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 AUTH. NAME AUTHOR AFFILIATION  
 HOVEY, R.J. Florida Power & Light Co.  
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Environmental  
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10 CFR 50.36b

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
1996 Annual Radiological  
Environmental Operating Report

Attached is the 1996 Annual Radiological Environmental Operating Report for Turkey Point Units 3 and 4, as required by Technical Specification 6.9.1.3.

Should there be any questions or comments regarding this information, please contact us.

Very truly yours,

R. J. Hovey  
Vice President  
Turkey Point Plant

JEK

Attachment

cc: L. A. Reyes, Regional Administrator, Region II, USNRC  
T. P. Johnson, Sr. Resident Inspector, USNRC, Turkey Point Plant

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**ANNUAL  
RADIOLOGICAL ENVIRONMENTAL  
OPERATING REPORT**

**TURKEY POINT PLANT**

**UNITS 3 & 4**

**LICENSE NOS. DPR-31, DPR-41**

**DOCKET NOS. 50-250, 50-251**

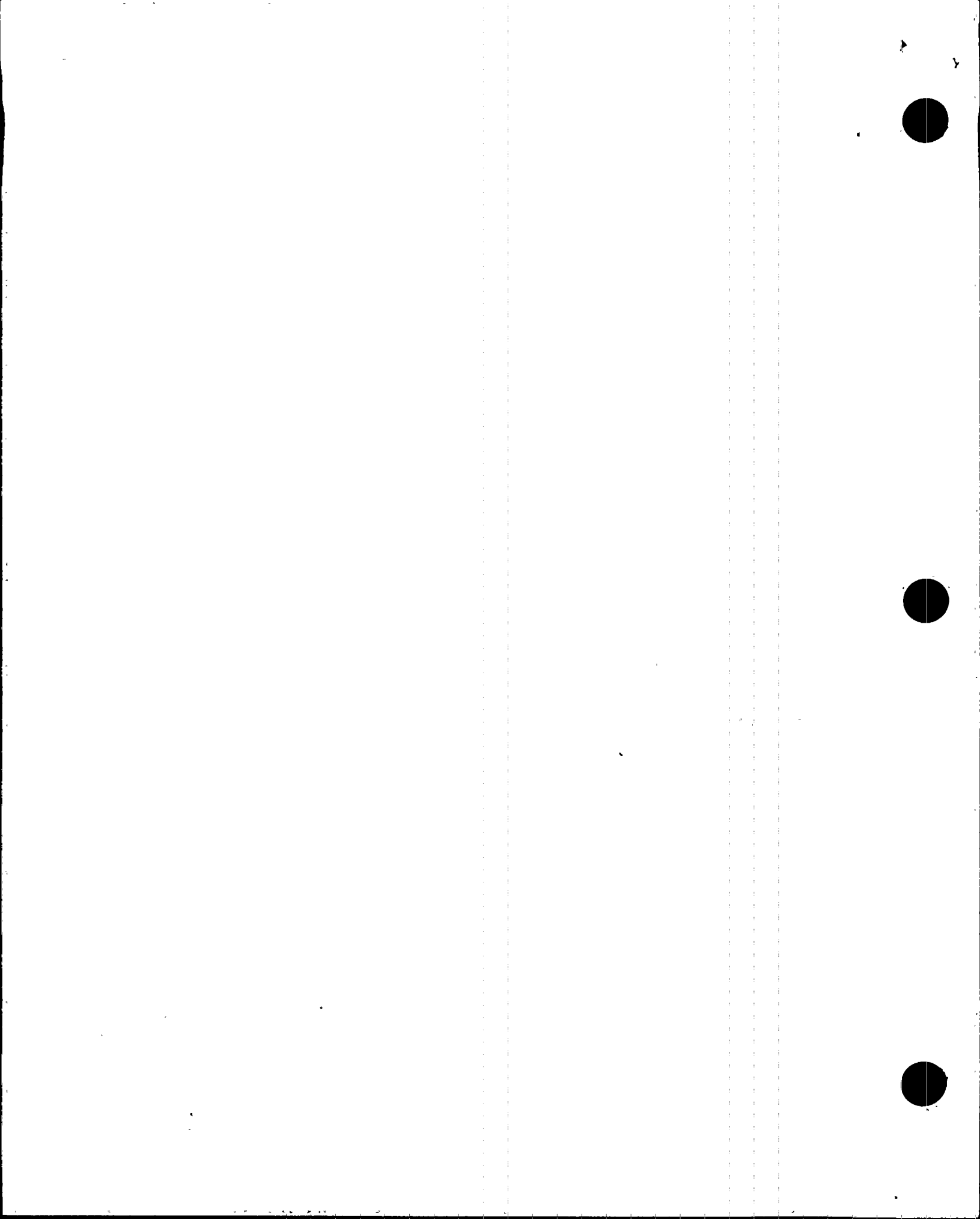
Data submitted by: Florida DOH

Prepared by:

Reviewed by:

*Peter G. Boud*  
*J. H. Vane*

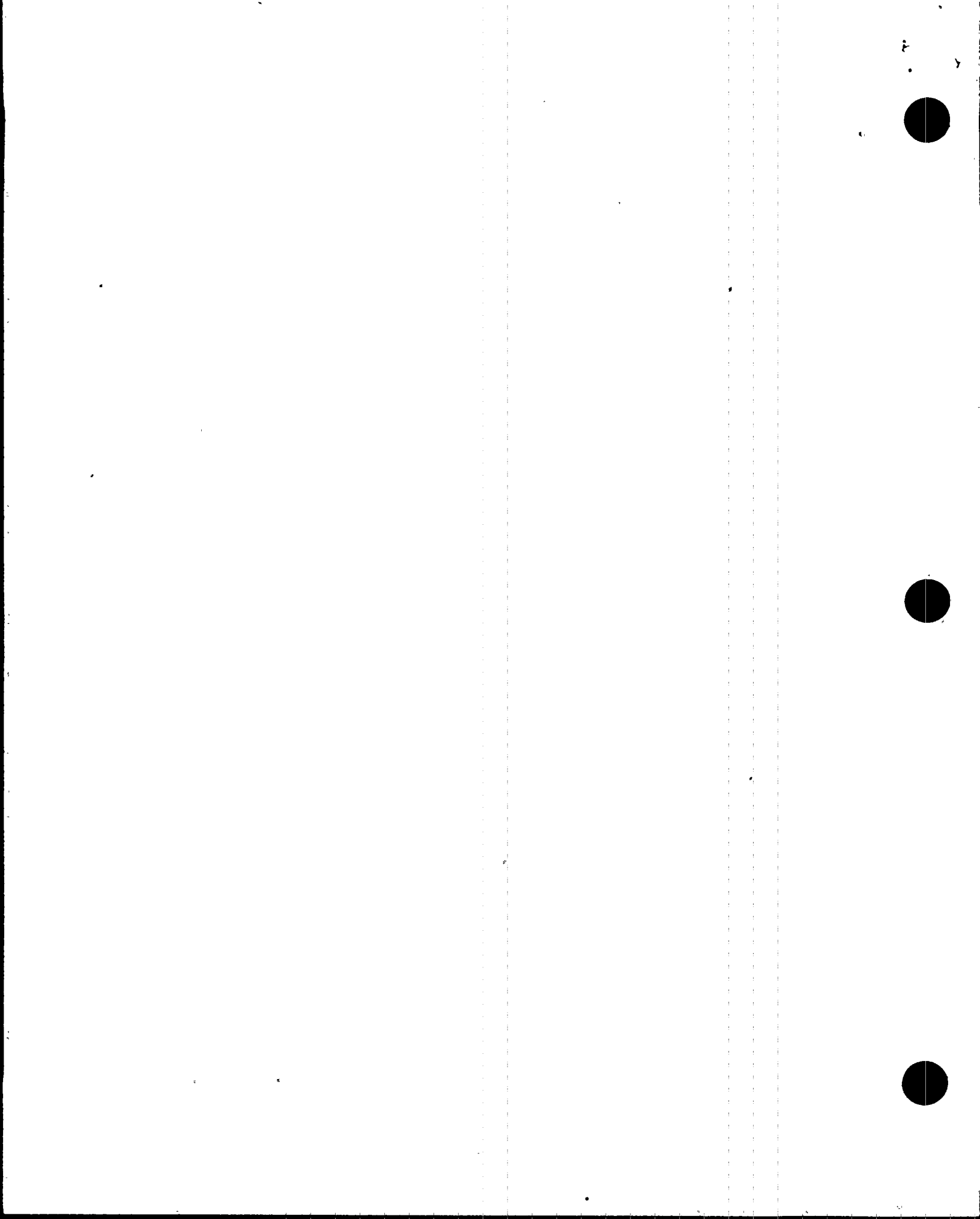
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1996  
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT  
TURKEY POINT PLANT - UNITS 3 & 4

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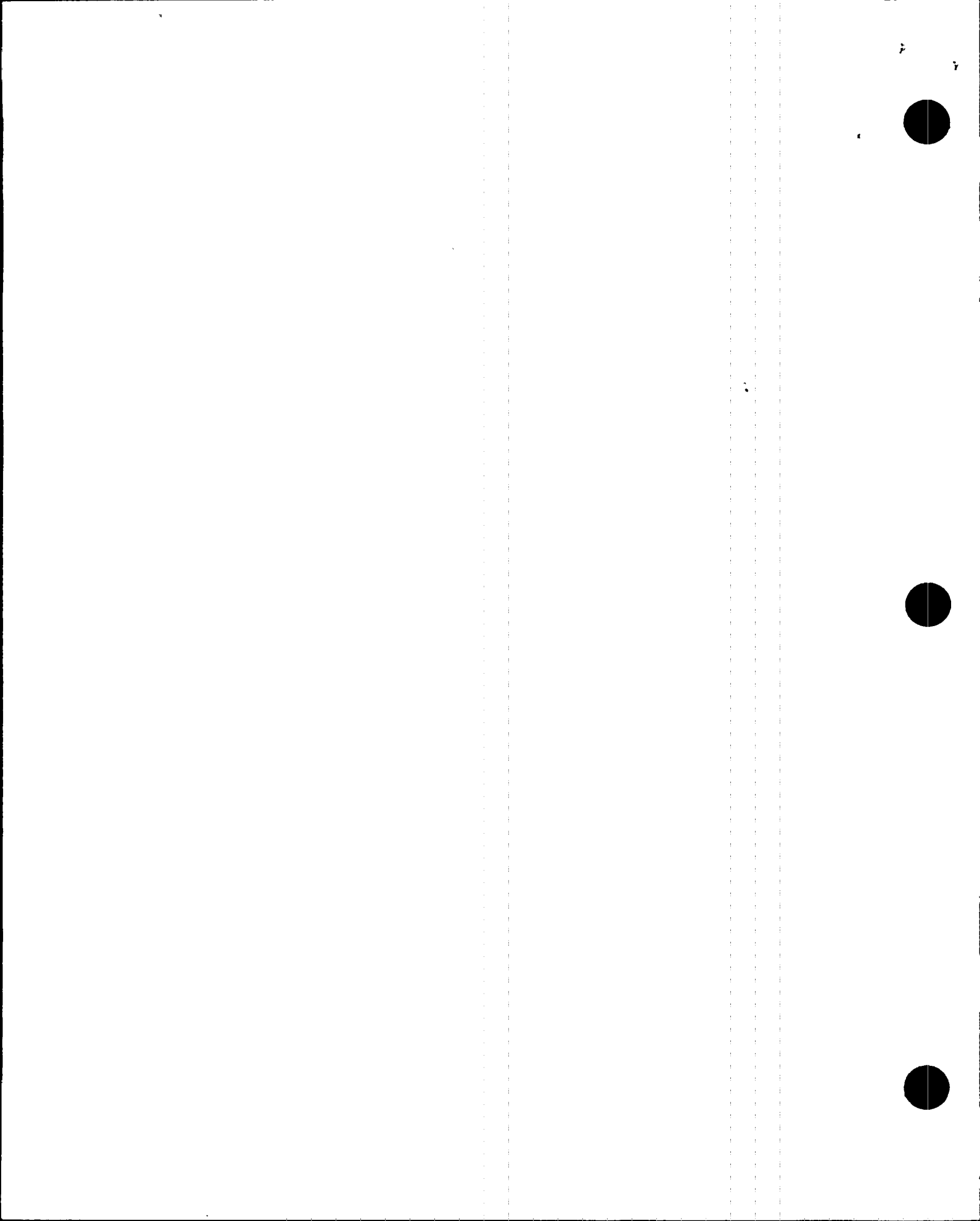
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TURKEY POINT PLANT - UNITS 3 & 4

EXECUTIVE SUMMARY

The data obtained through the Turkey Point Radiological Environmental Monitoring Program verifies that the levels of radiation and concentrations of radioactive materials in environmental samples are not increasing. These measurements verify that the dose or dose commitment to members of the public, due to operation of Turkey Point Units 3 & 4, during the surveillance year, is well within the limits established by 10 CFR 50, Appendix I. The sampling period was from January 1, 1996 to December 31, 1996.

Additionally, supplemental samples collected by the State of Florida, Department of Health (DOH), do not indicate adverse trends in the radiological environment.





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TURKEY POINT PLANT - UNITS 3 & 4

I. INTRODUCTION

This report is submitted pursuant to Specification 6.9 of Turkey Point Units 3 & 4 Technical Specifications. The Annual Radiological Environmental Operating Report provides information, summaries and analytical results pertaining to the Radiological Environmental Monitoring Program for the calendar year indicated. This report covers surveillance activities described in the Offsite Dose Calculation Manual (ODCM) meeting the requirements of Unit 3 and Unit 4 Technical Specifications.

II. RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A. Purpose

The purpose of the Radiological Environmental Monitoring Program is to provide representative measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides which lead to the highest potential radiation exposures of members of the public resulting from station operation. The Radiological Environmental Monitoring Program also supplements the radiological effluent monitoring program by verifying that the measurable concentrations of radioactive materials and levels of radiation are not higher than expected on the basis of the effluent measurements and the modeling of the environmental exposure pathways.

B. Program Description

The Radiological Environmental Monitoring Program (REMP) for the Turkey Point Plant is conducted pursuant to Control 5.1 of Turkey Point Unit 3 & 4 ODCM:

1. Sample Locations, Types and Frequencies:

- a. Direct radiation gamma exposure rate is monitored continuously at 21 locations by thermoluminescent dosimeters (TLDs). TLDs are collected and analyzed quarterly.
- b. Airborne radioiodine and particulate samplers are operated continuously at five locations. Samples are collected and analyzed weekly. Analyses include Iodine-131, gross beta, and gamma isotopic measurements.
- c. Surface water samples are collected from three locations. Samples are collected and analyzed monthly. Analyses include gamma isotopic and tritium measurements.

1

2



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TURKEY POINT PLANT - UNITS 3 & 4

- d. Shoreline sediment samples are collected from three locations coinciding with the locations for surface water samples. Samples are collected and analyzed semi-annually. Sediment samples are analyzed by gamma isotopic measurements.
- e. Fish and invertebrate samples are collected from two locations coinciding with two of the locations for surface water samples. Samples are collected and analyzed semi-annually. Fish and invertebrate samples are analyzed by gamma isotopic measurements.
- f. Broad leaf vegetation samples are collected from three locations. Samples are collected and analyzed monthly. Broad leaf vegetation samples are analyzed by gamma isotopic measurements.

Attachment A provides specific information pertaining to sample locations, types and frequencies.

2. Analytical Responsibility:

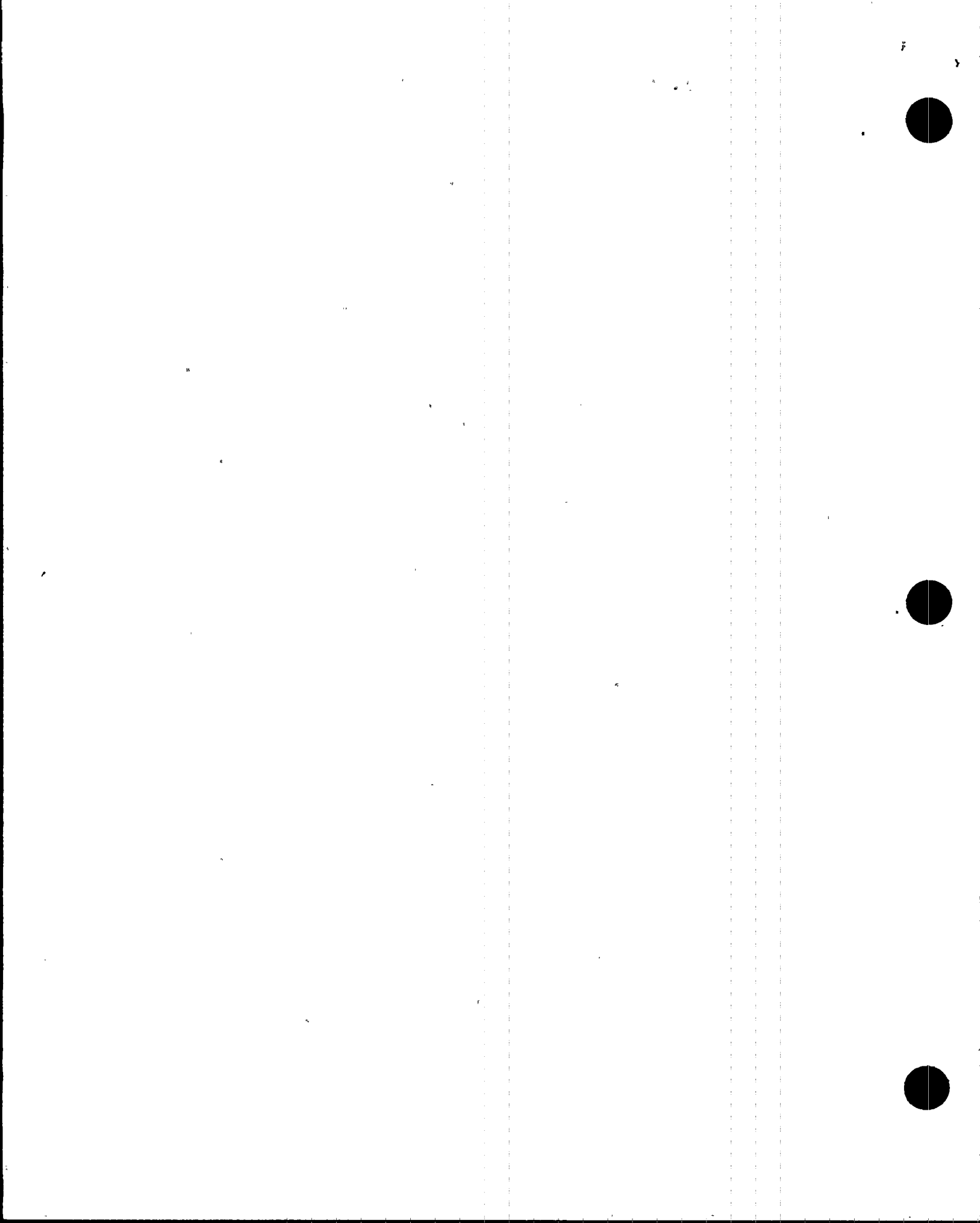
Radiological environmental monitoring for the Turkey Point Plant is conducted by the State of Florida, Department of Health (DOH). Samples are collected and analyzed by DOH personnel.

Samples are analyzed at the DOH Environmental Radiation Control Laboratory in Orlando, Florida.

Note that in prior submissions, the State agency was referred to as Health and Rehabilitative Services; the State reorganized that department and renamed a portion of it as the Department of Health (DOH). The laboratory is the same as before this reorganization.

C. Analytical Results

Table 1, Environmental Radiological Monitoring Program Annual Summary provides a summary for all specified samples collected during the referenced surveillance period. Deviations from the sample schedule, missing data and/or samples not meeting the specified "A PRIORI" LLD, if any, are noted and explained in Tables 1A and 1B respectively. Analysis data for all specified samples analyzed during the surveillance period is provided in Attachment B.



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D. Land Use Census

A land use census out to a distance of 5 miles radius from the Turkey Point Plant is conducted annually to determine the location of the nearest milk animal, residence, and garden producing broad leaf vegetation, in each of the sixteen meteorological sectors. A summary of the land use census for the surveillance year is provided in Table 2, Land Use Census Summary.

No locations yielding a calculated dose or dose commitment greater than the values currently being calculated were identified by the land use census.

No locations yielding a calculated dose or dose commitment (via the same exposure pathway) 20% greater than locations currently being sampled in the radiological environmental monitoring program were identified by the land use census.

