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UHRIG,R.E. FLORIDA POWER & LIGHT CO.
RECIP.NAME RECIPIENT AFFILIATION
STELLO,V. DIVISION OF OPERATING REACTORS

SUBJECT: FORWARDS RESULTS OF STEAM GENERATOR INSP CONDUCTED DURING CURRENT OUTAGE:NO NEWE OR UNEXPECTED PHENOMENA FOUND.GENERAL PATTERN OF DENTING FOUND TO BE WITHIN PREDICTABLE LIMITS. REQUESTS PERMISSION TO RETURN UNIT TO POWER OPERATION.

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FLORIDA POWER & LIGHT COMPANY

March 6, 1979
L-79-51

Office of Nuclear Reactor Regulation
Attention: Mr. Victor Stello, Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stello:

Re: Turkey Point Unit 3
Docket No. 50-250
Steam Generator Inspections

The results of the Turkey Point Unit 3 steam generator inspections conducted during the current outage are attached. The inspections which were performed in accordance with Turkey Point Unit 3 operating license DPR-31 showed no new phenomena and verified that the general pattern of denting in Unit 3 is within predictable limits and consistent with previous inspections of the Turkey Point Units.

The general criteria applied for steam generator inspections and preventive plugging are the same as previously applied to Turkey Point Units 3 and 4, with an additional plugging criterion included to provide more conservatism. The additional tubes to provide in excess of 10 months of operation have been plugged. This approach provides reasonable assurance of steam generator tube integrity such that safe operation of the unit during normal full power operation and during hypothetical accident conditions is assured for an operating period in excess of 10 effective full power months. Therefore, the implementation of this program, with the resulting preventive plugging, enables continued safe full power operation of Turkey Point Unit 3 for a period in excess of 10 months.

Total steam generator tube plugging at the conclusion of the current outage will be approximately 17.5%. This is conservatively bounded by the 25% tube plugging ECCS analysis which has been previously submitted.

The results of this inspection and the preventative tube plugging program have been reviewed by the Turkey Point Plant Nuclear Safety Committee and the Florida Power & Light Company Nuclear Review Board. They have concluded that based on the inspection results, the implemented plugging pattern, and previously submitted analysis, that the return of Turkey Point Unit 3 to full power operation for at least 10 effective months does not involve an unreviewed safety question.

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In accordance with condition E4 of operating license DPR-31, Florida Power & Light Company requests permission to return Unit 3 to power operation. Based on our current schedule, we will be ready to resume power operation by April 1, 1979.

Very truly yours,

Robert E. Uhrig
Vice President

REU:GDW:cf
Attachment

cc: Mr. James O'Reilly, Region II
Robert Lowenstein, Esquire

TURKEY POINT 3 STEAM GENERATOR

INSPECTION PROGRAM

I. Introduction

An extensive inspection program for the Turkey Point Unit 3 steam generators was conducted in January and early February, 1979. The following items were accomplished:

1. gauging of steam generator hot legs and cold legs - all steam generators
2. measurements of visible flow slots in all steam generators
3. annulus measurements of steam generator B
4. eddy current inspection of small radius U-bends in steam generator B
5. Regulatory Guide 1.83 eddy current measurements in the hot legs and cold legs of all steam generators
6. preventive plugging

Table I is a summary of the approximate number of steam generator tubes inspected in each category and in each steam generator.

Table I: Summary of Total Steam Generator Tubes Inspected

	A Hot Leg	A Cold Leg	B Hot Leg	B Cold Leg	C Hot Leg	C Cold Leg
Gauging	1399	322	1264	221	1404	294
U-Bend Rows 2-5	-	-	-	151	-	-
R.G. 1.83	163	164	169	116	170	400

This report summarizes the inspections conducted, the results of these inspections, and preventive plugging programs accomplished.

II. Inspection Programs

A. Gauging Program

The tube gauging program in the tubelane area is based on expected regions of high tube deformation. These regions are determined by the finite element analysis which, when combined with tube strain tests, yields tube hoop strains versus tube location and extent of plate deformation. Initially, the 12.5% strain boundary was used in the gauging

program when little plant specific data was available. After two initial inspections and three reinspections of the Turkey Point plants, we now have the benefit of plant specific information which indicates the conservatism of the 12.5% boundary and the adequacy of the 15% boundary. That is, the majority of the tubes inspected do not restrict the .650 inch probe. In addition, all tubes restricting the .610 inch or .540 inch probe have fallen well within the inspection boundary. This is significant since the .610 inch and the .540 inch restricted tubes form the basis for the plugging patterns in the tubelane region.

Since full closure was observed in Turkey Point 3 steam generators during the December 1977 inspection, Turkey Point 3 is regarded as beyond full closure by approximately 9.5 EFPM's. The tube hoop strain contours estimated for 9.5 EFPM's beyond full closure were utilized to determine the 15% boundary for the inspection in the tubelane region. Additional inspection programs were defined for the periphery, wedge, and patch plate regions. These programs were based on previous leaker histories at the Turkey Point and Surry sites, as well as previous gauging results at the Surry and Turkey Point sites, as deemed appropriate. Due to the current awareness of the potential for tube deformation on the cold leg side, inspections were performed in all three steam generator cold legs.

The inspection boundary for the December 1977 inspection (Figure 1) is included for reference. The gauging inspection boundaries for the January 1979 inspection are indicated in Figure 2 (typical hot leg) and Figure 3 (typical cold leg).

It should be noted that the cold legs and certain peripheral wedge areas in the hot legs were inspected for the first time in January 1979.

The following additional conservatisms were utilized in determining the Turkey Point 3 inspection boundary:

1. In the tubelane area it is estimated that the 15% strain boundary at 9.5 EFPM beyond full closure extends to approximately the 8th row. The inspection boundary for this inspection extended to the 10th row.

2. If a restricted tube was found close to the inspection boundary, the inspection was expanded in that area.

B. Flow Slot Measurements

Photographs were taken in each steam generator through the secondary handholes. These photographs were then utilized to measure the openings in the visible flow slots. Results are discussed in Section III. Flow slot measurements are utilized in the finite element analysis work and are an indicator of the present status of denting in the steam generators.

C. Other Denting Related Inspections

The U-bends of unplugged tubes in rows 2 thru 5 in steam generator B were examined using 100 KHZ eddy current testing. These inspections are performed to confirm the integrity of the small radius U-bends in low number rows. In addition, annulus measurements were taken in steam generator B. These measurements provide a qualitative indicator of the upper plate expansion trends in the most affected steam generator. This is the second such measurement of this type for steam generator B.

D. Regulatory Guide 1.83 (R.G. 1.83) Inspection

The types and extent of inspections required in this area are specified in R.G. 1.83. Typical inspection plans are included (Figures 4 and 5). During the inspections, expansions of the programs in steam generators A and C were accomplished as per R.G. 1.83. Results of the inspection are discussed later in this report.

III. Inspection Results

A. Gauging Programs

Results of the gauging inspections are indicated in Figures 6, 7, 8, 9, 10, and 11 and are summarized in Table 2.

Table 2: Tube Restriction Summary

	Tubelane		Periphery and Wedge	
	Hot Leg	Cold Leg	Hot Leg	Cold Leg
SG A				
.650"	49	-	36	-
.610"	19	4	15	0
.540"	8	0	4	0
SG B				
.650"	15	-	12	-
.610"	15	2	11	2
.540"	8	3	4	3
SG C				
.650"	50	-	35	-
.610"	35	3	14	2
.540"	3	0	8	11

Summary comments resulting from the review of this and other data are as follows:

1. Tubes in the tubelane region that restrict the 0.650 inch probe or less lie within the 15% strain boundary.

2. Tubes in the tubelane region restricting 0.540" probe (hot leg and cold leg) fell into the following categories by location:

(a) Row 2	8 tubes
(b) Adjacent to hard spots	9 tubes (row 4 or below)
(c) Adjacent to center of flow slots	5 tubes (SG A only-row 6 or below)

Tubes in category (c) were clustered in areas of previously low activity in S.G. A indicating S.G. A is becoming more consistent with S.G.'s B and C in these areas.

3. In steam generators A, B, and C, restricted tubes developed adjacent to previous activity or clustered together with other new activity. This was particularly true of tubes that restricted the 0.610" and 0.540" probes. Areas of activity were consistent with past historical data for this and other plants. Areas of note were Columns 1-15 and 77-92 near the flow slots which finite element analysis predicts should progress much more rapidly than other flow slot areas. The wedge and tubelane interaction is apparently causing the finite element analysis to over predict this reaction since the activity in this area is consistent with the remainder of the tubelane flow slots. It is intended that in future inspections this area will be plugged under the same criteria as the rest of the tubelane area.

4. Tube restrictions were noted in the inspected wedge areas (hot leg and cold leg) of all steam generators and this activity appears consistent with previous experience at this and other units. It should be noted that the majority of restrictions were in areas not previously inspected (i.e. wedge areas - see Figure I) and hence are not indicative of the degree of restrictions formed over the last 9.5 effective full power months.

5. In this, the initial inspection of the cold leg areas, relatively few tube restrictions were noted in the tubelane region as compared to the hot leg. Activity was noted in the one cold leg wedge area inspected and

this activity was consistent with activity noted previously in the Turkey Point Unit #4 inspection. The overall level of activity indicates that the activity grows at a very slow rate as compared to the hot leg.

6. During the 9.5 EFPM of operations, one leakage event occurred in July, 1978. The leakage was attributed to one Row 2 tube in steam generator C. No evidence of leakage was noted just prior to the current shutdown. However, during the post-weld repair hydrostatic checks of steam generator B, three slow "drippers" were noted in the hot leg wedge regions. These "drippers" were plugged in accordance with the wedge plugging criteria covering leaking tubes. The hydro also revealed 5 damp plugs in S/G B. It was decided that it was not necessary to weld repair these plugs.

7. A previously existing plug mismatch was detected and then corrected by explosively plugging the vacant tube end (S/G A inlet side).

B. Flow Slot Measurements

The results of the flow slot measurements are indicated in Figure 12. Only the first (lower) tube support plate was visible in each steam generator. The plots indicate that plate expansion is proceeding consistently with previous behavior.

C. Other Denting Related Inspections

The U-bends of unplugged tubes in row 2 thru 5 in steam generator B were examined at 100 KHZ. No indications were noted in these small radius U-bends.

Annulus measurements were recorded in steam generator B. Being that this was only the second such measurement and allowing for the accuracy of the equipment, no obvious trends were noted. This technique is intended to monitor for large deviations from anticipated behavior and in this light none were noted.

D. Regulatory Guide 1.83 Inspection Results And Evaluation

The Reg. Guide 1.83 inspection resulted in plugging a total of 33 tubes based upon a plugging criterion of 40% (or greater) wall thinning. Table 3 summarizes the distribution of plugged tubes.

As an additional conservatism, an evaluation of the past and current eddy current data was performed to verify that thinning rates were not accelerating. The evaluation

resulted in no evidence that thinning rates had increased.

IV. Plugging Criteria

A. Gauging Program

The progression of strain contours over the intended operating period is utilized as the basis for preventive plugging of tubes in the tubelane region which are located in rows beyond 0.540" restricted tubes. In earlier inspections, the closeness of the strain contour lines prevented identification of the appropriate contour which most reasonably indicated the extent and progression of tubes with greatest deformation. Initially, the 15% strain contour was chosen when limited plant specific data was available and the strain contour lines indicated by finite element analysis fell close together on the plots. A review of the relationship between the most restricted tubes at Turkey Point Units 3 and 4 and the finite element analysis strain contours indicates that the 17.5% strain contour more realistically estimates the boundary of these restricted tubes.

