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Peach Bottom Atomic Power Station Unit Nos. 2 & 3
Facility Operating License Nos. DPR-44 & DPR-56
NRC Docket Nos. 50-277 & 50-278

Subject: Annual Radiological Environmental Operating Report No. 62
January 1, 2004 through December 31, 2004

In accordance with the requirements of Section 5.6.2 of the Peach Bottom Atomic Power Station, Units 2 & 3 Technical Specifications, this letter submits the Annual Radiological Environmental Operating Report No. 62. This report provides the 2004 results for the Radiological Environmental Monitoring Program (REMP) as called for in the Offsite Dose Calculation Manual.

In assessing the data collected for the REMP, we have concluded that the operation of PBAPS, Units 2 & 3, had no adverse impact on the environment. Cesium-137 levels detected in sediment were similar to those found in previous years.

Sincerely,

R. C. Braun, Vice President
Peach Bottom Atomic Power Station

RCB/JPG/FHC/bcb

ccn 05-14060

Enclosure

cc: S. J. Collins, Administrator, Region I, US NRC
G. F. Wunder, Project Manager, US NRC
US NRC Senior Resident Inspector, PBAPS A4

IE25

Docket No: 50-277
50-278

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 and 3

Annual Radiological
Environmental Operating Report

Report No. 62

1 January Through 31 December 2004

Prepared By

Exelon SM

Nuclear

Peach Bottom Atomic Power Station
Delta, PA 17314

May 2005

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I. Summary and Conclusions

This report on the Radiological Environmental Monitoring Program conducted for the Peach Bottom Atomic Power Station (PBAPS) by Exelon Nuclear covers the period 1 January 2004 through 31 December 2004. During that time period, 1084 analyses were performed on 894 samples.

Surface water samples were analyzed for concentrations of tritium and gamma emitting nuclides. No fission or activation products were found. Tritium levels were consistent with those observed in previous years and lower than levels seen during the preoperational years.

Drinking water samples were analyzed for concentrations of gross beta (soluble and insoluble fractions), tritium, and gamma emitting nuclides. No fission or activation products were found. Gross beta and tritium activities detected were consistent with those observed in previous years.

The remaining sample media representing the aquatic environment included fish and sediment samples. These media were analyzed for concentrations of gamma emitting nuclides. Fish samples showed no detectable fission or activation products from the operation of PBAPS. Cesium-137 activity was found at most sediment locations and was consistent with data from previous years. No Plant produced fission or activation products were found in sediment.

The atmospheric environment was divided into two parts for examination: airborne and terrestrial. Sample media for determining airborne effects included air particulates and air iodine samples. Analyses performed on air particulate samples included gross beta and gamma spectrometry. No fission or activation products were found. The gross beta results were consistent with results from the previous years. Furthermore, no notable differences between control and indicator locations were observed. These findings indicate no measurable effects from the operation of PBAPS.

High sensitivity Iodine-131 analyses were performed on weekly air samples. All results were less than the minimum detectable activity.

Examination of the terrestrial environment was accomplished by analyzing milk samples for low level concentrations of Iodine-131 and gamma emitting nuclides. No fission or activation products were found.

Ambient gamma radiation levels were measured quarterly throughout the year. All measurements were below 10 mR/standard month and the results were consistent with those measured in previous years.

The results of the TLD monitoring program were used to determine if the Independent Spent Fuel Storage Installation (ISFSI) had any measurable impact on the dose rate in the environs. One on-site location showed an increase dose of 0.6 to 1 mR per standard month. No increase in dose was evident at the nearest residence.

In assessing all the data gathered for this report and comparing these results with preoperational data, it was evident that the operation of PBAPS had no adverse radiological impact on the environment.

II. Introduction

Peach Bottom Atomic Power Station (PBAPS) is located along the Susquehanna River between Holtwood and Conowingo Dams in Peach Bottom Township, York County, Pennsylvania. The initial loading of fuel into Unit 1, a 40 MWe (net) high temperature, gas-cooled reactor, began on 5 February 1966, and initial criticality was achieved on 3 March 1966. Shutdown of Peach Bottom Unit 1 for decommissioning was on 31 October 1974. For the purposes of the monitoring program, the beginning of the operational period for Unit 1 was considered to be 5 February 1966. A summary of the Unit 1 preoperational monitoring program was presented in a previous report [1]. PBAPS Units 2 and 3 are boiling water reactors, each with a power output of approximately 1170 MWe. The first fuel was loaded into Peach Bottom Unit 2 on 9 August 1973. Criticality was achieved on 16 September 1973, and full power was reached on 16 June 1974. The first fuel was loaded into Peach Bottom Unit 3 on 5 July 1974. Criticality was achieved on 7 August 1974, and full power was first reached on 21 December 1974. Preoperational summary reports [2][3] for Units 2 and 3 have been previously issued and summarize the results of all analyses performed on samples collected from 5 February 1966 through 8 August 1973.

A. Objectives

The objectives of the REMP are:

1. Provide data on measurable levels of radiation and radioactive materials in the site environs.

2. Evaluate the relationship between quantities of radioactive material released from the plant and resultant radiation doses to individuals from principal pathways of exposure.

B. Implementation of the Objectives

Implementation of the objectives is accomplished by:

1. Identifying significant exposure pathways.

2. Establishing baseline radiological data of media within those pathways.

3. Continuously monitoring those media before and during plant Station operation to assess Station radiological effects (if any) on man and the environment.

III. Program Description

A. Sample Collection

Normandeau Associates, RMC Environmental Services Division (RMC), collected samples for the PBAPS REMP for Exelon Nuclear. This section describes the general collection methods used by RMC to obtain environmental samples for the PBAPS REMP in 2003. Sample locations and descriptions can be found in Table B-1, and Figures B-1 through B-3, Appendix B. The collection procedures used by RMC are listed in Table B-2, Appendix B.

Aquatic Environment

The aquatic environment was evaluated by performing radiological analyses on samples of surface water, drinking water, fish, and sediment. Surface water from two locations (1LL and 1MM) and drinking water from two locations (4L and 6I) were collected weekly by automatic sampling equipment. Weekly samples from each of the surface and drinking water locations were composited into a separate monthly sample for analysis. Approximately, two quarts of water were removed from the weekly sample container and placed into a clean two-gallon polyethylene bottle to form a monthly composite. Control locations were 1LL and 6I. Fish samples comprising the flesh from two groups: Bottom Feeder (catfish) and Predator (smallmouth bass, largemouth bass, or bass) were collected semiannually from two locations: 4 and 6 (control). Sediment samples composed of recently deposited substrate were collected semiannually at three locations: 4J, 4T and 6F (control).

Atmospheric Environment

The atmospheric environment was evaluated by performing radiological analyses on air particulate, airborne iodine and milk samples. Air particulate and air iodine samples were collected and analyzed weekly from five locations (1B, 1Z, 1C, 3A, and 5H2). The control location was 5H2. Airborne iodine and particulate samples were obtained at each location using a vacuum pump with charcoal and glass fiber filters attached. The pumps were run continuously and sampled air at the rate of approximately 1 cubic foot per minute. The filters were replaced weekly and sent to the laboratory for analysis.

Milk samples were collected biweekly at five locations (A, J, O, R and S) from April through November and monthly from December through March. Seven additional locations (B, C, D, E, L, and P) were sampled quarterly. Locations A, B, C, and E were controls. All samples were collected in new

unused two gallon plastic bottles from the bulk tank at each location, preserved with sodium bisulfite, and shipped promptly to the laboratory.

Ambient Gamma Radiation

Direct radiation measurements were made using Panasonic 814 calcium sulfate ($CaSO_4$) thermoluminescent dosimeters (TLD). The TLD locations were placed on and around the PBAPS site as follows:

A site boundary ring, consisting of 18 locations (1L, 1P, 1A, 1Q, 1D, 2, 1M, 1R, 1I, 1C, 1J, 1F, 40, 1NN, 1H, 1G, 1B, and 1E), near and within the site perimeter representing fence post doses (i.e., at locations where the doses will be potentially greater than maximum annual off-site doses) from PBAPS releases.

An intermediate distance ring, consisting of 19 locations (15, 22, 44, 32, 45, 14, 17, 31A, 4K, 23, 27, 48, 3A, 49, 50, 51, 26, 6B, and 42), extending to approximately 5 miles from the site and designed to measure possible exposures to close-in population.

The balance of nine locations (2B, 43, 5, 16, 24, 46, 47, 18, and 19) representing control and special interests areas such as population centers, schools, etc.

The specific TLD locations were determined by the following criteria:

1. The presence of relatively dense population;

2. Site meteorological data taking into account distance and elevation for each of the 36 ten-degree sectors around the site, where estimated annual dose from PBAPS, if any, would be more significant;

3. On hills free from local obstructions and within sight of the vents (where practical);

4. And near the dwelling closest to the vents in the prevailing down wind direction.

Two TLDs – each comprised of three $CaSO_4$ themoluminescent phosphors enclosed in plastic – were placed at each location in a Formica "birdhouse" or polyethylene jar located approximately six feet above ground level. The TLD sets were exchanged quarterly, then sent to the laboratory for analysis.

B. Sample Analysis

This section describes the general analytical methods used by Teledyne Brown Engineering and Environmental Inc. to analyze the environmental samples for radioactivity for the PBAPS REMP in 2004. The analytical procedures used by the laboratories are listed in Table B-2, Appendix B.

