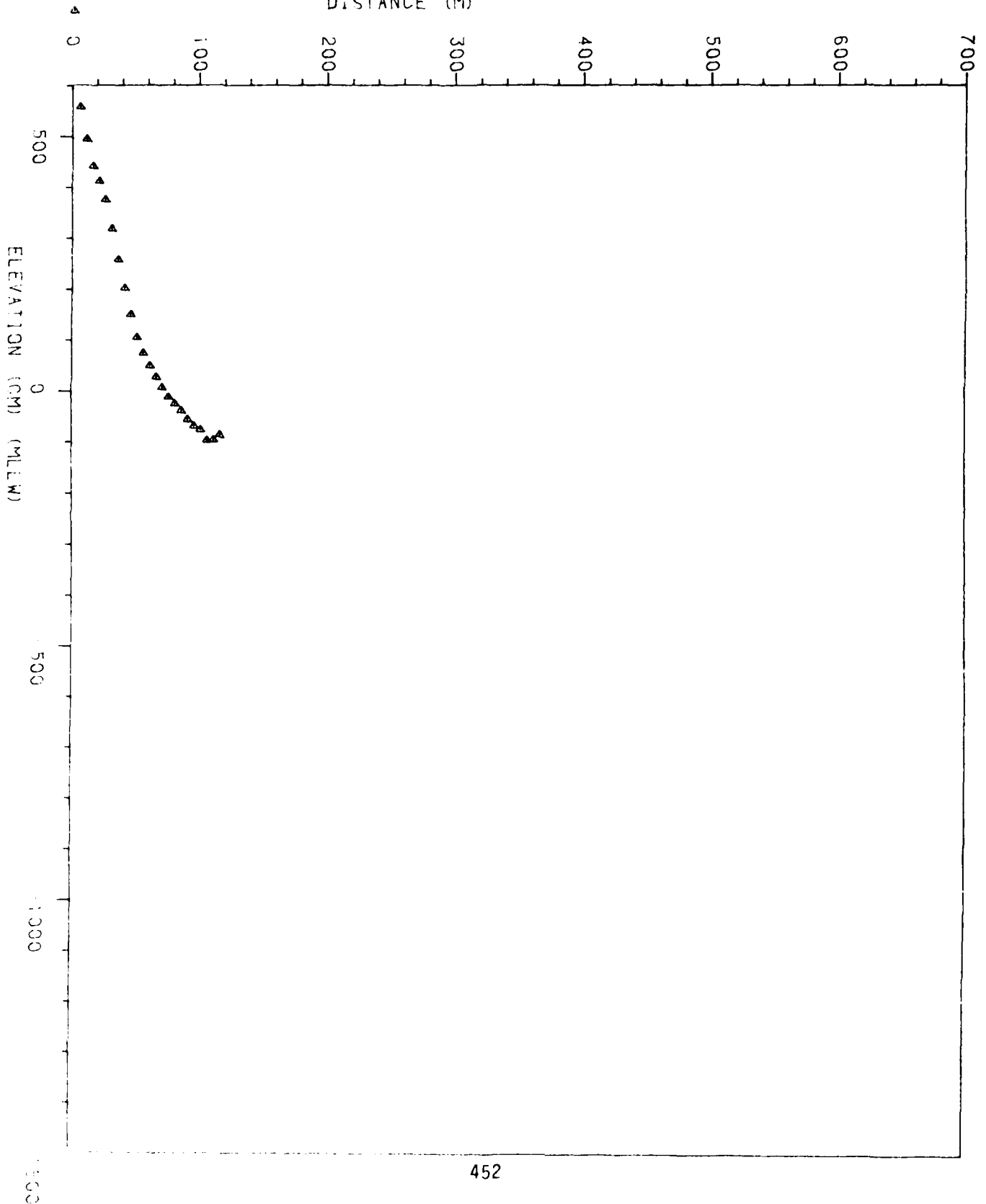


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1470
NOV 20 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	745
5.0	558
10.0	495
15.0	442
20.0	413
25.0	376
30.0	319
35.0	258
40.0	202
45.0	150
50.0	105
55.0	74
60.0	49
65.0	27
70.0	7
75.0	-12
80.0	-25
85.0	-39
90.0	-56
95.0	-69
100.0	-76
105.0	-97
110.0	-96
115.0	-86

RANGE= 1500

DEC 06 1984

RSTART= 0
REND= 0

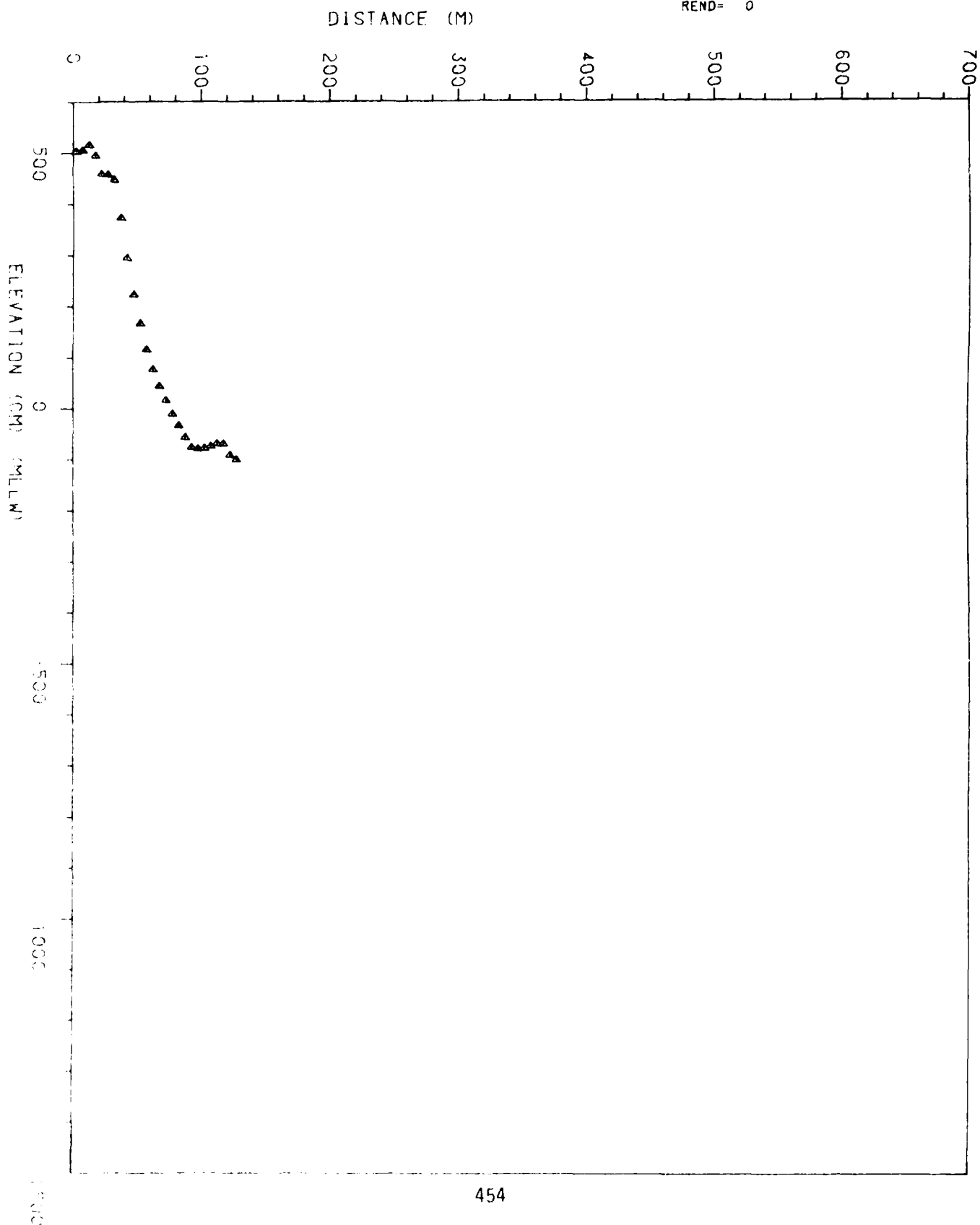


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1500
DEC 06 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	503
5.0	506
10.0	516
15.0	495
20.0	459
25.0	458
30.0	448
35.0	373
40.0	295
45.0	224
50.0	167
55.0	116
60.0	77
65.0	44
70.0	16
75.0	-11
80.0	-34
85.0	-57
90.0	-77
95.0	-79
100.0	-78
105.0	-74
110.0	-69
115.0	-69
120.0	-92
125.0	-101

RANGE= 1530

NOV 20 1984

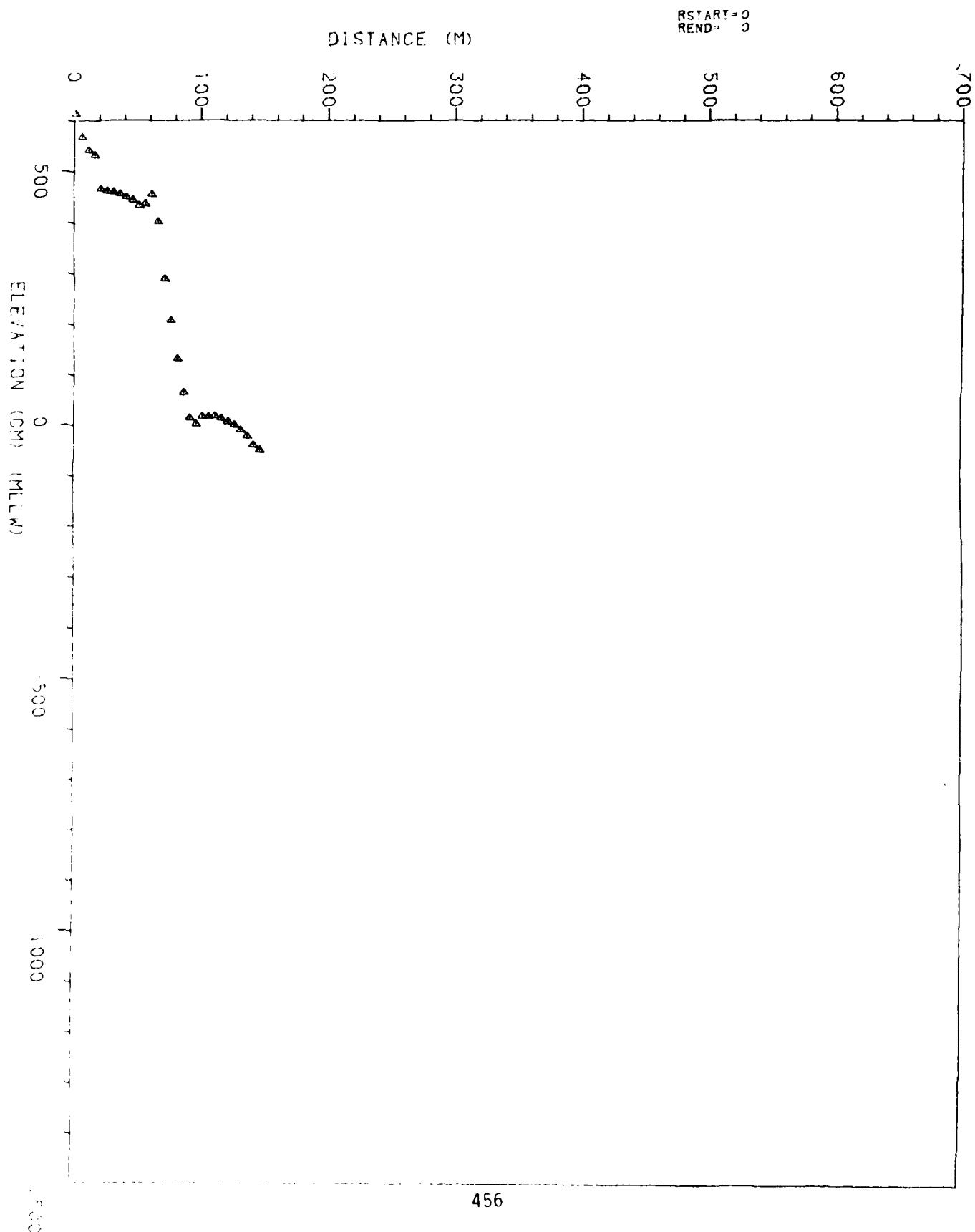


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1530
NOV 20 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW
0.0	613
5.0	567
10.0	541
15.0	531
20.0	465
25.0	461
30.0	460
35.0	456
40.0	450
45.0	444
50.0	433
55.0	437
60.0	455
65.0	402
70.0	290
75.0	208
80.0	132
85.0	64
90.0	13
95.0	1
100.0	16
105.0	16
110.0	17
115.0	12
120.0	6
125.0	-1
130.0	-11
135.0	-23
140.0	-41
145.0	-51

RANGE= 1570

DEC 05 1984

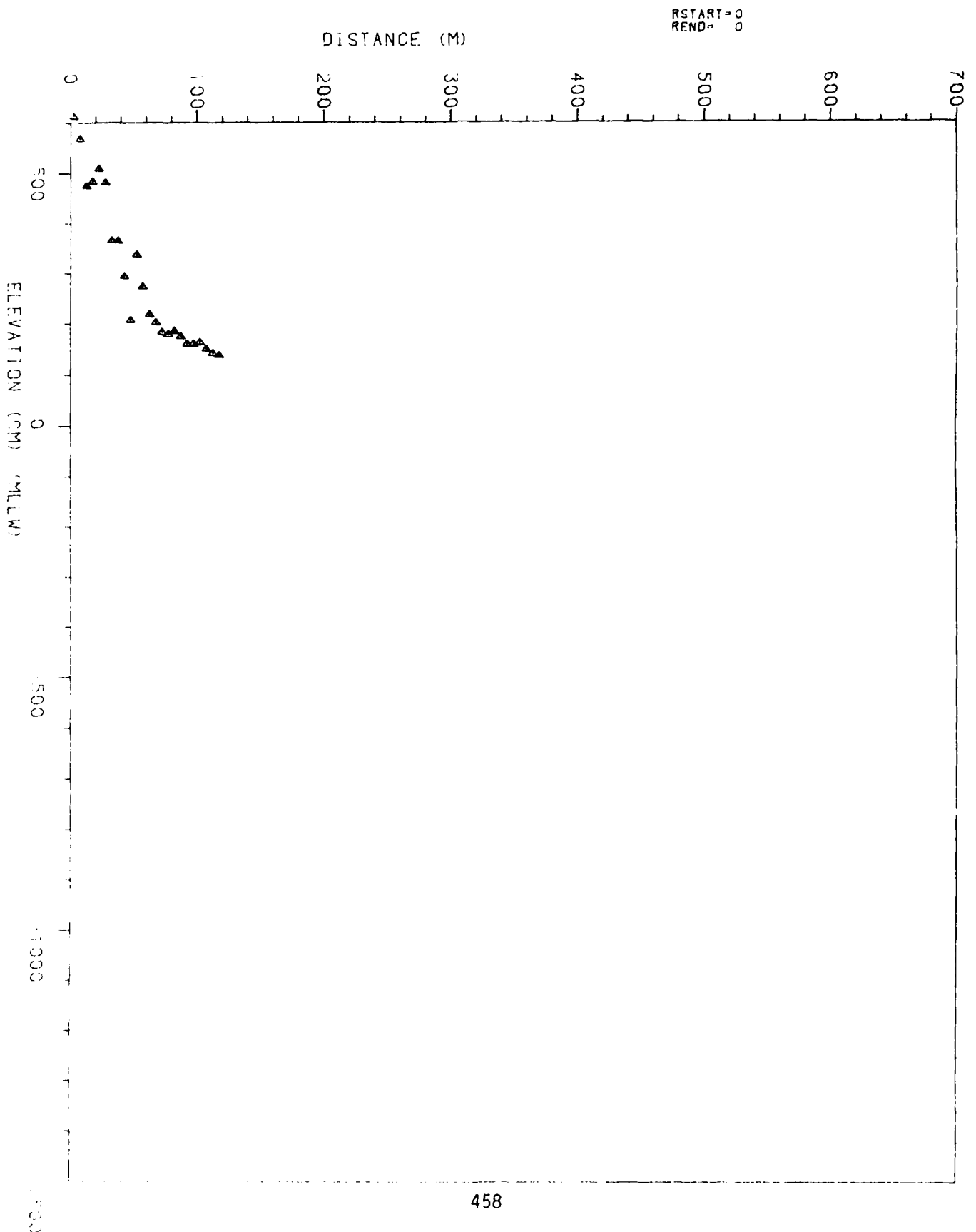
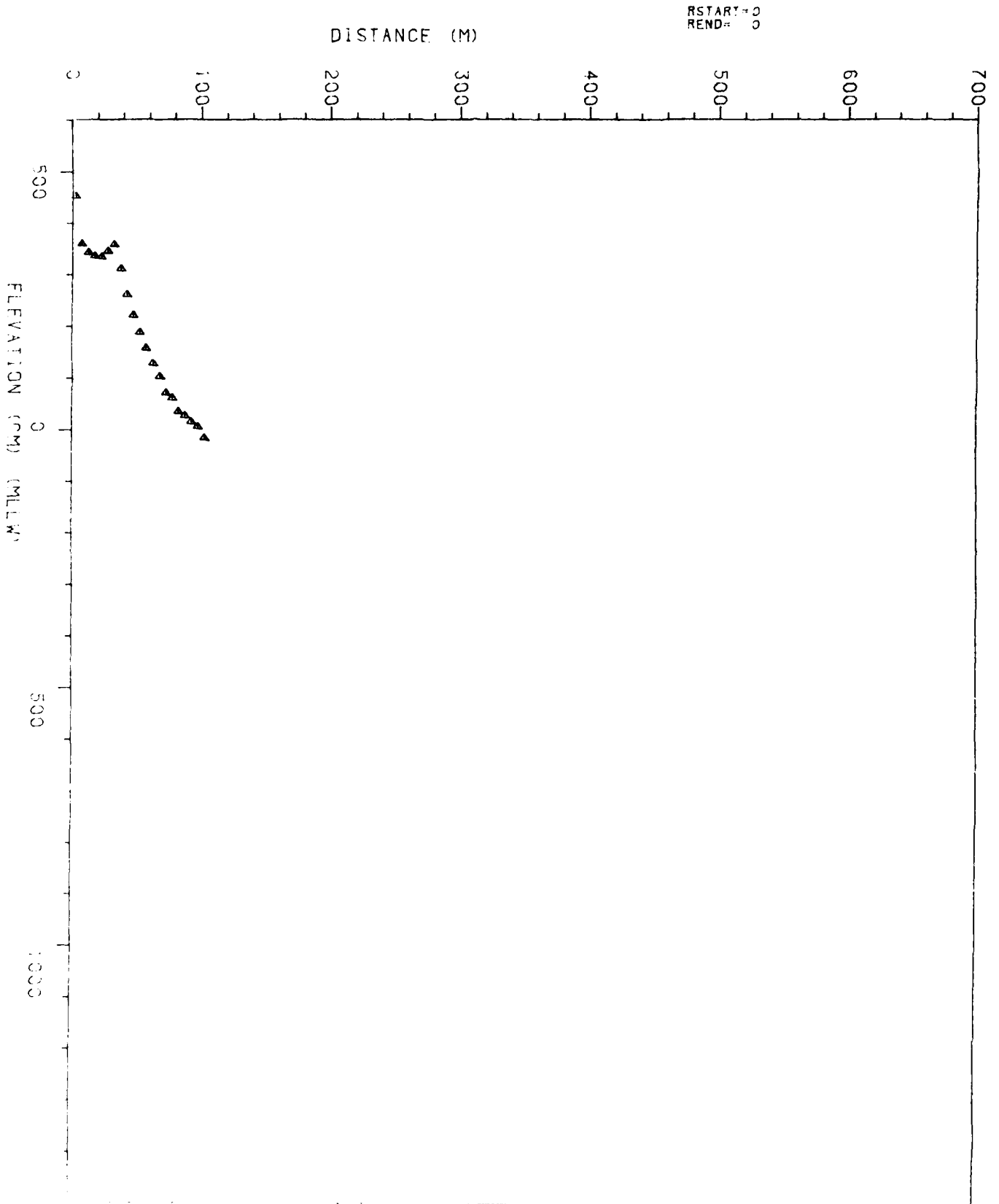


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1570
DEC 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	612
5.0	569
10.0	475
15.0	484
20.0	510
25.0	482
30.0	366
35.0	366
40.0	295
45.0	208
50.0	338
55.0	274
60.0	219
65.0	203
70.0	184
75.0	180
80.0	187
85.0	176
90.0	161
95.0	161
100.0	164
105.0	151
110.0	143
115.0	139

RANGE= 1590

DEC 05 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1590
DEC 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	452
5.0	359
10.0	342
15.0	335
20.0	334
25.0	345
30.0	358
35.0	311
40.0	261
45.0	221
50.0	188
55.0	157
60.0	128
65.0	103
70.0	71
75.0	61
80.0	35
85.0	27
90.0	15
95.0	6
100.0	-16

RANGE= 1600

DEC 05 1984

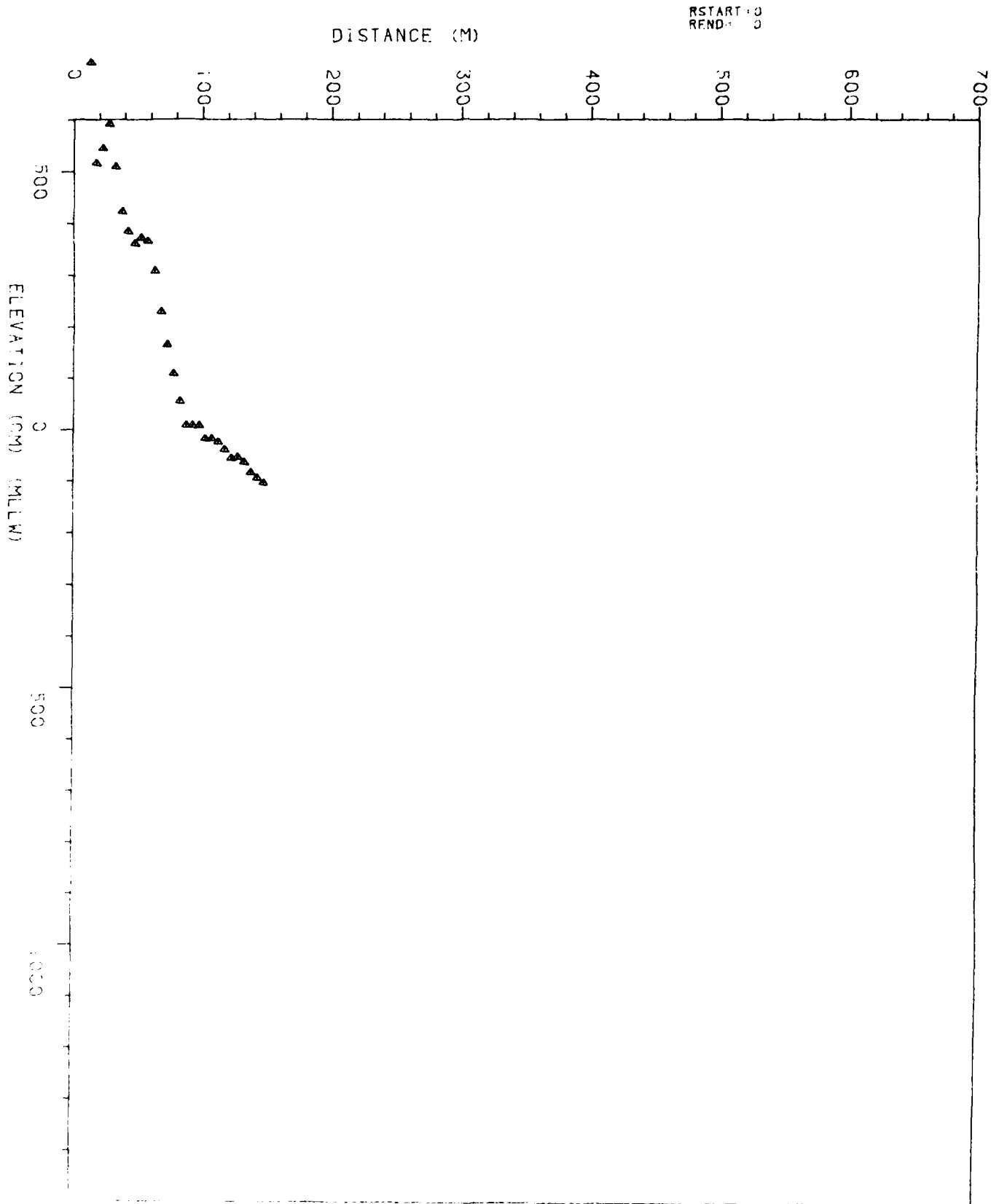


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1600
 DEC 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	998
5.0	930
10.0	709
15.0	516
20.0	545
25.0	592
30.0	510
35.0	423
40.0	385
45.0	361
50.0	372
55.0	366
60.0	308
65.0	229
70.0	165
75.0	109
80.0	55
85.0	8
90.0	8
95.0	8
100.0	-18
105.0	-17
110.0	-24
115.0	-39
120.0	-56
125.0	-54
130.0	-64
135.0	-84
140.0	-95
145.0	-104

RANGE= 1623

NOV 20 1984

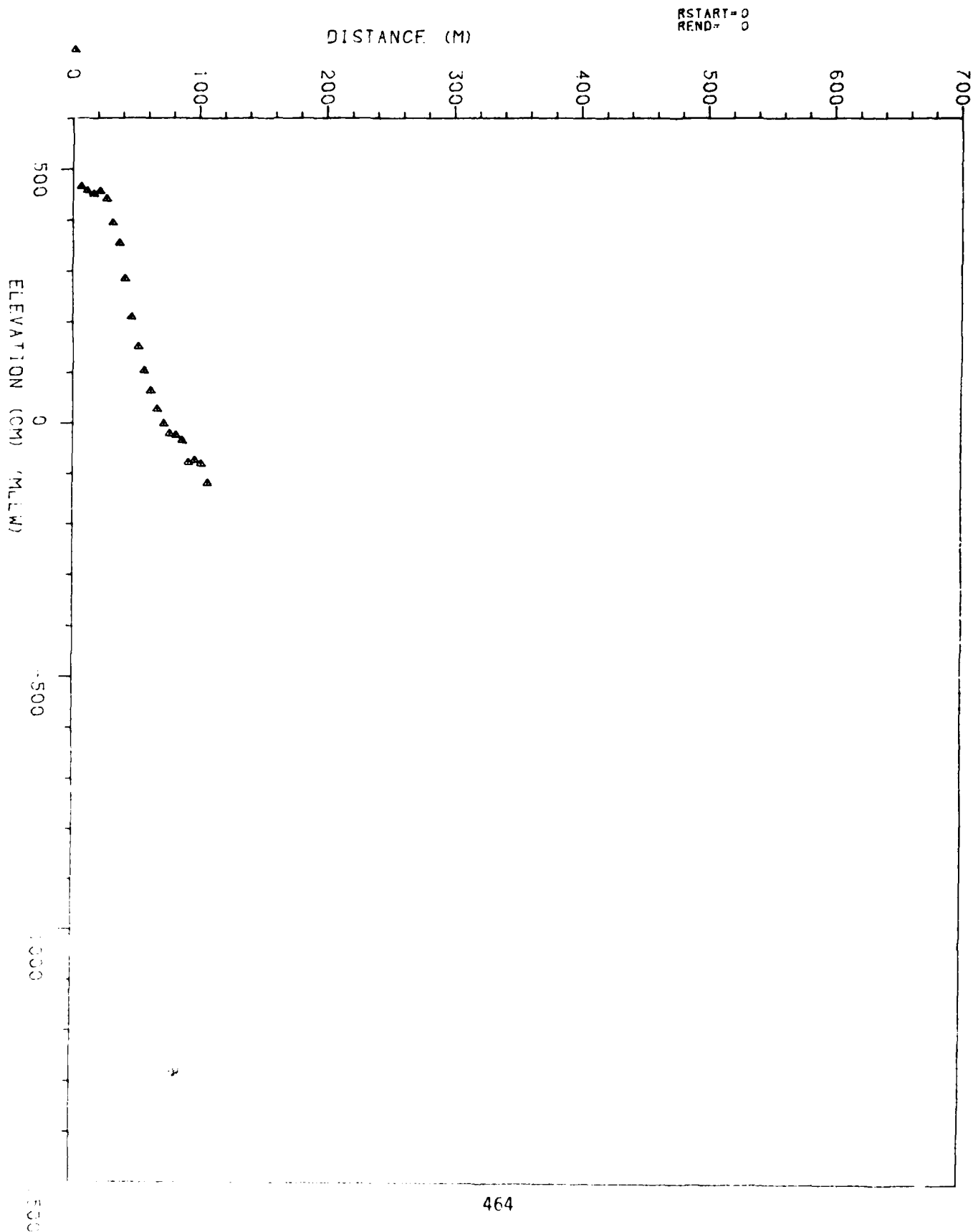


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1623
NOV 20 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	734
5.0	465
10.0	457
15.0	451
20.0	457
25.0	442
30.0	395
35.0	355
40.0	285
45.0	209
50.0	150
55.0	103
60.0	63
65.0	27
70.0	-2
75.0	-22
80.0	-25
85.0	-36
90.0	-78
95.0	-74
100.0	-81
105.0	-119

RANGE= 1640

DEC 05 1984

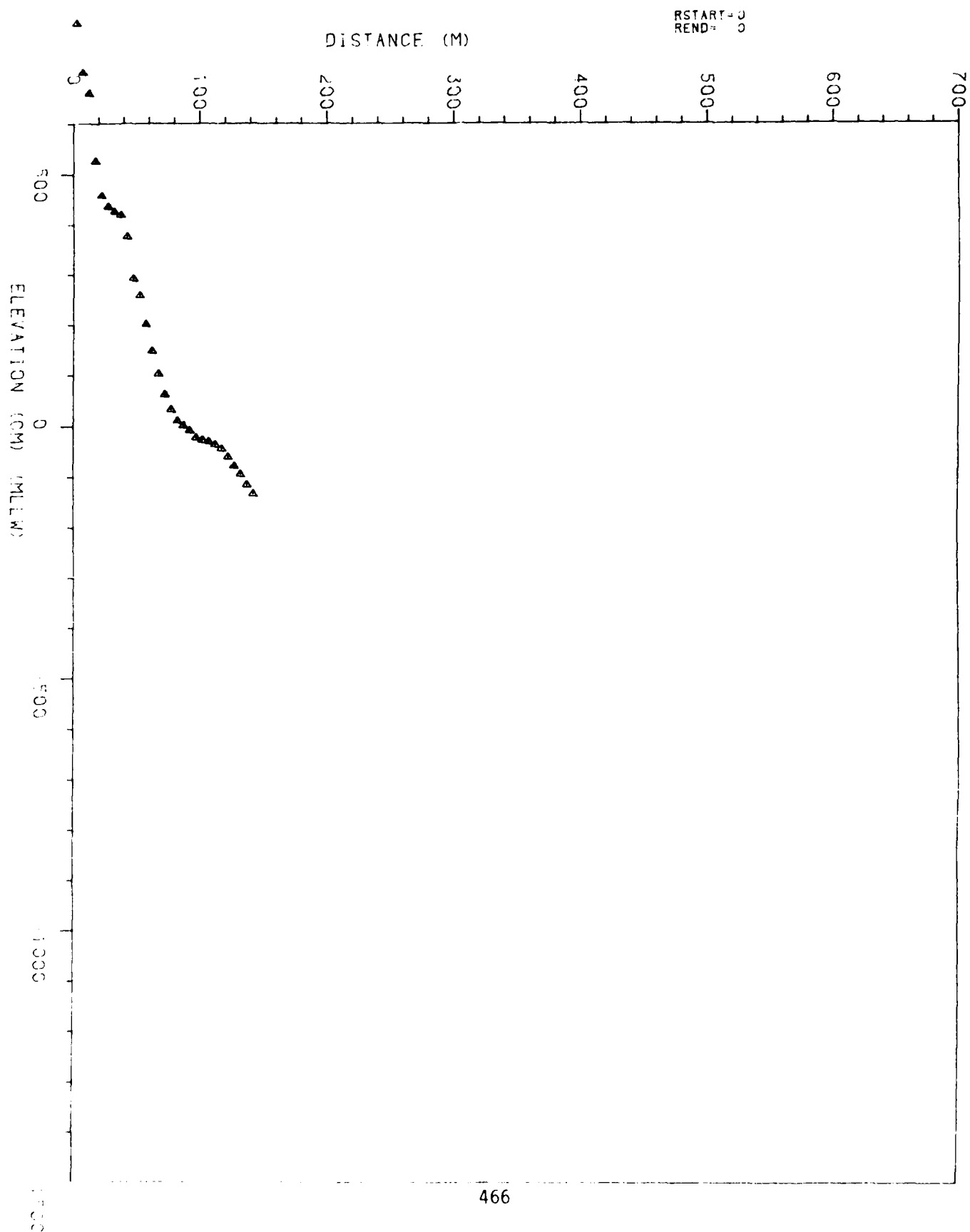


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1640
DEC 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	796
5.0	700
10.0	659
15.0	526
20.0	458
25.0	436
30.0	426
35.0	419
40.0	376
45.0	293
50.0	259
55.0	202
60.0	149
65.0	104
70.0	62
75.0	33
80.0	12
85.0	2
90.0	-8
95.0	-22
100.0	-27
105.0	-30
110.0	-36
115.0	-44
120.0	-60
125.0	-78
130.0	-94
135.0	-115
140.0	-133

