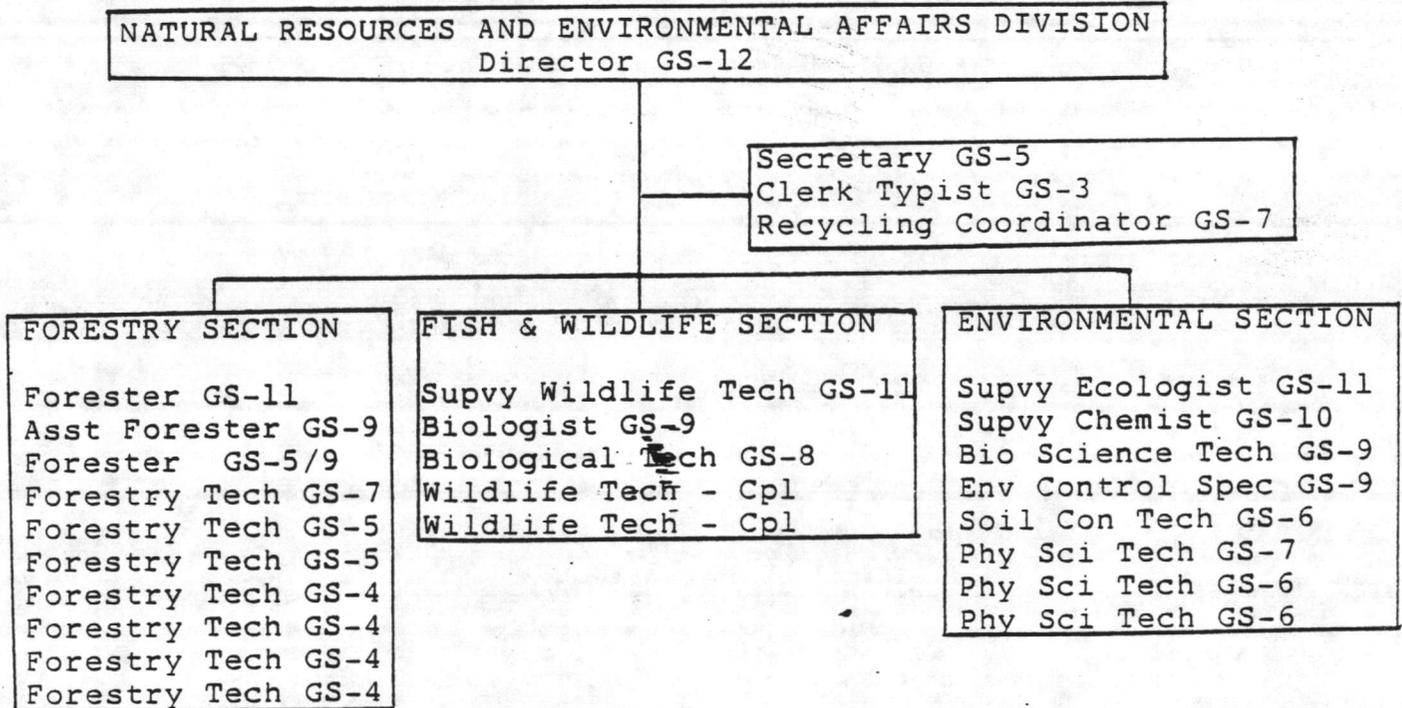


CAMP LEJEUNE ENVIRONMENTAL/NATURAL RESOURCES  
MANAGEMENT SUMMARY FOR FY-1985

FY-86

GENERAL MANAGEMENT

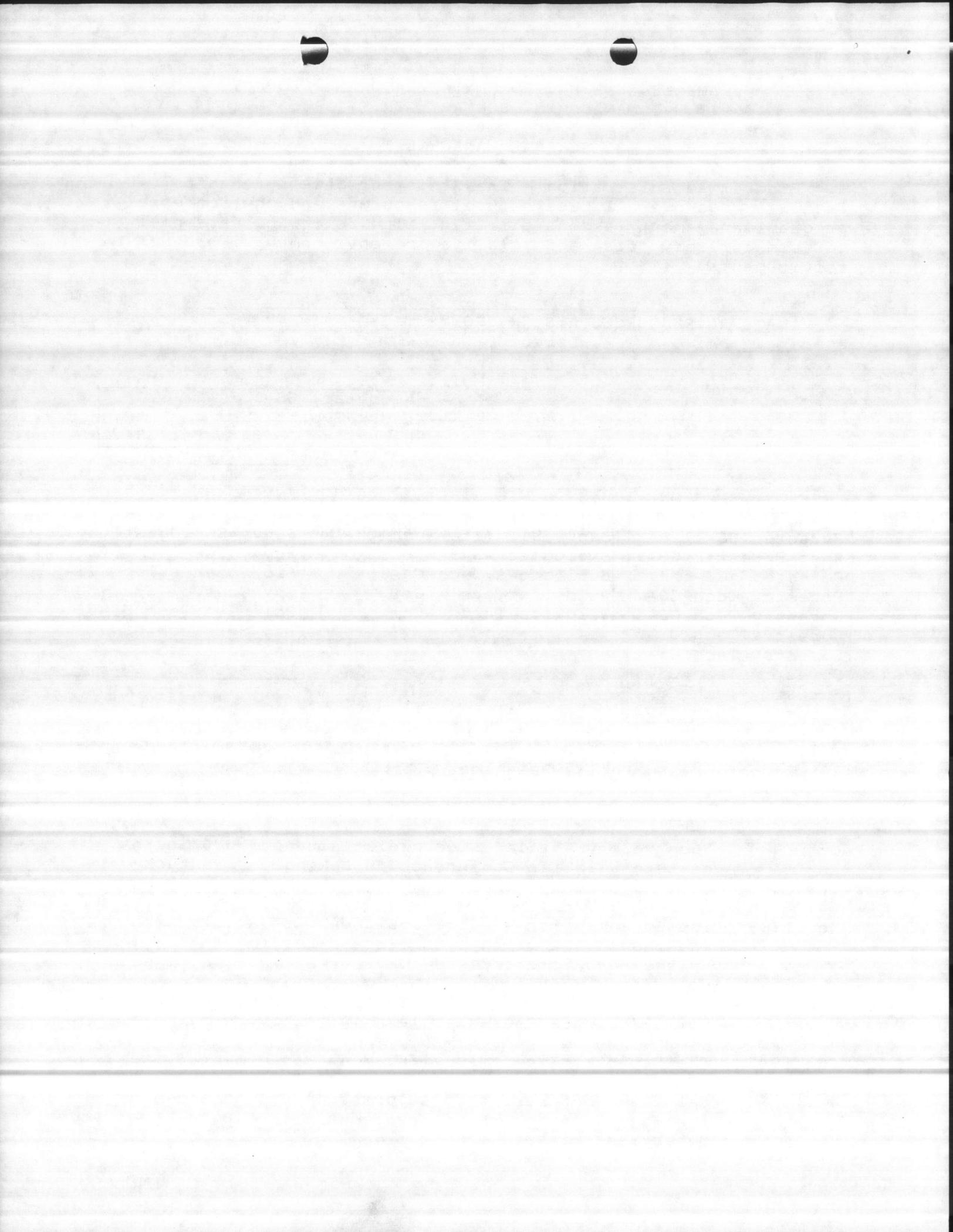
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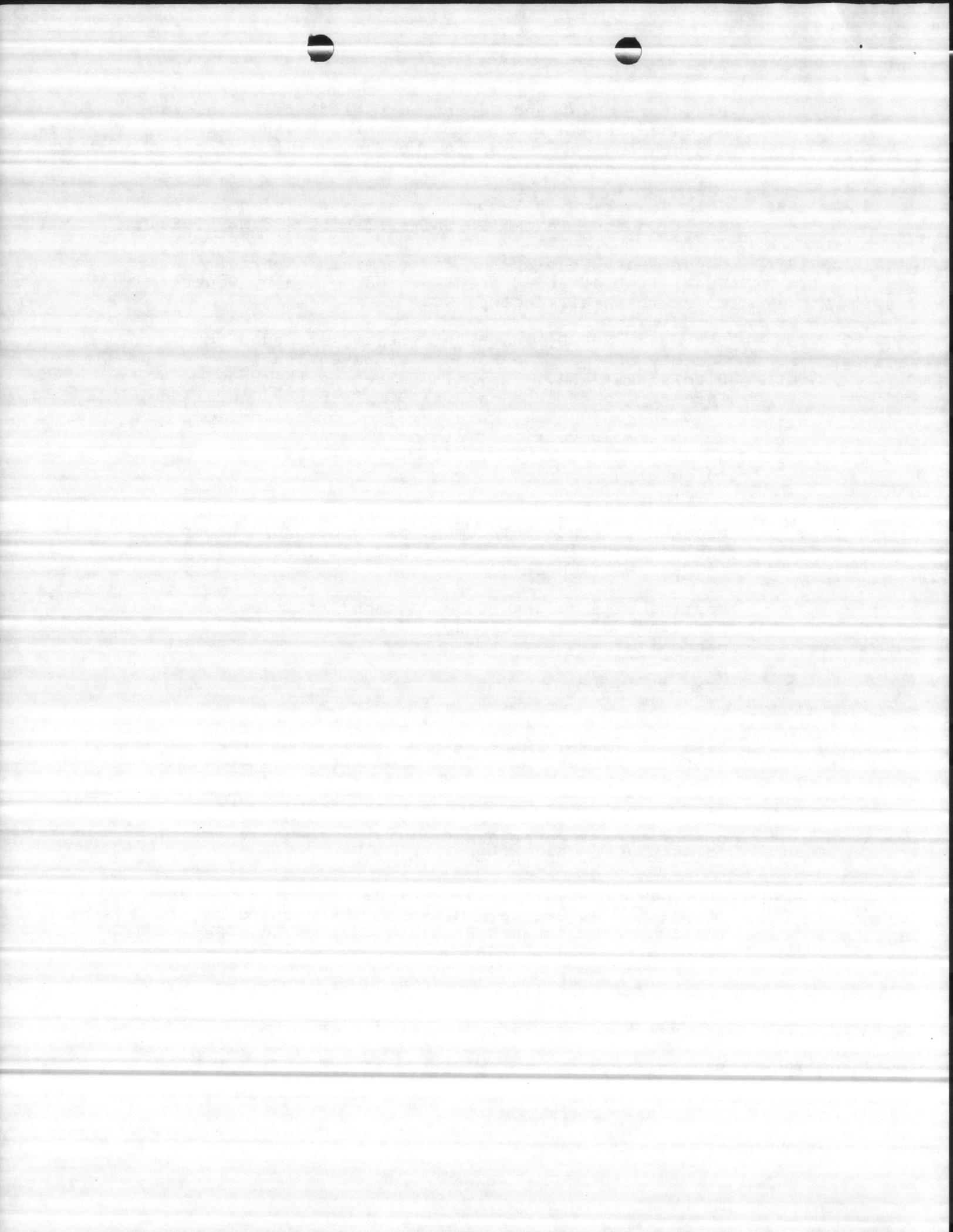
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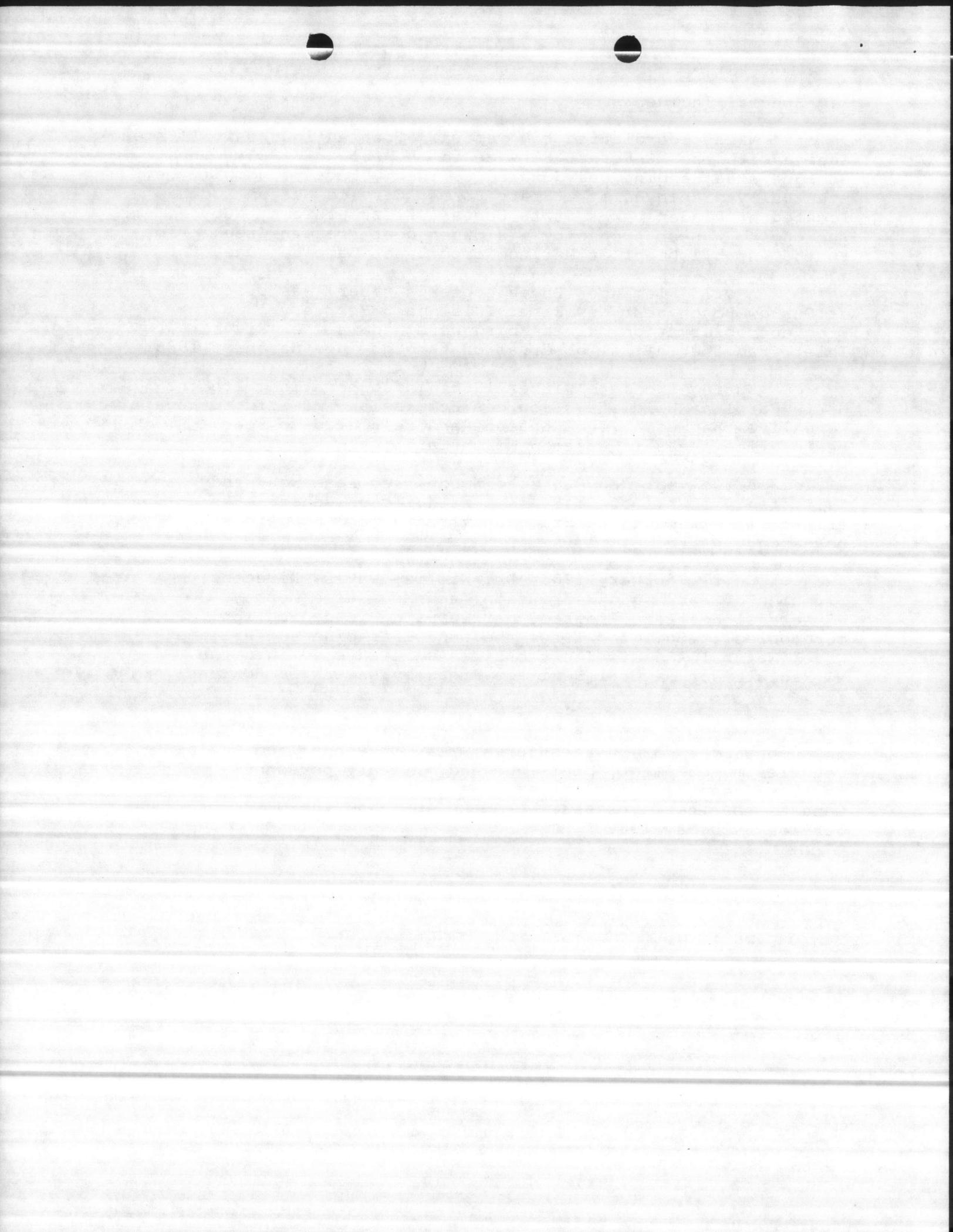
b. A wild Flamingo (*Phoenicopterus ruber*) was observed at Onslow Beach near New River Inlet on 5 February 1986. Frequent observations of the bird were made at New River Inlet from the initial observation through late March of 1986.