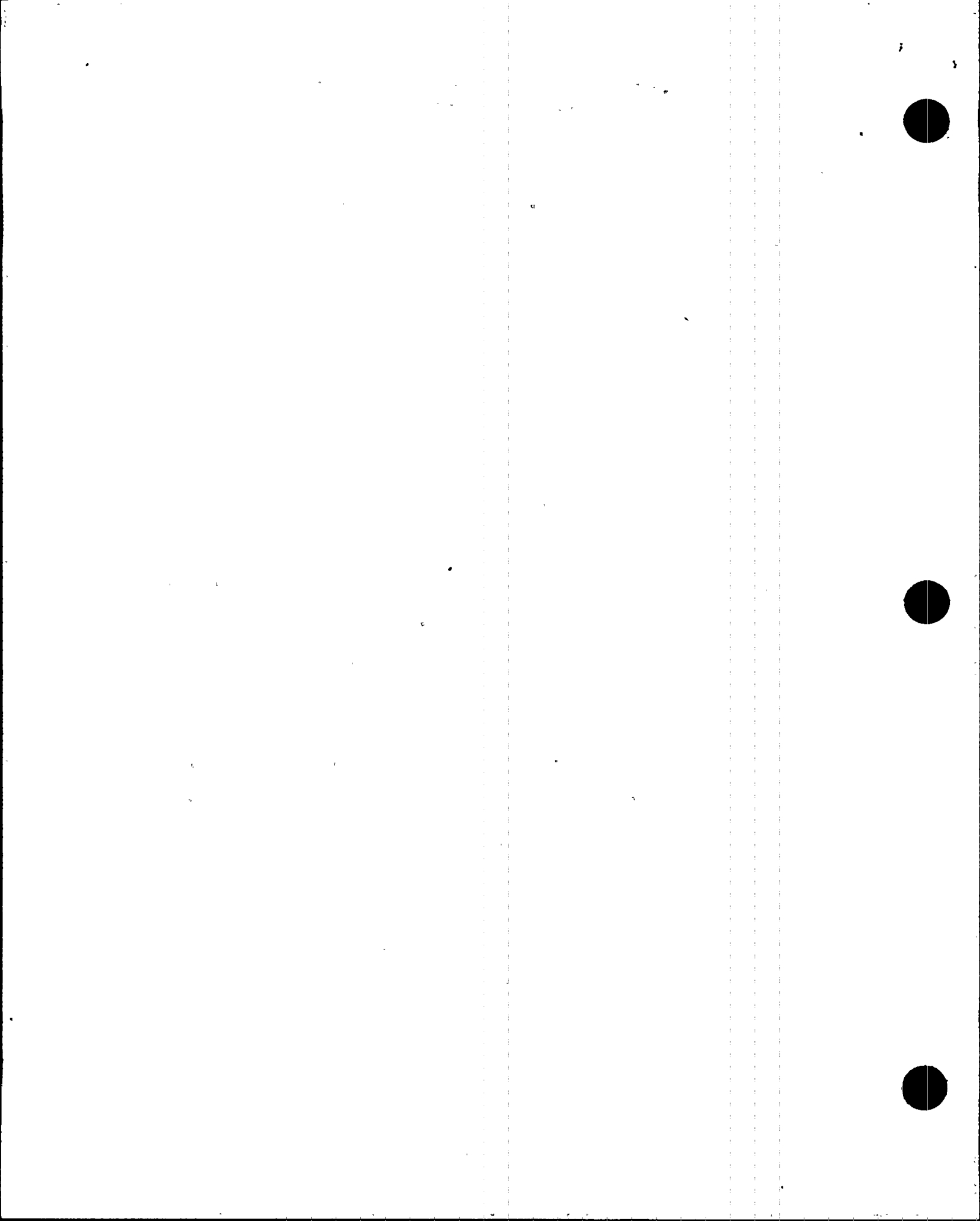
E. Interlaboratory Comparison Program

The State of Florida DOH Environmental Radiation Control Laboratory participates in the Environmental Radioactivity Laboratory Intercomparison Studies Program conducted by the Environmental Protection Agency. Results from the Interlaboratory Comparison Program are provided in Attachment C.

III. DISCUSSION AND INTERPRETATION OF RESULTS

A. Reporting of Results

The Annual Radiological Environmental Operating Report contains the summaries, interpretations and information required by Control 1.4 of ODCM. Table 1 provides a summary of the measurements made for the nuclides required by ODCM Table 5.1-2, for all samples specified by Table 5.1-1. In addition, summaries are provided for other nuclides identified in the specified samples, including those not related to station operation. These include nuclides such as K-40, Th-232, Ra-226, and Be-7 which are common in the Florida environment.



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B. Interpretation of Results

1. Direct Radiation:

The results of direct radiation monitoring are consistent with past measurements for the specified locations. The exposure rate data shows no indication of any trends attributed to effluents from the plant. The measured exposure rates are consistent with exposure rates that were observed during the preoperational surveillance program. Direct radiation monitoring results are summarized in Table 1.

2. Air Particulates/Radioiodine:

Results of gross beta measurement are consistent with past measurements. No radioiodine was detected. The only identified isotopes are cosmic-ray produced Be-7 and naturally occurring Pb-210 at levels consistent with past measurements.

3. Waterborne, Surface Water:

The results of radioactivity measurements in surface water samples are consistent with past measurements. Tritium was reported as present in 7 of the 36 surface water samples collected. These results are consistent with the known subsurface interchange that occurs between the closed cooling canal and its surrounding waters, and the pressure gradients caused by the flow of aquifer subsurface waters in South Florida. The highest reported tritium is less than 2% of the reporting value specified by ODCM Table 5.1-2.

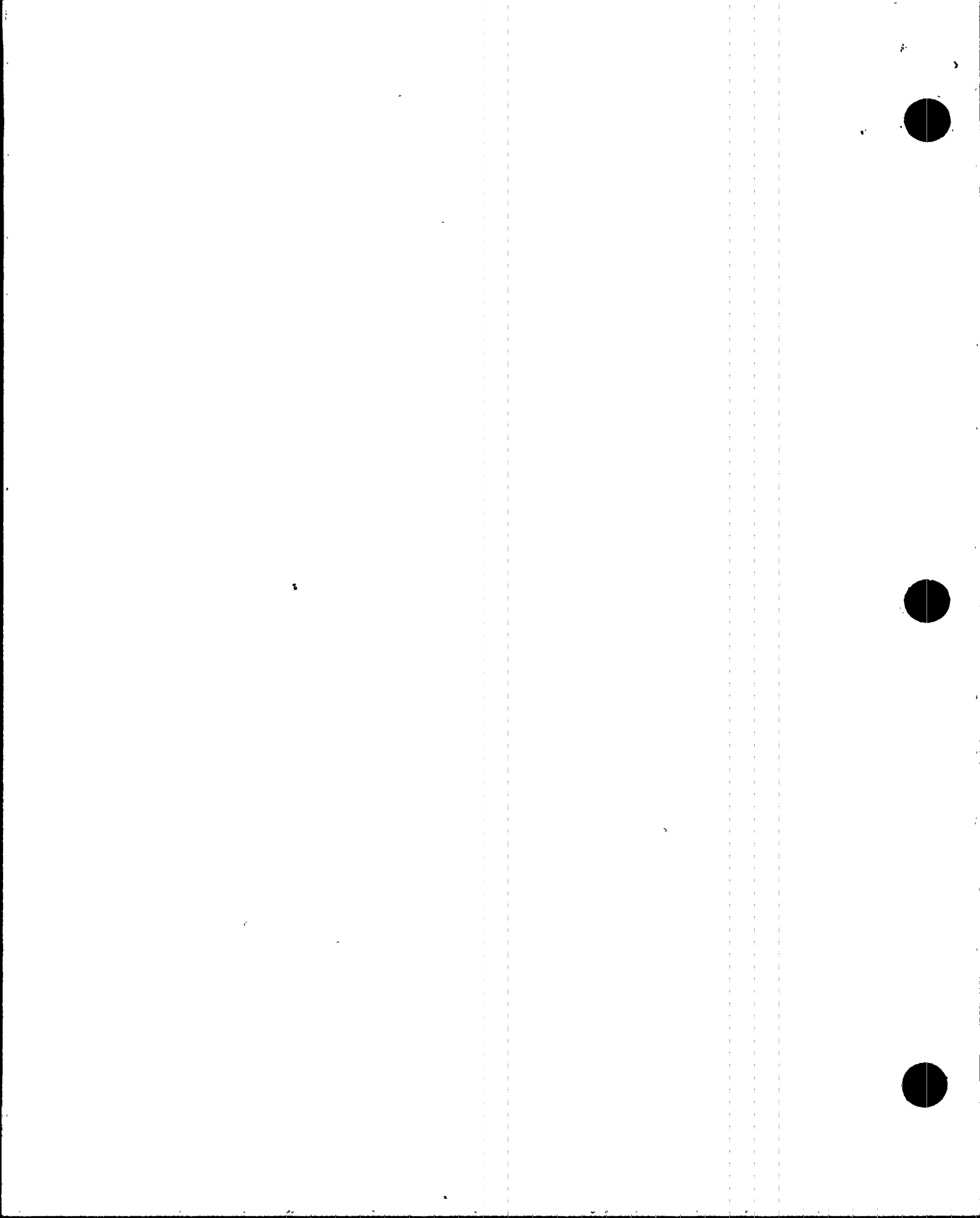
4. Waterborne, Sediment:

The results are consistent with past measurements. Cesium-137 was reported as present in one of the six samples collected; the concentration was less than 12% of the ODCM Table 5.1-3 required detection capability.

5. Waterborne, Food Products:

The results are consistent with past measurements; only naturally occurring radionuclides were detected.





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6. Broad Leaf Vegetation

The results of radioactivity measurements are consistent with past measurements. Cs-137 was detected, as in the past, in samples collected from the indicator and control locations. The maximum concentration reported was less than 8% of the reporting level specified by ODCM Table 5.1-2. Cobalt-58 was reported as present in one of the 36 samples collected. The reported concentration was less than 2% of the reporting level of the most restrictive non-iodine food product nuclide listed in ODCM Table 5.1-2. (The ODCM does not specify a LLD in Table 5.1-3; a reporting level is not stated in Table 5.1-2.) No other fission products were detected.

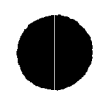
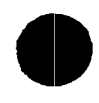
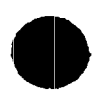
C. Conclusions

The data obtained through the Turkey Point Plant Radiological Environmental Monitoring Program verify that the levels of radiation and concentrations of radioactive materials in environmental samples, representing the highest potential exposure pathways to members of the public, are not being increased.

Additionally, supplemental to the ODCM program, sampling of the direct exposure, inhalation, and ingestion pathways, performed by DOH, does not show adverse trends in levels of radiation and radioactive materials in unrestricted areas. The measurements verify that the dose or dose commitment to members of the public, due to operation of Turkey Point Units 3 & 4, during the surveillance year, are well within "as low as reasonably achievable (ALARA)" criteria established by 10 CFR 50, Appendix I.

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ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY

Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251

Location of Facility Dade, Florida, Reporting Period January 1 - December 31, 1996  
(County, State)

PATHWAY: DIRECT RADIATION

SAMPLES COLLECTED: TLD

UNITS: micro-R/hr

Type and Total Number of Analyses Performed	Lower Limit of Detection <sup>a</sup> (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f) <sup>b</sup> Range
			Name <sup>c</sup>	Mean (f) <sup>b</sup> Range	
Exposure Rate, 87 <sup>d</sup>	---	5.06 (83/83) 4.00 - 7.73	NW-10 10 mi., NW	7.37 (4/4) 7.16 - 7.73	5.58 (4/4) 5.38 - 5.76

Number of Nonroutine Reported Measurements = 0



ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY

Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251

Location of Facility Dade, Florida, Reporting Period January 1 - December 31, 1996  
(County, State)

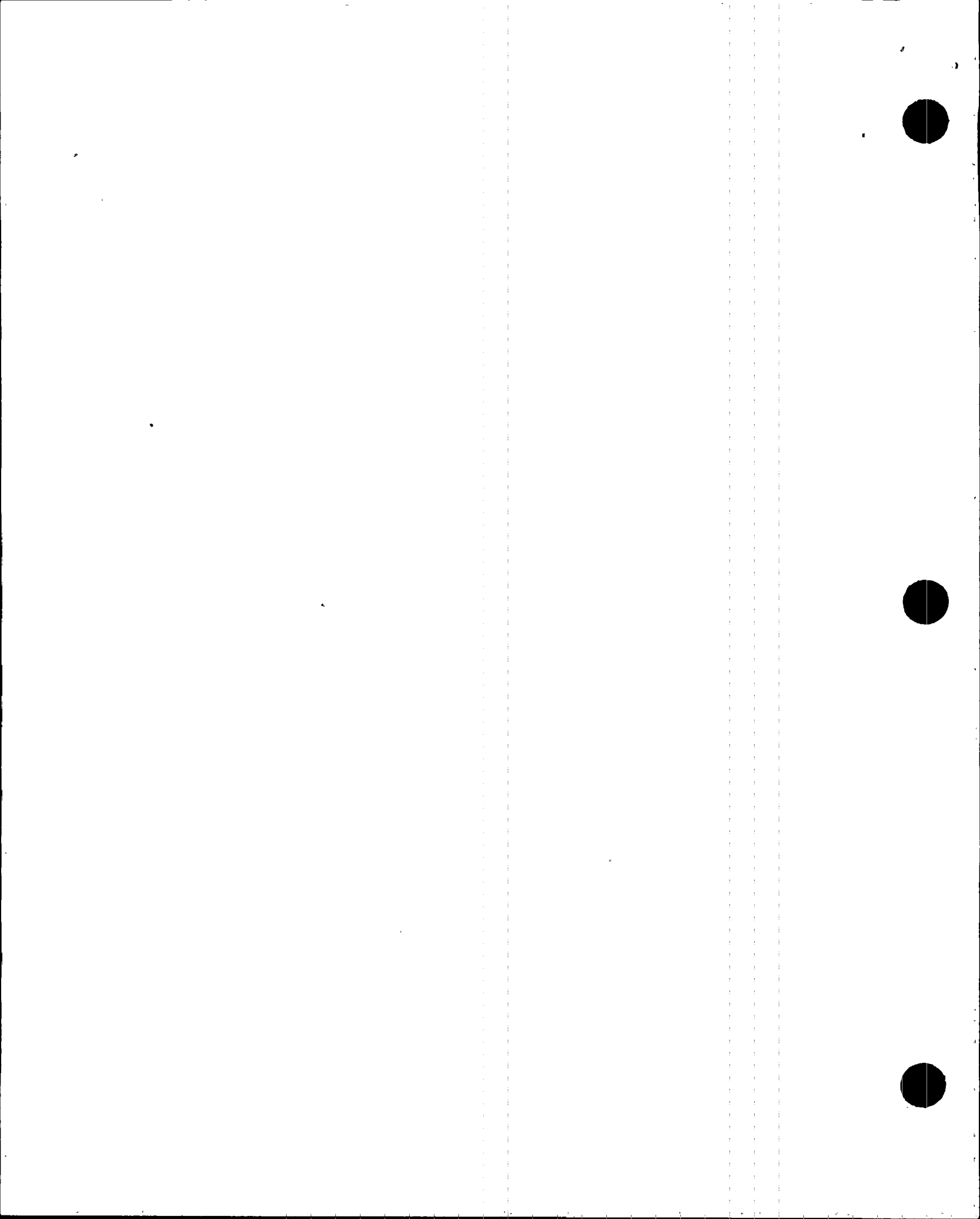
PATHWAY: AIRBORNE

SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES

UNITS: pCi/m<sup>3</sup>

Type and Total Number of Analyses Performed	Lower Limit of Detection <sup>a</sup> (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f) <sup>b</sup> Range
			Name <sup>c</sup>	Mean (f) <sup>b</sup>	
<sup>131</sup> I, 260	0.024	<MDA	---	---	<MDA
Gross Beta, 260	0.0025	0.012 (206/208) 0.003 - .022	T-72 < 1 mi., WSW	0.012 (51/52) 0.003 - 0.021	0.014 (50/52) 0.005 - 0.025
Composite Gamma Isotopic, 20					
<sup>7</sup> Be	0.0052	0.1308 (16/16) 0.0817 - 0.1848	T-58 1 mi, NW	0.1406 (4/4) 0.0968 - 0.1785	0.1345 (4/4) 0.1025 - 0.1903
<sup>210</sup> Pb	---	0.0108 (16/16) 0.0079 - 0.0150	T-58 1 mi., NW	0.0126 (4/4) 0.0113 - 0.0150	0.0138 (4/4) 0.0117 - 0.0166
<sup>134</sup> Cs	0.00069	<MDA	---	---	<MDA
<sup>137</sup> Cs	0.00066	<MDA	---	---	<MDA

Number of Nonroutine Reported Measurements = 0



ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY

Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251

Location of Facility Dade, Florida, Reporting Period January 1 - December 31, 1996  
(County, State)

PATHWAY: WATERBORNE

SAMPLES COLLECTED: SURFACE WATER

UNITS: pCi/L

Type and Total Number of Analyses Performed	Lower Limit of Detection* (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f) <sup>b</sup> Range
			Name <sup>c</sup>	Mean (f) <sup>b</sup>	
			Distance & Direction	Range	
Tritium, 36	230	295 (7/24) 110 - 544	T-81 6 mi., S	300 (6/12) 204 - 544	<MDA
Gamma Isotopic, 36					
<sup>40</sup> K	60	276 (24/24) 122 - 397	T-81 6 mi., S	295 (12/12) 220 - 397	198 (11/12) 104 - 326
<sup>54</sup> Mn	4	<MDA	---	---	<MDA
<sup>59</sup> Fe	8	<MDA	---	---	<MDA
<sup>58</sup> Co	4	<MDA	---	---	<MDA
<sup>60</sup> Co	4	<MDA	---	---	<MDA
<sup>65</sup> Zn	8	<MDA	---	---	<MDA
<sup>95</sup> Zr-Nb	7	<MDA	---	---	<MDA
<sup>131</sup> I	5	<MDA	---	---	<MDA
<sup>134</sup> Cs	5	<MDA	---	---	<MDA
<sup>137</sup> Cs	5	<MDA	---	---	<MDA
<sup>140</sup> Ba-La	11	<MDA	---	---	<MDA

Number of Nonroutine Reported Measurements = 0



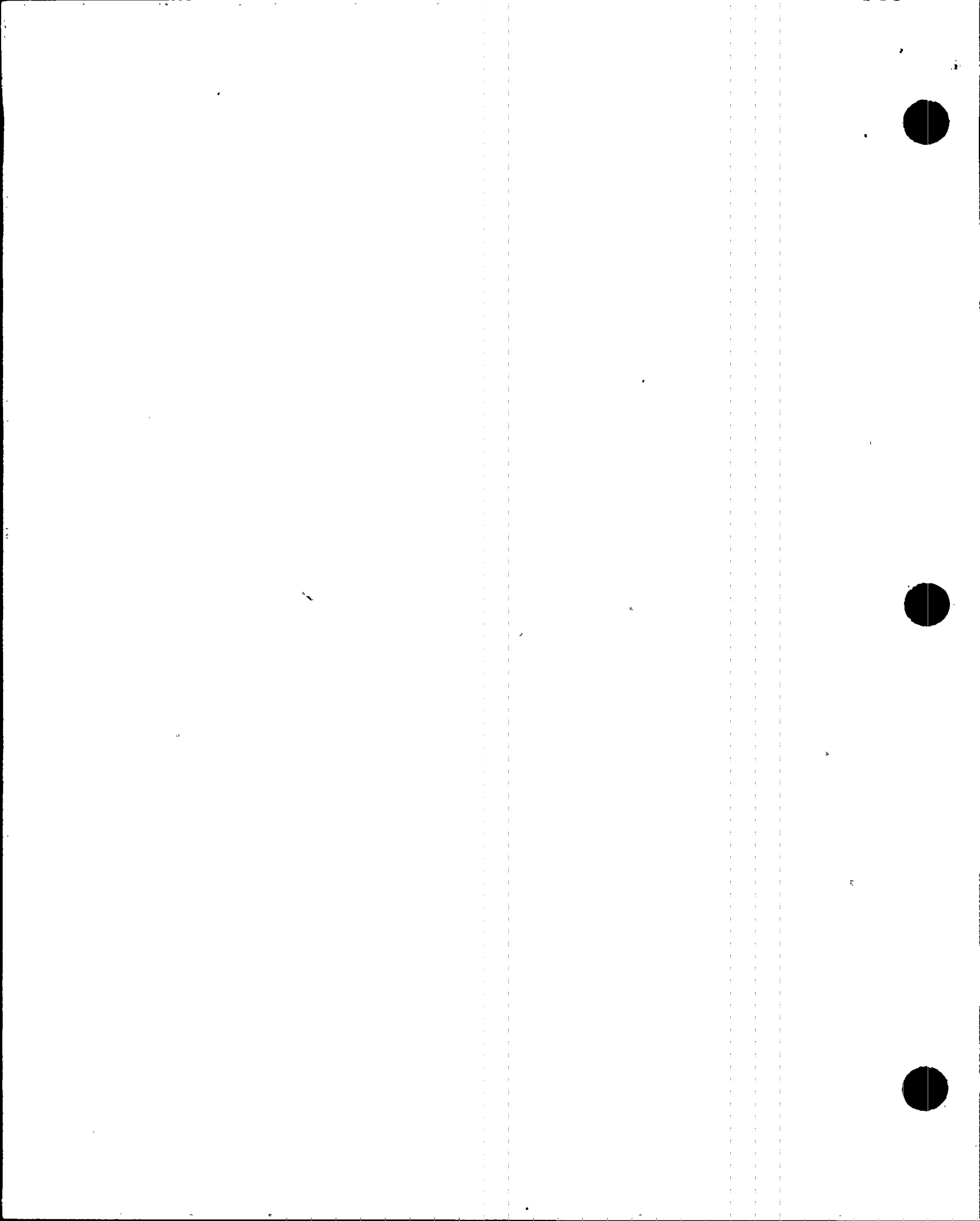


ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY  
 Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251  
 Location of Facility Dade, Florida, Reporting Period January 1 - December 31, 1996  
 (County, State)

PATHWAY: WATERBORNE  
 SAMPLES COLLECTED: SHORELINE SEDIMENT  
 UNITS: pCi/kg, DRY

Type and Total Number of Analyses Performed	Lower Limit of Detection <sup>a</sup> (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f) <sup>b</sup> Range
			Name <sup>c</sup>	Mean (f) <sup>b</sup> Range	
Gamma Isotopic, 6					
<sup>137</sup> Cs	12	21 (1/4)	T-42 < 1 mi, ENE	21 (1/2)	<MDA
<sup>7</sup> Be	100	305 (3/4) 238 - 395	T-42 < 1 mi., ENE	317 (2/2) 238 - 395	108 (2/2) 96 -120
<sup>40</sup> K	140	384 (3/4) 323 - 505	T-81 6 mi., S	415 (2/2) 325 - 505	232 (2/2) 137 - 327
<sup>210</sup> Pb	---	1101 (3/4) 541 - 2144	T-42 < 1 mi., ENE	1382 (2/2) 619 - 2144	553 (1/2)
<sup>226</sup> Ra	49	752 (4/4) 437 - 1094	T-42 < 1 mi., ENE	993 (2/2) 892 - 1094	<MDA
<sup>238</sup> U	---	737 (3/4) 401 - 1345	T-42 < 1 mi., ENE	873 (2/2) 401 - 1345	<MDA
<sup>58</sup> Co	9	<MDA	---	---	<MDA
<sup>60</sup> Co	12	<MDA	---	---	<MDA
<sup>134</sup> Cs	14	<MDA	---	---	<MDA