The growth of this contour was evaluated and a conservative rate of growth for a ten month operating period was determined. That is, three rows should be plugged over most of the tubelane and up to six rows at the outside columns. Again, it should be pointed out that there have been numerous cases of tubes restricting the 0.540 inch probe for some time and not leaking.

The criterion established for plugging tubes in the region of the patch-plate differs from that used for other regions of the bundle. All leaks in the patchplate region have occurred at the perimeter of the plate or near the patchplate boundary, where plug welds connect the patchplate to the main body of the bundle. All observed data still indicate that the phenomenon at the patchplate is local in nature and should not be attributed to the general strained state of the plate nor can the phenomenon be represented by the finite element model. While the hoop strains in this region do not appear high enough in themselves to cause severe tube deformation, they apparently are high enough to act as catalysts for the local phenomenon which occurs at the patchplate. Due to these factors, the region of the patchplate should have its own inspection program and a corresponding plugging criteria. Because of the fact that leakers in this region have not always restricted 0.540 inch probes, leakers and tubes that restrict the 0.540 inch probe should be treated alike, and the surrounding tubes about both should be plugged. In addition, tubes that restrict the 0.610 inch probe should be plugged and tubes on either side of the patchplate boundary (plate perimeter on one side, the plug welds on the other three sides) that restrict the 0.650 inch probe should be plugged.

Finally, due to the local plate cracking that is believed to occur at the periphery and near wedge locations, tube leaks may occur here at lower levels of tube restriction than in the tubelane. Thus, the wedge areas should have their own inspection program and plugging criteria. The plugging criteria at hot leg wedge locations calls for treating leakers and tubes that restrict the 0.540 inch probe in a similar manner. In addition, tubes that restrict the 0.610 inch probe and peripheral tubes that restrict the 0.650 inch probe should be plugged. Cold leg plugging will be based on the degree of activity noted and rates of progression observed from gauging.

In reviewing the 10 month operating period, and determining an appropriate preventive plugging pattern to justify 10 months of operation, it was decided to apply an additional basis to the plugging program which would add conservatism to the resulting plugging pattern. It was determined that this basis should rely on plant specific information rather than on finite element analysis results. Since the proposed 10 month cycle is approximately that which the unit has just completed, an evaluation of tube restriction behavior over the previous period was made. The basis of the evaluation was the comparison of the .650" restricted tubes remaining unplugged from the December, 1977 inspection and the gauging results on these tubes during this inspection. The resulting sample numbered 49 tubes. To generate a conservative prediction of behavior, tubes in this sample which currently restricted only a .650" probe were assumed to have reduced in size 40 mils (.650" - .610"). Tubes in this sample which now restricted a .610 inch probe were assumed to have reduced in size 110 mills (.650" - .540"). Tubes now restricting a .540" probe were assumed to have reduced by 150 mils, which is considered to be a conservatively high estimate. The average and conservative estimate of these reductions is calculated to be approximately 70 mils for 10 months. Thus, if a .650" restricted tube is just slightly above .610", it is conservative to assume that in 10 months, this tube could reach .540".

In applying these results, engineering judgement was exercised to choose .650" restricted tubes most likely to be close to .610". In general, tubes restricting a .650" probe located in plugging valleys and those in close proximity to .610" and .540" restricted tubes were considered for plugging.

The plugging criteria which supports at least ten months of operation are:

1. All tubes which do not pass the 0.540 inch probe will be plugged.

2. Additionally, for in excess of ten (10) months operation, three (3) tubes beyond (i.e., higher row numbers) any tube in columns 14 to 79 which did not pass the 0.540 inch probe will be plugged; for such tubes in column 1 to 13 and 80 to 92 near the tubelane, a maximum of six (6) tubes and a minimum of three (3) tubes (at the edges of the flow slot) beyond any tube which would not pass a 0.540 inch probe will be plugged.

3. All tubes which do not pass the 0.610 inch probe will be plugged.

4. The tubes in any column for which plugging under criteria (1), (2) or (3) above is implemented in the tubelane region will also be plugged in the lower row numbered tubes back to the tubelane if not already plugged.

5. As a conservative measure, tubes completely surrounding any known leaking tubes including the diagonally next tube will be plugged if not already covered by the foregoing criteria.

6. In any given column which is surrounded by columns containing tubes with significant tube restrictions or prior plugging, (thereby creating a "plugging valley" in the pattern) engineering judgement will be used to fill the bottom of the valley. In the peripheral tubelane areas near the three and nine o'clock wedges, tubes surrounded by previously plugged tubes or tubes exhibiting high deformation activity will be plugged based on engineering judgement. Particular attention was paid to .650 restricted tubes relative to the ten month operating period.

7. Additional preventive plugging will be implemented at the hot leg wedge locations. This plugging will include all tubes that:

   a. restrict the 0.540 inch probe

   b. restrict the 0.610 inch probe

   c. restrict the 0.650 inch probe at the periphery

   d. surround leakers and tubes that restrict the 0.540 inch probe including the diagonally next tube.

8. Application of the criteria specified in 7 above, will be made on the basis of engineering judgement for cold leg wedge locations.

9. Additional preventive plugging will be implemented in the patchplate region. This plugging will include all tubes that:

   a. restrict the 0.540 inch probe

   b. restrict the 0.610 inch probe

   c. surround leakers and tubes that restrict the 0.540 inch probe including the diagonally next tube

   d. lie on either side of the patchplate boundary (plate perimeter on one side, the plug welds on the other three) and restrict the 0.650 inch probe.

The ten month operating period was also evaluated relative to a postulated main steam line break accident (MSLB). In doing this, the finite element analysis plots for 11.5 and 21 EFPM beyond closure (Figures 13 and 14) were considered. These are considered to be representative of the anticipated advanced conditions of the Turkey Point Unit 3 steam generators over the next ten months operating period. It was assumed that the actual boundary of the 17.5% tube hoop strain contour in the most advanced steam generator (B) is indicated in the tubelane region by the previous plugging boundary and the present .540" restricted tubes. Using the finite element analysis results above, the advancement of the 17.5% tube hoop strain contour over the next ten months was estimated to be 1.8 rows. Using the fact that there are 92 tubes in a row, the total predicted tubes in the tubelane region lying within the 17.5% strain contour at the end of the next ten months is:
1.8 rows in ten months x 92 tubes per row = 166 tubes

Subtracting out the tubes that were preventively plugged in this area in steam generator B, this outage (53), results in a total of 113 unplugged tubes within the 17.5% strain contour at the end of the ten month operating period. Assuming one intersection involvement per tube and assuming these tubes would leak during a postualted main steam line break, the total resulting leakage from these tubes would be:

$$113 \text{ tubes} \times 0.05 \frac{\text{GPM}}{\text{tube}} = 5.65 \text{ GPM}$$

This added to the 0.3 GPM leakage assumed to be present at the start of a postulated main steam line break (which would increase to approximately 0.7 GPM due to MSLB differential pressures) yield a total leakage less than 10 GPM, which has been determined in previous submittals to be an acceptable level of leakage during a postualated MSLB.

B. Regulatory Guide 1.83

The criteria for plugging tubes in this area are established in the regulatory guide.

C. Preventive Plugging Accomplished

The preventive plugging programs that were implemented are indicated in Figures 15, 16, and 17. Both gauging and Regulatory Guide 1.83 program plugging are indicated. Table 3 summarizes this plugging.

Table 3: Summary of Tubes Plugged

	Gauging	R.G. 1.83
SG A	167	19
SG B	151	5
SG C	209	9
TOTALS	527	33

NOTE: The above figures do not include 10 tubes which were erroneously plugged (3 tubes in S/G B & 7 tubes in S/G C).

