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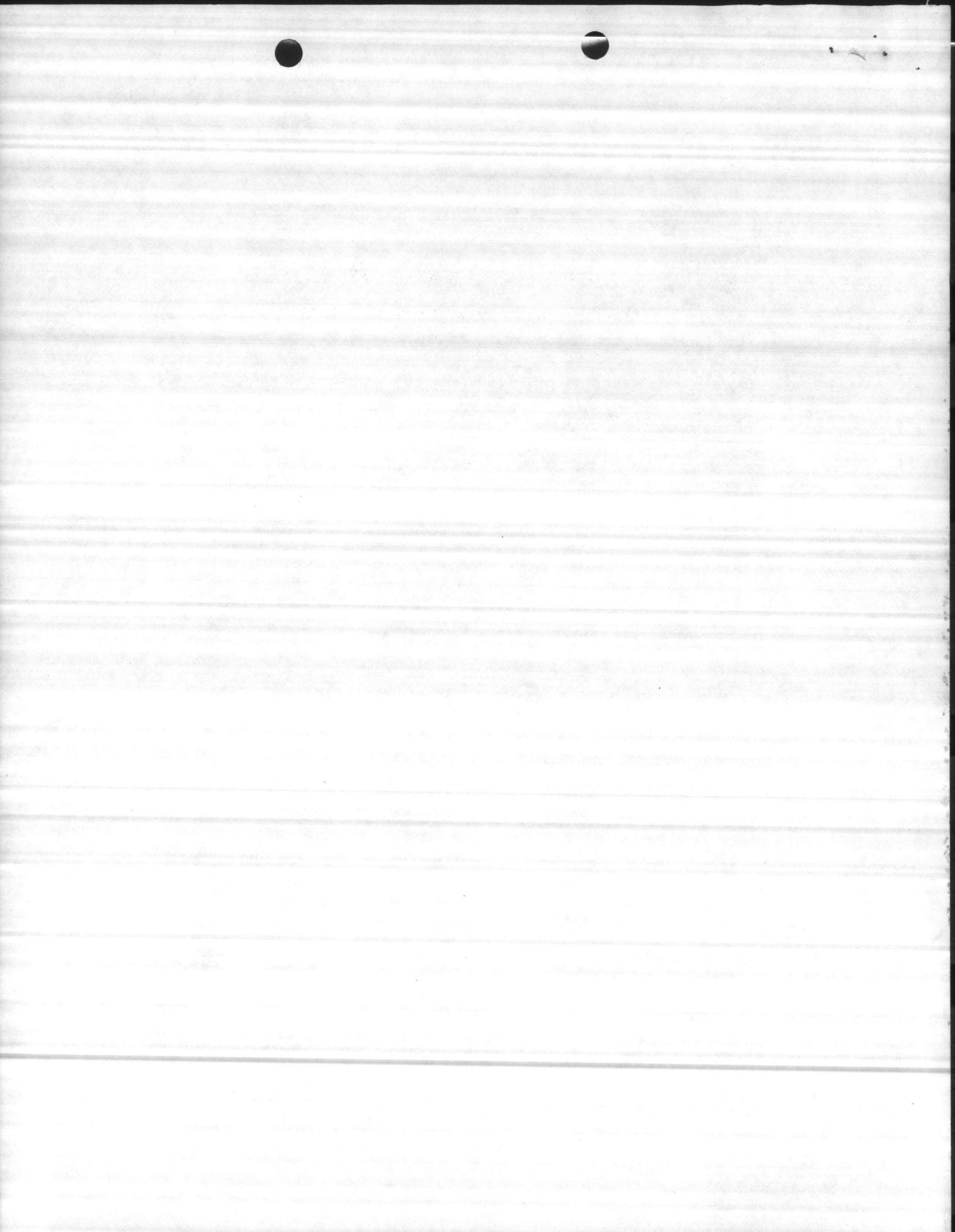
REPORT OF SANITARY SURVEY

STONES BAY AREA

AREA C-3

APRIL 1982 - FEBRUARY 1984

MARCH 1984



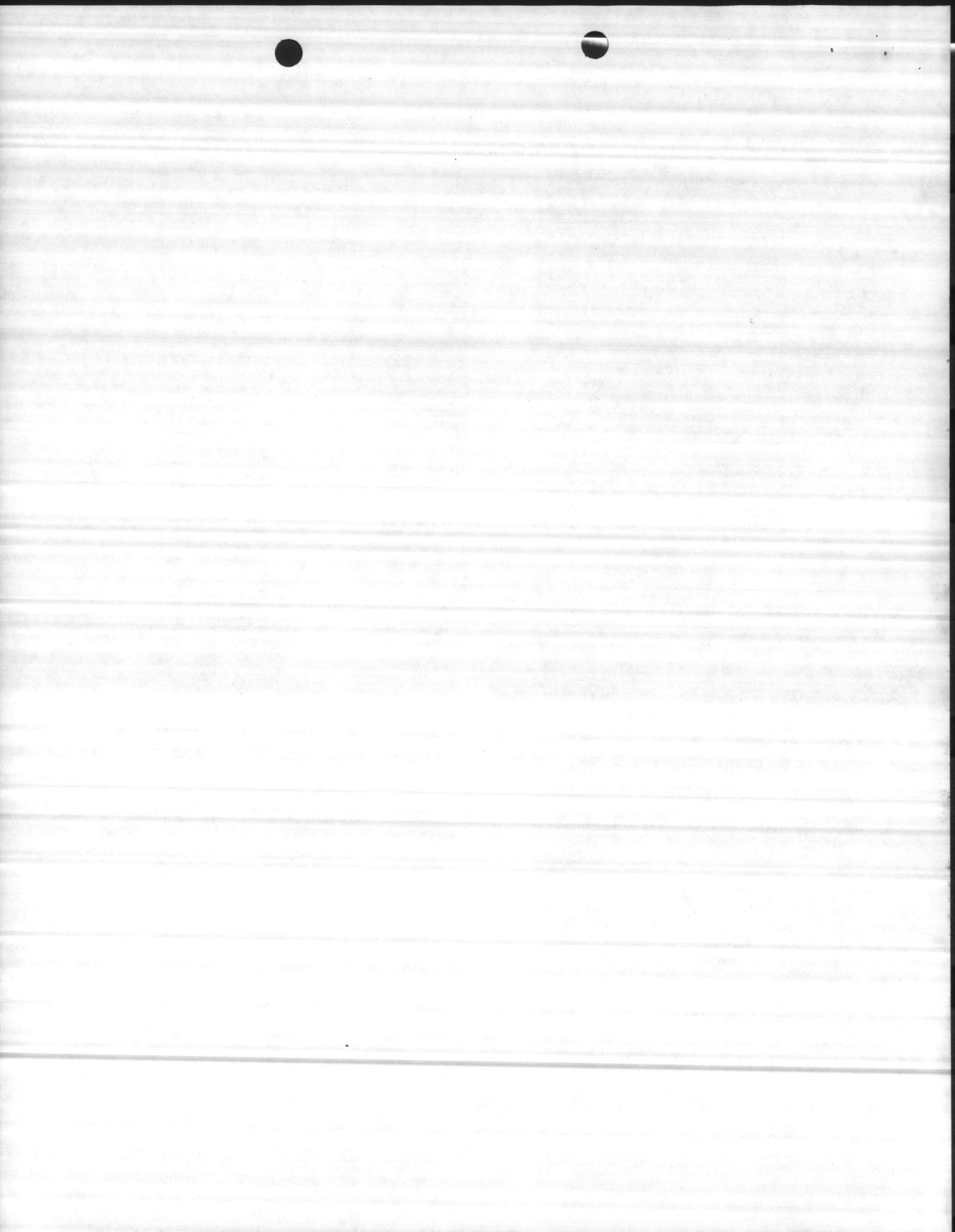
AREA C-3

- EXHIBIT I      AREA MAP AND STATION LOCATIONS
- EXHIBIT II     STP'S, LIFT STATIONS, MARINAS, AND DOCKS
- EXHIBIT III    LETTER TO CAMP LEJEUNE COMMANDING GENERAL
- EXHIBIT IV     BACTERIOLOGICAL RESULTS AND MPN MEDIANS
- EXHIBIT V      PROCLAMATION AND CLOSED AREA MAP



Preface

Total Acres.....	15,025.
Prohibited Acres.....	7,165
Oyster Production.....	Fair to Good.
Clam Production.....	Fair.
Commercial Value.....	Fair.
Recommended Changes.....	Opened 3,000 Acres.



