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July 8, 1994

HAND DELIVERED

Ms. Blanca S. Bayo, Director
Division of Records and Reporting
101 East Gaines Street
Tallahassee, Florida 32399-1400

Re: Petition for Interim and Permanent Rate Increase in Franklin County, Florida by St. George Island Utility Company, Ltd., FPSC Docket No. 940109-WU.

Dear Ms. Bayo:

Enclosed for filing in the above docket are the original and fifteen (15) copies of the following:

(1) Rebuttal Testimony of Steve Baltzley; and

(2) Rebuttal Testimony of Gene Brown.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning it to the undersigned.

Thank you for your assistance.

Sincerely,

APGAR, PELHAM, PFEIFFER
& THERIAQUE

G. Steven Pfeiffer

ACK 1
AFA 2
APP
CAF
CMU
CTR
EAG
LEG Pierson
MAS 3 orig
OPC
RCH
SEC
WAS Willis
OTH

GSP/rd
Enclosures

RECEIVED & FILED
FPSC-BUREAU OF RECORDS

Baltzley
DOCUMENT NUMBER-DATE
06788 JUL-8 94
FPSC-RECORDS/REPORTING

Brown
DOCUMENT NUMBER-DATE
06789 JUL-8 94
FPSC-RECORDS/REPORTING

ST. GEORGE ISLAND UTILITY COMPANY, LTD.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

REGARDING THE APPLICATION FOR INCREASED RATES FOR

ST. GEORGE ISLAND UTILITY COMPANY, LTD.

IN FRANKLIN COUNTY

DOCKET NO. [redacted]

REBUTTAL TESTIMONY OF

STEVE BALTZLEY

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

REGARDING THE APPLICATION FOR INCREASED RATES FOR ST. GEORGE ISLAND UTILITY COMPANY, LTD.

IN FRANKLIN COUNTY

DOCKET NO. 940109-WU

REBUTTAL TESTIMONY OF

STEVE BALTZLEY

Q. Please state your name.

A. Steve Baltzley.

Q. Where do you work?

A. Florida Rural Water Association, as a State Circuit Rider for North Florida.

Q. Please describe your relationship with St. George Island Utility Company.

A. The Florida Rural Water Association is a non-profit/membership organization who's mission is to help small water and wastewater systems throughout Florida. One of the main ways we can help systems is through on-site technical assistance and providing training sessions. Our assistance is provided through member request and/or agency referrals to help systems maintain or gain compliance, improve operations,

management, maintenance, etc. Our involvement with St. George Island Utility Company has been through requests from the system as a member and referrals to assist through the Department of Environmental Protection. The Association has made numerous visits to St. George Island Utility over the years to provide specific technical assistance activities. We have helped, for example, on water loss reduction within the system. In the past, St. George Island Utility Company has had large water losses. But, utility efforts, specifically Hank Garrett's efforts to address and reduce that loss has been successful in getting the utility into a much more efficient operating condition. A recent water audit performed by the Florida Rural Water Association shows the current efficiency of the system and is attached.

The Association has also assisted the utility upon request from the system and referral by Florida Department of Environmental Protection in assessing thorough analysis, past pressure and flow problems throughout the distribution system. Attached is a copy of the system's operating capabilities under peak conditions (July 4th weekend 1993). The report shows that the system supplied adequate pressure and flow at that time. Yet, the system has realized that

improvements were needed to accommodate future growth and water needs.

The system has, since the last report, made improvements through new well supply, increased high service pumpage capabilities and storage tank modifications (altitude valve) to improve service capacity of the system.

Through current system activities, needed system improvements have been made to improve operations for the system. Current operator, Hank Garrett, has accomplished many good improvements for the system since his system employment. Past operations personnel were not as successful in making positive contributions and improvements.

We have also been working with system personnel to comply with the Lead and Copper Rule through sampling plan submittal, sampling, water quality parameters analysis, desk top evaluations and proposed treatment and permit submittal. Florida Rural Water Association offers technical assistance to systems at no charge.

Q. Does that conclude your testimony?

A. Yes, it does.

FLORIDA RURAL WATER ASSOCIATION

1391 TIMBERLANE ROAD • SUITE 104 • TALLAHASSEE, FL 32312

(904) 668-2746

General:

In August of 1993, the Florida Rural Water Association performed a water audit for St. George Island Utility.

The utility has wells located on the mainland which are then pumped to a water treatment plant on the island. A water line is hung from the bridge, most of the considerable distance to the plant. The water from the plant is directed East or West from the plant to distribution or into the water tower. A consecutive system (state park) is located at the East end of the island and re-pumps St. George Island Utility water.

Review Worksheet:

The Water System Review Work Sheet is attached. This sheet shows the calculations and numbers used within the audit to calculate the water loss. The total water pumped (item 1C) is calculated from the monthly pumpage records submitted by the system. A correction factor is then used after each of the well or master meters are checked for accuracy with an ultrasonic flowmeter tester. The correction factor percentage (item 2d) is then used to correct the water pumpage figures (item 3).

Total metered sales (item 4) are calculated from the monthly sales and usage records provided by the system. A representative sample of residential meters is then tested to determine accuracy and develop a correction factor for the total metered water use (item 5). Usually 1% of all residential meters are tested, in field, on a random basis. This is done without interrupting service, with customer's consent. This process only uses ten gallons for the test. The percent accuracy for all meters tested is then used to develop a system wide correction factor. As we know, most meters fail to account for all the water used by the customer because, with age comes wear in the meter mechanism. This may be positive for the customer but very costly for the utility. The amount of the correction factor is then added to metered sales (item 6). A corrected total for unaccounted-for-water can then be figured by subtracting Water Sold from Water Pumped (item 7).

Through discussions and interviews with system employees each authorized unmetered water use is then estimated (item 8)> The worksheet indicated the used (a-q), which are estimated if appropriate and applicable, and totaled (item 9). This total is then subtracted from the corrected unaccounted-for-water (item 10).

If any identified water loss can be estimated by system employees it would then be deducted. In most cases, theft, illegal connections, etc., exist but it is impossible to establish an accurate correction factor. Therefore, they are noted but not estimated.

At this stage we can note the potential water system leakage, and divide that number by the Total Water Pumped to give us a Water Loss Percentage. Under normal conditions a percentage of 10% or less is considered to be acceptable and it would not be cost effective to recover the lost gallons.

Conclusion & Recommendations:

The St. George Island Utility is a well operated system which is evident through the results of the water audit. The less than 2% water loss the water audit shows is very acceptable. The utility is also operating in a positive financial position which shows excellent revenue enhancement and cost containment.

Although the Florida Rural Water Association doesn't believe a full leak detection effort would be cost justifiable, we do have a few lost water and efficiency recovery recommendations.

1. Florida Rural Water Association recommends to the Florida Energy Efficient Water Project an the utility the repair or replacement of a check valve on the high service pumps. The check valve is allowing over 35 gallons to leak back into the clear well each minute the high service pump is off. The leak causes the need for re-pumpage amounts over 12 million gallons a year.
2. A more defined plan should be developed and discussed with the local fire departments to encourage accountability of their usage. Each fire department should be invited to use water when needed as a public relations benefit, but also, they should estimate usage and forward data to the utility office for proper water account-ability. A system use form could be developed to encourage and record use.
3. Employees and customers should be encouraged to keep their eyes open to possible theft of water through hydrant usage, illegal connections and taps. Once people are caught they should be prosecuted to show the system's position on theft and set an example.
4. All connections on the water system should be metered even if the system decides not to charge for usage. The system will not bill itself for office, shop, or other system usage, but it needs to know the amount of water used regardless.

5. All metered connections should be read each month and recorded.

Again, the St. George Island Utility is doing an excellent job in the area of water accountability and it was a pleasure working with your efficient and dedicated staff.