SERIES 44

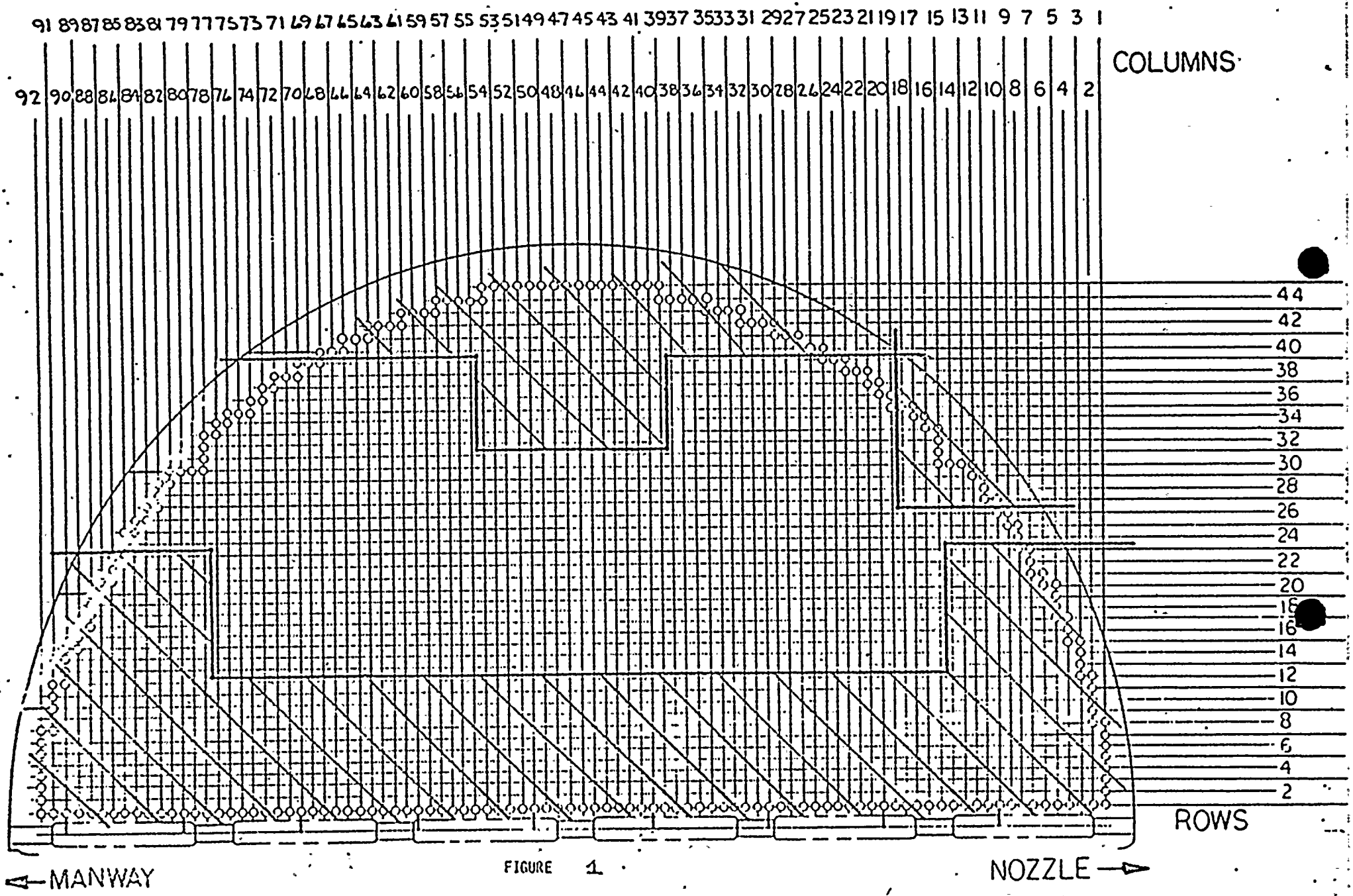


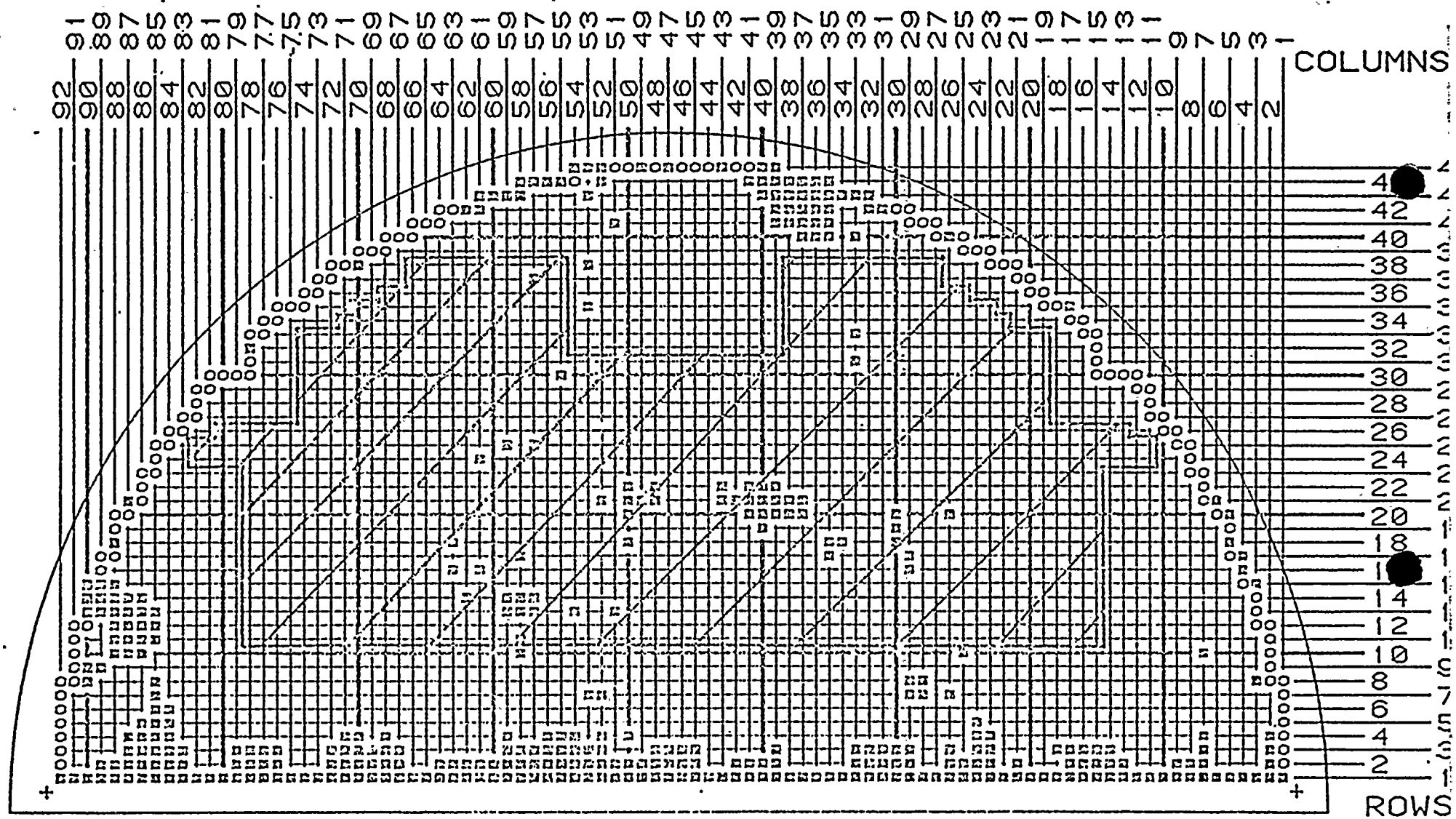
FIGURE 1

TURKEY POINT UNIT 3 GAUGING PROGRAM - DEC 77
(HOT LEG)

SERIES 44

FPL-A

INLET



GAUGE ALL TUBES OUTSIDE SHADED AREA TO TOP SUPPORT WITH .650, .610 OR .540 PROBES AT 400 KHz.
TECH. SUP. 2 ; 1399 TUBES

FIGURE 2

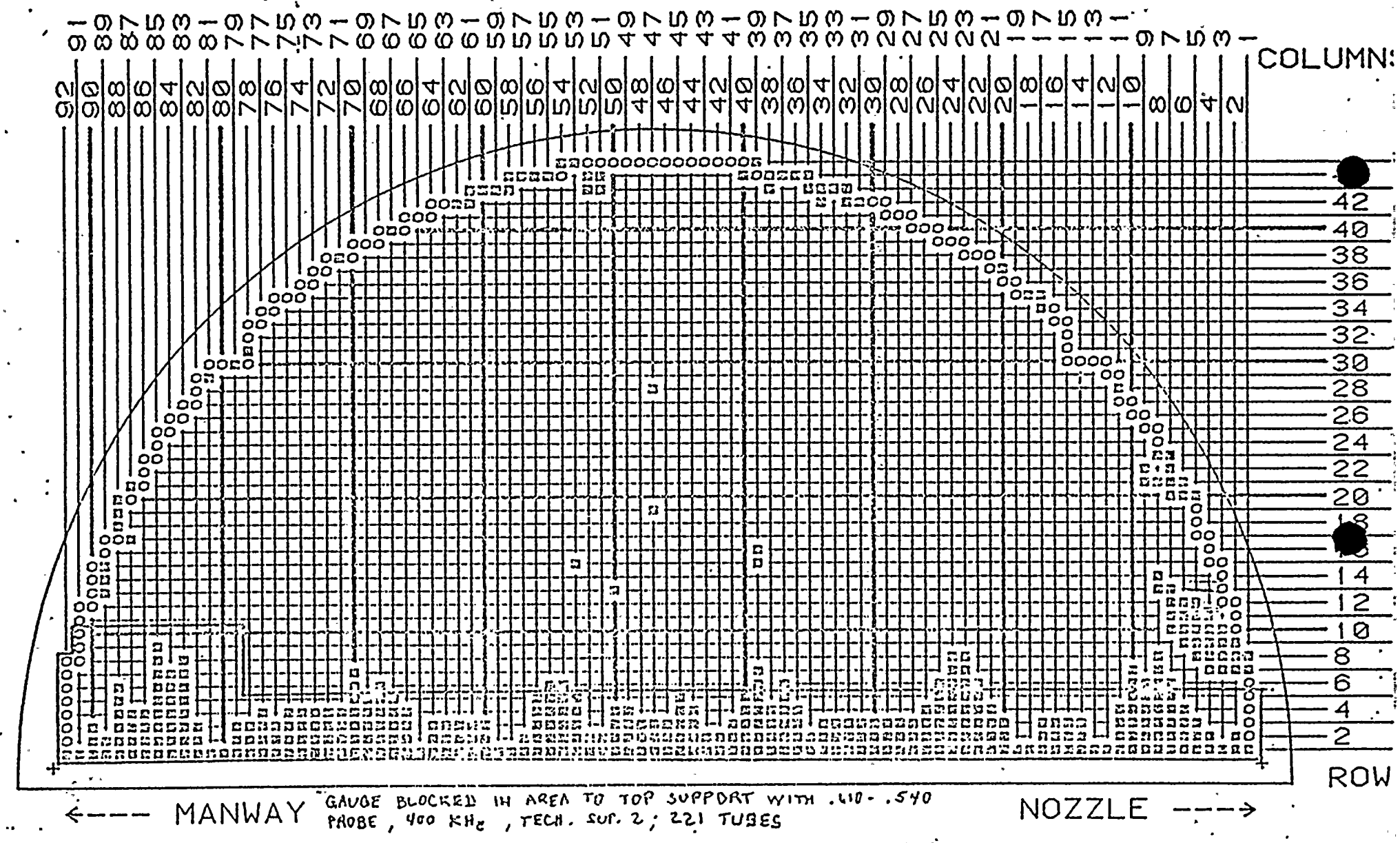
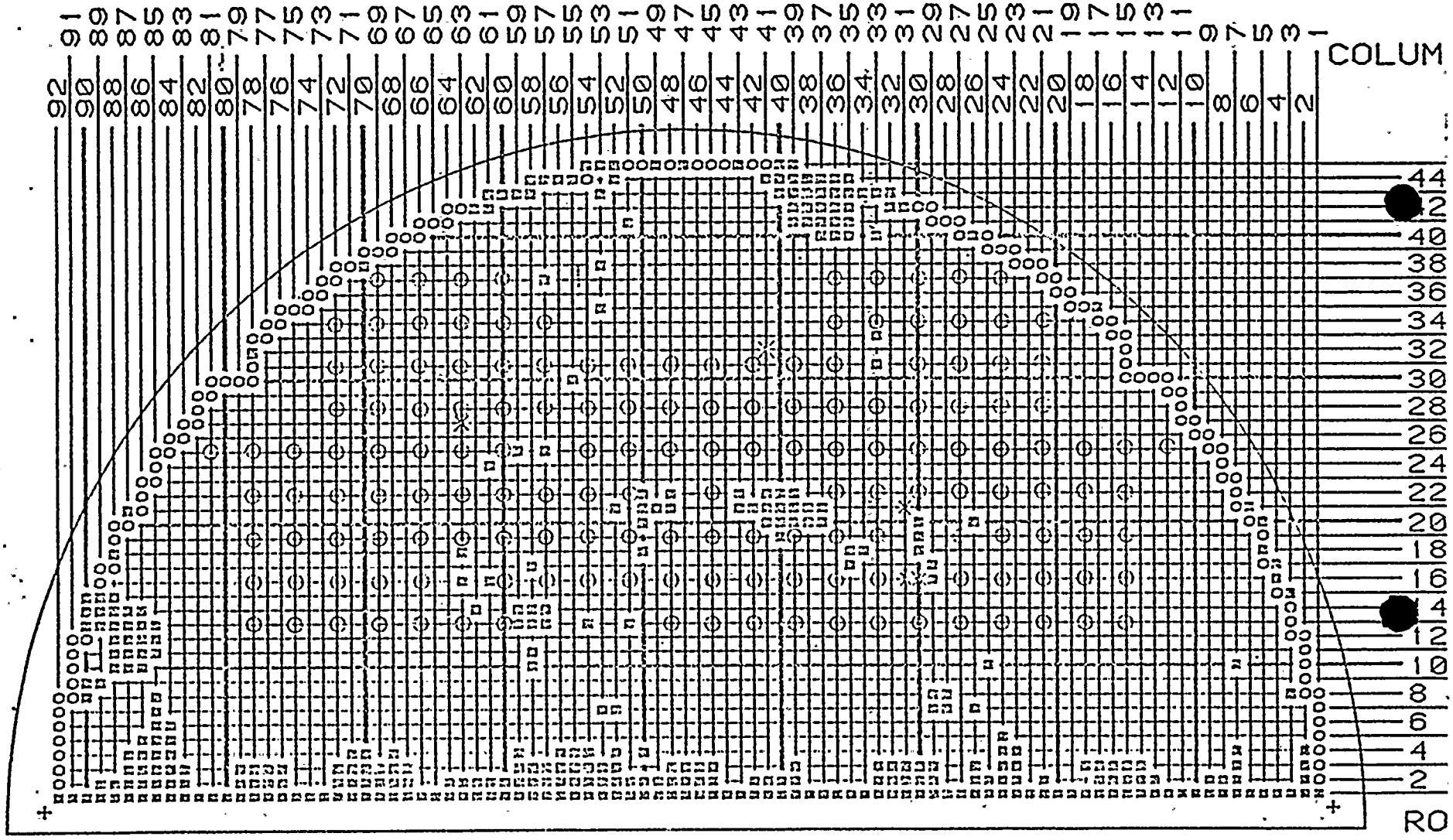