In order to achieve the stated objectives, the current program includes the following analyses:

1. Concentrations of beta emitters in drinking water and air particulates.
2. Concentrations of gamma emitting nuclides in surface and drinking water, air particulates, milk, fish, and sediment.
3. Concentrations of tritium in surface and drinking water.
4. Concentrations of I-131 in air and milk.
5. Ambient gamma radiation levels at various site environs.

C. Data Interpretation

The radiological and direct radiation data collected prior to PBAPS becoming operational was used as a baseline with which these operational data were compared. For the purpose of this report, PBAPS was considered operational at initial critically. In addition, data were compared to previous years' operational data for consistency and trending. Several factors are important in the interpretation of the data. These factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Activity

   The lower limit of detection (LLD) was defined as the smallest concentration of radioactive material in a sample that would yield a net count (above background) that would be detected with only a 5% probability of falsely concluding that a blank observation represents a "real" signal. The LLD was intended as a before the fact estimate of a system (including instrumentation, procedure and sample type) and not as an after the fact criteria for the presence of activity. All analyses were designed to achieve the required PBAPS detection capabilities for environmental sample analysis.

   The minimum detectable activity (MDA) is defined above with the exception that the measurement is an after the fact estimate of the presence of activity.

2. Net Activity Calculation and Reporting of Results

Net activity for a sample was calculated by subtracting background activity from the sample activity. Since the REMP measures extremely small changes in radioactivity in the environment, background variations will result in sample activity being lower than the background activity effecting a negative number. An MDA was reported in all cases where positive activity was not detected.

Gamma spectroscopy results for each type of sample were grouped as follows:

For surface and drinking 11 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Nb-95, Cs-134, Cs-137, Ba-140, and La-140 were reported.

For fish eight nuclides, K-40, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Cs-134, and Cs-137 were reported.

For sediment six nuclides, K-40, Mn-54, Co-58, Co-60, Cs-134, and Cs-137 were reported.

For air particulate six nuclides, Be-7, Mn-54, Co-58, Co-60, Cs-134, and Cs-137 were reported.

For milk five nuclides, K-40, Cs-134, Cs-137, Ba-140, and La-140 were reported.

Means and standard deviations of the results were calculated. The standard deviations represent the variability of measured results for different samples rather than single analysis uncertainty.

D. Program Exceptions

For 2004 the PBAPS REMP had a sample collection recovery rate of better than 99%. The exceptions to this program are listed below:

1. The milk samples for January 2004 were not collected within the requirements of ODCMS 3.8.E.1 (31 days + 25%). Milk samples were collected 3 days after the last possible collection date. The error resulted from the previous month's milk sample being collected a week earlier than usual. The Project Manager changed the January sample schedule without reviewing the previous month's collection dates. Milk samples were collected as a grab and delivered to the analysis laboratory the following day. No holding times were missed and the sample radiological

results were valid. The sample schedule (Excel spreadsheet) was enhanced to avoid future collection conflicts. Corrective actions were tracked by NAI ID# 011904-1.

2. Milk sample I-131 result for location B collected on 05/10/2004 was not reported by the laboratory due to the presence of a non-decaying beta emitter. This laboratory issue was not Peach Bottom specific.

Each program exception was reviewed to understand the causes of the program exception. Sampling and maintenance errors were reviewed with the personnel involved to prevent a recurrence. Occasional equipment breakdowns and power outages were unavoidable.

E. Program Changes

There were no changes to the program in 2004.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

Samples were taken from a continuous sampler at two locations (1LL and 1MM) on a monthly schedule. Of these locations, 1MM located downstream, could be affected by Peach Bottom's effluent releases. The following analyses were performed:

Tritium

Monthly samples from both locations were composited quarterly and analyzed for tritium activity (Table C-I.1, Appendix C). No tritium activity was detected. Results ranged from <143 to <191 pCi/l and averaged 186 pCi/l at the control location and 175 pCi/l at the indicator location.

Gamma Spectrometry

Samples from both locations were analyzed for gamma emitting nuclides (Table C-I.2, Appendix C). All nuclides were less than the MDA.

2. Drinking Water

Monthly samples were collected from continuous water samplers at two locations (4L and 6I). One location (4L) could be affected by Peach Bottom's effluent releases. The following analyses were performed:

Gross Beta

Samples from both locations were analyzed for concentrations of gross beta activity in insoluble and soluble fractions (Tables C-II.1 and C-II.2 and Figures C-1 and C-2, Appendix C). The values ranged from <1.4 to <2.1 pCi/l for the insoluble fraction and from <1.7 to 3.8 pCi/l for the soluble fraction. Concentrations detected in both fractions were generally below those detected in previous years.

Tritium

Monthly samples from both locations were composited quarterly and analyzed for tritium activity (Table C-II.3, Appendix C). No tritium activity was detected. The highest MDA calculated was <192 pCi/l.

Gamma Spectrometry

Samples from both locations were analyzed for gamma emitting nuclides (Table C-II.4, Appendix C). All nuclides were less than the MDA.

3. Fish

Fish samples comprised of bottom feeder (catfish) and predator (bass) were collected at two locations (4 and 6) semiannually. Location 4 could be affected by Peach Bottom's effluent releases. The following analysis was performed:

Gamma Spectrometry

The edible portion of fish samples from both locations was analyzed for gamma emitting nuclides (Table C-III.1, Appendix C). Naturally occurring K-40 was found at all stations and ranged from 2,960 to 3,830 pCi/kg wet and was consistent with levels detected in previous years. No fission or activation products were found. Historical levels of Cs-137 are shown in Figure C-3, Appendix C.

4. Sediment

Aquatic samples were collected at three locations (4J, 4T and 6F) semiannually. Of these locations two, 4J and 4T located downstream, could be affected by Peach Bottom's effluent releases. The following analysis was performed:

Gamma Spectrometry

Sediment samples from all three locations were analyzed for gamma emitting nuclides (Table C-IV.1, Appendix C). Nuclides detected were naturally occurring K-40 and the fission product Cs-137.
Potassium-40 was found at all stations and ranged from 7,830 to 24,700 pCi/kg dry. Concentrations of the fission product Cs-137 were found in sediment samples in all locations. Location 4T had the highest average concentration of 165 pCi/kg dry. The activity detected was consistent with those detected in the pre-operational years (Figure C-4, Appendix C). No other Peach Bottom fission or activation products were found.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

Continuous air particulate samples were collected from five locations on a weekly basis. The five locations were separated into three groups: Group I represents locations within the PBAPS site boundary (1B, 1Z and 1C), Group II represents the location at an intermediate distance from the PBAPS site (3A), and Group III represents the control location at a remote distance from PBAPS (5H2). The following analyses were performed.

Gross Beta

Weekly samples were analyzed for concentrations of beta emitters (Tables C-V.1 and C-V.2 and Figures C-5 and C-6, Appendix C).

Detectable gross beta activity was observed at all locations. Comparison of results among the three groups aid in determining the effects, if any, resulting from the operation of PBAPS. The results from the On-Site locations (Group I)

ranged from <5 to 31 E-3 pCi/m^3, with a mean of 13 E-3 pCi/m^3. The results from the Intermediate Distance location (Group II) ranged from <6 to 49 E-3 pCi/m^3 with a mean of 13 E-3 pCi/m^3. The results from the Distant location (Group III) ranged from <6 to 41 E-3 pCi/m^3 with a mean of 16 E-3 pCi/m^3 A comparison of the weekly mean values for 2004 indicate no notable differences among the three groups (Figure C-5, Appendix C). In addition, a comparison of the 2004 air particulate data with previous years data indicate no effects from the operation of PBAPS (Figure C-6, Appendix C).

Gamma Spectrometry

Weekly samples were composited quarterly and analyzed for gamma emitting nuclides (Table C-V.3, Appendix C). Naturally occurring Be-7 due to cosmic ray activity was detected in all samples. These values ranged from 38 to 72 E-3 pCi/m^3. All other nuclides were less than the MDA.

b. Airborne Iodine

Continuous air samples were collected from five locations (1B, 1Z, 1C, 3A, and 5H2) and analyzed weekly for I-131 (Table C-VI.1, Appendix C). All results were less than the MDA.

2. Terrestrial

a. Milk

Samples were collected from five locations (A, J, O, R, and S) biweekly April through November and monthly December through March. Samples from six additional locations (B, C, D, E, L, P) were taken quarterly. The following analyses were performed.

Iodine-131

Milk samples from all locations were analyzed for concentrations of I-131 (Tables C-VII.1, Appendix C). All results were less than the MDA.

Gamma Spectrometry

Each milk sample from locations A, J, O, R and S was analyzed for concentrations of gamma emitting nuclides (Table C-VII.2, Appendix C).

Naturally occurring K-40 was found in all samples and ranged from 1100 to 1,590 pCi/l. All other nuclides were less than the MDA. Comparison of the 2004 Cs-137 milk data with previous years data indicate no effects from the operation of PBAPS (Figure C-7 (Appendix C).

C. Ambient Gamma Radiation

Ambient gamma radiation levels were measured using Panasonic 814 ($CaSO_4$) thermoluminescent dosimeters. Forty-six TLD locations were established around the site. Results of TLD measurements are listed in Tables C-VIII.1 through C-VIII.3 and Figure C-8, Appendix C.