FLORIDA RURAL WATER ASSOCIATION
1391 TIMBERLANE ROAD • SUITE 104 • TALLAHASSEE, FL 32312
(904) 668-2746

METER ACCURACY

Master Meter - %

Check Valve Cal.

104,330,000 ÷ 680 = ram

525,600 min total
153,426.47

372,173 X 37 GPM

Meter 103% = 13.770

Accurate

Use 3% correction

Large Meters - %

NA

Representative sample of residential meters - %

100%	99%	100%	100%
97%	100%	96%	100%
100%	99%	97%	99%
93%	95%	100%	
100%	100%	100%	
99%	99%	97%	
98%	95%	100%	2363

2400 = 99%

WATER SYSTEM REVIEW WORK SHEET

FOR WATER UTILITY: St. George Island Utility Company — MONTH: July 93

UNITS: 1000

LINE	ITEM	WATER VOLUME SUBTOTAL	TOTAL CUMULATIVE
1.	Uncorrected Total Water Supply to the Distribution System:		
13 Months	a. Total from Plant Master Meters:	104.330	
	b. Total Purchased Water:	NA	
	c. Total Water Supplied (add 1a+1b):		104.330
2.	Adjustments to Total Water Supply:		
	a. Source Meter Error (+ or -):	3% = 3.130	
	b. Change in Reservior and Tank Storage:	0	
	c. Other Contribution or Losses (+ or -): chk valve leak= 13.770-12.668		
	d. TOTAL ADJUSTMENTS (add 2a+2b+2c):		16.900
3.	ADJUSTED TOTAL Water Supply (add 1c+2d):		87.430
4.	Uncorrected Total Metered Water Use/Sales:		
	a. Total Residential Metered Water Use:	84.488.5	
	b. Total Commercial Metered Water Use:	0	
	c. Total Other Metered Water Use:	0	
	d. TOTAL METERED WATER USE (add 4a+4b+4c):		84.488,500
5.	Adjustments to Total Metered Water Use:		
	a. Adjustments Due to Meter Reading lag line (+ or -):	.01 = 844885	
	b. Total Sales Meter and System Service Meter Errors (+ or -):		
	c. Total Adjusted Metered Water Use (add 5a+5b):		.844885
6.	CORRECTED TOTAL Metered Water Use (add 4d+5c):		85.333
7.	CORRECTED TOTAL UNACCOUNTED-FOR WATER (subtract line 6 from line 3):		1.72763

(The units of measurement must be consistent throughout the worksheet.)

WATER SYSTEM REVIEW WORK SHEET

LINE	ITEM	WATER VOLUME SUBTOTAL	UNITS = 1000 TOTAL CUMULATIVE
8.	AUTHORIZED UNMETERED WATER USES:		
	a. Firefighting & Training:	126,000/24,000	Hank will have report. Hank will estimate firefighting/fireflow
	b. Main Flushing:	Already deducted	
	c. Storm Drain Flushing:	NA	
	d. Sewer Cleaning:	NA	
	e. Street Cleaning:	NA	
	f. Water Company Use (domestic):	130	
	g. Bulk Water Sales:	NA	
	h. Tank Drainage:	125	
	i. Schools:	NA	
	j. Landscaping in Large Public Areas		
	1. Parks:	NA	
	2. Golf Courses:	NA	
	3. Cemeteries:	NA	
	4. Playgrounds:	NA	
	5. Highway Median Strips:	NA	
	6. Other Landscaping:	NA	
	k. Decorative Water Facilities:	NA	
	l. Swimming Pools:	NA	
	m. Construction Sites:	NA	
	n. Water Quality & Other Testing:	NA	
	o. Plant Uses:		
	1. Chemical Mix & Application:	NA	
	2. Filter Wash Water:	NA	
	3. Filter Surface Wash:	NA	
	4. Deicers:	NA	
	5. Pump Prime:	NA	
	6. Pump Bearing Lubrication:	NA	
	7. Laboratory Use:	NA	
	8. Other Misc. Plant Use:	NA	
	p. Other Unmetered Uses:	2600 - Meter testing 52x50=2600=5200	
	q. Repaired System Leaks:	NA	
9.	TOTAL Authorized Unmetered Water (add lines 8a through 8p)		

WATER SYSTEM REVIEW WORK SHEET

LINE	ITEM	WATER VOLUME SUBTOTAL	UNITS = 1000 TOTAL CUMULATIVE
10.	TOTAL Unaccounted-for Water (subtract line 9 from line 7)		1317.43
11.	IDENTIFIED WATER LOSSES		
	a. Accounting Procedure Errors	NA	
	b. Illegal Connections	UNK	
	c. Malfunctioning Distribution System Controls	NA	
	d. Reservoir Seepage & Leakage	NA	
	e. Evaporation	NA	
	f. Reservoir Overflow	250	
	g. Identified Leakage	NA	
	h. Bleeders & Blow-offs	30	
	i. Emergency Meter Removal	0	
	j. Theft	UNK	
12.	TOTAL Identified Water Losses (add lines 11a through 11j)		280.0
	a. Available Btu's (1,000)		
13.	Potential Water System Leakage (subtract line 12 from line 10)	.0119 %	1.03743
	a. Available Btu's (1,000)		
14.	TOTAL Available Btu's (1,000) (add line 12a + 13a)		
15.	Recoverable Leakage (multiply line 13 by 0.75)		

System: St. George Island Utility

Background Information

Month	July 92	August	Septem	Octob	Novem	Decem	Jan 93	February	March	April	May	June	July	13 Month Totals
System Delivery:														
Gallons Pumped MG (finished)				As submitted by system -										104,330,000
Gallons Pumped MG (raw)														
Gallons Used Filter Wash														
Gallons Plant Use MG														
Municipal Use MG														
Gallons Sold MG				As submitted by system -										84,488,500
Unaccounted for MG (finished)														
Percent Unaccounted for (finish)														
Unaccounted for MG (raw)														
Percent Unaccounted for (raw)														
Expenses:														
Employee Cost				AS SUBMITTED BY SYSTEM										
Production Cost														
Power Cost														
Chemical Cost														
Waste Disposal														
Cost of Purchased Water														
Accounting Cost														
Management Cost														
Maintenance Cost														
Office Expense Cost														
Misc. Expense Cost														
Other O & M Cost														
Captial Expense														
Total Expense														352,195.28
Expense MG									$352,195.28 ÷ 104.330					3375.78
Expense Cost 1.000 gal									$352.195.28 ÷ 104,330					3.38

System: St. George Island Utility

Background Information

Month	July 92	August	Septem	October	Novem	Decem	Jan 93	Febru	March	April	May	June	July 93	13 Month Totals
Unmetered Water Uses:														
Firefighting & Training					126,000 firefighting - 24,000 fire flow testing									150,000
Main Flushing						Already Deducted								
Store Drain Flushing														
Sewer Cleaning														
Street Cleaning														
Water Company Use (domestic)					Office metered not billed									130,000
Bulk Water Sales														
Tank Drainage														125,000
Schools														
Landscaping in Large Public Areas														
Parks														
Golf Courses														
Cemeteries														
Playgrounds														
Highway Median Strips														
Other Landscaping														
Decorative Water Facilities														
Swimming Pools														
Construction Sites														
Water Quality & Other Testing														
Plant Uses:														
Chemical Mix & Application														
Filter Wash Water														
Filter Surface Wash														
Deicers														
Pump Price														
Pump Bearing Lubrication														
Laboratory Use														
Other Misc. Plant Use														
Other Unmetered Uses			Meter testing - 2600 C12 Booster Station - 52X50 = 2600											5,200
Repaired System Leaks														

System: St. George Island Utility

Background Information

Month	July 92	Aug	Sept	Oct	Nov	Dec	Jan 93	Feb	March	April	May	June	July	13 Month Totals
Water Sold:														
Gallons Sold Metered/Use														
Gallons Sold Estimated/Use														
Total Gallons Sold MG					As submitted by system									84,488,500
Revenue Metered/Use														
Revenue Estimated/Use														
Total Revenue														401,284.97
Revenue per MG Sold								$ 401284.97	84.488500					4749
Revenue per 1,000 gal Sold								401284.97	84488.5					4.749
Revenue/Total Pumpage MG								401.284.97	104.330					3846.3
Revenue/Total Pumpage 1,000 gal								401.284.97	104330.0					3.85

St. George Island Water Utility Review

On July 3,4,5, 1992 the Florida Rural Water Association completed flow and pressure testing activities for St. George Island Water Utility. These tests include the flow on the raw water line just prior to aerator and flow on the finish water line next to high service pumps. Chart records were placed at both ends of the utility distribution system and on a house located on a 2" main to record system pressure. An activity recorder was hooked into the high service pump circuits to record on a chart when pumps were on and when they were off.