# REPORT OF SANITARY SURVEY

## STONES BAY AREA

### AREA C-3

By

SHELLFISH SANITATION PROGRAM  
NORTH CAROLINA DIVISION OF HEALTH SERVICES

#### I. INTRODUCTION

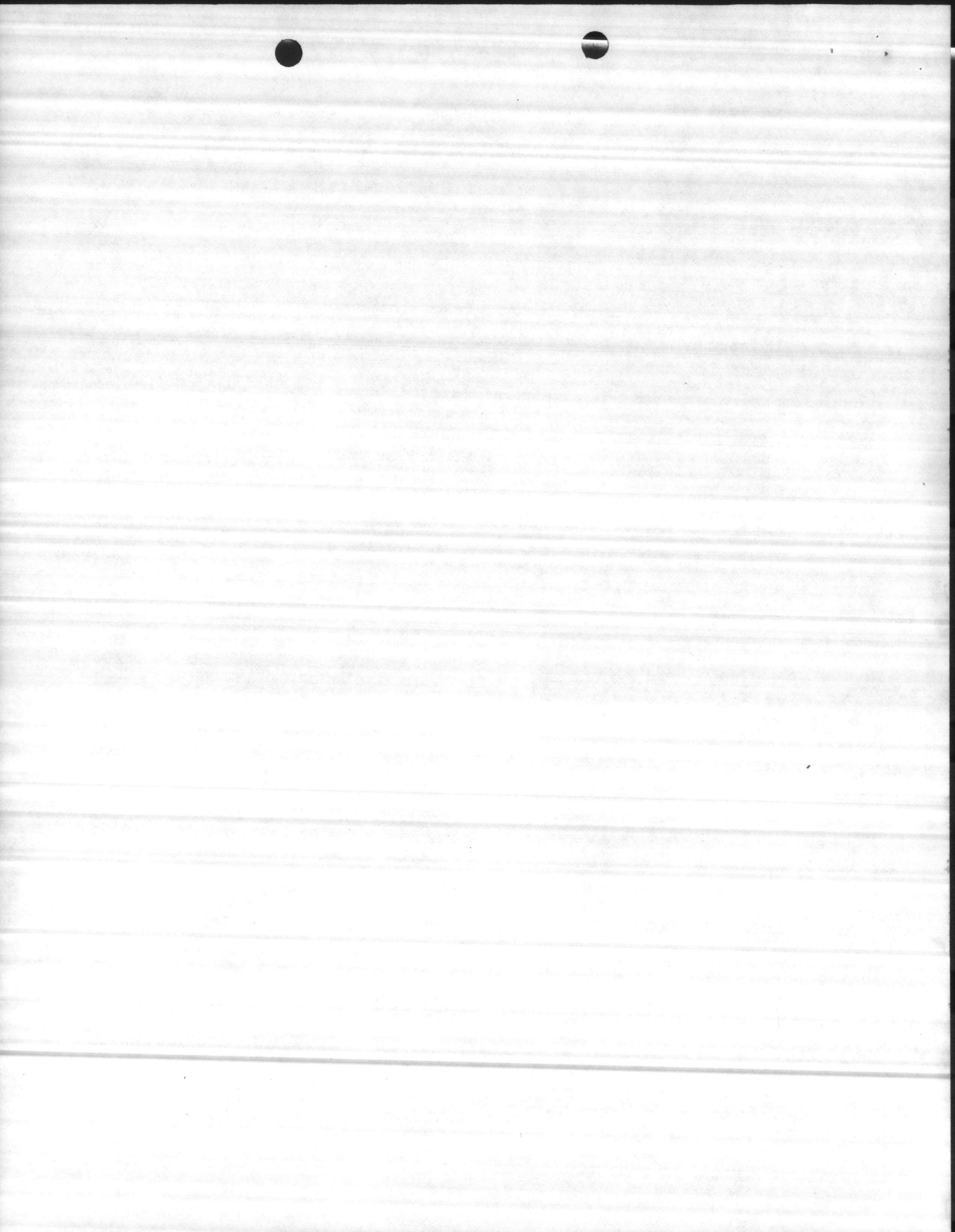
Area C-3 is composed of all the waters of New River and its tributaries from Highway 172 Bridge at Sneads Ferry upstream to Jacksonville, N. C. (See Exhibit I for area map.) The watershed for Area C-3 consists of approximately 240 square miles and contains the Camp Lejeune Marine Base, the city of Jacksonville, and numerous communities and sub-divisions to the headwaters at Richlands, N. C. The total population in the watershed is estimated at 85,000.

There are a number of sewage treatment plants that discharge into New River, particularly in the upstream section. These plants that discharge directly into the waters of Area C-3 will be discussed in the shoreline survey section of this report.

#### II. SHORELINE SURVEY OF SOURCES OF POLLUTION

A spot-check shoreline survey of Area C-3 was begun on January 10, 1984, and completed on February 1, 1984. Ralph Johnson of the Shellfish Sanitation staff conducted the survey.

Area C-3 is located in Onslow County. The county health department was not notified in advance about the survey. Individual septic tank systems are not inspected during a spot-check survey. Geographically, Camp Lejeune (United States Marine Corps) constitutes the majority of the landmass designated as Area C-3. A letter, (Exhibit III), requesting permission to visit





the base and conduct the survey was sent to the Commanding General's office at Camp Lejeune. Verbal permission was received from Mr. Danny Sharpe, Supervisor, Ecology, Natural Resources, Camp Lejeune. Miss Elizabeth Betz, Supervisor Chemist, Natural Resources, Camp Lejeune, accompanied and assisted in the survey on the base. It should be noted that all roads, streets, or paths located in close proximity to estuarine waters on the base were not visually inspected for this spot-check survey. However, information compiled for this report on the Camp Lejeune section of Area C-3 is more comprehensive than in previous reports. A conference (meeting) with Colonel Milton Lilly, USMC and Mr. Bob Alexander, Supervisor, Natural Resources, Camp Lejeune, was very informative for the survey. The landmass located outside the boundaries of Camp Lejeune in Area C-3 was visually inspected and information obtained for this report.

The following is an informational list of sewage treatment plants (STP), lift stations, marinas, marina-type docks, and hazardous waste sites located in Area C-3.

(1) Hadnot Point STP

Location - east side of New River, north of Frenchs Creek, Camp Lejeune

Treatment - secondary treatment with pre and post-chlorination

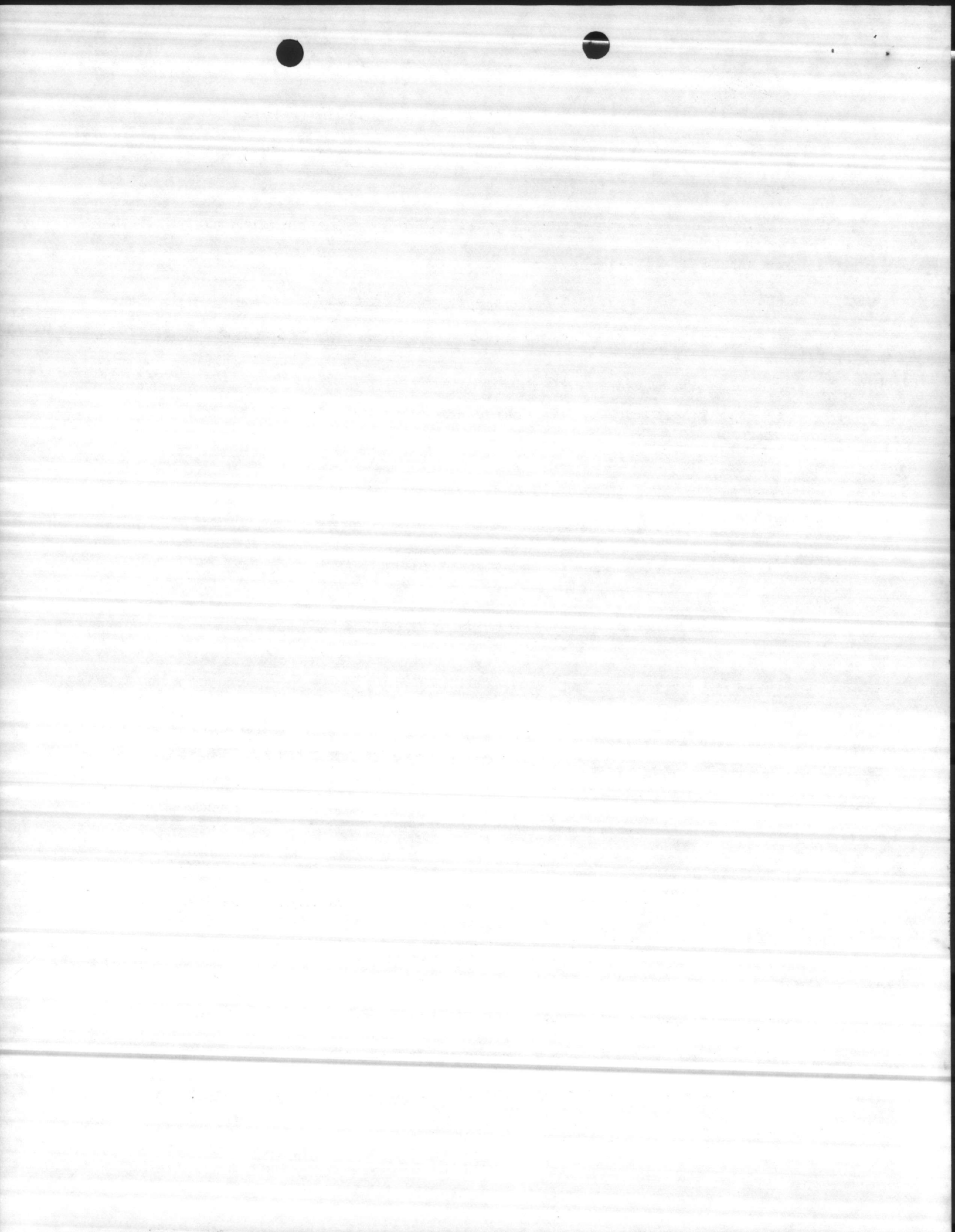
Maximum designed capacity - 8 million gpd

Average flow - December, 1983, 6.7 million gpd

Outfall - The outfall is located in New River on the east side, north of Frenchs Creek.

Problems - no major problems in the past two (2) years

Samples - Once a month Natural Resources personnel collect samples at the outfall, above and below the outfall in New River. This sampling program is applied to all STP's located at Camp Lejeune. Analysis is done at the base.



Bypass - The old section of this plant has a bypass connected to the outfall. When used, sewage routed through the bypass receives primary treatment with chlorination.

Changes or upgrading - Camp Lejeune has an on-going program of upgrading their STP for quality control

(2) G. J. Gottschalk Marina (Not in Last Report)

Location - south side of Wallace Creek adjacent to New River, Camp Lejeune

Wet slips - 72

Permanent boats - 72

Boats with marine heads - 34

Pump-out service - none- The marina has a closed head policy.