All TLD measurements were below 10 mR per standard month, with a range of 2.4 to 8.9 mR per standard month. A comparison of the Site Boundary and Intermediate Distance data to the Control locations data indicate that the ambient gamma radiation levels from the Control locations 16, 18, 19 and 24 were essentially the same as the other locations. The historical ambient gamma radiation data from the Control locations was plotted along with similar data from the Site and the Intermediate Distance locations (Figure C-8, Appendix C)

D. Independent Spent Fuel Storage Installation (ISFSI)

The Independent Spent Fuel Storage Installation (ISFSI) was utilized beginning June 2000. As of 2004, a total of 24 TN-68 casks, each loaded with 68 fuel bundles were in place on the ISFSI pad. As part of the overall REMP, additional TLDs were placed at locations near the site boundary and at the nearest resident. Although there was a general trend for decreased dose at all REMP locations (see Figure C-8, Appendix C), Onsite location 1R, which is located on the hillside overlooking the ISFSI showed an increase trend of 0.5 to 1 mR per standard month when compared to controls (Figure C-9, Appendix C). Location 2B, which represents the nearest residence showed no increase in dose rates when compared to controls. Data from location 2B is used to demonstrate compliance to both 40CFR190 and 10CFR72.104 limits.

E. Land Use Census

A Land Use Survey conducted during May to October 2004 growing season around the Peach Bottom Atomic Power Station (PBAPS) was performed by Normandeau Associates, Inc., RMC Environmental Services Division for Exelon Nuclear to comply with Section 3.8.E.2 of PBAPS's Offsite Dose Calculation Manual Specifications (ODCMS) and Bases. The purpose of the survey was to document the nearest milk producing animal in each of the sixteen meteorological sectors out to five miles. In addition, the nearest residence and garden of >500 square feet were documented. The distance and direction of all locations were positioned using Global Positioning System (GPS) technology. There were no changes required to the PBAPS REMP as a result of this survey. The results of this survey are summarized below.

Distance in Miles from the PBAPS Reactor Buildings			
Sector	Residence Miles	Garden Miles	Milk Farm Miles
1 N	2.4	2.8	2.8
2 NNE	2.1	2.1	2.1
3 NE	2.1	2.1	2.1
4 ENE	2.0	2.4	2.1
5 E	2.0	2.8	2.8
6 ESE	3.8	3.8	3.8
7 SE	3.6	3.6	3.6
8 SSE	0.7	0.7	-
9 S	1.0	1.0	-
10 SSW	1.2	1.8	2.2
11 SW	0.9	0.9	2.3
12 WSW	0.7	-	0.9
13 W	1.0	1.0	1.0
14 WNW	0.6	0.8	-
15 NW	0.6	3.4	3.4
16 NNW	1.0	-	-

V. References

1. Preoperational Environs Radioactivity Survey Summary Report, March 1960 through January 1966. (September 1967).

2. Interex Corporation, Peach Bottom Atomic Power Station Regional Environs Radiation Monitoring Program Preoperational Summary Report, Units 2 and 3, 5 February 1966 through 8 August 1973, June 1977, Natick, Massachusetts.

3. Radiation Management Corporation Publication, Peach Bottom Atomic Power Station Preoperational Radiological Monitoring Report for Unit 2 and 3, January 1974, Philadelphia, Pennsylvania.

APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT SUMMARY

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2004

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2004

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTABLE MEASUREMENTS
SURFACE WATER (PCI/LITER)	TRITIUM	8	2000	175 (0/4) (<143/<190)	186 (0/4) (<177/<191)	186 (0/4) (<177/<191)	1LL CONTROL UNITS 2 & 3 INTAKE 0.24 MILES NE OF SITE	0
	GAMMA	24						
	MN-54		15	4 (0/12) (<2/<6)	3 (0/12) (<1/<5)	4 (0/12) (<2/<6)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CO-58		15	4 (0/12) (<2/<6)	3 (0/12) (<2/<5)	4 (0/12) (<2/<6)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CO-60		15	4 (0/12) (<2/<7)	3 (0/12) (<1/<4)	4 (0/12) (<2/<7)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	FE-59		30	9 (0/12) (<6/<14)	6 (0/12) (<3/<12)	9 (0/12) (<6/<14)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	ZN-65		30	9 (0/12) (<5/<15)	6 (0/12) (<3/<9)	9 (0/12) (<5/<15)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	ZR-95		30	6 (0/12) (<4/<14)	5 (0/12) (<3/<9)	6 (0/12) (<4/<14)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	NB-95		15	4 (0/12) (<2/<7)	3 (0/12) (<2/<5)	4 (0/12) (<2/<7)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0

FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2004

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2004

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTABLE MEASUREMENTS
	CS-134		15	3 (0/12) (<2/<6)	3 (0/12) (<1/<5)	3 (0/12) (<2/<6)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CS-137		18	4 (0/12) (<2/<7)	3 (0/12) (<1/<5)	4 (0/12) (<2/<7)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	BA-140		60	21 (0/12) (<10/<41)	17 (0/12) (<11/<29)	21 (0/12) (<10/<41)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	LA-140		15	6 (0/12) (<4/<9)	5 (0/12) (<3/<10)	6 (0/12) (<4/<9)	1MM INDICATOR CANAL DISCHARGE 1.04 MILES SE OF SITE	0
DRINKING WATER (PCI/LITER)	GROSS BETA SOLUBLE	24	4	2.3 (5/12) (<1.7/3.8)	2.3 (5/12) (<1.7/3.2)	2.3 (5/12) (<1.7/3.2)	6I CONTROL HOLTWOOD STATION INTAKE 5.75 MILES NW OF SITE	0
	GROSS BETA INSOLUBLE	24	4	1.6 (0/12) (<1.4/<2.1)	1.6 (0/12) (<1.4/<2.0)	1.6 (0/12) (<1.4/<2.1)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	TRITIUM	8	2000	186 (0/4) (<179/<192)	184 (0/4) (<174/<192)	186 (0/4) (<179/<192)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	GAMMA MN-54	24	15	5 (0/12) (<2/<10)	4 (0/12) (<2/<8)	5 (0/12) (<2/<10)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0

FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2004

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2004

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTABLE MEASUREMENTS
	CO-58		15	5 (0/12) (<2/<8)	4 (0/12) (<2/<8)	5 (0/12) (<2/<8)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	CO-60		30	5 (0/12) (<3/<11)	4 (0/12) (<3/<8)	5 (0/12) (<3/<11)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	FE-59		15	9 (0/12) (<6/<17)	8 (0/12) (<5/<18)	9 (0/12) (<6/<17)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	ZN-65		30	10 (0/12) (<5/<19)	8 (0/12) (<4/<16)	10 (0/12) (<5/<19)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	ZR-95		30	8 (0/12) (<4/<15)	7 (0/12) (<4/<14)	8 (0/12) (<4/<15)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	NB-95		15	5 (0/12) (<2/<10)	4 (0/12) (<2/<9)	5 (0/12) (<2/<10)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	CS-134		15	4 (0/12) (<2/<8)	4 (0/12) (<2/<8)	4 (0/12) (<2/<8)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	CS-137		18	5 (0/12) (<3/<9)	4 (0/12) (<2/<8)	5 (0/12) (<3/<9)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0

FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2004

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2004

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTABLE MEASUREMENTS
	BA-140		60	23 (0/12) (<11/<45)	20 (0/12) (<10/<35)	23 (0/12) (<11/<45)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	LA-140		15	7 (0/12) (<3/<15)	6 (0/12) (<3/<14)	7 (0/12) (<3/<15)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
BOTTOM FEEDER (FISH) (PCI/KG WET)	GAMMA	4						
	K-40		N/A	3065 (2/2) (3000/3130)	3380 (2/2) (3320/3440)	3380 (2/2) (3320/3440)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	MN-54		130	19 (0/2) (<16/<21)	26 (0/2) (<16/<36)	26 (0/2) (<16/<36)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	CO-58		130	23 (0/2) (<16/<30)	27 (0/2) (<15/<39)	27 (0/2) (<15/<39)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	CO-60		130	30 (0/2) (<18/<41)	26 (0/2) (<16/<37)	30 (0/2) (<18/<41)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0
	FE-59		260	43 (0/2) (<33/<54)	53 (0/2) (<32/<74)	53 (0/2) (<32/<74)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	ZN-65		260	48 (0/2) (<35/<61)	63 (0/2) (<31/<94)	63 (0/2) (<31/<94)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0

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TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2004

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2004

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	CS-134		130	24 (0/2) (<16/<33)	22 (0/2) (<15/<29)	24 (0/2) (<16/<33)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0
	CS-137		150	27 (0/2) (<18/<36)	25 (0/2) (<16/<34)	27 (0/2) (<18/<36)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0
PREDATOR (FISH) (PCI/KG WET)	GAMMA	4						
	K-40		130	3030 (2/2) (2960/3100)	3575 (2/2) (3320/3830)	3575 (2/2) (3320/3830)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	MN-54			20 (0/2) (<16/<24)	22 (0/2) (<11/<32)	22 (0/2) (<11/<32)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	CO-58		130	22 (0/2) (<17/<27)	20 (0/2) (<11/<29)	22 (0/2) (<17/<27)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0
	CO-60		130	23 (0/2) (<16/<31)	19 (0/2) (<11/<28)	23 (0/2) (<16/<31)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0
	FE-59		260	45 (0/2) (<34/<57)	45 (0/2) (<22/<68)	45 (0/2) (<34/<57)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0
	ZN-65		260	44 (0/2) (<30/<58)	41 (0/2) (<25/<58)	44 (0/2) (<30/<58)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0

FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2004

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	CS-134		130	22 (0/2) (<16/<28)	18 (0/2) (<10/<25)	22 (0/2) (<16/<28)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0
	CS-137		150	24 (0/2) (<17/<31)	21 (0/2) (<14/<29)	24 (0/2) (<17/<31)	4 INDICATOR CONOWINGO POND IN POND BELOW DISCHARGE	0
SEDIMENT (PCI/KG DRY)	GAMMA	6						
	K-40		N/A	18500 (4/4) (14200/24700)	10915 (2/2) (7830/14000)	21150 (2/2) (17600/24700)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	MN-54		N/A	44 (0/4) (<18/<94)	38 (0/2) (<23/<54)	60 (0/2) (<25/<94)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	CO-58		N/A	45 (0/4) (<19/<101)	38 (0/2) (<21/<54)	62 (0/2) (<24/<101)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	CO-60		N/A	47 (0/4) (<21/<93)	31 (0/2) (<19/<43)	59 (0/2) (<25/<93)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	CS-134		150	38 (0/4) (<16/<88)	31 (0/2) (<19/<43)	54 (0/2) (<20/<88)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	CS-137		180	105 (4/4) (40/201)	61 (2/2) (37/86)	165 (2/2) (129/201)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0

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TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2004

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTABLE MEASUREMENTS
AIR PARTICULATE (E-3 PCI/CU. METER)	GROSS BETA	260	10	13 (179/208) (<5/49)	16 (50/52) (<6/41)	13 (45/52) (<6/31)	1B INDICATOR WEATHER STATION #2 0.49 MILES NW OF SITE	0
	GAMMA	20						
	BE-7		N/A	54 (16/16) (40/72)	53 (4/4) (38/70)	56 (4/4) (40/72)	3A INDICATOR DELTA, PA SUBSTATION 3.62 MILES SW OF SITE	0
	MN-54		N/A	0.9 (0/16) (<0.7/<1.5)	0.8 (0/4) (<0.3/<1.4)	1.0 (0/4) (<0.7/<1.3)	1Z INDICATOR WEATHER STATION #1 0.26 MILES SE OF SITE	0
	CO-58		N/A	1.0 (0/16) (<0.6/<1.5)	1.0 (0/4) (<0.4/<1.9)	1.1 (0/4) (<0.7/<1.3)	1C INDICATOR SOUTH SUBSTATION 0.85 MILES SSE OF SITE	0
	CO-60		N/A	1.0 (0/16) (<0.5/<2.0)	1.0 (0/4) (<0.4/<1.4)	1.3 (0/4) (<0.8/<2.0)	1C INDICATOR SOUTH SUBSTATION 0.85 MILES SSE OF SITE	0
	CS-134		50	0.9 (0/16) (<0.4/<1.3)	0.7 (0/4) (<0.3/<1.1)	1.0 (0/4) (<0.8/<1.3)	1B INDICATOR WEATHER STATION #2 0.49 MILES NW OF SITE	0
	CS-137		60	0.9 (0/16) (<0.6/<1.4)	0.8 (0/4) (<0.4/<1.3)	1.1 (0/4) (<0.7/<1.4)	1C INDICATOR SOUTH SUBSTATION 0.85 MILES SSE OF SITE	0
AIR IODINE (E-3 PCI/CU.METER)	I-131	260	70	15 (0/208) (<6/<30)	12 (0/52) (<6/<18)	16 (0/52) (<7/<29)	3A INDICATOR DELTA, PA SUBSTATION 3.62 MILES SW OF SITE	0

FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2004

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTABLE MEASUREMENTS
MILK (PCI/LITER)	I-131	128	1	0.5 (0/96) (<0.1/<1.0)	0.5 (0/32) (<0.1/<0.9)	0.7 (0/4) (<0.6/<0.9)	B CONTROL REGIONAL FARM 10.58 MILES S OF SITE	0
	GAMMA	105						
	K-40		N/A	1291 (84/84) (1100/1590)	1321 (21/21) (1150/1500)	1369 (21/21) (1240/1590)	R INDICATOR REGIONAL FARM 0.89 MILES WSW OF SITE	0
	CS-134		15	4 (0/84) (<2/<10)	4 (0/21) (<2/<9)	4 (0/21) (<2/<9)	J INDICATOR REGIONAL FARM 0.97 MILES W OF SITE	0
	CS-137		18	5 (0/84) (<2/<12)	5 (0/21) (<2/<10)	5 (0/21) (<3/<11)	J INDICATOR REGIONAL FARM 0.97 MILES W OF SITE	0
	BA-140		60	19 (0/84) (<8/<40)	19 (0/21) (<10/<38)	20 (0/21) (<11/<39)	J INDICATOR REGIONAL FARM 0.97 MILES W OF SITE	0
	LA-140		15	6 (0/84) (<3/<12)	6 (0/21) (<3/<11)	6 (0/21) (<3/<11)	A CONTROL REGIONAL FARM 5.78 MILES WSW OF SITE	0
DIRECT RADIATION (MILLI-ROENTGEN/STD. MO.)	TLD-QUARTERLY	184	N/A	6.5 (168/168) (2.5/8.9)	6.4 (16/16) (2.4/7.8)	8.4 (4/4) (7.5/8.9)	1R INDICATOR TRANSMISSION LINE HILL 0.53 MILES SSE OF SITE	0

FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

APPENDIX B

SAMPLE DESIGNATION AND LOCATIONS

TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2004

Location	Location Description	Distance & Direction from PBAPS Vents
A. Surface Water		
1LL	Peach Bottom Units 2 and 3 Intake - Composite (Control)	0.24 miles NE
1MM	Peach Bottom Canal Discharge -Composite	1.04 miles SE
B. Drinking (Potable) Water		
4L	Conowingo Dam EL 33' MSL - Composite	8.66 miles SE
6I	Holtwood Dam Hydroelectric Station - Composite (Control)	5.75 miles NW
C. Fish		
4	Conowingo Pond	Located in Conowingo Pond below the discharge
6	Holtwood Pond (Control)	Located in Holtwood Pond
D. Sediment		
4J	Conowingo Pond near Berkin's Run	1.39 miles SE
4T	Conowingo Pond near Conowingo Dam	7.92 miles SE
6F	Holtwood Dam (Control)	5.96 miles NW
E. Air Particulate - Air Iodine		
1B	Weather Station #2	0.49 miles NW
1Z	Weather Station #1	0.26 miles SE
1A	Weather Station #1	0.26 miles SE
1C	Peach Bottom South Sub Station	0.85 miles SSE
3A	Delta, PA – Substation	3.62 miles SW
5H2	Manor Substation	30.79 miles NE
F. Milk – bi-weekly / monthly		
A	(Control)	5.78 miles WSW
J		0.97 miles W
O		2.32 miles SW
R		0.89 miles WSW
S		3.61 miles ESE
G. Milk – quarterly		
B	(Control)	10.58 miles S
C	(Control)	9.54 miles NW
D		3.51 miles NE
E	(Control)	8.74 miles N
L		2.12 miles NE
P		2.08 miles ENE

TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2004

Location	Location Description	Distance & Direction from PBAPS Vents
G. Environmental Dosimetry - TLD		
Site Boundary		
1L	Peach Bottom Unit 3 Intake	0.24 miles NE
1P	Tower B & C Fence	0.40 miles ESE
1A	Weather Station #1	0.26 miles SE
1Q	Tower D & E Fence	0.62 miles SE
1D	140° Sector	0.67 miles SE
2	Peach Bottom 130° Sector Hill	0.88 miles SE
1M	Discharge	1.03 miles SE
1R	Transmission Line Hill	0.53 miles SSE
1I	Peach Bottom South Substation	0.54 miles SSE
1C	Peach Bottom South Substation	0.85 miles SSE
1J	Peach Bottom 180° Sector Hill	0.71 miles S
1F	Peach Bottom 200° Sector Hill	0.51 miles SSW
40	Peach Bottom Site Area	1.46 miles SW
1NN	Peach Bottom Site	0.48 miles WSW
1H	Peach Bottom 270° Sector Hill	0.59 miles W
1G	Peach Bottom North Substation	0.60 miles WNW
1B	Weather Station #2	0.49 miles NW
1E	Peach Bottom 350° Sector Hill	0.59 miles NNW
Intermediate Distance		
15	Silver Spring Rd	3.68 miles N
22	Eagle Road	2.39 miles NNE
44	Goshen Mill Rd	5.07 miles NE
32	Slate Hill Rd	2.75 miles ENE
45	PB-Keeney Line	3.38 miles ENE
14	Peters Creek	1.97 miles E
17	Riverview Rd	4.07 miles ESE
31A	Eckman Rd	4.57 miles SE
4K	Conowingo Dam Power House Roof	8.61 miles SE
23	Peach Bottom 150° Sector Hill	1.01 miles SSE
27	N. Cooper Road	2.68 miles S
48	Macton Substation	4.99 miles SSW
3A	Delta, PA Substation	3.62 miles SW
49	PB-Conastone Line	4.05 miles WSW
50	TRANSCO Pumping Station	4.99 miles W
51	Fin Substation	3.98 miles WNW
26	Slab Road	4.23 miles NW
6B	Holtwood Dam Power House Roof	5.78 miles NW
42	Muddy Run Environ. Laboratory	4.13 miles NNW
Distant and Special Interest		
2B	Burk Property	0.71 miles SSE
43	Drumore Township School	5.00 miles NNE
5	Wakefield, PA	4.64 miles E
16	Nottingham, PA Substation (Control)	12.72 miles E
24	Harrisville, MD Substation (Control)	10.91 miles ESE
46	Broad Creek	4.48 miles SSE
47	Broad Creek Scout Camp	4.26 miles S
18	Fawn Grove, PA (Control)	9.86 miles W
19	Red Lion, PA (Control)	20.21 miles WNW