The following is the results of these tests and supporting material.

1) The 8" PVC - C900 line was exposed to provide access for the FRWA Polysonics TF-P Ultrasonic flow tester. (In our last trip to the island, we hooked the unit to a dead 8" line in the same excavation, and couldn't get a flow or signal.) This application provided an excellent location, signal strength, accuracy, and consistent flow. The unit needs a signal strength over 2.0 (we had 2.8) and full pipe of constant flow (which we had) and an accuracy between 98% and 102% (we had 99.14%). We ran the test twice between 4:30 p.m. and 6:00 p.m., July 3, 1992. The integrator function on the flow meter was set to get total gallons. This number then allows us to divide the number of minutes test ran to get on average gallon per minute flow.

7/3/92	Gallons	GPM
16:55	980	
16:56	1480	500
16:57	1980	500
16:58	2480	500
16:59	2970	490
17:00	3470	500
17:01	3980	510
17:02	4480	500
17:03	4980	500
17:04	5480	500
17:05	5980	500
17:06	Well Off	
17:35	Well On (0)	
17:36	490	490
17:37	1000	510
17:38	1500	500
17:39	2000	500
17:40	2500	500
17:41	3000	500
17:42	3500	500
17:43	4010	510
17:44	4500	490
17:45	5000	500
17:46	5510	510
17:47	6010	500
17:48	6500	490
17:49	7010	510
	Average =	500 gpm

See charts #1 and #2

2) A measurement of flow was taken at the high service pump location on the 12" line. At this location we had good flow, good signal strength (2.40%), just under 98% (97.5%) accuracy. We were unable to get a higher accuracy figure. (We suspect encrustation, or perhaps an obstruction in a valve or tee.) Therefore, these figures may not be perfectly accurate, so use as best estimate. The unit printed out flows every 10 minutes starting at 6:37 p.m., 7/3/92 until 4:37 a.m., 7/4/92.

The following is an understanding of the printout:

18:47	- 26.417	GPM	OOR
	+ 00015	*10G	OOR
	- 00024	*10G	OOR
	+ 002.40%	A12	OOR

18:47 Military time

- 26.417 Gallon per minute flow instantous a 18:47
  (-) negative number means reverse flow
  (check valve on high service pump is not closing totally off)

+ 00015 *10G Integrated flow since unit started printing out, Positive flow, 15 gallons x 10= 150 gallons

- 00024 *10G Integrated flow since unit started printing out, Negative flow, 24 gallons x 10= 240 gallons

+ 002.40% A12 Signal strength

OOR Acceptable flow - non-aerated

See chart #3

3) A measurement of flow at the same high service pump location was done each hour from 9:00 a.m. to 7:06 p.m. on 7/4/92.

The same parameter and data were recorded except the addition of feet per second was added:

+ 2.057E OFPS (feet per second) OOR

Again, the accuracy was only 97.58%

See chart #4

4) An activi Recorder was set-up and r· ·rded high service pump activity from 7/3/92 to 7/5/92.

The line closest to the outside of the chart shows when the pump are off. The inside line shows when the pumps are running. The uneven, blotched lines are results of loading and unloading the charts.

See charts #5 and #6

5) The following is a chart of pressure recording data location close to the entrance of the state park. (It should be noted that Bruce Tyce of St. George Island State Park told Hank Garrett, SCI Utility and Gary Williams, FRWA, that the pressure recorder setting on Memorial Day weekend was tampered with by state park employees.) Therefore, we moved recorder location to area not accessible by people wanting to tamper with the equipment.

See chart #7

6) The following are charts that show pressure at 573 W. Gorrie Drive, from 7/3 to 7/4 (Chart #8) and 7/4 to 7/5 (Chart #9).

7) The following are charts that show pressure at location in the Plantation towards the end of distribution system.

See chart #10 7/3/92 to 7/4/92

(This chart stopped advancing by only dropped to 44psi in that time.)

See chart #11 7/4/92 to 7/5/92

It should be noted that the Utility had its Peak Day for water usage on Saturday, July 4, 1992, at 449,000 gallons used.

If any additional information is needed or questions arise upon review of this data, please do not hesitate to contact Gary Williams at (800) 872-8207.

OUTER DIAMETERL1
8.6248 IN

PIPE MATERIAL L1
PVC

WALL THICKNESSL1
0.4059 IN

INNER LINING L1
NO LING.

LING. THICKNESL1
0.0000 IN

KIND OF FLUID L1
WATER

SENSOR MOUNTINL1
U

TYPE OF SENSORL1
SMALL

SPACING L1
6.272 IN U

8" PVC Line - into the Plant
Unit Accuracy = 99.148
#1

16:55+498.492E 0GPM 00R
+00098 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

16:56+507.210E 0GPM 00R
+00148 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

16:57+495.058E 0GPM 00R
+00198 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

16:58+485.548E 0GPM 00R
+00248 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

16:59+496.379E 0GPM 00R
+00297 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:00+500.341E 0GPM 00R
+00347 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:01+492.152E 0GPM 00R
+00398 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:02+511.701E 0GPM 00R
+00448 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:03+488.982E 0GPM 00R
+00498 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:04+499.021E 0GPM 00R
+00548 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:05+496.379E 0GPM 00R
+00598 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:06+326.252E 0GPM 00R
+00632 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:07+312.251E 0GPM 00R
+00664 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:08+160.616E 0GPM 00R
+00690 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:09+ 63.137E 0GPM 00R
+00700 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:10+ 25.360E 0GPM 00R
+00704 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:11+ 6.340E 0GPM 00R
+00706 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:12+ 0.000E 0GPM 00R
+00706 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:13+ 0.000E 0GPM 00R
+00706 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:14+ 0.000E 0GPM 00R
+00706 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:15+ 0.000E 0GPM 00R
+00706 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:16+ 0.000E 0GPM 00R
+00706 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

OUTER DIAMETERL1
8.6248 IN

PIPE MATERIAL L1
PVC

WALL THICKNESSL1
0.4059 IN

INNER LINING L1
NO LING.