RANGE= 1660

NOV 20 1984

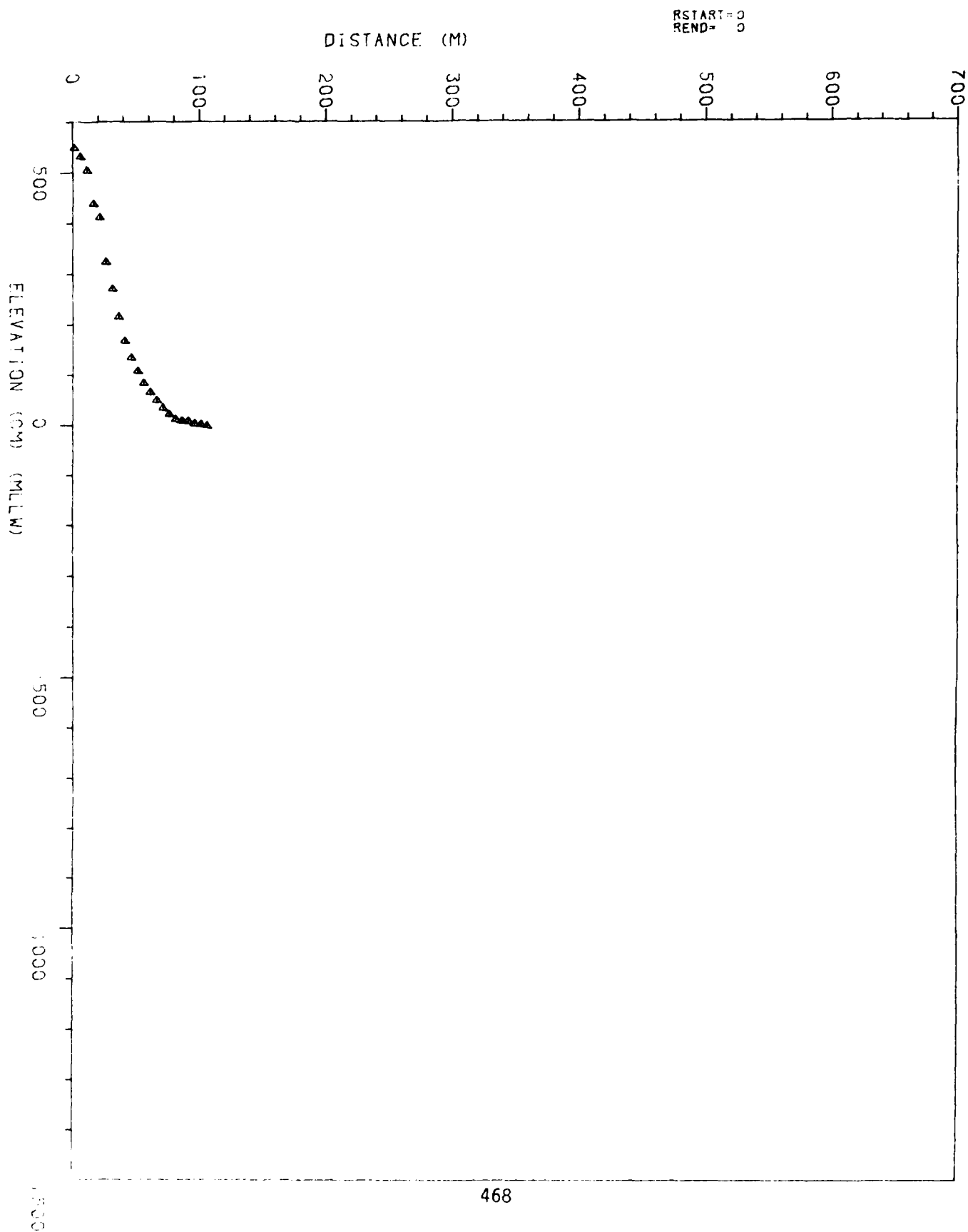


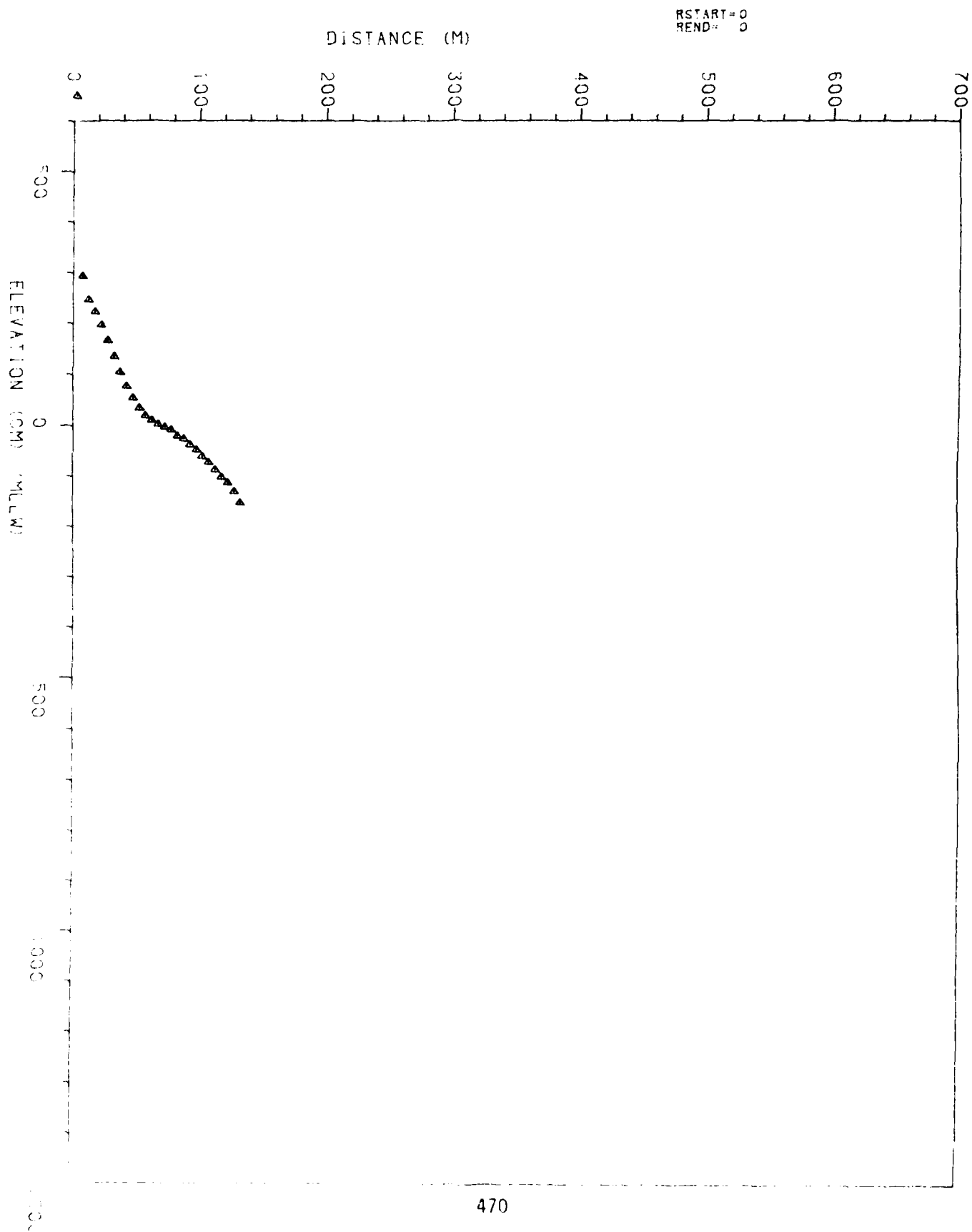
TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1660
NOV 20 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	548
5.0	531
10.0	504
15.0	438
20.0	412
25.0	324
30.0	270
35.0	215
40.0	167
45.0	134
50.0	107
55.0	83
60.0	64
65.0	48
70.0	33
75.0	21
80.0	11
85.0	8
90.0	7
95.0	2
100.0	0
105.0	-2

RANGE= 1680

DEC 05 1984



AD-A168 119

COAST OF CALIFORNIA STORM AND TIDAL WAVES STUDY
NEARSHORE BATHYMETRIC SUR. (U) SCRIPPS INSTITUTION OF
OCEANOGRAPHY LA JOLLA CA OCEAN ENGINEER..

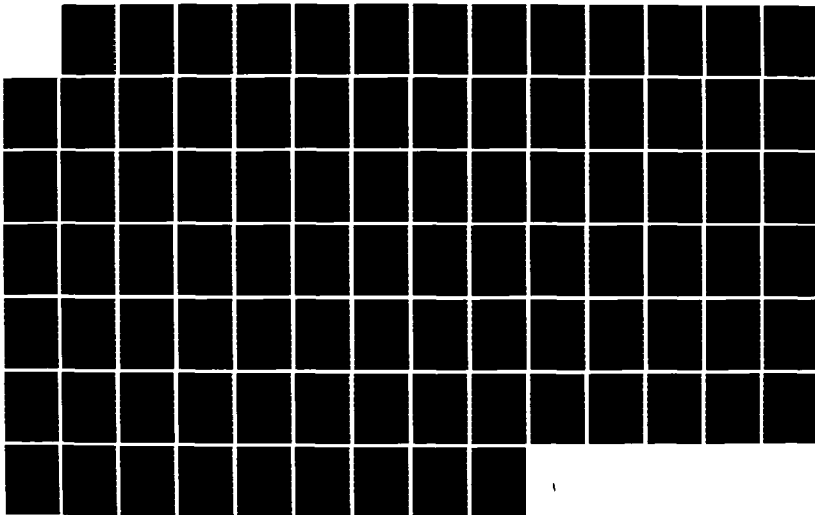
6/6

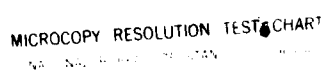
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NL





MICROCOPY RESOLUTION TEST CHART
 NBS 1010-A

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1680
DEC 05 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	649
5.0	293
10.0	246
15.0	223
20.0	197
25.0	166
30.0	135
35.0	105
40.0	77
45.0	54
50.0	34
55.0	19
60.0	10
65.0	2
70.0	-3
75.0	-8
80.0	-20
85.0	-26
90.0	-38
95.0	-48
100.0	-61
105.0	-72
110.0	-87
115.0	-102
120.0	-113
125.0	-131
130.0	-153

RANGE= 1700

DFC 04 1984

RSTART= 0
REND= 0

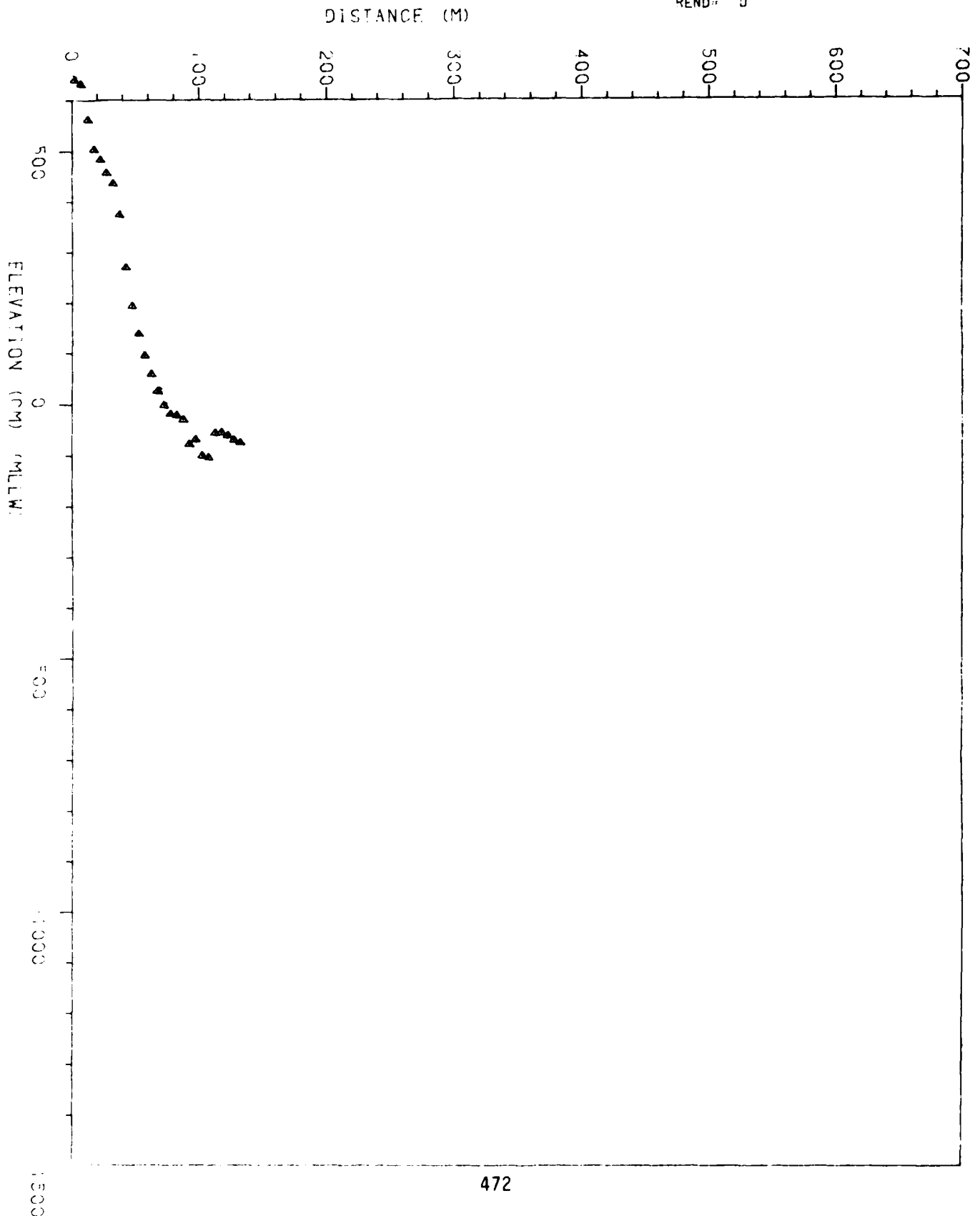


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1700
DEC 04 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW
0.0	639
5.0	631
10.0	562
15.0	504
20.0	484
25.0	458
30.0	437
35.0	375
40.0	271
45.0	195
50.0	140
55.0	97
60.0	60
65.0	27
70.0	-1
75.0	-18
80.0	-20
85.0	-29
90.0	-77
95.0	-68
100.0	-100
105.0	-103
110.0	-55
115.0	-54
120.0	-60
125.0	-69
130.0	-74

RANGE= 1720

NOV 08 1984

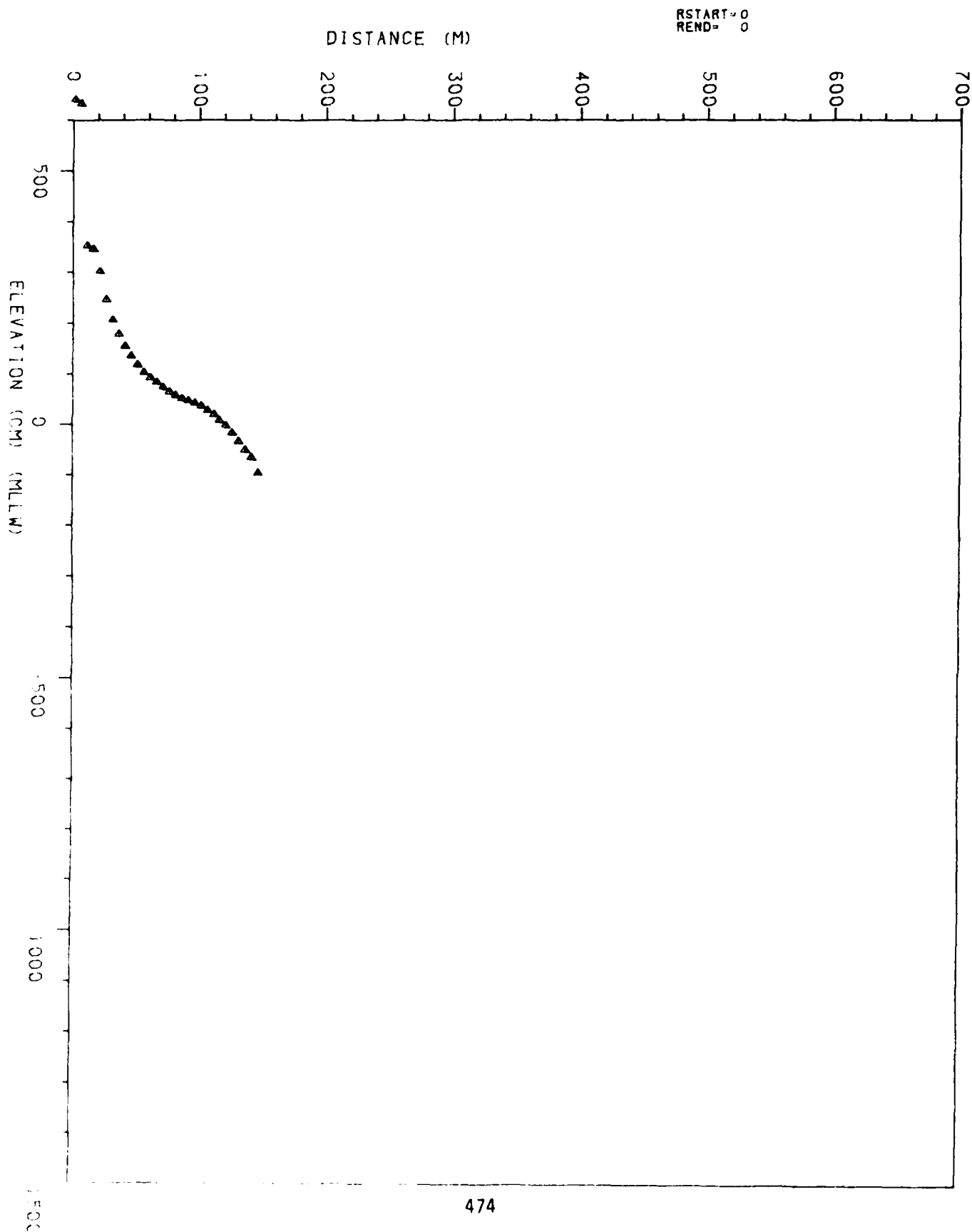
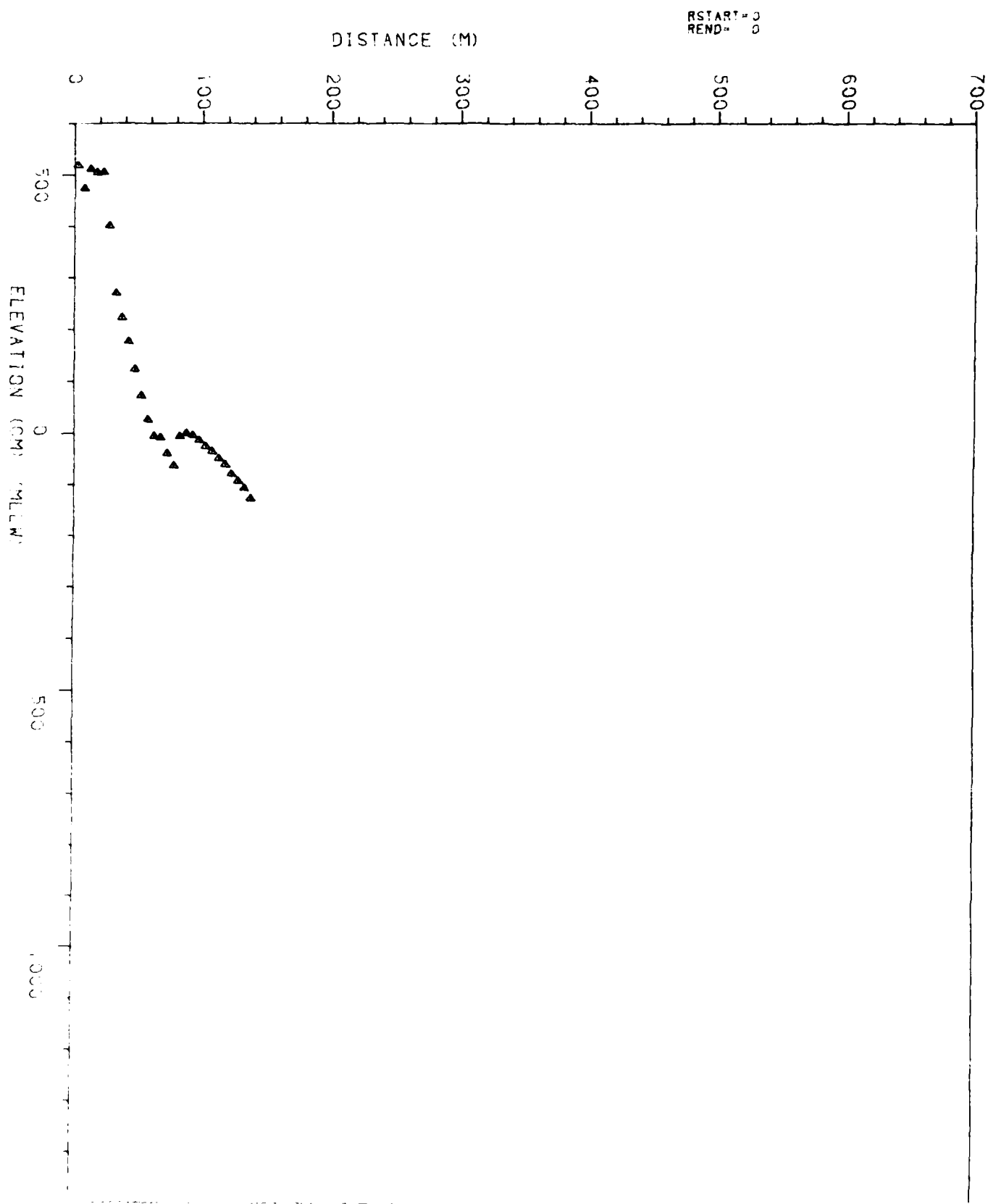


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1720
NOV 08 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	640
5.0	632
10.0	353
15.0	346
20.0	303
25.0	247
30.0	207
35.0	179
40.0	155
45.0	136
50.0	118
55.0	103
60.0	92
65.0	83
70.0	74
75.0	65
80.0	58
85.0	52
90.0	48
95.0	43
100.0	37
105.0	28
110.0	20
115.0	8
120.0	-2
125.0	-17
130.0	-34
135.0	-51
140.0	-66
145.0	-96

RANGE= 1740

DEC 04 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1740
DEC 04 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	519
5.0	474
10.0	512
15.0	505
20.0	506
25.0	401
30.0	270
35.0	223
40.0	177
45.0	124
50.0	73
55.0	27
60.0	-5
65.0	-8
70.0	-39
75.0	-63
80.0	-6
85.0	0
90.0	-3
95.0	-13
100.0	-25
105.0	-35
110.0	-49
115.0	-61
120.0	-79
125.0	-93
130.0	-107
135.0	-127

RANGE= 1780

DEC 04 1984

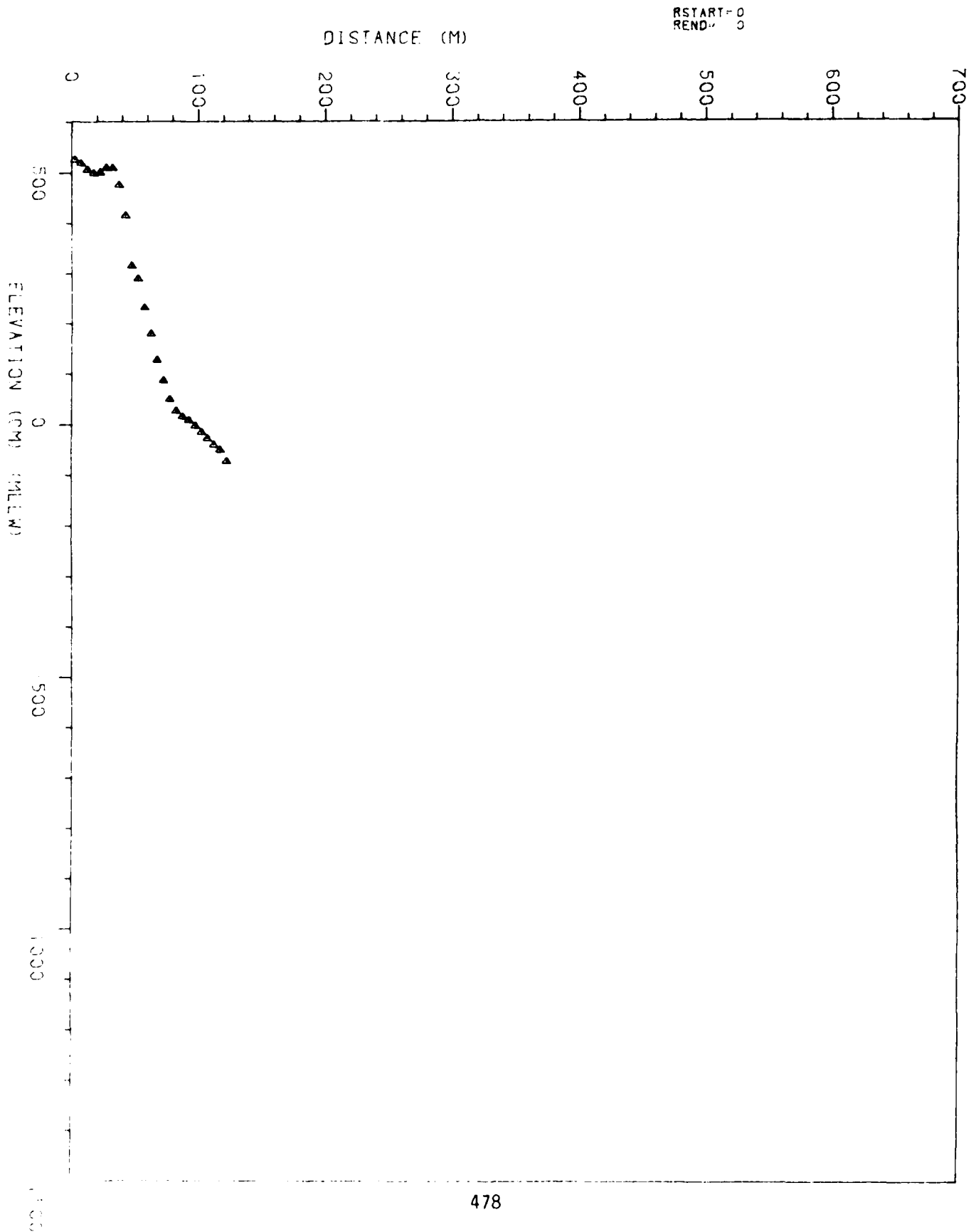


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1780
DEC 04 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	525
5.0	519
10.0	506
15.0	499
20.0	501
25.0	510
30.0	510
35.0	476
40.0	416
45.0	316
50.0	290
55.0	232
60.0	180
65.0	128
70.0	87
75.0	50
80.0	27
85.0	16
90.0	9
95.0	-2
100.0	-15
105.0	-27
110.0	-40
115.0	-50
120.0	-72

RANGE= 1805

NOV 21 1984

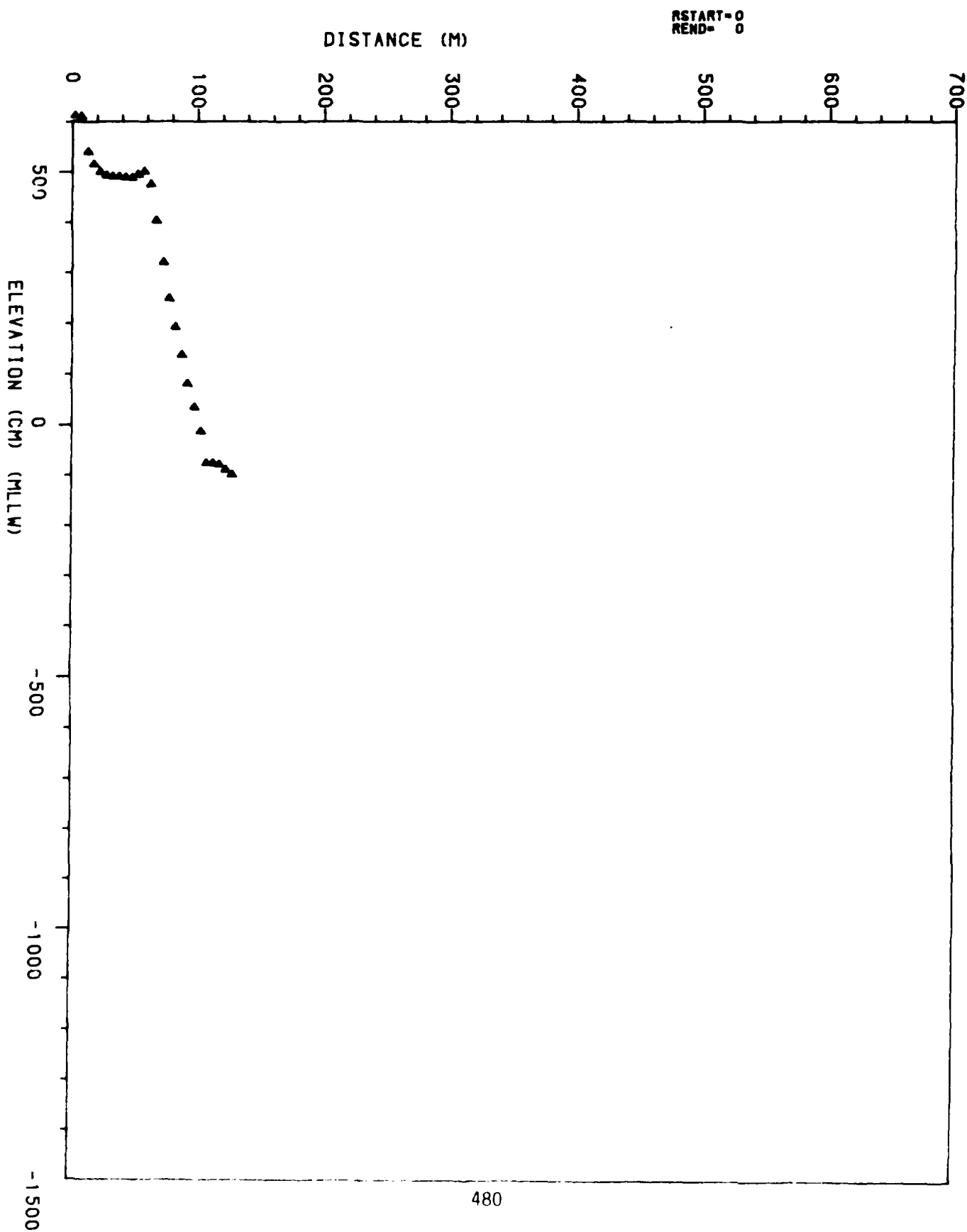


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1805
NOV 21 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	610
5.0	609
10.0	539
15.0	514
20.0	499
25.0	492
30.0	490
35.0	490
40.0	488
45.0	487
50.0	494
55.0	500
60.0	474
65.0	402
70.0	320
75.0	248
80.0	192
85.0	137
90.0	80
95.0	34
100.0	-14
105.0	-77
110.0	-77
115.0	-80
120.0	-90
125.0	-100

RANGE= 1850

NOV 21 1984

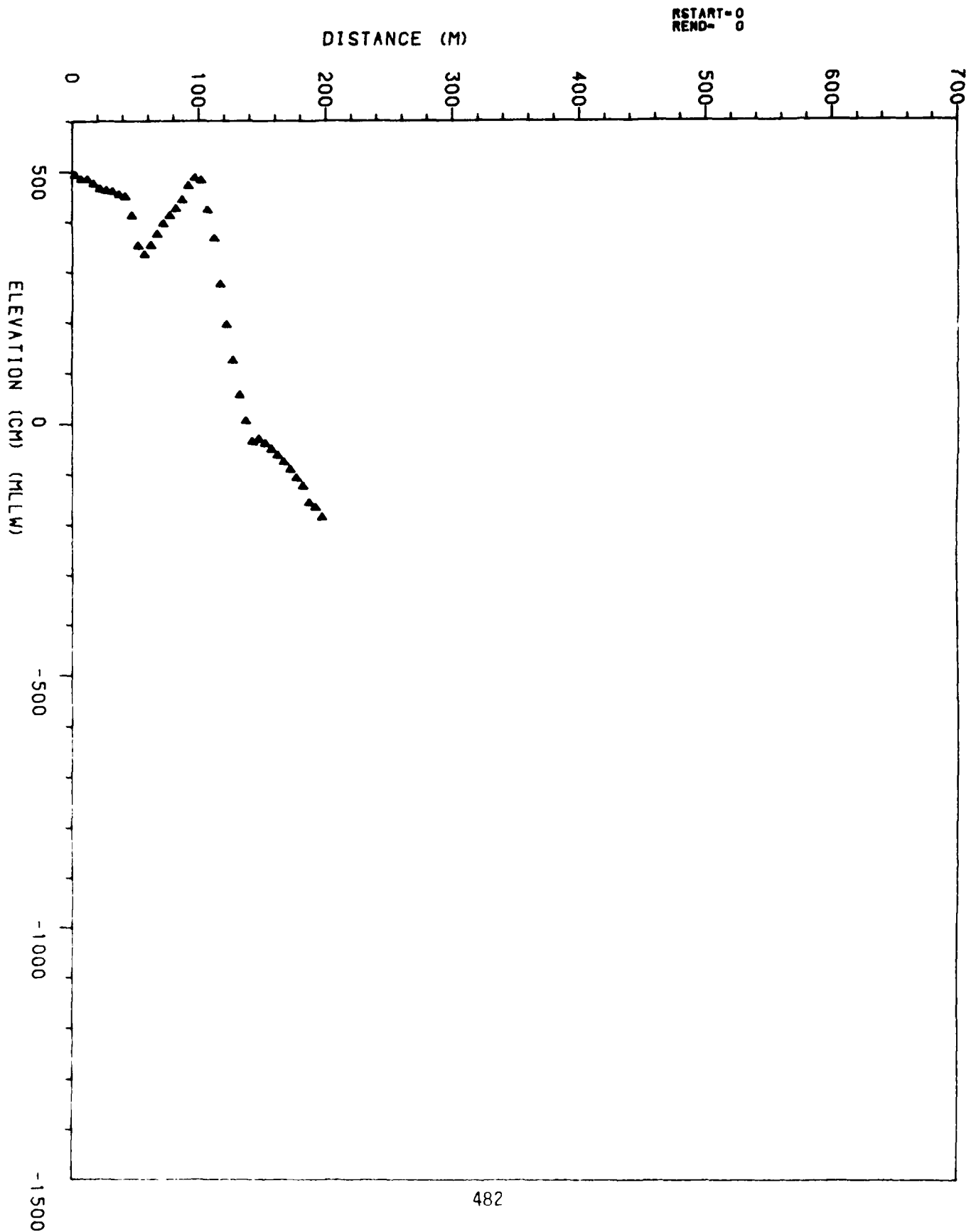


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1850
NOV 21 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW

0.0	492
5.0	483
10.0	483
15.0	474
20.0	464
25.0	461
30.0	459
35.0	453
40.0	449
45.0	411
50.0	351
55.0	334
60.0	352
65.0	374
70.0	395
75.0	411
80.0	425
85.0	442
90.0	470
95.0	486
100.0	481
105.0	422
110.0	366
115.0	275
120.0	195
125.0	124
130.0	55
135.0	4
140.0	-37
145.0	-32
150.0	-41
155.0	-52
160.0	-64
165.0	-77
170.0	-92
175.0	-109
180.0	-125
185.0	-158
190.0	-167
195.0	-187

RANGE= 1890

DEC 04 1984

RSTART=0
REND=0

DISTANCE (M)

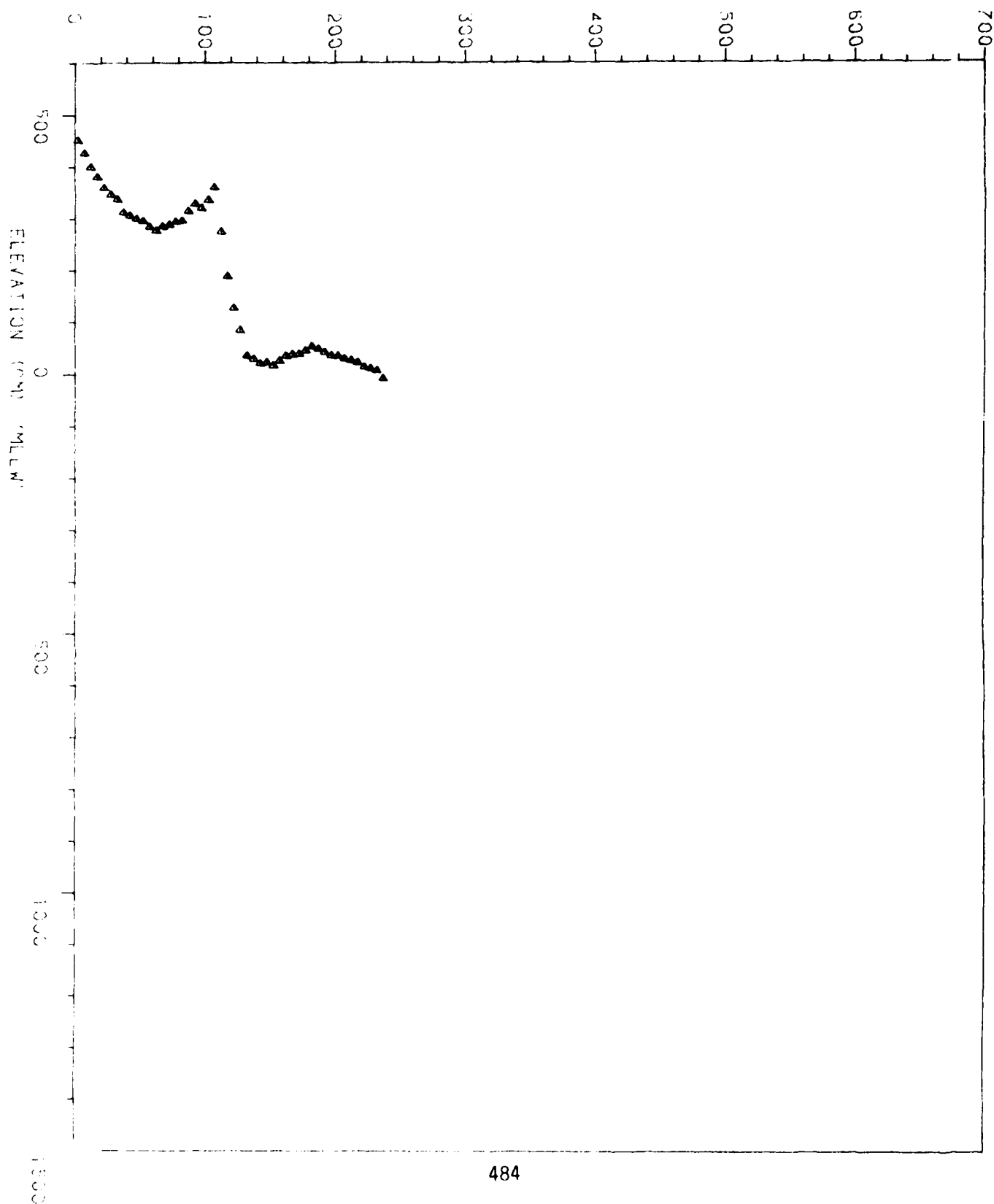


TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1890
 DEC 04 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW	PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	451	220.0	14
5.0	427	225.0	12
10.0	400	230.0	8
15.0	381	235.0	-8
20.0	360		
25.0	347		
30.0	338		
35.0	313		
40.0	307		
45.0	301		
50.0	296		
55.0	285		
60.0	277		
65.0	286		
70.0	290		
75.0	295		
80.0	297		
85.0	315		
90.0	329		
95.0	321		
100.0	337		
105.0	361		
110.0	275		
115.0	189		
120.0	128		
125.0	85		
130.0	36		
135.0	30		
140.0	21		
145.0	23		
150.0	17		
155.0	26		
160.0	36		
165.0	39		
170.0	40		
175.0	46		
180.0	54		
185.0	49		
190.0	43		
195.0	37		
200.0	36		
205.0	30		
210.0	27		
215.0	23		