SERIES 44
FPL-B
OUTLET
COLUMN
ROW
MANWAY
NOZZLE
GAUGE BLOCKED IN AREA TO TOP SUPPORT WITH .610 - .540
PROBE, 400 KHz, TECH. SUP. 2; 221 TUBES

FIGURE 3

SERIES 4

FPL-A

INLET



O INDICATES TUBES TO BE INSPECTED AT 400KHZ WITH .700 PROBE THROUGH THE U BENDS - Tech. Sup 1 ; 158 TUBES

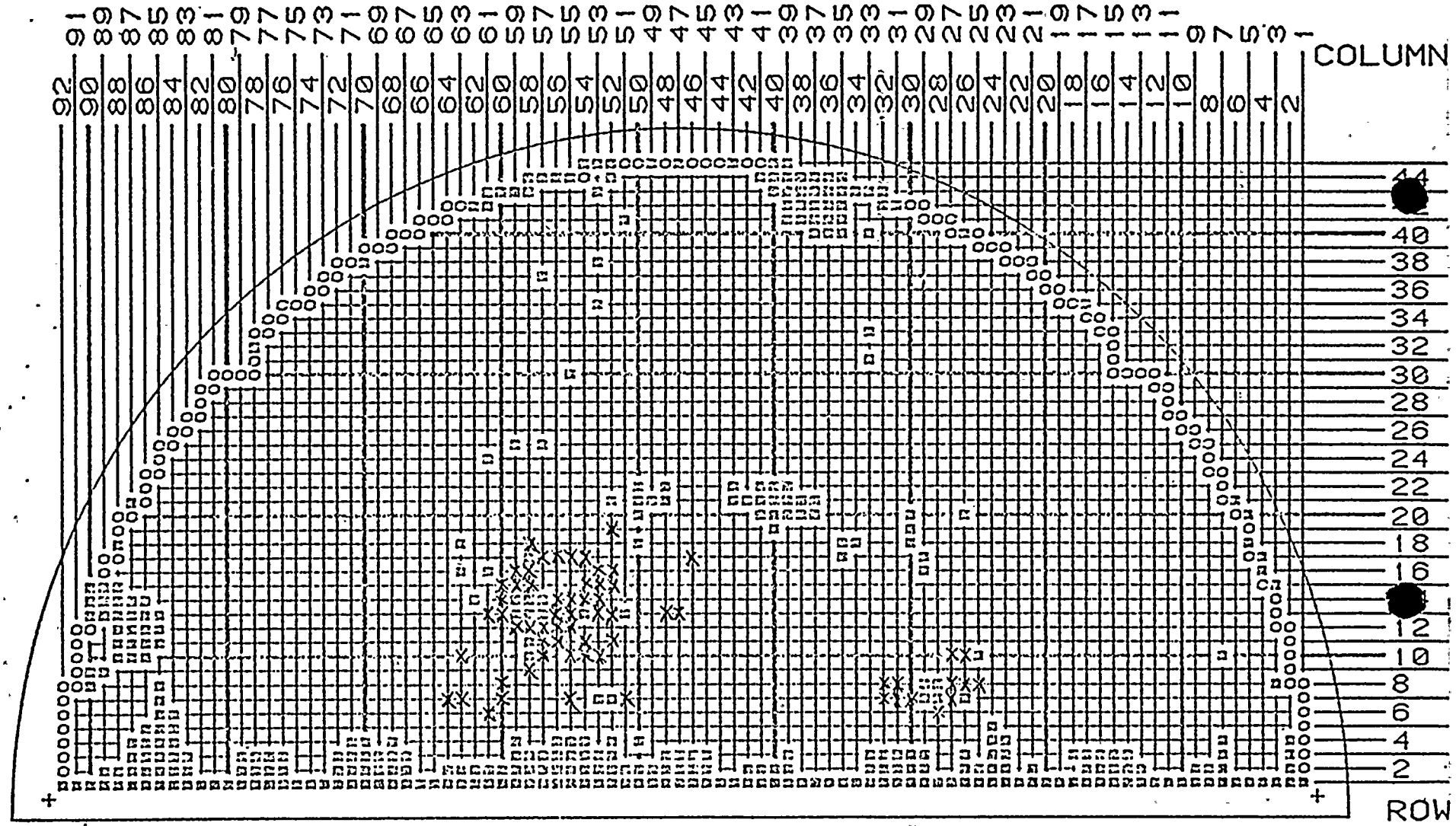
X- INDICATES PREVIOUS > 20% INDICATIONS TO BE INSPECTED AT 400KHZ WITH .700 PROBE THROUGH THE U BENDS - Tech Sup 1 ; 5 TUBES

FIGURE 4

SERIES 44

FPL-A

OUTLET



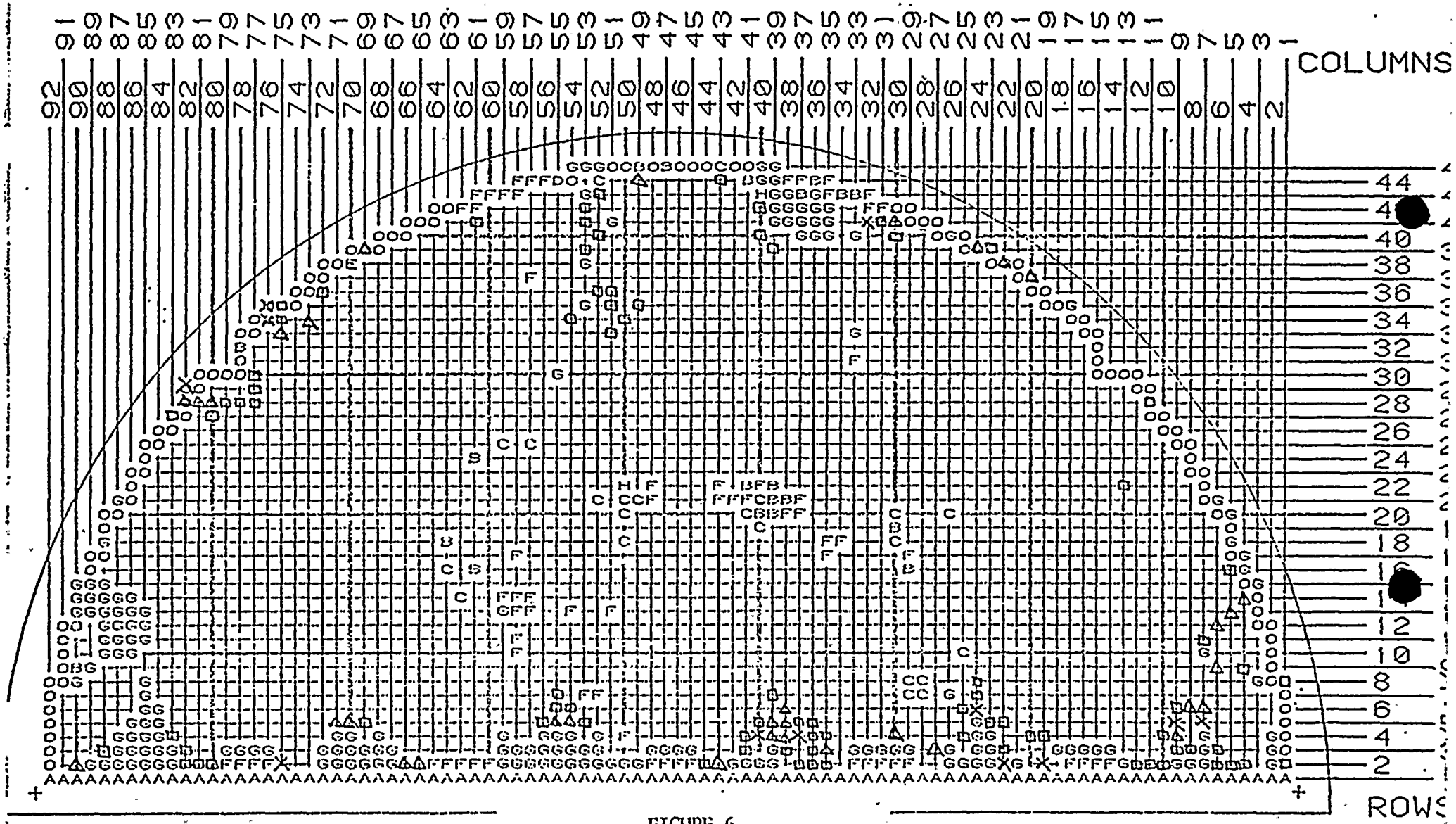
X- INDICATES PREVIOUS >20% INDICATIONS TO BE INSPECTED AT 400KHZ WITH .720 PROBE TO 1ST SUPPORT-TECH SUP I.; 66 TUBES.