LING. THICKNESL1
0.0000 IN

KIND OF FLUID L1
WATER

SENSOR MOUNTINL1
U

TYPE OF SENSORL1
SMALL

SPACING L1
6.272 IN U

99.14 % Accurate

#2

17:35+512.229E 0GPM 00R
+00000 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:36+521.475E 0GPM 00R
+00049 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:37+519.098E 0GPM 00R
+00100 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:38+513.022E 0GPM 00R
+00150 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:39+473.924E 0GPM 00R
+00200 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:40+500.870E 0GPM 00R
+00250 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:41+514.078E 0GPM 00R
+00300 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:42+490.567E 0GPM 00R
+00350 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:43+512.229E 0GPM 00R
+00401 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:44+494.530E 0GPM 00R
+00450 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:45+485.284E 0GPM 00R
+00500 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:46+498.492E 0GPM 00R
+00551 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:47+502.719E 0GPM 00R
+00601 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:48+493.473E 0GPM 00R
+00650 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

17:49+504.832E 0GPM 00R
+00701 *10 G 00R
-00000 *10 G 00R
+002.80% AI2 00R

18:37+679.978E 0GPM 00R
+00000 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

OUTER DIAMETERL1
13.2000 IN

PIPE MATERIAL L1
AL,DI

WALL THICKNESSL1
0.5000 IN

INNER LINING L1
MORTAR

LING. THICKNESL1
0.1000 IN

KIND OF FLUID L1
WATER

SENSOR MOUNTINL1
U

TYPE OF SENSORL1
SMALL

SPACING L1
10.677 IN U

18:47- 26.417E 0GPM 00R
+00015 *10 G 00R
-00024 *10 G 00R
+002.40% AI2 00R

18:57- 19.548E 0GPM 00R
+00015 *10 G 00R
-00048 *10 G 00R
+002.40% AI2 00R

19:07- 19.548E 0GPM 00R
+00015 *10 G 00R
-00072 *10 G 00R
+002.40% AI2 00R

19:17- 29.851E 0GPM 00R
+00015 *10 G 00R
-00096 *10 G 00R
+002.40% AI2 00R

19:27- 22.982E 0GPM 00R
+00015 *10 G 00R
-00119 *10 G 00R
+002.40% AI2 00R

19:37+713.264E 0GPM 00R
+00381 *10 G 00R
-00131 *10 G 00R
+002.40% AI2 00R

19:47+690.281E 0GPM 00R
+01099 *10 G 00R
-00131 *10 G 00R
+002.40% AI2 00R

19:57+724.888E 0GPM 00R
+01819 *10 G 00R
-00131 *10 G 00R
+002.40% AI2 00R

20:07+713.264E 0GPM 00R
+02536 *10 G 00R
-00131 *10 G 00R
+002.40% AI2 00R

20:17+707.717E 0GPM 00R
+03239 *10 G 00R
-00131 *10 G 00R
+002.40% AI2 00R

97.5.08

#3

20:[illegible]+736.511E 0GPM 00R
[illegible] +01941 *10 G 00R
-00131 *10 G 00R
+002.40% AI2 00R