c. During the late winter 1985, in cooperation with the North Carolina Wildlife Resources Commission, 23 wild turkeys were live-trapped at Camp Lejeune and relocated to four restoration areas in Eastern North Carolina.

d. A two-year Red Cockaded Woodpecker research study was initiated the Fall of FY-86 is continuing on schedule as originally planned. NC State University is conducting the research.

e. On 27 February 1986, Dr. William Davis, Director, Division of Parks and Recreation, and Ms. Julie Moore, NC Natural Heritage Program, participated in dedication ceremonies at Building 1 for the Long Leaf pine and Wallace Creek Natural Areas. The two sites were entered into the NC Registry of Natural Heritage Areas by MAJGEN L. H. Buehl, III.

f. The Base rendered assistance to the NC Forest Service in combating a 73,000-acre forest fire in Pender and Onslow Counties. Equipment, civilians and military personnel assisted under a cooperative agreement between the Commanding General, Marine Corps Base, Camp Lejeune and the NC Forest Service 6-20 May 1986.



NATURAL RESOURCES MANAGEMENT

1. Fish and Game Management.

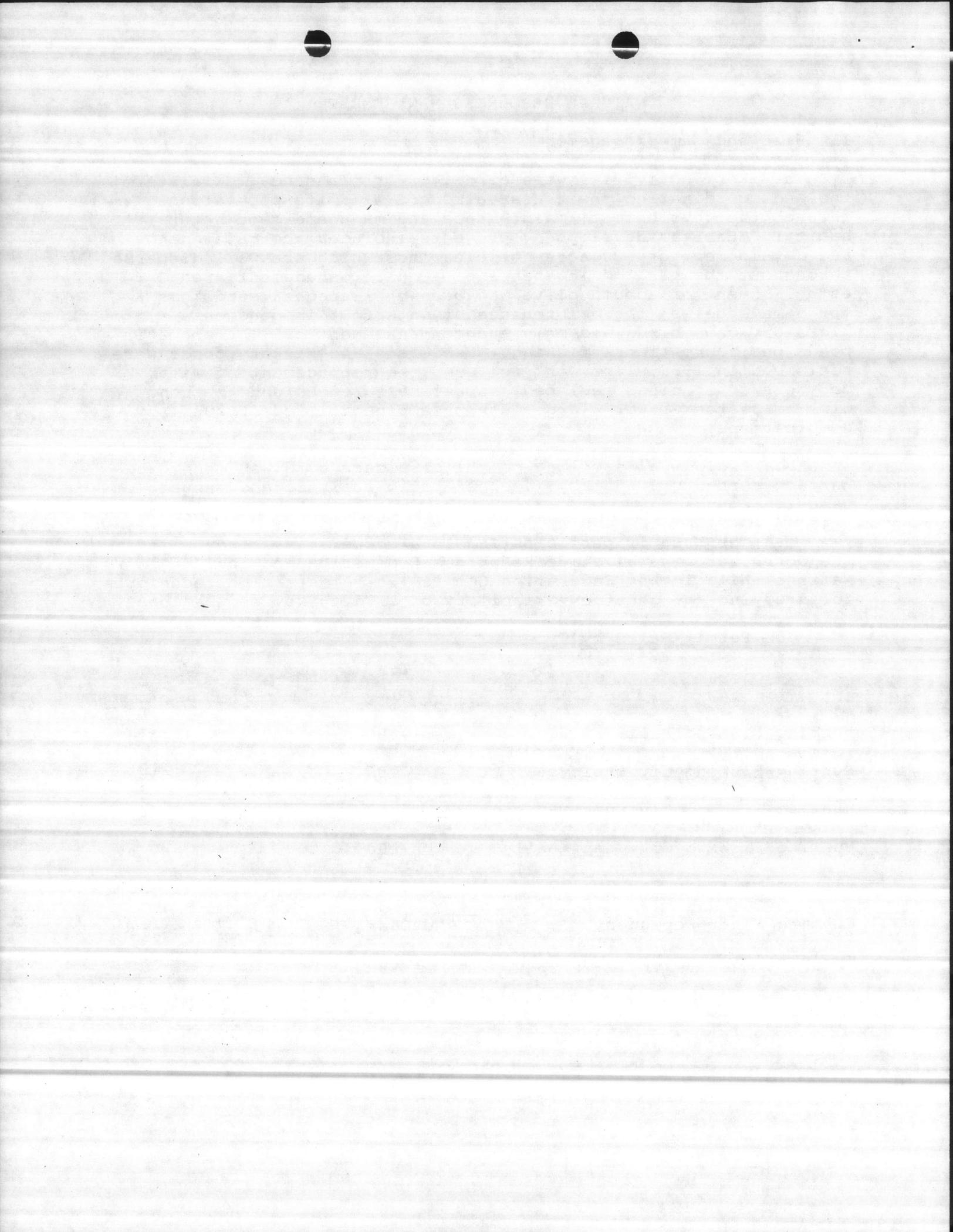
a. Work activities were directed for planning, administering and coordinating the conservation of wildlife populations through the development, maintenance and management of natural habitat. Habitat development projects included the maintenance and development of 500 acres of clearings which are well dispersed throughout the base; maintenance of a quail management area; establishment of autumn olive and bicolor lespedeza seedlings for game species; the maintenance of waterfowl impoundments for migratory game birds and maintenance/management of 11 freshwater ponds per recreational fishing. Henderson and Hickory ponds were reclaimed in 1986. The work included the replacement of water controls/drain pipes replaced, shorelines dredged and the ponds will be restocked with largemouth bass/bluegill/redear sunfish combinations.

b. Biological sampling of the base deer herd was conducted through reproductive study, age/sex ratio analysis and annual parasite counts.

c. The base is participating in a cooperative study with the North Carolina Wildlife Resources Commission and the National Wild Turkey Federation Commission to determine techniques for studying the genetic variability of wild turkey populations.

d. Permit Sales by Type

	<u>Fee</u>	<u>Number Collected</u>	<u>Funds Collected</u>
Hunting/Fishing Military	\$ 7.00	1,732	\$12,124
Hunting/Fishing Civ Employee	7.00	131	1,127
Hunting/Fishing Civ Guest Seasonal	7.00	381	2,667
Hunting/Fishing Civ Guest Daily	3.00	2	6
Fishing Military Civ Employee	3.00	446	1,338
Hunting Minor Dependent	No Charge	107	-----
Trapping Military Civ Employee	10.00	17	170
		<u>2,816</u>	<u>17,432</u>



e. Game Harvested by Species

<u>Type</u>	<u>Numbers</u>
Deer	742 (32 additional kills by motor vehicles)
Bear	6 (6 additional bear killed by motor vehicles)
Squirrel	164
Wild Turkey	24
Quail	41
Dove	238
Rabbit	7
Duck	3
Raccoon	113
Otter	2