FIGURE 5

A	92	BEFORE 1/76; TUBE ENDS REMOVED	H	2	8/78; TUBES PLUGGED
B	20	PRIOR TO 12/75; TUBES PLUGGED			
C	22	12/75; TUBES PLUGGED			
D	1	5/76; TUBE PLUGGED			
E	1	8/76; TUBE PLUGGED			
F	-1	12/76; TUBES PLUGGED			
G	176	12/77; TUBES PLUGGED			

SERIES 44

FPL-A



← MANWAY

NOZZLE →

X = .540" PROBE
△ = .610" PROBE
□ = .650" PROBE

FIGURE 6
Turkey Point 3A Steam Generator
Gauging Results
Hot Leg

A	92	BEFORE 1/76; TUBE ENDS REMOVED	H	2	8/78; TUBES PLUGGED
B	20	PRIOR TO 12/75; TUBES PLUGGED			
C	22	12/75; TUBES PLUGGED			
D	1	5/76; TUBE PLUGGED			
E	1	8/76; TUBE PLUGGED			
F	-1	12/76; TUBES PLUGGED			
G	176	12/77; TUBES PLUGGED			

SERIES 44

FPL-A

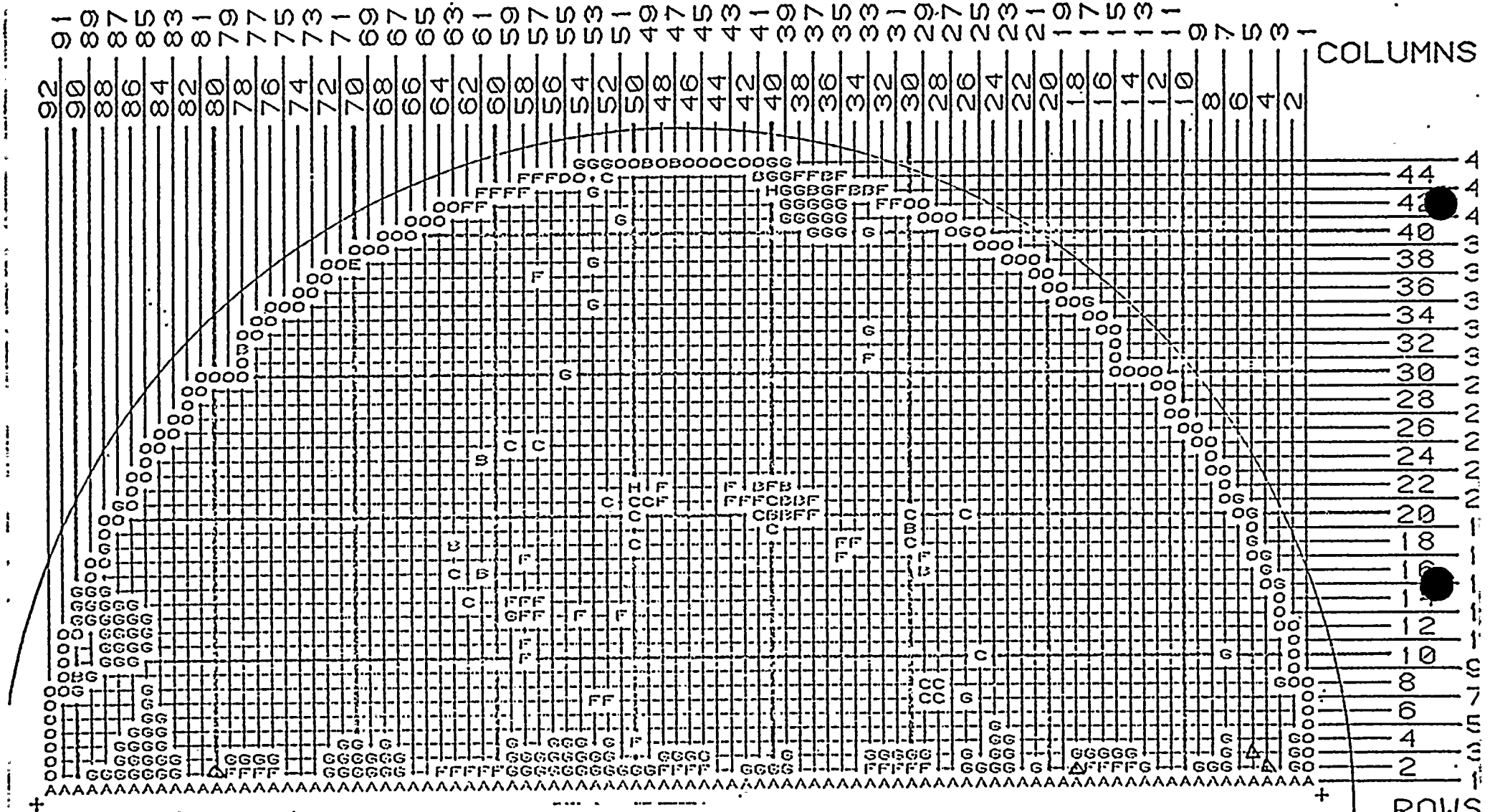


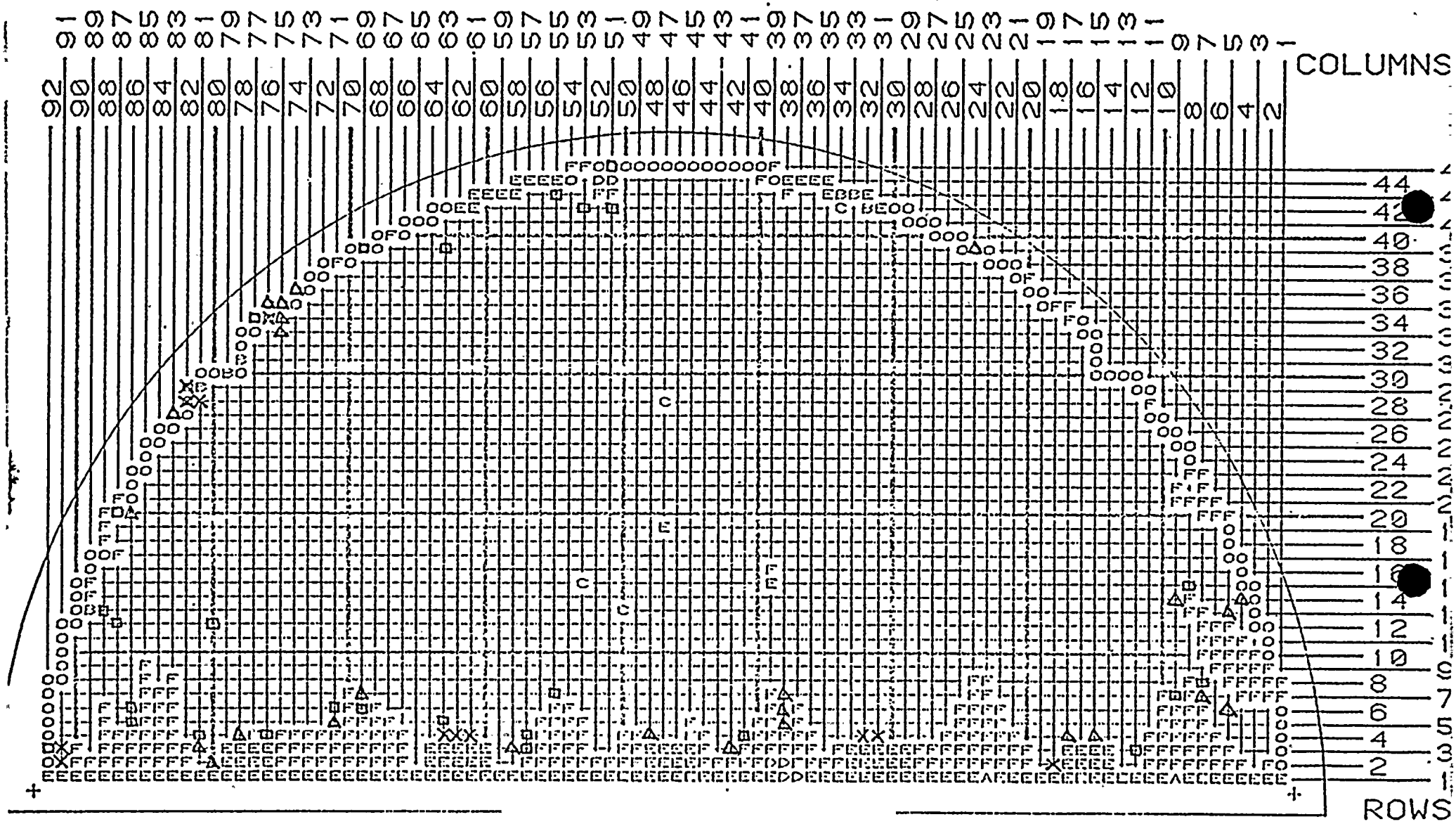
FIGURE 7
Turkey Point 3A Steam Generator
Gauging Results - Cold Leg

X = .540" PROBE
△ = .610" PROBE
□ = .650" PROBE

2 SHOP WELD
7 PRIOR TO 12/75; TUBES PLUGGED
4 12/75; TUBES PLUGGED
6 3/76; TUBES PLUGGED
151 12/76; TUBES PLUGGED
264 12/77; TUBES PLUGGED

SERIES 44

FPL-B



← MANWAY

NOZZLE →

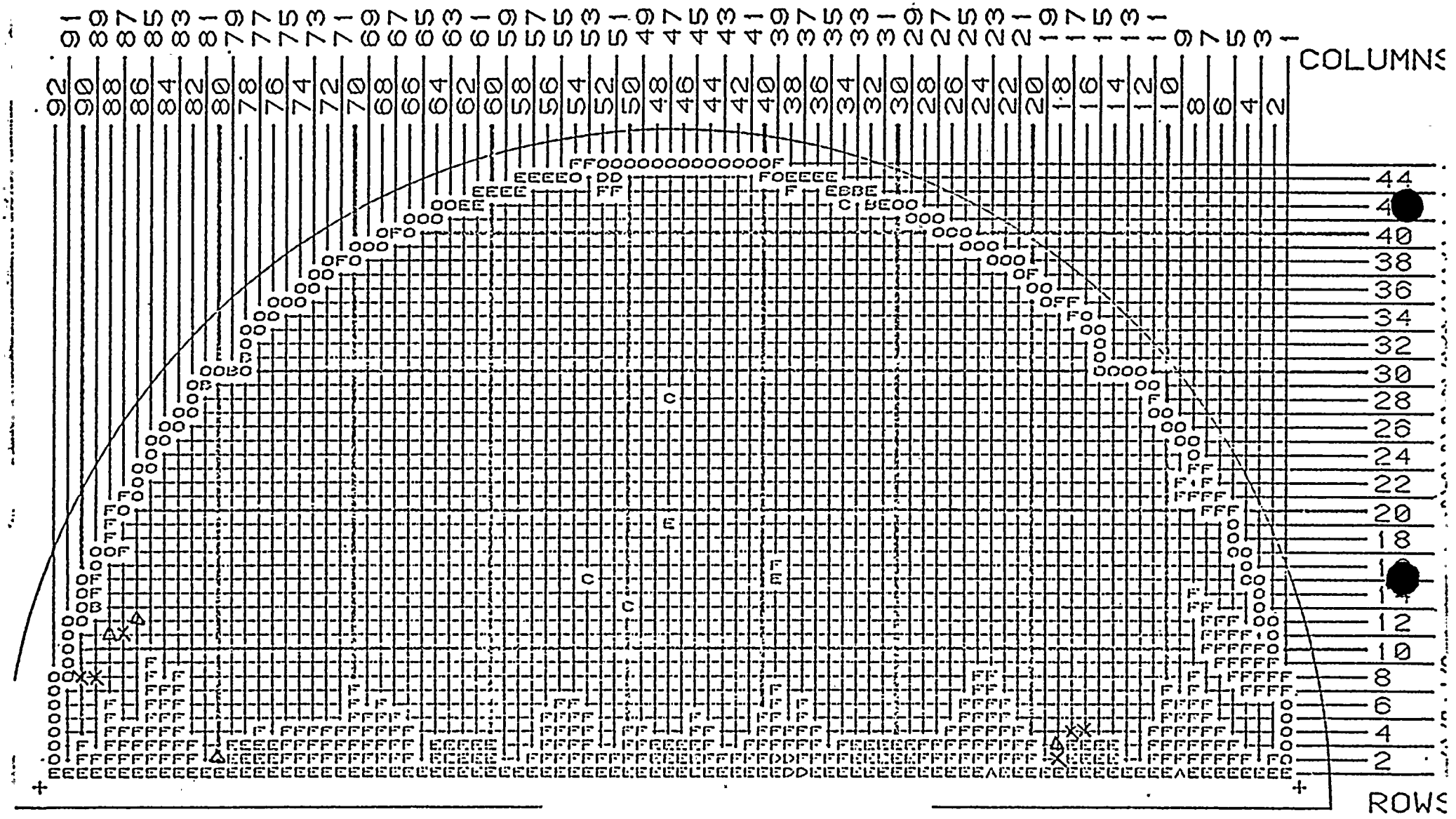
X = .540" PROBE
△ = .610" PROBE
□ = .650" PROBE