Number of Nonroutine Reported Measurements = 0

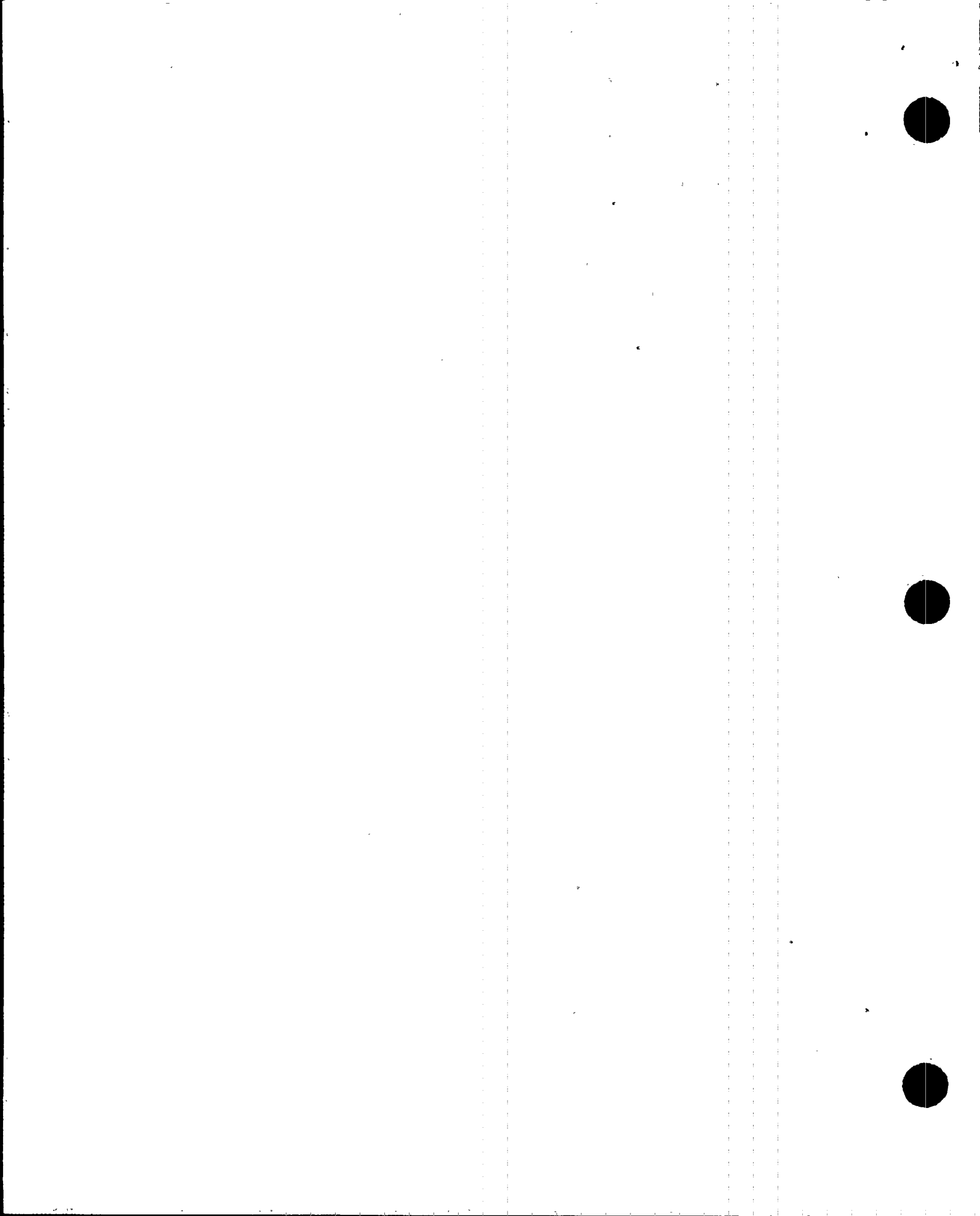


**ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY**  
 Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251  
 Location of Facility Dade, Florida, Reporting Period January 1 - December 31, 1996  
 (County, State)

PATHWAY: INGESTION  
 SAMPLES COLLECTED: CRUSTACEA  
 UNITS: pCi/kg, WET

Type and Total Number of Analyses Performed	Lower Limit of Detection <sup>a</sup> (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f) <sup>b</sup> Range
			Name <sup>c</sup>	Mean (f) <sup>b</sup> Range	
Gamma Isotopic, 4					
<sup>40</sup> K	130	1602 (2/2) 1459 - 1744	T-81 6 mi., S	1602 (2/2) 1459 - 1744	1594 (2/2) 1473 - 1716
<sup>226</sup> Ra	20	683 (1/2)	T-81, 6 mi., S	683 (1/2)	<MDA
<sup>54</sup> Mn	9	<MDA	---	---	<MDA
<sup>59</sup> Fe	16	<MDA	---	---	<MDA
<sup>58</sup> Co	9	<MDA	---	---	<MDA
<sup>60</sup> Co	19	<MDA	---	---	<MDA
<sup>65</sup> Zn	17	<MDA	---	---	<MDA
<sup>134</sup> Cs	9	<MDA	---	---	<MDA
<sup>137</sup> Cs	9	<MDA	---	---	<MDA

Number of Nonroutine Reported Measurements = 0



ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY

Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251

Location of Facility Dade, Florida, Reporting Period January 1 - December 31, 1996  
(County, State)

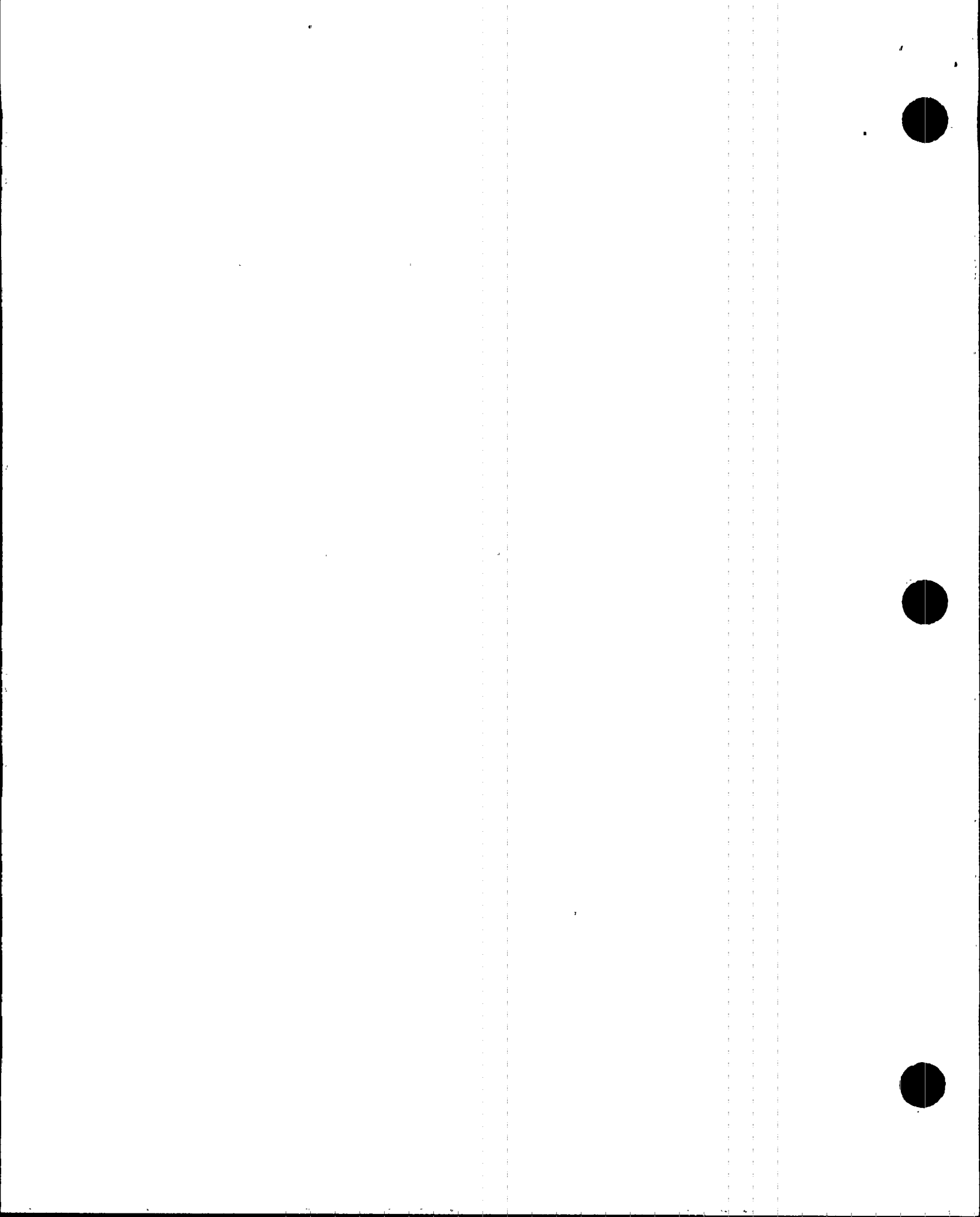
PATHWAY: INGESTION

SAMPLES COLLECTED: FISH

UNITS: pCi/kg, WET

Type and Total Number of Analyses Performed	Lower Limit of Detection <sup>a</sup> (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f) <sup>b</sup> Range
			Name <sup>c</sup>	Mean (f) <sup>b</sup>	
Gamma Isotopic, 4					
<sup>40</sup> K	130	2293 (2/2) 1925 - 2661	T-81 6 mi., S	2293 (2/2) 1925 - 2661	2126 (2/2) 1997 - 2256
<sup>226</sup> Ra	20	530 (1/2)	T-81 6 mi., S	530 (1/2)	<MDA
<sup>54</sup> Mn	9	<MDA	---	---	<MDA
<sup>59</sup> Fe	16	<MDA	---	---	<MDA
<sup>58</sup> Co	9	<MDA	---	---	<MDA
<sup>60</sup> Co	10	<MDA	---	---	<MDA
<sup>65</sup> Zn	17	<MDA	---	---	<MDA
<sup>134</sup> Cs	9	<MDA	---	---	<MDA
<sup>137</sup> Cs	9	<MDA	---	---	<MDA

Number of Nonroutine Reported Measurements = 0



**ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY**  
**Name of Facility** Turkey Point Units 3 & 4, **Docket No(s).** 50-250 & 50-251  
**Location of Facility** Dade, Florida, **Reporting Period** January 1 - December 31, 1996  
 (County, State)

**PATHWAY: INGESTION**  
**SAMPLES COLLECTED: BROAD LEAF VEGETATION**  
**UNITS: pCi/kg, WET**

Type and Total Number of Analyses Performed	Lower Limit of Detection <sup>a</sup> (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f) <sup>b</sup> Range
			Name <sup>c</sup>	Mean (f) <sup>b</sup> Range	
Gamma Isotopic, 36					
<sup>7</sup> Be	71	1790 (24/24) 237 - 3482	T-40 3 mi., W	1840 (12/12) 237 - 2962	1177 (12/12) 477 - 1783
<sup>40</sup> K	100	3578 (24/24) 1710 - 6535	T-41 2 mi., W/NW	4359 (12/12) 3039 - 6535	3428 (12/12) 2232 - 4794
<sup>137</sup> Cs	8	79 (24/24) 19 - 152	T-41 2 mi., W/NW	93 (12/12) 19 - 152	19 (3/12) 14 - 25
<sup>58</sup> Co	9	12 (1/24)	T-40 3 mi., W	12 (1/12)	<MDA
<sup>210</sup> Pb	---	881 (6/24) 444 - 1571	T-41 2 mi., W/NW	1190 (3/12) 991 - 1571	807 (4/12) 452 - 1606
<sup>226</sup> Ra	---	117 (1/24)	T-41 2 mi., W/NW	117 (1/12)	128 (1/12)
<sup>131</sup> I	9	<MDA	---	---	<MDA
<sup>134</sup> Cs	8	<MDA	---	---	<MDA

Number of Nonroutine Reported Measurements = 0





## ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY

Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251Location of Facility Dade, Florida, Reporting Period January 1 - December 31, 1996  
(County, State)NOTES

- a. The LLD is an "a priori" lower limit of detection which establishes the smallest concentration of radioactive material in a sample that will yield a net count above system background that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a real signal.

LLDs in this column are at time of measurement. The MDAs reported in Attachment B for the individual samples have been corrected to the time of sample collection.

- b. Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f).
- c. Specific identifying information for each sample location is provided in Attachment A.
- d. Results were based upon the average net response of two TLDs. (Thermoluminescent dosimeters).

MDA refers to minimum detectable activity.



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TABLE 1A

DEVIATIONS/MISSING DATA

- |    |                         |  |
|----|-------------------------|--|
| A) | Pathway:                | Direct Exposure - TLDs.  |
|    | Location:               | SSW-10, 10 miles SSW   |
|    | Dates:                  | 9/18/96 to 12/04/96  |
|    | Deviation:              | Failure to provide continuous monitoring.  |
|    | Description of Problem: | TLDs were missing when collection was attempted.                                 |
|    | Corrective Action:      | Replaced TLDs.   |
|    |                         |  |
| B) | Pathway:                | Airborne - Radioiodines & Particulates, weekly sampling                          |
|    | Location:               | T-64, 22 miles NNE   |
|    | Dates:                  | 10/16/96 to 10/30/96   |
|    | Deviation:              | Failure to provide continuous monitoring.  |
|    | Description of Problem: | No sample due to sampling equipment failure; sampling hose became disconnected.  |
|    | Corrective Action:      | Repaired sampling equipment; verified as operable.                               |
|    |                         |  |
| C) | Pathway:                | Airborne - Radioiodines & Particulates, weekly sampling                          |
|    | Location:               | T-72, <1 mile, WSW   |
|    | Dates:                  | 4/10/96 to 4/18/96   |
|    | Deviation:              | Failure to provide continuous monitoring.  |
|    | Description of Problem: | Suspected power failure during sampling period. Sample size was 97% of expected. |
|    | Corrective Action:      | Verified equipment as operable.  |

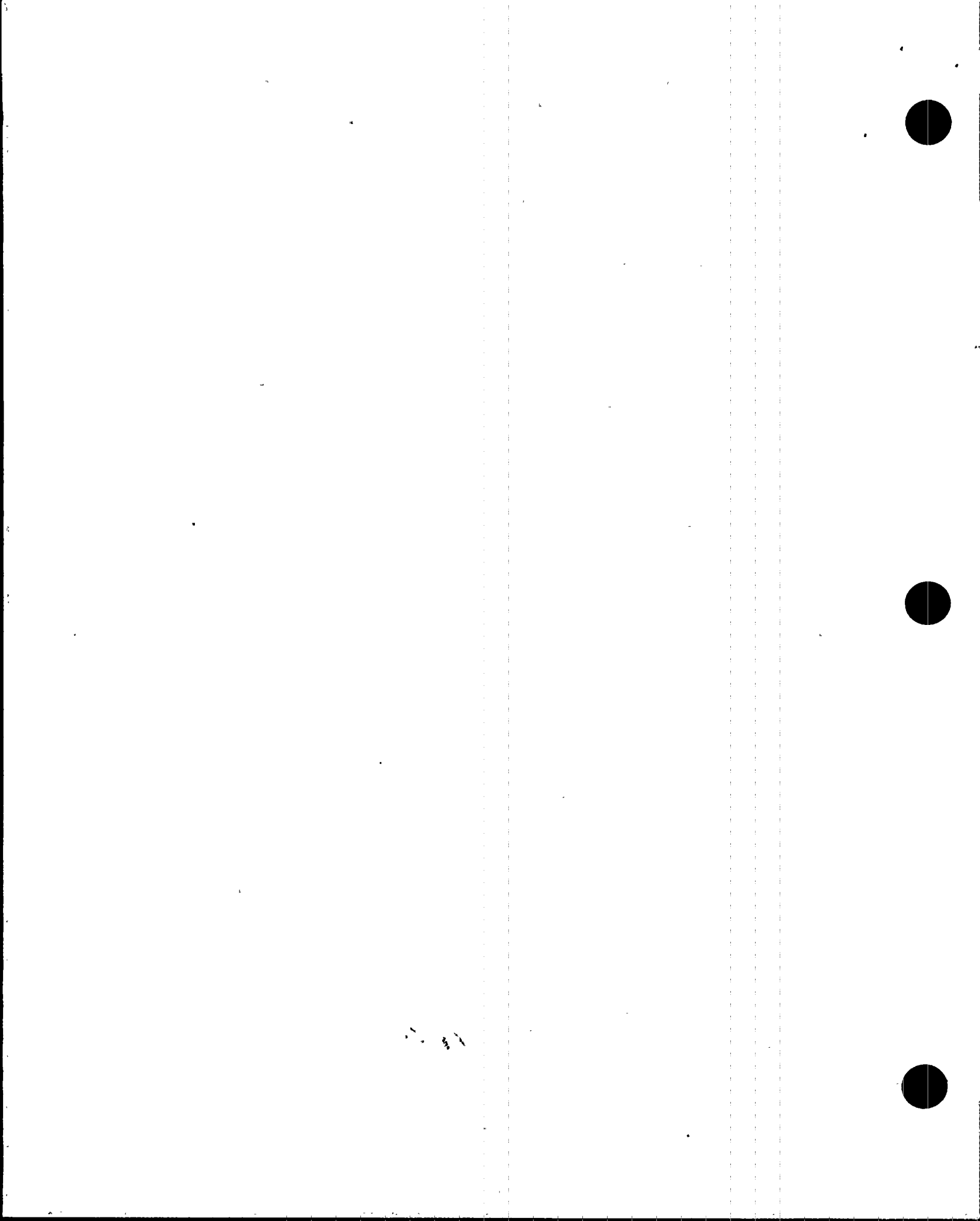


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TABLE 1B

ANALYSES WITH LLDs ABOVE DETECTION CAPABILITIES  
1/1/96 - 12/31/96

The values specified in ODCM Table 5.1-3, Detection Capabilities, were achieved for all samples.



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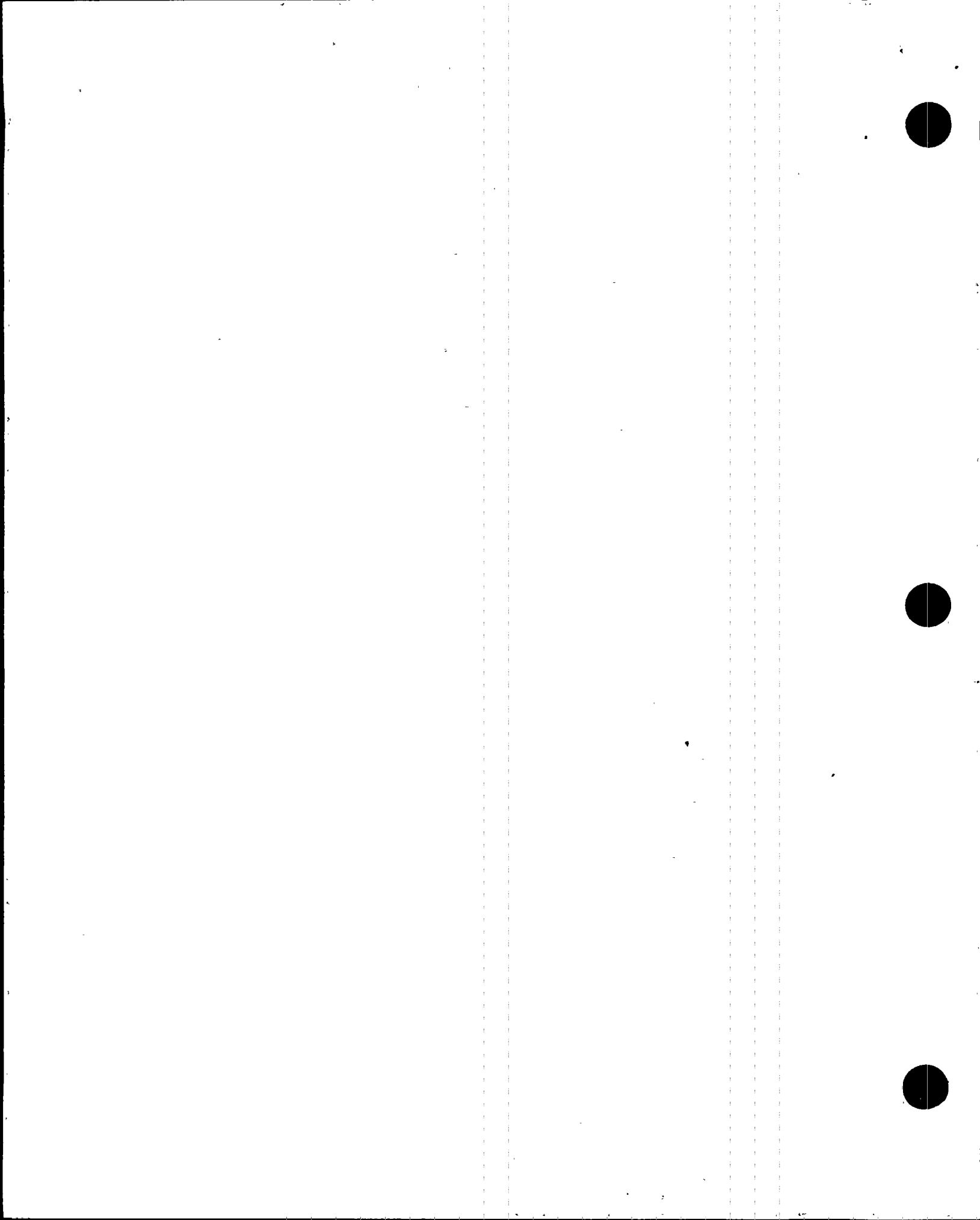
TABLE 2

LAND USE CENSUS

Distance to Nearest (a, b)

Sector	6/96 Milk (c) Animal	6/96 Residence	6/96 Garden (d)
N	L (e)	2.1/350 (g)	L
NNE	O (f)	O	O
NE	O	O	O
ENE	O	O	O
E	O	O	O
ESE	O	O	O
SE	O	O	O
SSE	O	O	O
S	L	L	L
SSW	L	L	L
SW	L	L	L
WSW	L	L	L
W	L	L	L
WNW	L	3.6/302 (h)	4.3/303
NW	L	L (g)	3.6/308
NNW	L	4.7/328	4.0/328





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TABLE 2

LAND USE CENSUS

NOTES

- a. All categories surveyed out to 5 miles radius from the Turkey Point Plant.
- b. The following format is used to denote the location:

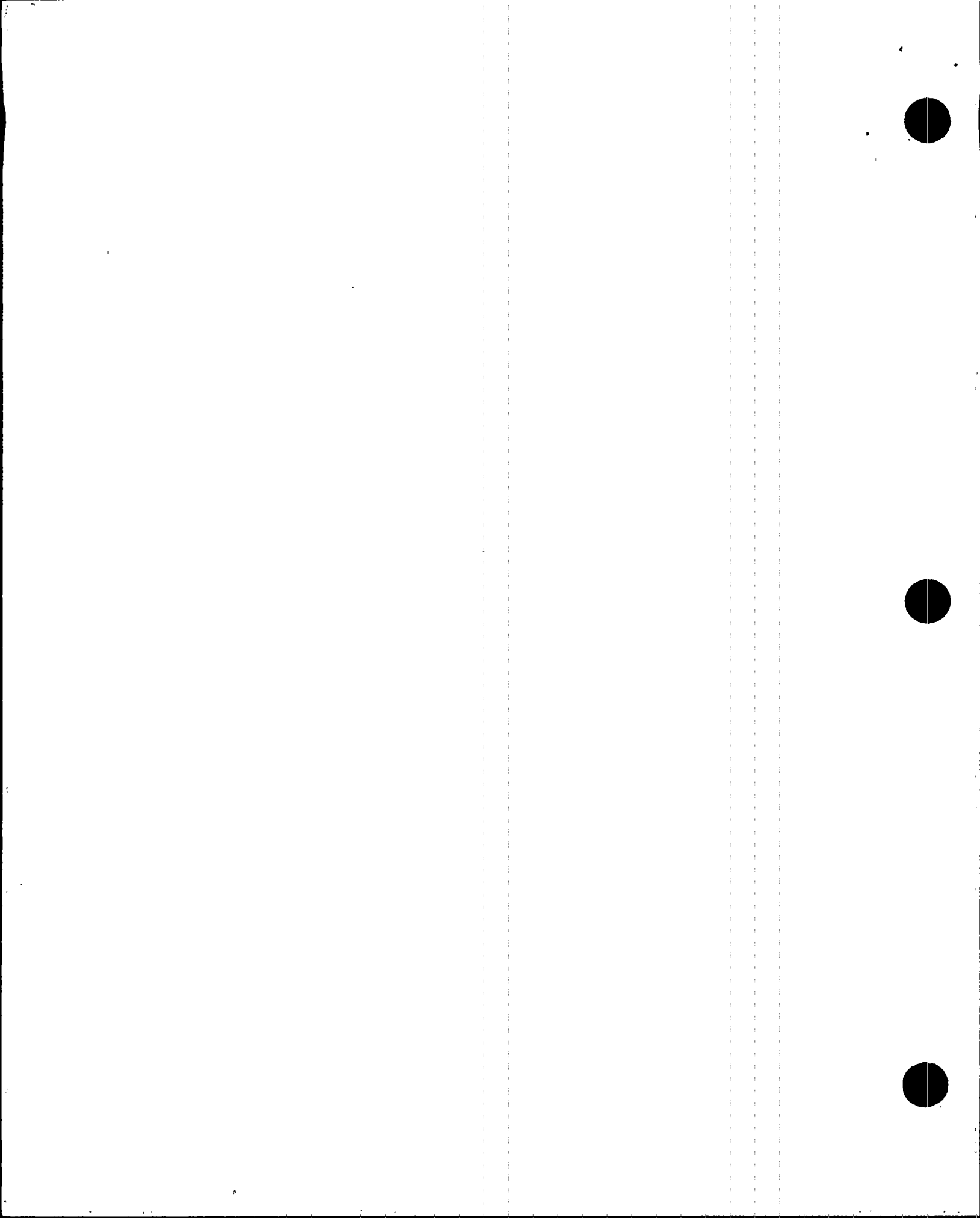
distance (miles)/bearing (degrees)

For example, a residence located in the north sector at a distance of 2.1 miles bearing 350 degrees is recorded as 2.1/350.

- c. Potential milk animal locations.
- d. Gardens with an estimated growing area of 500 square feet or more.
- e. L denotes that the sector area is predominantly a land area unoccupied by the category type.
- f. O denotes that the sector area is predominantly an ocean area.
- g. Non-residential occupied buildings in these sectors include the following:

<u>Sector</u>	<u>Distance</u>	<u>Description</u>
N	1.8/349	24-hour Security Staff Building
NW	3.5/304	24-hour Security Staffing
NNW	4.5/327	Mobile homes used for field offices
NNW	1.8/345	Security booth at park entrance

- h. This house has been converted into a construction office.



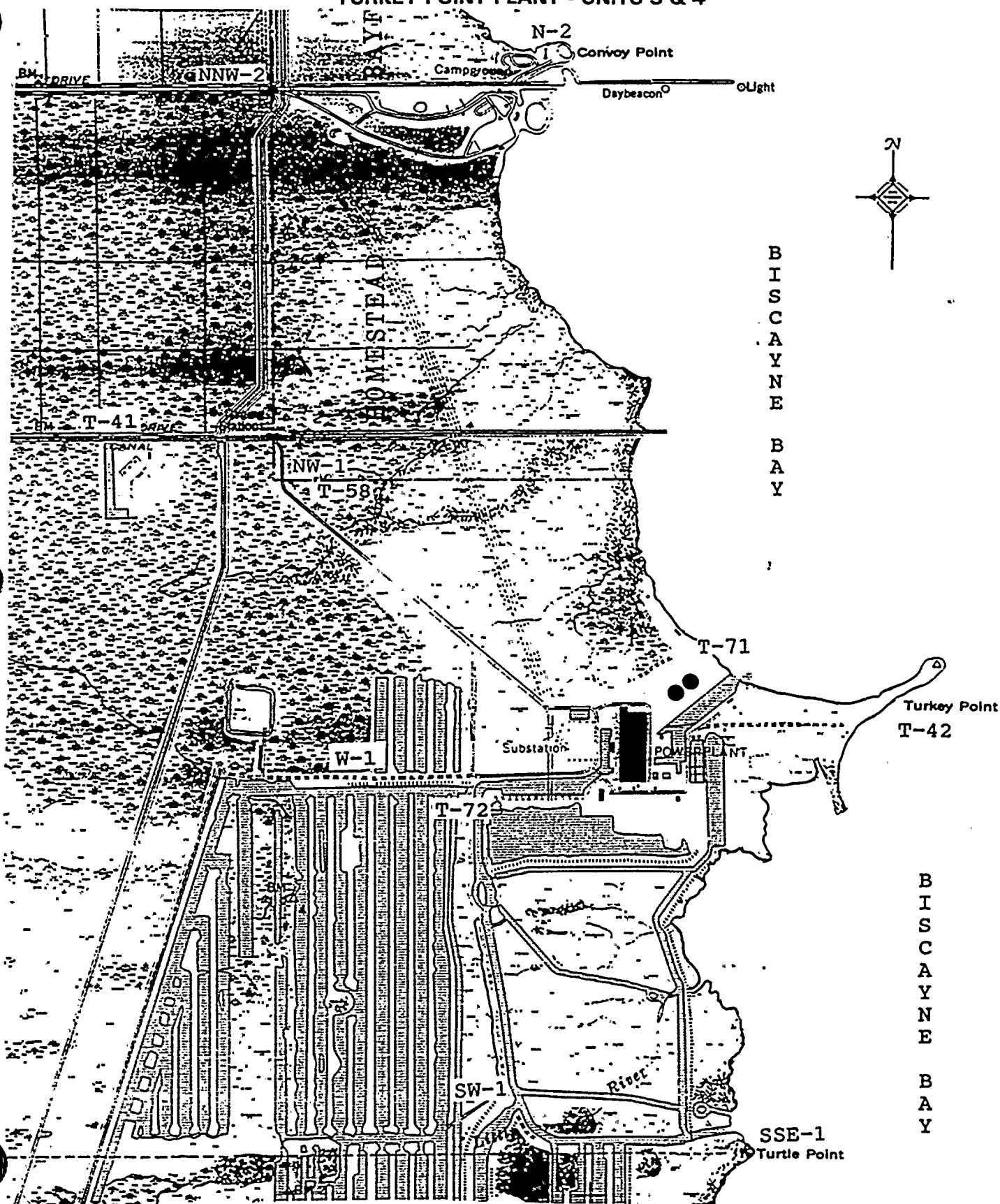
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ATTACHMENT A

KEY TO SAMPLE LOCATIONS



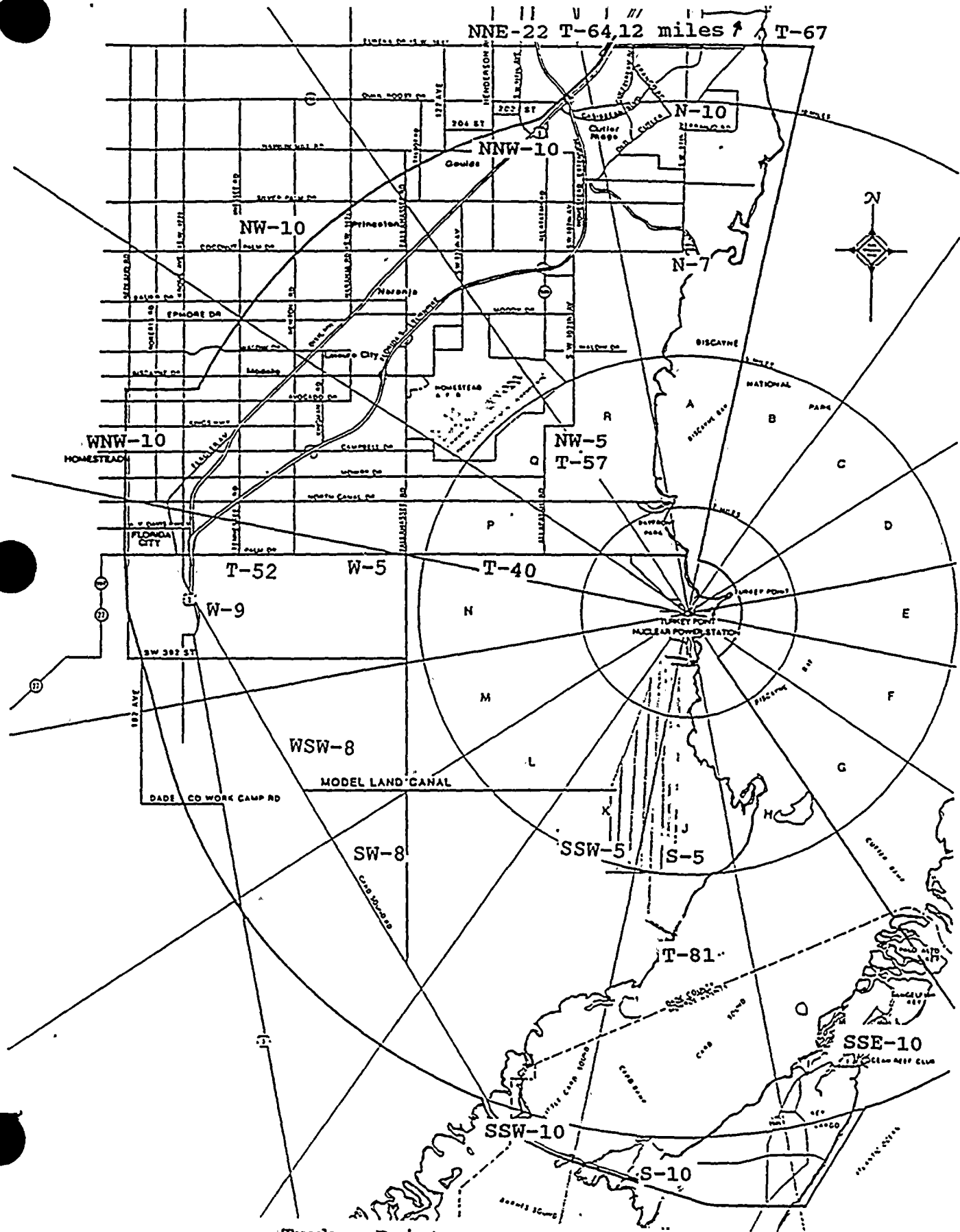
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Turkey Point Sampling Locations  
Plant Site Area

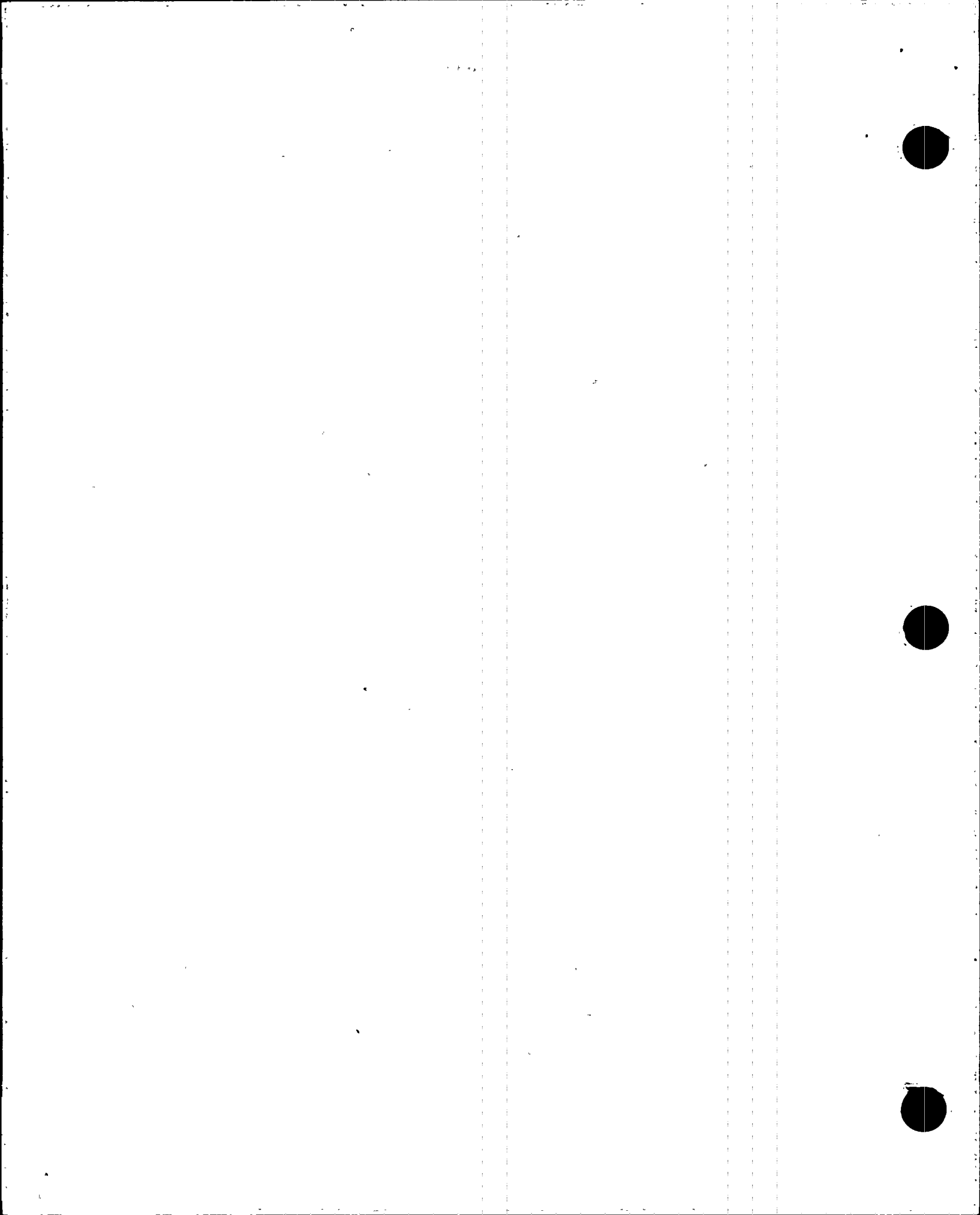


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Turkey Point Sampling Locations





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ATTACHMENT A

Page 1 of 4

PATHWAY: DIRECT RADIATION  
SAMPLES COLLECTED: TLD  
SAMPLE COLLECTION FREQUENCY: QUARTERLY

Location.<sup>(a)</sup>

<u>Name</u>	<u>Description</u>
N-2	Convoy Point, Parking Area
N-7	Black Point Marina Parking Lot
N-10	Old Cutler Rd. approx. 196th Street
NNW-2	East End North Canal Road
NNW-10	Bailes Road & U.S. #1
NW-1	Turkey Point Entrance Road
NW-5	Mowry Drive & 117th Avenue
NW-10	Newton Road, North of Coconut Palm Drive
WNW-10	Homestead Middle School
W-1	On-Site, North Side of Discharge Canal
W-5	Palm Drive & Tallahassee Road
W-9	Card Sound Road, 0.6 mile from U.S. #1
WSW-8	Card Sound Road, 3.4 miles from U.S. #1
SW-1	On-Site near Land Utilization Offices
SW-8	Card Sound Road, 5 miles from U.S. #1
SSW-5	On-Site, Southwest Corner of Cooling Canals
SSW-10	Card Sound Road, west side of Toll Plaza
S-5	On-Site, South East Corner of Cooling Canals
S-10	Card Sound Road at Steamboat Creek
SSE-1	Turtle Point
SSE-10	Ocean Reef
<u>Control</u>	
NNE-22	Natoma Substation

---

<sup>a</sup>The location name is the direction sector - approximate distance (miles)



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ATTACHMENT A

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PATHWAY: AIRBORNE

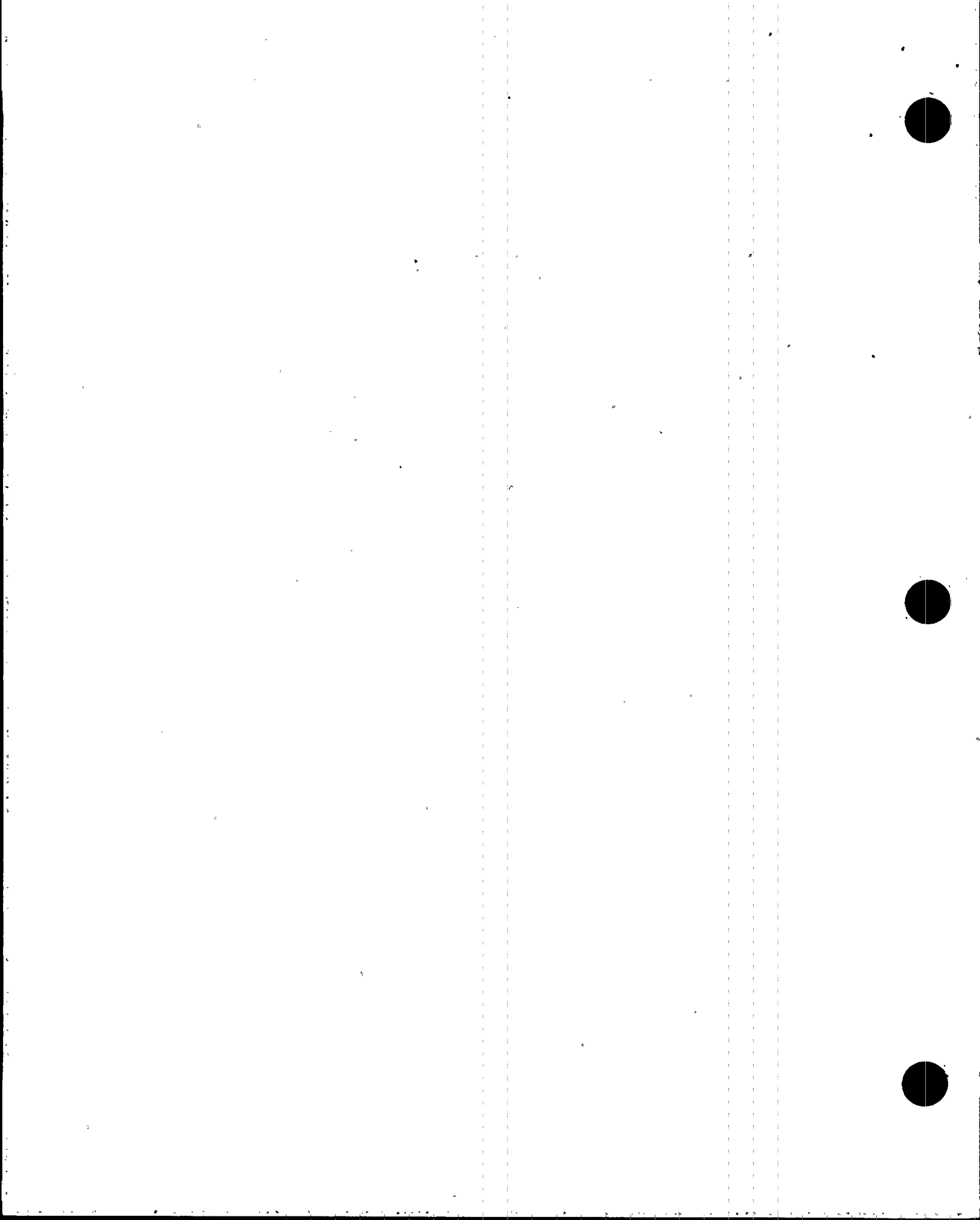
SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES

SAMPLE COLLECTION FREQUENCY: WEEKLY

<u>Location Name</u>	<u>Direction: Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
T-51	NNW	2	Entrance Area to Biscayne National Park
T-57	NW	4	SW 107th Avenue at Mowry Canal
T-58	NW	1	Turkey Point Entrance Road
T-72	WSW	< 1	Just before entrance to Land Utilization's access gate.