20:37- 24.039E 0GPM 00R
+04118 *10 G 00R
-00150 *10 G 00R
+002.40% AI2 00R

20:47- 21.926E 0GPM 00R
+04118 *10 G 00R
-00174 *10 G 00R
+002.40% AI2 00R

20:57- 24.039E 0GPM 00R
+04118 *10 G 00R
-00197 *10 G 00R
+002.40% AI2 00R

21:07- 27.738E 0GPM 00R
+04118 *10 G 00R
-00221 *10 G 00R
+002.40% AI2 00R

21:17- 22.982E 0GPM 00R
+04118 *10 G 00R
-00245 *10 G 00R
+002.40% AI2 00R

21:27- 25.360E 0GPM 00R
+04118 *10 G 00R
-00268 *10 G 00R
+002.40% AI2 00R

21:37+722.774E 0GPM 00R
+04766 *10 G 00R
-00270 *10 G 00R
+002.40% AI2 00R

21:47+698.471E 0GPM 00R
+05483 *10 G 00R
-00270 *10 G 00R
+002.40% AI2 00R

21:57+704.018E 0GPM 00R
+06194 *10 G 00R
-00270 *10 G 00R
+002.40% AI2 00R

22:07+690.281E 0GPM 00R
+06904 *10 G 00R
-00270 *10 G 00R
+002.40% AI2 00R

22:17+698.471E 0GPM 00R
+07610 *10 G 00R
-00270 *10 G 00R
+002.40% AI2 00R

22:27- 18.492E 0GPM 00R
+08103 *10 G 00R
-00278 *10 G 00R
+002.40% AI2 00R

22:37- 21.926E 0GPM 00R
+08103 *10 G 00R
-00303 *10 G 00R
+002.40% AI2 00R

22:47- 26.417E 0GPM 00R
+08103 *10 G 00R
-00326 *10 G 00R
+002.40% AI2 00R

22:57- 31.172E 0GPM 00R
+08103 *10 G 00R
-00349 *10 G 00R
+002.40% AI2 00R

23:07- 28.794E 0GPM 00R
+08103 * G 00R
-00373 * G 00R
+002.40% AI2 00R

23:17- 21.926E 0GPM 00R
+08103 *10 G 00R
-00397 *10 G 00R
+002.40% AI2 00R

23:27- 21.926E 0GPM 00R
+08103 *10 G 00R
-00420 *10 G 00R
+002.40% AI2 00R

23:37+693.715E 0GPM 00R
+08388 *10 G 00R
-00434 *10 G 00R
+002.40% AI2 00R

23:47+721.454E 0GPM 00R
+09102 *10 G 00R
-00434 *10 G 00R
+002.40% AI2 00R

23:57+693.715E 0GPM 00R
+09815 *10 G 00R
-00434 *10 G 00R
+002.40% AI2 00R

00:07+696.093E 0GPM 00R
+00523 *10 G 00R
-00434 *10 G 00R
+002.40% AI2 00R

00:17- 22.982E 0GPM 00R
+01045 *10 G 00R
-00441 *10 G 00R
+002.40% AI2 00R

00:27- 29.851E 0GPM 00R
+01045 *10 G 00R
-00466 *10 G 00R
+002.40% AI2 00R

00:37- 20.605E 0GPM 00R
+01045 *10 G 00R
-00490 *10 G 00R
+002.40% AI2 00R

00:47- 20.605E 0GPM 00R
+01045 *10 G 00R
-00514 *10 G 00R
+002.40% AI2 00R

00:57- 28.794E 0GPM 00R
+01045 *10 G 00R
-00537 *10 G 00R
+002.40% AI2 00R

01:07- 19.548E 0GPM 00R
+01045 *10 G 00R
-00561 *10 G 00R
+002.40% AI2 00R

01:17- 24.039E 0GPM 00R
+01045 *10 G 00R
-00584 *10 G 00R
+002.40% AI2 00R

01:27- 19.548E 0GPM 00R
+01045 *10 G 00R
-00608 *10 G 00R
+002.40% AI2 00R

01:37- 27.738E 0GPM 00R
+01045 *10 G 00R
-00631 *10 G 00R
+002.40% AI2 00R

[illegible]+01045 *10 G 00R
-00655 *10 G 00R
+002.40% AI2 00R

01:57- 18.492E 0GPM 00R
+01045 *10 G 00R
-00679 *10 G 00R
+002.40% AI2 00R

02:07- 27.738E 0GPM 00R
+01045 *10 G 00R
-00704 *10 G 00R
+002.40% AI2 00R

02:17- 27.738E 0GPM 00R
+01045 *10 G 00R
-00728 *10 G 00R
+002.40% AI2 00R

02:27- 29.851E 0GPM 00R
+01045 *10 G 00R
-00755 *10 G 00R
+002.40% AI2 00R

02:37- 33.285E 0GPM 00R
+01045 *10 G 00R
-00787 *10 G 00R
+002.40% AI2 00R

02:47+719.076E 0GPM 00R
+01570 *10 G 00R
-00787 *10 G 00R
+002.40% AI2 00R

02:57+705.339E 0GPM 00R
+02282 *10 G 00R
-00787 *10 G 00R
+002.40% AI2 00R

03:07+702.961E 0GPM 00R
+02992 *10 G 00R
-00787 *10 G 00R
+002.40% AI2 00R

03:17- 32.228E 0GPM 00R
+03476 *10 G 00R
-00791 *10 G 00R
+002.40% AI2 00R

03:27- 20.605E 0GPM 00R
+03476 *10 G 00R
-00819 *10 G 00R
+002.40% AI2 00R

03:37- 25.360E 0GPM 00R
+03476 *10 G 00R
-00844 *10 G 00R
+002.40% AI2 00R

03:47- 20.605E 0GPM 00R
+03476 *10 G 00R
-00868 *10 G 00R
+002.40% AI2 00R

03:57- 26.417E 0GPM 00R
+03476 *10 G 00R
-00891 *10 G 00R
+002.40% AI2 00R

04:07- 26.417E 0GPM 00R
+03476 *10 G 00R
-00915 *10 G 00R
+002.40% AI2 00R

04:17- 26.417E 0GPM 00R
+03476 *10 G 00R
-00938 *10 G 00R
+002.40% AI2 00R

04:27- 19.548E 0GPM 00R
+03476 *10 G 00R
-00962 *10 G 00R
+002.40% AI2 00R

04:37- 26.417E 0GPM 00R
+03476 *10 G 00R
-00985 *10 G 00R
+002.40% AI2 00R

7/4-7/5 '92

OUTER DIAMETERL1
13.2000 IN

PIPE MATERIAL L1
AL,DI

WALL THICKNESSL1
0.5000 IN

INNER LINING L1
MORTAR

LING. THICKNESL1
0.1000 IN

KIND OF FLUID L1
WATER

SENSOR MOUNTING L1
U

TYPE OF SENSORL1
SMALL

SPACING L1
10.677 IN U

Under 98% accurate

#4

09:06+724.888E 0GPM 00R
+ 2.057E 0FPS 00R
+00000 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

10:06+715.642E 0GPM 00R
+ 2.030E 0FPS 00R
+01158 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

11:06+729.643E 0GPM 00R
+ 2.070E 0FPS 00R
+05596 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

12:06+ 0.000E 0GPM 00R
+ 0.000E 0FPS 00R
+06347 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

13:06+734.134E 0GPM 00R
+ 2.083E 0FPS 00R
+00646 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

14:06+ 0.000E 0GPM 00R
+ 0.000E 0FPS 00R
+01172 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

15:06+721.454E 0GPM 00R
+ 2.047E 0FPS 00R
+05252 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

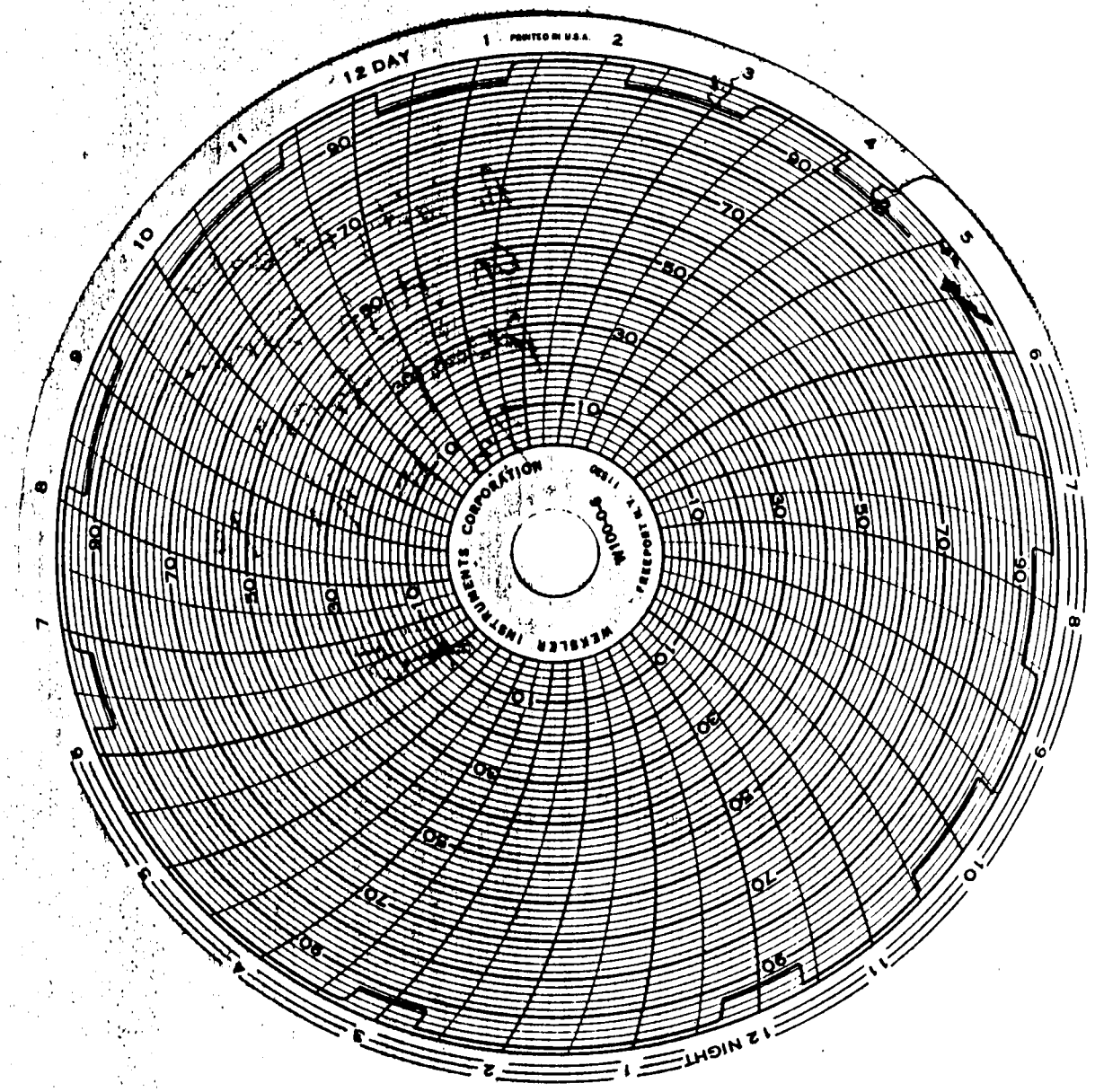
16:06+756.060E 0GPM 00R
+ 2.145E 0FPS 00R
+06061 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