RANGE= 1895

NOV 08 1984

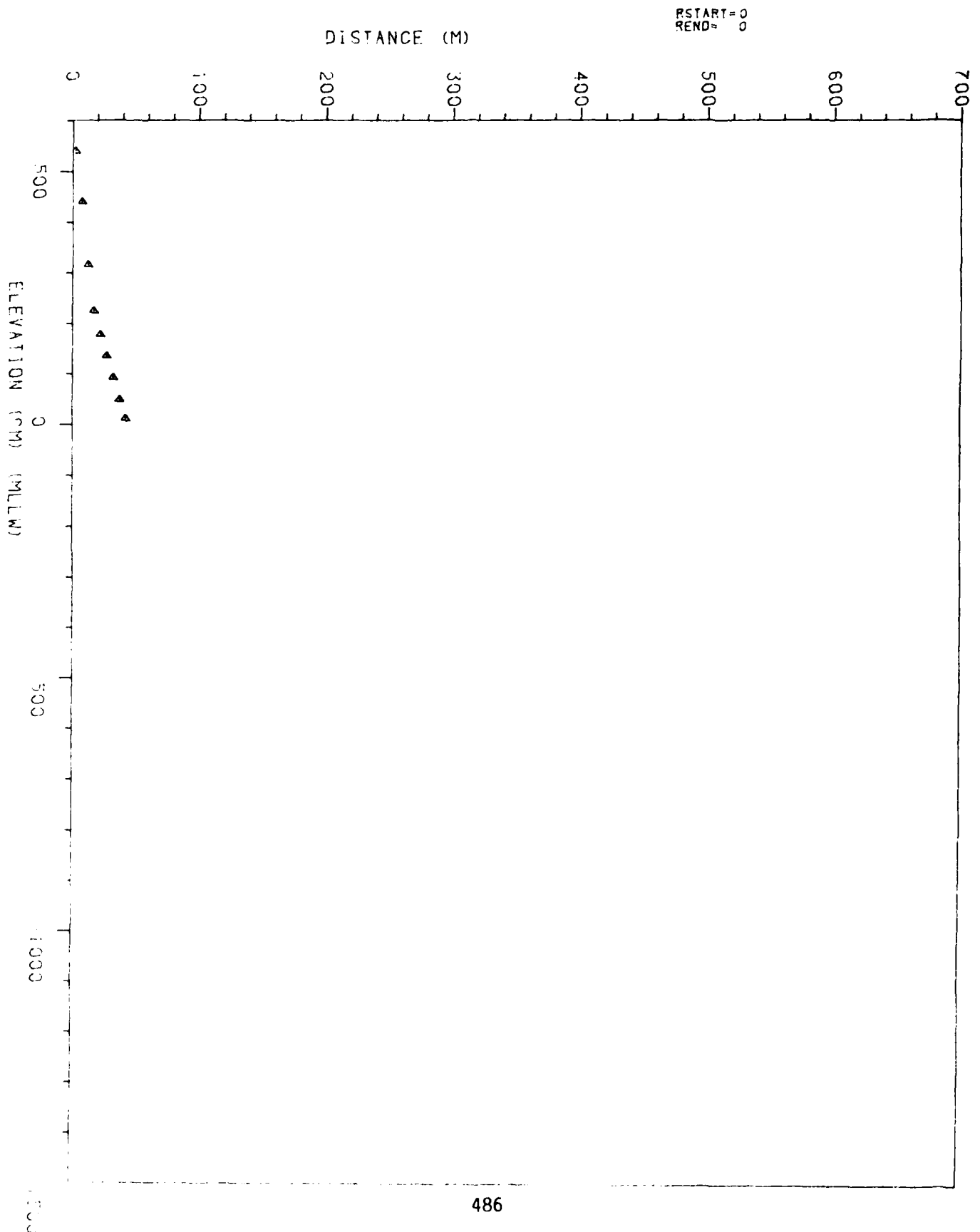
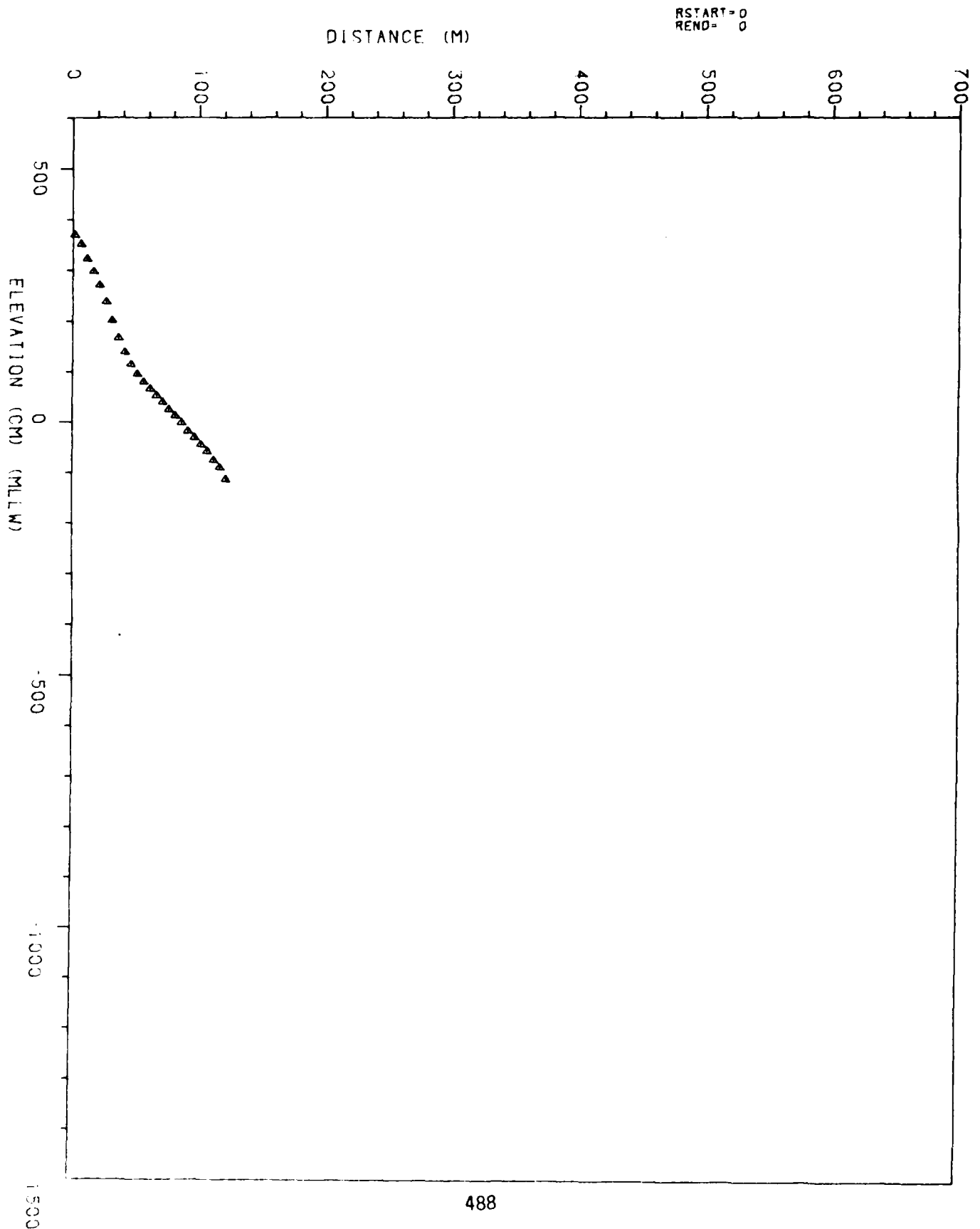


TABLE OF PROFILER DISTANCE AND ELEVATION
RANGE 1895
NOV 08 1984

PROFILER DISTANCE (M) REL. BENCHMARK	PROFILER ELEVATION (CM) REL. MLLW
0.0	540
5.0	440
10.0	316
15.0	225
20.0	178
25.0	136
30.0	93
35.0	49
40.0	12

RANGE= 1900

NOV 08 1984



1

TABLE OF PROFILER DISTANCE AND ELEVATION
 RANGE 1900
 NOV 08 1984

PROFILER DISTANCE(M) REL. BENCHMARK	PROFILER ELEVATION(CM) REL. MLLW
0.0	370
5.0	352
10.0	323
15.0	298
20.0	271
25.0	238
30.0	201
35.0	166
40.0	138
45.0	114
50.0	95
55.0	79
60.0	65
65.0	52
70.0	39
75.0	24
80.0	12
85.0	-2
90.0	-19
95.0	-32
100.0	-46
105.0	-59
110.0	-77
115.0	-91
120.0	-114

7 Offshore Survey Stake (Reference Rod) Installation and Measurements

On nine specified range lines, offshore survey stakes (reference rods) were installed. These were put in at -6m, -10m and -15m (relative to mean lower low water). However, on several range lines, rocky bottom conditions prohibited the installation at one more of these depths.

Prior to installation, cones were set up on the beach to identify the bench mark and range line. A dive boat, launched from the nearest harbor, was lined up with the bench mark just outside the surf zone and then followed the range azimuth out to the proper tide corrected depths. A depth sounder and lead line were used to find these depths and the boat was then anchored.

A 1.25 meter screw anchor was used to secure a surface and subsurface buoy. This required two divers to install. A weight, used to lower the buoys, was guided down the anchor line by one diver while the other diver took down the survey rods and screw anchor. The screw anchor was screwed in by the two divers using a piece of pipe through the eye of the anchor. The buoys were then attached to the anchor to mark the survey site.

Two .95 cm brass rods were driven into the bottom approximately 1 meter from the screw anchor with about 1/2 meter extended above the sand. The same weight used to lower the buoys was used to drive in the rods. The rods were placed one meter apart for redundancy. One of the rods was notched to distinguish it from the others. Sand samples were collected by the divers at this time.

Using a large T square with the base resting on the sand, the distance from the sand to the top of each pair of reference rods was recorded. The difference in rod height between installation and subsequent measurements will reflect the rise or fall of the sand level at that depth.

To help relocate each site, visual line ups were hand drawn and photographed. A sextant was used to measure the angles between fixed landmarks and the survey site. Also, when possible, a Loran Navigation Receiver was used to determine the latitude and longitude of these points. Table 7.1 is a summary of reference rod measurements taken during the sample period of December, 1983 to February, 1985.

8 Volume Change Report

This Volume Change Report provides: discussion of the unit volume change between profiles, profile overlay plots of selected profiles and a table of unit volume change and the distance excursion of 0 m elevation MLLW for selected profiles and surveys.

As discussed previously in this report, there were some suspect survey data in the offshore region in Survey 1. As a result, the volume data provided in this report include survey data for Surveys 2 and 3 only. However, because the data of Survey 1 in the nearshore region (+ 3 m to -2 m MLLW) are accurate (i.e., confirmed by rod and level surveys), they are included in Table 8.1 which summarizes the distance excursion of the 0 m (MLLW) elevation for all these surveys.

Table 8.2 provides the unit volume change for a 1 meter swath of beach for selected profiles between Surveys 2 and 3. This table contains the unit volume change for full profile rangelines of Surveys 2 and 3. The unit volume was not calculated for "rod and level only" range of Surveys 2 and 3.

TABLE 7.1

REFERENCE RODS MEASUREMENT SUMMARY

STATION	DEPTH	DATE	MEASUREMENTS		COMMENTS
			(PLAIN) P	(ETCHED) E	
SS0035	-6	07/10/84	45	46	Δ -3CM R.R.
	-6	09/19/84	50	48	Δ -12CM PROF.
	-10	N/A	--	--	rocks
	-15	N/A	--	--	rocks
SS0160	-6	12/06/83	46	50	
	-6	05/03/84	68	66	
	-6	06/13/84	69	65	Δ -10CM R.R.
	-6	09/19/84	70	67	Δ -10CM PROF.
	-6	01/04/85	78	75	
	-10	12/16/83	44	45	
	-10	06/13/84	51	47	REINSTALLED
	-10	09/19/84	52	46	N/C
	-10	01/04/85	53	47	
LJ0460	-15	N/A	--	--	3MI OFFSHORE
	-6	12/07/83	54	61	
	-6	06/18/84	61	66	
	-6	09/20/84	61	67	N/C R.R.
	-6	01/10/85	63	66	
	-10	12/15/83	46	46	
	-10	03/08/84	45	46	N/C
	-10	09/20/84	45	45	--
	-10	09/20/84	45	45	
	-10	01/10/85	44	45	N/C
	-15	12/15/83	46	47	
	-15	03/08/84	44	43	
	-15	06/18/84	44	43	N/C
	-15	09/20/84	43	44	
	-15	01/10/85	53	46	
DM0580	-6	06/19/84	45	46	
	-6	09/20/84	53	51	Δ -6 CM R.R
	-6	01/10/85	59	53	Δ -12 CM PROF.

TABLE 7.1					
REFERENCE RODS MEASUREMENT SUMMARY					
STATION	DEPTH	DATE	MEASUREMENTS		COMMENTS
			(PLAIN) P	(ETCHED) E	
	-10	06/19/84	45	45	
	-10	09/20/84	45	47	N/C
	-10	01/10/85	47	47	
	-15	06/19/84	54	45	
	-15	09/20/84	54	46	N/C
	-15	01/10/85	53	46	
CB0720	-6	09/18/84	43	46	Δ -9CM R.R.
	-6	01/03/85	54	53	Δ -18CM PROF.
	-6	09/18/84	46	46	N/C
	-10	01/03/85	46	45	
	-15	09/18/84	45	49	N/C
	-15	01/03/85	43	50	
OS1000	-6	06/17/84	46	46	Δ -12CM R.R.
	-6	01/03/85	57	59	Δ -14CM PROF.
	-10	N/A	--	--	*DISTURBED
	-15	N/A	--	--	*DISTURBED
PN1110	-6	06/21/84	45	45	Δ -18CM R.R.
	-6	09/18/84	63	63	Δ -48CM PROF.
	-6	01/03/85	62	61	N/C
	-10	N/A	--	--	ROCKY
	-15	N/A	--	--	*DISTURBED
SO1470	-6	01/25/84	52	51	
	-6	07/05/84	67	64	
	-6	02/20/85	54	55	
	-10	01/25/84	66	52	ROCKY
	-10	07/05/84	69	60	
	-10	02/20/85	66	53	
	-15	N/A	--	--	ROCKY
SO1530	-6	01/25/84	84	85	
	-6	07/05/84	81	85	
	-6	02/20/85	79	84	
	-10	N/A	--	--	

TABLE 7.1					
REFERENCE RODS MEASUREMENT SUMMARY					
STATION	DEPTH	DATE	MEASUREMENTS		COMMENTS
			(PLAIN) P	(ETCHED) E	
	-10	N/A	--	--	
	-15	01/03/85	43	50	

*DISTURBED

TABLE 8.1

Distance Excursion of 0 m (MLLW) for Surveys 1,2,3.

Notes: (1) Positive distance is seaward, negative distance is landward.

(2) Rod and level surveys that did not reach the 0 m (MLLW) elevation are not included.

TABLE 8.1

DISTANCE EXCURSION OF 0M (MLLW) FOR SURVEYS 1,2,3

RANGE	SURVEY 1 DISTANCE (M)	SURVEY 2 DISTANCE(M)	SURVEY 3 DISTANCE (M)	DIFFERENCE SURVEYS 1,2 (M)	DIFFERENCE SURVEYS 2,3 (M)
SS0005		104.8			
SS0015	80.0	92.8		+ 12.8	
SS0020		58.8			
SS0035	149.5	89.7	106.9	-59.8	+ 17.2
SS0050		63.5	108.5		+ 45.0
SS0060		60.0	100.2		+ 40.2
SS0070		149.0	175.5		+ 26.5
SS0077	247.1	232.0	287.5	-15.1	+ 55.5
SS0090	130.6	131.1	133.0	+ .5	+ 1.9
SS0100		107.5	129.0		+ 21.5
SS0110		209.6	209.1		-.5
SS0125	208.3	211.8	214.2	+ 3.5	+ 2.4
SS0140		38.9	68.9		+ 30.0
SS0160	235.2	240.9	267.7	+ 5.7	+ 26.8
SS0170		160.2	152.1		-8.1
SS0180	236.9	211.3	227.4	-25.6	+ 16.1
SS0200		111.2	104.5		-6.7
OH0230		97.4	150.0		+ 52.6
OH0260		174.2	161.4		-12.8
MH0270		173.2	163.0		-10.0
MH0300		163.8	125.7		-38.1
MH0310	134.8	88.8	127.9	-46.0	+ 39.1
MH0340	142.0	89.1	120.2	-52.9	+ 31.1
MH0360		105.0	151.1		+ 46.1
MH0384	89.3	69.3	136.4	-20.0	+ 67.1
PH0390		116.8	102.7		-14.1
PH0408		50.0	80.9		+ 30.9

TABLE 8.1

DISTANCE EXCURSION OF 0M (MLLW) FOR SURVEYS 1,2,3

RANGE	SURVEY 1 DISTANCE (M)	SURVEY 2 DISTANCE(M)	SURVEY 3 DISTANCE (M)	DIFFERENCE SURVEYS 1,2 (M)	DIFFERENCE SURVEYS 2,3 (M)
LJ0413		87.5	86.3		-1.2
LJ0445		113.9	110.1		-3.8
LJ0450	129.1	105.4	131.2	-23.7	+ 25.8
LJ 460	116.6	71.0	109.2	-45.6	+ 38.2
TP0470	104.5	115.6	107.5	+ 11.1	8.1
TP0520	110.5	123.6	96.7	+ 13.1	-26.9
TP0530		100.0	105.3		+ 5.3
TP0540		61.7	85.0		+ 23.3
DM0500			99.3		
DM0580	132.0	80.1	90.8	-51.9	+ 10.7
DM 590			141.6		
SD0600	110.8	80.8	91.5	-30.0	+ 10.7
SD0630	120.7	71.1	106.2	-49.6	+ 35.1
SD0640			67.5		
SD 670	93.8	60.0	73.6	-33.8	+ 13.6
CB 720	120.0	63.7	99.6	-56.3	+ 35.9
CL 730			96.3		
CL 740	98.8	49.1	77.9	-49.8	+ 28.9
CL 750			73.1		
CL 760		61.2	52.6		-8.6
CL 780	51.1	33.7	72.2	-35.4	+ 16.5
CL 790		103.8	151.1		+ 47.3
CL 800		74.0	77.5		+ 3.5
CL 810		60.2	53.4		-15.8
CL 820	88.8	100.0	116.0	+ 11.8	+ 15.4
CL 830		90.1	84.6		-5.5

TABLE 8.1

DISTANCE EXCURSION OF 0M (MLLW) FOR SURVEYS 1,2,3

RANGE	SURVEY 1 DISTANCE (M)	SURVEY 2 DISTANCE(M)	SURVEY 3 DISTANCE (M)	DIFFERENCE SURVEYS 1,2 (M)	DIFFERENCE SURVEYS 2,3 (M)
OS0990		98.6	97.8		-.8
OS1000	110.3	113.9	115.0	+ 3.6	+ 1.1
OS1030		98.1	128.6		+ 30.5
OS1050			177.8		
OS1070	164.8	143.4	188.7	-21.4	+ 45.3
PN1080		305.3	305.3		0
PN1110	253.4	263.8	273.4	+ 10.4	+ 9.6
PN1120		235.3			
PN1180	108.2	112.3	108.5	+ 4.1	-3.8
PN1210			124.2		
PN1240	95.8	89.5	108.9	-6.3	+ 19.4
PN1280			67.9		
PN1290	156.6	99.4	97.5	-57.2	-1.9
PN1310			96.7		
PN1340	85.0	60.9	96.9	-24.1	+ 36.0
PN1380			79.2		
PN1410			61.1		
PN1440			56.1		
SO1470	68.1	73.9	71.8	+ 5.8	-2.1
SO1500			73.0		
SO1530	142.1	108.9	124.3	-33.2	+ 15.4
SO1570		77.7			
SO1590			96.4		
SO1600			96.5		
SC1623	74.1	71.9	69.7	-2.2	-2.2
SC1640			86.0		
SC1660	97.7	100.6	100.0	-2.9	-.6

TABLE 8.1

DISTANCE EXCURSION OF OM (MLLW) FOR SURVEYS 1,2,3

RANGE	SURVEY 1 DISTANCE (M)	SURVEY 2 DISTANCE(M)	SURVEY 3 DISTANCE (M)	DIFFERENCE SURVEYS 1.2 (M)	DIFFERENCE SURVEYS 2.3 (M)
SC1680		74.4	67.0		-7.4
SC1700		115.0	69.8		-45.2
SC1720	98.3	98.8	119.0	+ .5	+ 20.2
DB1710			85.0		
DB1750		93.7	94.1		+ .4
DB1800	96.9		98.5		
DB1850	170.3	134.4	135.5	-35.9	+ 10.1
DB1800			232.5		
DB1900			84.3		

TABLE 8.2

Unit Volume Change for a 1 meter swath of beach for full profiles of Surveys 2 and 3.

TABLE 8.2

Unit Volume Change for Surveys 2 and 3

RANGE NUMBER	DATE	UNIT VOLUME CHANGE (M^3)
		+ = Increase in volume - = Decrease in volume
SS0035	03/05/84-10/19/84	-58.44
SS0050	03/26/84-02/12/85	+ 21.58
SS0060	05/01/84-02/12/85	+ 10.84
SS0070	05/01/84-02/11/85	+ 19.71
SS0077	05/01/84-10/24/84	+ 48.47
SS0090	03/23/84-10/19/84	-25.56
SS0100	03/19/84-02/13/85	-4.69
SS0110	05/17/84-02/13/85	-76.53
SS0125	05/17/84-12/02/84	+ 18.21
SS0160	03/21/84-10/14/84	-68.09
SS0170	03/15/84-01/11/85	-73.12
SS0180	03/14/84-10/10/84	-74.98
SS0200	03/16/84-10/11/84	-21.49
MB0270	06/27/84-01/28/85	-13.38
MB0300	06/27/84-01/28/85	-151.52
MB0310	04/30/84-10/22/84	-9.44
MB0340	04/30/84-10/18/84	+ 49.53
MB0384	05/02/84-10/18/84	+ 115.95
PI0390	06/28/84-01/31/85	-182.31
LJ0445	07/03/84-10/16/84	-35.60
LJ0450	05/03/84-10/16/84	+ 5.79
LJ0460	04/23/84-10/05/84	+ 20.18
TP0520	05/09/84-11/02/84	+ 9.35
DM0580	05/09/84-11/01/84	+ 19.30
SD0600	05/18/84-11/03/84	-17.60

TABLE 8.2

Unit Volume Change for Surveys 2 and 3

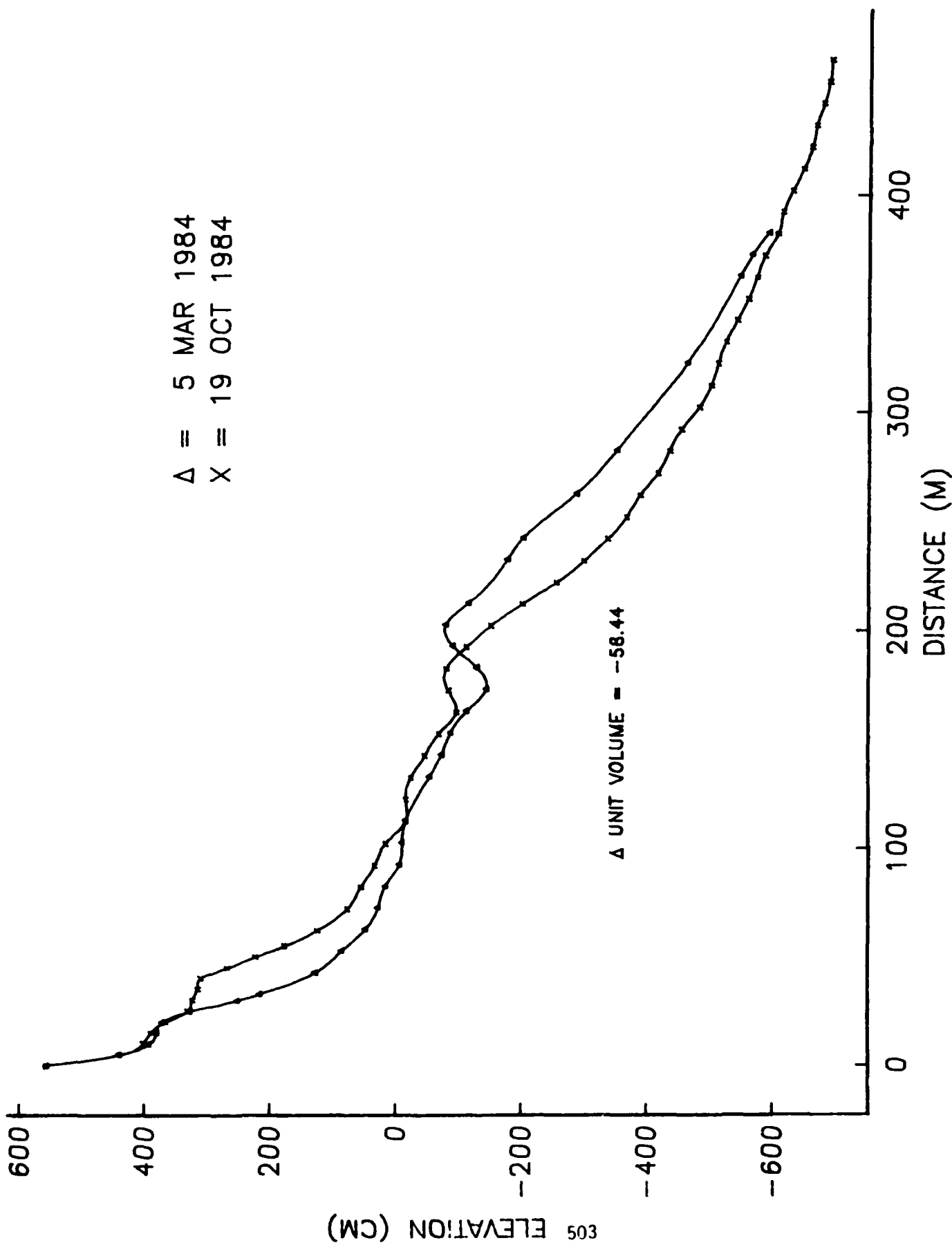
RANGE NUMBER	DATE	UNIT VOLUME CHANGE (M ³)
		+ = Increase in volume - = Decrease in volume
SD0630	05/18/84-11/03/84	+ 39.24
CB0720	05/21/84-11/27/84	-33.33
CB0820	05/22/84-11/12/84	-23.62
OS0930	05/24/84-11/07/84	-80.00
OS0960	06/04/84-01/14/85	-128.36
OS0990	05/23/84-01/30/85	-68.42
OS1000	05/23/84-11/06/84	-21.96
OS1030	05/29/84-11/07/84	+ 121.95
OS1070	05/14/84-11/19/84	+ 156.25
PN1080	05/30/84-11/15/84	-63.23
PN1110	05/31/84-11/27/84	-56.12
PN1180	06/01/84-11/26/84	-23.08
PN1240	06/02/84-01/13/85	+ 5.80
PN1290	06/02/84-01/15/85	-7.37
PN1340	06/05/84-02/01/85	+ 86.79

8.1 Profile Overlay Plots

This section provides profile overlay plots for full profile range lines of Surveys 2 and 3. Overlay plots for the "rod and level only" ranges of Surveys 2 and 3 are not included. The triangle symbol (Δ) denotes Survey 2 and the $\times$ symbol denotes Survey 3. The unit volume change on the plot is taken from Table 8.2 which is the unit volume change for a 1 meter swath of beach between Surveys 2 and 3.

PROFILE OVERLAY FOR RANGE SS0035

Δ = 5 MAR 1984
X = 19 OCT 1984



PROFILE OVERLAY FOR RANGE S00050

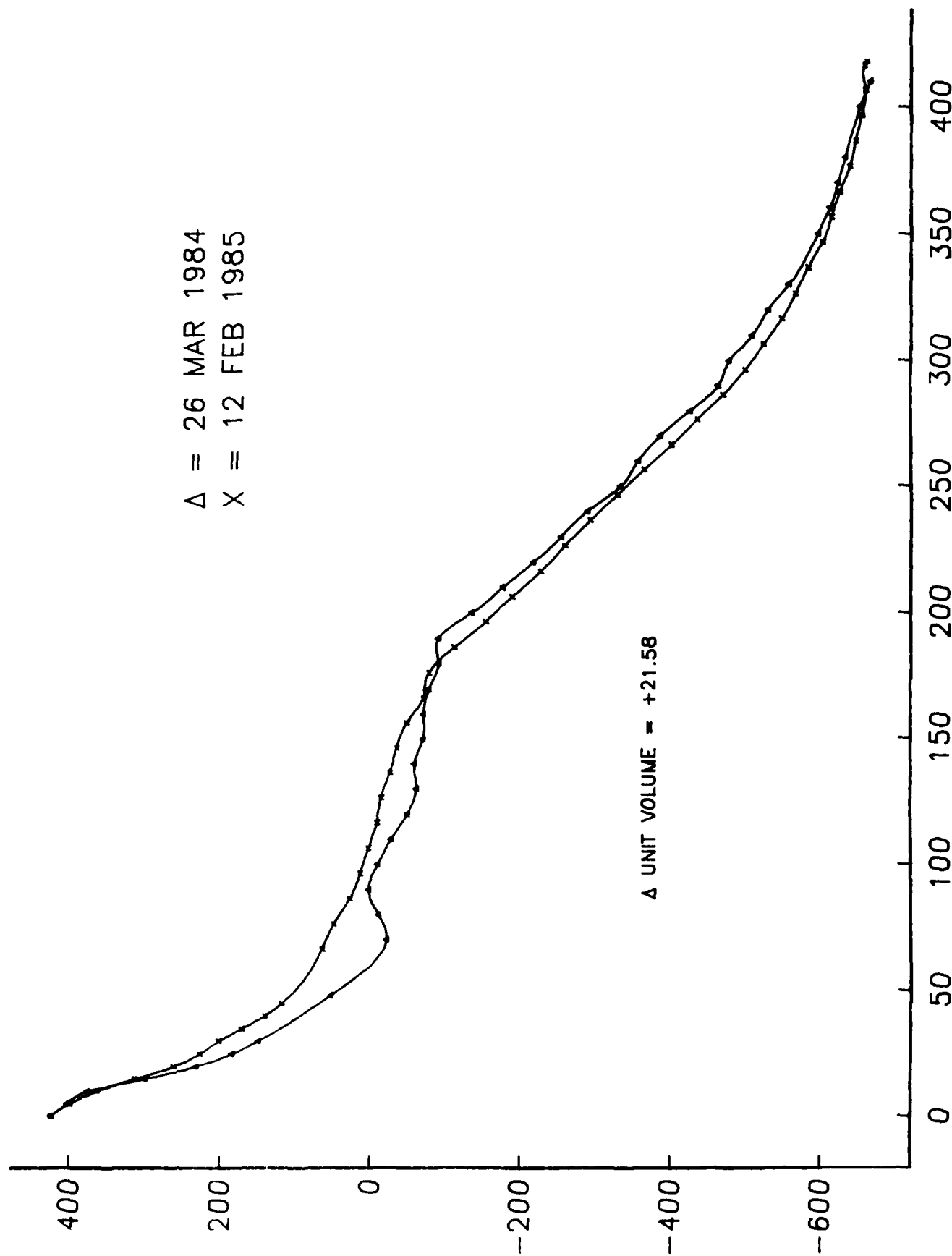
Δ = 26 MAR 1984
X = 12 FEB 1985

ELEVATION (CM)

504

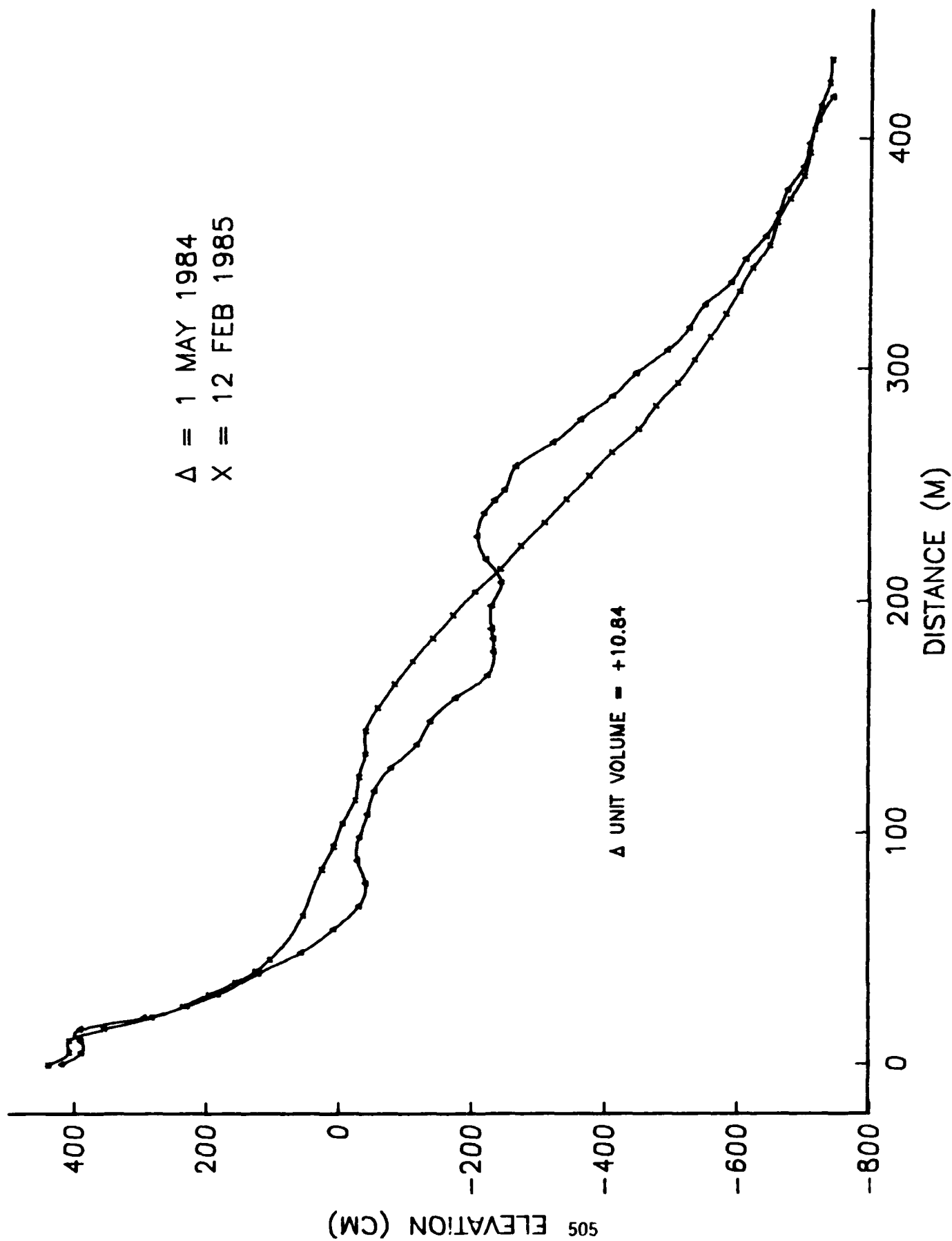
Δ UNIT VOLUME = +21.58

DISTANCE (M)