Control:

T-64	NNE	22	Natoma Substation
------	-----	----	-------------------



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ATTACHMENT A

Page 3 of 4

PATHWAY: WATERBORNE  
SAMPLES COLLECTED: SURFACE WATER (OCEAN)  
SAMPLE COLLECTION FREQUENCY: MONTHLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
T-42	ENE	< 1	Biscayne Bay at Turkey Point
T-81	S	6	Card Sound, near Mouth of Old Discharge Canal

Control:

T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park
------	--------	-------	---

SAMPLES COLLECTED: SHORELINE SEDIMENT  
SAMPLE COLLECTION FREQUENCY: SEMI-ANNUALLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
T-42	ENE	< 1	Biscayne Bay at Turkey Point
T-81	S	6	Card Sound, near Mouth of Old Discharge Canal

Control:

T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park
------	--------	-------	---



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ATTACHMENT A

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PATHWAY: INGESTION

SAMPLES COLLECTED: CRUSTACEA AND FISH

SAMPLE COLLECTION FREQUENCY: SEMI-ANNUALLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
T-81	S	6	Card Sound Vicinity of Turkey Point Facility

Control:

T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park
------	--------	-------	--

SAMPLES COLLECTED: BROAD LEAF VEGETATION

SAMPLE COLLECTION FREQUENCY: MONTHLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
T-40	W	3	South of Palm Dr. on S.W. 117th Street Extension
T-41	WNW	2	Palm Dr., West of Old Missile Site near Plant Site Boundary

Control:

T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park
------	--------	-------	--





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TURKEY POINT PLANT - UNITS 3 & 4

ATTACHMENT B

RADIOLOGICAL SURVEILLANCE OF  
FLORIDA POWER AND LIGHT COMPANY'S

TURKEY POINT SITE

1996

First Quarter, 1996

Second Quarter, 1996

Third Quarter, 1996

Fourth Quarter, 1996



RADIOLOGICAL SURVEILLANCE OF  
FLORIDA POWER AND LIGHT COMPANY'S  
TURKEY POINT SITE

First Quarter, 1996

Office of Radiation Control

Florida Department of Health  
and Rehabilitative Services



# TURKEY POINT SITE

## Technical Specifications Sampling

First Quarter, 1996

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a Air Iodines	Weekly	5	65
2.b Air Particulates	Weekly	5	65
3. Waterborne			
3.a Surface Water	Monthly	3	9
3.b Shoreline Sediment	Semiannually	3	3
4. Ingestion			
4.a Fish and Invertebrates			
4.a.1 Crustacea	Semiannually	2	2
4.a.2 Fish	Semiannually	2	2
4.b Food Products			
4.b.1 Broadleaf Vegetation	Monthly	3	9
			<hr/> Total: 177

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term.

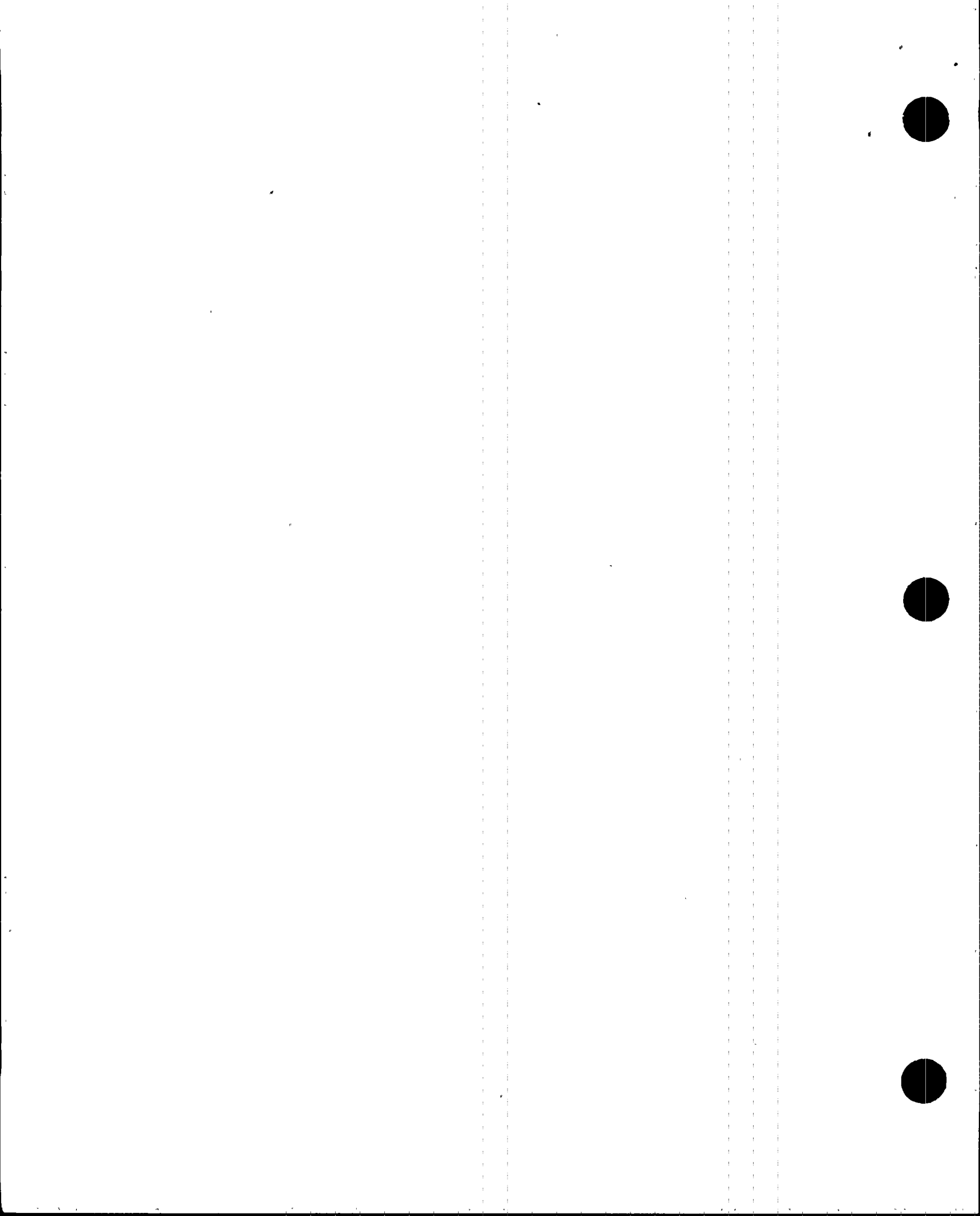
Measurement results that are not significantly above background are reported as "non-detectable" (ND) or as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.



1. DIRECT RADIATION - TLDs - (micro-R/hour)

<u>Sample Site</u>	<u>Deployment 12-13-95 Collection 03-13-96</u>
N-2	5.26 ± 0.41
N-7	4.72 ± 0.37
N-10	4.81 ± 0.38
NNW-2	4.42 ± 0.35
NNW-10	5.84 ± 0.45
NW-1	4.63 ± 0.36
NW-5	4.96 ± 0.39
NW-10	7.29 ± 0.56
WNW-10	6.40 ± 0.49
W-1	6.45 ± 0.49
W-5	4.84 ± 0.37
W-9	4.73 ± 0.37
WSW-8	4.98 ± 0.39
SW-1	4.52 ± 0.36
SW-8	4.99 ± 0.39
SSW-5	5.07 ± 0.40
SSW-10	4.73 ± 0.37
S-5	4.87 ± 0.39
S-10	5.58 ± 0.43
SSE-1	4.65 ± 0.37
SSE-10	5.88 ± 0.45
NNE-22	5.70 ± 0.45

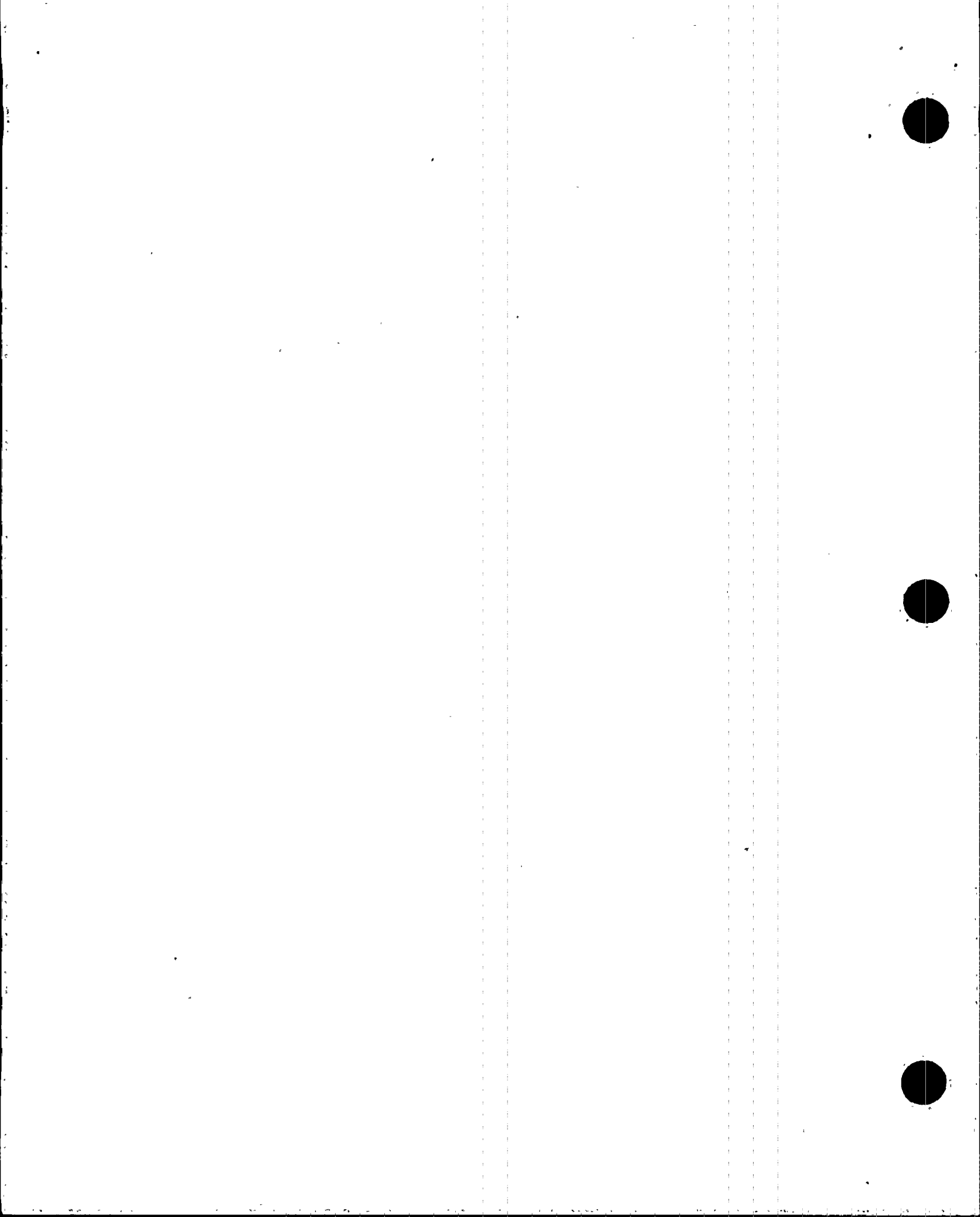




2.a

IODINE-131 IN WEEKLY AIR FILTERS - (pCi/m<sup>3</sup>)

<u>Collection Date</u>	<u>Sample Site</u>				
	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
01-03-96	<0.01	<0.01	<0.02	<0.01	<0.02
01-09-96	<0.04	<0.03	<0.03	<0.04	<0.03
01-17-96	<0.02	<0.02	<0.02	<0.02	<0.02
01-24-96	<0.01	<0.02	<0.02	<0.02	<0.02
01-30-96	<0.02	<0.02	<0.02	<0.02	<0.02
02-06-96	<0.02	<0.02	<0.02	<0.02	<0.02
02-13-96	<0.01	<0.02	<0.01	<0.02	<0.02
02-22-96	<0.01	<0.01	<0.01	<0.01	<0.01
02-27-96	<0.02	<0.02	<0.02	<0.02	<0.03
03-04-96	<0.02	<0.03	<0.03	<0.02	<0.02
03-13-96	<0.01	<0.01	<0.01	<0.02	<0.01
03-19-96	<0.02	<0.02	<0.02	<0.02	<0.02
03-25-96	<0.02	<0.02	<0.02	<0.02	<0.02



2.b

AIR PARTICULATES - GROSS BETA - (pCi/m<sup>3</sup>)

Collection Date	Sample Site				
	T51	T57	T58	T64	T72
01-03-96	0.010 ± 0.002	0.011 ± 0.002	0.013 ± 0.003	0.016 ± 0.002	0.011 ± 0.003
01-09-96	0.014 ± 0.003	0.016 ± 0.002	0.012 ± 0.002	0.020 ± 0.003	0.015 ± 0.002
01-17-96	0.017 ± 0.002	0.017 ± 0.002	0.018 ± 0.002	0.018 ± 0.002	0.015 ± 0.002
01-24-96	0.013 ± 0.002	0.015 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.019 ± 0.002
01-30-96	0.006 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.015 ± 0.002
02-06-96	0.010 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
02-13-96	0.013 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.012 ± 0.002
02-22-96	0.016 ± 0.002	0.013 ± 0.002	0.018 ± 0.002	0.017 ± 0.002	0.012 ± 0.002
02-27-96	0.017 ± 0.003	0.018 ± 0.002	0.022 ± 0.003	0.019 ± 0.003	0.021 ± 0.003
03-04-96	0.020 ± 0.003	0.012 ± 0.002	0.020 ± 0.003	0.022 ± 0.003	0.017 ± 0.002
03-13-96	0.011 ± 0.002	0.007 ± 0.001	0.013 ± 0.002	0.013 ± 0.002	0.011 ± 0.002
03-19-96	0.013 ± 0.002	0.013 ± 0.002	0.017 ± 0.002	0.018 ± 0.003	0.011 ± 0.002
03-25-96	0.011 ± 0.002	0.015 ± 0.002	0.017 ± 0.003	0.015 ± 0.002	0.015 ± 0.002
Means:	0.013 ± 0.001	0.013 ± 0.001	0.016 ± 0.001	0.016 ± 0.001	0.014 ± 0.001

2.b

AIR PARTICULATES - GAMMA SCANS OF QUARTERLY COMPOSITES - (pCi/m<sup>3</sup>)

First Quarter, 1996

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T51	0.1580 ± 0.0120	<0.0169	<0.0010	<0.0009	0.0124 ± 0.0025
T57	0.1670 ± 0.0117	<0.0129	<0.0010	<0.0006	0.0162 ± 0.0034
T58	0.1758 ± 0.0113	<0.0175	<0.0008	<0.0005	0.0116 ± 0.0026
T64	0.1903 ± 0.0108	<0.0176	<0.0008	<0.0010	0.0166 ± 0.0026
T72	0.1848 ± 0.0115	<0.0187	<0.0013	<0.0007	0.0126 ± 0.0032



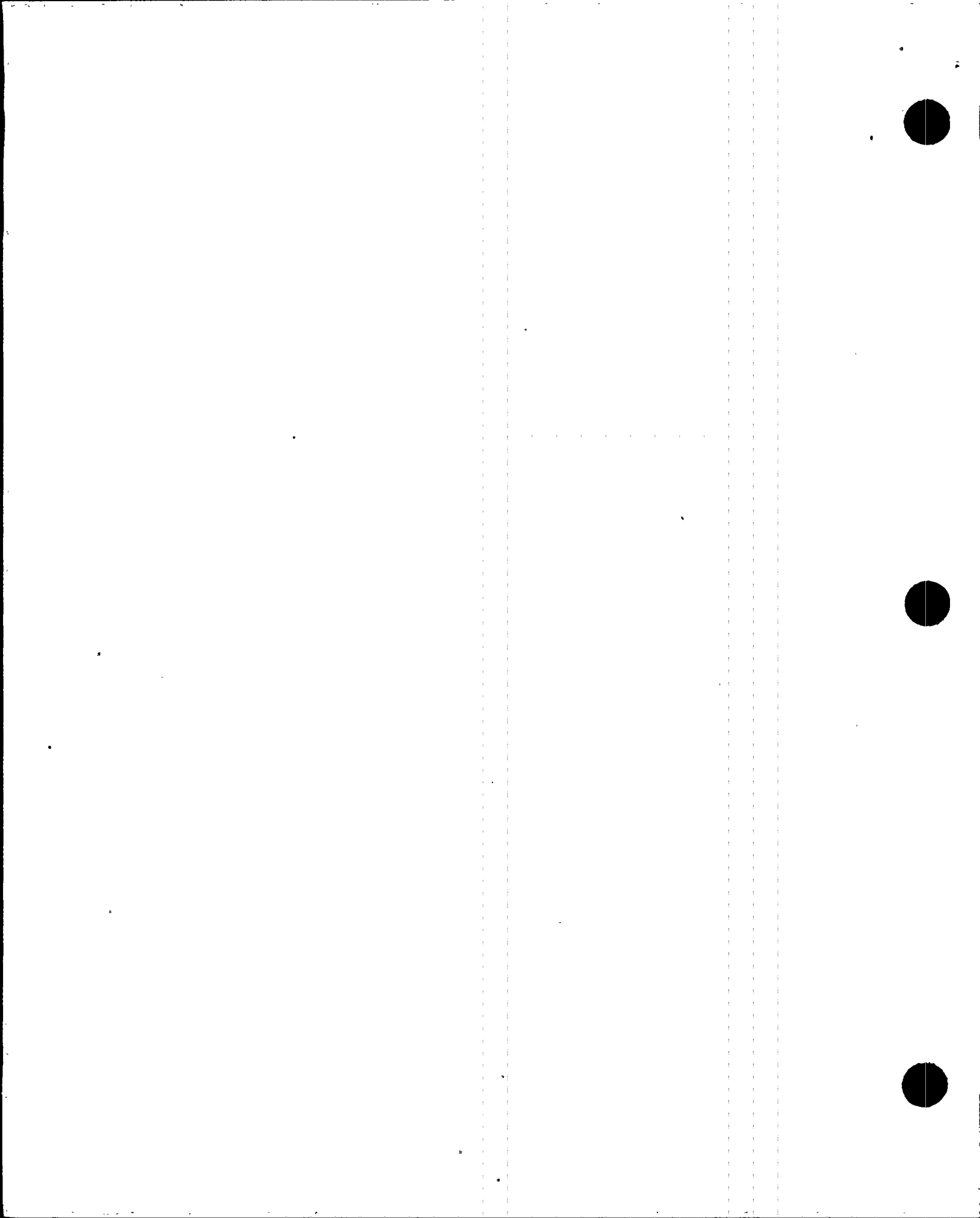
3.a.

## SURFACE WATER - (pCi/l)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T42	01-17-96	<153	244 ± 30	<3	<4	<9	<4	<8	<6	<7	<3	<4	<5
	02-14-96	<156	212 ± 29	<4	<4	<7	<4	<7	<7	<12	<4	<4	<5
	03-20-96	<152	278 ± 36	<3	<4	<9	<4	<7	<6	<13	<3	<3	<7
T67	01-22-96	<153	109 ± 26	<4	<3	<7	<4	<8	<6	<7	<4	<4	<4
	02-19-96	<146	326 ± 31	<4	<4	<7	<5	<10	<9	<8	<5	<5	<4
	03-20-96	<152	257 ± 31	<4	<4	<10	<4	<8	<7	<12	<4	<3	<3
T81	01-17-96	<153	237 ± 32	<4	<4	<6	<4	<8	<6	<8	<4	<4	<3
	02-14-96	256 ± 50	293 ± 35	<4	<3	<7	<4	<9	<6	<12	<4	<5	<6
	03-21-96	204 ± 51	316 ± 16	<2	<2	<4	<2	<4	<3	<5	<2	<2	<3

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLDs.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.



3.b

## SEDIMENT - (pCi/kg, dry weight)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Others</u>
T42	01-17-96	238 ± 64	323 ± 60	<13	<13	<14	21 ± 7	Pb-210: 2144 ± 522 Ra-226: 1094 ± 20 U-238: 1345 ± 291
T67	01-19-96	96 ± 37	327 ± 52	<8	<7	<8	<8	Pb-210: 553 ± 217
T81	01-08-96	<145	325 ± 60	<11	<11	<11	<9	Ra-226: 437 ± 14

4.a.1

## CRUSTACEA - Blue Crab - (pCi/kg, wet weight)

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
T67	03-04-96	1473 ± 167	<17	<21	<46	<25	<38	<21	<23	ND	ND
T81	02-29-96	1744 ± 116	<13	<14	<32	<16	<29	<14	<13	683 ± 16	ND

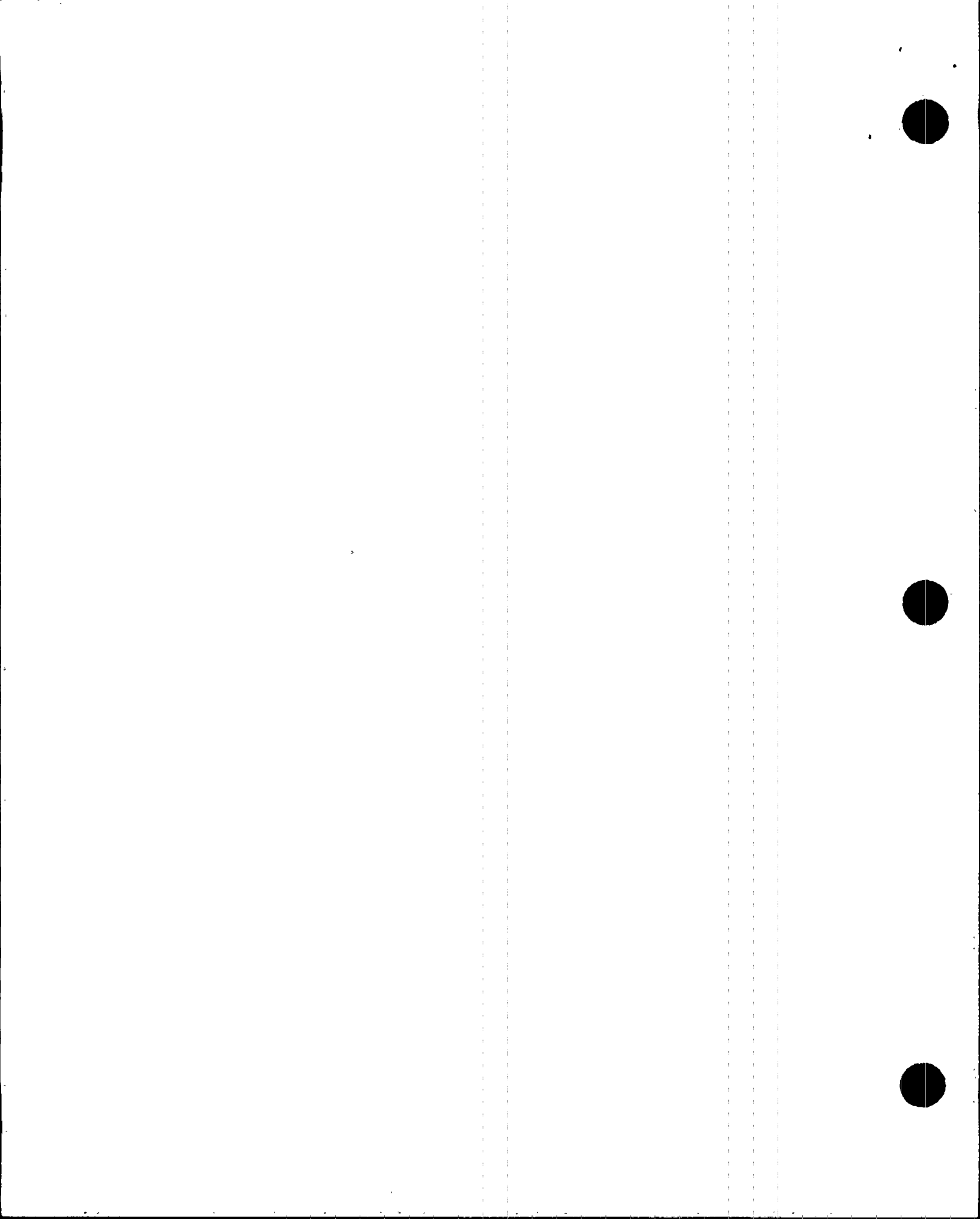
4.a.2

## FISH - Mangrove Snapper - (pCi/kg, wet weight)

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
T67	03-04-96	1997 ± 223	<21	<32	<44	<26	<65	<25	<25	ND	ND
T81	02-29-96	2661 ± 215	<18	<20	<64	<28	<45	<24	<23	ND	ND

ND - Non-detectable.