TABLE B-2 Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Peach Bottom Atomic Power Station, 2004

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Monthly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	2 gallon	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Surface Water	Tritium	Quarterly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	500 ml	TBE, TBE-2010 Tritium and carbon-14 analysis by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Drinking Water	Gross Beta	Monthly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	2 gallon	TBE, TBE-2008 Gross alpha and/or gross beta activity in various matrices Env. Inc., W(DS)-01 Determination of gross alpha and/or gross beta in water (dissolved solids or total residue) Env. Inc., W(SS)-02 Determination of gross alpha and/or gross beta in water (suspended solids)
Drinking Water	Gamma Spectroscopy	Monthly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	2 gallon	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Drinking Water	Tritium	Quarterly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	500 ml	TBE, TBE-2010 Tritium and carbon-14 analysis by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Fish	Gamma Spectroscopy	Semi-annual samples collected via electroshocking or other techniques	RMC-ER3 Collection of fish samples for radiological analysis (Peach Bottom Atomic Power Station)	1000 grams (wet)	TBE, TBE-2007 Gamma emitting radioisotope analysis
Sediment	Gamma Spectroscopy	Semi-annual grab samples	RMC-ER2 Collection of sediment samples for radiological analysis (Peach Bottom Atomic Power Station)	500 grams (dry)	TBE, TBE-2007 Gamma emitting radioisotope analysis
Air Particulates	Gross Beta	One-week composite of continuous air sampling through glass fiber filter paper	RMC-ER16 Collection of air particulate and air iodine samples for radiological analysis (Peach Bottom Atomic Power Station)	1 filter (approximately 280 cubic meters weekly)	TBE, TBE-2008 Gross alpha and/or gross beta activity in various matrices Env. Inc., AP-02 Determination of gross alpha and/or gross beta in air particulate filters

TABLE B-2 Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Peach Bottom Atomic Power Station, 2004

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Air Particulates	Gamma Spectroscopy	Quarterly composite of each station	TBE, TBE-2023 Compositing of samples Env. Inc., AP-03 Procedure for compositing air particulate filters for gamma spectroscopic analysis	13 filters (approximately 3600 cubic meters)	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Air Iodine	Gamma Spectroscopy	One-week composite of continuous air sampling through charcoal filter	RMC-ER8 Collection of air particulate and air iodine samples for radiological analysis (Limerick Generating Station)	1 filter (approximately 280 cubic meters weekly)	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., I-131-02 Determination of I-131 in charcoal canisters by gamma spectroscopy (batch method)
Milk	I-131	Bi-weekly grab sample when cows are on pasture. Monthly all other times	RMC-ER10 Collection of milk samples for radiological analysis (Limerick Generating Station)	2 gallon	TBE, TBE-2012 Radioiodine in various matrices Env. Inc., I-131-01 Determination of I-131 in milk by anion exchange
Milk	Gamma Spectroscopy	Bi-weekly grab sample when cows are on pasture. Monthly all other times	RMC-ER10 Collection of milk samples for radiological analysis (Limerick Generating Station)	2 gallon	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
TLD	Thermoluminescence Dosimetry	Quarterly TLDs comprised of two Panasonic 814 (containing 3 each $CaSO_4$ elements)	RMC-ER9 Collection of TLD samples for radiological analysis (Limerick Generating Station)	2 dosimeters	Global Dosimetry

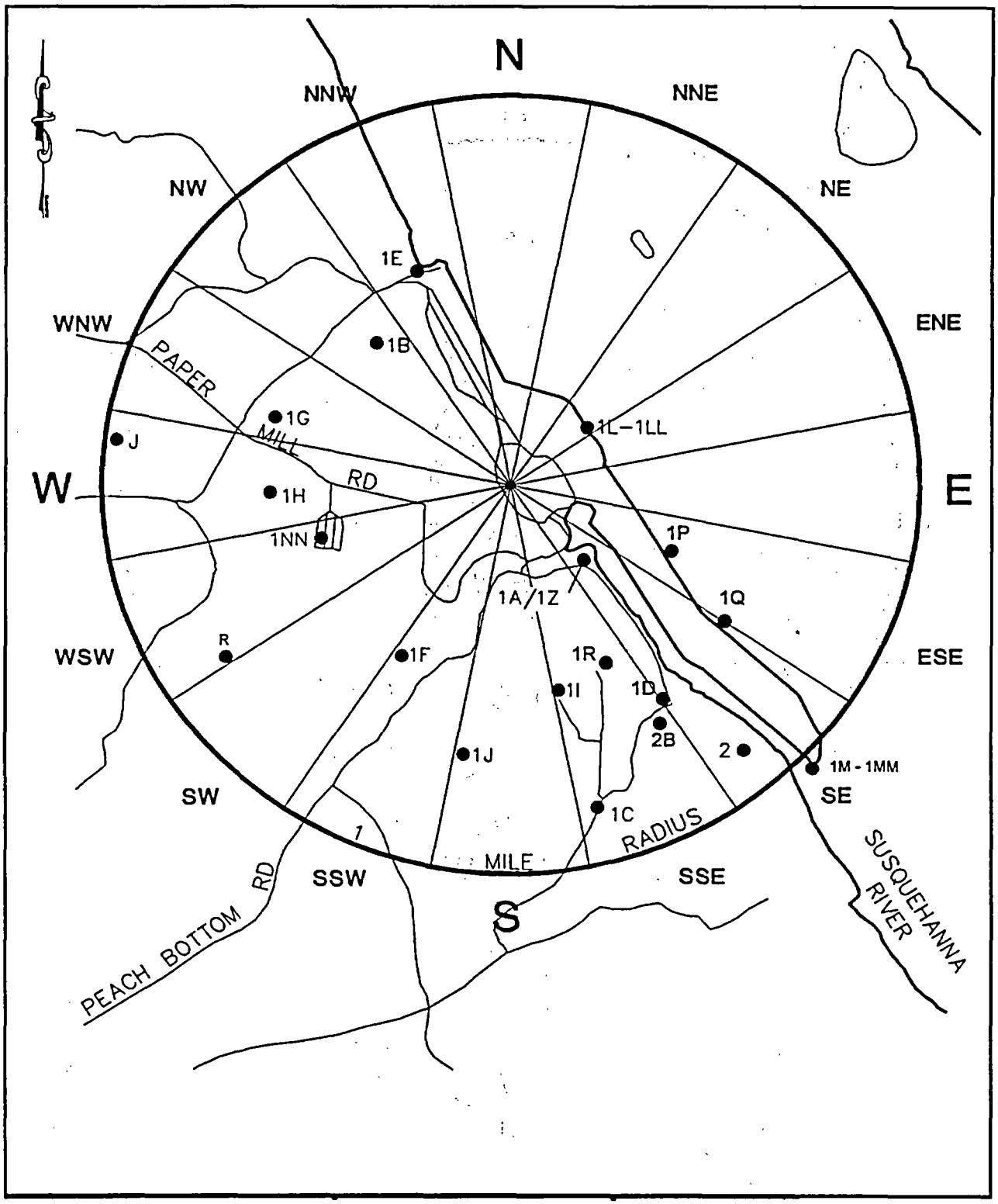

Figure B-1
Environmental Sampling Locations Within One Mile of the Peach Bottom Atomic Power Station, 2004