2. Nongame/Protected Species Management

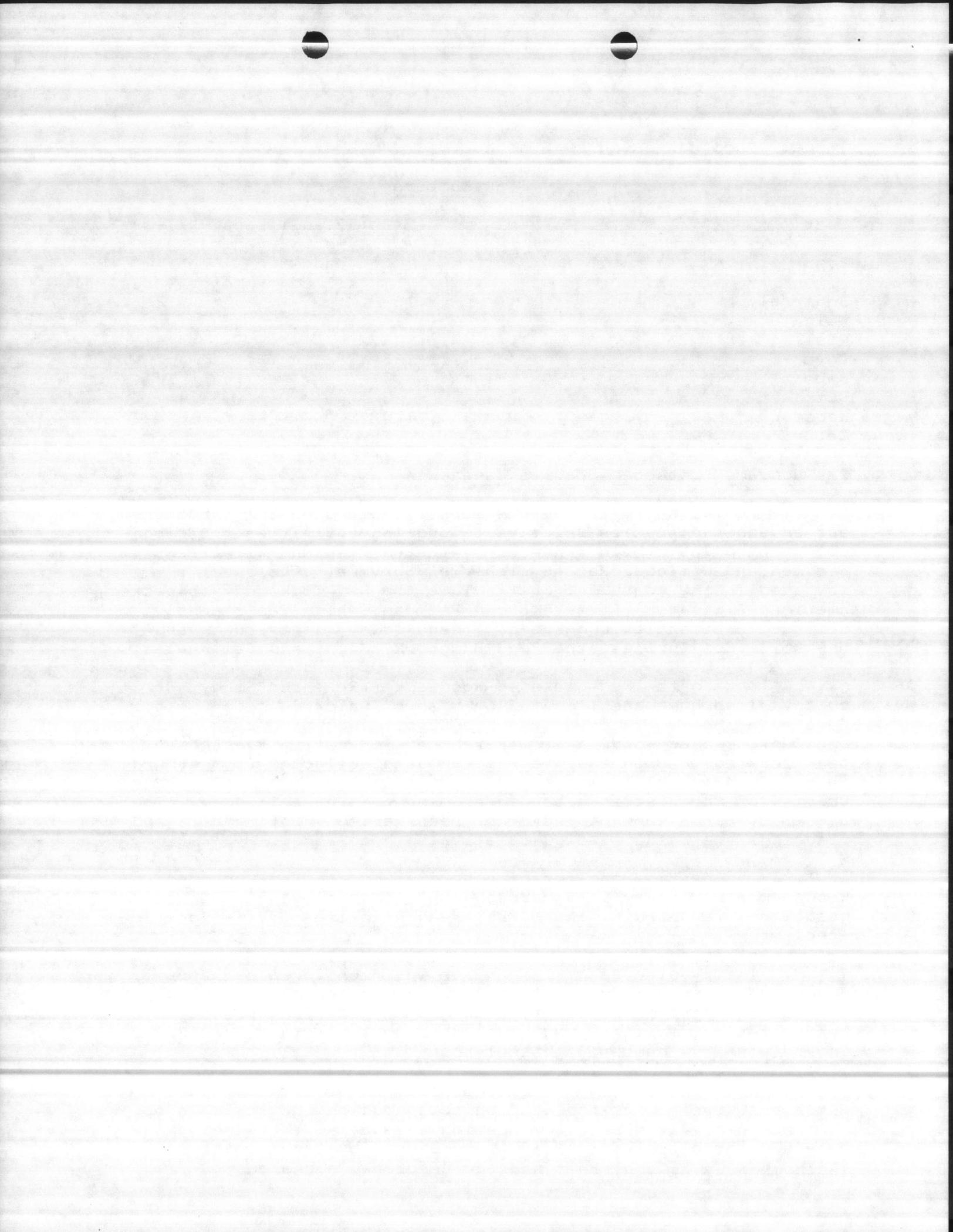
a. Formal consultation has been conducted on all threatened and endangered species relative to ongoing activities. Biological opinions have been rendered by the US Fish and Wildlife Service and National Marine Fisheries Service. The species involved in the consultations include the Red-Cockaded Woodpecker, American Alligator, Eastern Brown Pelican (which was recently delisted), Atlantic Loggerhead, Green Ridley, Leatherback and Hawksbill Sea Turtles, the Fin, Humpback, Right and Sei Whales.

b. During the Red-Cockaded Woodpecker Research Study, 36 colony sites have been located on base of which 36 colony sites have been located on base of which 32 were occupied by at least one Red-Cockaded Woodpecker. More than 260 cavity trees have been located, mapped and descriptive data collected from around them. To date, 96 adults and 49 nestlings have been color banded. Only 46 of the nestlings banded are known to have fledged. There are eight birds known to have not been banded. Both adults and fledgings are being studied relative to home range.

c. The nesting and foraging habitat of the Red-Cockaded Woodpecker was prescribed burned under the biological opinion guidelines rendered by the US Fish and Wildlife Service for the species.

d. Thirty-nine sea turtle nests were monitored by Natural Resources personnel during the 1986 nesting season at Onslow Beach. The work involved protecting each nest from predation, beach erosion, military training, tagging adult turtles and determining the number of hatchlings.

e. Three hundred and eighty nesting boxes for Eastern Bluebirds were maintained and monitored during the three major nesting intervals during the nesting season. 67% of the boxes were used by bluebirds while 12% were used by other species including flying squirrels and the Carolina Chickadees.



3. Forest Management. Forest management is presently being carried out on 76,400 acres. Forest management generally consists of timber management activities associated with the harvesting of timber, wildlife habitat management and forest protection. The commercial forestland is managed on a sustained yield, multiple-use management system on a ten-year cutting cycle with an 80-year rotation for loblolly pine, a 100-year rotation for longleaf and pond pine, and a 120-year rotation for hardwood species.

a. Budget

Funds authorized	\$419,000.00
Funds obligated	363,023.15

b. Receipts - Sales of Forest Products

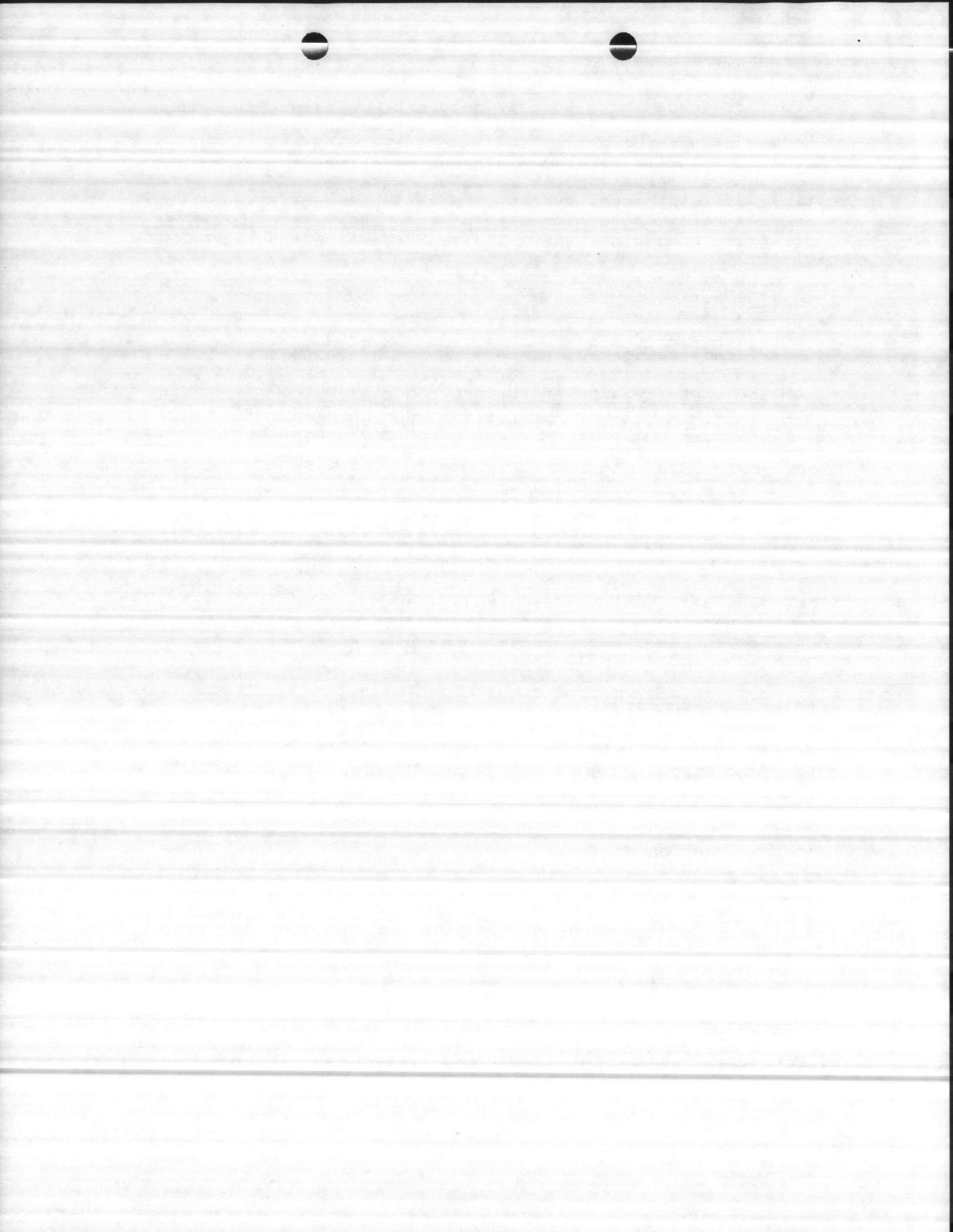
<u>Product</u>	<u>Volumes</u>
Pine Sawtimber	3,041 MBF
Pine Pulpwood	6,075 Cords
Hardwood Pulpwood	109 Cords
 TOTAL PROCEEDS:	 \$528,815.23

c. Timber Marked - All marked timber was accomplished by in-house personnel in Compartments 2, 8, 14, 24, 31, 38, 40 and 53. These marked areas totaled 1,715 acres with a volume of 2,606 MBF pine sawtimber, 2,466 cords pine pulpwood, 6 MBF hardwood sawtimber, and 40 cords of hardwood pulpwood.

d. Reforestation

(1) Acres planted	301
(2) Acres KG'd	136 Natural
	35 Artificial
(3) Acres Windrowed	35
(4) Acres Bedded	181
(5) Acres Chopped for Seedbed Preparation	222
(6) Acres chopped for artificial Regeneration	30