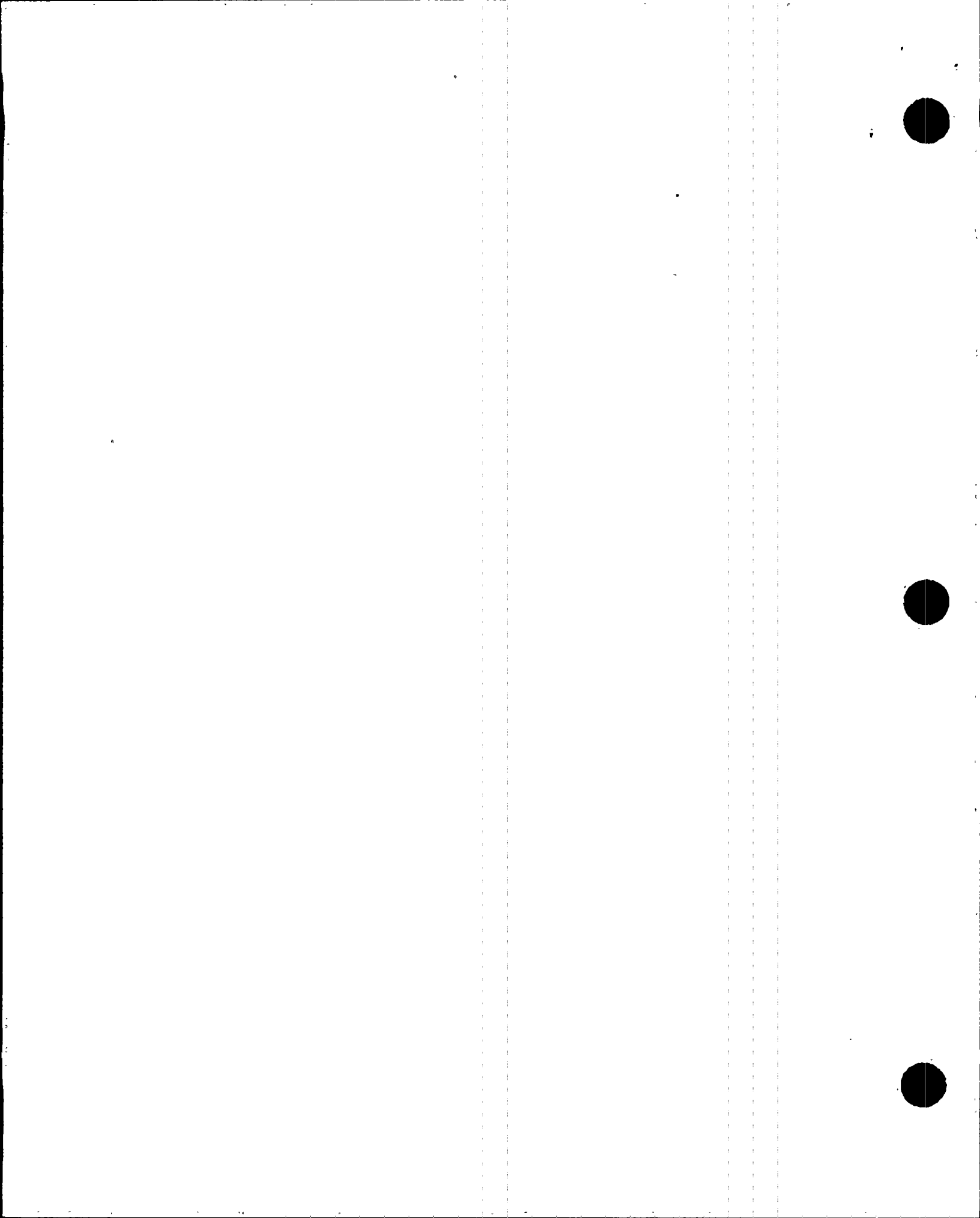




4.b.1 BROADLEAF VEGETATION - Brazilian Pepper - (pCi/kg, wet weight)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Ra-226</u>
T40	01-19-96	1529 ± 73	2425 ± 112	<14	<10	22 ± 5	716 ± 230	ND
	02-15-96	1912 ± 88	3314 ± 140	<19	<9	110 ± 9	ND	ND
	03-21-96	1873 ± 89	2515 ± 118	<24	<9	31 ± 7	556 ± 206	ND
T41	01-19-96	1414 ± 71	3540 ± 126	<13	<9	81 ± 7	ND	ND
	02-15-96	1942 ± 94	5561 ± 167	<19	<12	39 ± 7	991 ± 294	ND
	03-21-96	1461 ± 81	6535 ± 164	<25	<11	19 ± 7	ND	117 ± 46
T67	01-19-96	689 ± 56	4605 ± 153	<15	<12	<9	ND	ND
	02-19-96	1065 ± 68	3455 ± 136	<11	<10	<9	485 ± 228	128 ± 60
	03-20-96	981 ± 71	3427 ± 132	<26	<9	<12	686 ± 228	ND

ND - Non-detectable.



RADIOLOGICAL SURVEILLANCE OF  
FLORIDA POWER AND LIGHT COMPANY'S  
TURKEY POINT SITE

Second Quarter, 1996

Office of Radiation Control

Florida Department of Health  
and Rehabilitative Services



# TURKEY POINT SITE

## Technical Specifications Sampling

Second Quarter, 1996

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a Air Iodines	Weekly	5	65
2.b Air Particulates	Weekly	5	65
3.. Waterborne			
3.a Surface Water	Monthly	3	9
3.b Shoreline Sediment	Semiannually	0	0
4. Ingestion			
4.a Fish and Invertebrates			
4.a.1 Crustacea	Semiannually	0	0
4.a.2 Fish	Semiannually	0	0
4.b Food Products			
4.b.1 Broadleaf Vegetation	Monthly	3	9
			<hr/> Total: 170

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term.

Measurement results that are not significantly above background are reported as "non-detectable" (ND) or as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.



1. DIRECT RADIATION - TLDs - (micro-R/hour)

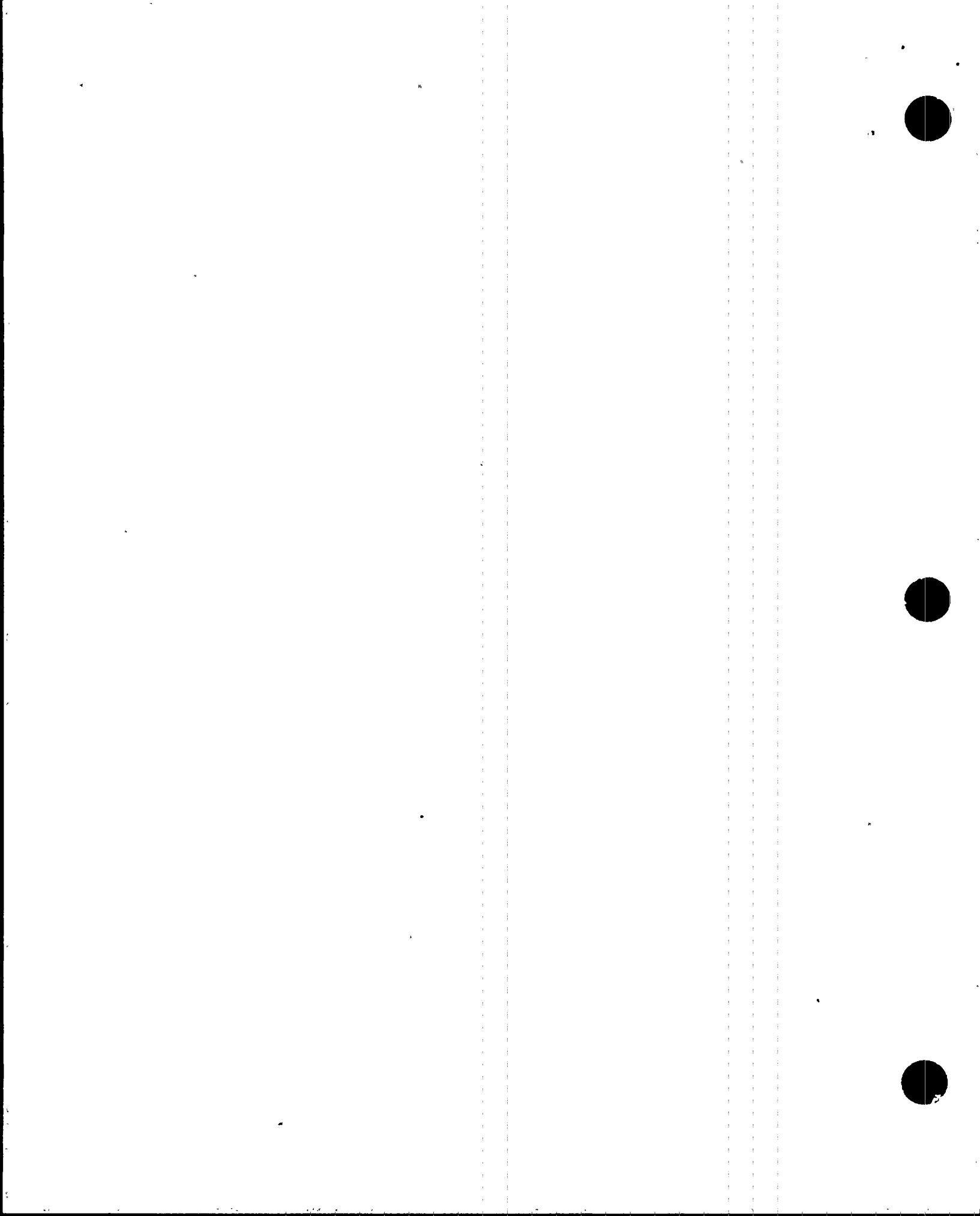
Sample Site	Deployment 03-13-96 Collection 06-19-96	Sample Site	Deployment 03-13-96 Collection 06-19-96
N-2	5.16 ± 0.41	WSW-8	4.61 ± 0.36
N-7	4.74 ± 0.38		
N-10	4.52 ± 0.36	SW-1	4.51 ± 0.36
		SW-8	4.64 ± 0.37
NNW-2	4.25 ± 0.34		
NNW-10	5.14 ± 0.40	SSW-5	4.72 ± 0.38
		SSW-10	4.45 ± 0.35
NW-1	4.63 ± 0.37		
NW-5	4.56 ± 0.36	S-5	4.97 ± 0.40
NW-10	7.30 ± 0.56	S-10	5.11 ± 0.40
WNW-10	5.78 ± 0.45	SSE-1	4.74 ± 0.38
		SSE-10	5.41 ± 0.42
W-1	6.12 ± 0.48		
W-5	4.81 ± 0.38	NNE-22	5.38 ± 0.42
W-9	4.47 ± 0.36		

2.a IODINE-131 IN WEEKLY AIR FILTERS - (pCi/m<sup>3</sup>)

Collection Date	Sample Site				
	T51	T57	T58	T64	T72
04-02-96	<0.02	<0.02	<0.02	<0.02	<0.02
04-10-96	<0.02	<0.02	<0.02	<0.02	<0.02
04-18-96	<0.02	<0.02	<0.02	<0.02	<0.02 (A)
04-24-96	<0.03	<0.03	<0.03	<0.03	<0.03
04-30-96	<0.02	<0.02	<0.02	<0.01	<0.02
05-07-96	<0.02	<0.02	<0.02	<0.02	<0.02
05-14-96	<0.01	<0.01	<0.01	<0.01	<0.02
05-20-96	<0.02	<0.02	<0.02	<0.01	<0.01
05-28-96	<0.01	<0.01	<0.01	<0.01	<0.01
06-04-96	<0.02	<0.02	<0.02	<0.02	<0.02
06-10-96	<0.02	<0.02	<0.02	<0.02	<0.02
06-18-96	<0.02	<0.02	<0.02	<0.02	<0.02
06-25-96	<0.02	<0.02	<0.02	<0.02	<0.02

(A) - We suspect a power outage occurred during this sample. The equipment is estimated to have run for 188 hours out of the 193 total hours for this sampling interval.





2.b

AIR PARTICULATES - GROSS BETA - (pCi/m<sup>3</sup>)

Collection Date	Sample Site				
	T51	T57	T58	T64	T72
04-02-96	0.011 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.013 ± 0.002
04-10-96	0.009 ± 0.002	0.007 ± 0.002	0.011 ± 0.002	0.010 ± 0.002	0.008 ± 0.002
04-18-96	0.017 ± 0.002	0.014 ± 0.002	0.016 ± 0.002	0.018 ± 0.002	(A) 0.014 ± 0.002
04-24-96	0.014 ± 0.002	0.018 ± 0.003	0.015 ± 0.002	0.025 ± 0.003	0.014 ± 0.002
04-30-96	0.010 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.009 ± 0.002	0.008 ± 0.002
05-07-96	0.011 ± 0.002	0.011 ± 0.002	0.015 ± 0.002	0.011 ± 0.002	0.010 ± 0.002
05-14-96	0.012 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.011 ± 0.002	0.011 ± 0.002
05-20-96	0.010 ± 0.002	0.010 ± 0.002	0.010 ± 0.002	0.011 ± 0.002	0.011 ± 0.002
05-28-96	0.009 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.011 ± 0.002	0.011 ± 0.002
06-04-96	0.008 ± 0.002	0.009 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.012 ± 0.002
06-10-96	0.004 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.009 ± 0.002	0.008 ± 0.002
06-18-96	0.006 ± 0.002	0.003 ± 0.001	0.005 ± 0.002	0.005 ± 0.002	0.005 ± 0.002
06-25-96	0.004 ± 0.002	0.006 ± 0.002	0.005 ± 0.002	0.009 ± 0.002	0.007 ± 0.002
Means:	0.010 ± 0.001	0.010 ± 0.001	0.011 ± 0.001	0.012 ± 0.001	0.010 ± 0.001

(A) - We suspect a power outage occurred during this sample. The equipment is estimated to have run for 188 hours out of the 193 total hours for this sampling interval.

2.b

AIR PARTICULATES - GAMMA SCANS OF QUARTERLY COMPOSITES - (pCi/m<sup>3</sup>)

Sample Site	Second Quarter, 1996				
	Be-7	K-40	Cs-134	Cs-137	Pb-210
T51	0.1237 ± 0.0111	<0.0155	<0.0010	<0.0006	0.0096 ± 0.0021
T57	0.1206 ± 0.0096	<0.0190	<0.0008	<0.0010	0.0092 ± 0.0024
T58	0.1475 ± 0.0098	<0.0174	<0.0007	<0.0006	0.0150 ± 0.0024
T64	0.1069 ± 0.0088	<0.0142	<0.0010	<0.0009	0.0134 ± 0.0036
T72	0.1396 ± 0.0097	<0.0186	<0.0008	<0.0010	0.0079 ± 0.0031



3.a SURFACE WATER - (pCi/l)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T42	04-19-96	<153	312 ± 39	<4	<4	<8	<3	<8	<7	<13	<4	<4	<8
	05-16-96	110 ± 49	396 ± 35	<3	<3	<8	<5	<9	<6	<7	<5	<5	<5
	06-05-96	<150	194 ± 30	<4	<3	<8	<4	<8	<7	<10	<5	<4	<6
T67	04-23-96	<153	173 ± 35	<4	<4	<8	<4	<6	<7	<8	<4	<4	<6
	05-21-96	<154	303 ± 37	<3	<3	<8	<5	<8	<8	<7	<4	<4	<5
	06-05-96	<150	136 ± 28	<3	<4	<8	<5	<5	<8	<10	<4	<4	<5
T81	04-19-96	544 ± 57	333 ± 36	<3	<4	<9	<5	<8	<7	<11	<4	<4	<5
	05-16-96	<154	320 ± 35	<3	<4	<8	<5	<9	<7	<11	<4	<4	<4
	06-05-96	<150	397 ± 34	<4	<4	<9	<4	<7	<5	<11	<4	<4	<6

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLDs.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.



4.b.1 BROADLEAF VEGETATION - Brazilian Pepper - (pCi/kg, wet weight)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Pb-212</u>
T40	04-24-96	1170 ± 65	4254 ± 130	<14	<9	29 ± 6	444 ± 181	ND
	05-21-96	237 ± 43	2256 ± 100	<13	<8	70 ± 5	ND	ND
	06-06-96	1470 ± 66	3364 ± 124	<15	<9	74 ± 7	ND	ND
T41	04-24-96	1123 ± 78	5877 ± 171	<19	<11	51 ± 8	ND	ND
	05-21-96	596 ± 61	3879 ± 147	<11	<9	144 ± 9	ND	ND
	06-06-96	1058 ± 78	3039 ± 125	<19	<11	110 ± 8	ND	ND
T67	04-23-96	1071 ± 59	2232 ± 109	<14	<9	14 ± 5	ND	ND
	05-21-96	477 ± 59	3183 ± 126	<13	<9	<8	ND	ND
	06-05-96	1122 ± 70	4794 ± 151	<19	<10	<9	ND	ND

ND - Non-detectable.

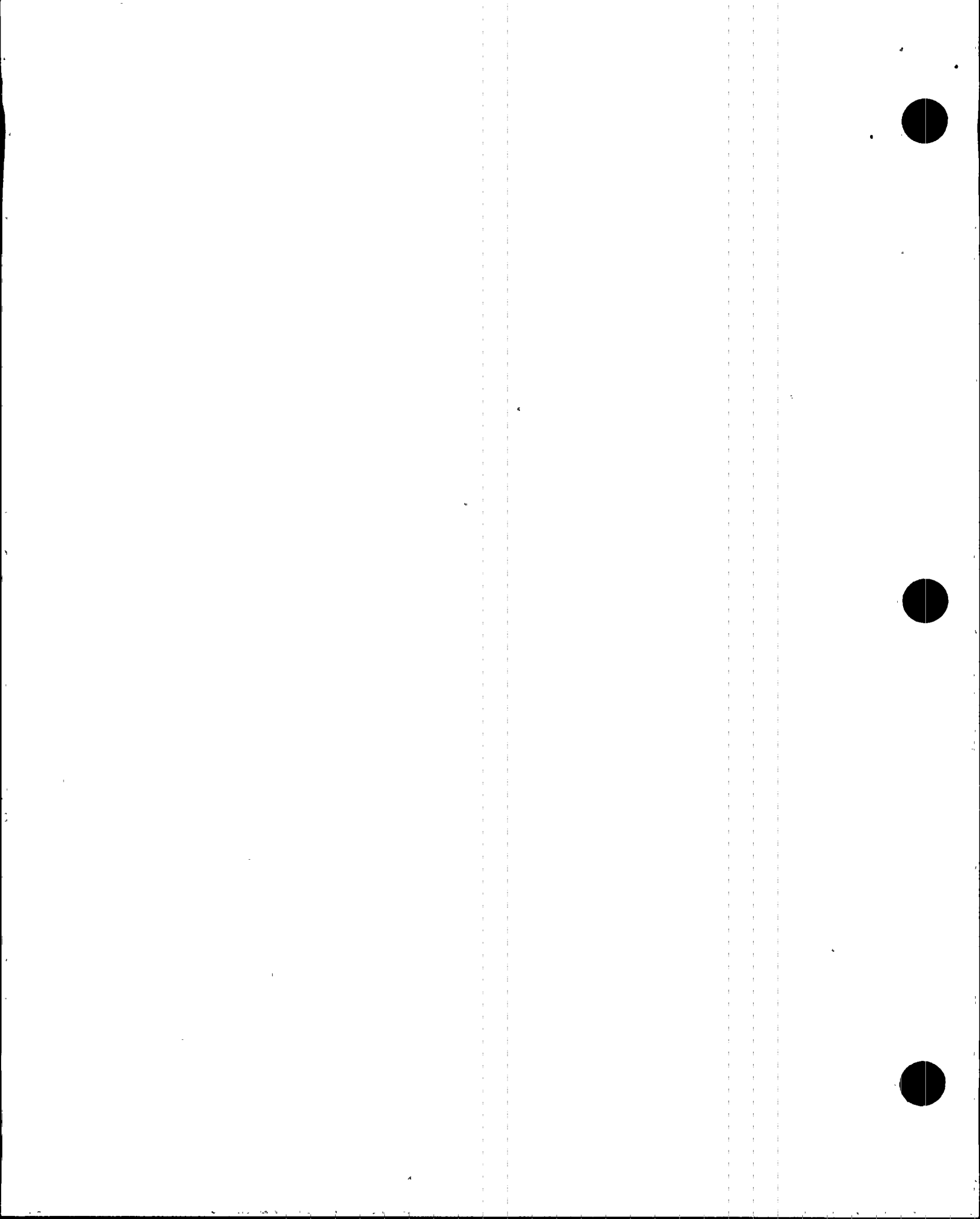


RADIOLOGICAL SURVEILLANCE OF  
FLORIDA POWER AND LIGHT COMPANY'S  
TURKEY POINT SITE

Third Quarter, 1996

Office of Radiation Control  
Florida Department of Health  
and Rehabilitative Services





# TURKEY POINT SITE

## Technical Specifications Sampling

Third Quarter, 1996

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a Air Iodines	Weekly	5	65
2.b Air Particulates	Weekly	5	64
3. Waterborne			
3.a Surface Water	Monthly	3	9
3.b Shoreline Sediment	Semiannually	3	3
4. Ingestion			
4.a Fish and Invertebrates			
4.a.1 Crustacea	Semiannually	2	2
4.a.2 Fish	Semiannually	2	2
4.b Food Products			
4.b.1 Broadleaf Vegetation	Monthly	3	9

Total: 176.