Service - boat ramp

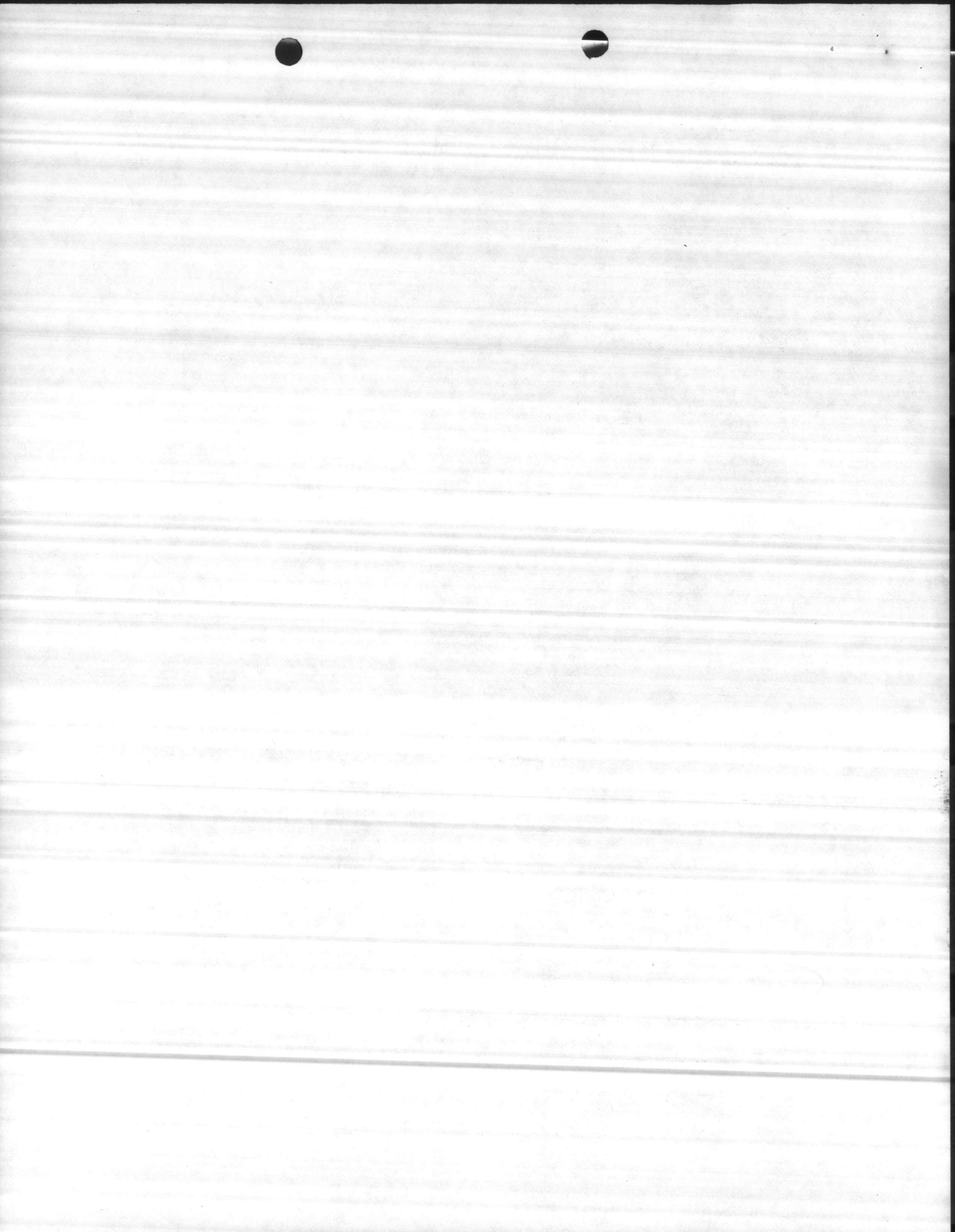
Sewage facilities - Bathrooms are connected to a STP.

(3) Lift Station - (Not in the Last Report)

Location - east side of New River, on the north side of Wallace Creek, Camp Lejeune

General - This lift station has a direct bypass. If bypassed, raw sewage can enter Wallace Creek. Also if the lift station malfunctions or overloads, raw sewage can flow to the ground surface outside the lift station. These lift stations are monitored by computers that notify base personnel of a problem. If a problem does occur, the United States Environmental Protection Agency (EPA) and the North Carolina Department of Natural Resources and Community Development (NRCD) are notified by letter within five (5) days that raw sewage has bypassed the station or escaped from the station. There is apparently no mechanism within the State Government to notify the Shellfish Sanitation office if raw sewage enters Wallace Creek from this site or any other body of estuarine water in Area C-3.

(4) Lift Station (Not in the Last Report)



Location - east side of New River, on the north side of Northeast Creek,  
Camp LeJeune

General - same as the preceding lift station

(5) Tarawa Terrace STP (Not in the Last Report)

Location - east side of New River, on the north side of Northeast Creek,  
Camp LeJeune

Treatment - secondary treatment with post-chlorination

Maximum designed capacity - 1.25 million gpd

Average flow - December, 1983, .9 million gpd

Outfall - The outfall is located in Northeast Creek.

Problems - In the first week of January, 1984, sewage was routed through the plant's bypass to Northeast Creek. EPA and NRCDC were notified. This re-routing was caused by new plant construction.

Samples - same as other STP located at Camp Lejeune

Bypass - The plant does have a bypass.

Changes or upgrading - same as other STP located at Camp Lejeune

(6) Lift Station (Not in the Last Report)

Location - north of Northeast Creek on small creek or drainage to Northeast Creek, Camp Lejeune

General - same as preceding list stations

(7) Camp Johnson STP (Not in the Last Report)

Location - east side of New River, on the north side of Northeast Creek,  
Camp Lejeune

Treatment - secondary treatment with post-chlorination

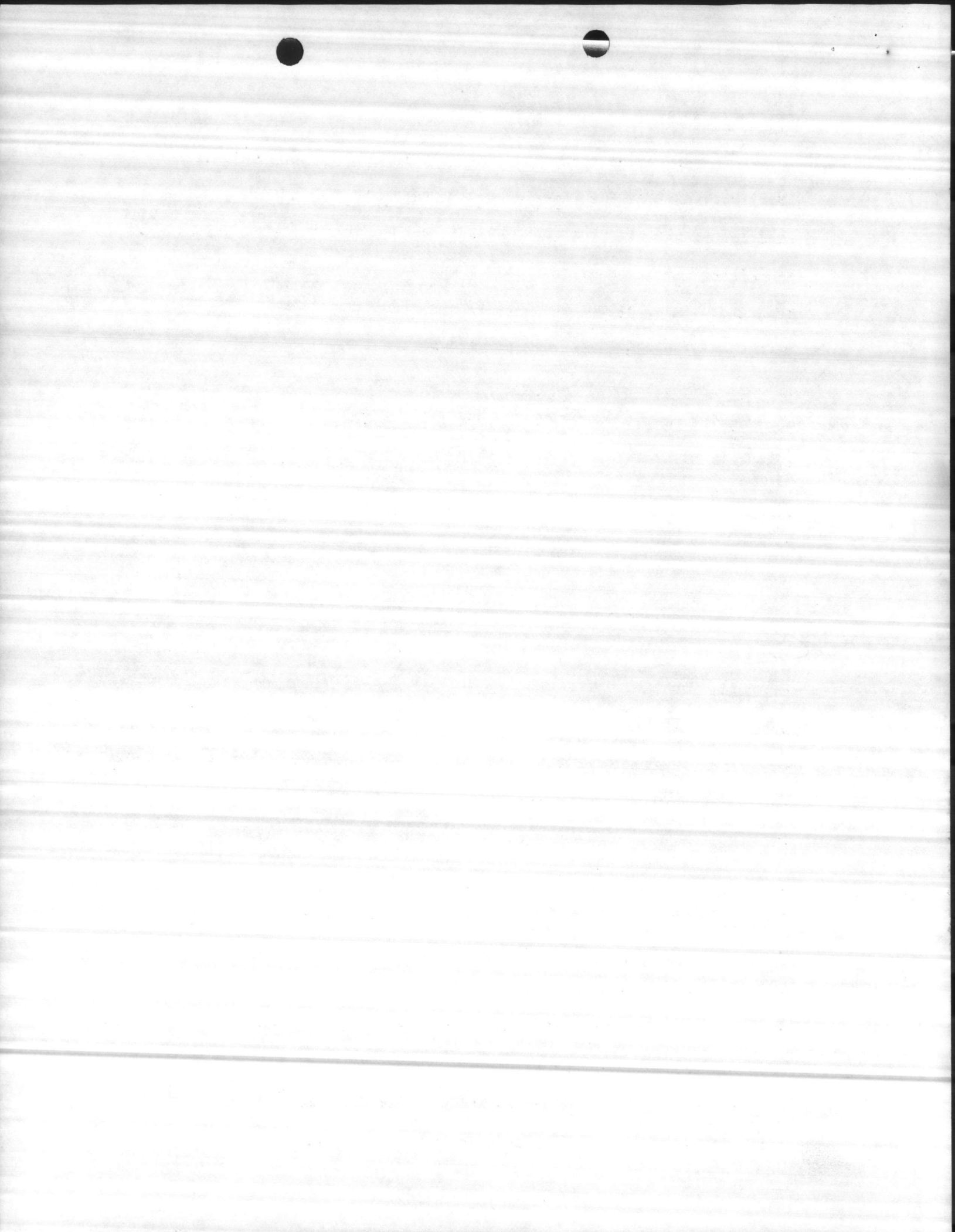
Maximum designed capacity - one million gpd

Average flow - December, 1983, .35 million gpd

Outfall - The outfall is located in Northeast Creek.

Problems - no major problems in the past two (2) years

Samples - same as other STP located at Camp Lejeune



Bypass - none

Changes or upgrading - same as other STP located at Camp Lejeune

(8) Jacksonville STP (Not in the Last Report)

Location - east end of Cocent Street and Shoreline Drive on Wilson Bay, New River, in Jacksonville

Treatment - secondary treatment with post-chlorination

Maximum designed capacity - 4.46 million gpd

Average flow - 2.5 million gpd

Outfall - east side of New River, Wilson Bay area

Problems - In the past this plant has had problems meeting Biological Oxygen Demand (BOD) limits set by NRCD. However, in the past year these limits were met. The plant has had and is having problems meeting the solids limits set by NRCD. Apparently this has occurred since the plant began operating in 1981.

Samples - The plant operators pull and analyze their own samples. NRCD also monitors this plant 3 or 4 times a year.

Bypass - none

Changes or upgrading - NRCD has issued compliance orders to Jacksonville to meet the solids limits set for the plant.