e. Unpaved Forest Access Roads - Graded and repaired and estimated three miles



f. Fire Protection and Suppression

(1) Prescribed Burning

(a) Flagged and secured 90 miles of fireline

(b) Prescribed burned 11,228 acres in 12 compartments

(c) Controlled burned 11,588 acres of range and impact area

(d) Assisted the NC Forest Service as required by the Cooperative Agreement

g. Insect and Disease Control

(1) Flew Southern Pine Beetle detection flights

(2) 130 suspected Southern Pine Beetle infestations were ground checked

(3) Control measures taken on 38 Southern Pine Beetle infestations

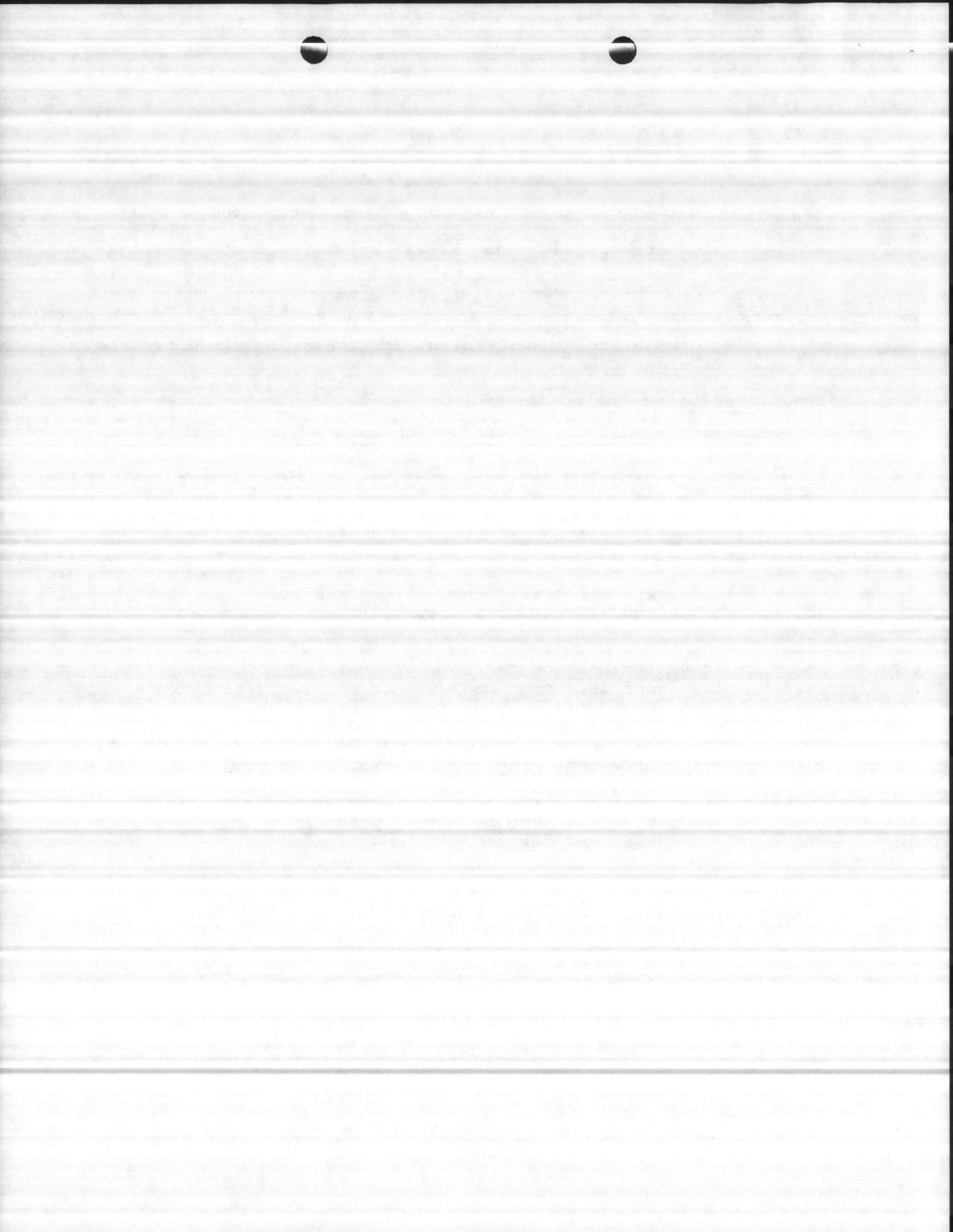
(4) In cooperation with the US Forest Service, Forestry personnel monitored 21 Gypsy Moth Traps with one moth being trapped.

4. Oil Conservation/Erosion Control. Technical guides for erosion control were developed and will be incorporated into revision of Long Range Natural Resource Management Plan. The Soil Conservation Service, USDA assisted in the project.

5. Agricultural Use/Range Maintenance. Marine Corps Base responded to CMC request for proposed projects under the agricultural and grazing outlease program for funding during FY-86. The project was accomplished for planting approximately 20 miles of forest access during FY-86.

6. Outdoor Recreation

<u>Type</u>	<u>Trips</u>	<u>Hours</u>
Hunting	15,760	54,666
Fishing	150,000	620,000 (estimate)
Trapping	410	1,640 "



## ENVIRONMENTAL MANAGEMENT

1. Air Quality. Asbestos removal continued throughout the installation by both base and contractor personnel. Local disposal at the approved site at the base sanitary landfill is utilized.

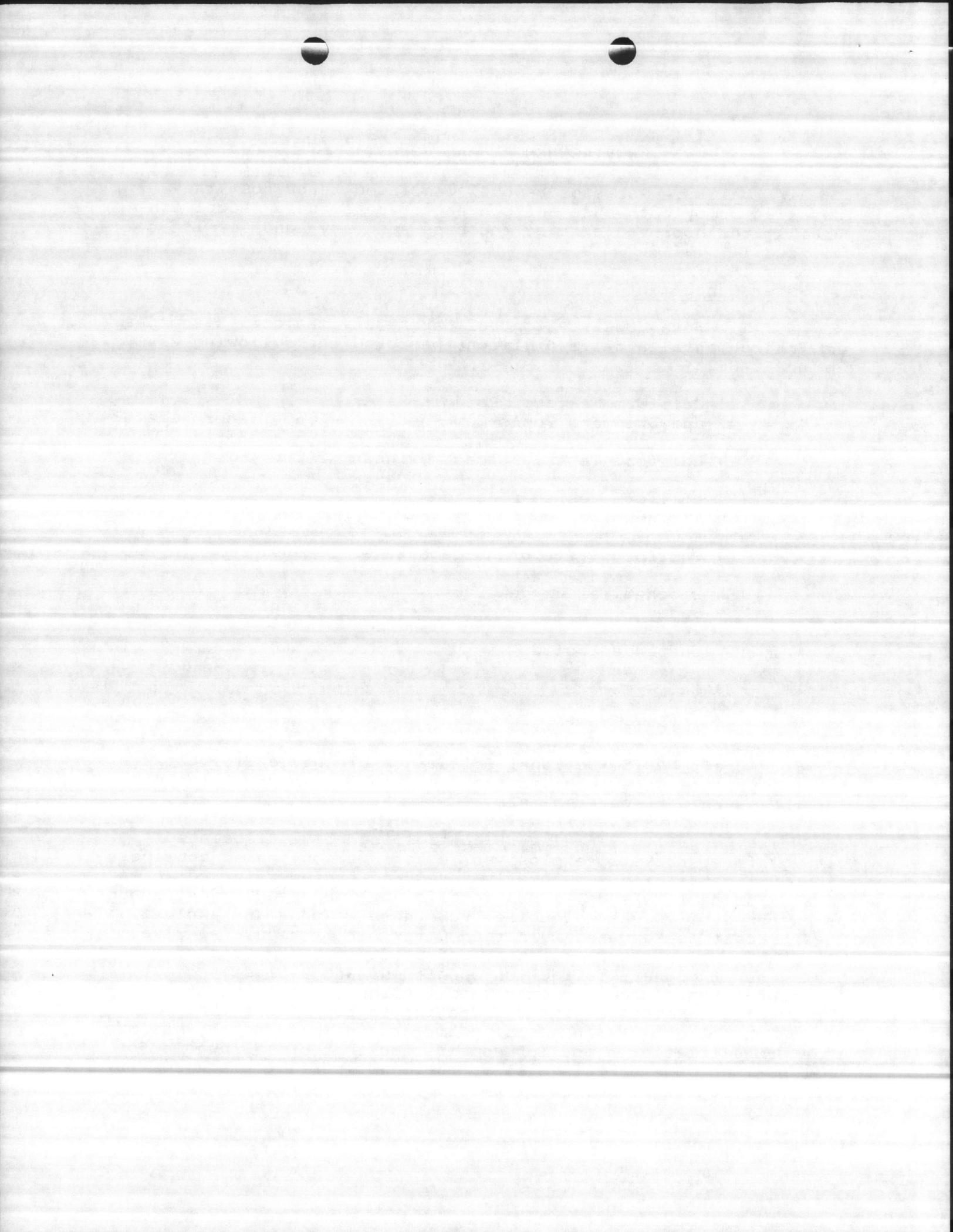
### 2. Water Management

a. The Water Quality Control Laboratory, Natural Resources and Environmental Affairs Division, performed the following analysis during FY-86:

(1) Coliform Tests of Potable Water and Swimming Pools Combined	2,600 (approximately)
(2) Coliform Tests of Ice Machines	2,300 "
(3) Coliform Tests of Sewage Effluent	6,200
(4) Coliform Tests of Surface Water	900
(5) Biochemical Oxygen Demand; 5-day	3,200
(6) Suspended Solids	2,500
(7) Oil & Grease	450
(8) Ammonia of Sewage Effluent	450

b. Draft NPDES (National Pollutants Discharge Eliminations System) permits were received from the State of North Carolina for the seven wastewater plants.

3. Noise Control. Managing or controlling noise associated with gunfire, rockets, explosives, etc. is a continuing consideration during training. A locally developed system referred to as "Blast Forecast" was developed to eliminate and reduce disturbance of excess shock waves and noise from these weapons and explosives. The forecast is computed by Marine Corps Air Station, New River, based on local weather, existing and predicted. The method predicts the atmosphere refraction conditions and explosive limit (in pounds) which should not exceed the annoyance level of the surrounding community. The information is provided to Base Range Control for use in advising air/ground units of the maximum size projectiles or bombs (or combination thereof) allowable for that period. Use of this system, while not perfect, is a positive effort to reduce an adverse impact of military training on the community.



#### 4. Hazardous Material Management

a. Approximately 15 samples of unknown substances were taken during FY-86 for analysis under the Waste Analysis Plan per RCRA (Resource Conservation Recovery Act), Part B, Permit.

b. Approximately 176 transformers were sampled and analyzed for Polychlorinated Biphenyls (PCB) content.

c. Approximately 13 samples of used oil were taken during FY-85.

d. A comprehensive Hazardous Waste Management Plan and Hazardous Material Spill Prevention Contingency Plan were prepared in draft form by ENSAFE, Incorporated, Memphis, Tennessee and submitted to Navy/Base for review.

#### 5. Resource Recovery and Recycling

a. Waste oil collection and sales through the Defense Reutilization and Marketing Office (DRMO) continues.

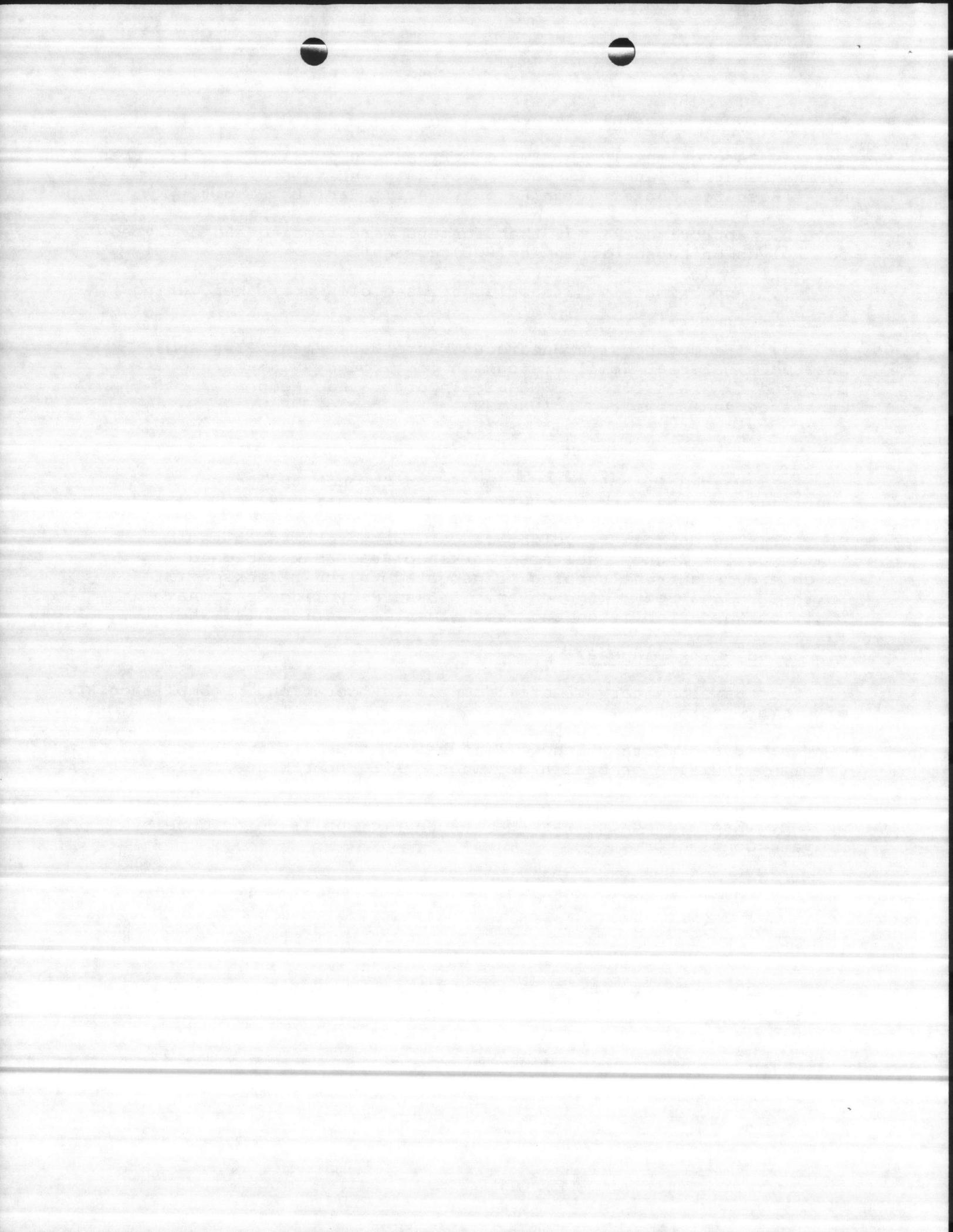
b. The on base recycling center for cardboard operated by the Onslow County Sheltered Workshop Program was closed. Cardboard is currently being transported to their Jacksonville, North Carolina recycling center. A Base Recycling Coordinator position was established and recruitment is anticipated shortly.