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term.

Measurement results that are not significantly above background are reported as "non-detectable" (ND) or as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.



1. DIRECT RADIATION - TLDs - (micro-R/hour)

---

<u>Sample Site</u>	<u>Deployment 06-19-96 Collection 09-18-96</u>
N-2	4.90 ± 0.39
N-7	4.54 ± 0.36
N-10	4.54 ± 0.36
NNW-2	4.00 ± 0.33
NNW-10	4.76 ± 0.38
NW-1	4.61 ± 0.37
NW-5	4.54 ± 0.37
NW-10	7.16 ± 0.55
WNW-10	5.81 ± 0.45
W-1	5.78 ± 0.44
W-5	4.94 ± 0.40
W-9	4.48 ± 0.37
WSW-8	4.65 ± 0.38
SW-1	4.58 ± 0.36
SW-8	4.77 ± 0.39
SSW-5	4.62 ± 0.36
SSW-10	4.66 ± 0.38
S-5	4.34 ± 0.34
S-10	5.35 ± 0.43
SSE-1	4.55 ± 0.36
SSE-10	5.51 ± 0.44
NNE-22	5.49 ± 0.43



2.a IODINE-131 IN WEEKLY AIR FILTERS - (pCi/m<sup>3</sup>)

Collection Date	Sample Site				
	T51	T57	T58	T64	T72
07-01-96	<0.02	<0.02 (A)	<0.02	<0.02	<0.02
07-08-96	<0.02	<0.01	<0.02	<0.02	<0.02
07-15-96	<0.02	<0.02	<0.02	<0.02	<0.02
07-22-96	<0.02	<0.02	<0.02	<0.02	<0.02
07-31-96	<0.01	<0.01	<0.01	<0.01	<0.01
08-07-96	<0.02	<0.02	<0.02	<0.02	<0.02
08-14-96	<0.03	<0.03	<0.03	<0.03	<0.03
08-19-96	<0.03	<0.03	<0.03	<0.03	<0.03
08-26-96	<0.01	<0.01	<0.01	<0.01	<0.01
09-03-96	<0.02	<0.02	<0.02	<0.02	<0.02
09-09-96	<0.02	<0.02	<0.02	<0.02	<0.03
09-17-96	<0.01	<0.01	<0.01	<0.01	<0.01
09-24-96	<0.02	<0.02	<0.02	<0.02 (B)	<0.02

(A) - The air hose to the particulate filter became disconnected soon after the beginning of this sample. This did not affect this charcoal filter cartridge.

(B) - This charcoal filter for site T64 was received without any identification markings. All other cartridges in this group did have proper markings. After talking to the sample collector, it is believed that this is the correct filter from the way it was packaged.



2.b

AIR PARTICULATES - GROSS BETA - (pCi/m<sup>3</sup>)

Collection Date	Sample Site				
	T51	T57	T58	T64	T72
07-01-96	0.007 ± 0.002	(A)	0.006 ± 0.002	0.008 ± 0.002	0.009 ± 0.002
07-08-96	0.015 ± 0.002	0.012 ± 0.002	0.016 ± 0.002	0.018 ± 0.002	0.017 ± 0.002
07-15-96	0.011 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.013 ± 0.002
07-22-96	0.011 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.010 ± 0.002
07-31-96	0.018 ± 0.002	0.020 ± 0.002	0.019 ± 0.002	0.021 ± 0.002	0.021 ± 0.002
08-07-96	0.004 ± 0.002	0.010 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.011 ± 0.002
08-14-96	0.020 ± 0.002	0.018 ± 0.002	0.019 ± 0.002	0.025 ± 0.003	0.018 ± 0.002
08-19-96	0.010 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.012 ± 0.002	0.012 ± 0.002
08-26-96	0.006 ± 0.002	0.005 ± 0.002	0.011 ± 0.002	0.008 ± 0.002	<0.005
09-03-96	0.009 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.009 ± 0.002	0.011 ± 0.002
09-09-96	0.006 ± 0.002	0.010 ± 0.002	0.005 ± 0.002	0.009 ± 0.002	0.009 ± 0.002
09-17-96	0.010 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.011 ± 0.002
09-24-96	0.010 ± 0.002	0.008 ± 0.002	0.014 ± 0.002	0.019 ± 0.002	0.014 ± 0.002
Means:	0.011 ± 0.001	0.012 ± 0.001	0.012 ± 0.001	0.014 ± 0.001	0.013 ± 0.001

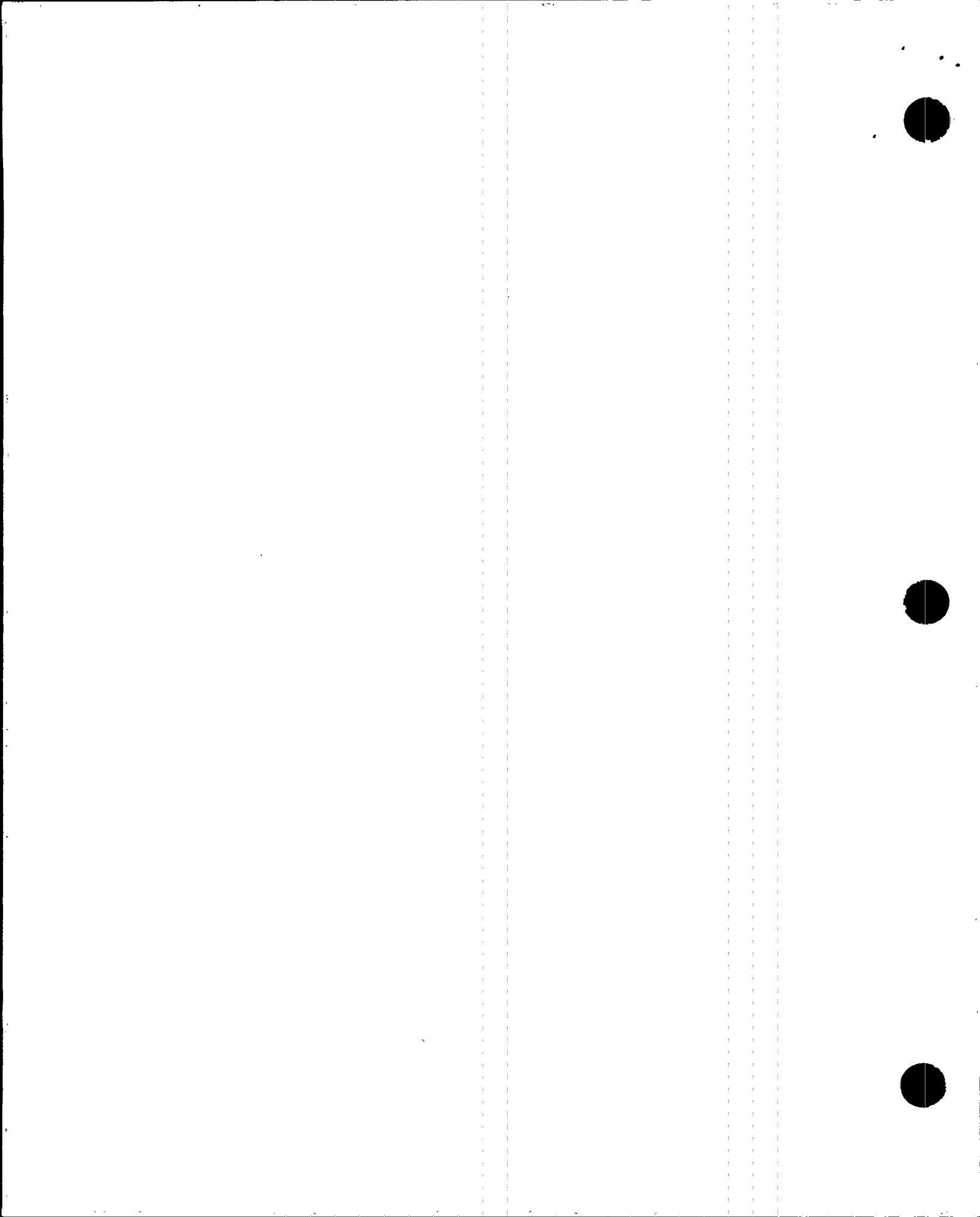
(A) - The air hose to this particulate filter became disconnected soon after the beginning of this sample. There is no analysis result for this sample because the air volume through this filter cannot be determined.

2.b

AIR PARTICULATES - GAMMA SCANS OF QUARTERLY COMPOSITES - (pCi/m<sup>3</sup>)

Third Quarter, 1996					
Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T51	0.1064 ± 0.0094	<0.0165	<0.0009	<0.0007	0.0101 ± 0.0026
T57	0.0817 ± 0.0084	<0.0169	<0.0009	<0.0007	0.0105 ± 0.0025
T58	0.0968 ± 0.0087	<0.0173	<0.0009	<0.0008	0.0127 ± 0.0026
T64	0.1025 ± 0.0095	<0.0229	<0.0009	<0.0008	0.0136 ± 0.0023
T72	0.0918 ± 0.0103	<0.0191	<0.0011	<0.0009	0.0098 ± 0.0027

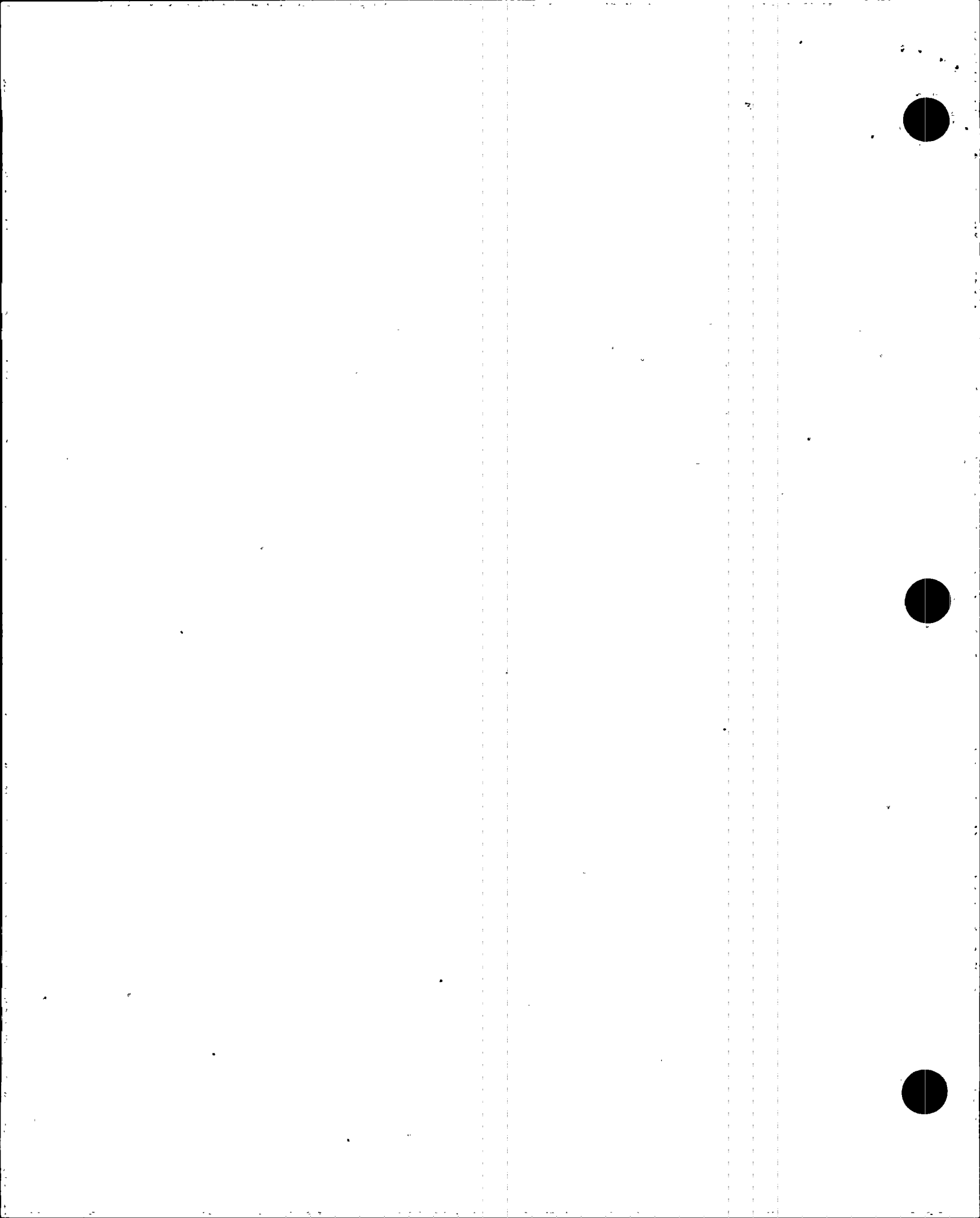




Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T42	07-16-96	<147	243 ± 29	<4	<4	<8	<5	<9	<7	<7	<4	<4	<4
	08-15-96	<149	374 ± 35	<4	<5	<8	<5	<9	<7	<10	<5	<4	<4
	09-12-96	<149	234 ± 30	<3	<4	<7	<4	<7	<6	<6	<4	<5	<6
T67	07-18-96	<147	188 ± 29	<4	<4	<10	<4	<8	<7	<7	<4	<4	<5
	08-16-96	<149	240 ± 33	<4	<5	<9	<5	<7	<7	<11	<4	<4	<7
	09-13-96	<149	177 ± 30	<5	<4	<9	<5	<10	<7	<7	<5	<5	<6
T81	07-16-96	286 ± 50	220 ± 28	<4	<4	<7	<5	<7	<8	<8	<4	<5	<6
	08-20-96	<149	310 ± 31	<4	<4	<8	<5	<10	<7	<7	<4	<5	<5
	09-12-96	258 ± 51	318 ± 35	<4	<4	<7	<5	<7	<6	<6	<5	<4	<4

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLDs.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.



3.b

## SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Others
T42	07-17-96	395 ± 52	<196	<11	<13	<12	<16	Pb-210: 619 ± 253 Ra-226: 892 ± 19 U-238: 401 ± 150
T67	07-18-96	120 ± 28	137 ± 32	<5	<6	<8	<8	ND
T81	07-16-96	282 ± 57	505 ± 64	<10	<12	<12	<13	Pb-210: 541 ± 169 Ra-226: 585 ± 16 U-238: 465 ± 113

4.a.1

## CRUSTACEA - Blue Crab - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	08-16-96	1716 ± 254	<29	<38	<76	<30	<67	<32	<34	ND	ND
T81	08-14-96	1459 ± 194	<27	<25	<61	<26	<58	<25	<29	ND	ND

4.a.2

## FISH - (T67: Mangrove Snapper) (T81: Mojarra) - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	08-16-96	2256 ± 211	<20	<21	<32	<22	<52	<21	<24	ND	ND
T81	08-14-96	1925 ± 261	<30	<43	<72	<46	<75	<40	<35	530 ± 192	ND

ND - Non-detectable.



4.b.1 BROADLEAF VEGETATION - Brazilian Pepper - (pCi/kg, wet weight)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>Co-58</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
T40	07-17-96	1950 ± 80	3581 ± 135	<11	<20	<11	51 ± 7	ND
	08-21-96	2197 ± 76	2843 ± 109	12 ± 3	<14	<9	40 ± 4	ND
	09-13-96	2234 ± 99	2347 ± 110	<10	<24	<10	135 ± 8	ND
T41	07-17-96	1720 ± 75	3800 ± 135	<9	<17	<9	152 ± 9	ND
	08-21-96	2109 ± 89	5198 ± 158	<10	<16	<10	86 ± 7	ND
	09-13-96	2955 ± 105	3602 ± 131	<9	<24	<8	110 ± 7	1009 ± 306
T67	07-18-96	1022 ± 59	4681 ± 149	<11	<15	<11	<12	ND
	08-20-96	1689 ± 81	2569 ± 116	<9	<16	<10	<13	452 ± 163
	09-13-96	1783 ± 80	3049 ± 126	<10	<26	<11	25 ± 4	ND

ND - Non-detectable.

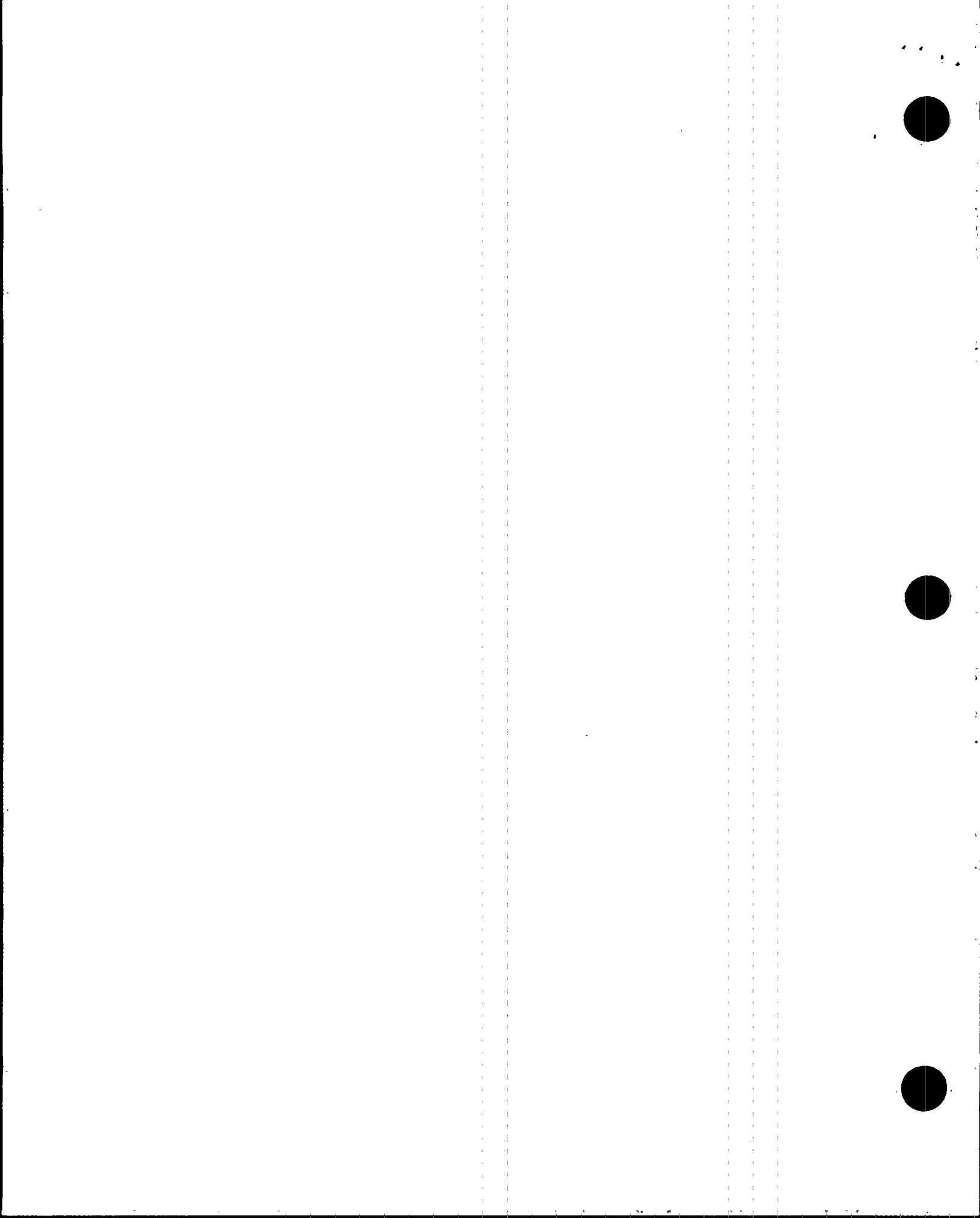


RADIOLOGICAL SURVEILLANCE OF  
FLORIDA POWER AND LIGHT COMPANY'S  
TURKEY POINT SITE

Fourth Quarter, 1996

Florida Department of Health  
Bureau of Radiation Control





# TURKEY POINT SITE

## Technical Specifications Sampling

Fourth Quarter, 1996

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	22	21
2. Airborne			
2.a Air Iodines	Weekly	5	69
2.b Air Particulates	Weekly	5	69
3. Waterborne			
3.a Surface Water	Monthly	3	9
3.b Shoreline Sediment	Semiannually	0	0
4. Ingestion			
4.a Fish and Invertebrates			
4.a.1 Crustacea	Semiannually	0	0
4.a.2 Fish	Semiannually	0	0
4.b Food Products			
4.b.1 Broadleaf Vegetation	Monthly	3	9
			<hr/> Total: 177

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term.

Measurement results that are not significantly above background are reported as "non-detectable" (ND) or as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.