(9) Camp Geiger STP ( Not in the Last Report)

Location - west side of New River on Camp Lejeune

Treatment - secondary treatment with post-chlorination

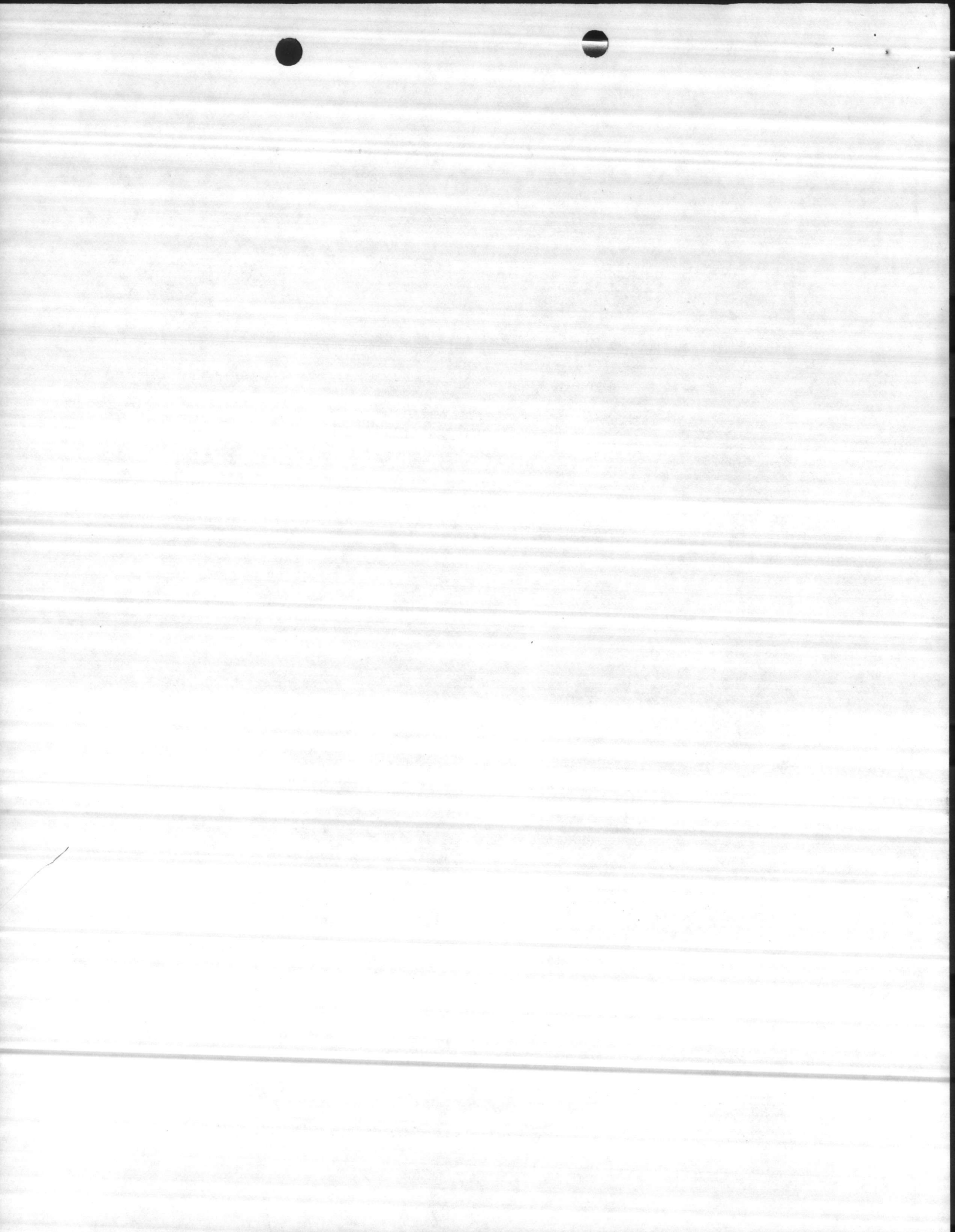
Maximum designed capacity - 1.6 million gpd

Average flow - December, 1983, .8 million gpd

Outfall - The outfall is located in New River, on the west side, north of the Camp Lejeune boundary.

Problems - no major problems in the past two (2) years

Samples - same as other STP located at Camp Lejeune





Bypass - none

Changes or upgrading - same as other STP located at Camp Lejeune

(10) Rifle Range STP

Location - west side of New River, Camp Lejeune

Treatment - secondary treatment with post-chlorination

Maximum designed capacity - 525,000 gpd

Average flow - 250,000 gpd

Outfall - The outfall is located in New River on the west side.

Problems - no major problems in the past two (2) years

Samples - same as other STP located at Camp Lejeune

Bypass - The plant does have a bypass pipe. However, the pipe has been blocked with cement.

Changes or upgrading - same as other STP located at Camp Lejeune

(11) Old Ferry Fish Company

Location - Hiway #172 on New River, on the north side of the Sneads Ferry Bridge

Changes - observed none

(12) Dixon School STP

Location - intersection of Hwy #17 and NC #210

Treatment - tertiary treatment with post-chlorination

Maximum designed capacity - 25,000 gpd

Average flow - 10,000 gpd

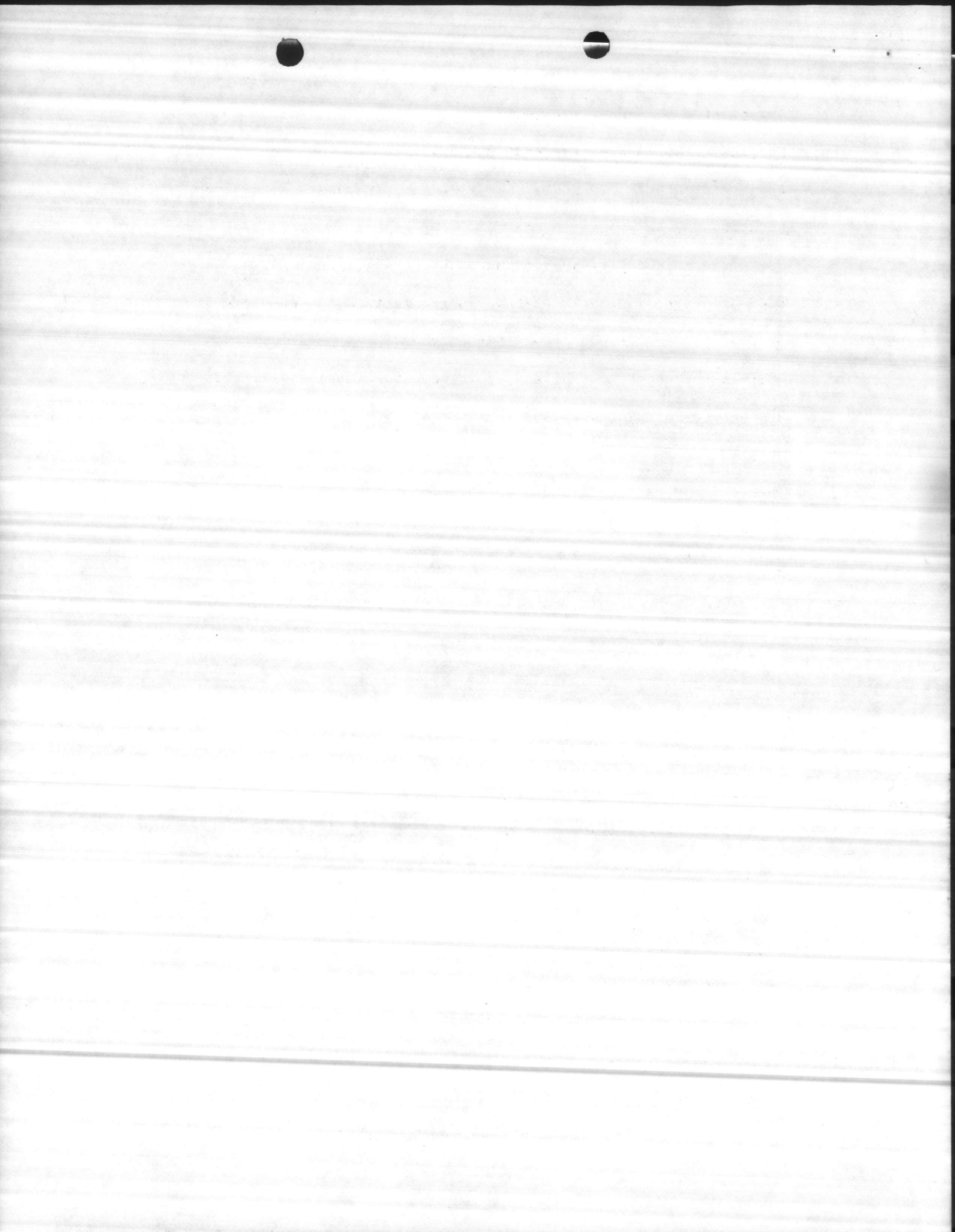
Outfall - The outfall is located in Stones Creek which flows into New River.

Problems - no major problems in the past two (2) years

General - Dixon Elementary School has 1,033 students. Dixon High School has 415 students.

(13) H & J Mobile Home Park STP

Location - intersection of Hwy #17 and County Road (SR) #1107



Treatment - secondary treatment with post-chlorination

Maximum designed capacity - 30,000 gpd

Average flow - 15,000 gpd - This flow is approximate. The flow is calculated by using the meter reading of the county water system.

Outfall - The outfall is located in Hicks Run Canal.

Problems - none reported - NRCD reports that the system is now being operated at a higher efficiency level than in previous years.

Samples - Management send samples to Beechan Lab in Jacksonville weekly and quarterly for analysis.

Bypass - none

Changes or upgrading - The ownership of this business has changed hands. An additional treatment facility has been purchased and is in the process of being added to the present system. Completion date is set for July or August of 1984. Approximately 57 units have been added to the existing 43 units reported in the last survey. The park now has 100 units, a store, and camp laundry connected to the sewage plant.

(14) Lauradale Subdivision STP (Not in the Last Report)

Location - north of Jacksonville, N. C.