#### 6. Solid Waste Disposal

a. Base Sanitary Landfill continues operation in compliance with state permits.

b. Base Sanitary Landfill is being inspected by North Carolina Division of Health Services. All reports are satisfactory to date.

c. Family housing garbage/refuse pick-up is being done by private contractor.



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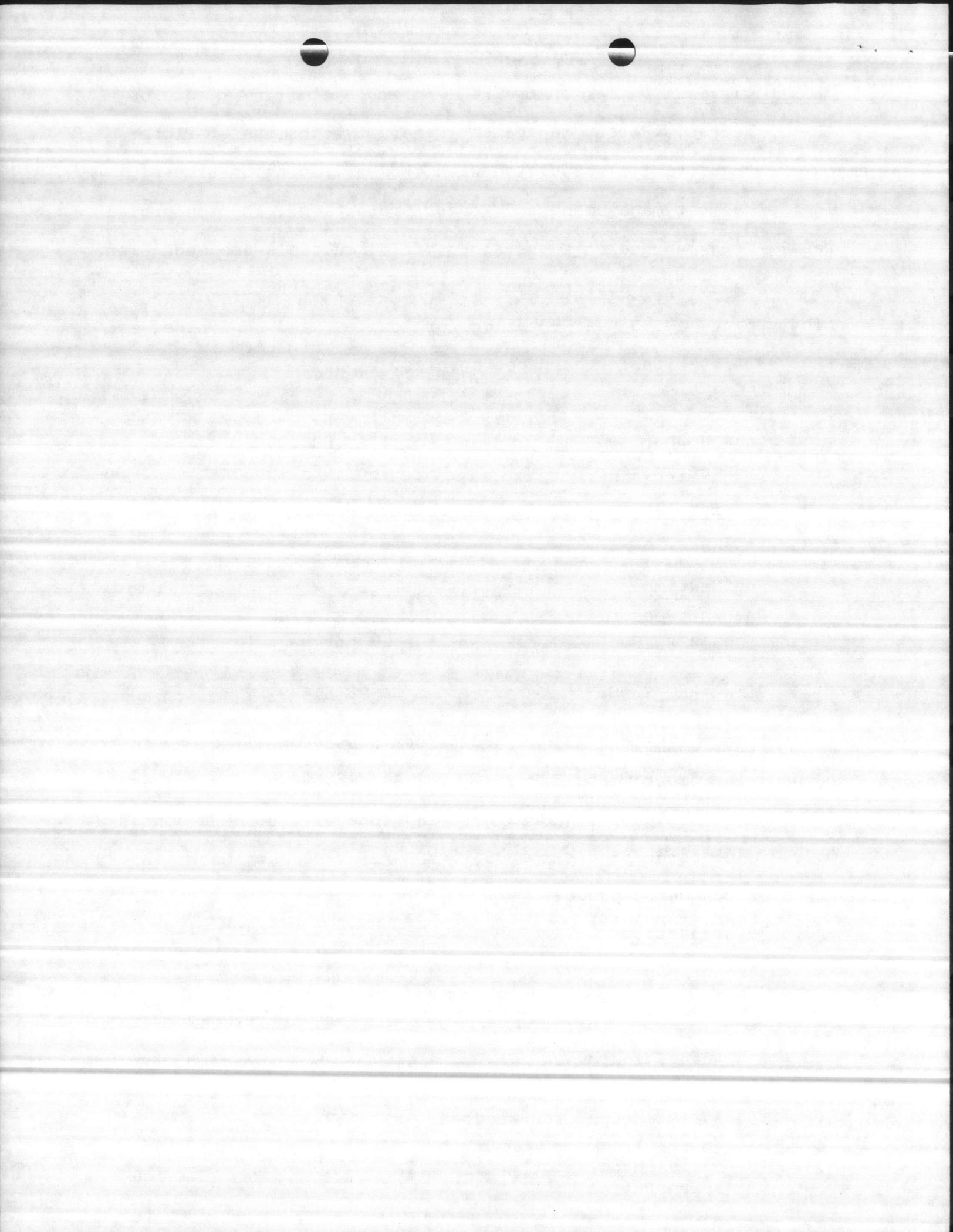
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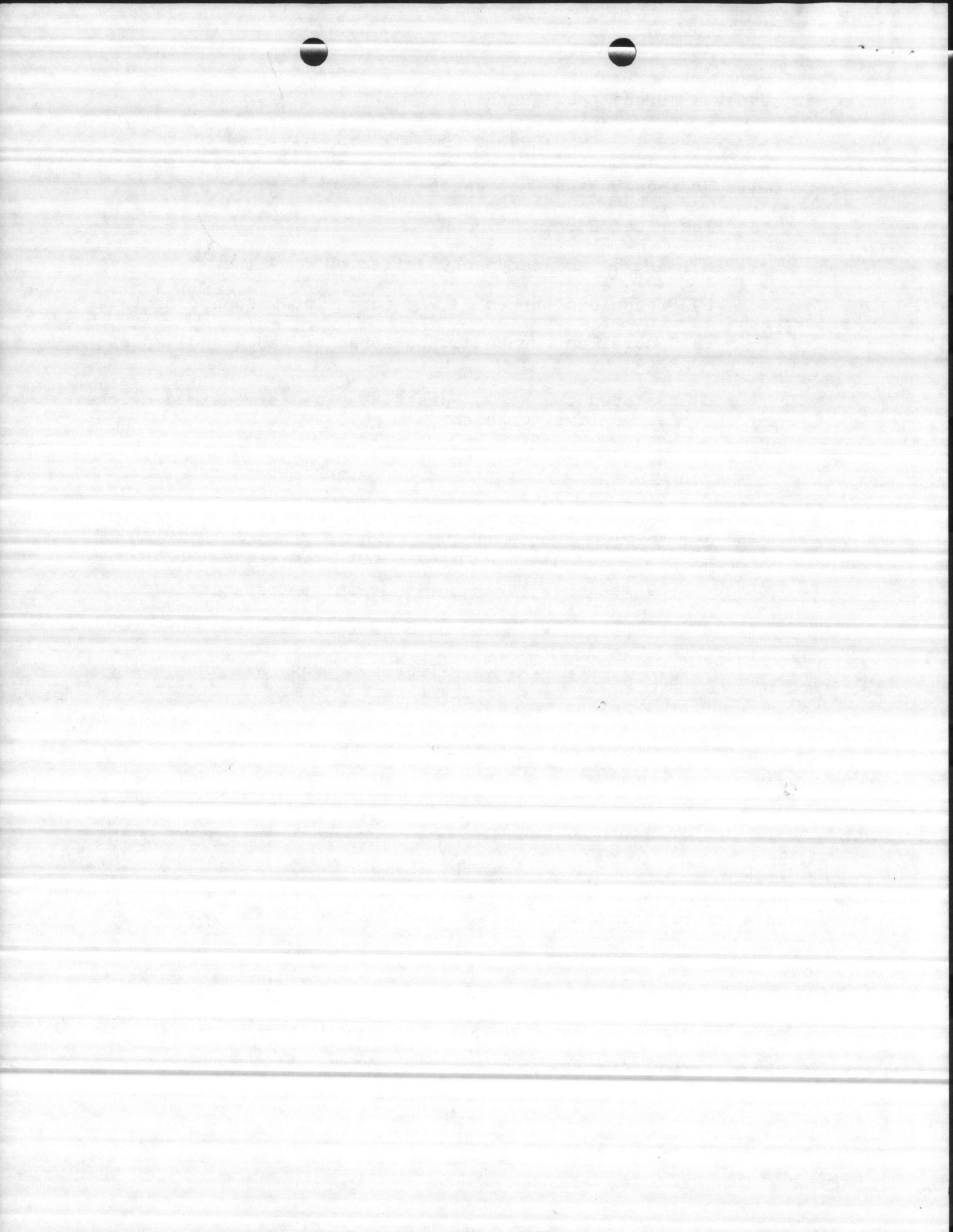
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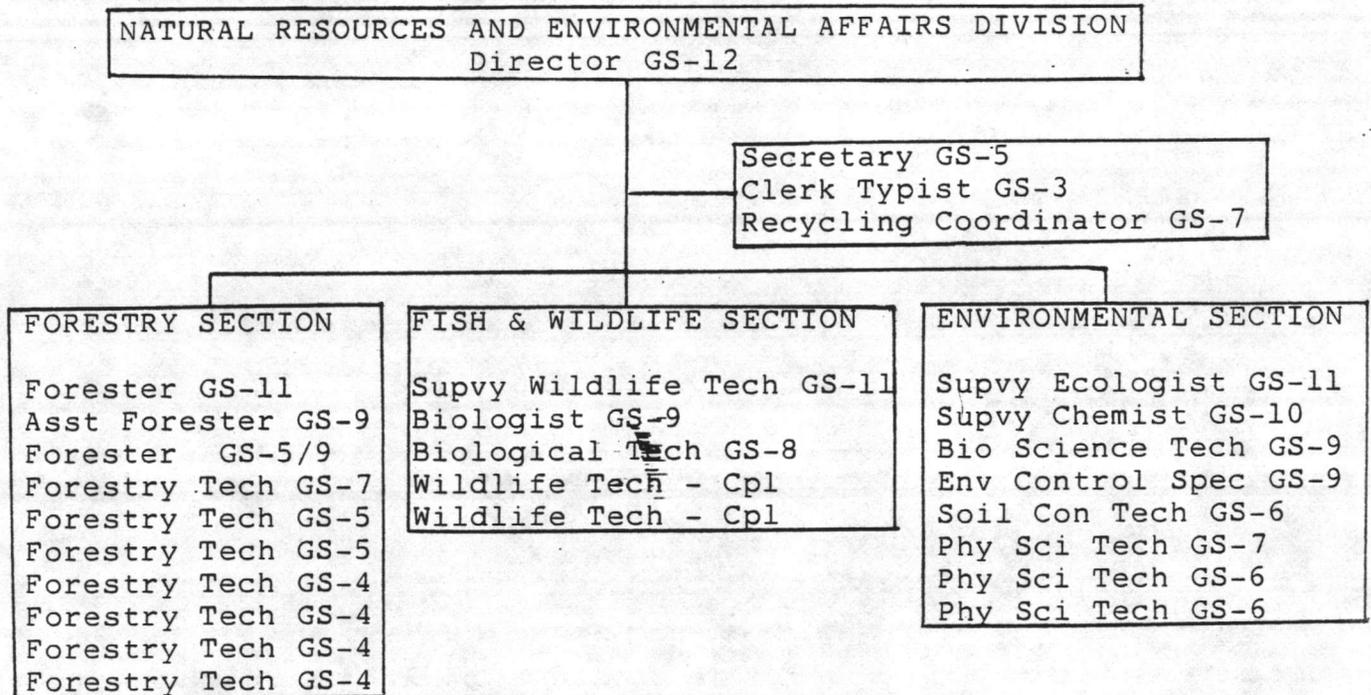