1. DIRECT RADIATION - TLDs - (micro-R/hour)

Sample Site	Deployment Collection	09-18-96 12-04-96	Sample Site	Deployment Collection	09-18-96 12-04-96
N-2	5.30 ± 0.44		WSW-8	5.52 ± 0.44	
N-7	4.41 ± 0.37				
N-10	4.92 ± 0.41		SW-1	4.78 ± 0.41	
NNW-2	4.10 ± 0.35		SW-8	4.67 ± 0.38	
NNW-10	5.50 ± 0.44		SSW-5	4.67 ± 0.40	
NW-1	4.30 ± 0.36		SSW-10	(B)	
NW-5 (A)	4.52 ± 0.37		S-5	4.23 ± 0.37	
NW-10	7.73 ± 0.60		S-10	5.53 ± 0.44	
WNW-10	6.39 ± 0.50		SSE-1	4.79 ± 0.41	
W-1 (A)	6.05 ± 0.49		SSE-10	5.77 ± 0.46	
W-5	5.28 ± 0.43		NNE-22	5.76 ± 0.47	
W-9	4.84 ± 0.40				

(A) - The dosimeters at sites NW-5 and W-1 were found lying on the ground.

(B) - The dosimeter for site SSW-10 was missing when collection was attempted.

2.a IODINE-131 IN WEEKLY AIR FILTERS - (pCi/m<sup>3</sup>)

Collection Date	Sample Site				
	T51	T57	T58	T64	T72
10-01-96	<0.03	<0.03	<0.03	<0.03	<0.03
10-08-96	<0.01	<0.01	<0.01	<0.01	<0.01
10-16-96	<0.02	<0.02	<0.02	<0.02	<0.02
10-21-96	<0.02	<0.02	<0.02	(A)	<0.02
10-30-96	<0.01	<0.01	<0.01	<0.01	<0.01
11-06-96	<0.02	<0.02	<0.02	<0.02	<0.02
11-13-96	<0.01	<0.02	<0.01	<0.02	<0.01
11-19-96	<0.02	<0.02	<0.02	<0.03	<0.02
11-26-96	<0.02	<0.02	<0.02	<0.02	<0.02
12-03-96	<0.01	<0.01	<0.01	<0.02	<0.01
12-09-96	<0.03	<0.03	<0.02	<0.02	<0.03
12-16-96	<0.01	<0.01	<0.01	<0.02	<0.02
12-23-96	<0.02	<0.02	<0.02	<0.02	<0.02
12-31-96	<0.02	<0.02	<0.02	<0.02	<0.02

(A) - There was no sample due to a disconnected air hose.



2.b

AIR PARTICULATES - GROSS BETA - (pCi/m<sup>3</sup>)

Collection Date	Sample Site				
	T51	T57	T58	T64	T72
10-01-96	0.014 ± 0.002	0.012 ± 0.002	0.016 ± 0.002	0.018 ± 0.002	0.015 ± 0.002
10-08-96	0.007 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	0.007 ± 0.002
10-16-96	0.008 ± 0.002	0.010 ± 0.002	0.012 ± 0.002	0.016 ± 0.002	0.012 ± 0.002
10-21-96	0.006 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	(A)	(B) 0.010 ± 0.002
10-30-96	0.017 ± 0.002	0.016 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.016 ± 0.002
11-06-96	0.009 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.009 ± 0.002
11-13-96	0.011 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.015 ± 0.002
11-19-96	0.009 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.010 ± 0.002	0.010 ± 0.002
11-26-96	0.011 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.018 ± 0.003
12-03-96	0.012 ± 0.002	0.015 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.009 ± 0.002
12-09-96	0.014 ± 0.002	0.014 ± 0.003	0.014 ± 0.002	0.019 ± 0.003	0.016 ± 0.003
12-16-96	0.008 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
12-23-96	0.009 ± 0.002	0.011 ± 0.002	0.008 ± 0.002	0.012 ± 0.002	0.013 ± 0.002
12-31-96	0.004 ± 0.002	0.003 ± 0.001	0.005 ± 0.002	<0.004	0.003 ± 0.001
Means:	0.010 ± 0.001	0.011 ± 0.001	0.011 ± 0.001	0.014 ± 0.001	0.012 ± 0.001

(A) - There was no sample due to a disconnected air hose.

(B) - The dust pattern on this particulate filter looked as if a foreign object (leaf ?) had fallen against the filter, blocking part of the filter surface during most of this sample interval. The object had fallen off of the filter before it was collected.

2.b

AIR PARTICULATES - GAMMA SCANS OF QUARTERLY COMPOSITES - (pCi/m<sup>3</sup>)

Fourth Quarter, 1996

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T51	0.1043 ± 0.0099	<0.0169	<0.0006	<0.0007	0.0096 ± 0.0027
T57	0.1271 ± 0.0085	<0.0176	<0.0008	<0.0007	0.0139 ± 0.0028
T58	0.1397 ± 0.0094	<0.0178	<0.0009	<0.0006	0.0113 ± 0.0029
T64	0.1384 ± 0.0108	<0.0168	<0.0009	<0.0009	0.0117 ± 0.0033
T72	0.1259 ± 0.0099	<0.0171	<0.0007	<0.0008	0.0115 ± 0.0021



Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T42	10-22-96	<146	122 ± 22	<3	<4	<8	<4	<7	<6	<5	<5	<3	<7
	11-05-96	<149	205 ± 31	<4	<4	<7	<2	<7	<7	<9	<4	<3	<4
	12-10-96	165 ± 47	270 ± 15	<2	<2	<4	<2	<4	<3	<3	<2	<2	<3
T67	10-22-96	<146	178 ± 26	<4	<4	<7	<4	<9	<7	<5	<4	<3	<7
	11-12-96	<148	189 ± 25	<4	<3	<8	<3	<7	<7	<7	<4	<4	<6
	12-11-96	<144	104 ± 26	<4	<4	<6	<3	<8	<7	<6	<4	<4	<5
T81	10-22-96	<146	241 ± 28	<4	<3	<6	<4	<7	<6	<4	<4	<5	<6
	11-07-96	<145	269 ± 31	<4	<3	<9	<4	<9	<5	<9	<4	<4	<6
	12-10-96	249 ± 49	284 ± 32	<3	<3	<7	<4	<7	<7	<7	<4	<4	<6

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLDs.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

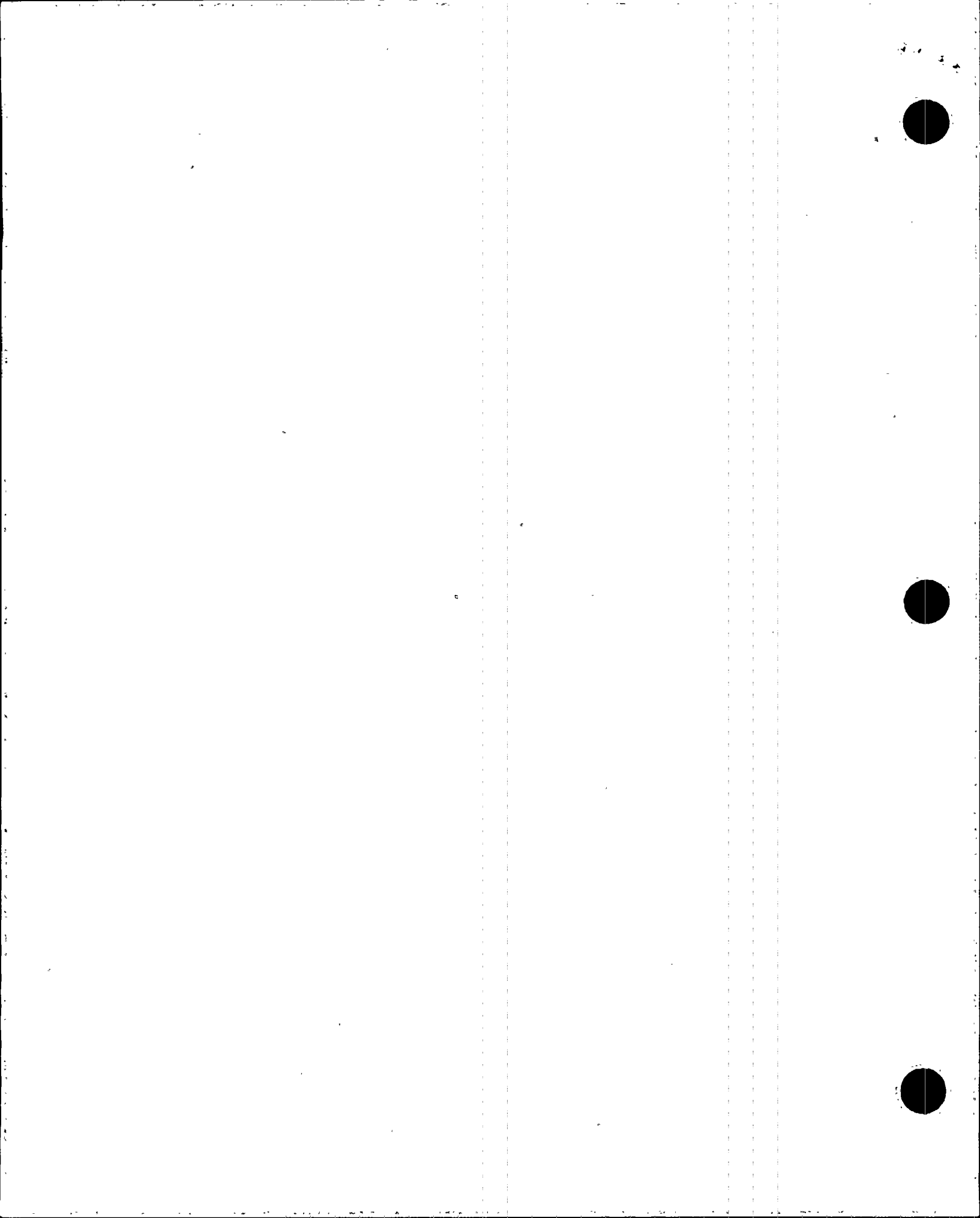




4.b.1 BROADLEAF VEGETATION - Brazilian Pepper - (pCi/kg, wet weight)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
T40	10-22-96	2838 ± 98	1710 ± 110	<10	<10	56 ± 6	ND
	11-12-96	2962 ± 104	1722 ± 118	<19	<13	49 ± 6	ND
	12-10-96	1714 ± 97	3227 ± 148	<15	<12	114 ± 10	ND
T41	10-22-96	3482 ± 111	3439 ± 137	<11	<11	133 ± 9	1571 ± 271
	11-12-96	1012 ± 73	3914 ± 126	<15	<10	40 ± 5	ND
	12-10-96	2002 ± 95	3926 ± 153	<14	<13	147 ± 10	ND
T67	10-22-96	1722 ± 83	2313 ± 109	<11	<10	18 ± 5	ND
	11-12-96	774 ± 67	2970 ± 129	<16	<10	<10	1060 ± 194
	12-11-96	1728 ± 94	3855 ± 163	<13	<11	<13	ND

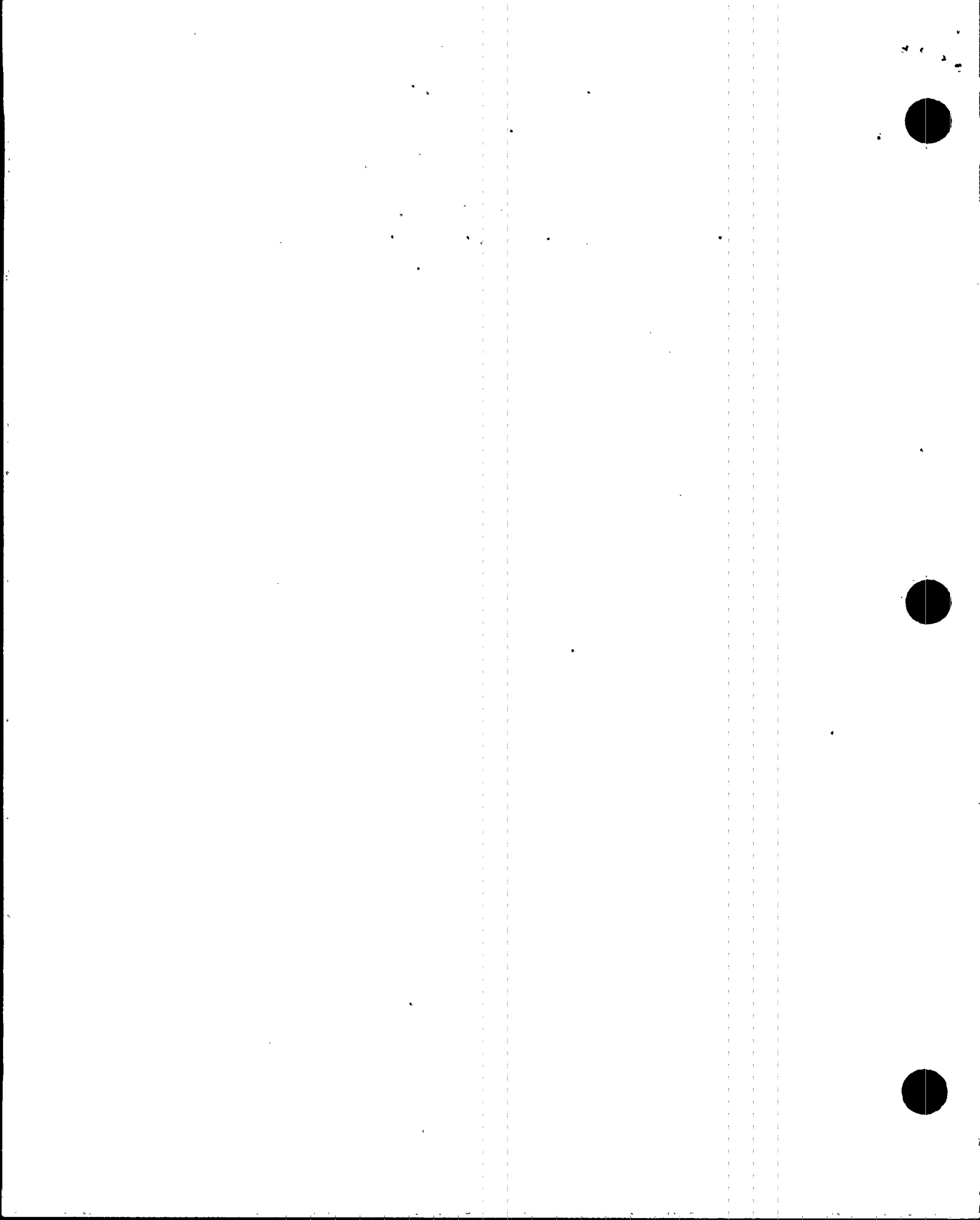
ND - Non-detectable.



1996  
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT  
TURKEY POINT PLANT - UNITS 3 & 4

ATTACHMENT C

RESULTS FROM THE INTERLABORATORY  
COMPARISON PROGRAM 1996



FLORIDA DEPT. OF HRS - EPA INTERLABORATORY CROSS-CHECK PROGRAM DATA

January through June, 1996

Media	Nuclide	Collection	EPA	Units	Normal.	Mean of	N.D.K.	Action
		Mon Day Yr	Known		Range	Analyses		Level
WATER	Alpha	01 26 96	12.1	pCi/L	0.165	12.40	0.10	
WATER	Beta	01 26 96	7	pCi/L	0.106	10.23	1.12	
WATER	Co-60	06 07 96	99	pCi/L	0.236	97.00	-0.69	
WATER	Zn-65	06 07 96	300	pCi/L	0.138	317.33	1.00	
WATER	Ba-133	06 07 96	745	pCi/L	0.016	696.00	-1.13	
WATER	Cs-134	06 07 96	79	pCi/L	0.473	74.00	-1.73	
WATER	Cs-137	06 07 96	197	pCi/L	0.236	205.33	1.44	
WATER	H-3	03 08 96	22002	pCi/L	0.082	21326.33	-0.53	
WATER	I-131	02 02 96	67	pCi/L	0.253	64.33	-0.66	
WATER	Sr-89	01 23 96	73	pCi/L	0.473	59.00	-4.85	1
WATER	Sr-90	01 23 96	5	pCi/L	0.118	4.33	-0.23	

NOTES:

Normal.: Normalized range. As defined in "Environmental Radioactivity Laboratory Intercomparison Studies Program Fiscal Year 1981 - 1982", Environmental Monitoring Systems Laboratory, U. S. Environmental Protection Agency, P. O. Box 93478, Las Vegas, Nevada, 89193-3478. EPA-600/4-81-004, February, 1981.

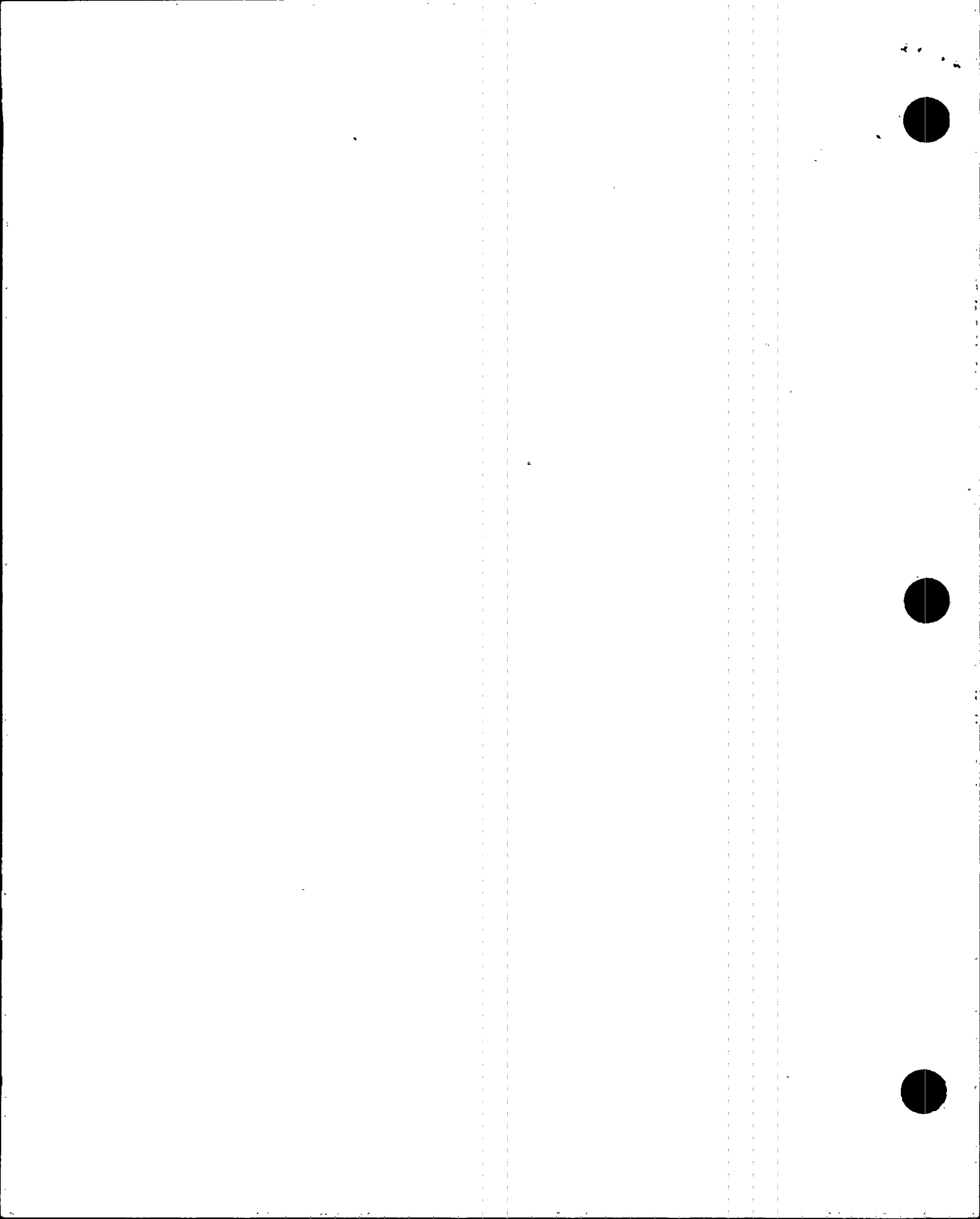
N.D.K.: Normalized deviation of the mean from the known value, as defined in EPA-600/4-81-004.

NDP: No data provided. No data was provided to EPA for inclusion in their report.

NA: Not available. Report containing this data has not yet been received from EPA, Las Vegas.

ACTION LEVEL:

- (1) Cause: Samples were not counted over a sufficient period of time to resolve the Sr-89 from the Sr-90. Action: In the future begin counting samples as soon as possible.



FLORIDA DEPT. OF HEALTH - EPA INTERLABORATORY CROSS-CHECK PROGRAM DATA

July through December, 1996

Media	Nuclide	Collection	EPA	Units	Normal.	Mean of	N.D.K.	Action
		Mon Day Yr	Known		Range	Analyses		Level
WATER	Alpha	07 19 96	24.4	pCi/L	0.300	17.17	-2.05	
WATER	Alpha	10 25 96	10.3	pCi/L	0.118	4.07	-2.16	
WATER	Beta	07 19 96	44.8	pCi/L	1.660	42.13	-0.92	
WATER	Beta	10 25 96	34.6	pCi/L	0.969	31.27	-1.15	
WATER	Co-60	11 08 96	44	pCi/L	0.118	44.67	0.23	
WATER	Zn-65	11 08 96	35	pCi/L	0.354	37.33	0.81	
WATER	Ba-133	11 08 96	64	pCi/L	0.197	60.00	-1.15	
WATER	Cs-134	11 08 96	11	pCi/L	0.118	10.33	-0.23	
WATER	Cs-137	11 08 96	19	pCi/L	0.354	20.67	0.58	
WATER	H-3	08 09 96	10879	pCi/L	0.145	9754.00	-1.79	
WATER	I-131	10 04 96	27	pCi/L	0.197	27.67	0.19	
WATER	Sr-89	07 12 96	25	pCi/L	0.118	21.67	-1.15	
WATER	Sr-90	07 12 96	12	pCi/L	0.000	10.00	-0.69	

NOTES:

Normal.: Normalized range. As defined in "Environmental Radioactivity Laboratory Intercomparison Studies Program Fiscal Year 1981 - 1982", Environmental Monitoring Systems Laboratory, U. S. Environmental Protection Agency, P. O. Box 93478, Las Vegas, Nevada, 89193-3478. EPA-600/4-81-004, February, 1981.

N.D.K.: Normalized deviation of the mean from the known value, as defined in EPA-600/4-81-004.

NDP: No data provided. No data was provided to EPA for inclusion in their report.

NA: Not available. Report containing this data has not yet been received from EPA, Las Vegas.