System - tertiary treatment with post-chlorination

Maximum designed capacity - 400,000 gpd

Average flow - 150,000 gpd

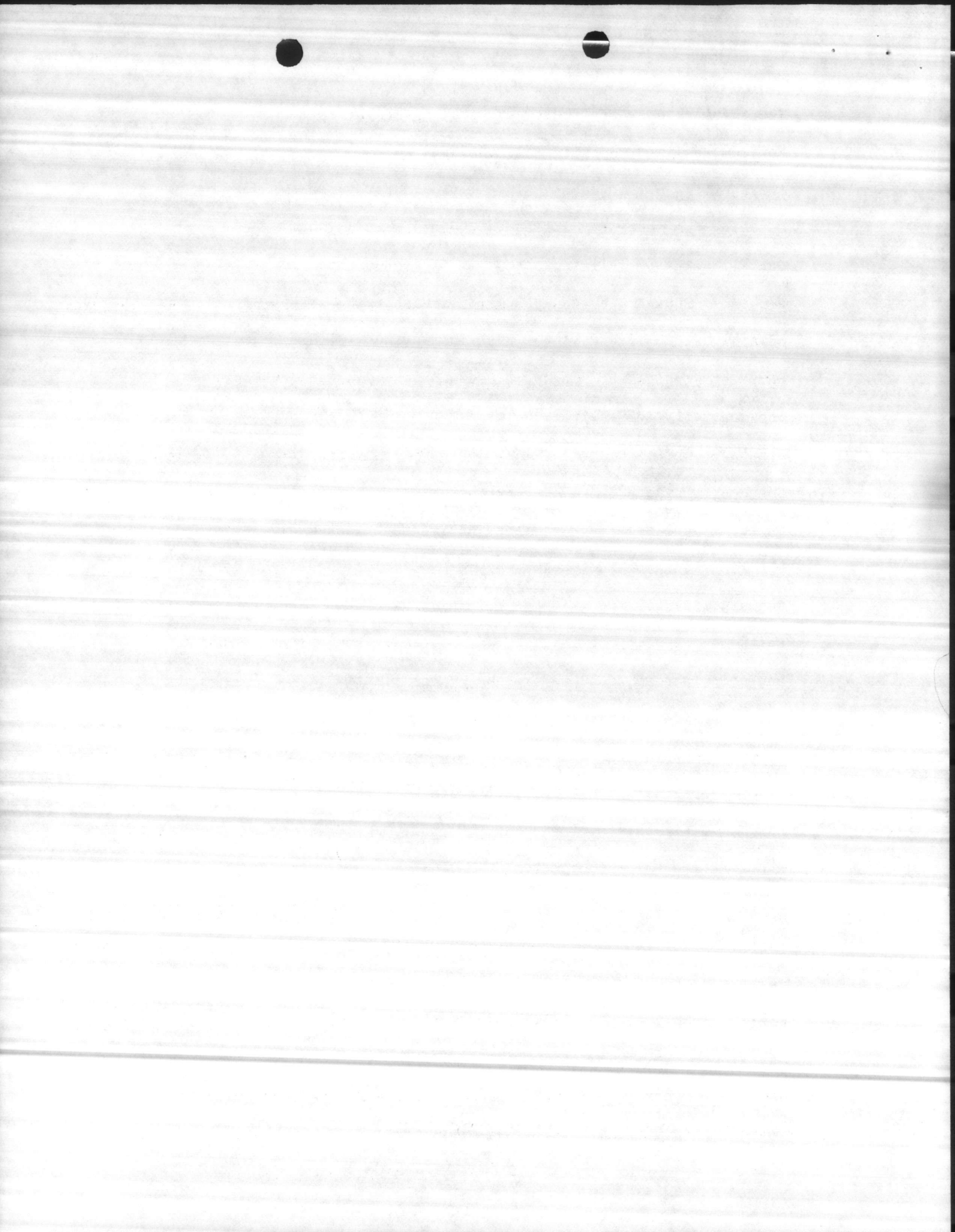
Outfall - final destination is New River

Changes or upgrading - Apparently plans are to enlarge the plant's maximum designed capacity up to 600,000 gpd.

General - This plant is physically located upstream and outside the boundaries of Area C-3.

(15) Richlands, N. C. STP

Location - Hwy #258, north of Jacksonville, N. C.



System -secondary treatment with post-chlorination

Maximum designed capacity - 210,000 gpd

Average flow - 100,000 gpd

Outfall - The outfall empties into Mill Creek and Mill Creek flows into New River

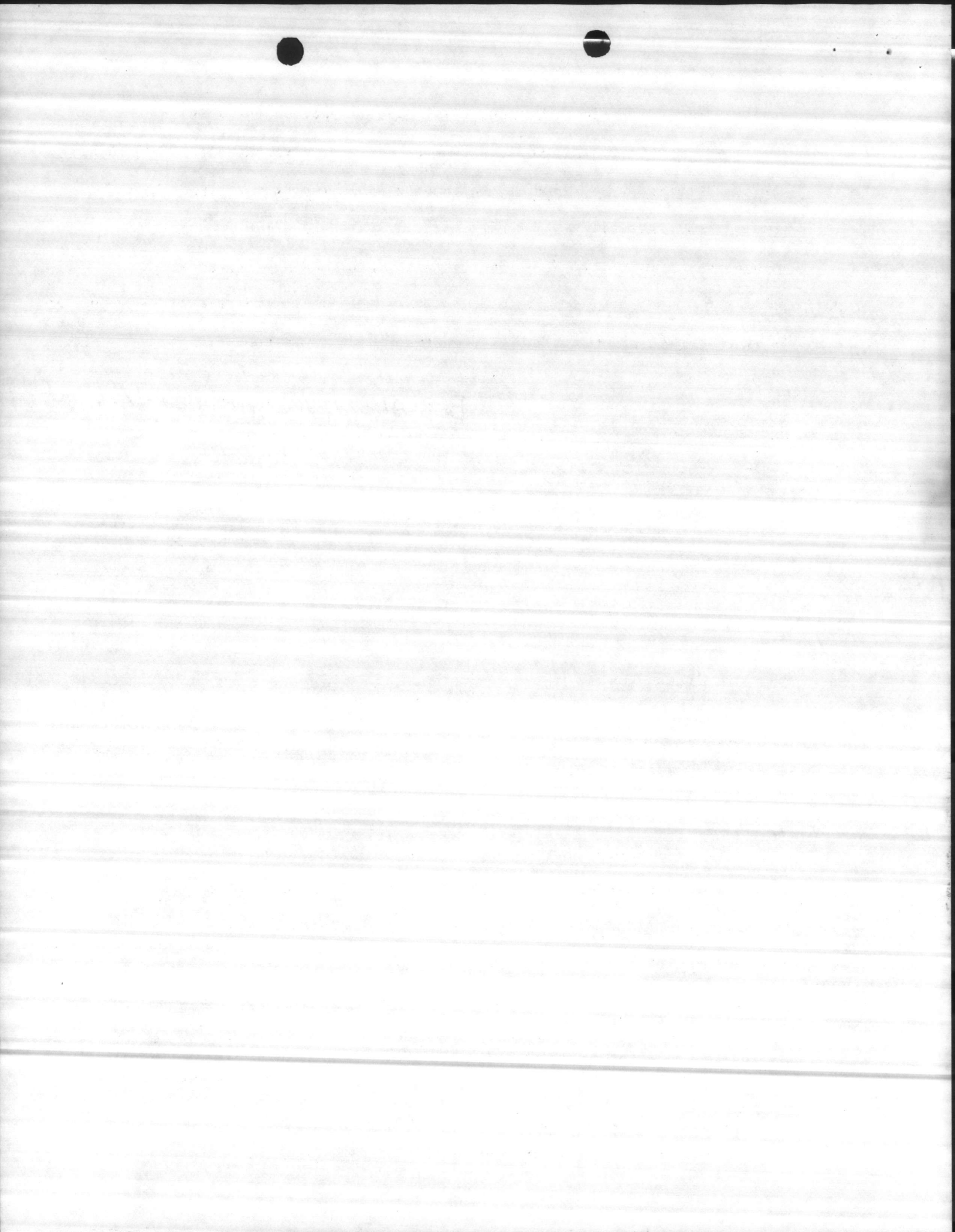
General - This plant is physically located upstream and outside the boundaries of Area C-3.

(16) Possible Hazardous Waste Sites (Not in the Last Report)

Location - Camp Lejeune

*Bob Alexander provided this info*

General - A comprehensive study of possible hazardous waste sites at Camp LeJeune was conducted in 1982 and 1983. The results of this study (Initial Assessment Study of Marine Corps Base, Camp Lejeune, North Carolina) was released in April of 1983. A copy of this report is on file in the Shellfish Sanitation office. A total of 76 potentially contaminated sites were identified. " The study concludes that, while none of the sites pose an immediate threat to human health or the environment, 22 warrant further investigation." It appears that, as indicated by the report, 17 of these 22 sites could possibly affect estuarine waters in Area C-3 or adjacent areas. A contract has been let for further study to evaluate the 22 possible hazardous waste sites this fiscal year (1983-1984). The study should begin by March of this year. The initial study recommends that off site samples be taken in creeks located near Sites #2, #24, and #28. No off site samples were recommended for the remaining 14 sites. Included in these remaining 14 sites are 3 sites (#69, #6, and #48) indicated by the report as having the highest priority for confirmation of the potential sites. Of these 3 sites, Site #48 is located adjacent to New River. Site #69 is located in close proximity to Everett Creek and New River. Both of these 2 sites, as indicated by the report, pose possible hazards to human health and the environment. Site #6 is located near Bearhead Creek, but some distance from New River.



Results from the study to be done this fiscal year on the 22 sites previously mentioned will be forwarded to the Shellfish Sanitation office and other agencies by officials at Camp Lejeune. The results from this pending study should give an indication if any other off site sampling should be considered by the State. (See the attached map marked for specific locations of 1 through 13, Exhibit II.) Copy of the 22 locations of hazardous waste sites can be found in the Camp Lejeune Report.

The State Government lacks the necessary procedures or mechanism to notify the Shellfish Sanitation office of problems occurring at STP and/or lift stations that could affect shellfish waters. This problem was discussed with officials at Camp Lejeune. In turn, these officials graciously volunteered to notify the Shellfish Sanitation office (Morehead City) in the future if problems occur on the base that could affect shellfish waters.

III. EVALUATION OF HYDROGRAPHIC FACTORS RESPONSIBLE FOR THE SPREAD OF POLLUTION

There are a number of sewage treatment plants in this area. These have been mentioned in the shoreline survey section. Drogue studies were conducted in the River during the 1977 evaluation. There has been no change in current patterns noted during this evaluation period.

IV. BACTERIOLOGICAL SURVEY OF SHELLFISH GROWING WATERS

The bacteriological survey was begun in April, 1982, and concluded in February, 1984. During the survey 276 water samples were collected from 20 water sample stations. (See Exhibit I for station locations.) Results indicate that the only section of the area with unsatisfactory results is Everett Creek. Station #24 in Everett Creek had a fecal coliform median of 47 and 33% of the samples exceeded the 10% rule. No other station in the area had unsatisfactory results. (See Exhibit IV for bacteriological results.)