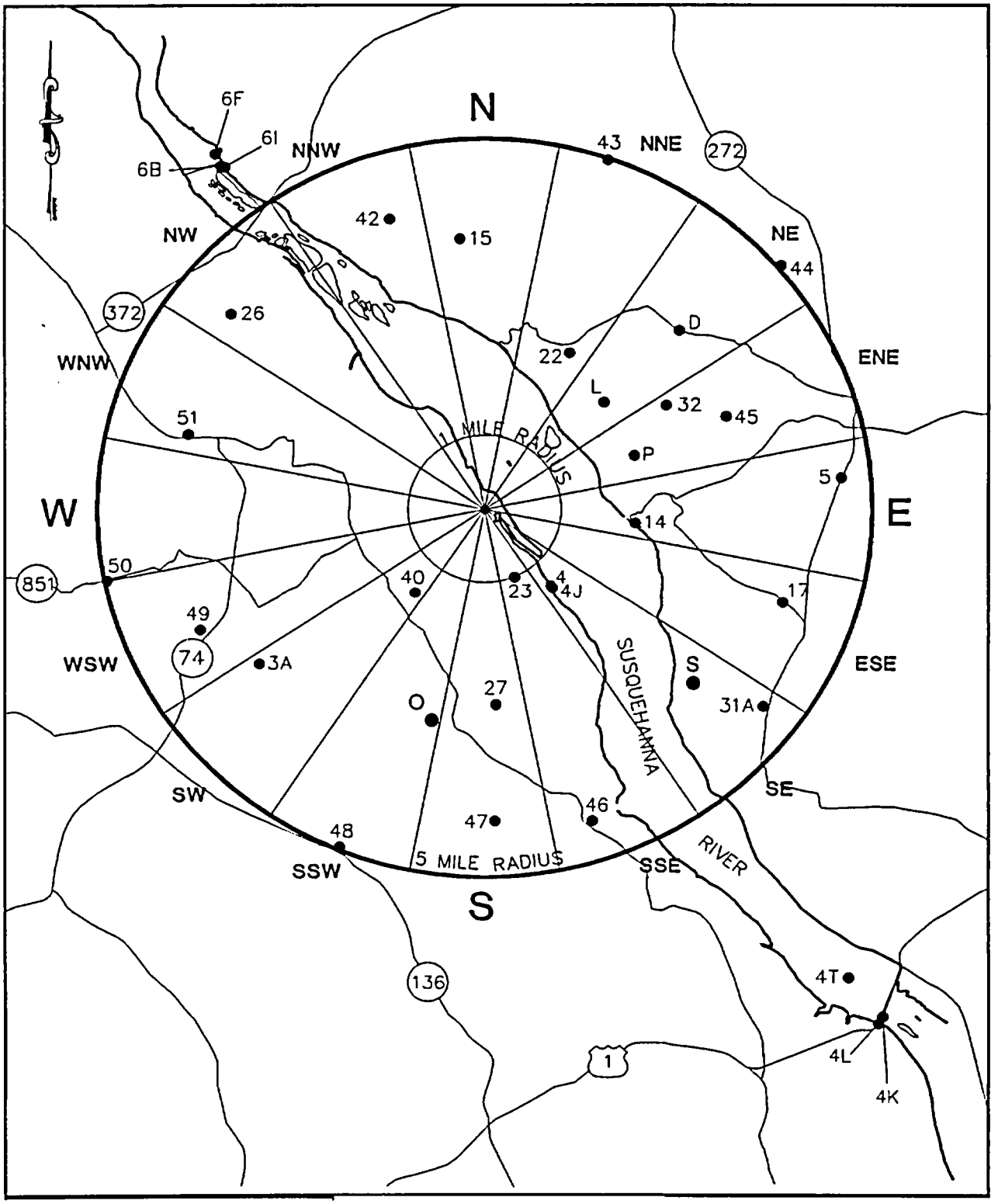

Figure B-2
Environmental Sampling Locations Between One and Approximately Five Miles of the Peach Bottom Atomic Power Station, 2004

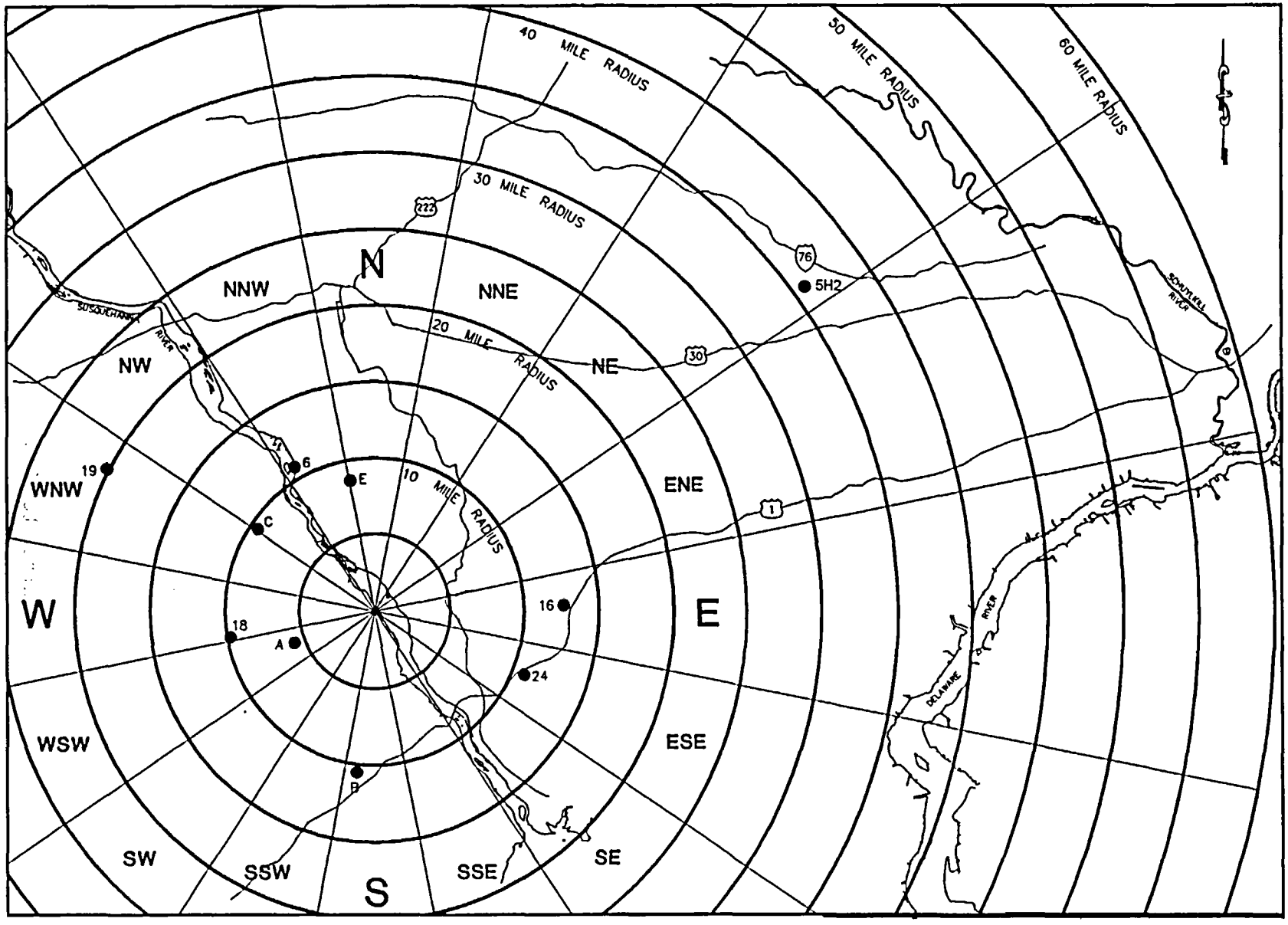

Figure B-3
Environmental Sampling Locations Greater Than
Five Miles from the Peach Bottom Atomic Power Station, 2004

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APPENDIX C

DATA TABLES AND FIGURES
PRIMARY LABORATORY

TABLE C-I.1 CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1LL	1MM
JAN-MAR	< 177	< 179
APR-JUN	< 188	< 143
JUL-SEP	< 189	< 189
OCT-DEC	< 191	< 190
MEAN	186 ± 13	175 ± 44

TABLE C-I.2 CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
1LL	JAN	< 2	< 2	< 5	< 2	< 5	< 4	< 2	< 2	< 3	< 11	< 3
	FEB	< 4	< 4	< 8	< 4	< 8	< 7	< 4	< 4	< 4	< 23	< 9
	MAR	< 1	< 2	< 3	< 1	< 3	< 3	< 2	< 1	< 1	< 12	< 4
	APR	< 3	< 3	< 6	< 3	< 6	< 5	< 3	< 3	< 3	< 15	< 4
	MAY	< 2	< 2	< 4	< 2	< 4	< 3	< 2	< 2	< 2	< 12	< 3
	JUN	< 3	< 3	< 6	< 3	< 5	< 5	< 3	< 2	< 3	< 16	< 4
	JUL	< 3	< 3	< 5	< 3	< 5	< 4	< 3	< 2	< 3	< 13	< 4
	AUG	< 3	< 3	< 8	< 4	< 6	< 6	< 4	< 3	< 4	< 23	< 8
	SEP	< 5	< 5	< 12	< 4	< 9	< 9	< 5	< 5	< 5	< 29	< 10
	OCT	< 3	< 3	< 5	< 3	< 6	< 5	< 3	< 3	< 3	< 14	< 4
	NOV	< 3	< 3	< 7	< 3	< 7	< 6	< 4	< 3	< 4	< 19	< 5
	DEC	< 3	< 3	< 6	< 3	< 5	< 5	< 3	< 3	< 3	< 16	< 5
	MEAN	3 ± 2	3 ± 2	6 ± 5	3 ± 2	6 ± 3	5 ± 3	3 ± 2	3 ± 2	3 ± 2	17 ± 11	5 ± 4
1MM	JAN	< 2	< 2	< 12	< 5	< 12	< 4	< 2	< 2	< 2	< 10	< 4
	FEB	< 3	< 3	< 12	< 7	< 13	< 4	< 3	< 2	< 3	< 14	< 5
	MAR	< 2	< 3	< 6	< 2	< 5	< 4	< 3	< 2	< 3	< 21	< 6
	APR	< 5	< 5	< 10	< 4	< 9	< 9	< 5	< 5	< 5	< 23	< 8
	MAY	< 3	< 3	< 7	< 3	< 7	< 6	< 3	< 3	< 3	< 17	< 6
	JUN	< 3	< 3	< 6	< 3	< 6	< 5	< 3	< 3	< 3	< 19	< 6
	JUL	< 3	< 3	< 6	< 3	< 6	< 5	< 3	< 3	< 3	< 13	< 4
	AUG	< 3	< 3	< 6	< 3	< 6	< 5	< 3	< 3	< 3	< 19	< 5
	SEP	< 4	< 5	< 8	< 5	< 10	< 8	< 6	< 5	< 4	< 29	< 9
	OCT	< 6	< 6	< 14	< 5	< 15	< 14	< 7	< 6	< 7	< 41	< 8
	NOV	< 4	< 4	< 10	< 4	< 9	< 6	< 5	< 4	< 4	< 24	< 9
	DEC	< 4	< 4	< 8	< 4	< 7	< 6	< 4	< 4	< 5	< 22	< 7
	MEAN	4 ± 2	4 ± 3	9 ± 6	4 ± 3	9 ± 6	6 ± 5	4 ± 3	3 ± 3	4 ± 3	21 ± 16	6 ± 4