FIGURE 8
Turkey Point 3B Steam Generator
Gauging Results - Hot Leg

2 SHOP WELD
7 PRIOR TO 12/75; TUBES PLUGGED
4 12/75; TUBES PLUGGED
6 3/76; TUBES PLUGGED
151 12/76; TUBES PLUGGED
264 12/77; TUBES PLUGGED

SERIES 4.4

FPL-B



← MANWAY

NOZZLE →

FIGURE 9
Turkey Point 3B Steam Generator
Gauging Results - Cold Leg

X = .540" PROBE
△ = .610" PROBE
□ = .650" PROBE

92	BEFORE 1/76; TUBE ENDS REMOVED	H	1	8/78; TUBE PLUGGED
1	SHOP WELD			
7	PRIOR TO 12/75; TUBES PLUGGED			
9	12/75; TUBES PLUGGED			
1	6/76; TUBE PLUGGED			
56	12/76; TUBES PLUGGED			
160	12/77; TUBES PLUGGED			

SERIES 44

FPL-C

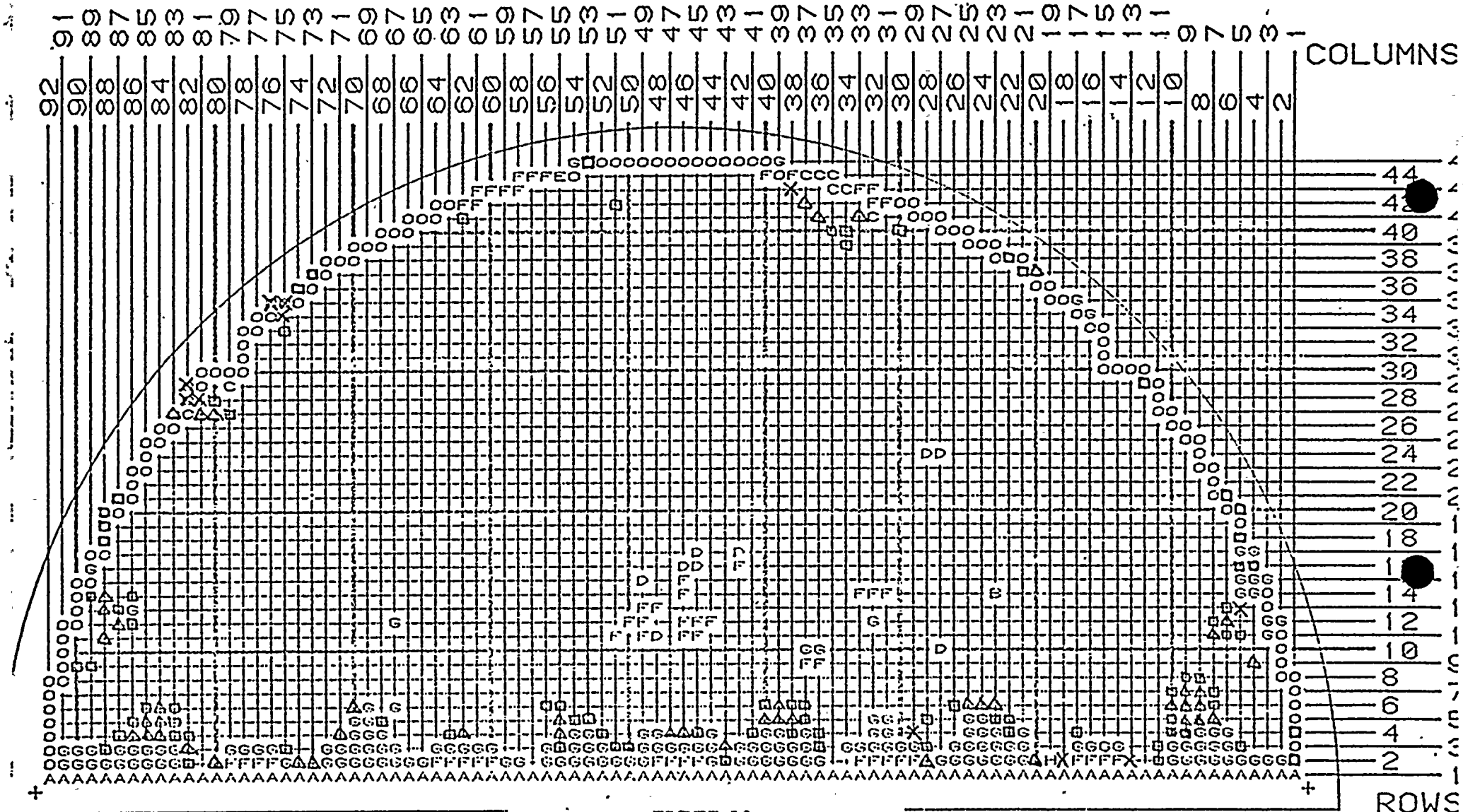


FIGURE 10
Turkey Point 3C Steam Generator
Gauging Results - Hot Leg

.92	BEFORE 1/76; TUBE ENDS REMOVED	H	1	8/78; TUBE PLUGGED
1	SHOP WELD			
7	PRIOR TO 12/75; TUBES PLUGGED			
9	12/75; TUBES PLUGGED			
1	6/76; TUBE PLUGGED			
56	12/76; TUBES PLUGGED			
160	12/77; TUBES PLUGGED			