V. SUMMARY AND RESULTANT AREA CLASSIFICATION

There has been a definite improvement in the water quality in the New River

*Assume that  
Bob Alexander/Col. N. 11/14  
made this  
Commitment  
We had not been  
advised of  
any change*

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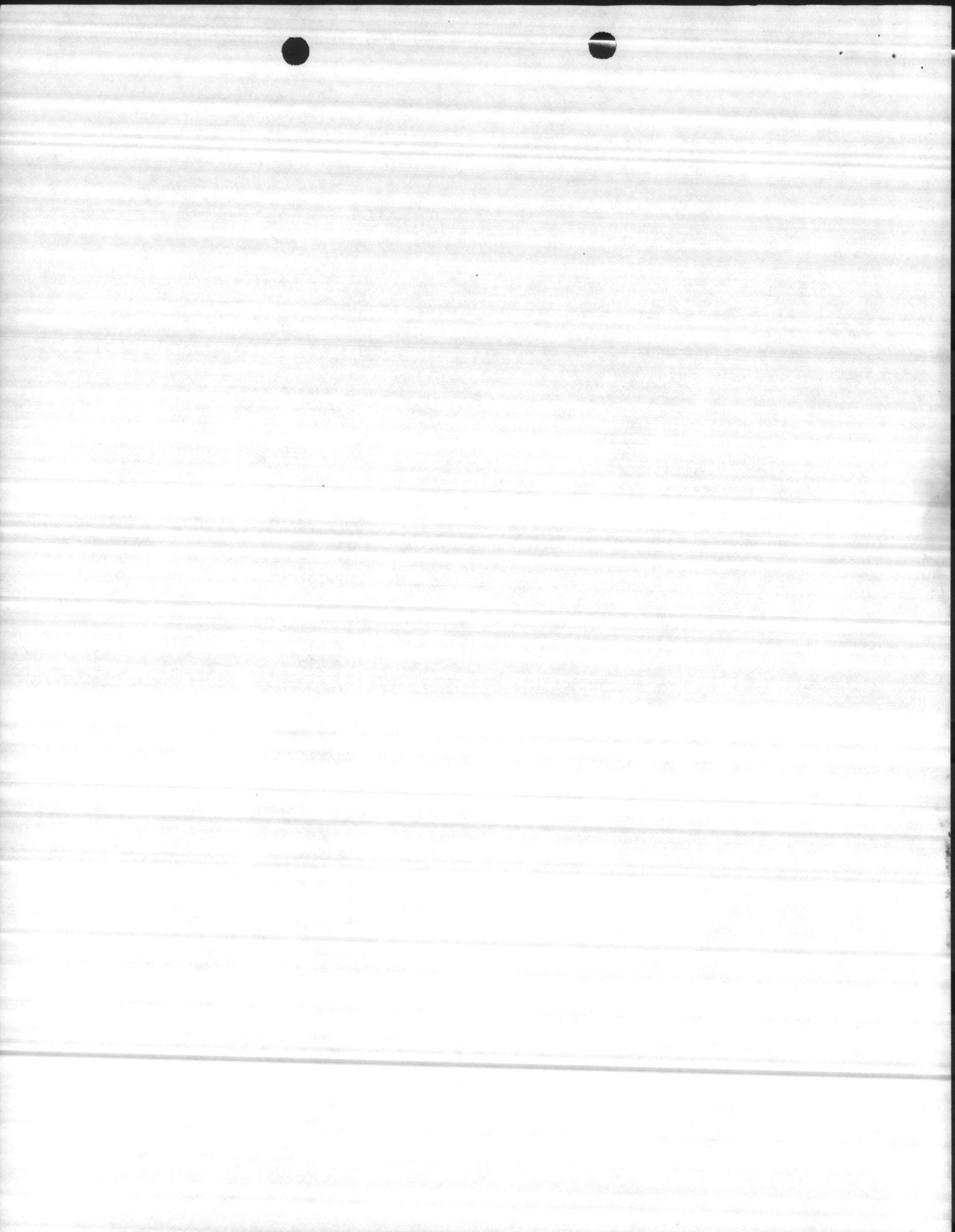


area in recent years. Results from the bacteriological survey indicate only one section of the area with unsatisfactory results and that section is the prohibited waters of Everett Creek.

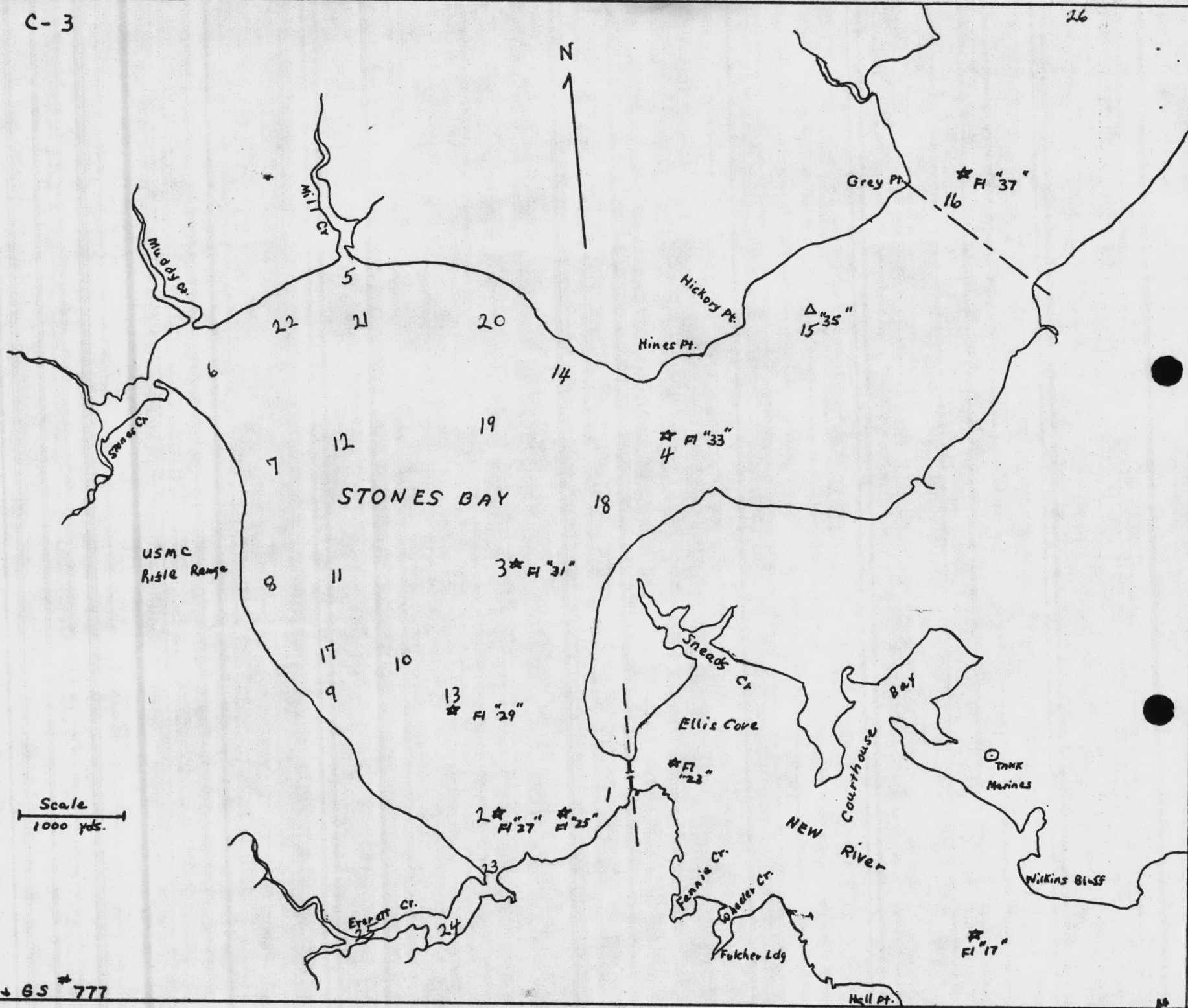
There are two reasons that could account for the noted improvement. The sewage treatment plants located throughout the Camp Lejeune Marine Base appear to be doing an excellent job. These plants are routinely inspected and monitored by base personnel.

It is also evident, based on data from previous surveys, that much of the area has shown improvement by using the fecal coliform standard as opposed to the total coliform standard.

Because of the favorable shoreline survey and satisfactory water sampling results, 3,000 acres of previously prohibited waters have been opened in this area. (See Exhibit V for proclamation and closed area map.)



Area C-3



From USC + GS # 777





(18) (19)

(21)

(20) (22)

(23)

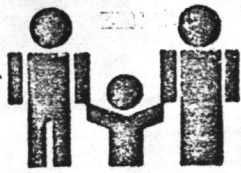
(24)

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(27)

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Ronald H. Levine, M.D., M.P.H.  
STATE HEALTH DIRECTOR

DIVISION OF HEALTH SERVICES  
SHELLFISH SANITATION OFFICE  
P.O. Box 769  
Morehead City, N.C. 28557  
(919) 726-6827

December 19, 1983

Commanding General  
United States Marine Corps  
Camp Lejeune, N. C. 28542

Dear Sir:

The Shellfish Sanitation Office conducts shoreline inspectional surveys of drainage areas adjacent to estuarine (shellfish producing) waters.

North Carolina shellfish growing area standards are based on fecal coliform counts. Testing procedures used for water classifications do not identify the source or sources of fecal coliform found in estuarine waters. We also look for heavy metal pollutants. To carry out our objectives, the Shellfish Sanitation Office has divided the coast into small geographic areas.

The area to be surveyed at this time encompasses the mid to upper reaches of New River from the Sneads Ferry Bridge (Pollocks Point) north to the river's headwaters. Our designation for this area is C-3.

I am requesting permission to visit the area at this time. If permissible, I would like to drive through the area, making a visual inspection of the land adjacent to estuarine waters. I would also like to obtain general information on the sewage treatment plants and possible hazardous waste sites located in the area.

During previous surveys Mr. Julian Wooten or Mr. Danny Sharpe, Natural Resources Environmental Affairs, Camp Lejeune, have been my contact persons.