17:06+729.643E 0GPM 00R
+ 2.070E 0FPS 00R
+00499 *10 G 00R
-00000 *10 G 00R
+002.40% AI2 00R

18:06+ 0.000E 0GPM 00R
+ 0.000E 0FPS 00R
+02016 *10 G 00R
-00001 *10 G 00R
+002.40% AI2 00R

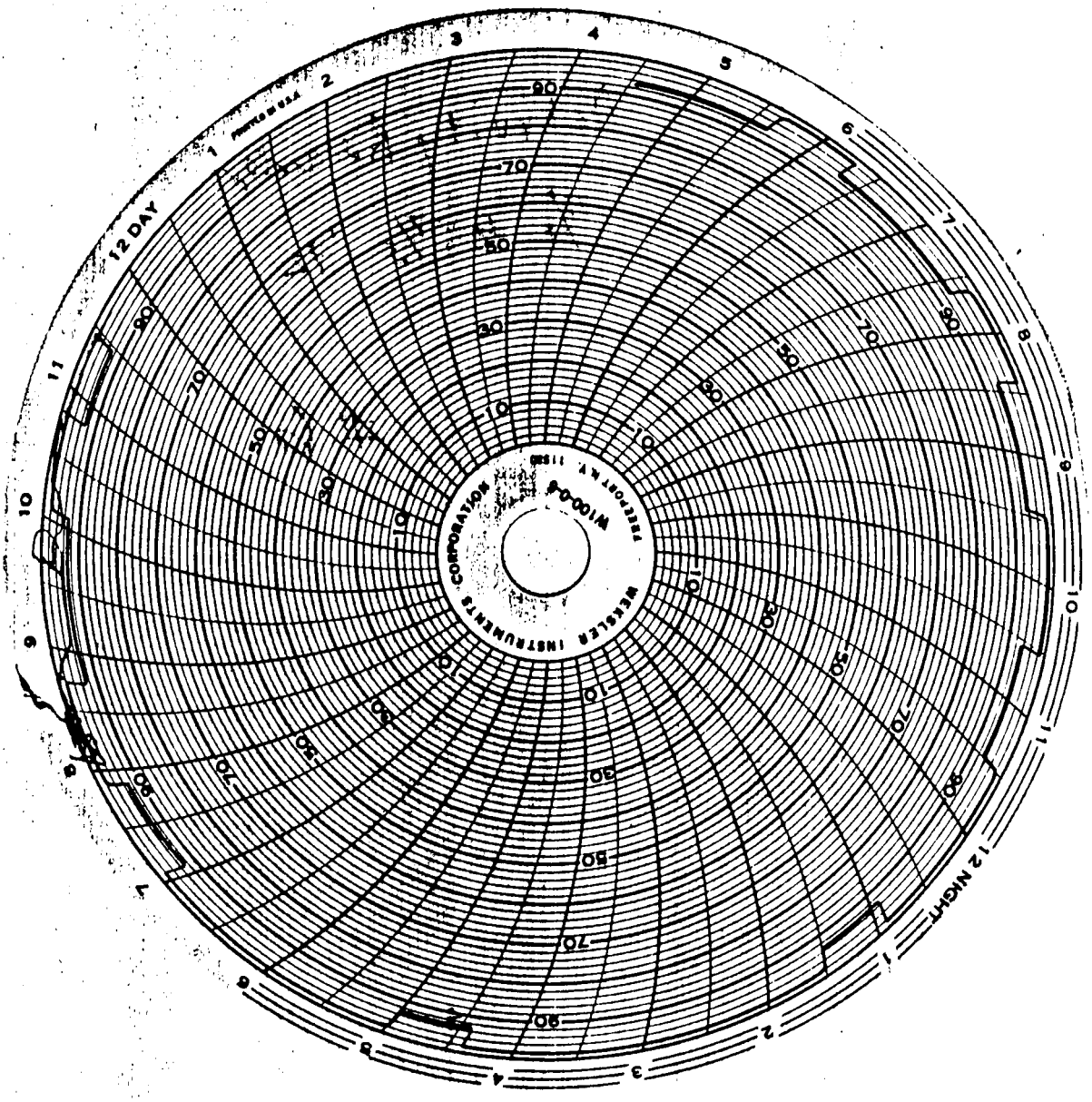
19:06+724.888E 0GPM 00R
+ 2.057E 0FPS 00R
+06407 *10 G 00R
-00001 *10 G 00R
+002.40% AI2 00R

CHART #5



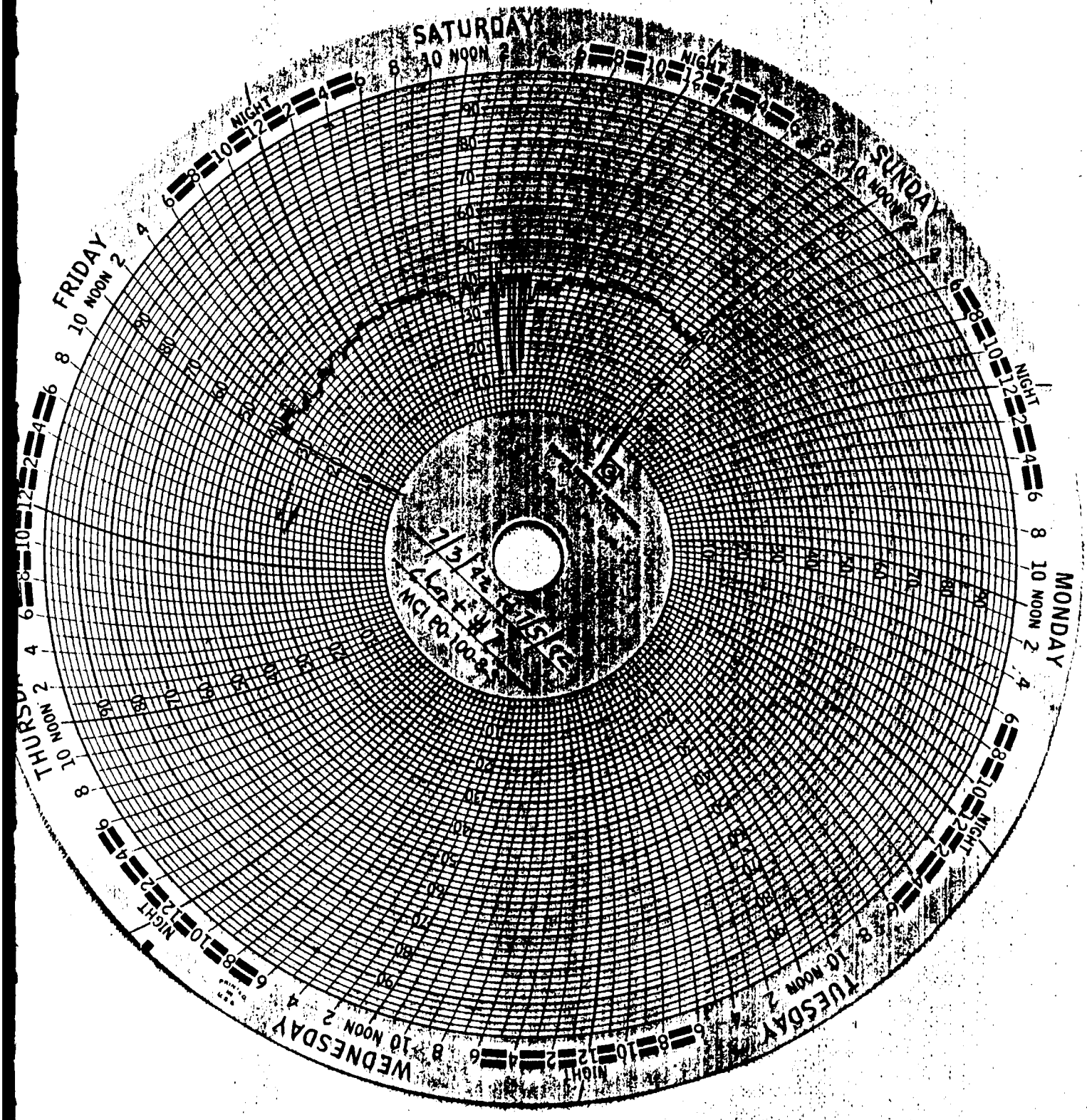
ACTIVITY RECORDER ON HIGH SERVICE PUMP CIRCUITRY FROM 7/3 to 7/4 1992.