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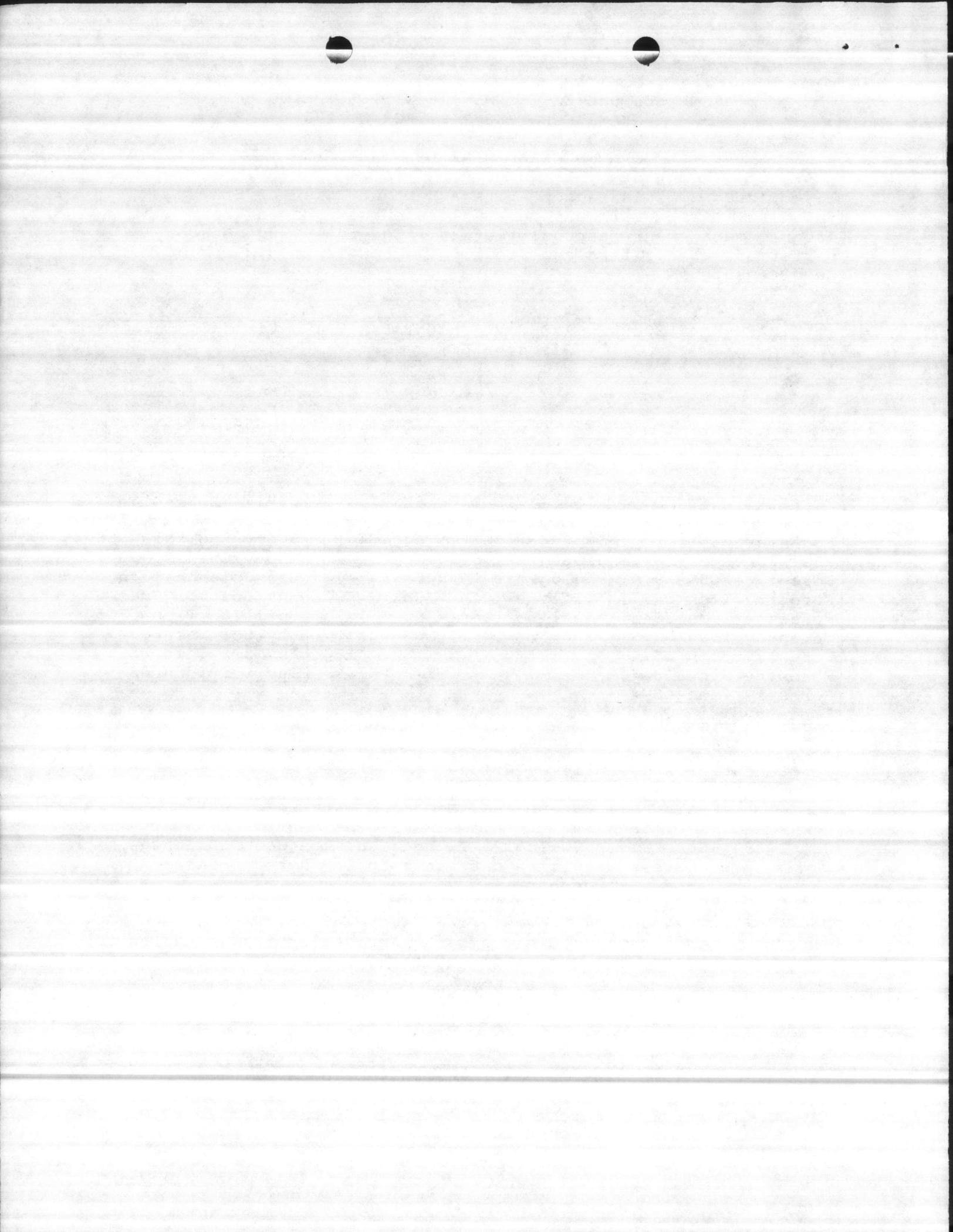
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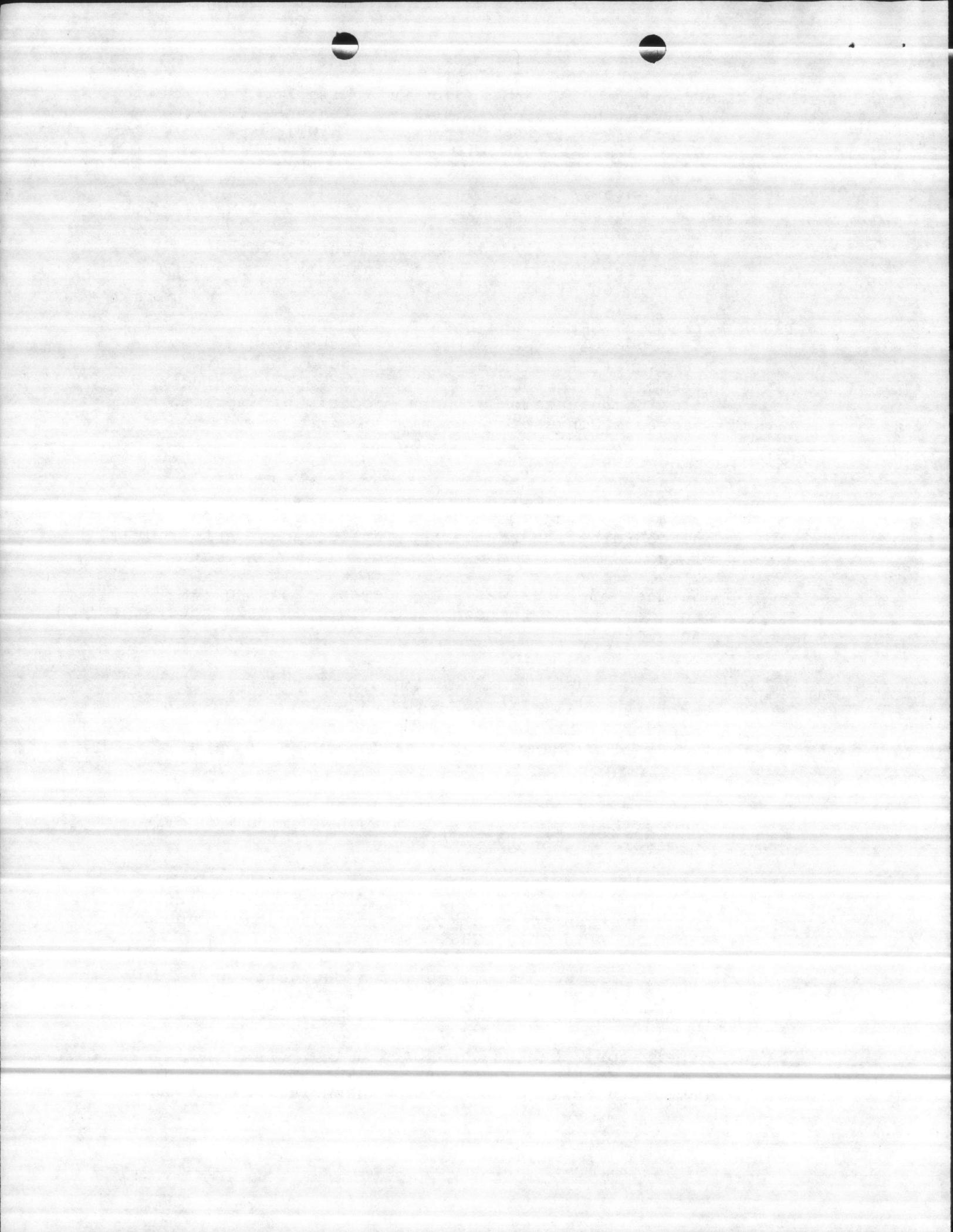
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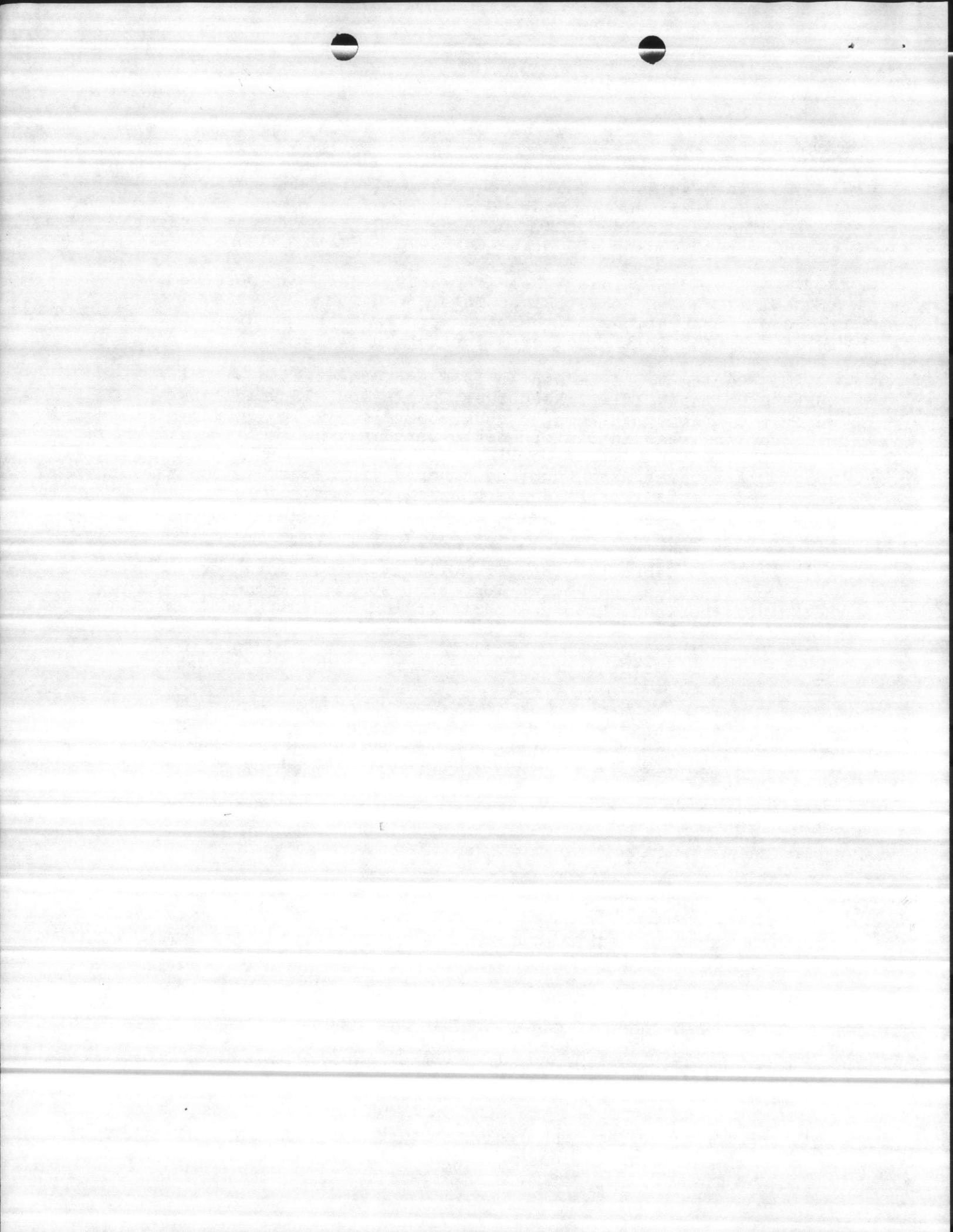
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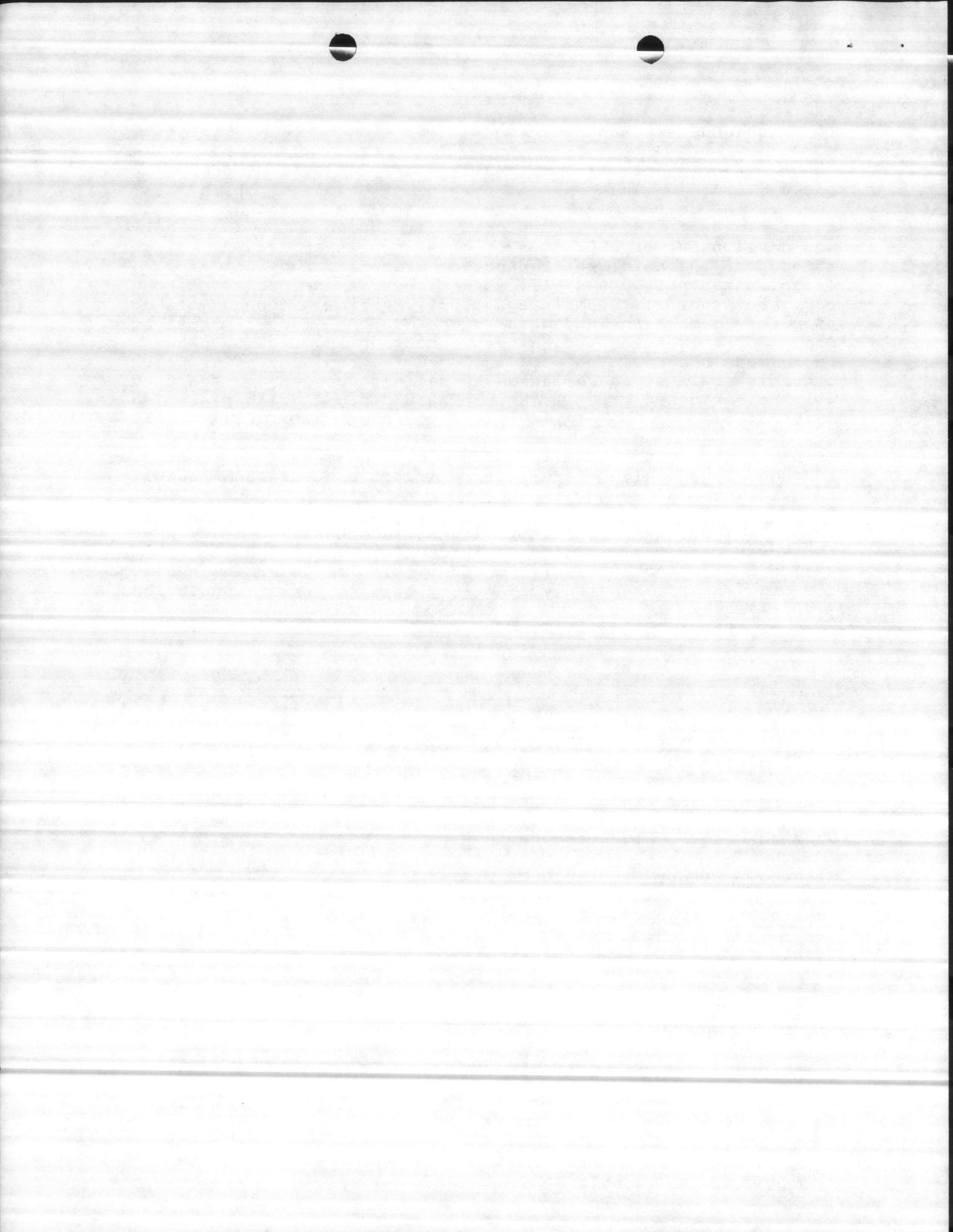
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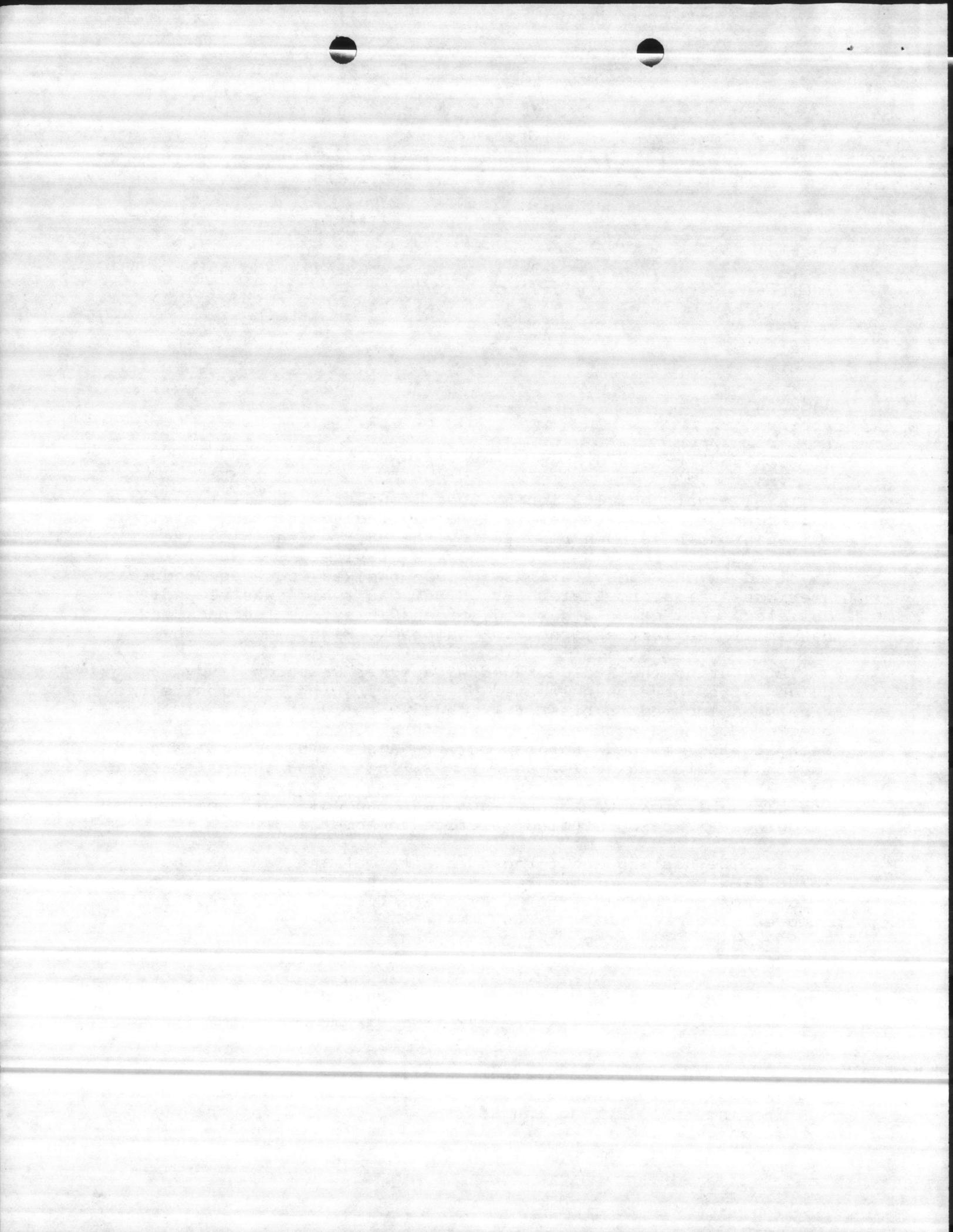
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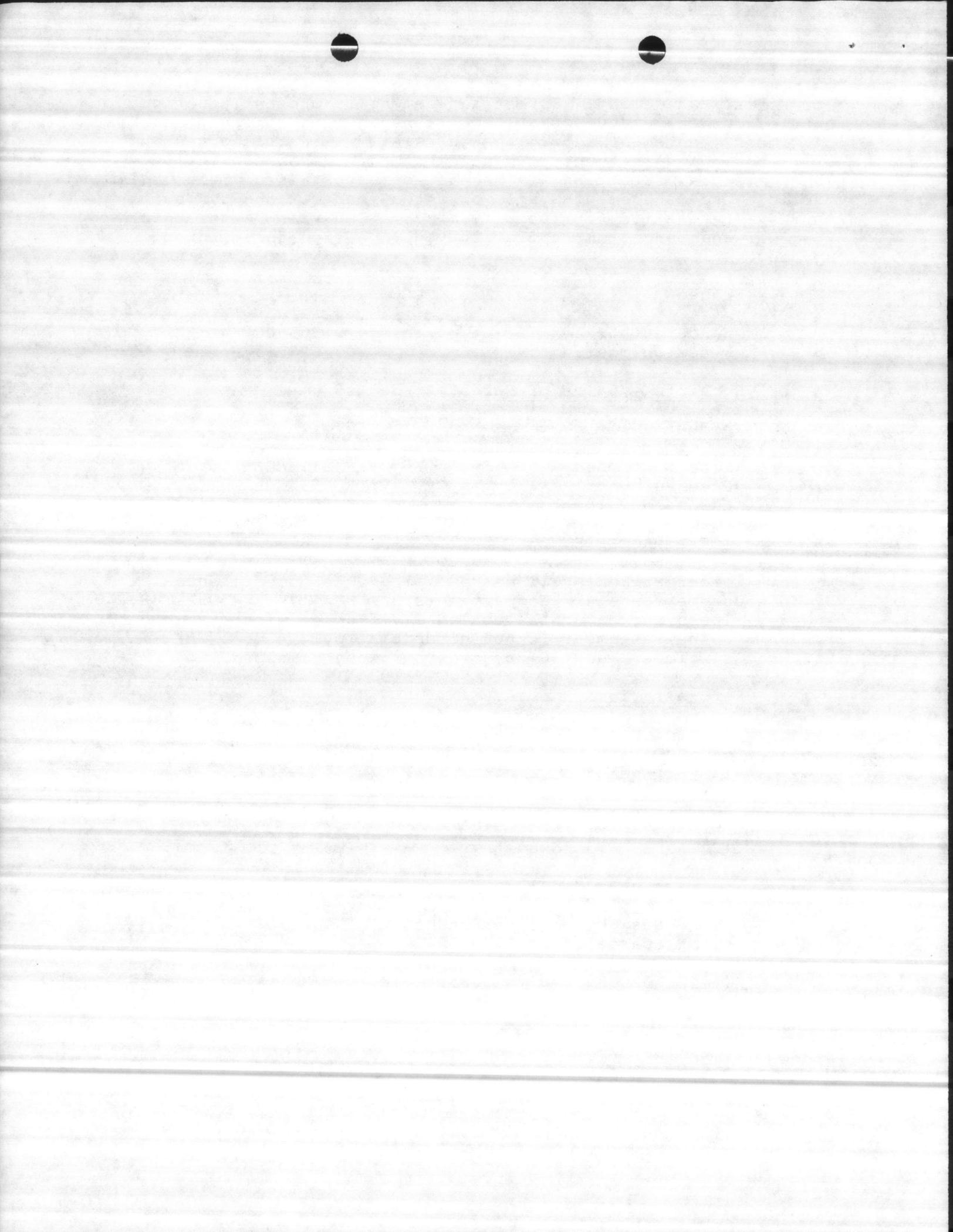
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g. Insect and Disease Control