PROFILE OVERLAY FOR RANGE SS0060

Δ = 1 MAY 1984
X = 12 FEB 1985

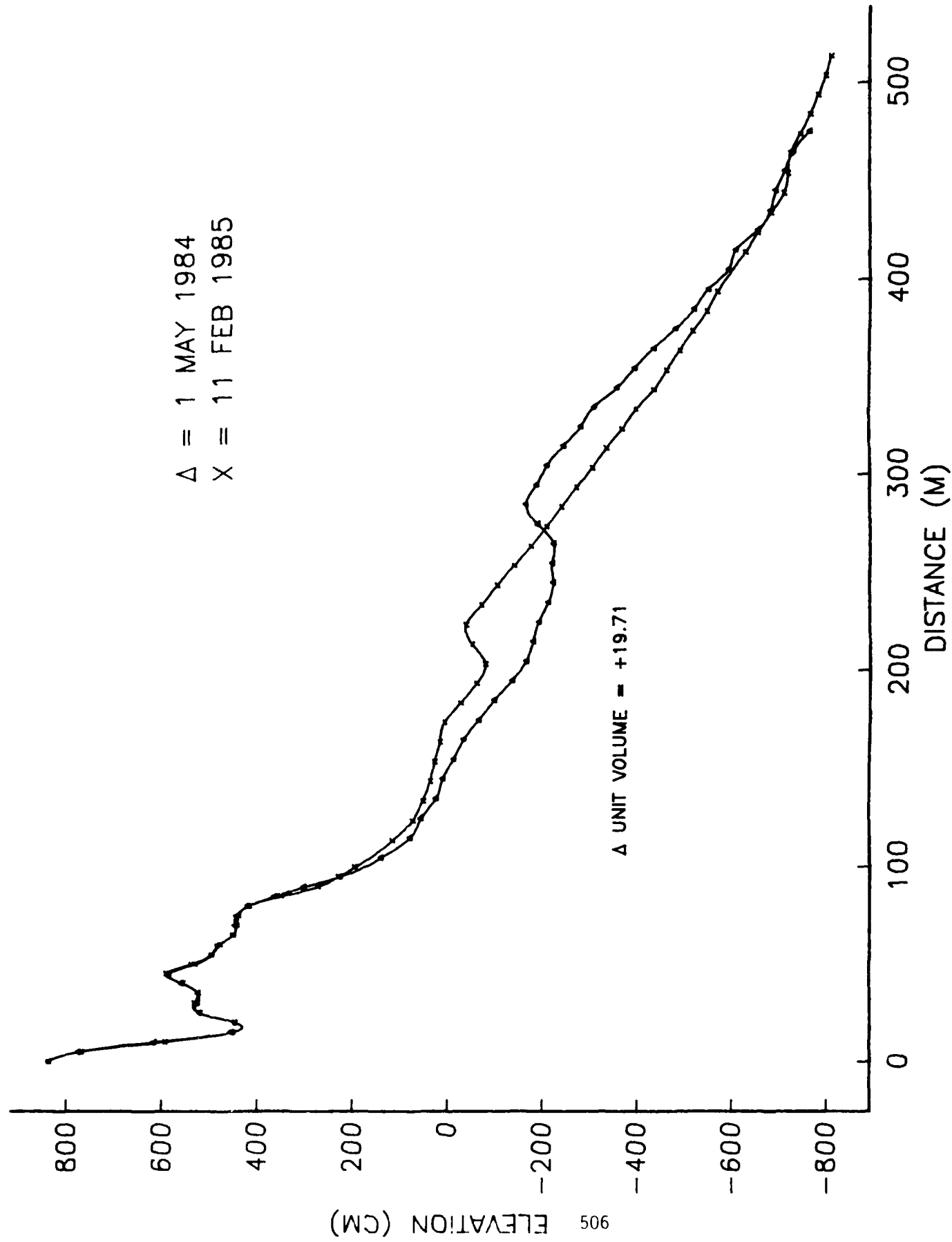


D

(C)

PROFILE OVERLAY FOR RANGE SS0070

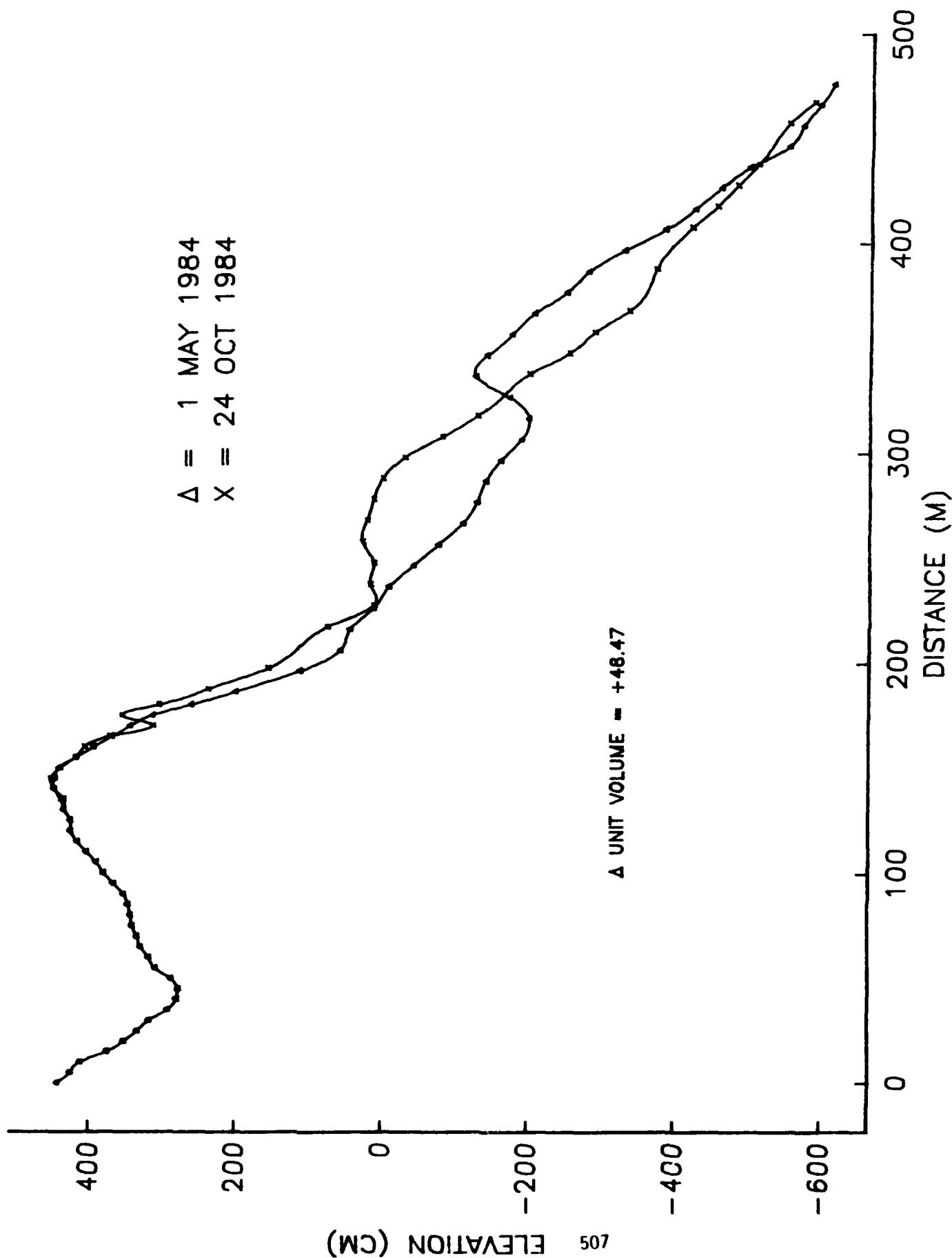
Δ = 1 MAY 1984
X = 11 FEB 1985



PROFILE OVERLAY FOR RANGE SS0077

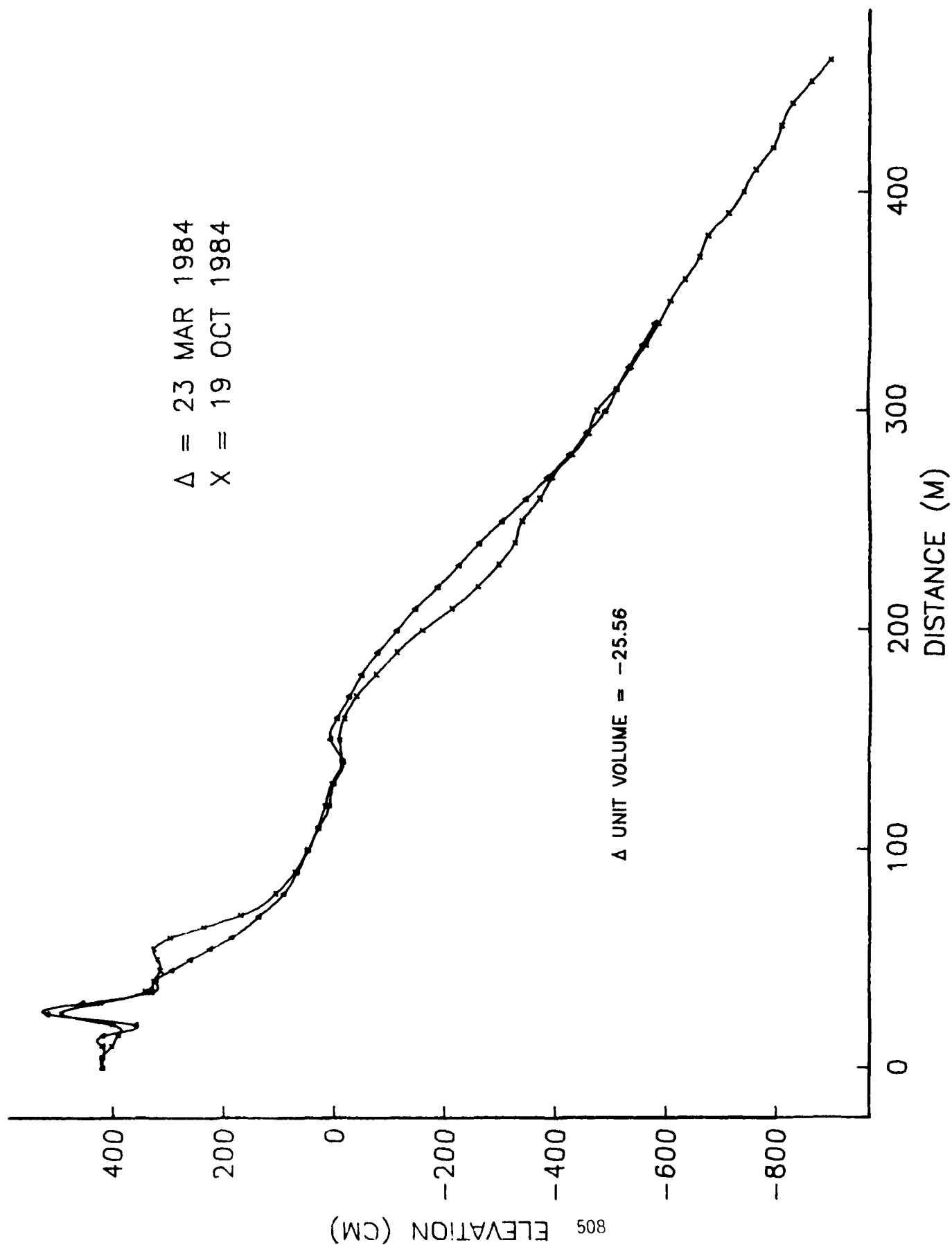
Δ = 1 MAY 1984
X = 24 OCT 1984

Δ UNIT VOLUME = +48.47



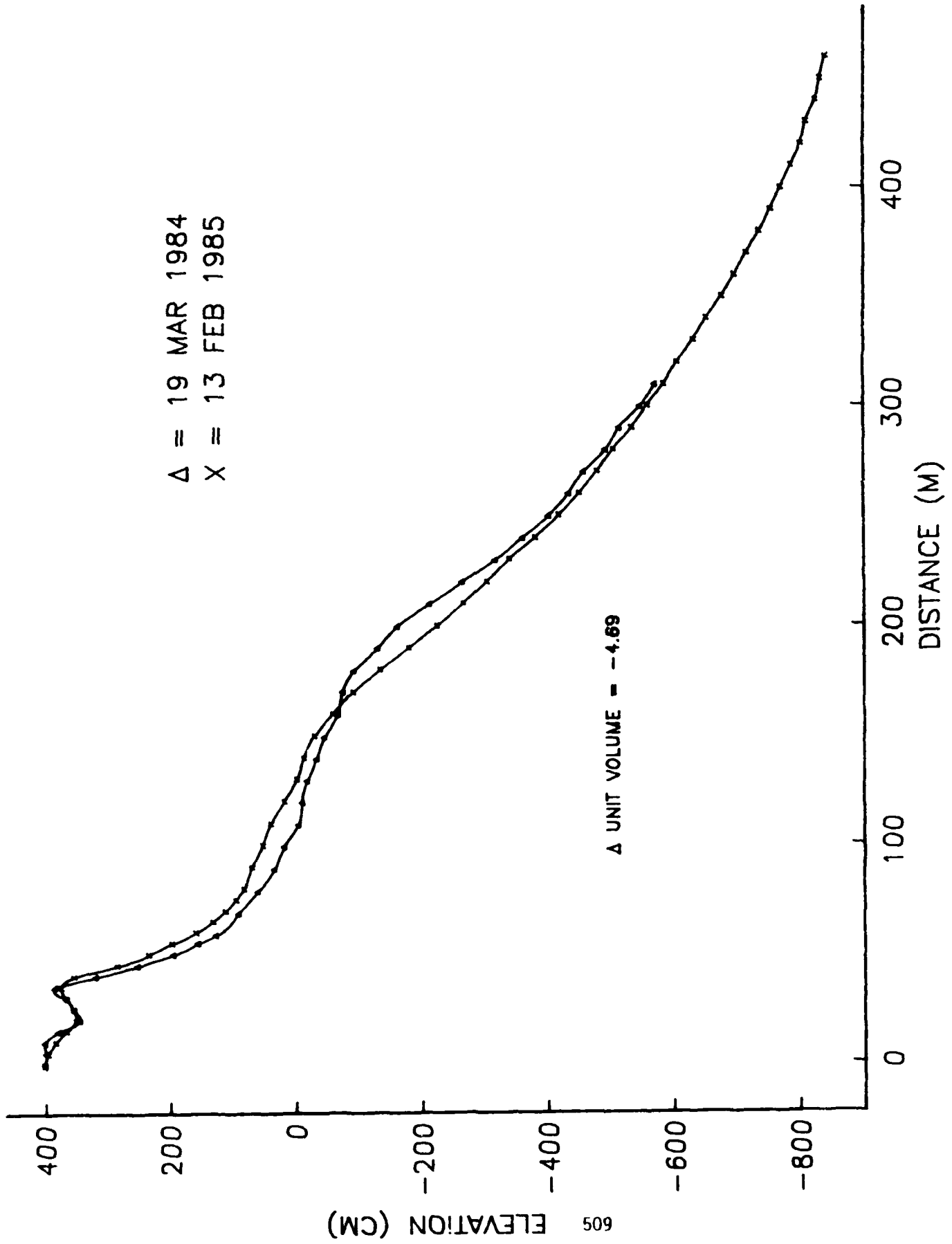
PROFILE OVERLAY FOR RANGE SS0090

Δ = 23 MAR 1984
X = 19 OCT 1984



PROFILE OVERLAY FOR RANGE SS0100

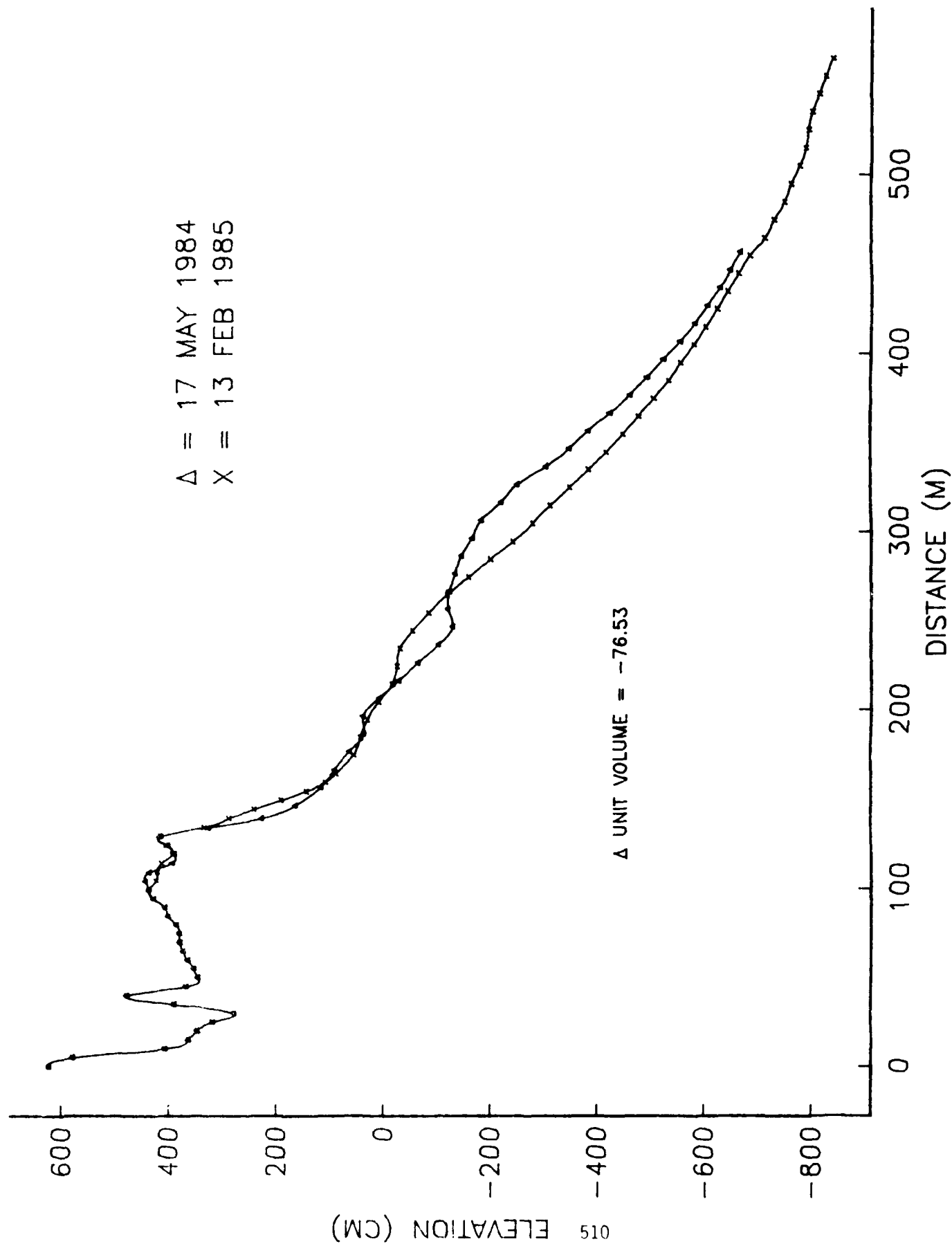
Δ = 19 MAR 1984
X = 13 FEB 1985



D

(a)

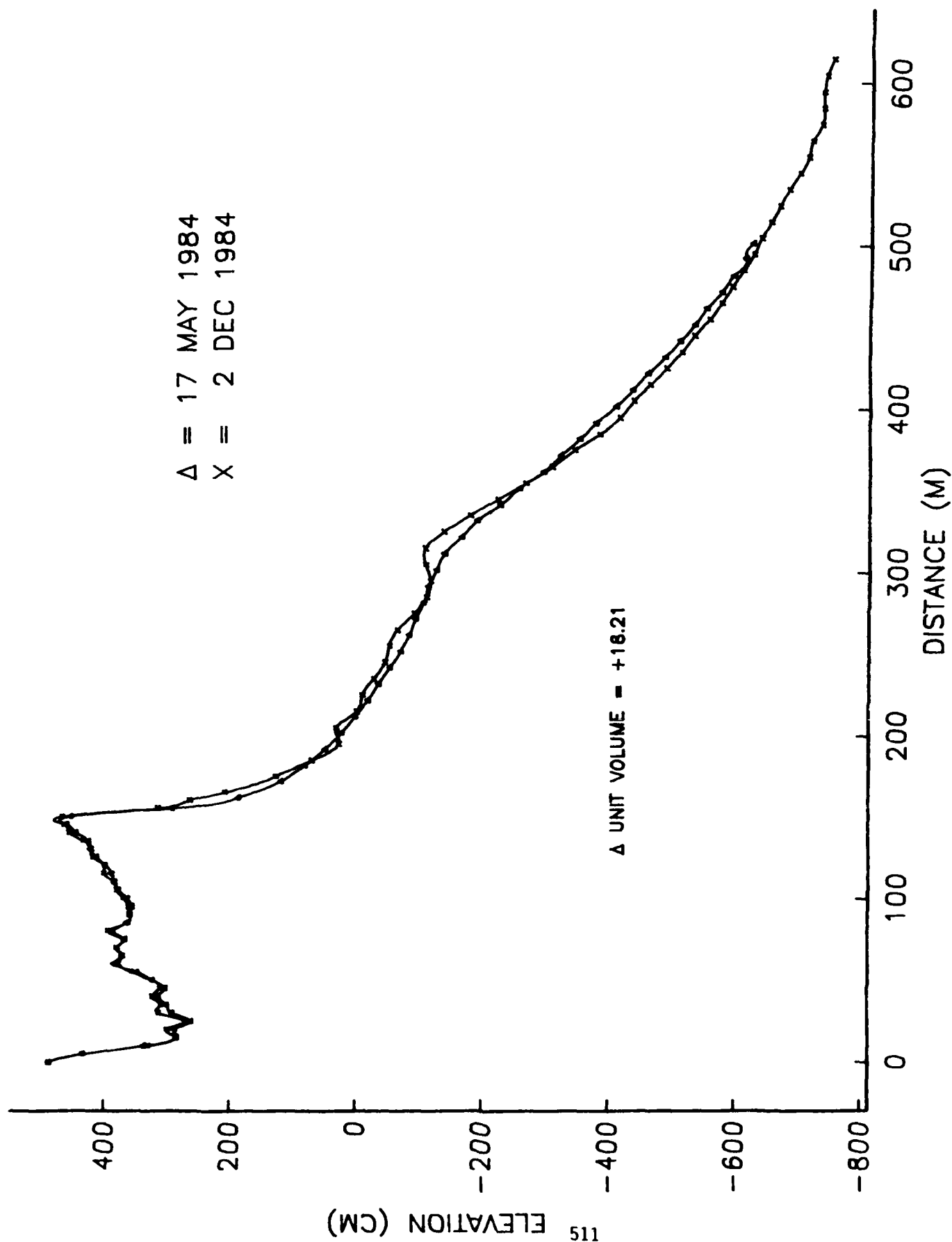
PROFILE OVERLAY FOR RANGE SS0110



PROFILE OVERLAY FOR RANGE SS0125

Δ = 17 MAY 1984
X = 2 DEC 1984

Δ UNIT VOLUME = +18.21

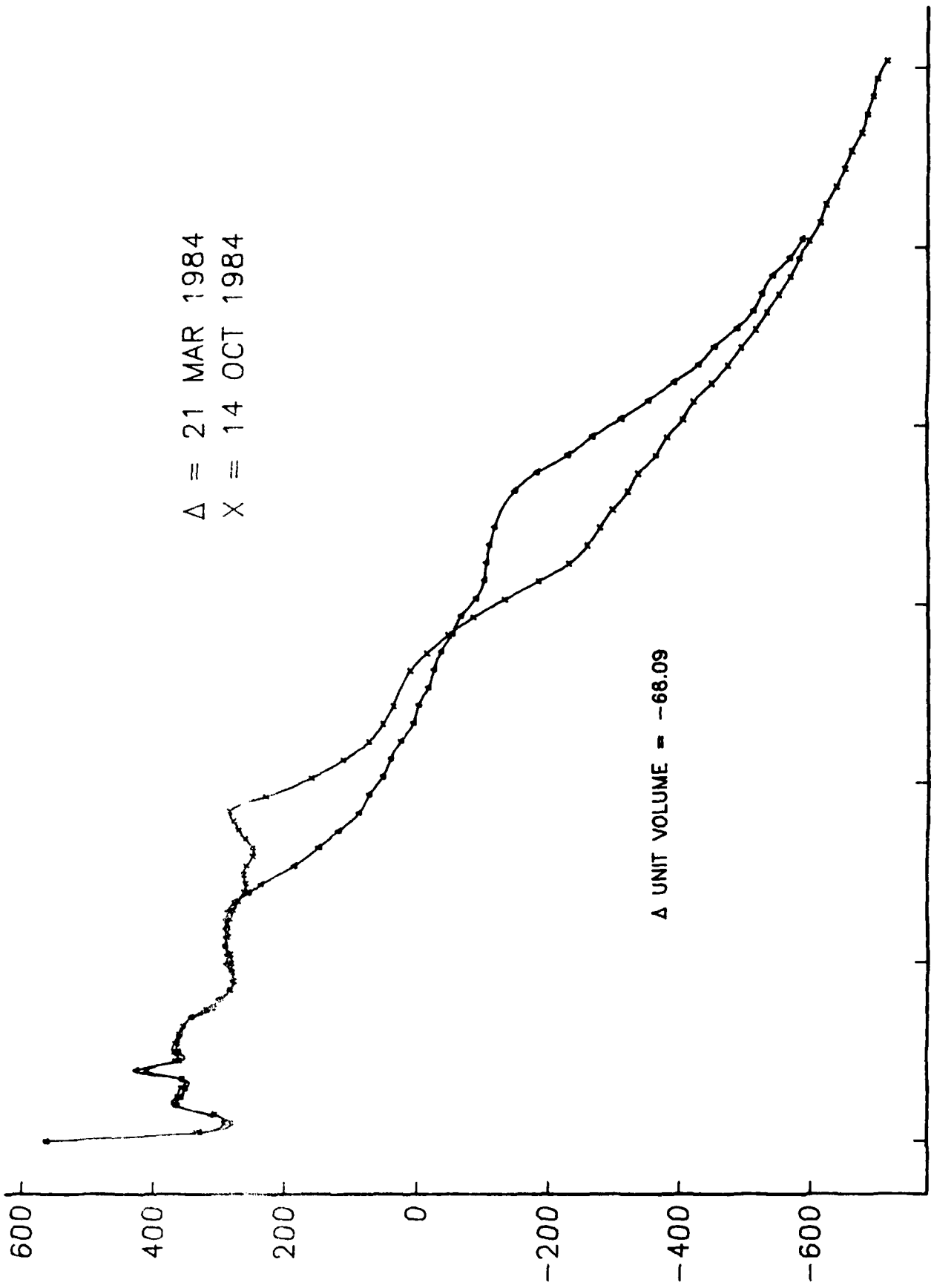


PROFILE OVERLAY FOR RANGE SS0160

Δ = 21 MAR 1984
X = 14 OCT 1984

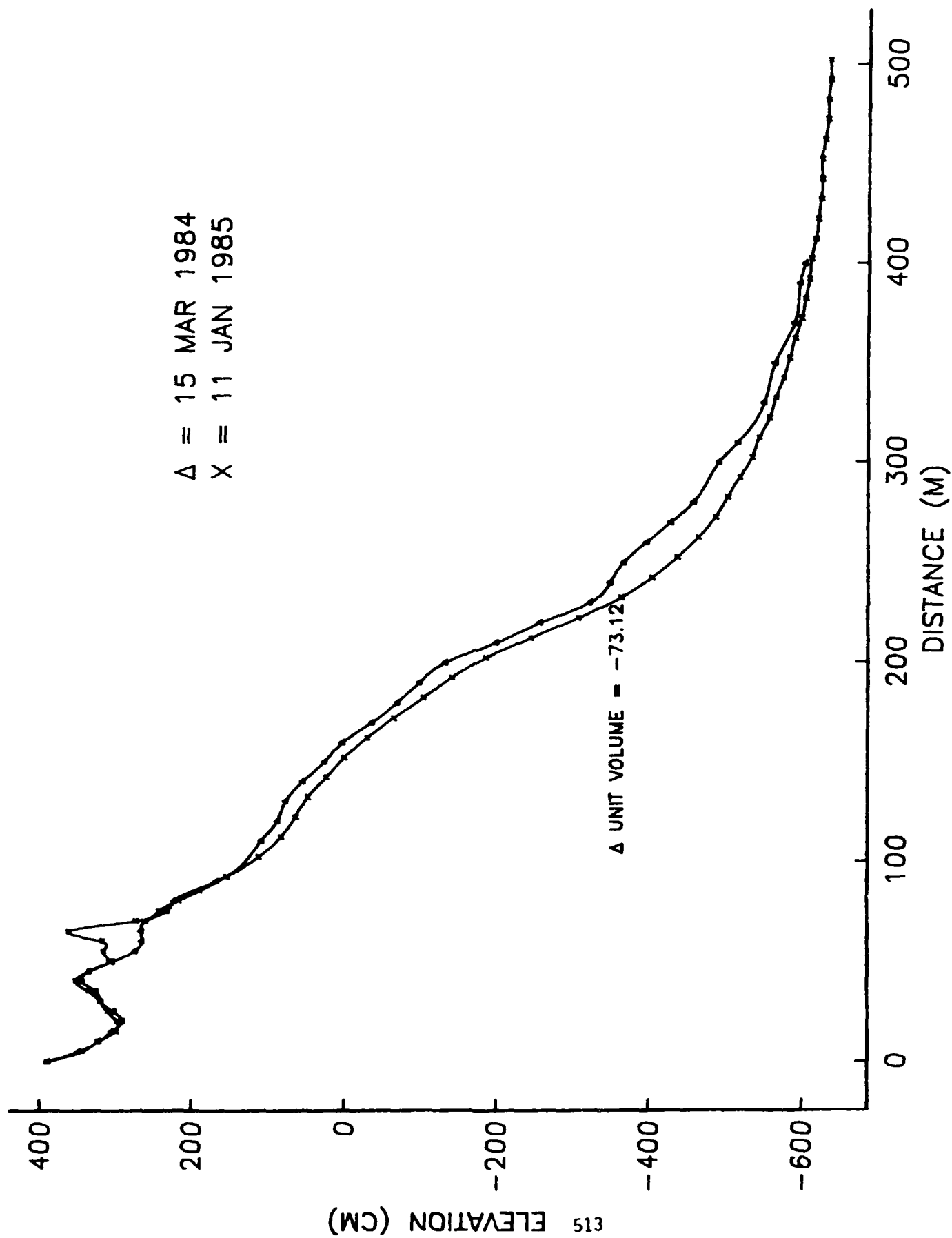
Δ UNIT VOLUME = -68.09

DISTANCE (M)