CHART #6



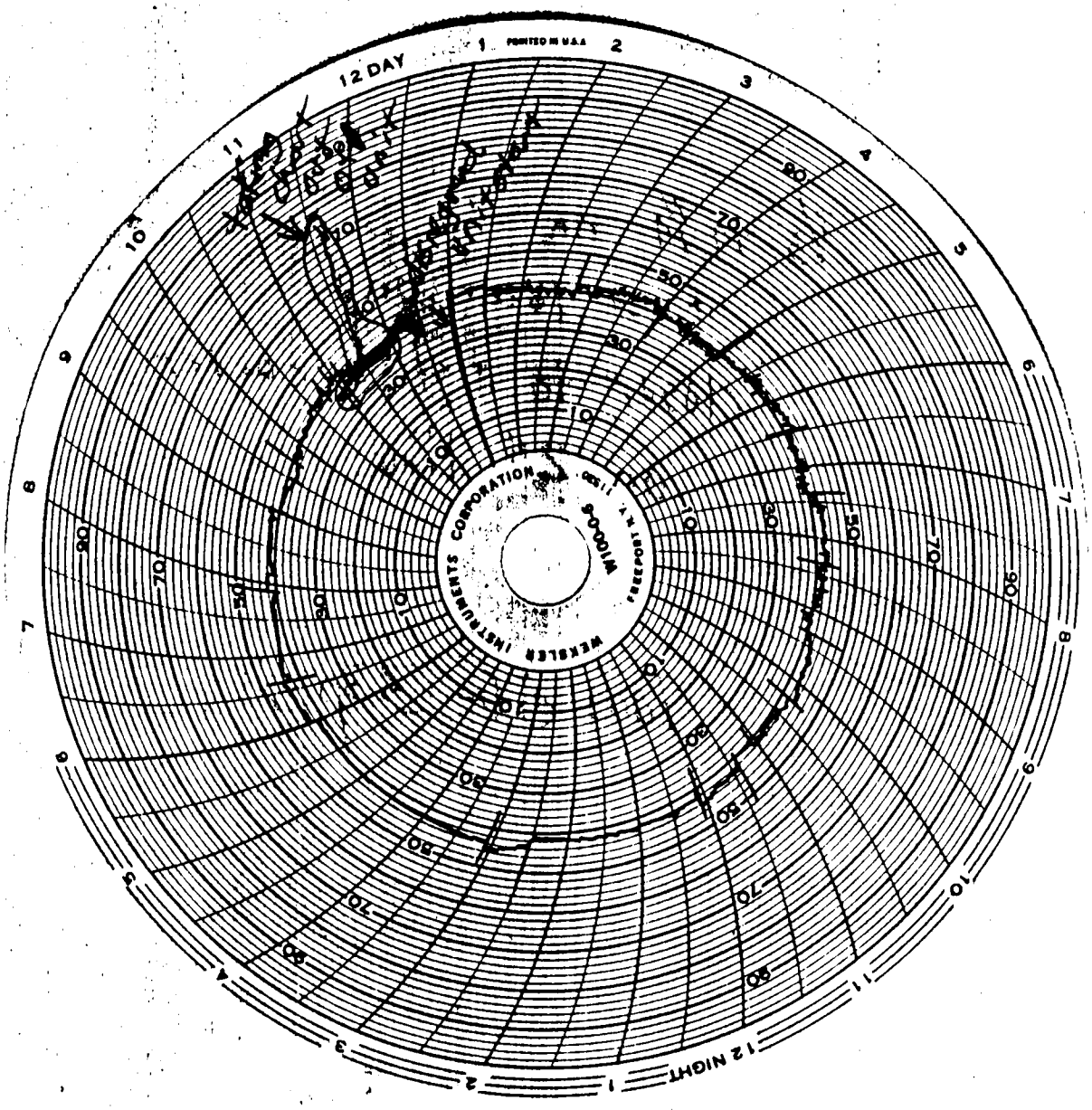
ACTIVITY RECORDER 7/4 to 7/5 1992.

CHART #7



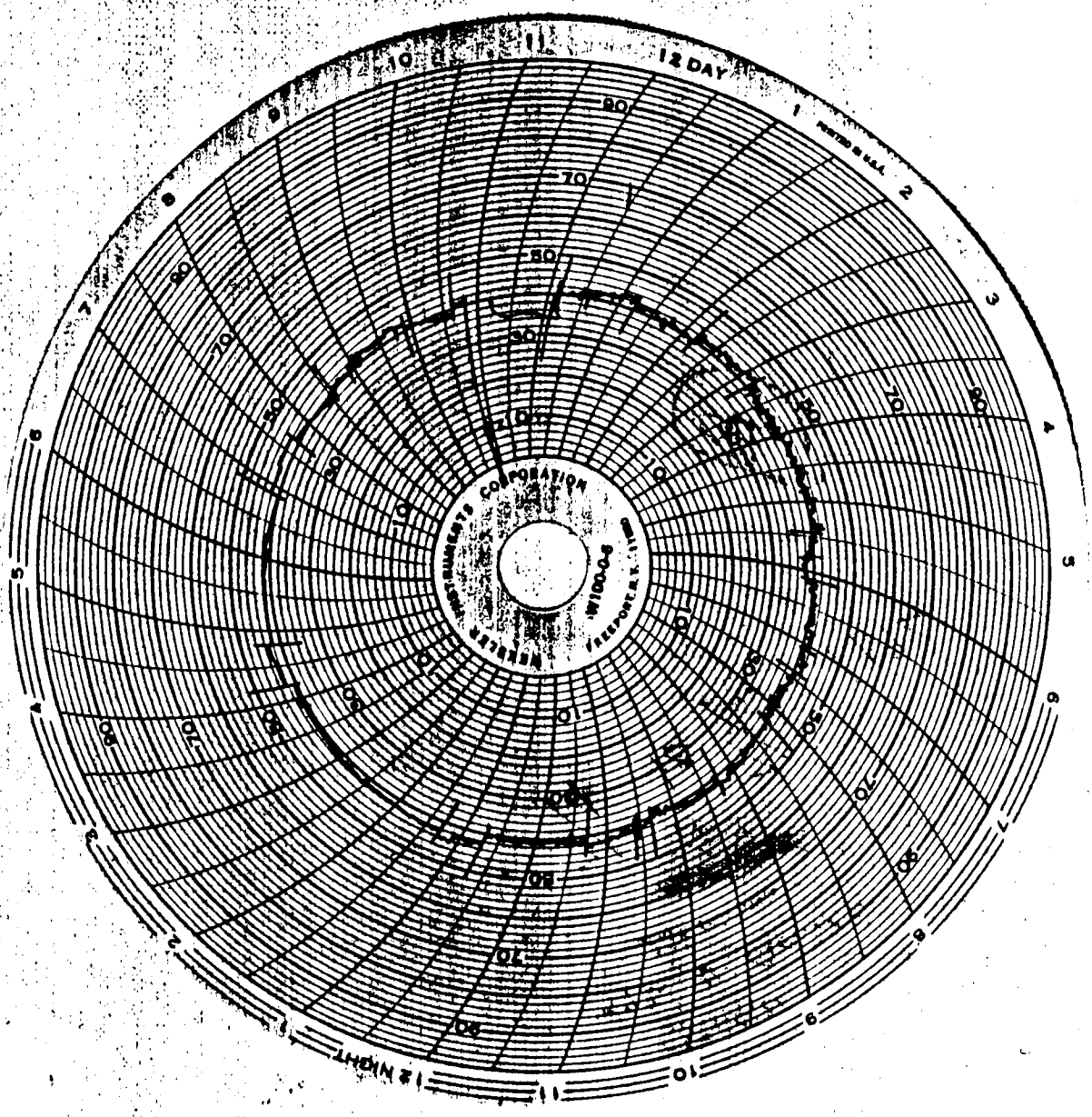
CLOSE TO ENTRANCE OF STATE PARK

CHART #8



573 WEST GORRIE DRIVE, 2" MAIN, 7/3 to 7/4 1992

CHART #9



573 WEST GORRIE DRIVE, 2" MAIN, 7/4 to 7/5 1991

CHART #10

LOCATION TOWARDS THE END OF PLANTATION

UNIT QUIT ADVANCING AT 8:00 p.m. BUT DROPPED ONLY TO 44psi BEFORE THE CHART WAS CHANGED OUT AT 12:30 p.m. on 7/4/92.