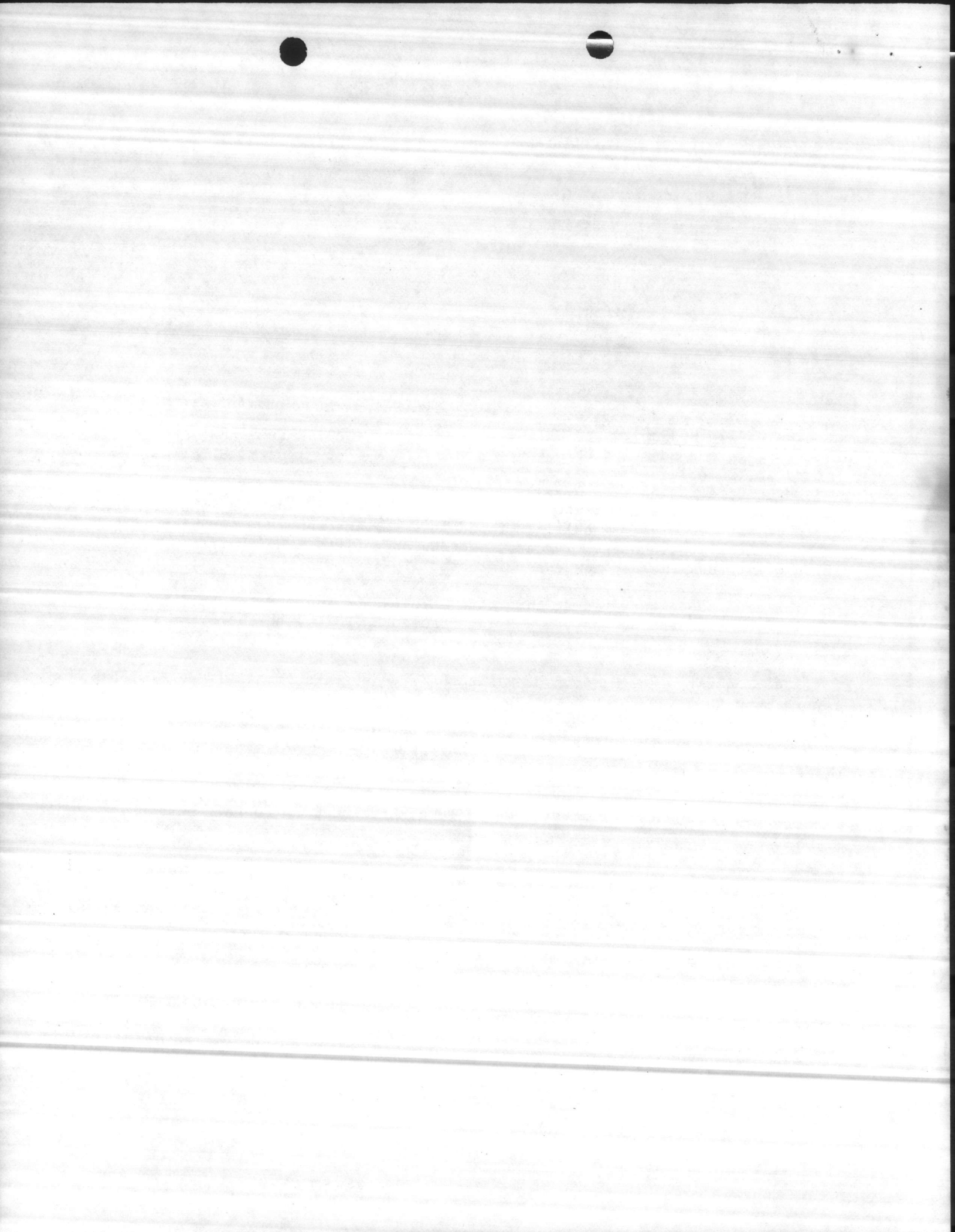
Thank you for your time and assistance.

Sincerely,

Ralph L. Johnson, R.S.  
Sanitarian Technician  
Shellfish Sanitation Office  
Sweeney Water Plant  
407 Hilton Street  
Wilmington, N. C. 28401

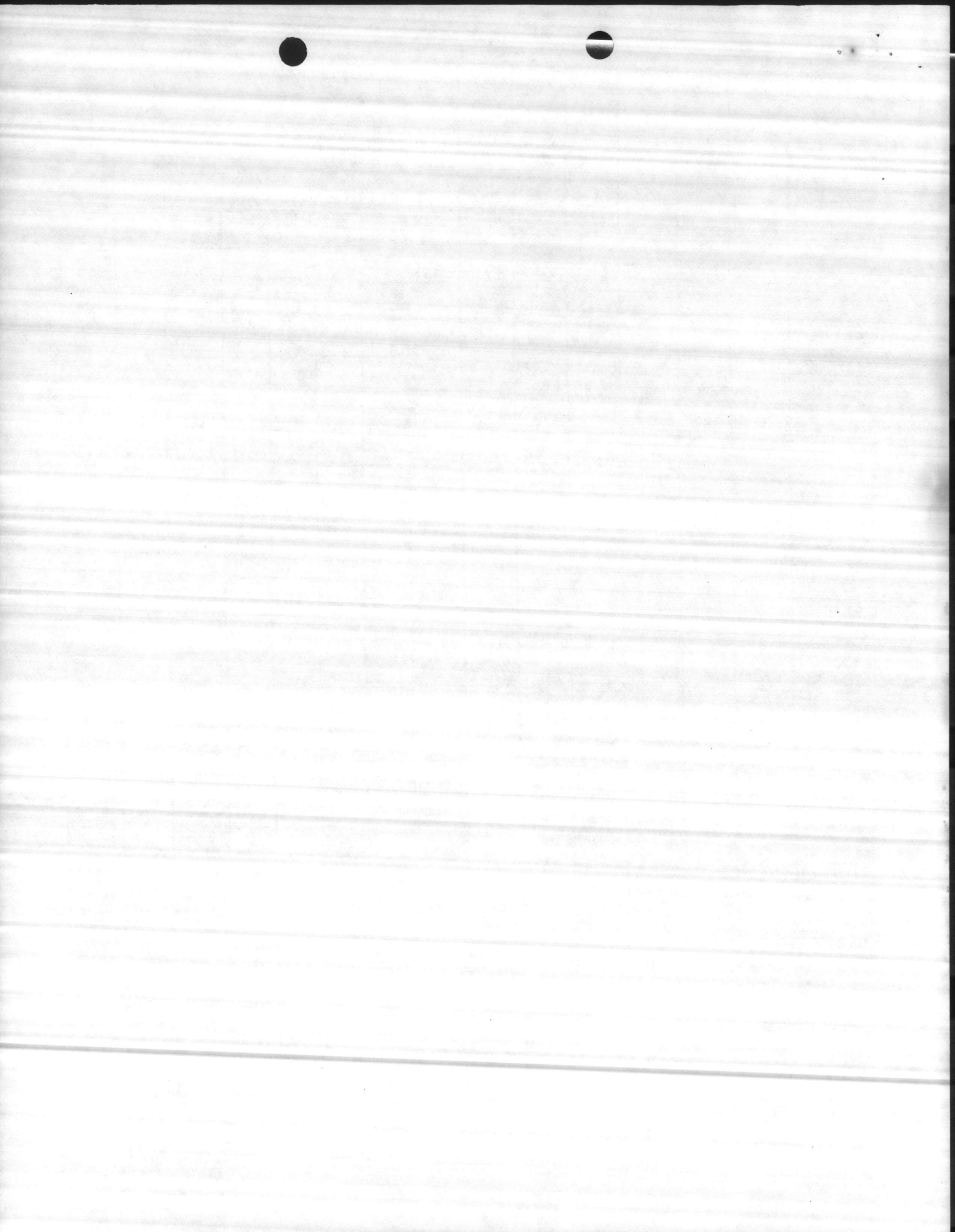
cc: Mr. Robert Benton (Area C-3)







STATION NOS.	4/20/82	11/2/82	11/16/82	5/2/83	8/2/83	9/7/83	9/27/83	10/19/83	11/1/83	11/8/83	11/30/83	12/8/83	1/30/84	7/21/84	Med.
1															
2	4.5	<1.8	<1.8	<1.8	<1.8	<1.8	2.0	<1.8	2.0	<1.8	<1.8	2.0	2.0	6.8	<1.8
3	<1.8	<1.8	2.0	<1.8	<1.8	<1.8	<1.8	<1.8	2.0	<1.8	<1.8	4.0	<1.8	7.8	<1.8
4	<1.8	2.0	2.0	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	2.0	<1.8	7.8	<1.8
5	6.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	11	<1.8	2.0	2.0	<1.8	7.8	<1.8
5A															
6															
7															
8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	4.5	<1.8	<1.8	<1.8	6.8	<1.8
9	<1.8	2.0	1.8	<1.8	<1.8	2.0	<1.8	4.5	<1.8	<1.8	33	<1.8	<1.8	11	<1.8
10	2.0	2.0	6.8	<1.8	<1.8	<1.8	<1.8	1.8	2.0	2.0	33	4.5	<1.8	4.5	2.0
11	<1.8	2.0	2.0	<1.8	<1.8	<1.8	<1.8	2.0	2.0	<1.8	<1.8	2.0	<1.8	6.8	<1.8
12	<1.8	<1.8	11	<1.8	<1.8	2.0	<1.8	<1.8	<1.8	2.0	4.0	2.0	<1.8	2.0	<1.8
14	<1.8	2.0	2.0	2.0	<1.8	<1.8	<1.8	<1.8	<1.8	6.8	4.0	<1.8	<1.8	7.8	<1.8
15	2.0	4.5	<1.8	2.0	<1.8	<1.8	<1.8	<1.8	2.0	1.8	<1.8	2.0	2.0	4.5	1.9
16	<1.8	2.0	4.5	<1.8	<1.8	<1.8	<1.8	<1.8	2.0	<1.8	4.5	<1.8	2.0	33	<1.8
17	<1.8	4.5	17	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	23	1.8	2.0		13	<1.8
20	<1.8	<1.8	4.5	<1.8	<1.8	<1.8	<1.8	2.0	<1.8	2.0	<1.8	<1.8	<1.8	17	<1.8
23			23	<1.8	4.5	7.8	<1.8	4.5	<1.8	33	130	17	11		9.4
23A	2.0	33		<1.8											2.0
24		70	79		2.0	6.8	<1.8	23	2.0	79	350	540	79	4.5	47
26	<1.8	13	11	2.0	<1.8	<1.8	<1.8	<1.8	<1.8	17	7.8	17	2.0	7.8	2.0
27	6.8	4.5	4.5	7.8	<1.8	<1.8	11	2.0	2.0		79	23	<1.8	33	4.5
30	6.8	7.8	17	2.0	<1.8	<1.8	<1.8	2.0	2.0	2.0	11	17	4.0	4.5	3.0
34	<1.8	<1.8	4.5	<1.8	14	<1.8	<1.8	<1.8	4.5	<1.8	2.0	7.8	4.0	23	2.0