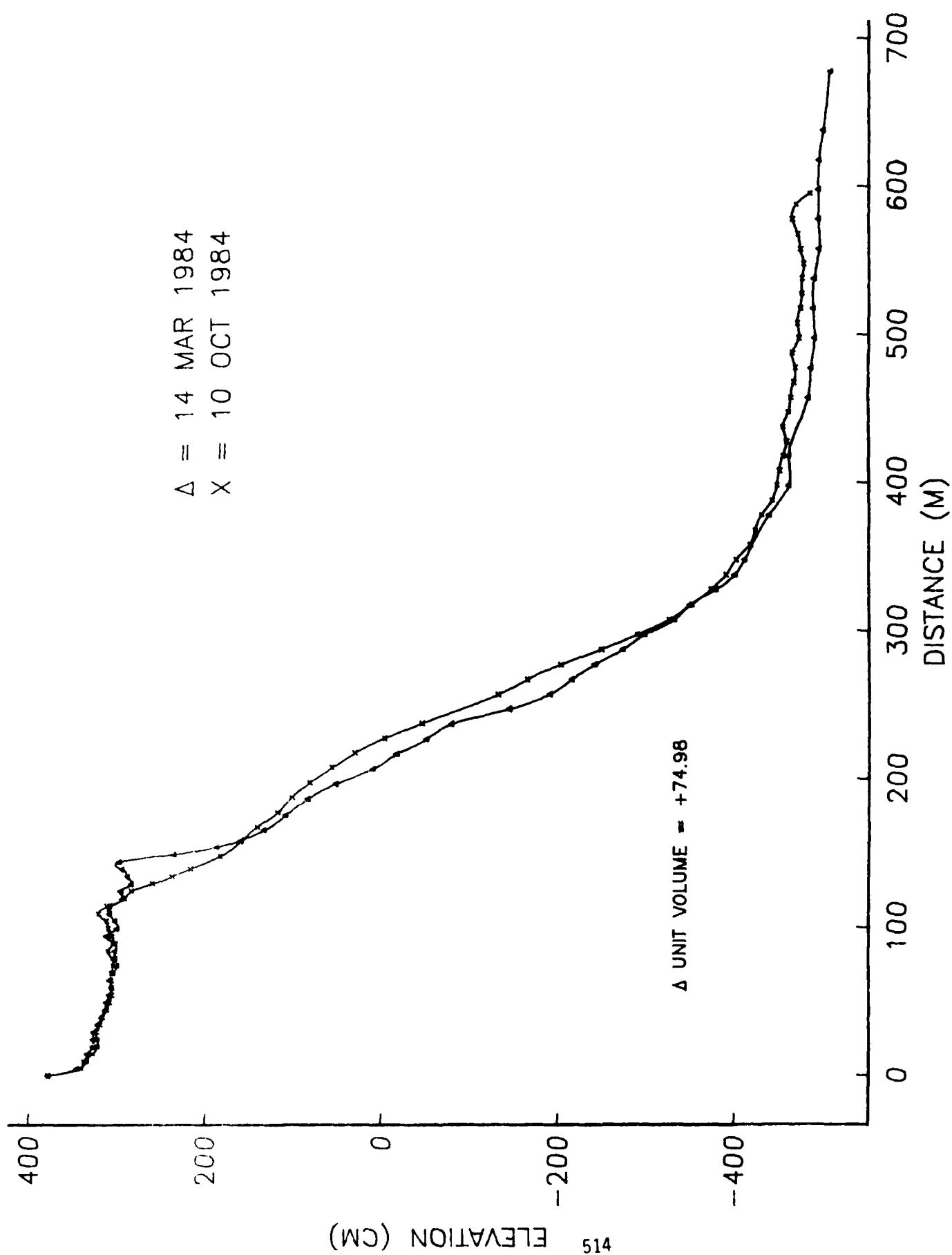
PROFILE OVERLAY FOR RANGE SS0170

Δ = 15 MAR 1984
X = 11 JAN 1985



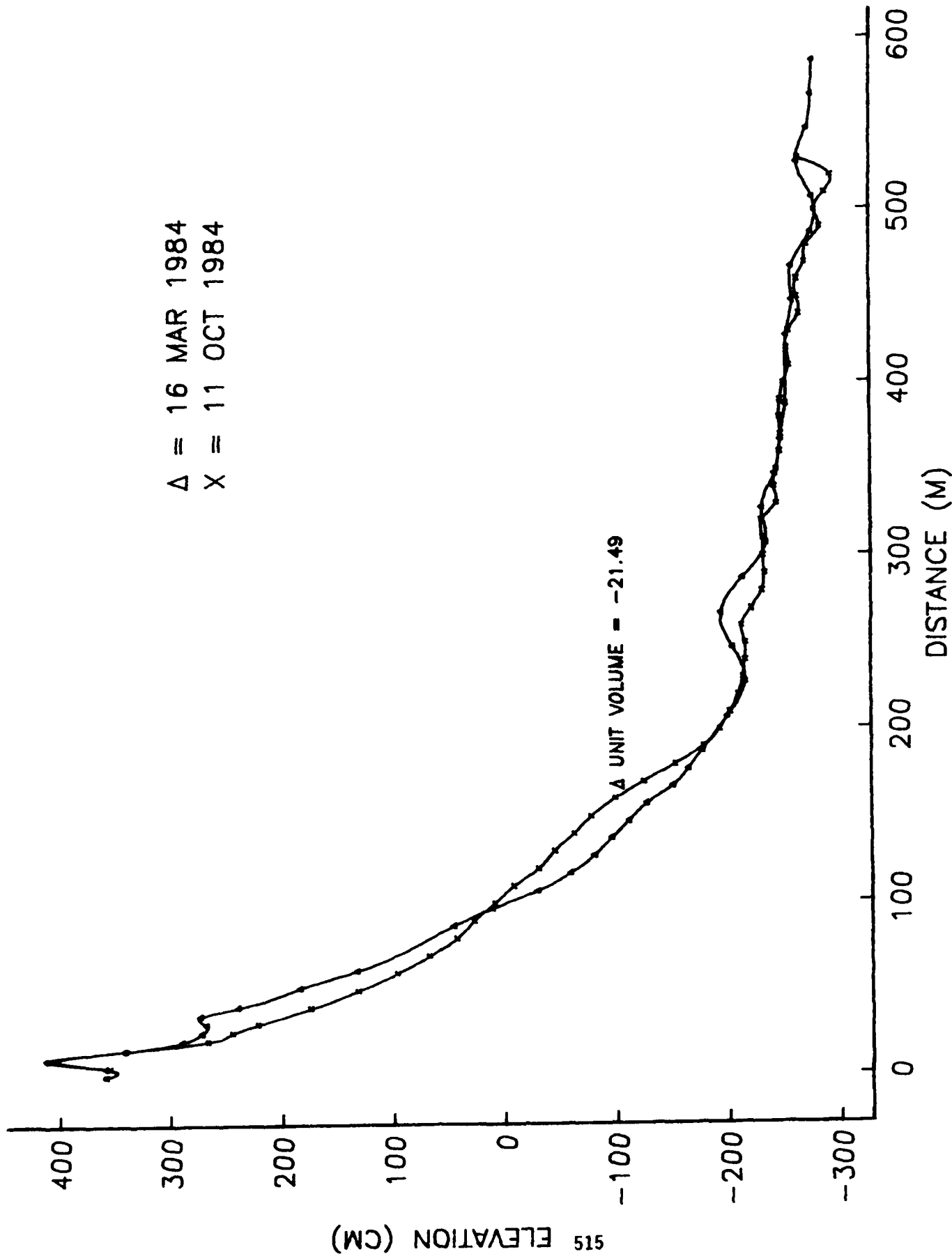
D

PROFILE OVERLAY FOR RANGE SS0180



PROFILE OVERLAY FOR RANGE SS0200

Δ = 16 MAR 1984
X = 11 OCT 1984



10

PROFILE OVERLAY FOR RANGE MB0270

Δ = 27 JUN 1984
X = 28 JAN 1985

ELEVATION (CM)

516

Δ UNIT VOLUME = -13.38

0

100

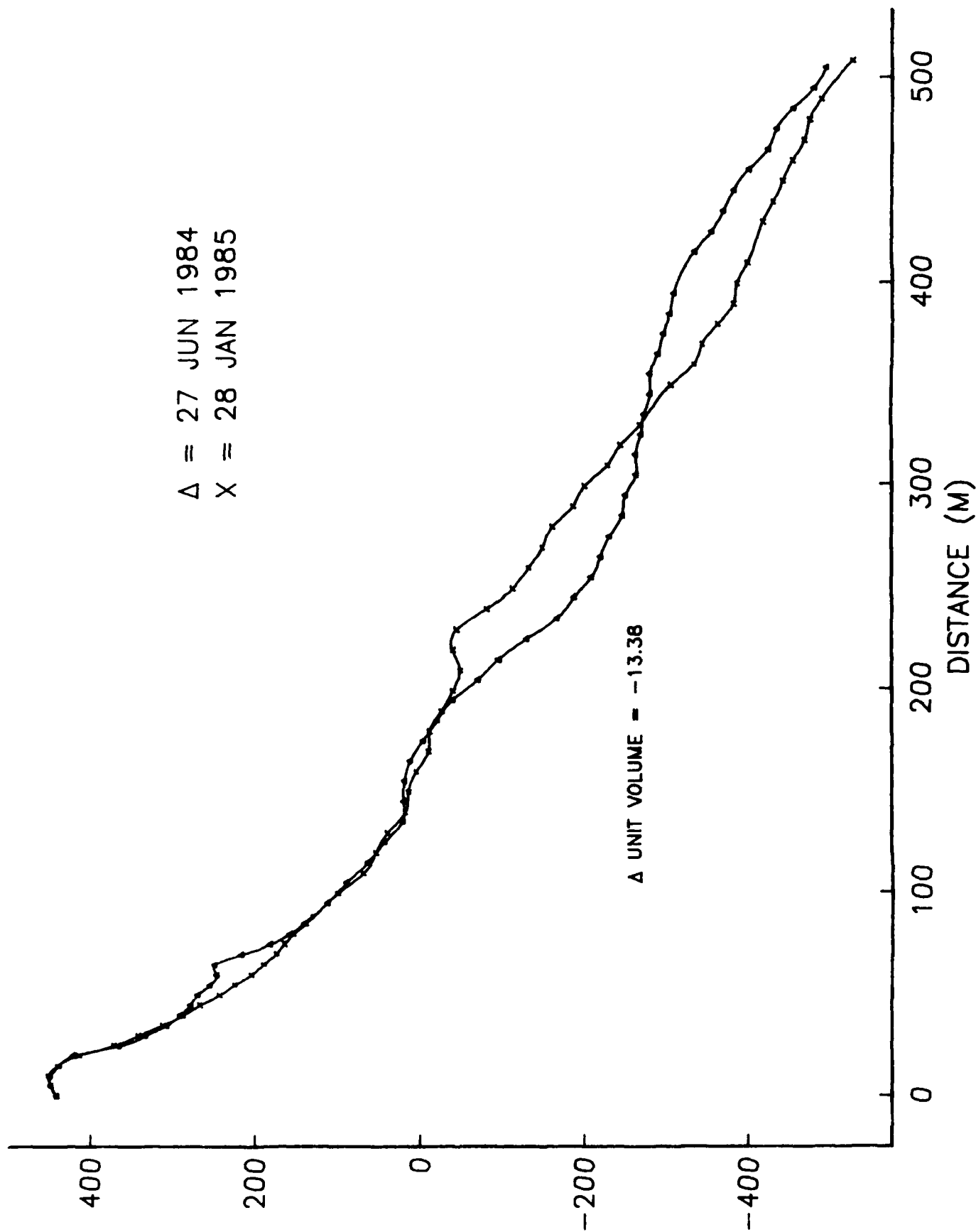
200

300

400

500

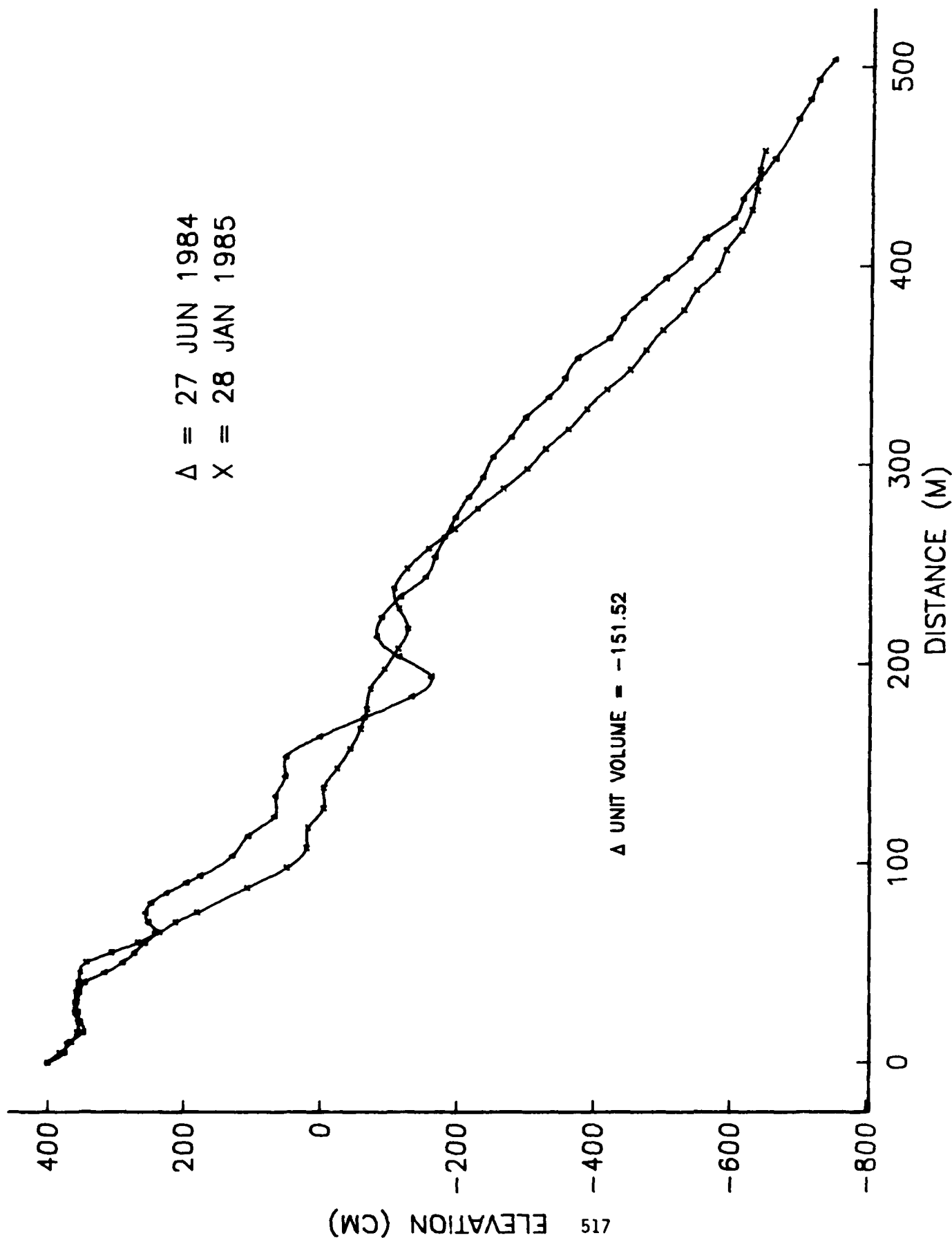
DISTANCE (M)



PROFILE OVERLAY FOR RANGE MB0300

Δ = 27 JUN 1984
X = 28 JAN 1985

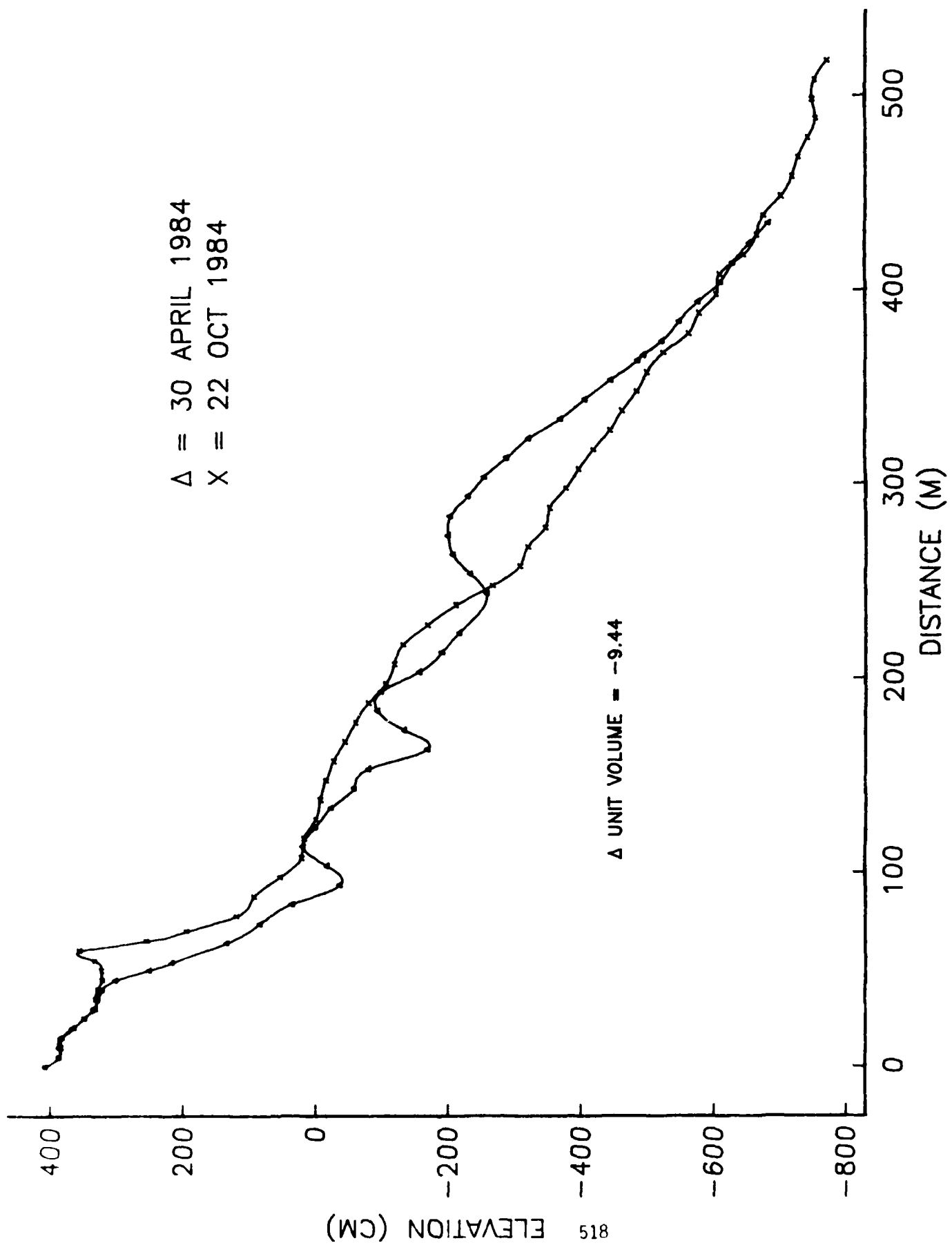
Δ UNIT VOLUME = -151.52



10

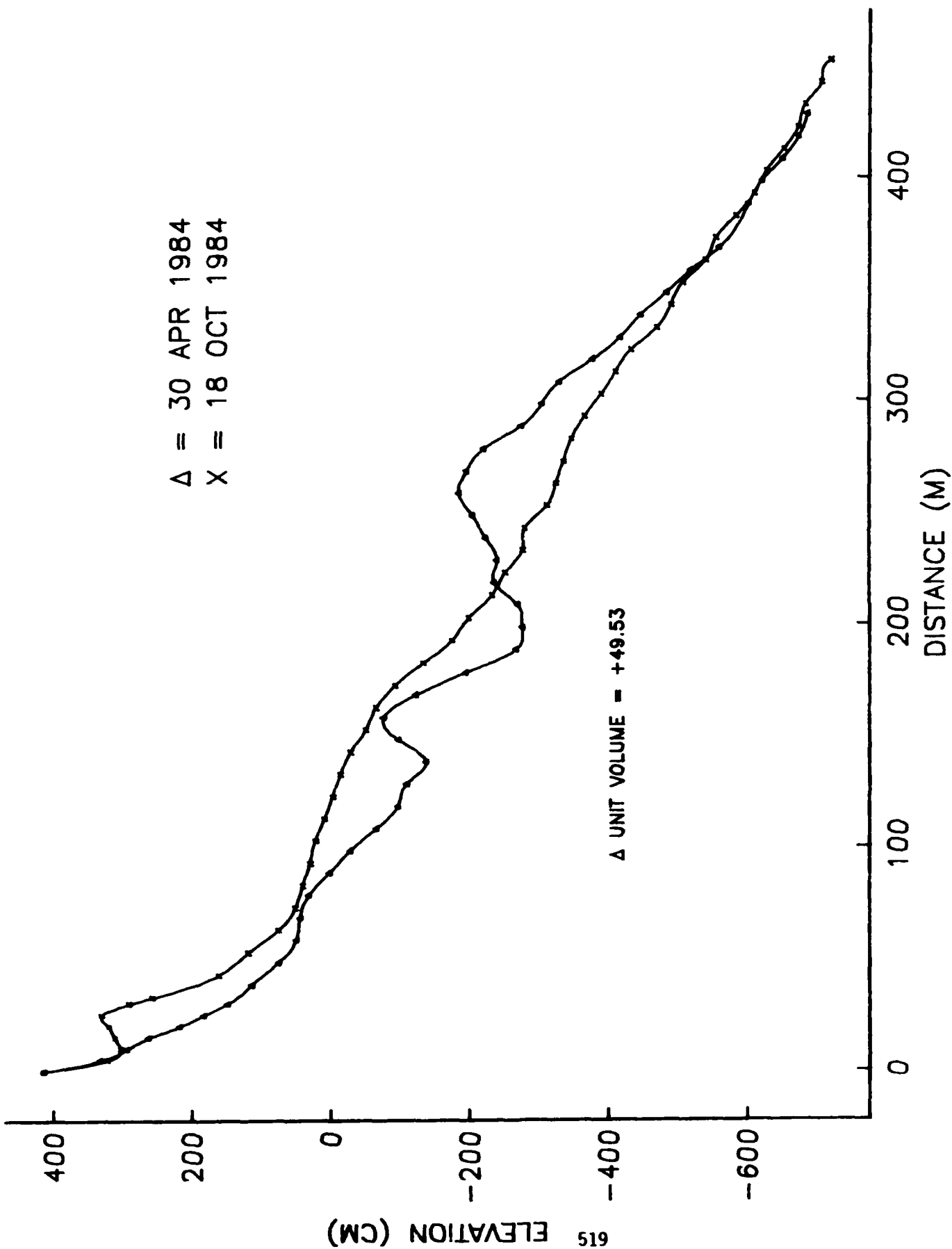
PROFILE OVERLAY FOR RANGE MB0310

Δ = 30 APRIL 1984
X = 22 OCT 1984



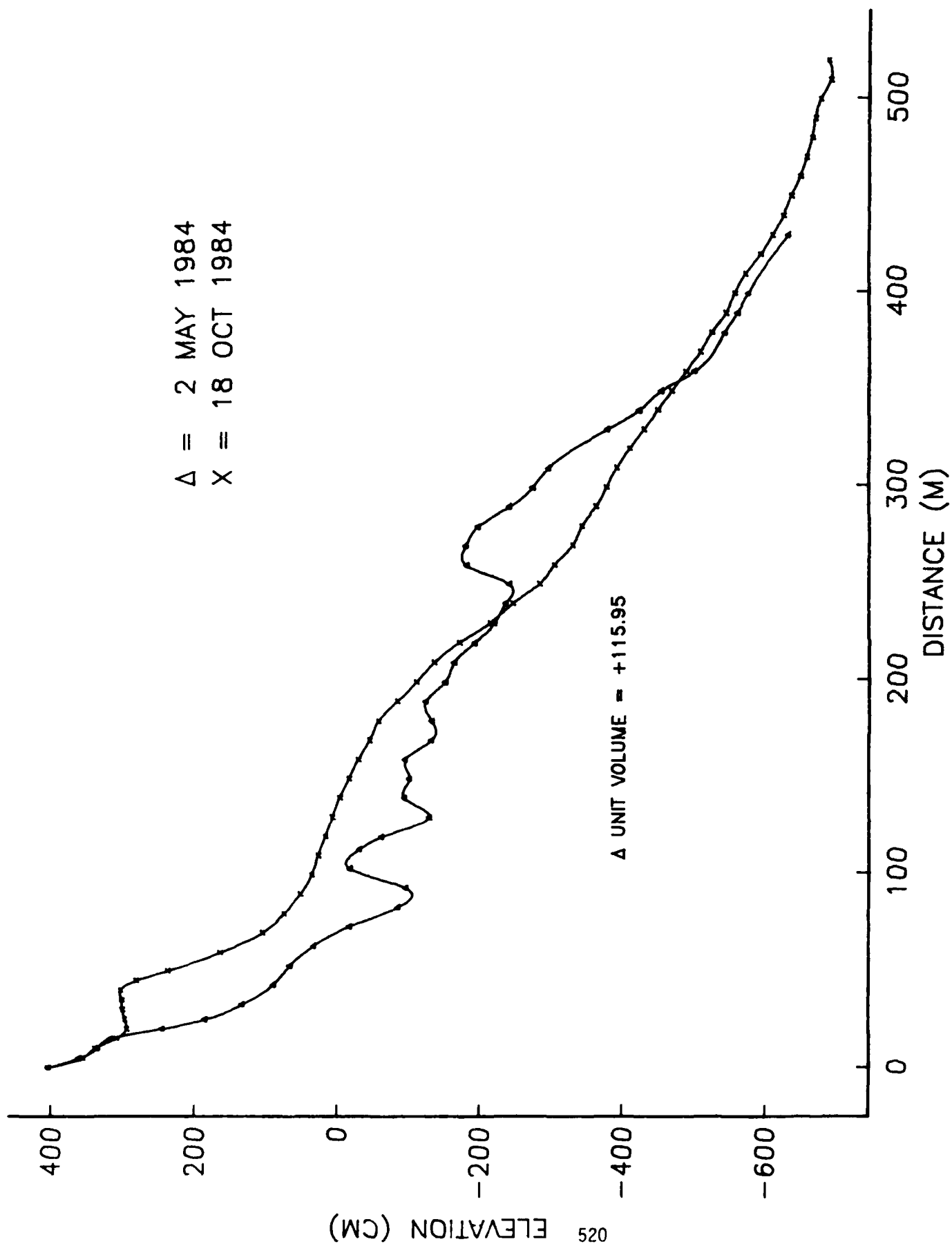
PROFILE OVERLAY FOR RANGE MB0340

Δ = 30 APR 1984
X = 18 OCT 1984



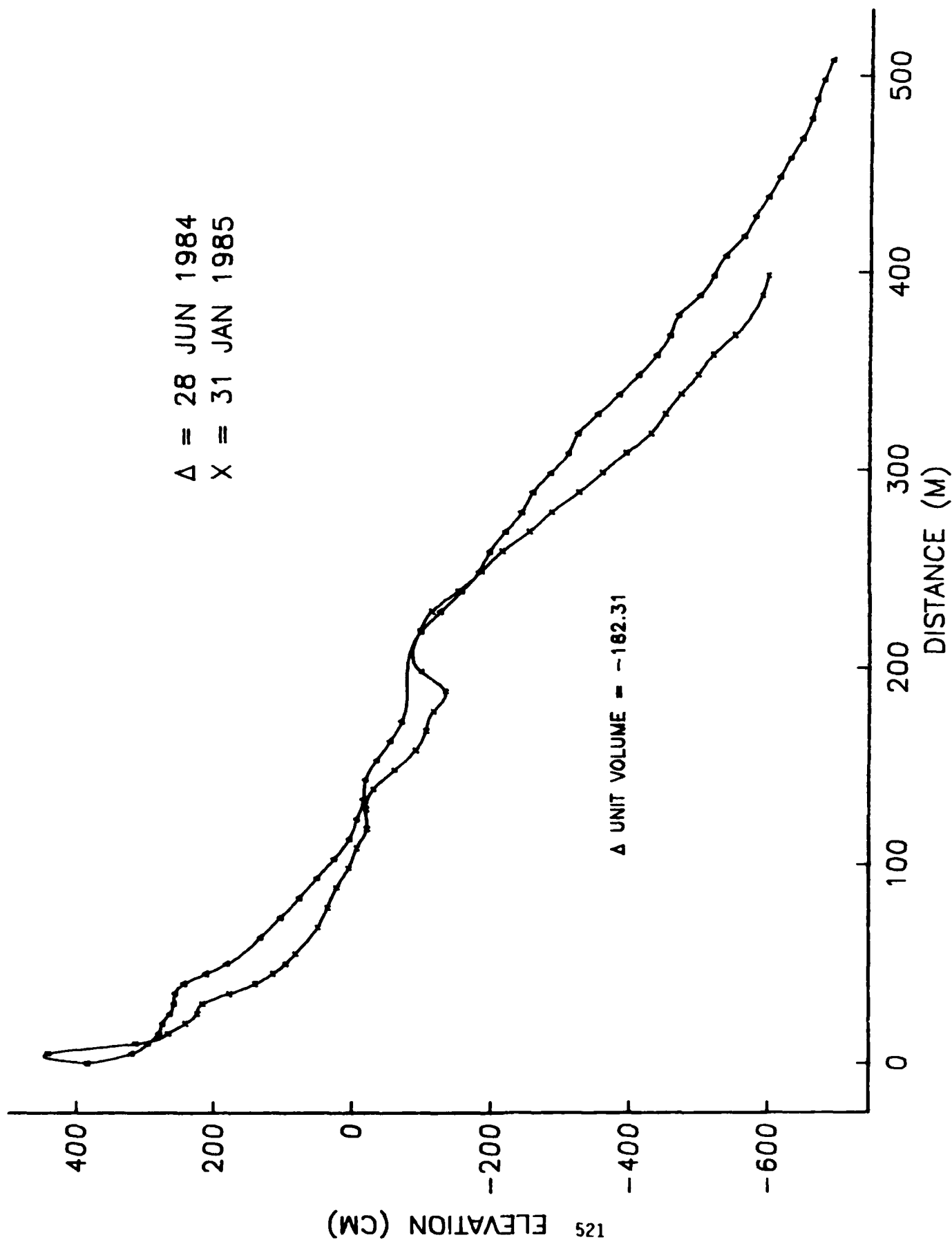
PROFILE OVERLAY FOR RANGE PB0384

Δ = 2 MAY 1984
X = 18 OCT 1984



PROFILE OVERLAY FOR RANGE PB0390

$\Delta = 28$ JUN 1984
 $X = 31$ JAN 1985

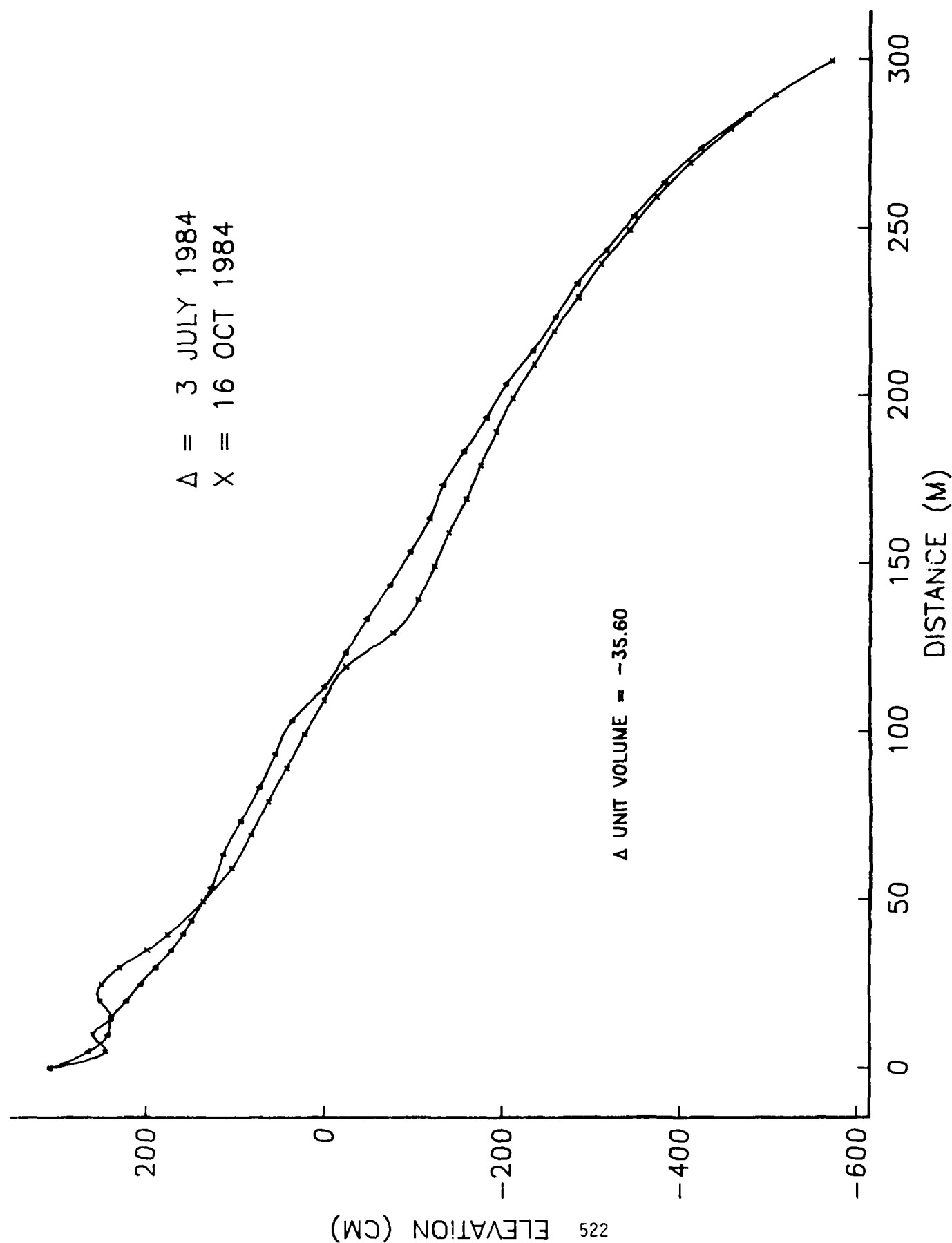


6

PROFILE OVERLAY FOR RANGE LJ0445

Δ = 3 JULY 1984
X = 16 OCT 1984

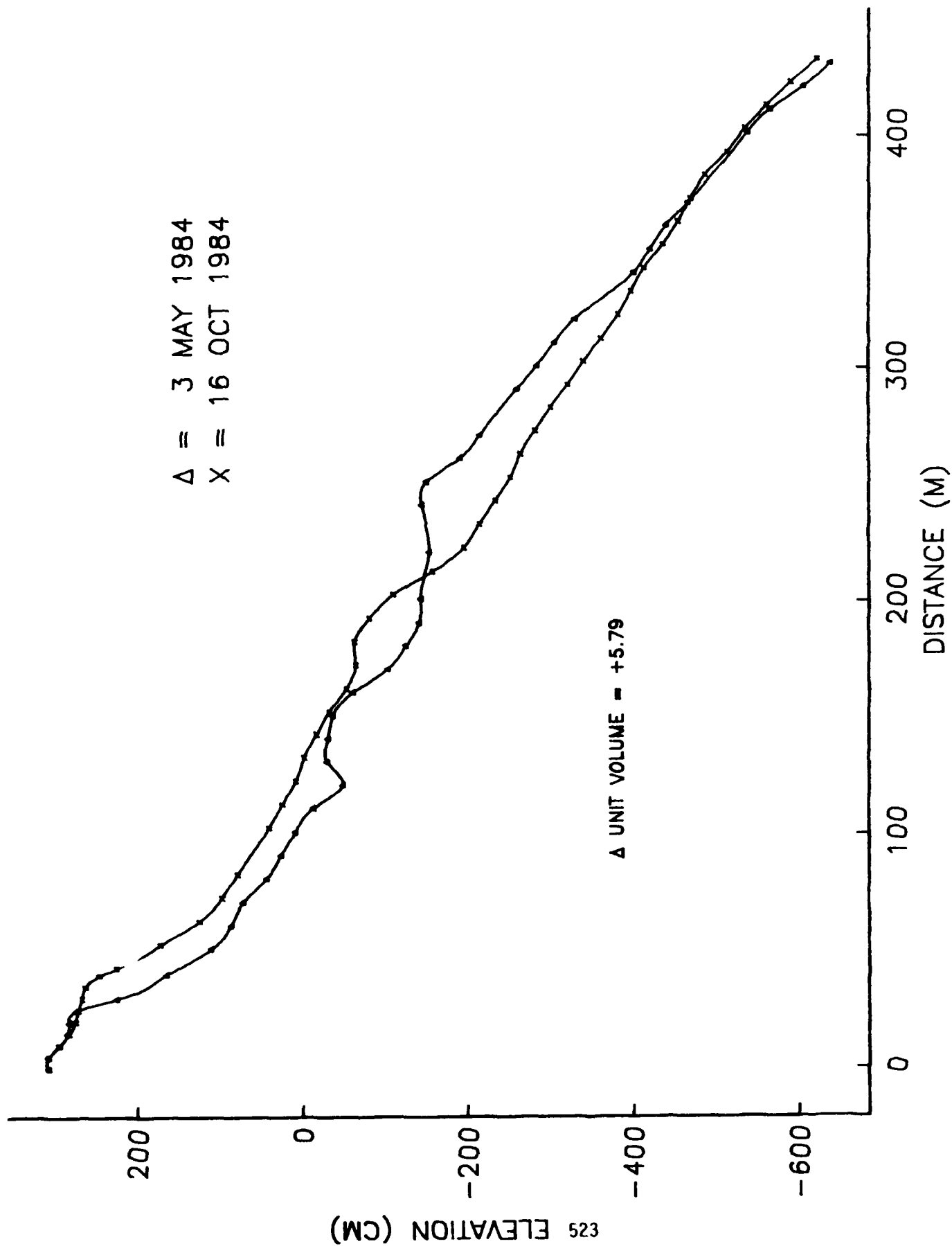
Δ UNIT VOLUME = -35.60



PROFILE OVERLAY FOR RANGE LJ0450

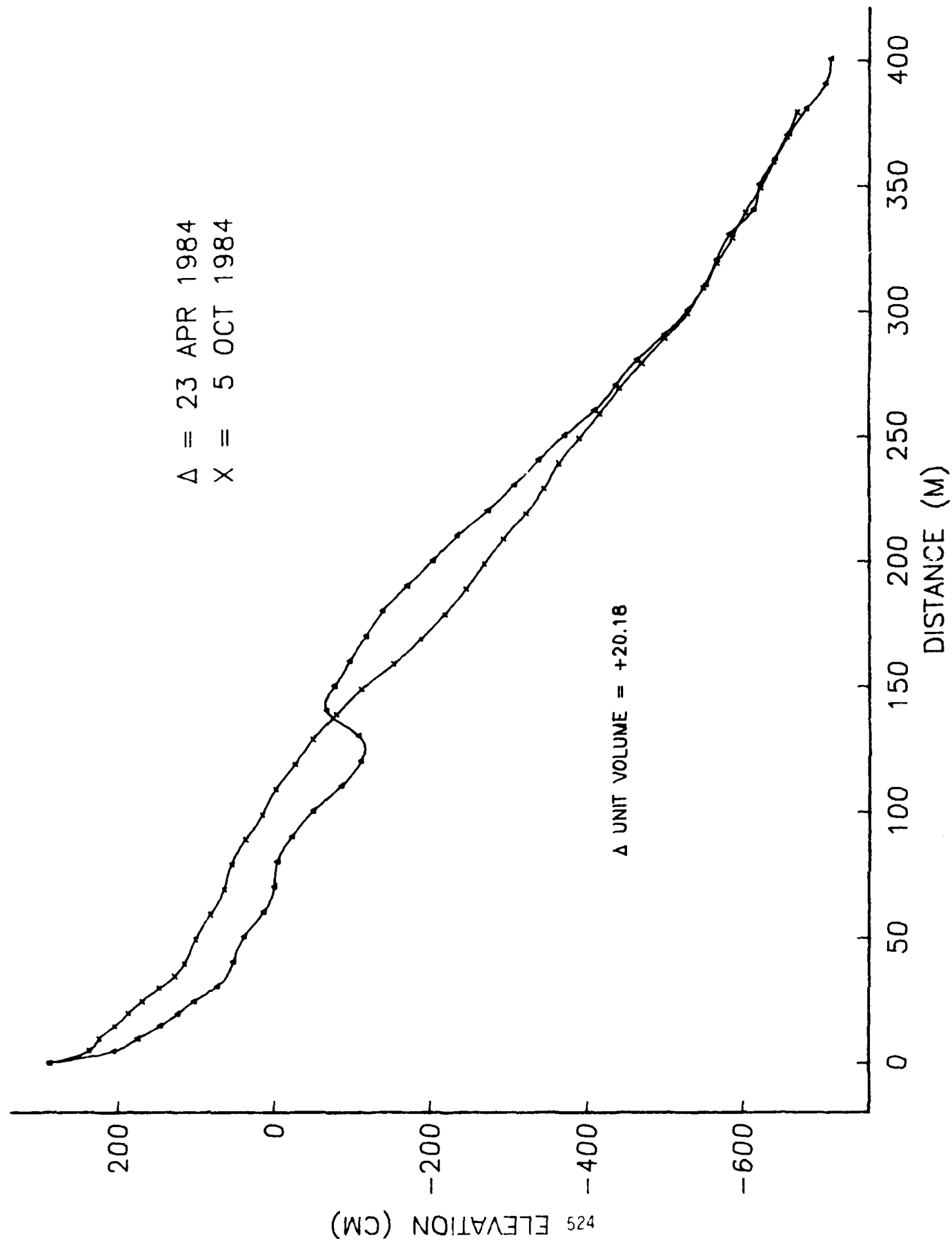
$\Delta = 3 \text{ MAY } 1984$
 $X = 16 \text{ OCT } 1984$