TABLE C-II.1 CONCENTRATIONS OF GROSS BETA INSOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L	6I
JAN	< 1.5	< 1.5
FEB	< 1.8	< 1.7
MAR	< 1.4	< 1.5
APR	< 1.5	< 1.5
MAY	< 1.8	< 1.7
JUN	< 1.6	< 1.6
JUL	< 1.5	< 1.5
AUG	< 1.8	< 1.6
SEP	< 2.1	< 2.0
OCT	< 1.4	< 1.4
NOV	< 1.6	< 1.6
DEC	< 1.5	< 1.5
MEAN	1.6 ± 0.4	1.6 ± 0.3

TABLE C-II.2 CONCENTRATIONS OF GROSS BETA SOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L	6I
JAN	1.9 ± 1.3	2.9 ± 1.4
FEB	< 2.1	< 2.1
MAR	< 1.7	< 1.7
APR	3.8 ± 1.3	< 1.7
MAY	< 1.9	< 1.9
JUN	< 2.2	< 2.3
JUL	2.4 ± 1.4	2.3 ± 1.4
AUG	< 2.2	3.2 ± 1.5
SEP	< 2.5	< 2.5
OCT	2.8 ± 1.4	2.6 ± 1.3
NOV	< 2.0	< 2.0
DEC	2.0 ± 1.3	2.9 ± 1.4
MEAN	2.3 ± 1.2	2.3 ± 1.0

TABLE C-II.3 CONCENTRATIONS OF TRITIUM IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L	6I
JAN-MAR	< 179	< 179
APR-JUN	< 182	< 174
JUL-SEP	< 192	< 192
OCT-DEC	< 191	< 189
MEAN	186 ± 13	184 ± 17

TABLE C-II.4 CONCENTRATIONS OF GAMMA EMITTERS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
4L	JAN	< 2	< 2	< 6	< 3	< 6	< 4	< 2	< 2	< 3	< 11	< 3
	FEB	< 4	< 4	< 8	< 4	< 7	< 7	< 4	< 3	< 4	< 20	< 7
	MAR	< 3	< 3	< 6	< 3	< 5	< 5	< 3	< 3	< 3	< 17	< 5
	APR	< 3	< 3	< 6	< 3	< 6	< 5	< 3	< 3	< 3	< 13	< 5
	MAY	< 10	< 8	< 17	< 10	< 19	< 12	< 10	< 6	< 9	< 37	< 9
	JUN	< 3	< 3	< 7	< 3	< 6	< 6	< 4	< 3	< 3	< 17	< 7
	JUL	< 9	< 8	< 16	< 11	< 14	< 15	< 7	< 7	< 7	< 34	< 11
	AUG	< 8	< 7	< 13	< 7	< 16	< 11	< 7	< 7	< 9	< 34	< 11
	SEP	< 4	< 4	< 7	< 4	< 9	< 8	< 5	< 4	< 5	< 19	< 7
	OCT	< 7	< 7	< 15	< 10	< 15	< 15	< 8	< 8	< 9	< 45	< 15
	NOV	< 3	< 4	< 7	< 4	< 8	< 6	< 4	< 3	< 4	< 16	< 5
	DEC	< 3	< 3	< 6	< 3	< 5	< 4	< 3	< 3	< 3	< 12	< 4
	MEAN	5 ± 5	5 ± 5	9 ± 9	5 ± 6	10 ± 10	8 ± 8	5 ± 5	4 ± 4	5 ± 5	23 ± 23	7 ± 7
6I	JAN	< 8	< 8	< 18	< 8	< 15	< 14	< 8	< 8	< 8	< 35	< 14
	FEB	< 4	< 4	< 8	< 4	< 8	< 6	< 4	< 4	< 4	< 20	< 7
	MAR	< 2	< 3	< 5	< 3	< 5	< 5	< 2	< 2	< 3	< 17	< 6
	APR	< 4	< 4	< 8	< 4	< 8	< 7	< 4	< 4	< 4	< 18	< 6
	MAY	< 4	< 4	< 9	< 4	< 9	< 7	< 4	< 4	< 5	< 19	< 6
	JUN	< 4	< 4	< 8	< 4	< 8	< 7	< 4	< 3	< 4	< 22	< 7
	JUL	< 3	< 3	< 6	< 3	< 6	< 5	< 3	< 3	< 3	< 13	< 4
	AUG	< 4	< 4	< 7	< 4	< 7	< 6	< 4	< 3	< 4	< 19	< 6
	SEP	< 4	< 4	< 7	< 4	< 8	< 7	< 5	< 4	< 4	< 19	< 3
	OCT	< 7	< 7	< 13	< 7	< 16	< 13	< 9	< 7	< 7	< 34	< 11
	NOV	< 3	< 4	< 7	< 3	< 8	< 6	< 4	< 3	< 4	< 17	< 4
	DEC	< 2	< 2	< 5	< 3	< 4	< 4	< 2	< 2	< 2	< 10	< 3
	MEAN	4 ± 4	4 ± 3	8 ± 7	4 ± 3	8 ± 7	7 ± 6	4 ± 4	4 ± 3	4 ± 3	20 ± 15	6 ± 6

TABLE C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN PREDATOR & BOTTOM FEEDER (FISH) SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
4	PREDATOR								
	06/09 - 06/09/04	3100 ± 296	< 16	< 17	< 34	< 16	< 30	< 16	< 17
	11/02 - 11/08/04	2960 ± 518	< 24	< 27	< 57	< 31	< 58	< 28	< 31
	MEAN	3030 ± 198	20 ± 11	22 ± 14	45 ± 32	23 ± 21	44 ± 40	22 ± 18	24 ± 19
	BOTTOM FEEDER								
	06/09 - 06/09/04	3000 ± 348	< 16	< 16	< 33	< 18	< 35	< 16	< 18
	11/03 - 11/03/04	3130 ± 742	< 21	< 30	< 54	< 41	< 61	< 33	< 36
	MEAN	3065 ± 184	19 ± 7	23 ± 19	43 ± 30	30 ± 33	48 ± 37	24 ± 25	27 ± 25
6	PREDATOR								
	06/08 - 06/08/04	3830 ± 337	< 11	< 11	< 22	< 11	< 25	< 10	< 14
	10/27 - 10/27/04	3320 ± 717	< 32	< 29	< 68	< 28	< 58	< 25	< 29
	MEAN	3575 ± 721	22 ± 30	20 ± 25	45 ± 65	19 ± 24	41 ± 46	18 ± 21	21 ± 22
	BOTTOM FEEDER								
	06/07 - 06/07/04	3320 ± 300	< 16	< 15	< 32	< 16	< 31	< 15	< 16
	10/13 - 10/15/04	3440 ± 611	< 36	< 39	< 74	< 37	< 94	< 29	< 34
	MEAN	3380 ± 170	26 ± 29	27 ± 35	53 ± 60	26 ± 30	63 ± 89	22 ± 20	25 ± 25

TABLE C-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137
4J	06/09/04	17500 ± 963	< 41	< 37	< 49	< 29	51 ± 42
	11/18/04	14200 ± 476	< 18	< 19	< 21	< 16	40 ± 21
	MEAN	15850 ± 4667	29 ± 32	28 ± 25	35 ± 40	23 ± 19	46 ± 15
4T	06/09/04	24700 ± 1830	< 94	< 101	< 93	< 88	201 ± 67
	11/18/04	17600 ± 585	< 25	< 24	< 25	< 20	129 ± 23
	MEAN	21150 ± 10041	60 ± 98	62 ± 109	59 ± 96	54 ± 96	165 ± 102
6F	06/09/04	14000 ± 1090	< 54	< 54	< 43	< 43	86 ± 46
	11/18/04	7830 ± 461	< 23	< 21	< 19	< 19	37 ± 18
	MEAN	10915 ± 8726	38 ± 45	38 ± 46	31 ± 34	31 ± 35	61 ± 69