# North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

James A. Summers, Secretary

DIVISION OF  
MARINE FISHERIESRobert K. Mahood  
Director

Telephone 919 726-7021

## PROCLAMATION

### RE: SHELLFISH POLLUTED AREA

By virtue of the authority vested in me as Secretary of the North Carolina Department of Natural Resources and Community Development, and upon the recommendation of Robert K. Mahood, Director, Division of Marine Fisheries, and Dr. Ronald H. Levine, Director, Division of Health Services, North Carolina Department of Human Resources, it is hereby announced that the following changes in shellfish harvesting areas will take effect at sunrise, March 3, 1984:

No person shall take or attempt to take any oysters or clams, or possess, sell or offer for sale any oysters or clams taken from the following polluted area:

#### ONSLow COUNTY

C-3

Stones Bay - All waters bounded by a line beginning at a point on the west shore at  $34^{\circ} 35' 16''$  N -  $77^{\circ} 26' 05''$  W; thence 675 yards in a northeasterly direction to a point in the Bay at  $34^{\circ} 35' 31''$  N -  $77^{\circ} 25' 51''$  W; thence 500 yards in a northerly direction to a point at  $34^{\circ} 35' 45''$  N -  $77^{\circ} 25' 51''$  W; thence 800 yards in a northwesterly direction to a point on shore at  $34^{\circ} 35' 52''$  N -  $77^{\circ} 26' 17''$  W; thence along the shore in a southerly direction to point of beginning.

Stones Creek - All waters upstream of a line near the mouth of Stones Creek beginning at a point on the south shore at  $34^{\circ} 36' 33''$  N -  $77^{\circ} 26' 44''$  W; thence to a point on the north shore at  $34^{\circ} 36' 52''$  N -  $77^{\circ} 26' 36''$  W.

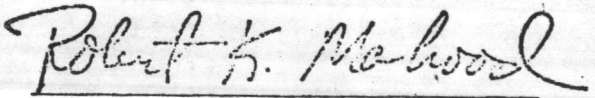
New River - All waters upstream of a line drawn across New River beginning at a point on the west shore at  $34^{\circ} 39' 18''$  N -  $77^{\circ} 22' 55''$  W; thence through Channel Marker #42 to the east shore at  $34^{\circ} 39' 44''$  N -  $77^{\circ} 21' 29''$  W.

Frenchs Creek - All waters bounded by a line beginning on the shore south of Frenchs Creek at  $34^{\circ} 38' 05''$  N -  $77^{\circ} 20' 33''$  W; thence in a northwesterly direction to a point in the River at  $34^{\circ} 39' 10''$  N -  $77^{\circ} 21' 10''$  W; thence in an easterly direction to the shore at  $34^{\circ} 39' 13''$  N -  $77^{\circ} 20' 58''$  W; thence along the shore back to the point of beginning.

NOTES: [1] This proclamation is issued under the authority of G. S. 113-182; 113-221 (e), and N. C. Marine Fisheries Regulation 15 NCAC 3B .0901 (b) and 15 NCAC 3B .1101.

- [2] This action replaces N. C. Marine Fisheries Regulation 15 NCAC 3B .1111 (23) (d) and becomes (23) (d) (i) (ii), replaces (23) (e), and adds (23) (k), and opens approximately 3,000 acres of shellfishing waters in the New River area.
- [3] Shaded areas on map indicates areas closed to shellfishing.

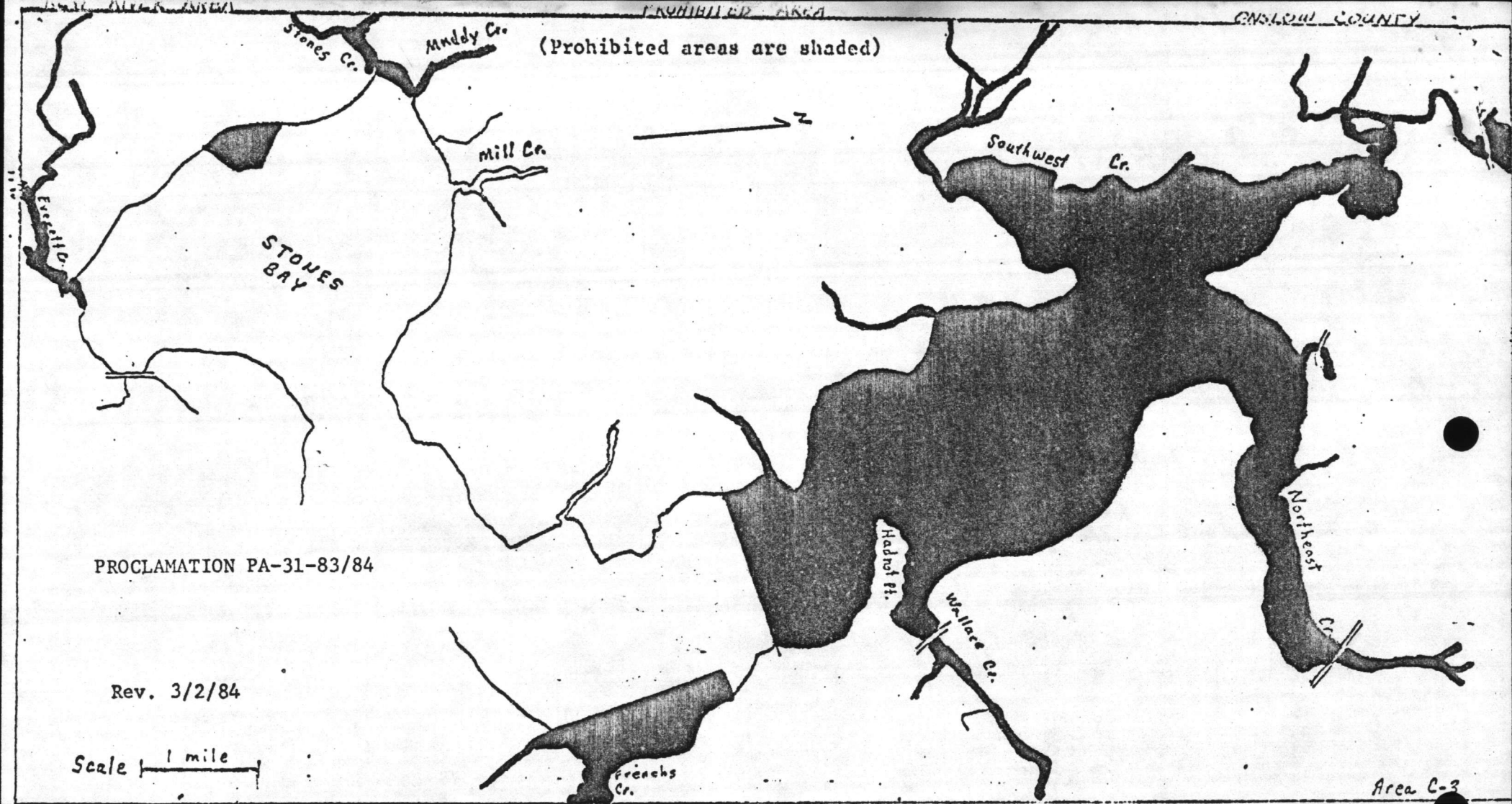
BY AUTHORITY OF THE SECRETARY OF THE DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT.

BY:   
Robert K. Mahood, Director  
Division of Marine Fisheries

March 2, 1984  
11:00 A. M.

PA-31-83/84

/sh



New River Area:

No person shall take or attempt to take, any oysters or clams or possess, sell, or offer for sale, any oysters or clams taken from the following polluted areas: (See back of sheet for continued description.)

Everett Creek:

In Everett Creek and its tributaries, south and west of a line drawn from a point on the west shore,  $34^{\circ} 34' 18''$  N. -  $77^{\circ} 24' 55''$  W; thence  $94^{\circ}$  M, 550 yards to a point on the east shore,  $34^{\circ} 34' 18''$  N -  $77^{\circ} 24' 35''$  W.

In Stones Bay:

All waters bounded by a line beginning at a point on the west shore at  $34^{\circ} 35' 16''$  N -  $77^{\circ} 26' 05''$  W; thence 675 yards in a northeasterly direction to a point in the Bay at  $34^{\circ} 35' 31''$  N -  $77^{\circ} 25' 51''$  W; thence 500 yards in a northerly direction to a point at  $34^{\circ} 35' 45''$  N -  $77^{\circ} 25' 51''$  W; thence 800 yards in a northwesterly direction to a point on shore at  $34^{\circ} 35' 52''$  N -  $77^{\circ} 26' 17''$  W; thence along the shore in a southerly direction to point of beginning.

Stones Creek:

All waters upstream of a line near the mouth of Stones Creek beginning at a point on the south shore at  $34^{\circ} 36' 33''$  N -  $77^{\circ} 26' 44''$  W; thence to a point on the north shore at  $34^{\circ} 36' 52''$  N -  $77^{\circ} 26' 36''$  W.

New River:

All waters upstream of a line drawn across New River beginning at a point on the west shore at  $34^{\circ} 39' 18''$  N -  $77^{\circ} 22' 55''$  W; thence through Channel Marker #42 to the east shore at  $34^{\circ} 39' 44''$  N -  $77^{\circ} 21' 29''$  W.

Frenchs Creek:

All waters bounded by a line beginning on the shore south of Frenchs Creek at  $34^{\circ} 38' 05''$  N -  $77^{\circ} 20' 33''$  W; thence in a northwesterly direction to a point in the River at  $34^{\circ} 39' 10''$  N -  $77^{\circ} 21' 10''$  W; thence in an easterly direction to the shore at  $34^{\circ} 39' 13''$  N -  $77^{\circ} 20' 58''$  W; thence along the shore back to the point of beginning.