$\Delta \text{ UNIT VOLUME} = +5.79$



f

PROFILE OVERLAY FOR RANGE LJ0460



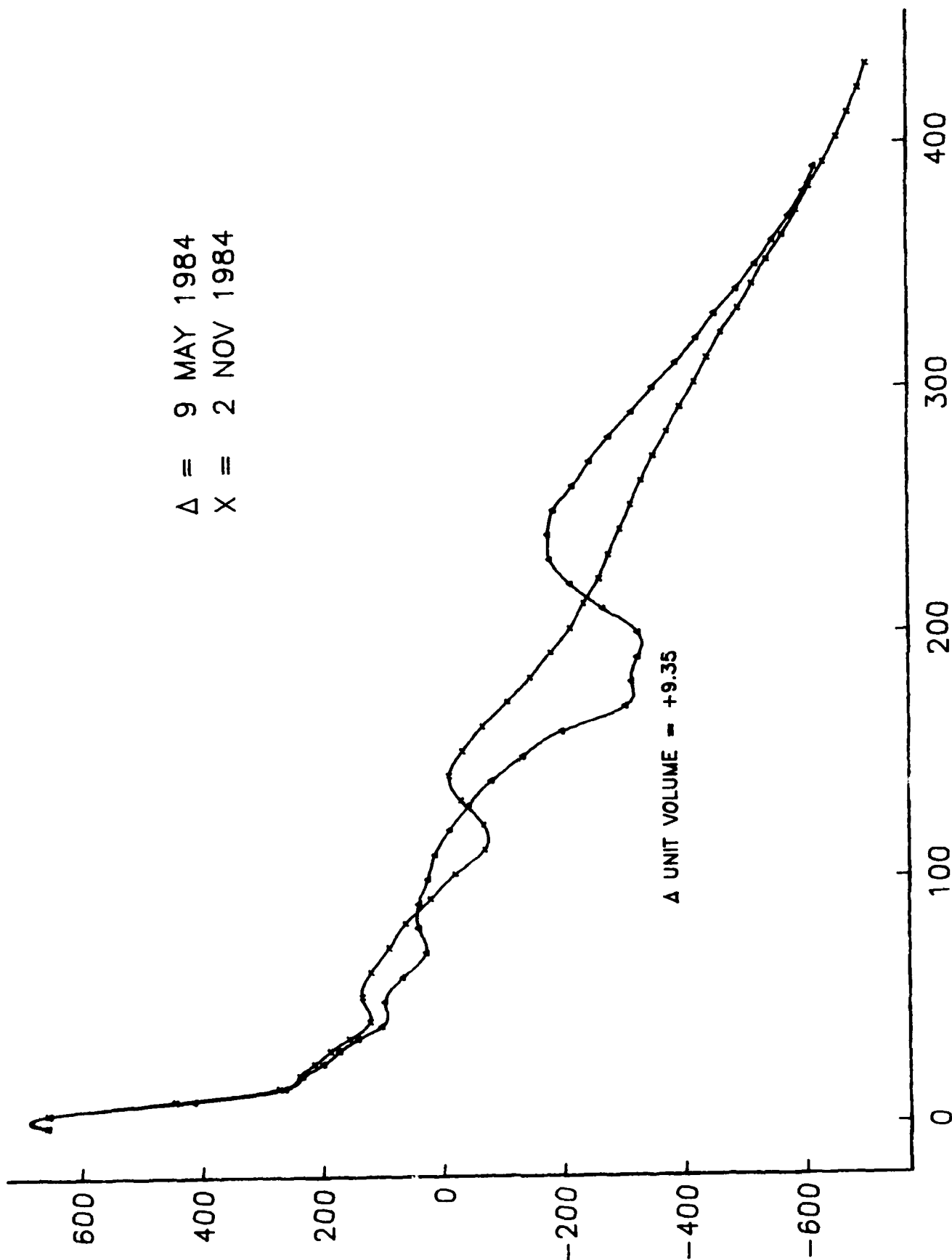
PROFILE OVERLAY FOR RANGE TP0520

Δ = 9 MAY 1984
X = 2 NOV 1984

Δ UNIT VOLUME = +9.35

525 ELEVATION (CM)

DISTANCE (M)



T

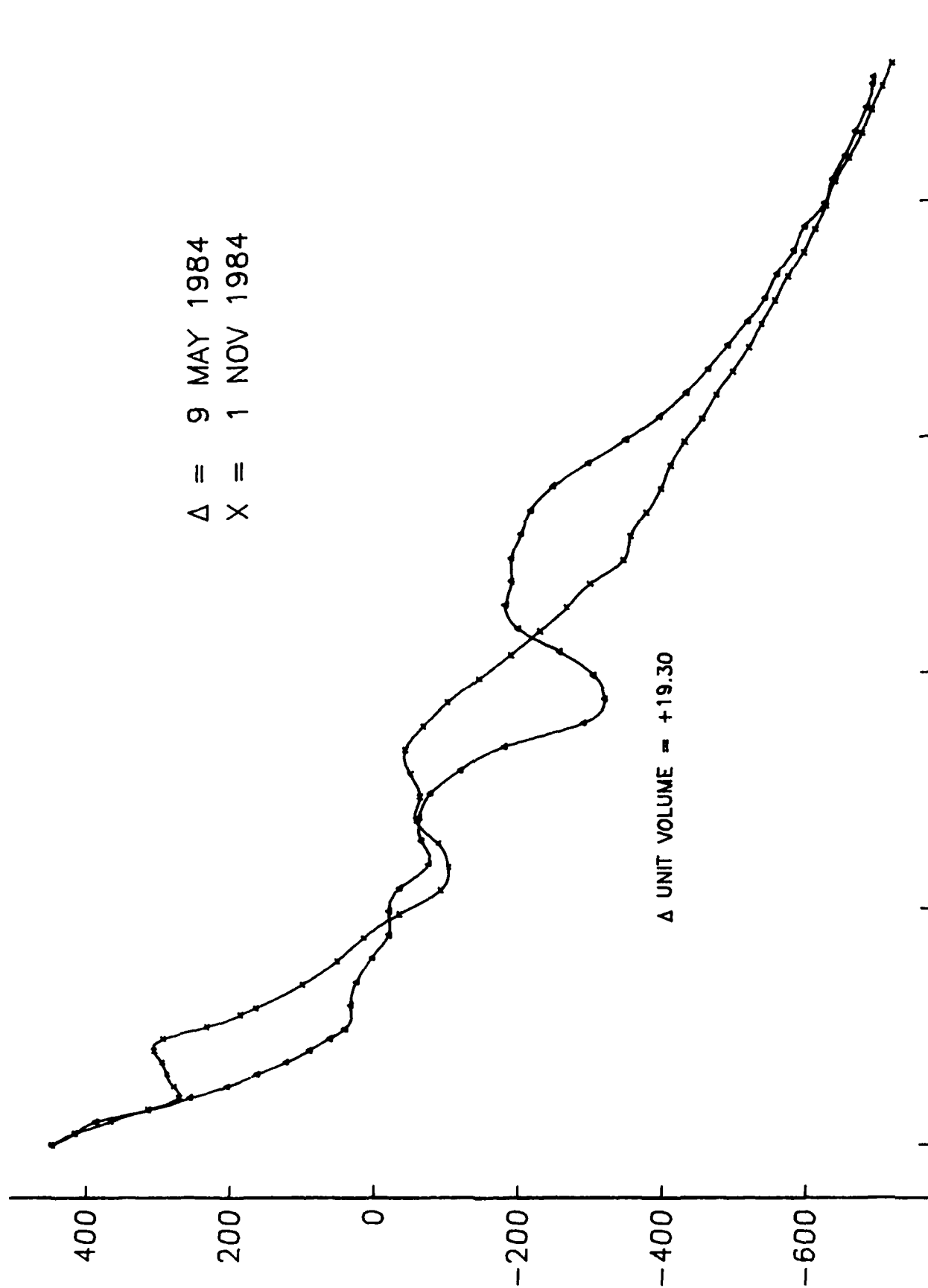
PROFILE OVERLAY FOR RANGE DM0580

Δ = 9 MAY 1984
X = 1 NOV 1984

925 ELEVATION (CM)

Δ UNIT VOLUME = +19.30

0 100 200 300 400
DISTANCE (M)



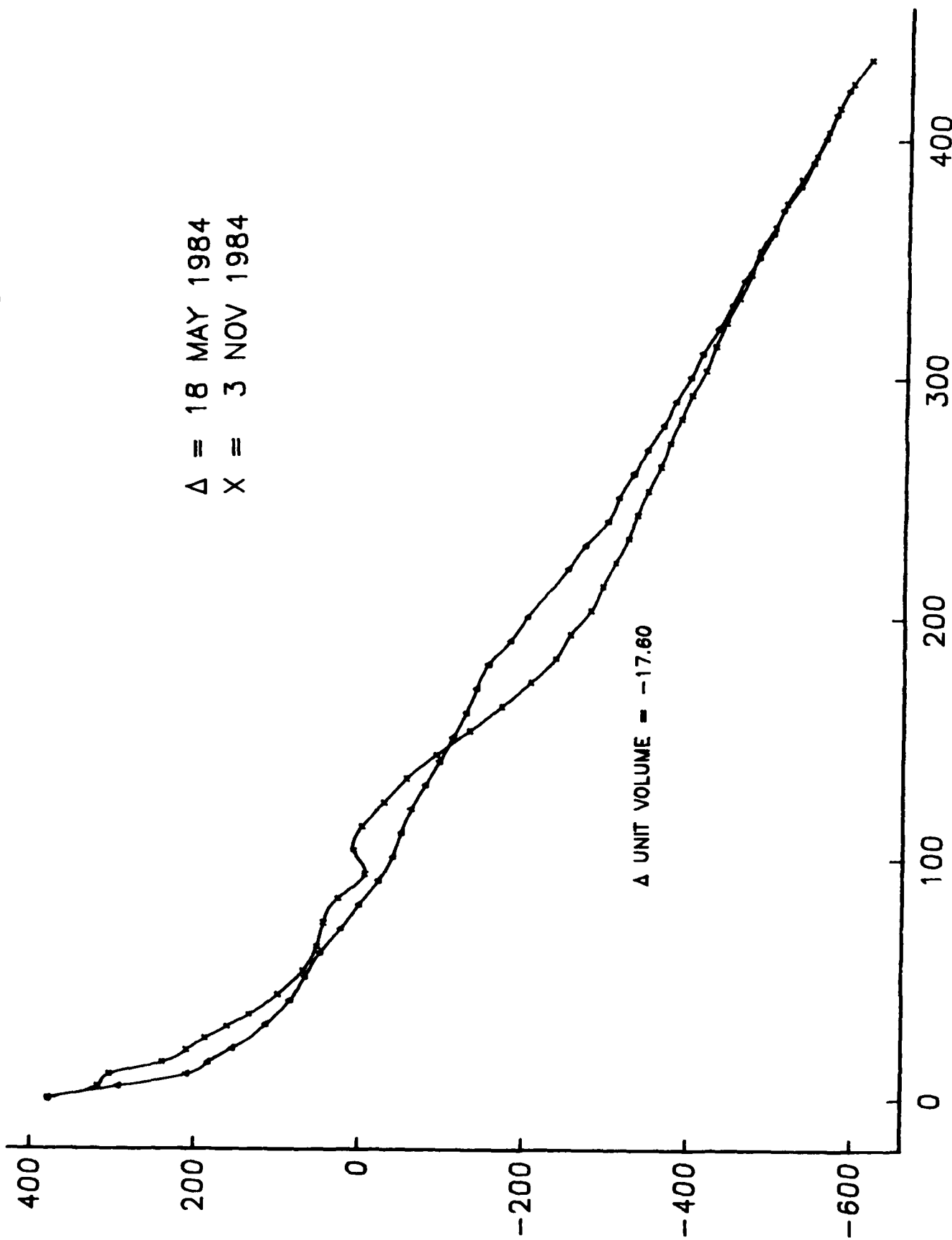
PROFILE OVERLAY FOR RANGE SD0600

Δ = 18 MAY 1984
X = 3 NOV 1984

Δ UNIT VOLUME = -17.60

527 ELEVATION (CM)

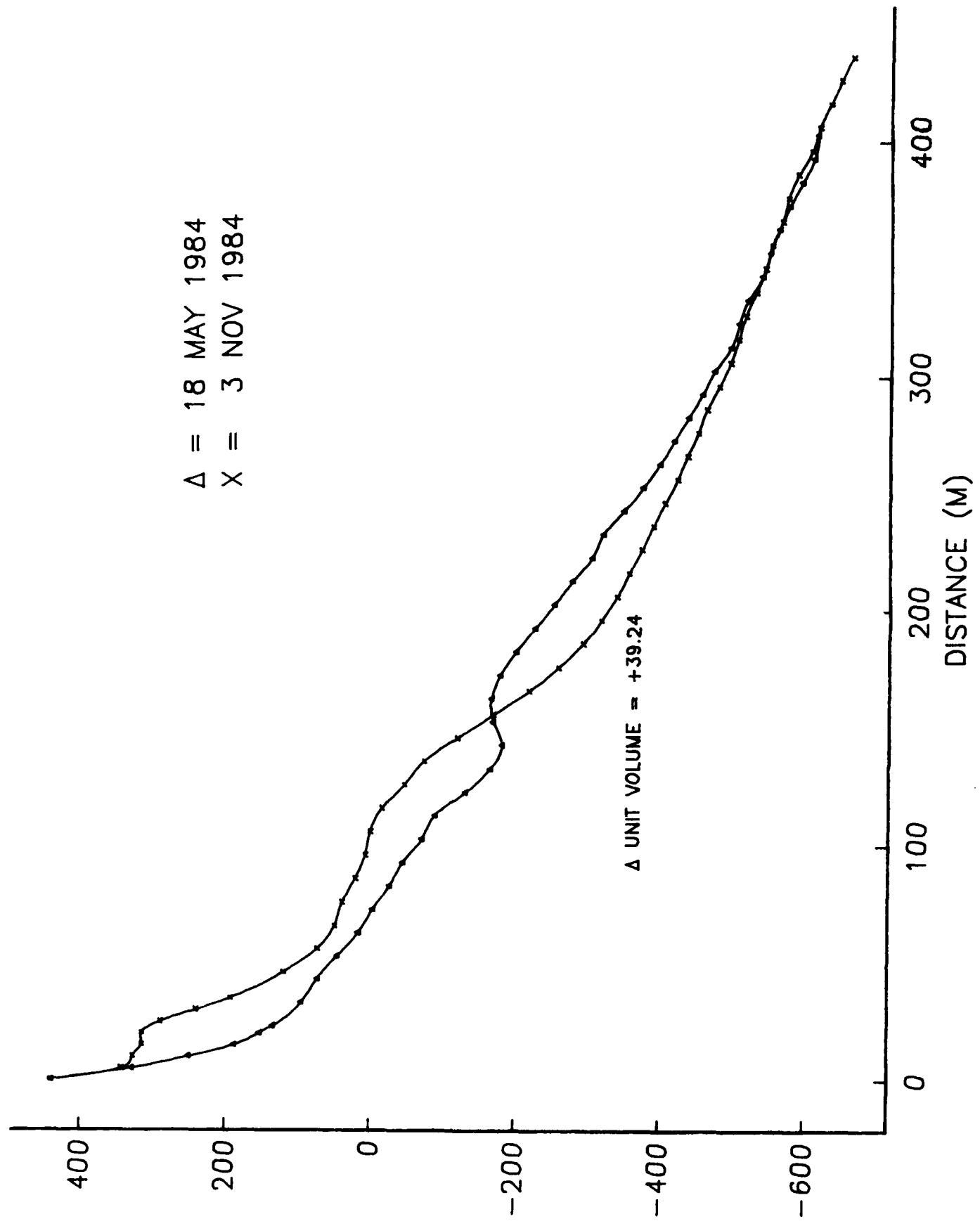
DISTANCE (M)



PROFILE OVERLAY FOR RANGE SD0630

Δ = 18 MAY 1984
X = 3 NOV 1984

Δ UNIT VOLUME = +39.24



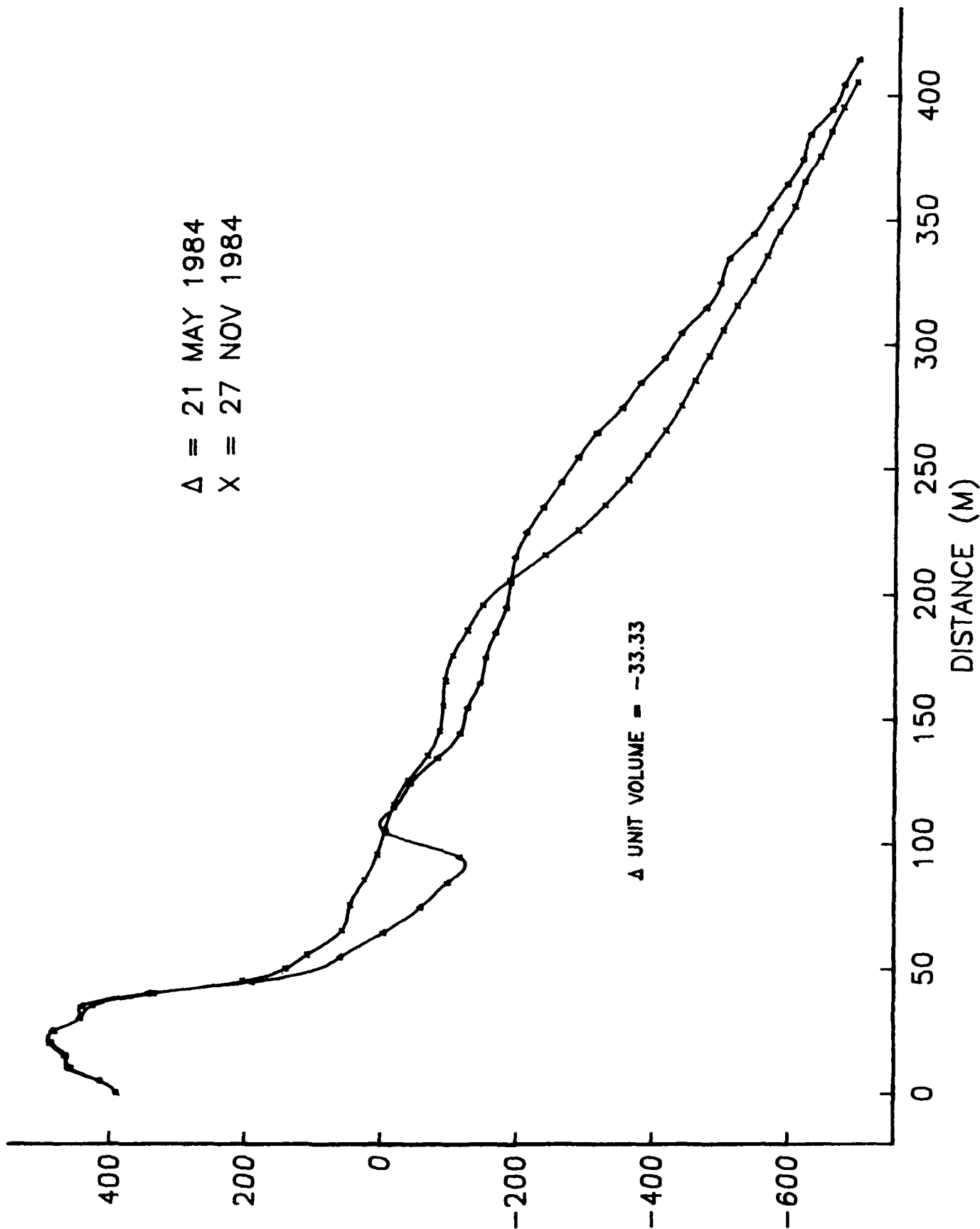
PROFILE OVERLAY FOR RANGE CB0720

Δ = 21 MAY 1984
X = 27 NOV 1984

Δ UNIT VOLUME = -33.33

529 ELEVATION (CM)

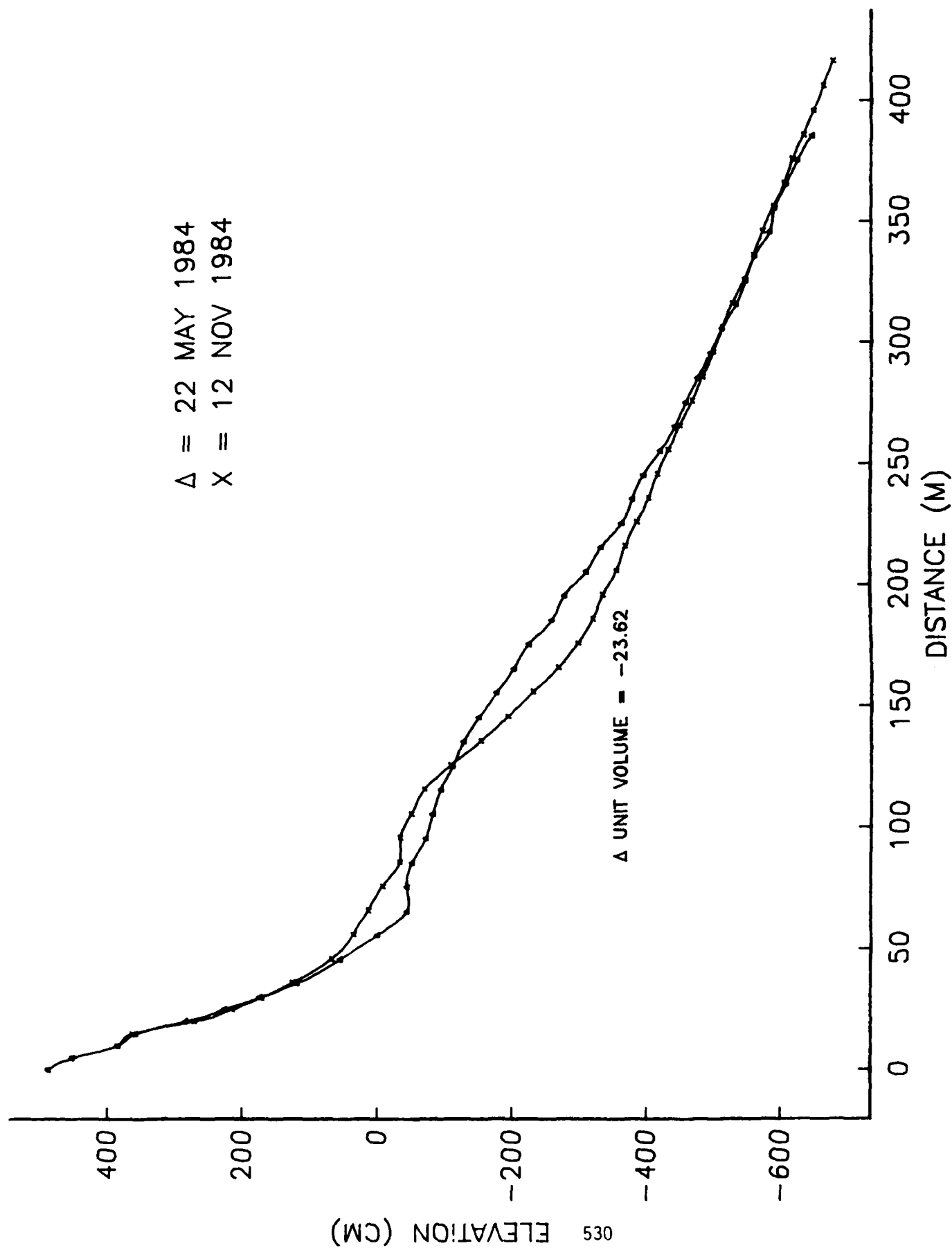
DISTANCE (M)



(C)

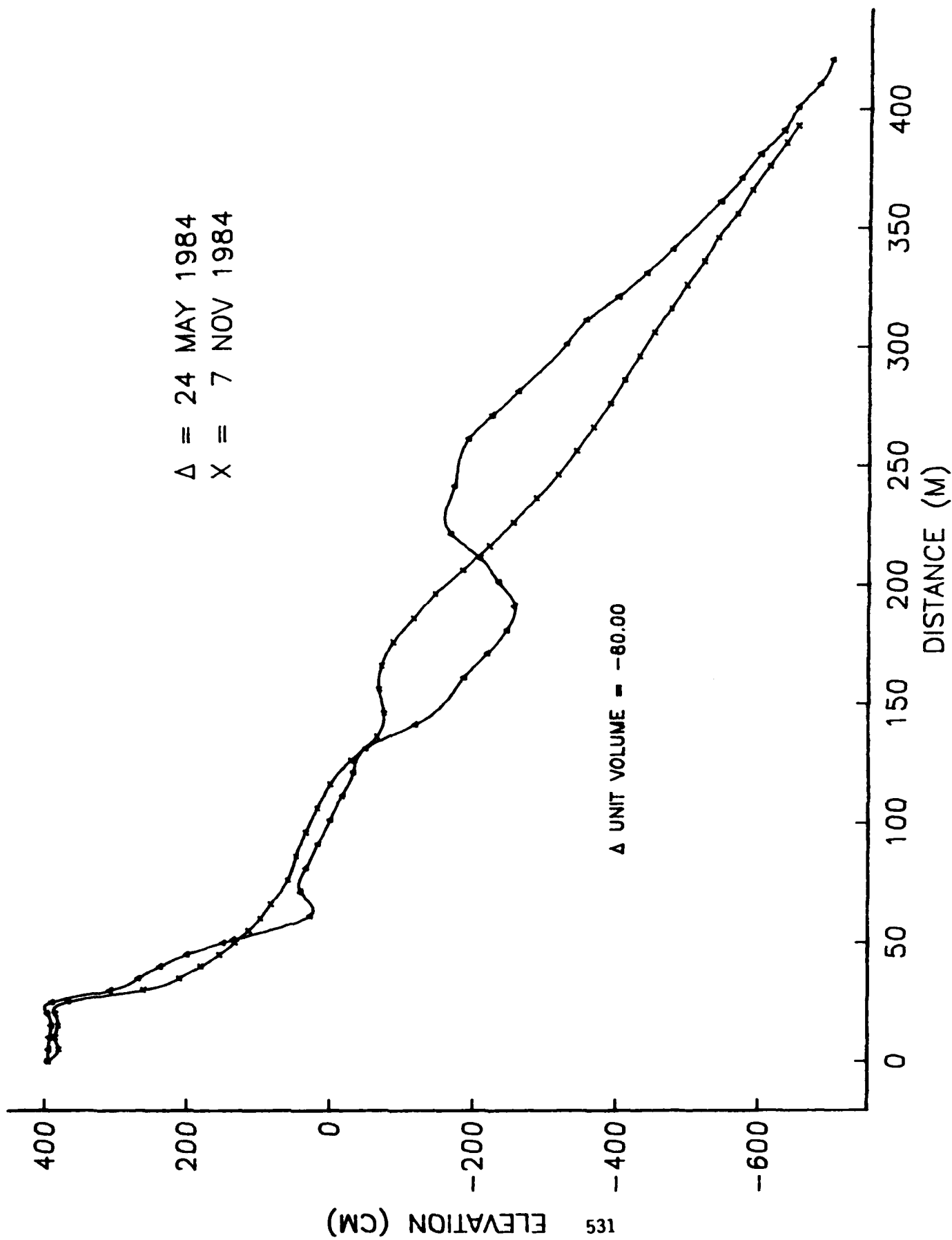
PROFILE OVERLAY FOR RANGE CB0820

Δ = 22 MAY 1984
X = 12 NOV 1984



PROFILE OVERLAY FOR RANGE OS0930

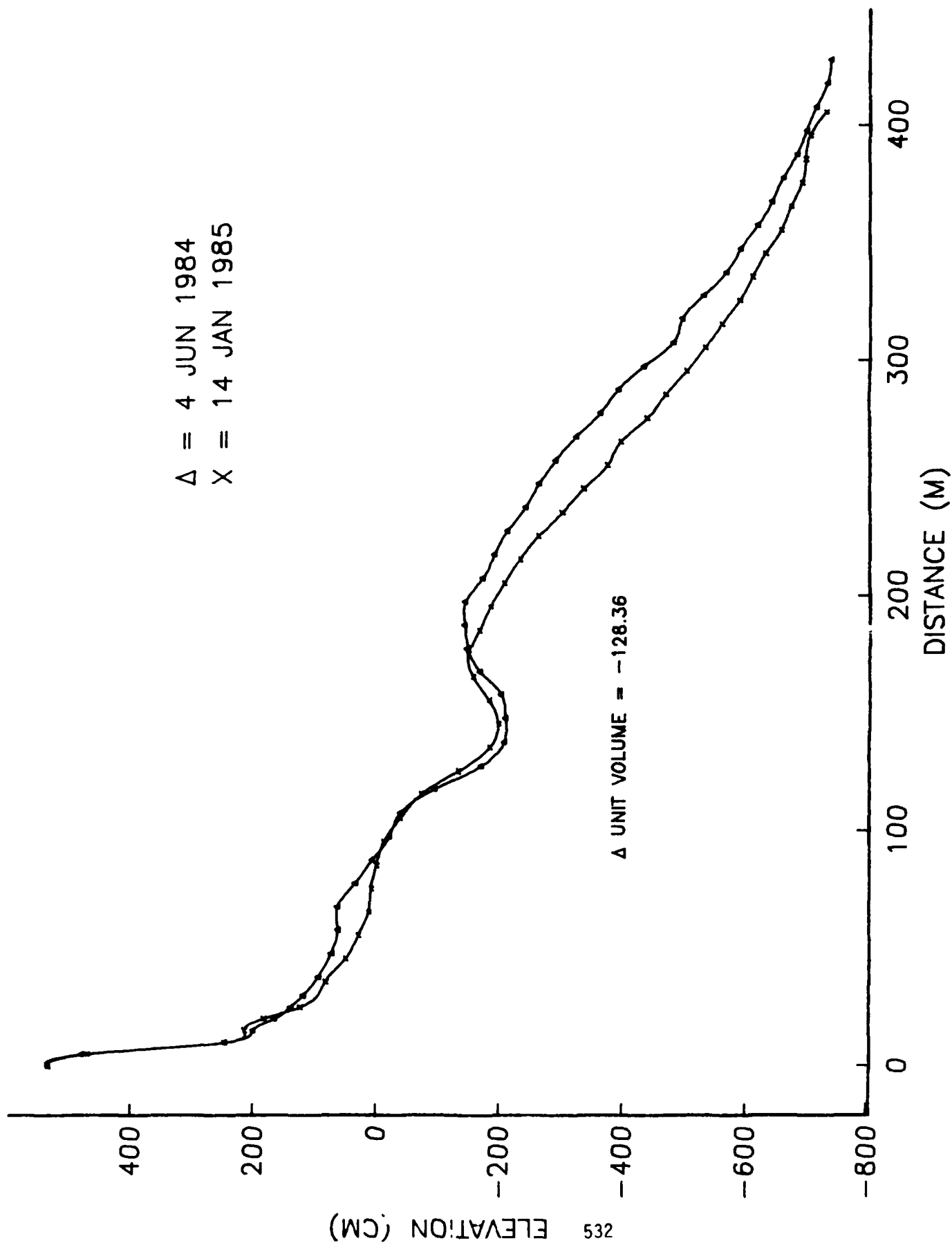
Δ = 24 MAY 1984
X = 7 NOV 1984



PROFILE OVERLAY FOR RANGE OS0960

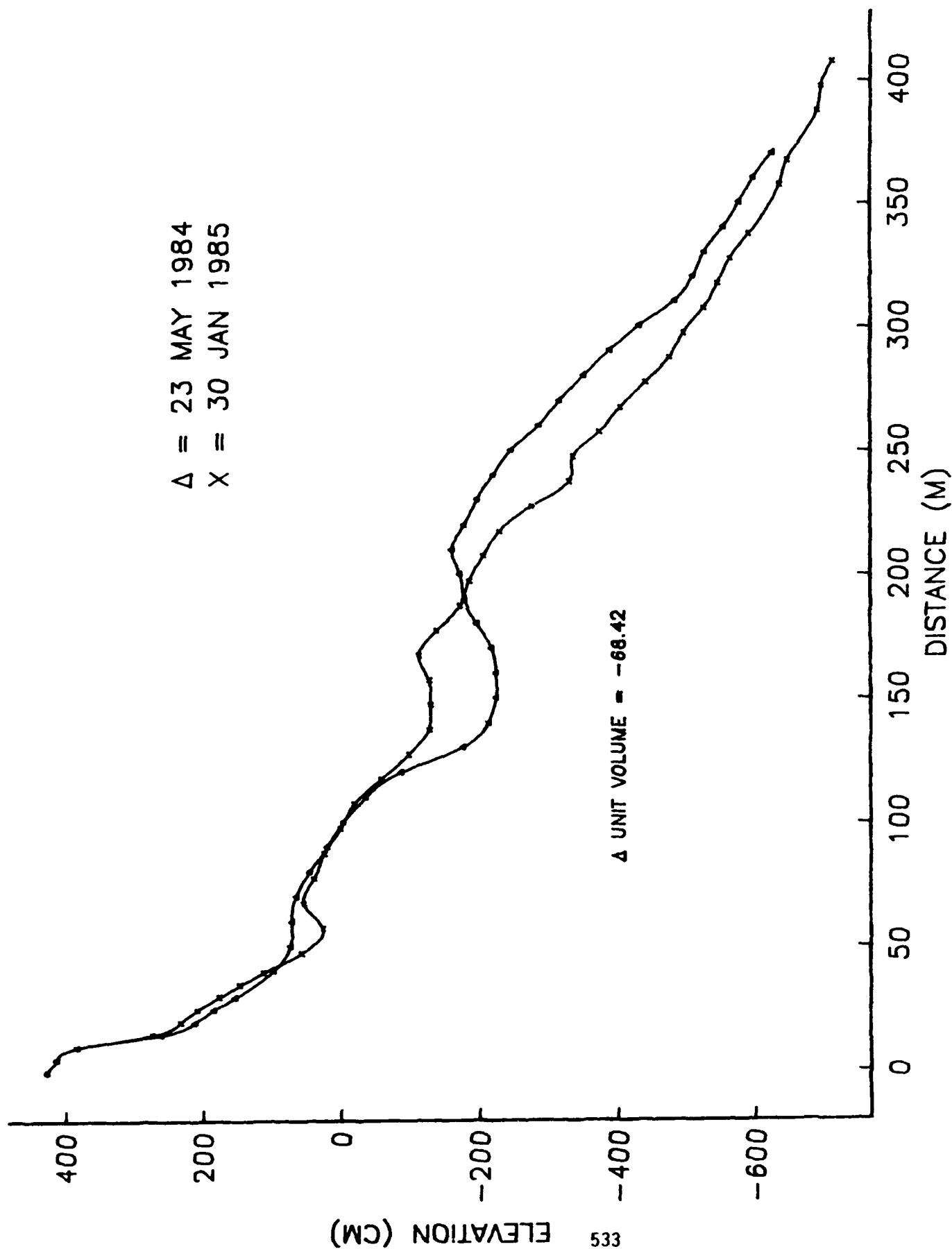
$\Delta = 4$ JUN 1984
 $X = 14$ JAN 1985