SERIES 44

FPL-C

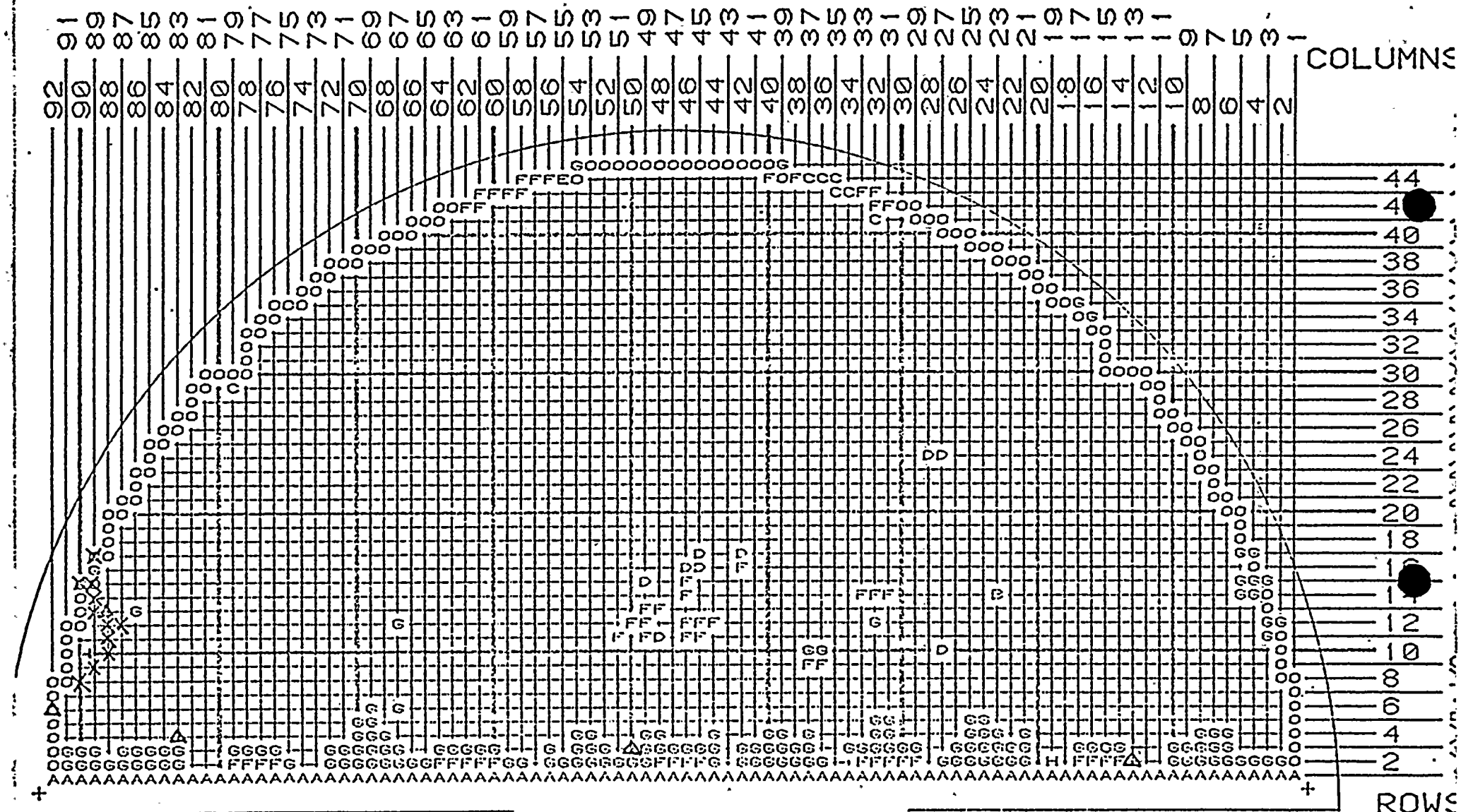


FIGURE 11
Turkey Point 3C Steam Generator
Gauging Results - Cold Leg

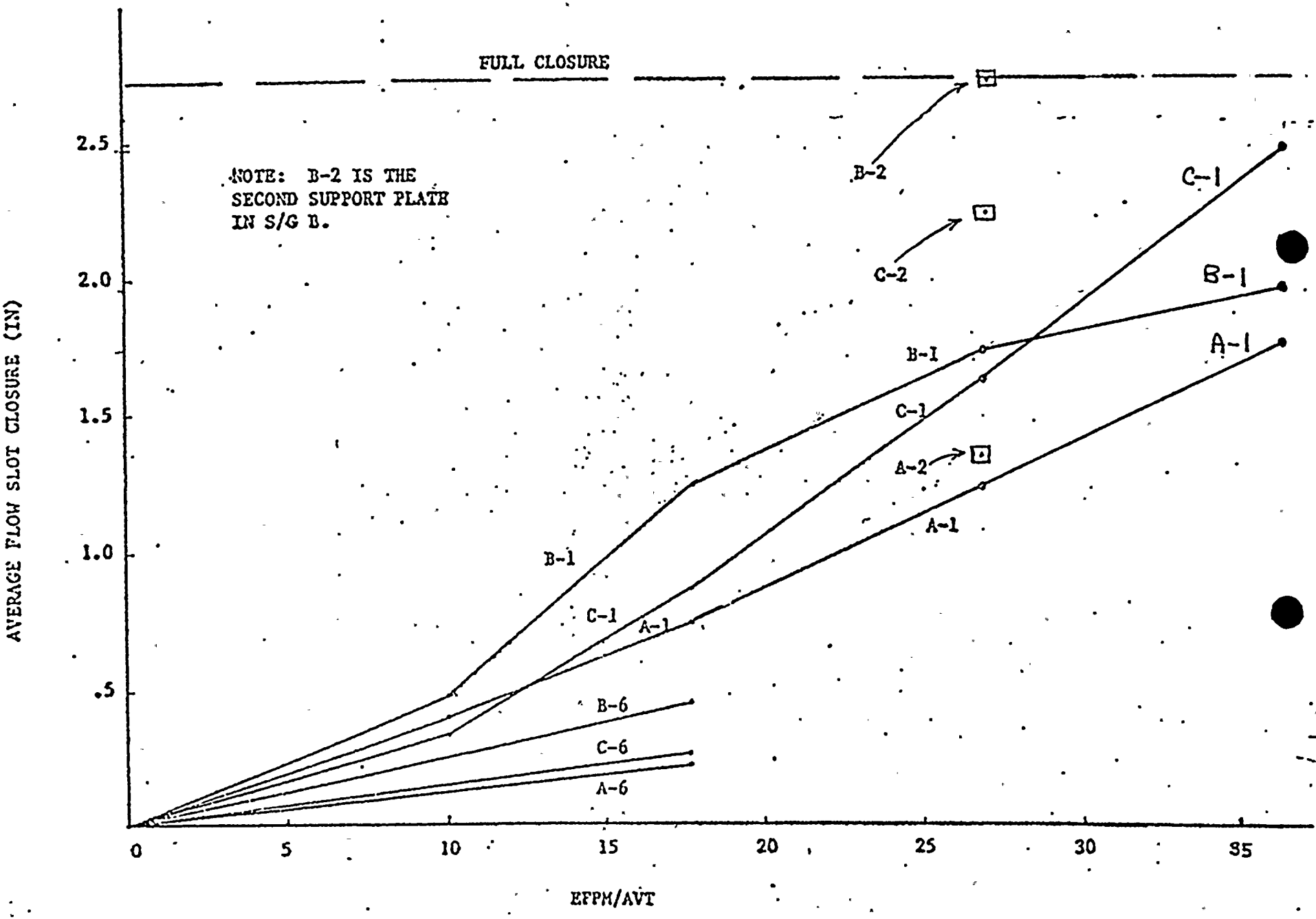

FULL CLOSURE
NOTE: B-2 IS THE SECOND SUPPORT PLATE IN S/G B.
B-2
C-2
C-1
B-1
A-1
A-2
B-6
C-6
A-6
2.5
2.0
1.5
1.0
.5
0
5
10
15
20
25
30
35
AVERAGE FLOW SLOT CLOSURE (IN)
EFPM/AVT

Figure 12

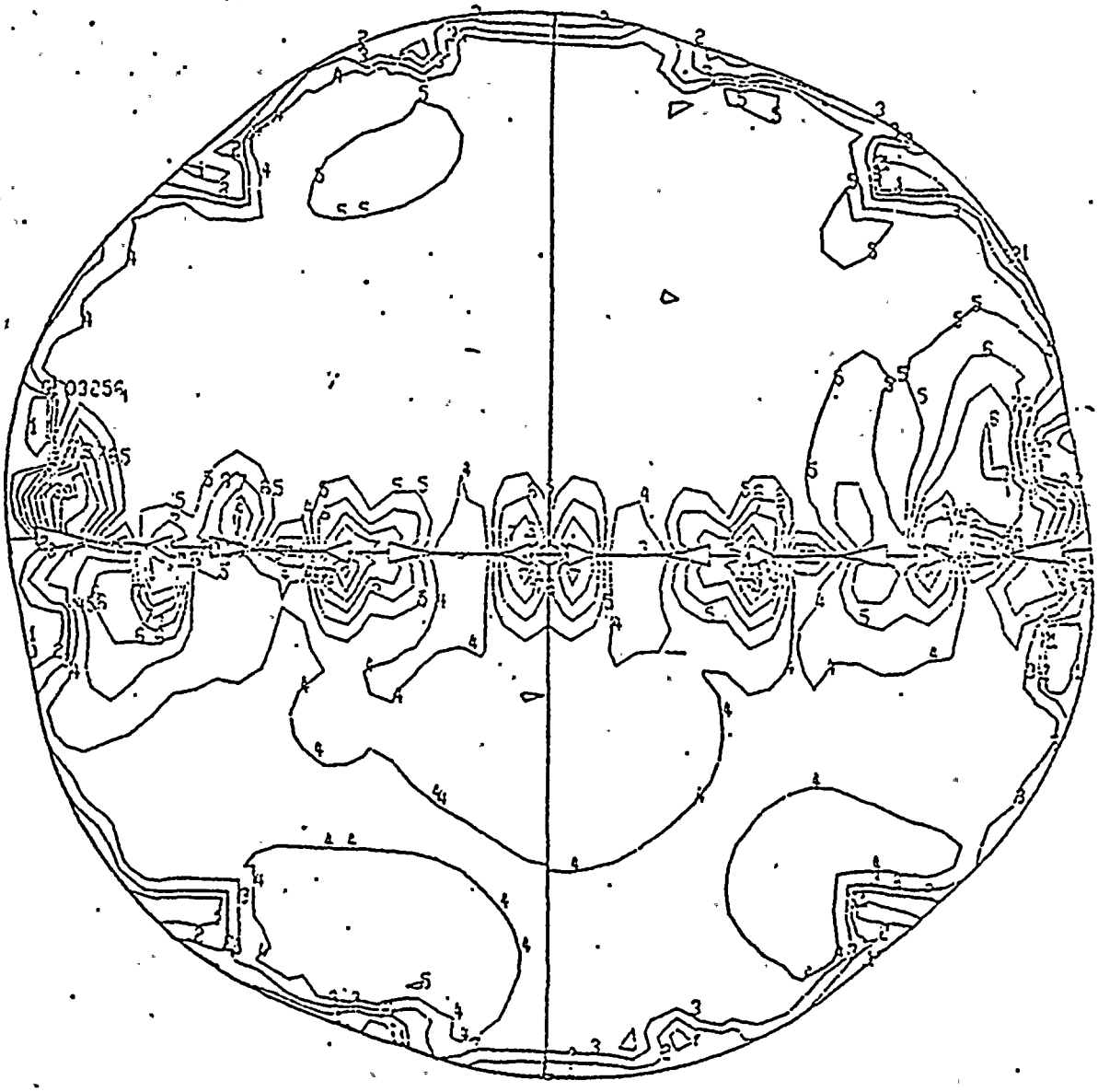


Figure 13. Tube Hoop Strain at 11.5 EFPM's Beyond Full Closure

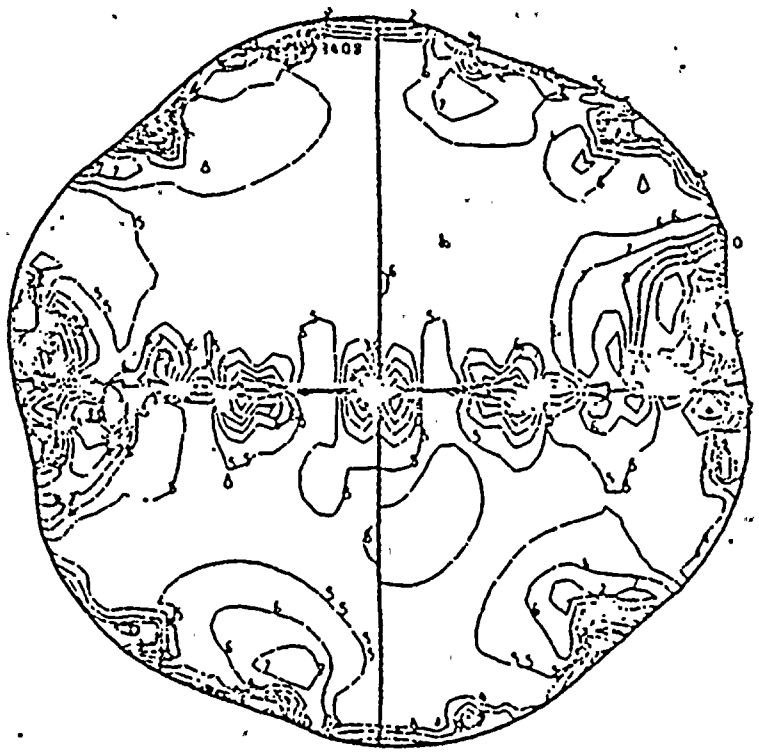


FIGURE 14. Tube Hoop Strain at 21 EFPM's Beyond Full Closure

A	92	BEFORE 1/76; TUBE ENDS REMOVED	H	2	8/78; TUBES PLUGGED
B	20	PRIOR TO 12/75; TUBES PLUGGED			
C	22	12/75; TUBES PLUGGED			
D	1	5/76; TUBE PLUGGED			
E	1	8/76; TUBE PLUGGED			
F	-1	12/76; TUBES PLUGGED			
G	176	12/77; TUBES PLUGGED			