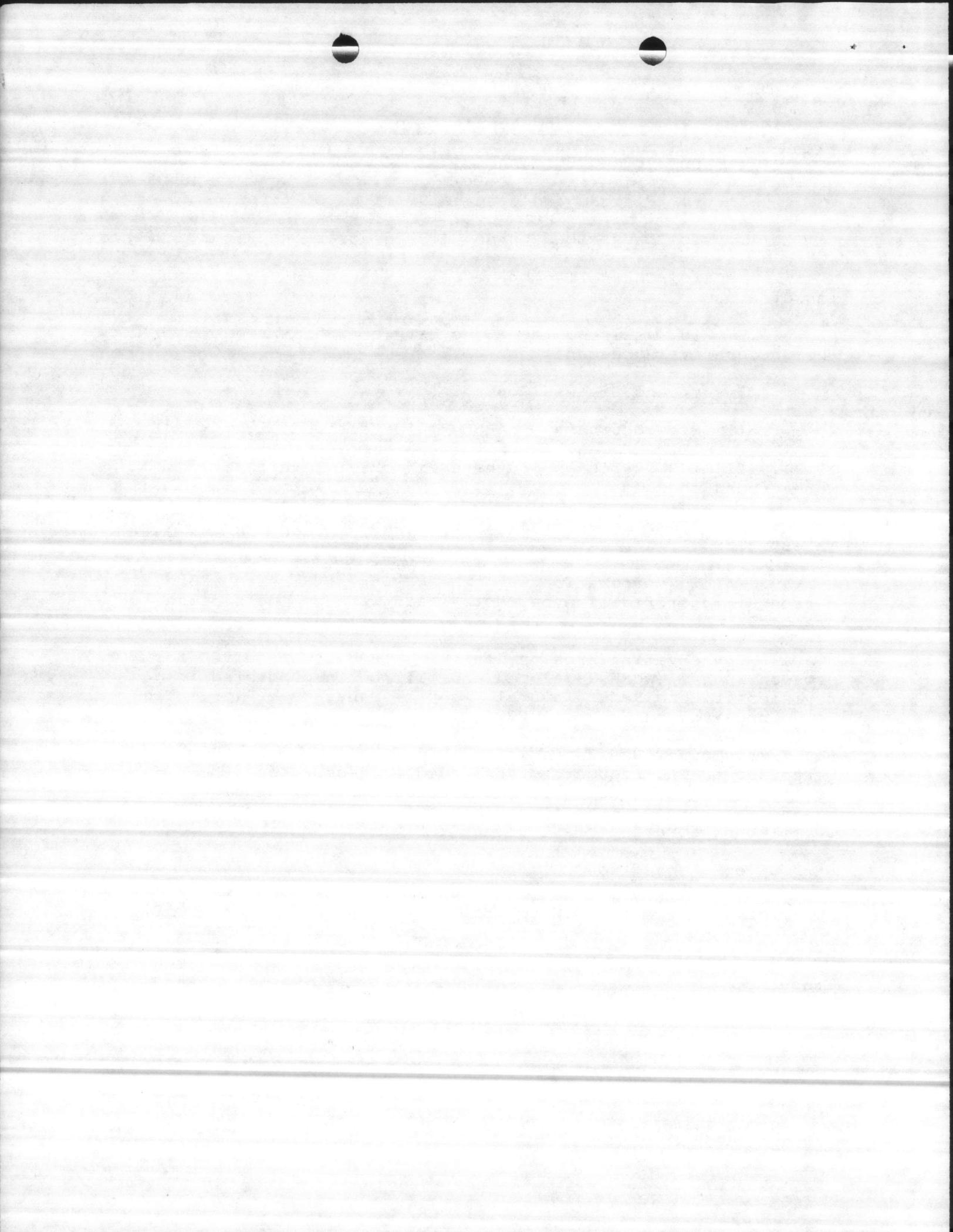
- (1) Flew Southern Pine Beetle detection flights
- (2) 130 suspected Southern Pine Beetle infestations were ground checked
- (3) Control measures taken on 38 Southern Pine Beetle infestations
- (4) In cooperation with the US Forest Service, Forestry personnel monitored 21 Gypsy Moth Traps with one moth being trapped.