Δ UNIT VOLUME = -128.36



PROFILE OVERLAY FOR RANGE OS0990

Δ = 23 MAY 1984
X = 30 JAN 1985

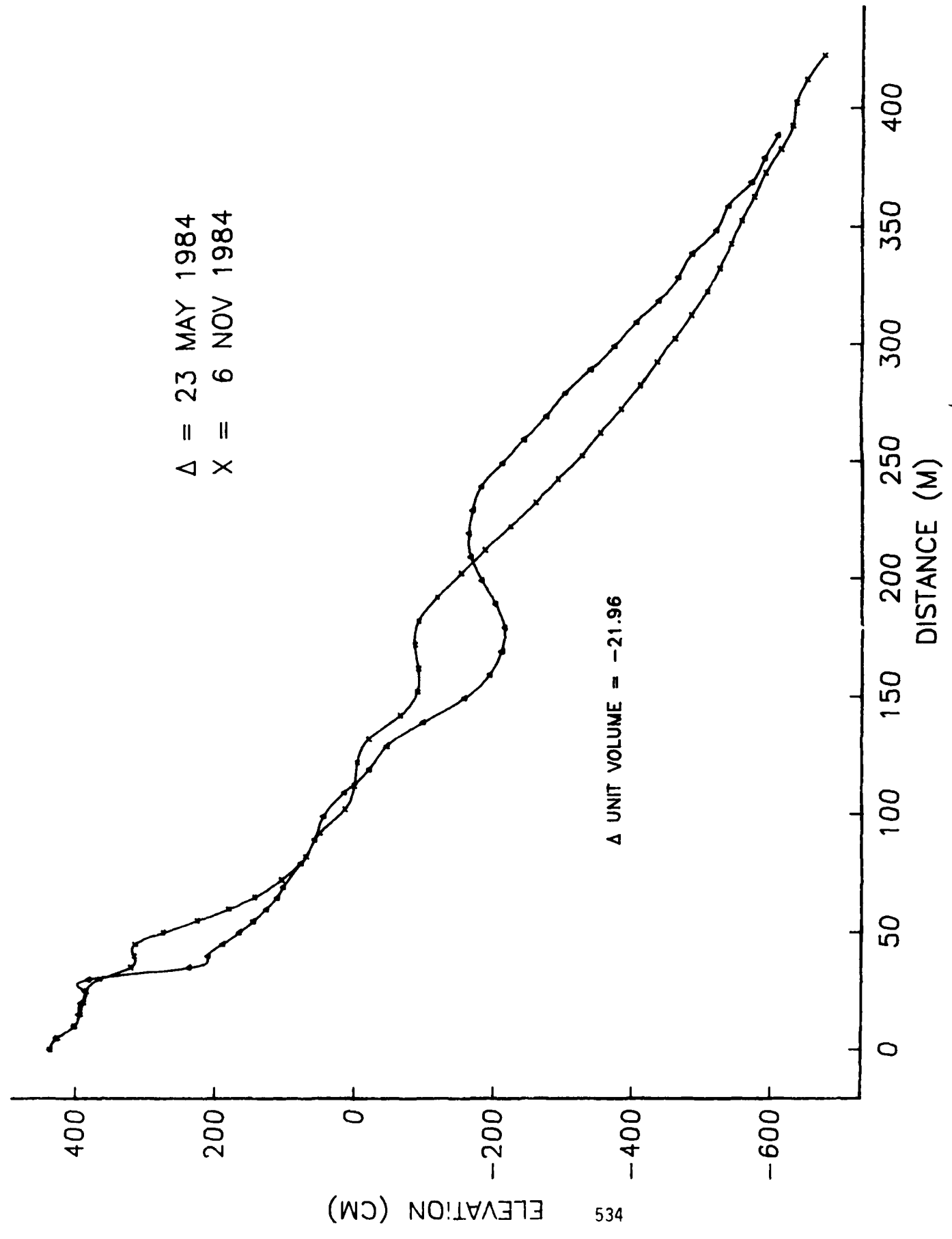


1

PROFILE OVERLAY FOR RANGE OS1000

Δ = 23 MAY 1984
X = 6 NOV 1984

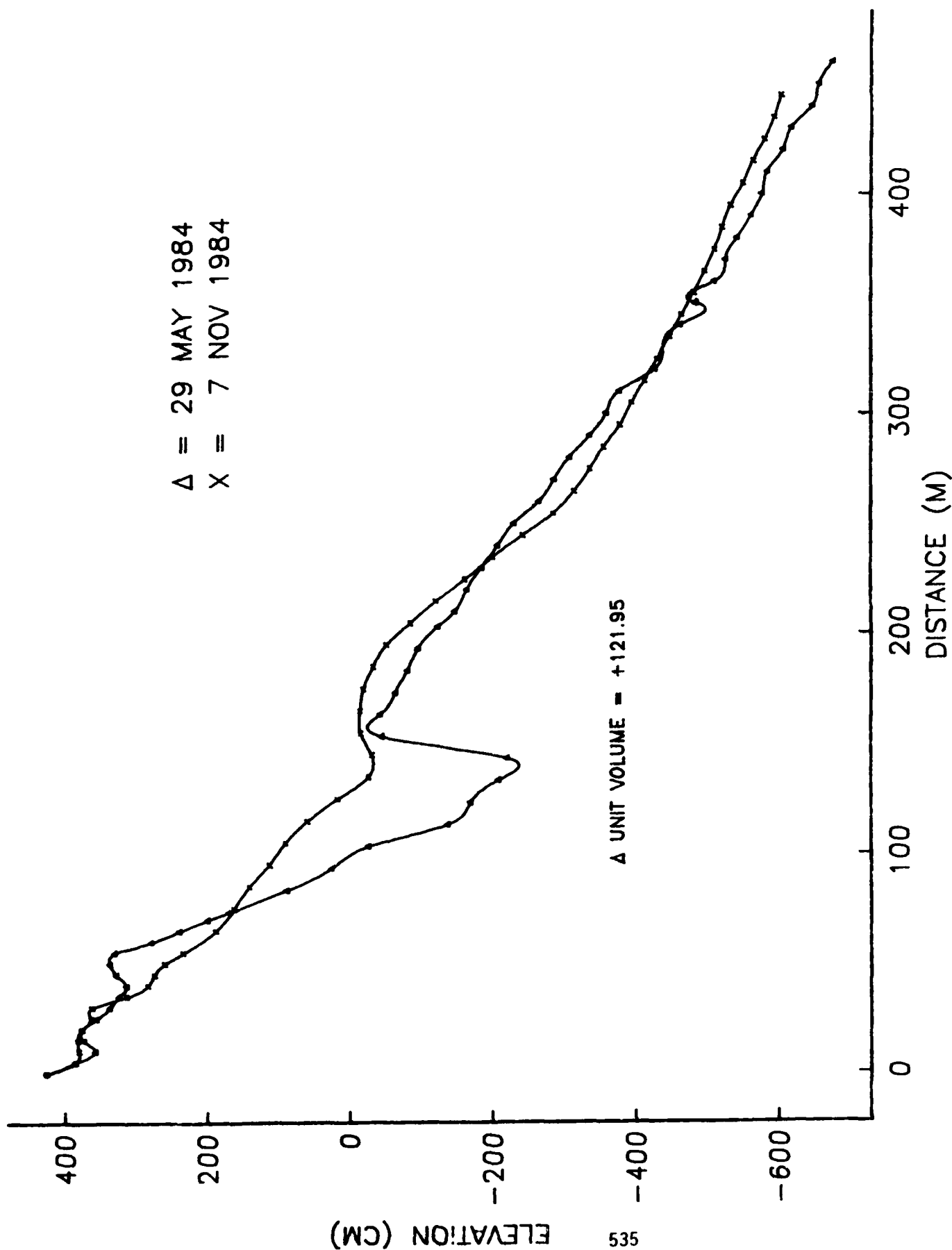
Δ UNIT VOLUME = -21.96



PROFILE OVERLAY FOR RANGE OS1030

Δ = 29 MAY 1984
X = 7 NOV 1984

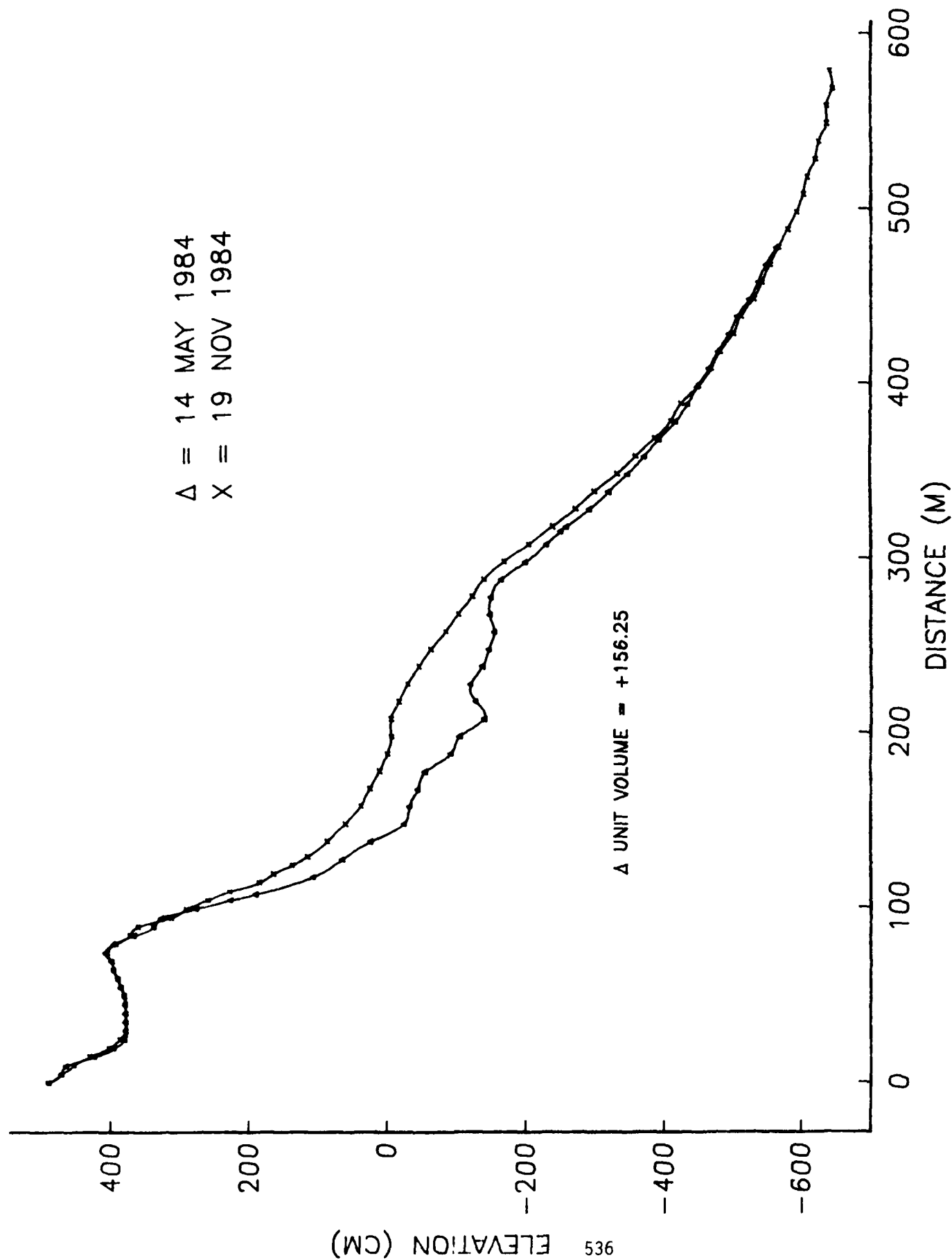
Δ UNIT VOLUME = +121.95



f

PROFILE OVERLAY FOR RANGE OS1070

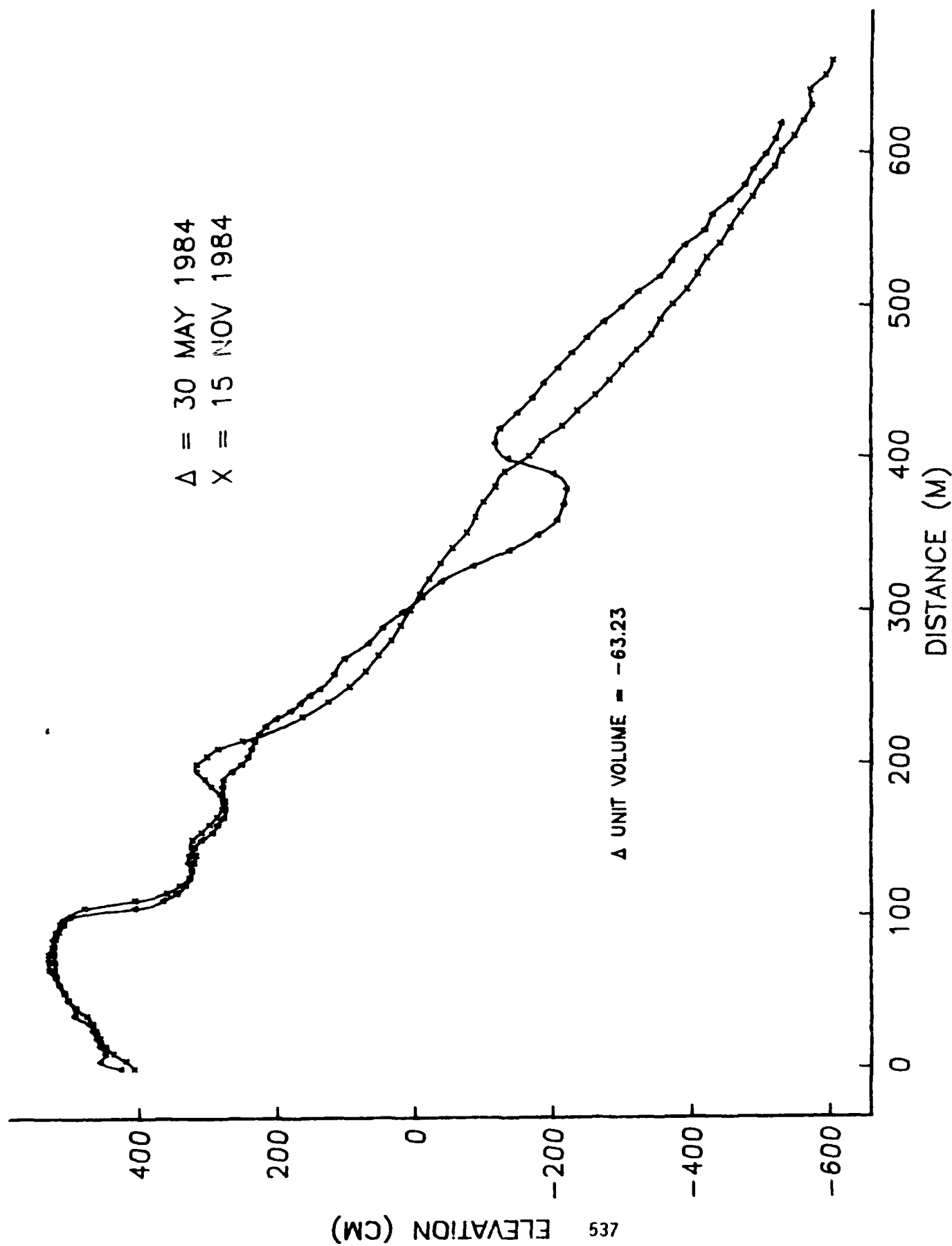
Δ = 14 MAY 1984
X = 19 NOV 1984



PROFILE OVERLAY FOR RANGE PN1080

Δ = 30 MAY 1984
X = 15 NOV 1984

Δ UNIT VOLUME = -63.23



P

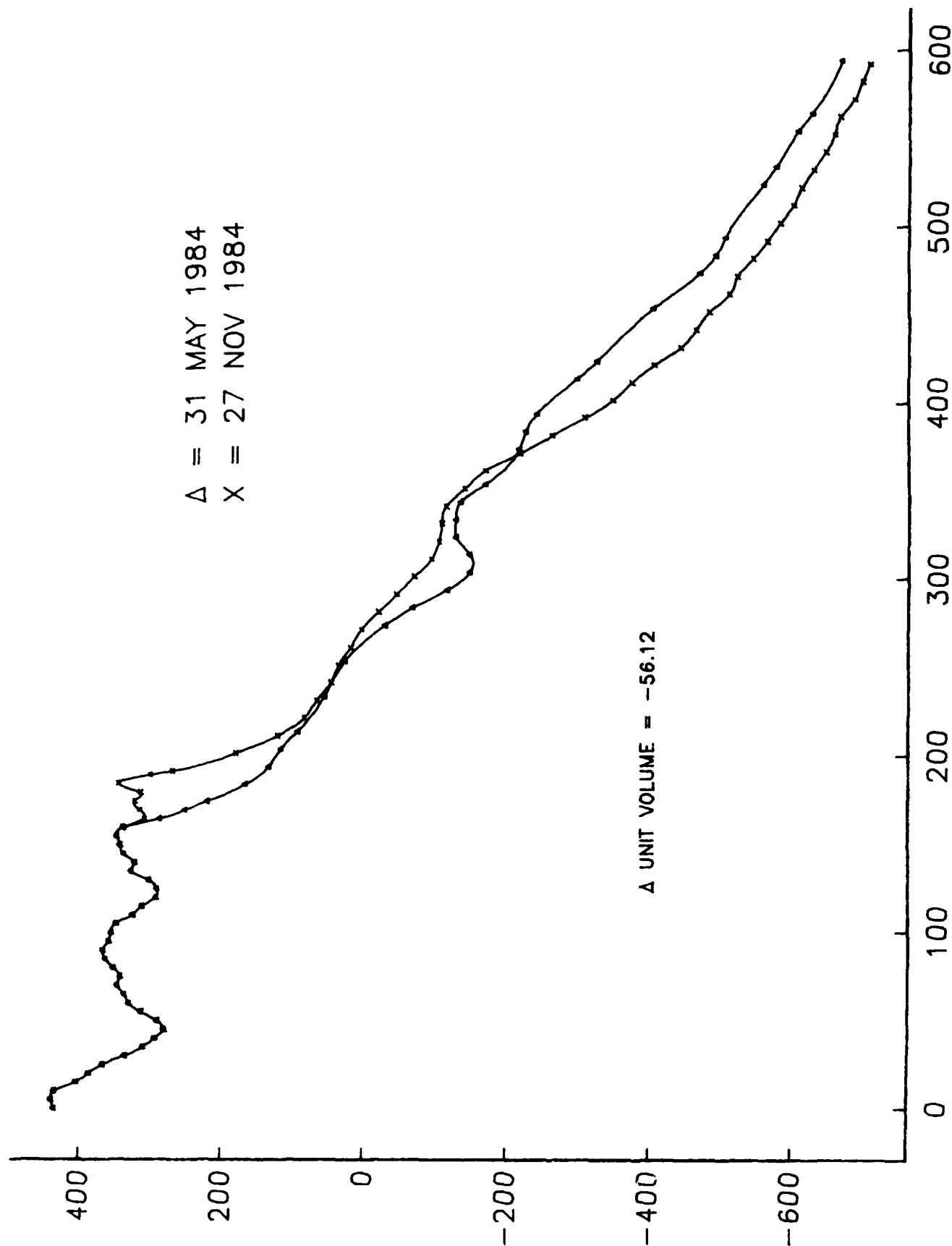
PROFILE OVERLAY FOR RANGE PN1110

Δ = 31 MAY 1984
X = 27 NOV 1984

Δ UNIT VOLUME = -56.12

ELEVATION (CM)

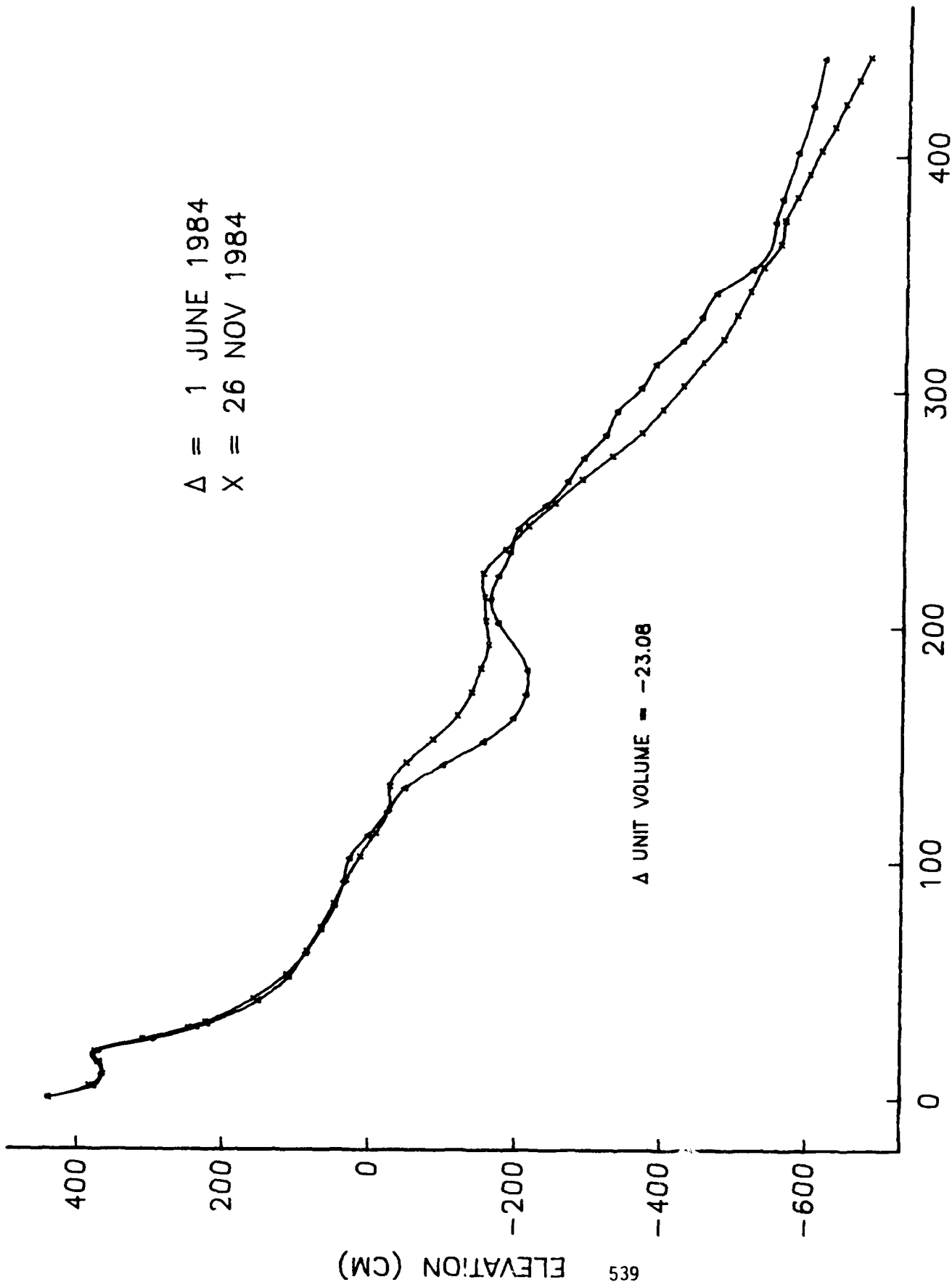
DISTANCE (M)



PROFILE OVERLAY FOR RANGE PN1180

Δ = 1 JUNE 1984
X = 26 NOV 1984

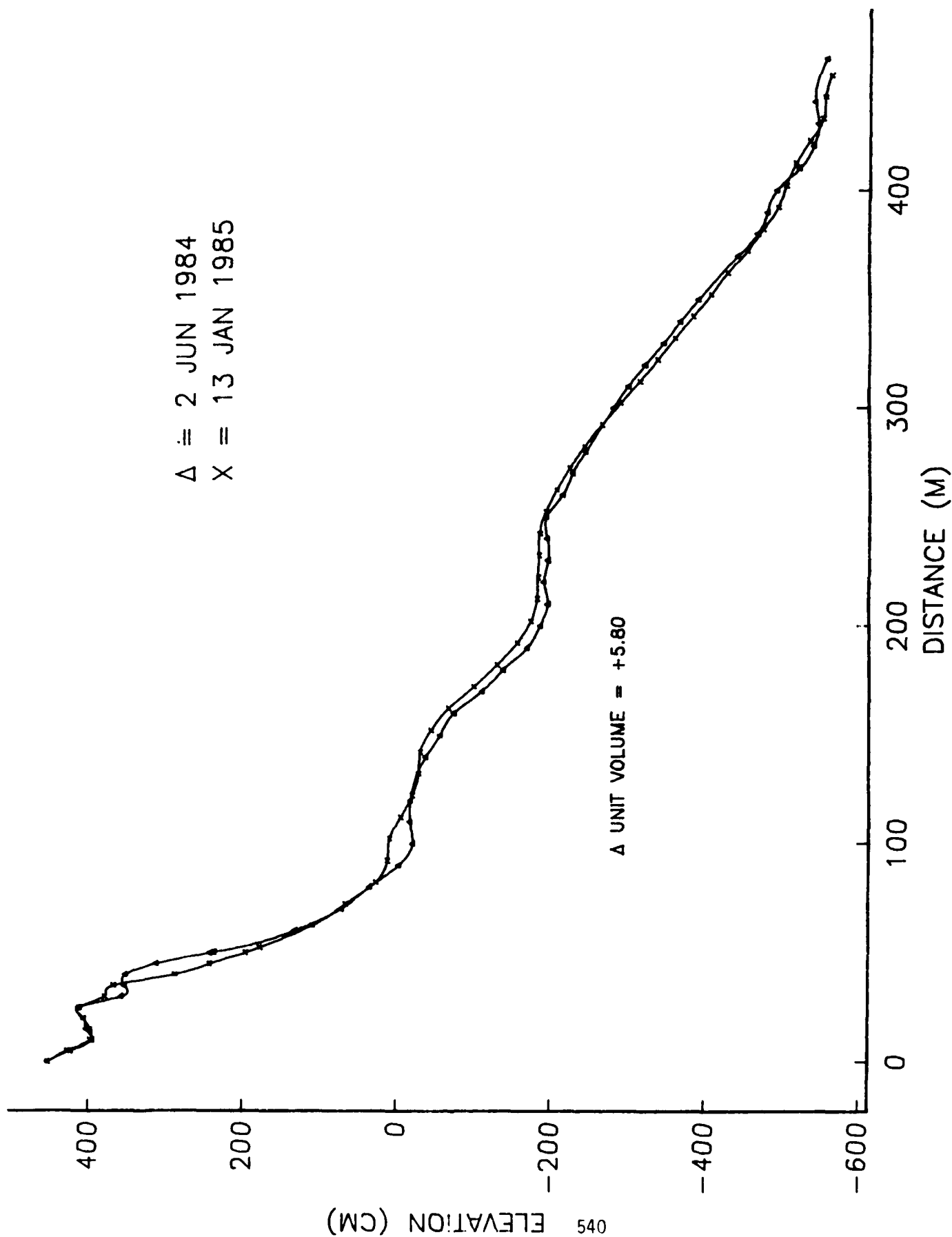
Δ UNIT VOLUME = -23.08



PROFILE OVERLAY FOR RANGE PN1240

Δ = 2 JUN 1984
X = 13 JAN 1985

Δ UNIT VOLUME = +5.80



PROFILE OVERLAY FOR RANGE PN1290

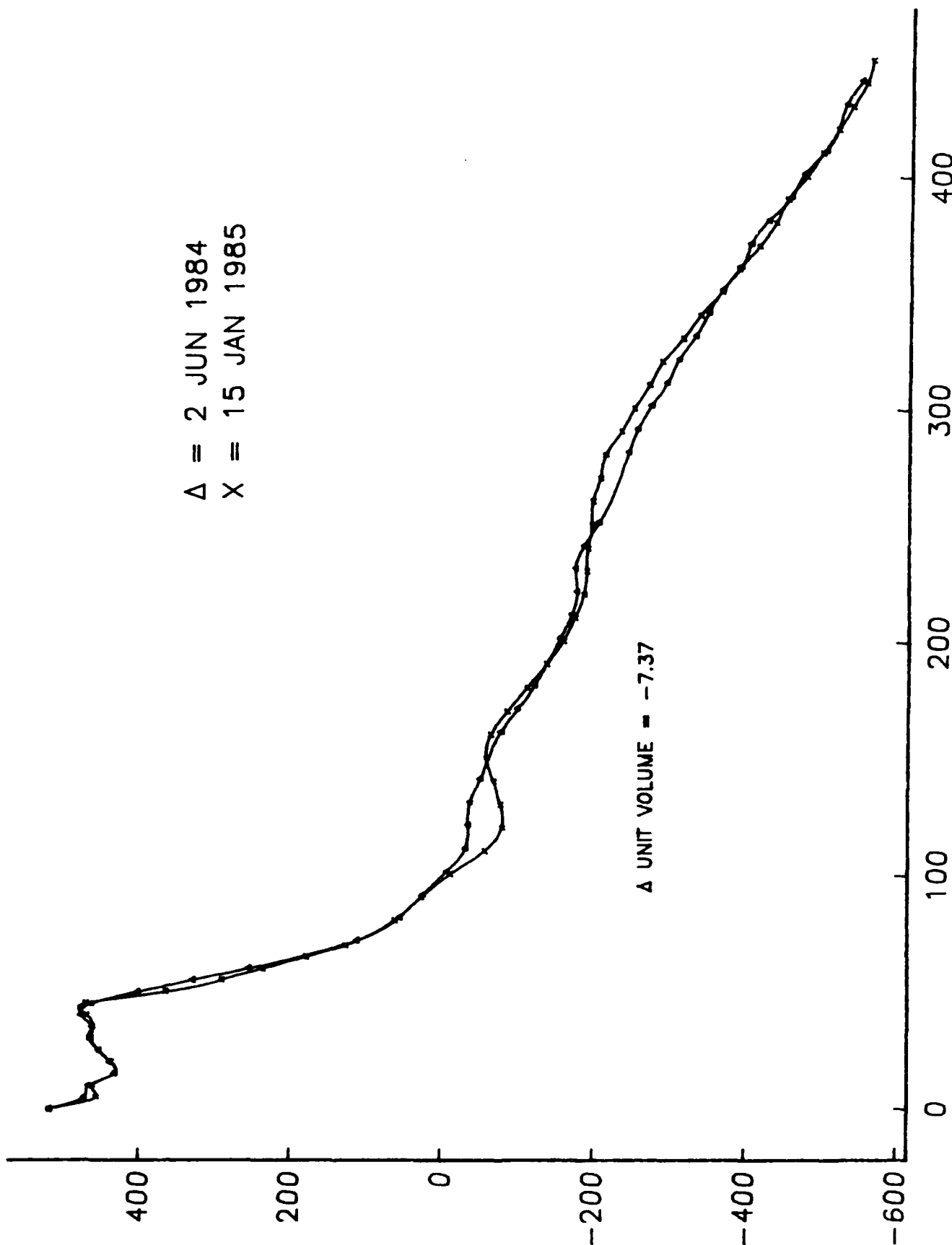
Δ = 2 JUN 1984
X = 15 JAN 1985

Δ UNIT VOLUME = -7.37

ELEVATION (CM)

541

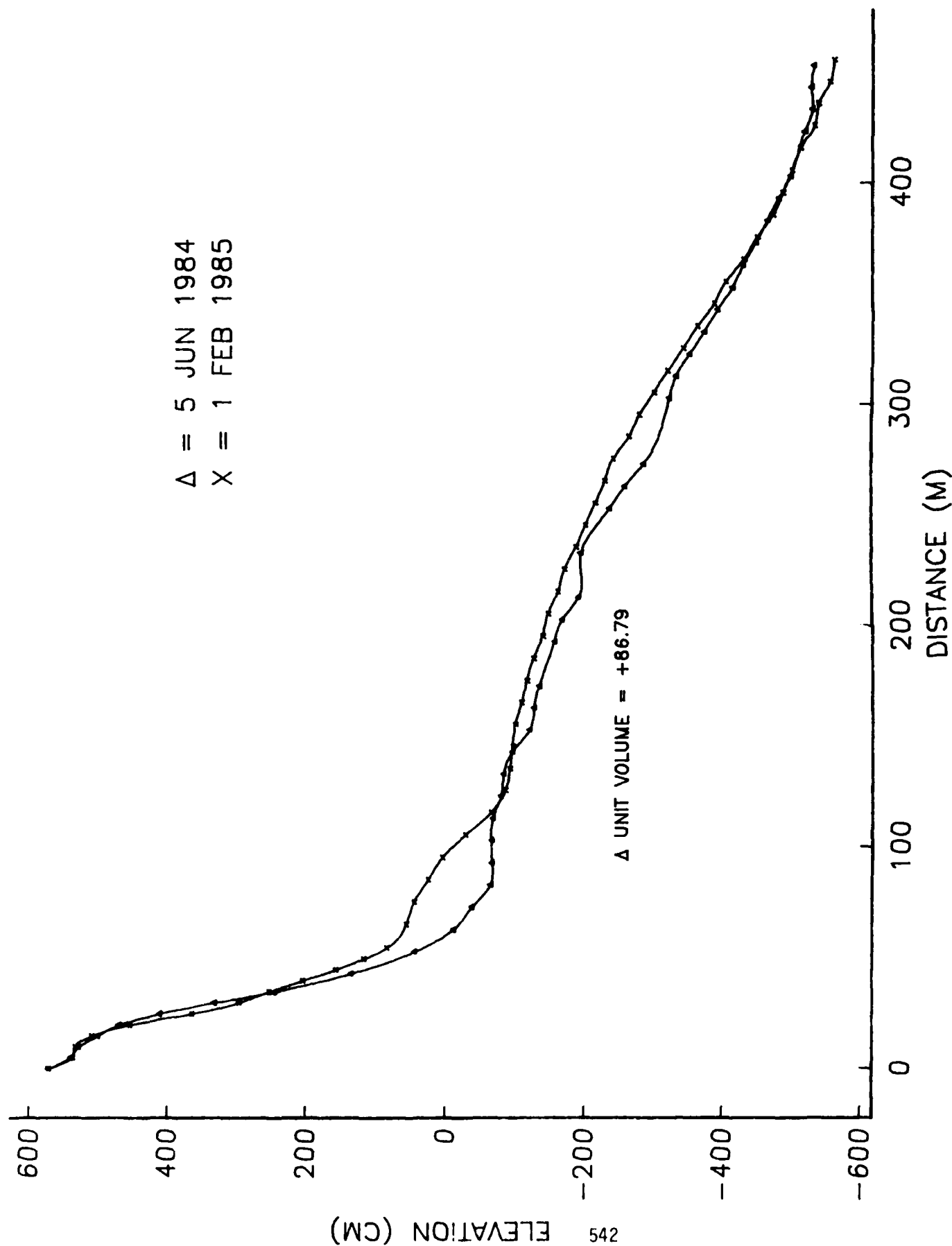
DISTANCE (M)



f

PROFILE OVERLAY FOR RANGE PN1340

Δ = 5 JUN 1984
X = 1 FEB 1985



9 Conclusions

The profile data contained in this report were obtained using a unique state of the art profiling system. Because the hydrostatic profiler measures the ocean bottom slope directly, it eliminates the vertical uncertainties associated with using sea level as the vertical datum common with other profiling methods. Additionally, highly accurate profile data were obtained through the active surf zone region. Like other profiling systems, the hydrostatic profiler does have its limitations. The present design specifications of the system limits the cable length and resulting profile to 610 meters or less. On most beaches in Southern California, 600 meters offshore will reach the 6 to 8 meter depth contour. Profiles presented in this report nearly always reached the 6 meter depth, except in rocky locations. Additionally, 85% of all profiles "closed" offshore within the contract specifications of ± 10 cm. Profiles that did not close were stations that were influenced or complicated by harbor and river delta structures. These stations will require a longer profile transect and perhaps a different profiling method, unless the design specifications of the hydrostatic profiling system are modified to accommodate a longer cable. All reference rod measurements indicate that the profiler is detecting the same small changes, if any, at the 6 meter depth and that there is positively no change at the 10 and 15 meter depths.