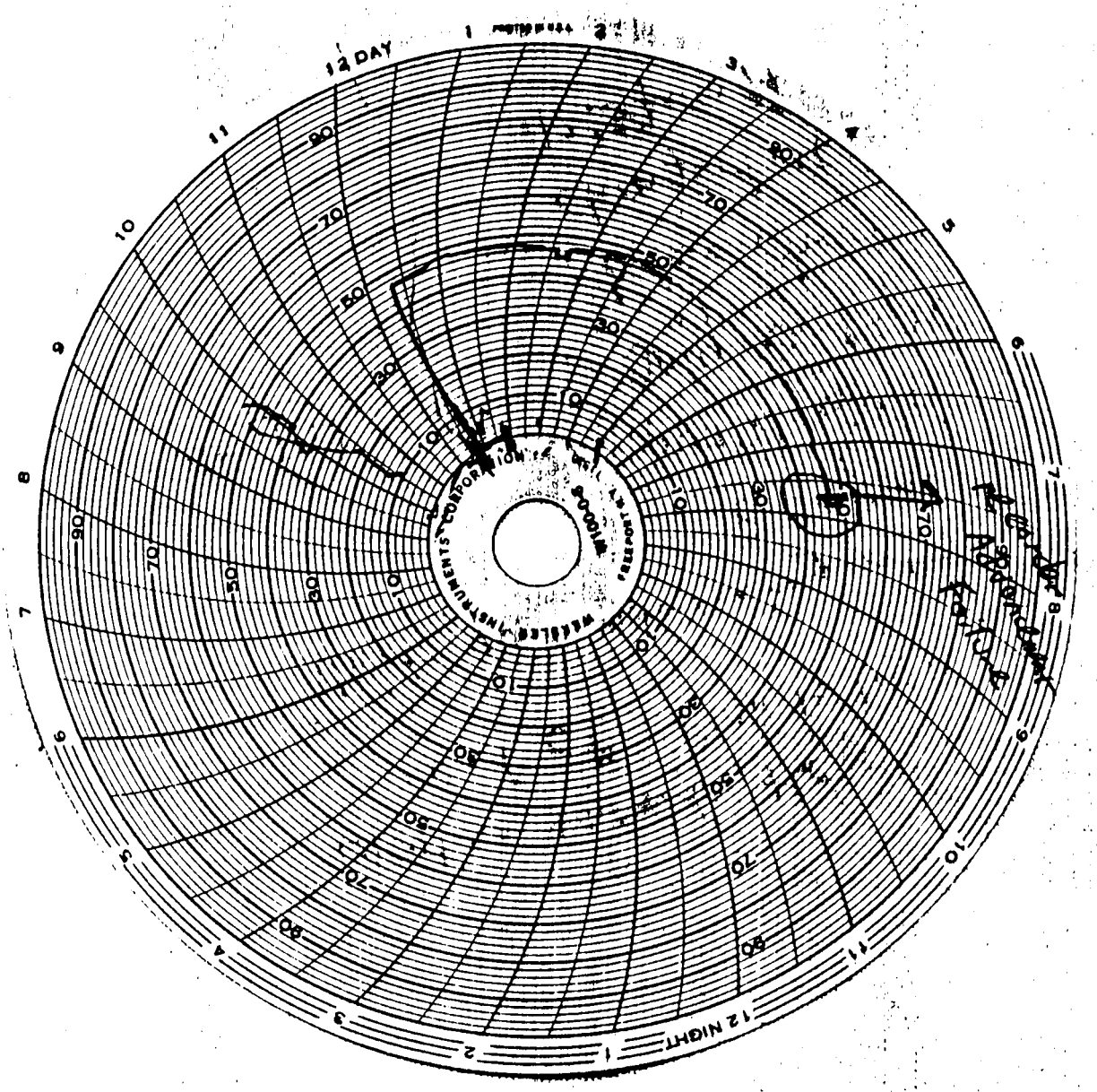
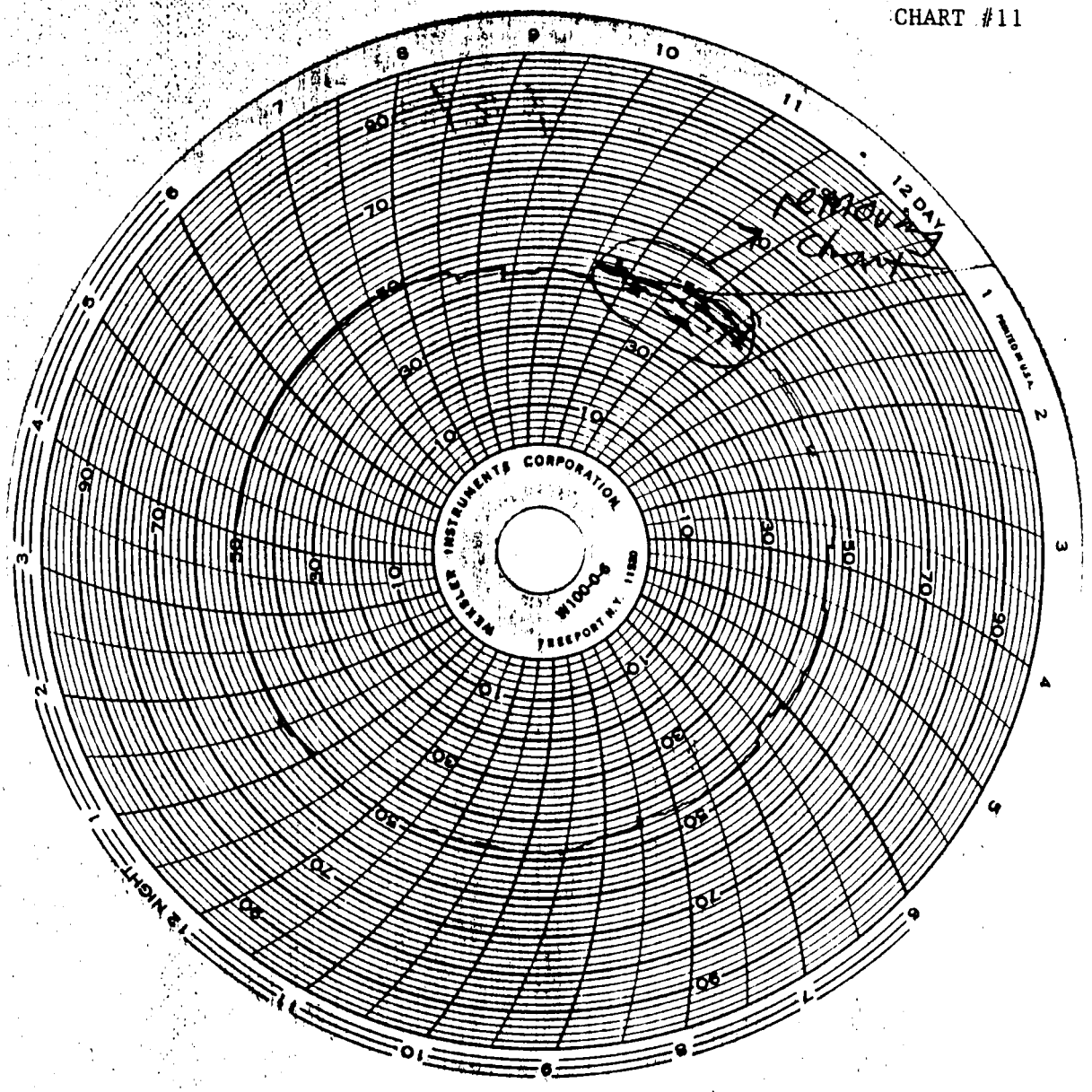


CHART #11



LOCATION TOWARDS THE END OF THE PLANTATION

7/4 to 7/5 1992