SERIES 44

FPL-A

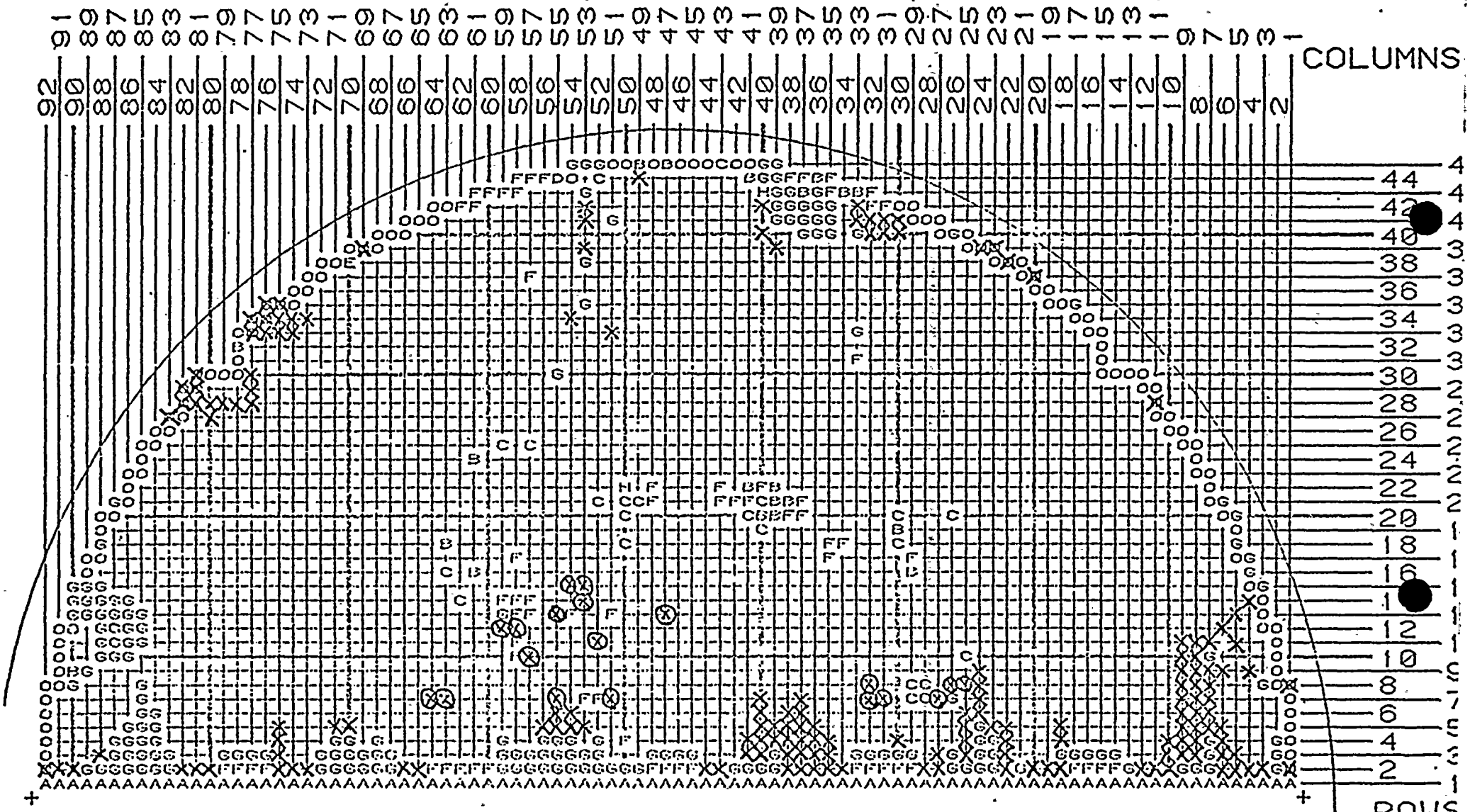


FIGURE 15
Turkey Point 3A Steam Generator
Preventive Plugging Pattern

x = gauging
Ø = R.G. 1.83

A	2	SHOP WELD
B	7	PRIOR TO 12/75; TUBES PLUGGED
C	4	12/75; TUBES PLUGGED
D	6	3/76; TUBES PLUGGED
E	151	12/76; TUBES PLUGGED
F	264	12/77; TUBES PLUGGED

SERIES 44

FPL-B

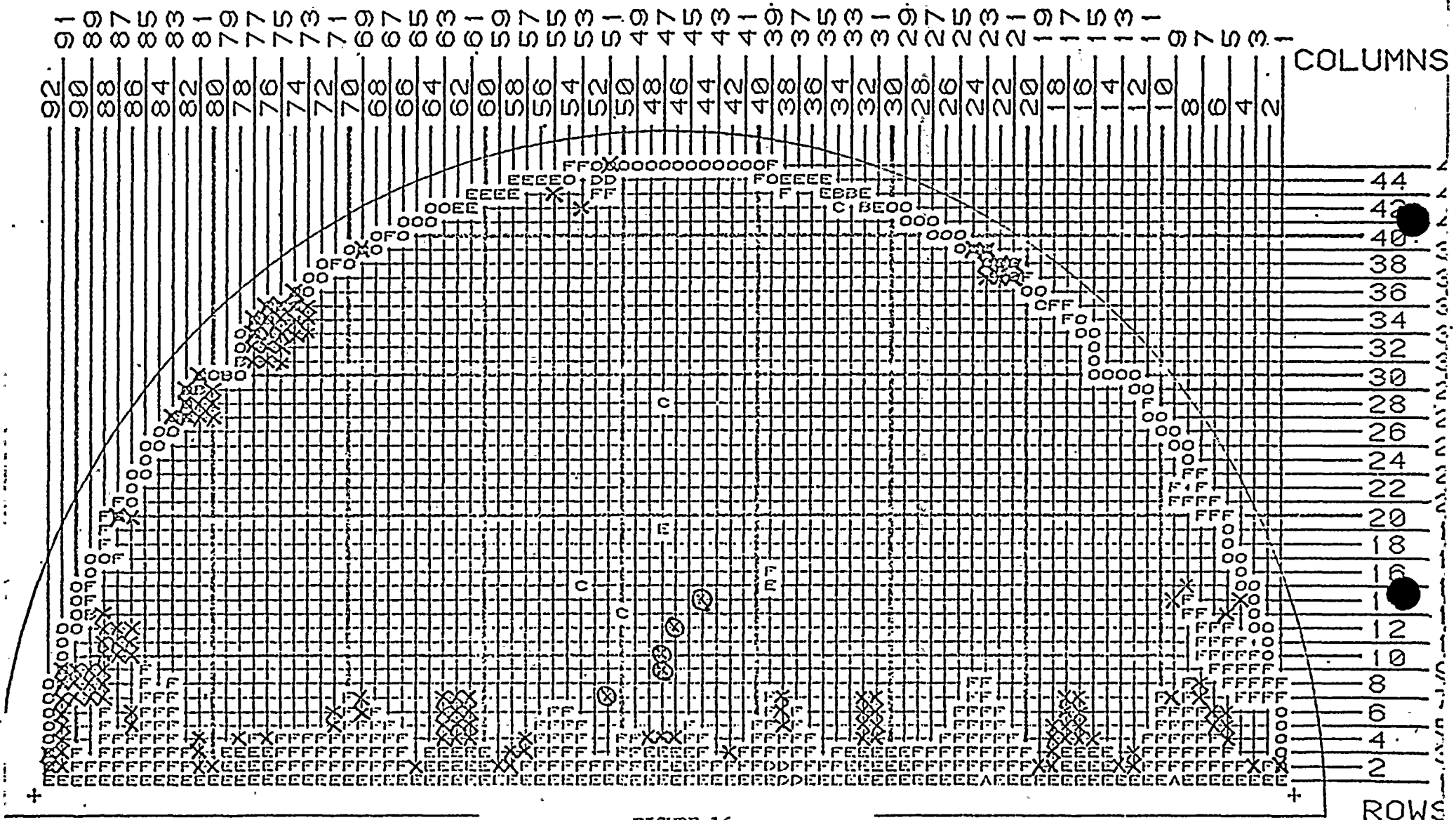


FIGURE 16
Turkey Point 3B Steam Generator
Preventive Plugging Pattern

x = gauging
Ø = R.G. 1.83

A	82	BEFORE 1/76; TUBE ENDS REMOVED
B	1	SHOP WELD
C	7	PRIOR TO 12/75; TUBES PLUGGED
D	9	12/75; TUBES PLUGGED
E	1	6/76; TUBE PLUGGED
F	56	12/76; TUBES PLUGGED
G	160	12/77; TUBES PLUGGED
H	1	8/78; TUBE PLUGGED

SERIES 44

FPL-C

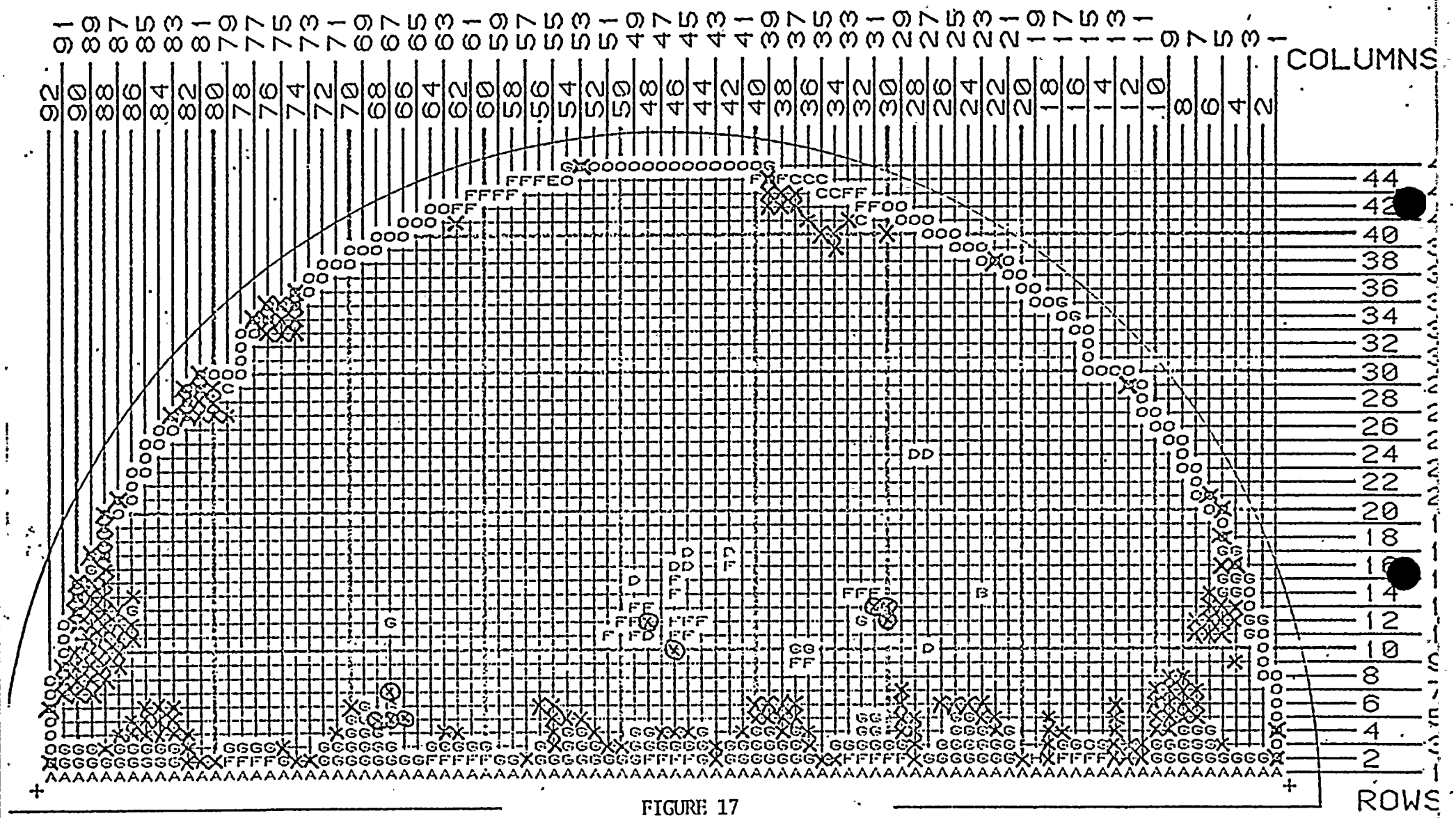


FIGURE 17
Turkey Point 3C Steam Generator
Preventive Plugging Pattern

← MANWAY

NOZZLE →

x = gauging
Ø = R.G. 1.83

STATE OF FLORIDA)
)
COUNTY OF DADE) ss.

Robert E. Uhrig, being first duly sworn, deposes and says:

That he is a Vice President of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this said document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee.

Robert E. Uhrig

Robert E. Uhrig

Subscribed and sworn to before me this

6th day of March, 1979

Betty Brittain

NOTARY PUBLIC, in and for the county of Dade, State of Florida

My commission expires: NOTARY PUBLIC STATE OF FLORIDA at LARGE MY COMMISSION EXPIRES MARCH 27, 1982 BONDED THRU MAYNARD BONDING AGENCY

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

Robert E. Uhrig, being first duly sworn, deposes and says:

That he is a Vice President of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this said document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee.

Robert E. Uhrig

Robert E. Uhrig

Subscribed and sworn to before me this

6th day of March, 1979

Betty Brittain

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BETTY BRITTAIN NOTARY PUBLIC STATE OF FLORIDA