4. Oil Conservation/Erosion Control. Technical guides for erosion control were developed and will be incorporated into revision of Long Range Natural Resource Management Plan. The Soil Conservation Service, USDA assisted in the project.

5. Agricultural Use/Range Maintenance. Marine Corps Base responded to CMC request for proposed projects under the agricultural and grazing outlease program for funding during FY-86. The project was accomplished for planting approximately 20 miles of forest access during FY-86.

6. Outdoor Recreation

<u>Type</u>	<u>Trips</u>	<u>Hours</u>
Hunting	15,760	54,666
Fishing	150,000	620,000 (estimate)
Trapping	410	1,640 "



## ENVIRONMENTAL MANAGEMENT

1. Air Quality. Asbestos removal continued throughout the installation by both base and contractor personnel. Local disposal at the approved site at the base sanitary landfill is utilized.

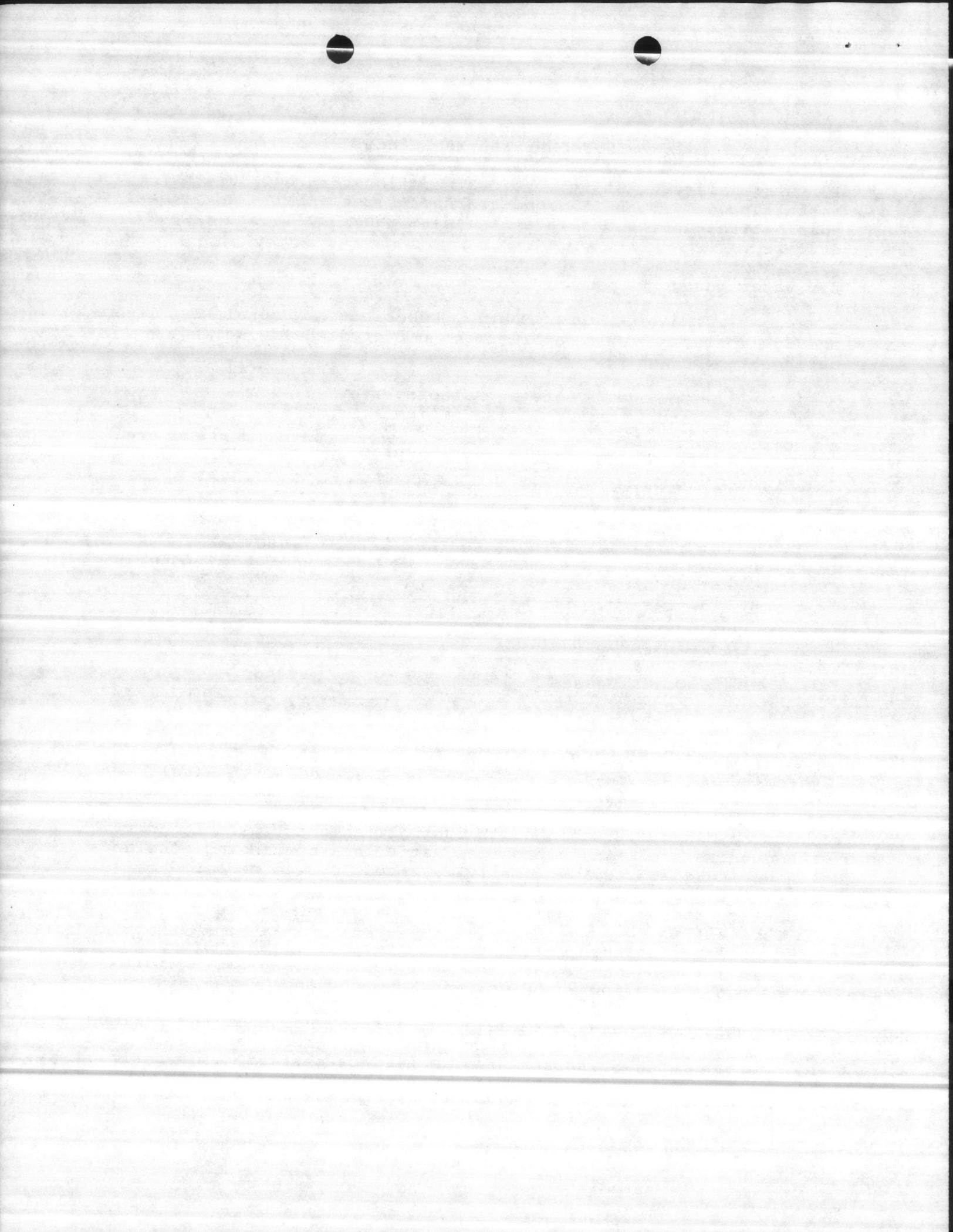
### 2. Water Management

a. The Water Quality Control Laboratory, Natural Resources and Environmental Affairs Division, performed the following analysis during FY-86:

(1) Coliform Tests of Potable Water and Swimming Pools Combined	2,600 (approximately)
(2) Coliform Tests of Ice Machines	2,300 "
(3) Coliform Tests of Sewage Effluent	6,200
(4) Coliform Tests of Surface Water	900
(5) Biochemical Oxygen Demand; 5-day	3,200
(6) Suspended Solids	2,500
(7) Oil & Grease	450
(8) Ammonia of Sewage Effluent	450

b. Draft NPDES (National Pollutants Discharge Eliminations System) permits were received from the State of North Carolina for the seven wastewater plants.

3. Noise Control. Managing or controlling noise associated with gunfire, rockets, explosives, etc. is a continuing consideration during training. A locally developed system referred to as "Blast Forecast" was developed to eliminate and reduce disturbance of excess shock waves and noise from these weapons and explosives. The forecast is computed by Marine Corps Air Station, New River, based on local weather, existing and predicted. The method predicts the atmosphere refraction conditions and explosive limit (in pounds) which should not exceed the annoyance level of the surrounding community. The information is provided to Base Range Control for use in advising air/ground units of the maximum size projectiles or bombs (or combination thereof) allowable for that period. Use of this system, while not perfect, is a positive effort to reduce an adverse impact of military training on the community.



#### 4. Hazardous Material Management

a. Approximately 15 samples of unknown substances were taken during FY-86 for analysis under the Waste Analysis Plan per RCRA (Resource Conservation Recovery Act), Part B, Permit.

b. Approximately 176 transformers were sampled and analyzed for Polychlorinated Biphenyls (PCB) content.

c. Approximately 13 samples of used oil were taken during FY-85.

d. A comprehensive Hazardous Waste Management Plan and Hazardous Material Spill Prevention Contingency Plan were prepared in draft form by ENSAFE, Incorporated, Memphis, Tennessee and submitted to Navy/Base for review.

#### 5. Resource Recovery and Recycling

a. Waste oil collection and sales through the Defense Reutilization and Marketing Office (DRMO) continues.

b. The on base recycling center for cardboard operated by the Onslow County Sheltered Workshop Program was closed. Cardboard is currently being transported to their Jacksonville, North Carolina recycling center. A Base Recycling Coordinator position was established and recruitment is anticipated shortly.

#### 6. Solid Waste Disposal

a. Base Sanitary Landfill continues operation in compliance with state permits.

b. Base Sanitary Landfill is being inspected by North Carolina Division of Health Services. All reports are satisfactory to date.

c. Family housing garbage/refuse pick-up is being done by private contractor.