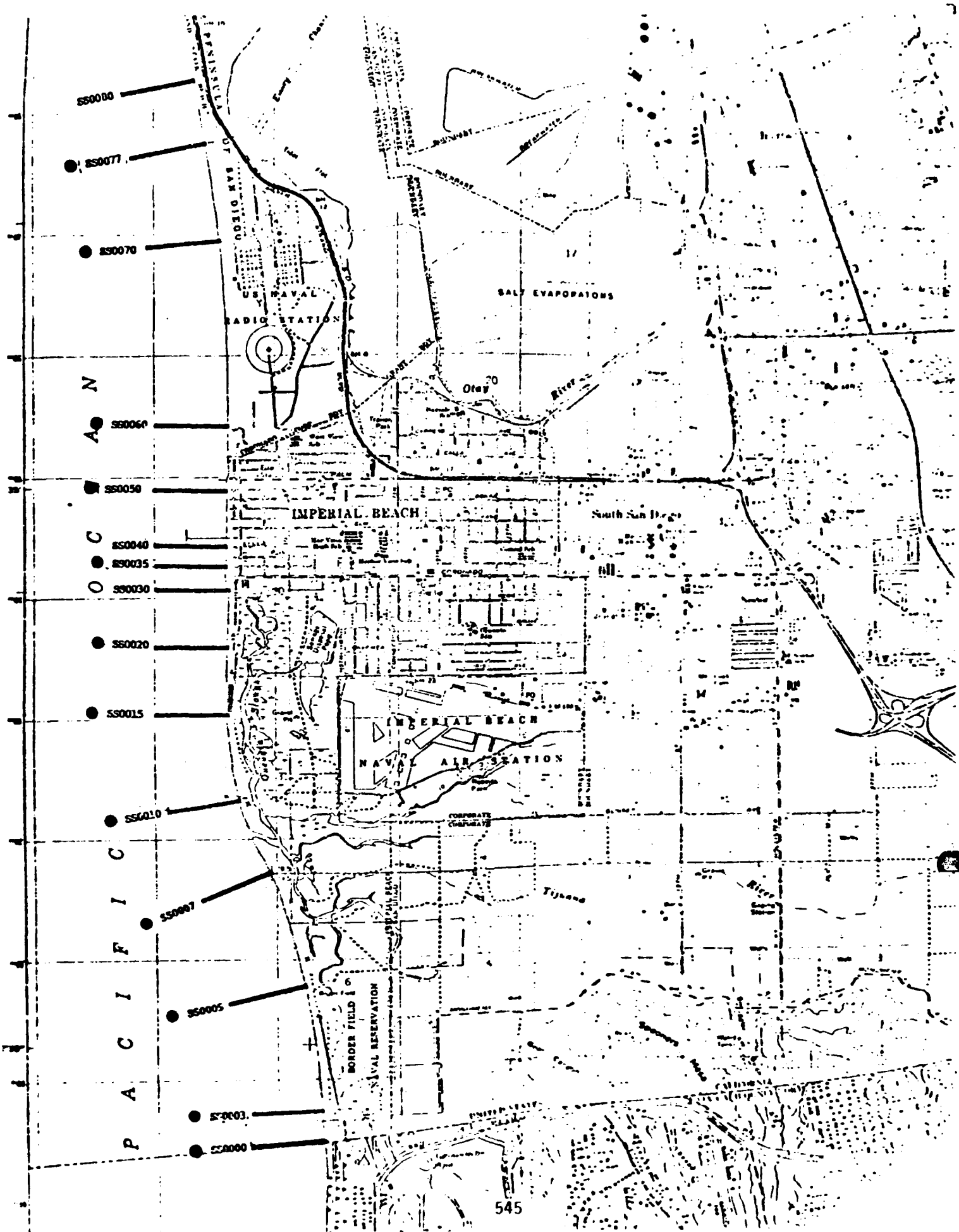
10 References

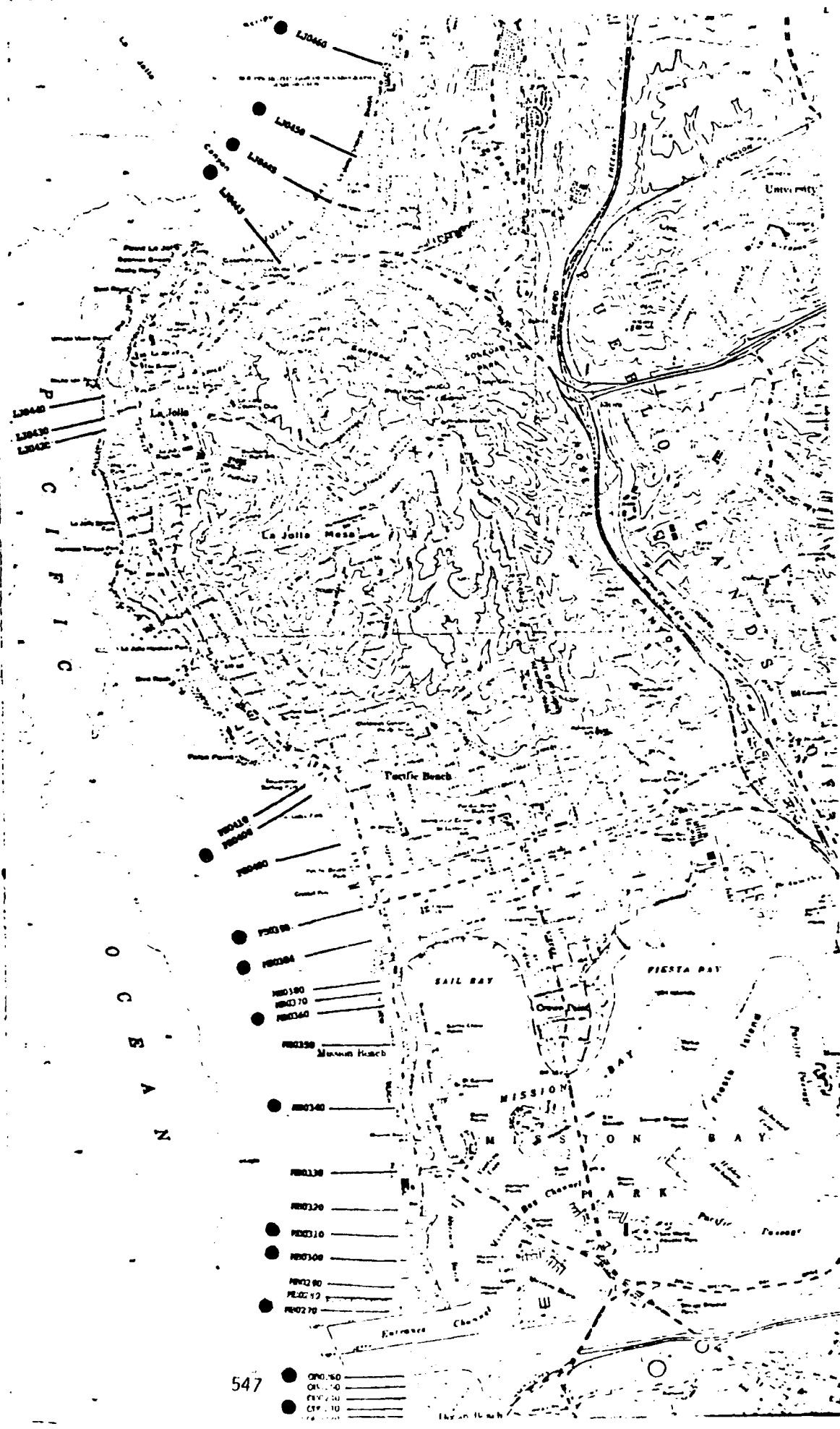
- Gable, C.G. and J.R. Wanetick: 1984. "Survey Techniques Used to Measure Nearshore Profiles", Proceedings 19th Coastal Engineering Conference, 2: 1879-1895.
- Seymour, R.J. and D.P. Bothman: 1984. "A Hydrostatic Profiler for Nearshore Surveying." *Coastal Engineering*, 8:1-14.

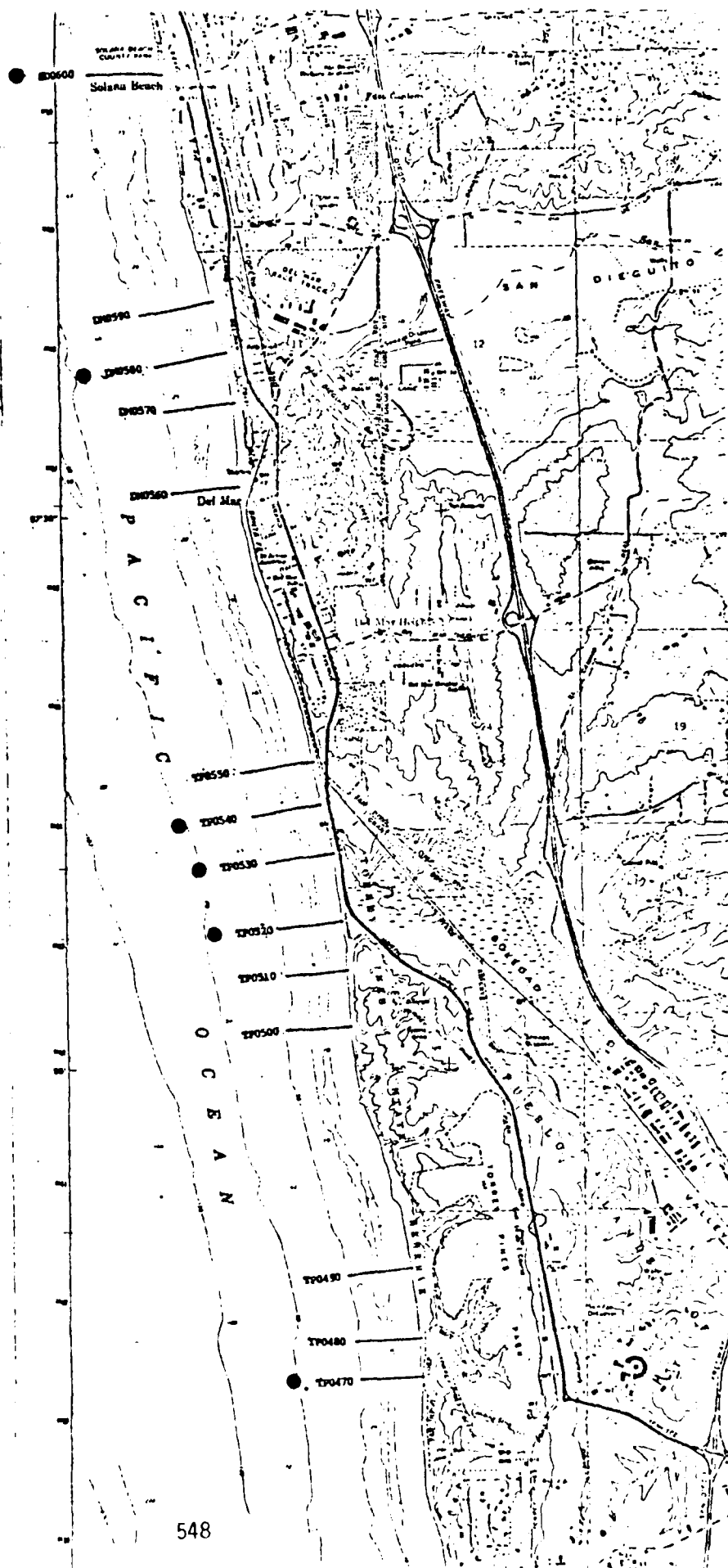
APPENDIX A

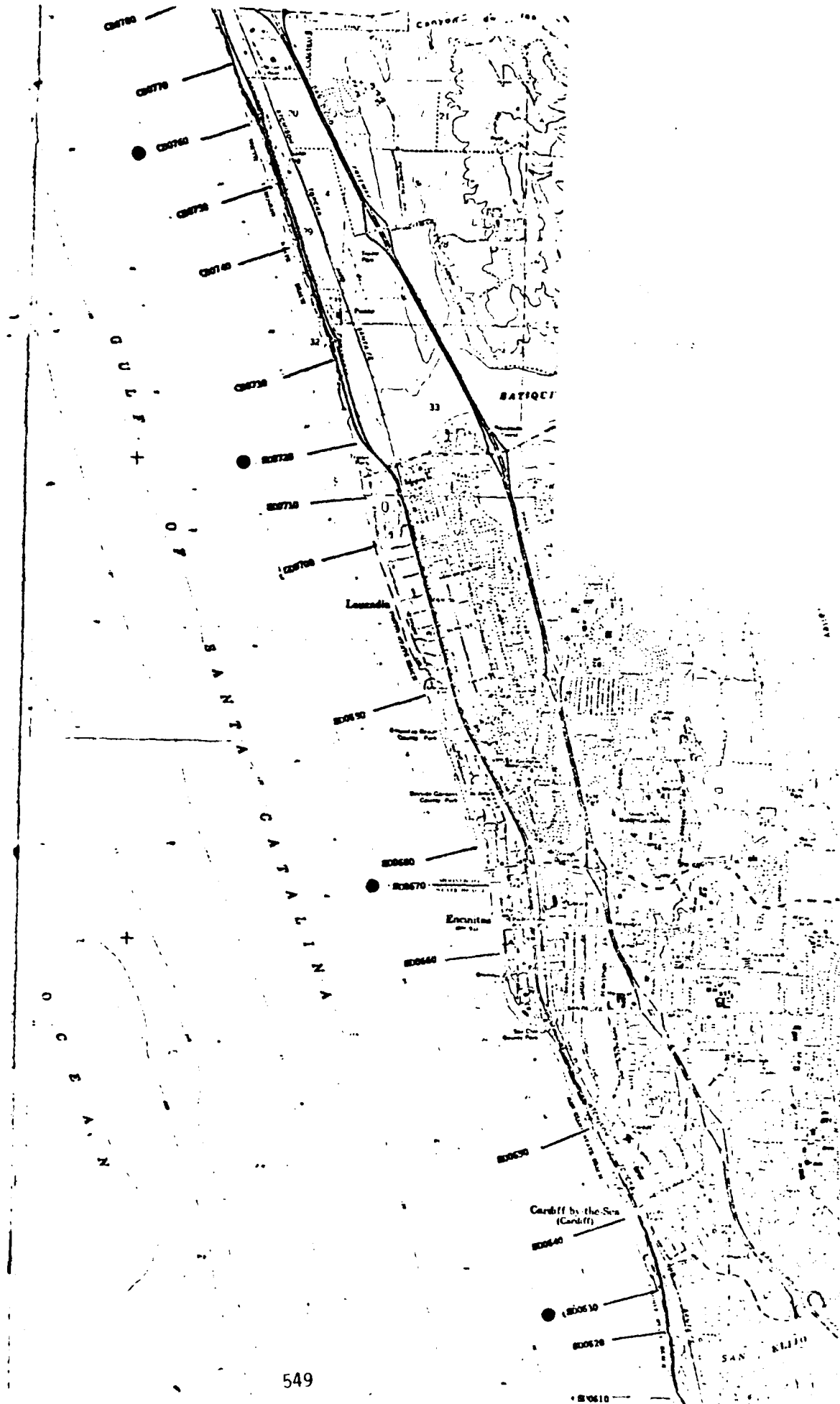
Maps of Geographic Location of Profile Range Lines

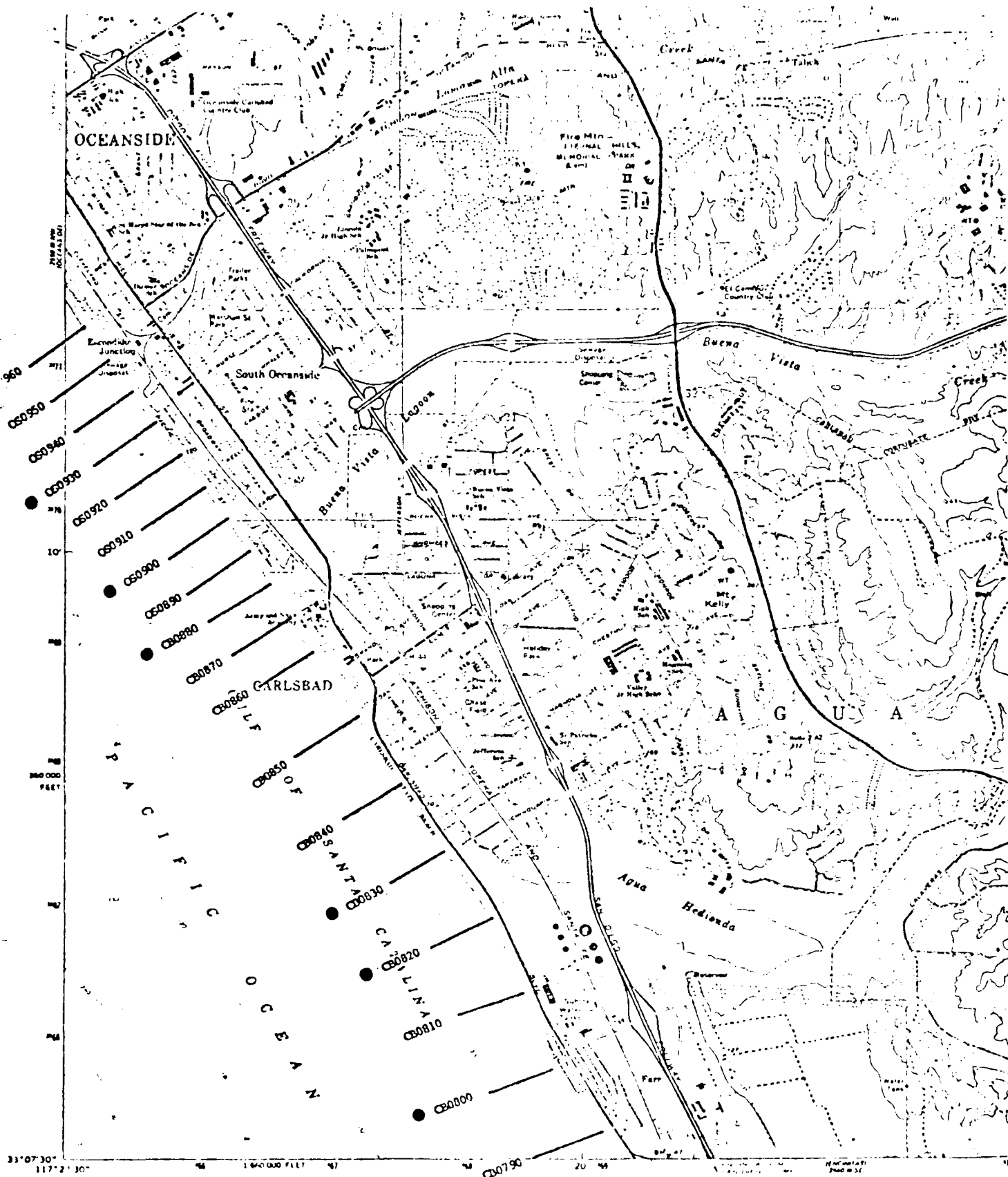
(NOTE: Rangelines denoted with dots indicate that the profile line was surveyed and included in this report.)











33°07'30"
117°21'30"

Maped, edited, and published by the Geological Survey

Control by USGS, USC&S, and USCG

Topography by photogrammetric methods from aerial photographs
taken 1946. Field checked 1948. Derived from aerial
photographs taken 1947. Field checked 1948.

Selected hydrographic data compiled from 1912-1913 surveys (1924-1934-35)

This information is not intended for navigation purposes

Projection: Universal Transverse Mercator

Horizontal datum: North American Datum

Vertical datum: Mean Sea Level

Scale: 1:24,000

550

SCALE 1:24,000

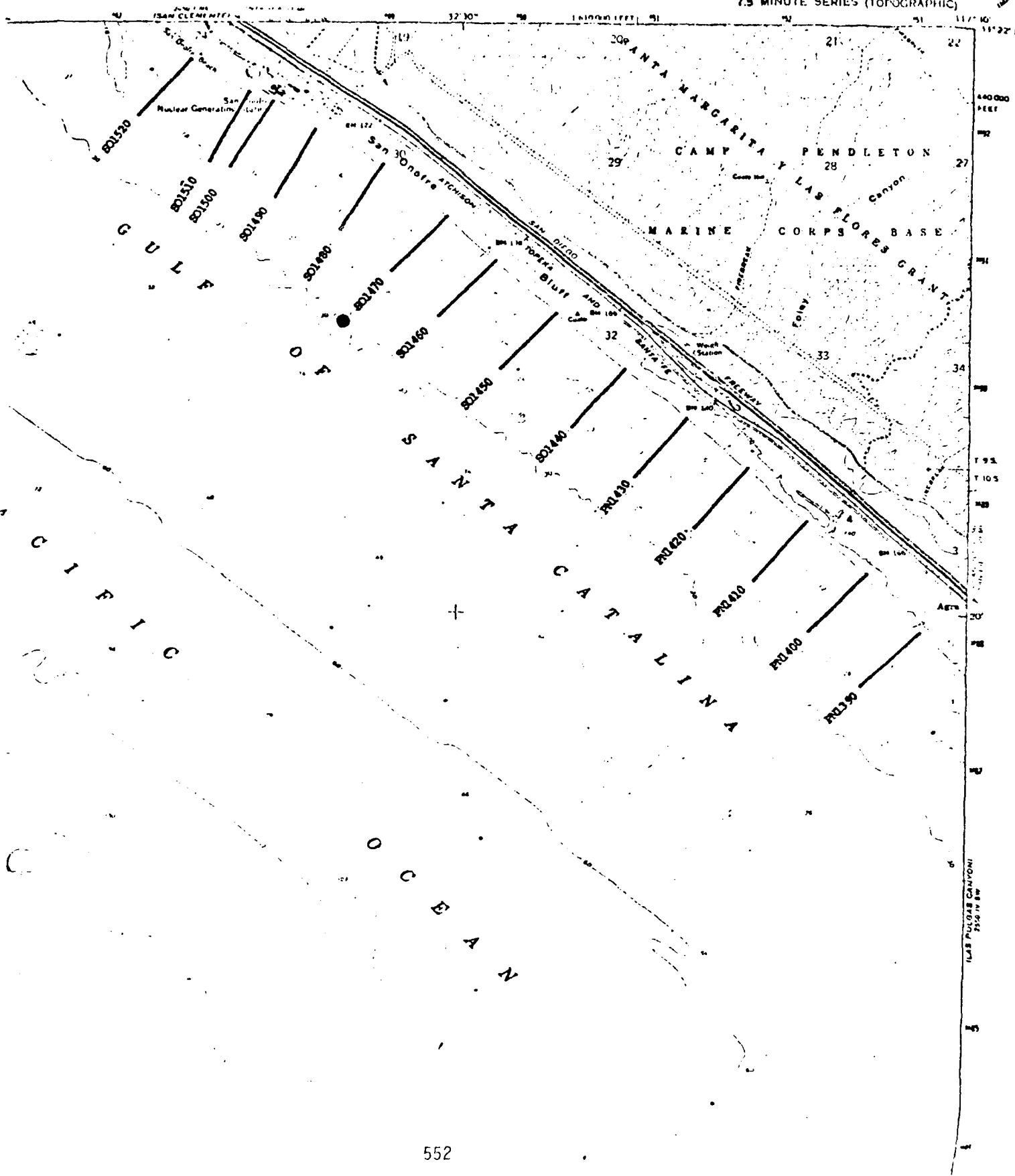
CONTOUR INTERVAL 20 FEET

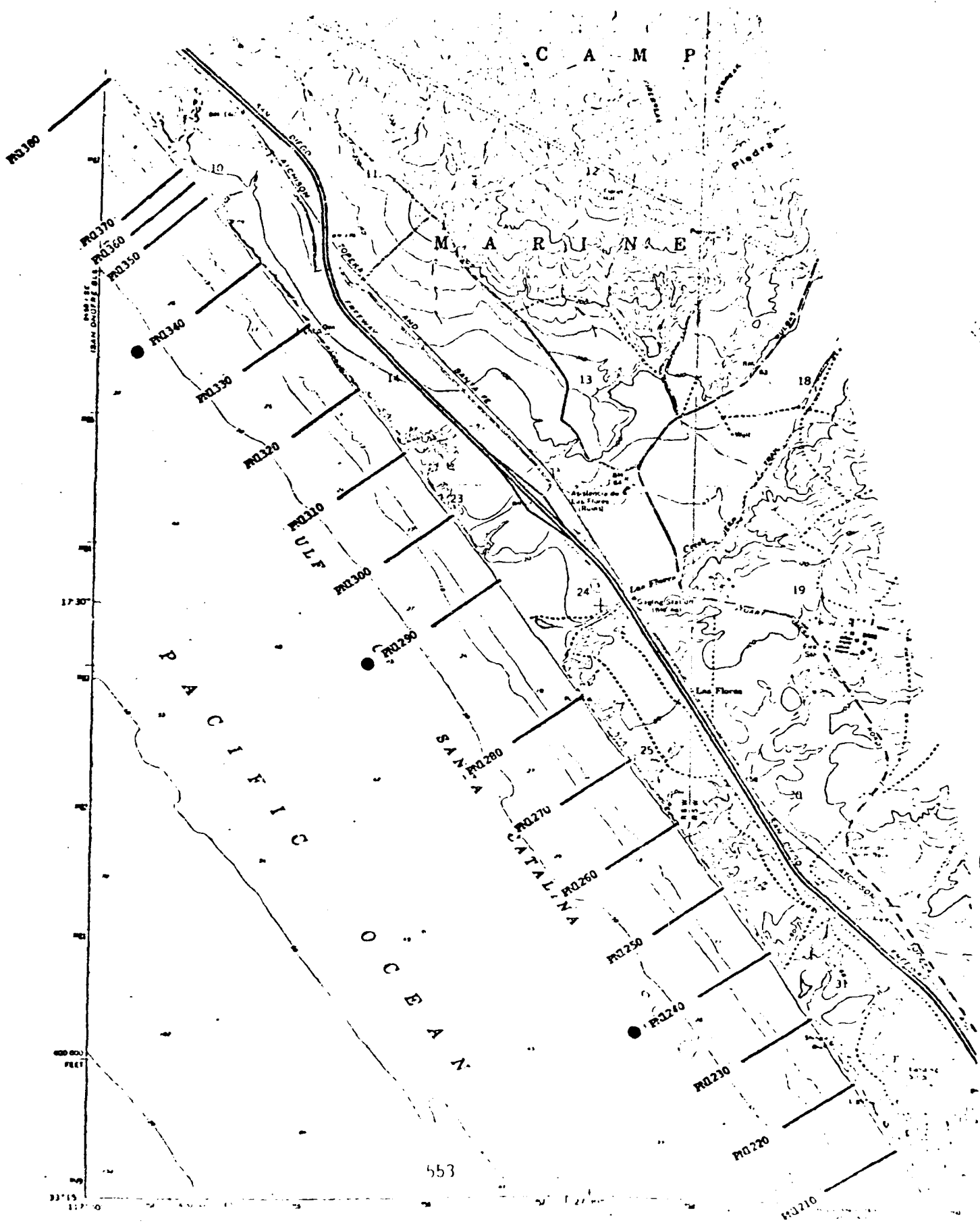
DEPTHS IN FEET
NATIONAL TIDE GAUGE STATION NO. 1000
DEPTHS IN FEET
NATIONAL TIDE GAUGE STATION NO. 1000

VERTICAL DATUM: MEAN SEA LEVEL

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

CALIFORNIA - SAN DIEGO CO
7.5 MINUTE SERIES (TOPOGRAPHIC)







P A C I F I C

O C E A N

G U L F

O F

S A N T A

C A T A L I N A

Dan's Point

Dan's Point

SAN JUAN

ARCHERSON

Capistrano Beach

DB1890
DB1880
DB1870
DB1860
DB1850
DB1840
DB1830
DB1820

DB1810
DB1805
DB1800

DB1790

DB1780

DB1770

DB1760

DB1750

DB1740

SC1730

SC1720

SC1710

SC1700

SC1690

CAPISTRANO

RIGHT

SAN CLEMENTE

APPENDIX B

California Lambert Coordinates and Magnetic Range Azimuth for Profile Range Lines.

California Lambert Coordinates

Zone 6

RANGE I.D.	NORTHING	EASTING	RANGE AZIMUTH MAGNETIC
	(NOTE: PRELIMINARY VALUES UNLESS * = EXACT)		
SS0000	*135,139	*1,731,071	257
SS0003	135,800	1,730,900	250
SS0007	*142,422	*1,729,586	255
SS0010	*144,432	*1,728,702	255
SS0015	146,600	1,728,400	260
SS0020	*148,287	*1,728,348	264
SS0035	150,600	1,728,400	255
SS0050	*152,672	*1,728,389	250
SS0060	*154,110	*1,728,478	215
SS0070	*159,526	*1,728,486	250
SS0077	162,200	1,727,800	245
SS0090	168,500	1,726,300	250
SS0100	*172,259	*1,725,135	240
SS0110	*175,538	*1,724,068	230
SS0125	180,200	1,720,800	230
SS0140	*185,880	*1,716,494	215
SS0160	189,200	1,711,800	195
SS0170	*190,733	*1,708,765	180
SS0180	190,600	1,705,800	170
SS0200	*190,326	*1,702,229	150
OB0230	214,300	1,691,900	257
OB0260	215,300	1,692,000	250
MB0270	217,300	1,691,600	258
MB0300	218,900	1,691,800	260
MB0310	219,700	1,691,800	257
MB0340	223,600	1,691,700	257
MB0360	227,300	1,691,500	246
MB0384	228,900	1,691,000	257

California Lambert Coordinates

Zone 6

RANGE I.D.	NORTHING (NOTE: PRELIMINARY VALUES UNLESS *= EXACT)	EASTING	RANGE AZIMUTH MAGNETIC
PB0390	230,000	1,690,800	240
PB0408	233,500	1,689,300	228
LJ0443	251,000	1,689,900	275
LJ0445	251,900	1,690,400	280
LJ0450	253,400	1,691,200	290
LJ0460	256,300	1,692,000	276
TP0470	*265,721	*1,692,272	256
TP0520	*280,557	*1,690,037	250
TP0530	280,400	1,690,000	250
TP0540	281,700	1,689,700	275
DM0560	290,440	1,688,000	247.5
DM0580	294,100	1,687,600	
DM0590	295,520	1,687,360	
SD0600	*301,605	*1,686,125	250
SD0630	*309,030	*1,684,635	238
SD0640	311,660	1,683,400	235
SD0670	*321,964	*1,679,134	245
CB0720	335,500	1,674,600	242
CB0760	*346,434	*1,671,305	235
CB0780	349,880	1,669,900	226
CB0800	*352,588	*1,667,803	225
CB0820	*356,564	*1,666,304	231
CB0830	*358,416	*1,665,087	225
CB0880	*364,597	*1,661,169	221
OS0900	366,600	1,659,700	223
OS0930	368,900	1,651,800	221
OS0960	*371,605	*1,656,246	221
OS0990	*373,718	*1,654,709	221

California Lambert Coordinates

Zone 6

RANGE I.D.	NORTHING (NOTE: PRELIMINARY VALUES UNLESS * = EXACT)	EASTING	RANGE AZIMUTH MAGNETIC
OS1000	374,500	1,654,200	221
OS1030	*377,066	*1,652,325	221
OS1050	378,500	1,648,720	221
OS1070	380,000	1,650,000	221
PN1080	383,700	1,647,500	226
PN1110	*386,302	*1,646,357	225
PN1120	*387,136	*1,645,702	226
PN1140	388,220	1,655,680	225
PN1160	389,800	1,643,160	225
PN1180	*392,545	*1,641,624	225
PN1210	397,840	1,638,120	225
PN1240	*402,762	*1,634,866	225
PN1290	*412,247	*1,628,245	225
PN1310	415,440	1,625,600	222
PN1340	*420,010	*1,622,399	225
PN1380	431,600	1,600,000	215
PN1410	429,120	1,614,360	211
PN1440	433,040	1,609,760	210
SO1470	437,000	1,605,300	210
SO1500	439,840	1,600,800	203
SO1530	442,900	1,597,300	225
SO1570	444,800	1,594,000	198
SO1590	445,700	1,591,000	205
SO1600	446,900	1,589,300	230
SC1623	452,100	1,586,800	225
SC1640	454,800	1,584,400	223
SC1660	457,900	1,582,300	225
SC1680	460,000	1,580,000	203
SC1700	462,600	1,578,500	215
SC1720	465,400	1,576,100	208

California Lambert Coordinates
Zone 6

	NORTHING	EASTING	RANGE AZIMUTH MAGNETIC
RANGE I.D.	(NOTE: PRELIMINARY VALUES UNLESS * = EXACT)		
SC1780	470,400	1,568,700	195
DB1740	467,920	1,600,000	215
DB1805	471,700	1,567,300	210
DB1850	473,900	1,563,800	186
DB1890	474,040	1,561,680	170
DB1895	--	--	210
DB1900	--	--	240

END
DITIC

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