TABLE C-V.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

	GROUP I			GROUP II	GROUP III
WEEK	1B	1Z	1C	3A	5H2
1	9 ± 5	10 ± 5	12 ± 5	13 ± 5	33 ± 6
2	11 ± 5	14 ± 5	16 ± 5	11 ± 4	22 ± 5
3	< 7	< 7	< 7	< 6	41 ± 7
4	14 ± 5	10 ± 4	12 ± 4	13 ± 4	< 6
5	13 ± 6	< 8	< 8	9 ± 5	18 ± 6
6	17 ± 4	15 ± 4	18 ± 4	15 ± 4	10 ± 5
7	15 ± 5	11 ± 5	15 ± 5	13 ± 5	26 ± 5
8	14 ± 5	15 ± 5	13 ± 5	10 ± 5	18 ± 5
9	15 ± 4	11 ± 4	10 ± 4	14 ± 4	16 ± 5
10	< 7	< 7	7 ± 5	< 7	15 ± 5
11	< 7	< 7	< 7	< 6	12 ± 5
12	8 ± 5	11 ± 5	8 ± 5	8 ± 4	9 ± 5
13	< 7	< 7	< 6	< 6	18 ± 5
14	11 ± 4	13 ± 5	12 ± 4	12 ± 4	7 ± 4
15	11 ± 4	9 ± 4	9 ± 4	6 ± 4	19 ± 5
16	14 ± 5	16 ± 5	17 ± 5	15 ± 5	19 ± 5
17	16 ± 5	14 ± 5	15 ± 5	16 ± 5	13 ± 5
18	15 ± 5	15 ± 5	15 ± 5	10 ± 5	15 ± 5
19	26 ± 5	20 ± 5	25 ± 5	25 ± 5	16 ± 5
20	21 ± 5	21 ± 5	28 ± 6	21 ± 5	25 ± 6
21	18 ± 5	12 ± 5	16 ± 5	15 ± 5	17 ± 5
22	12 ± 5	16 ± 5	13 ± 5	13 ± 5	15 ± 5
23	16 ± 5	9 ± 4	11 ± 5	16 ± 5	13 ± 5
24	< 7	11 ± 5	< 7	8 ± 4	18 ± 5
25	13 ± 5	12 ± 5	14 ± 5	12 ± 4	12 ± 5
26	12 ± 5	13 ± 5	10 ± 4	9 ± 5	17 ± 5
27	8 ± 5	< 7	8 ± 5	7 ± 5	18 ± 5
28	< 7	< 7	< 7	< 7	9 ± 5
29	19 ± 4	19 ± 4	19 ± 4	18 ± 4	8 ± 5
30	12 ± 4	10 ± 4	13 ± 4	11 ± 4	16 ± 5
31	15 ± 4	10 ± 3	12 ± 4	14 ± 4	< 7
32	12 ± 4	12 ± 4	14 ± 4	15 ± 4	14 ± 5
33	19 ± 4	15 ± 4	15 ± 4	16 ± 4	15 ± 5
34	31 ± 5	22 ± 4	22 ± 4	49 ± 6	20 ± 5
35	18 ± 4	15 ± 4	17 ± 4	14 ± 4	23 ± 6
36	11 ± 4	9 ± 4	10 ± 4	10 ± 4	14 ± 5
37	13 ± 4	14 ± 4	15 ± 4	15 ± 4	10 ± 6
38	13 ± 4	16 ± 4	14 ± 4	13 ± 4	13 ± 5
39	22 ± 4	17 ± 4	21 ± 4	22 ± 4	18 ± 6
40	23 ± 4	17 ± 4	19 ± 4	19 ± 4	16 ± 5
41	16 ± 5	20 ± 5	14 ± 5	16 ± 5	21 ± 5
42	10 ± 3	9 ± 3	12 ± 3	10 ± 3	17 ± 5
43	8 ± 5	7 ± 4	8 ± 5	11 ± 5	7 ± 4
44	10 ± 4	10 ± 4	8 ± 4	9 ± 4	13 ± 5
45	17 ± 5	14 ± 4	13 ± 4	15 ± 4	15 ± 5
46	17 ± 5	14 ± 4	17 ± 5	15 ± 4	10 ± 5
47	15 ± 5	15 ± 4	10 ± 4	17 ± 5	23 ± 5
48	11 ± 4	15 ± 4	13 ± 4	14 ± 4	15 ± 5
49	8 ± 4	< 5	11 ± 4	8 ± 4	28 ± 6
50	< 6	< 6	< 6	< 6	8 ± 4
51	12 ± 5	16 ± 5	11 ± 5	11 ± 5	14 ± 5
52	14 ± 4	17 ± 4	14 ± 4	9 ± 4	16 ± 5
MEAN	13 ± 10	13 ± 8	13 ± 9	13 ± 13	16 ± 13

TABLE C-V.2 MONTHLY AND YEARLY MEAN VALUES OF GROSS BETA CONCENTRATIONS (E-3 PCI/CU METER) IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

GROUP I - ON-SITE LOCATIONS					GROUP II - INTERMEDIATE DISTANCE LOCATION					GROUP III - CONTROL LOCATION				
COLLECTION PERIOD		MIN.	MAX.	MEAN ± 2 SD	COLLECTION PERIOD		MIN.	MAX.	MEAN ± 2 SD	COLLECTION PERIOD		MIN.	MAX.	MEAN ± 2 SD
01/02/04 - 01/30/04	<	7	16	11 ± 6	01/02/04 - 01/30/04	<	6	13	11 ± 6	12/29/03 - 02/02/04	<	6	41	24 ± 27
01/30/04 - 02/27/04	<	8	18	13 ± 6	01/30/04 - 02/27/04		9	15	12 ± 6	02/02/04 - 03/01/04		10	26	18 ± 13
02/27/04 - 04/02/04	<	6	15	8 ± 5	02/27/04 - 04/02/04	<	6	14	8 ± 7	03/01/04 - 03/29/04		9	18	13 ± 7
04/02/04 - 04/30/04		9	17	13 ± 5	04/02/04 - 04/30/04		6	16	12 ± 9	03/29/04 - 05/03/04		7	19	15 ± 10
04/30/04 - 05/28/04		12	28	19 ± 10	04/30/04 - 05/28/04		10	25	18 ± 13	05/03/04 - 06/01/04		15	25	18 ± 9
05/28/04 - 07/02/04	<	7	16	12 ± 5	05/28/04 - 07/02/04		8	16	12 ± 7	06/01/04 - 06/28/04		12	18	15 ± 7
07/02/04 - 07/29/04	<	7	19	11 ± 10	07/02/04 - 07/29/04	<	7	18	11 ± 10	06/28/04 - 08/02/04	<	7	18	12 ± 10
07/29/04 - 08/27/04		10	31	17 ± 12	07/29/04 - 08/27/04		14	49	24 ± 35	08/02/04 - 08/30/04		14	23	18 ± 8
08/27/04 - 10/01/04		9	22	15 ± 7	08/27/04 - 10/01/04		10	22	15 ± 9	08/30/04 - 09/27/04		10	18	13 ± 7
10/01/04 - 10/29/04		7	23	13 ± 11	10/01/04 - 10/29/04		10	19	14 ± 8	09/27/04 - 11/01/04		7	21	15 ± 10
10/29/04 - 12/04/04		8	17	13 ± 6	10/29/04 - 12/04/04		9	17	14 ± 6	11/01/04 - 11/29/04		10	23	16 ± 11
12/04/04 - 12/31/04	<	5	17	10 ± 8	12/04/04 - 12/31/04	<	6	11	9 ± 4	11/29/04 - 12/28/04		8	28	17 ± 17
01/02/04 - 12/31/04	<	5	31	13 ± 3	01/02/04 - 12/31/04	<	6	49	13 ± 4	12/29/03 - 12/28/04	<	6	41	16 ± 3

TABLE C-V.3 CONCENTRATION OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	Mn-54	Co-58	Co-60	Cs-134	Cs-137
1B	01/02 - 04/02/04	48 ± 12	< 0.7	< 0.6	< 0.6	< 0.9	< 0.7
	04/02 - 07/02/04	67 ± 17	< 1.5	< 1.2	< 1.4	< 1.3	< 1.4
	07/02 - 10/01/04	54 ± 11	< 0.9	< 1.0	< 0.8	< 0.9	< 0.9
	10/01 - 12/31/04	49 ± 12	< 0.7	< 1.0	< 0.8	< 0.8	< 0.8
	MEAN	55 ± 17	0.9 ± 0.7	1.0 ± 0.5	0.9 ± 0.7	1.0 ± 0.4	1.0 ± 0.6
1C	01/02 - 04/02/04	53 ± 14	< 0.8	< 1.2	< 1.3	< 1.0	< 1.2
	04/02 - 07/02/04	63 ± 13	< 0.9	< 1.3	< 1.2	< 0.8	< 1.4
	10/01 - 09/26/03	58 ± 11	< 0.7	< 0.7	< 2.0	< 0.6	< 0.7
	10/01 - 12/31/04	49 ± 14	< 1.0	< 1.2	< 0.8	< 1.0	< 0.9
	MEAN	56 ± 12	0.8 ± 0.3	1.1 ± 0.5	1.3 ± 1.0	0.8 ± 0.4	1.1 ± 0.7
1Z	01/02 - 04/02/04	44 ± 10	< 0.7	< 0.8	< 0.5	< 0.6	< 0.6
	04/02 - 07/02/04	61 ± 15	< 1.2	< 1.5	< 1.5	< 1.2	< 1.1
	10/01 - 09/26/03	43 ± 11	< 0.7	< 0.6	< 0.6	< 0.4	< 0.6
	10/01 - 12/31/04	55 ± 13	< 1.3	< 1.1	< 0.8	< 0.9	< 1.0
	MEAN	43 ± 44	1.0 ± 0.6	1.0 ± 0.8	0.9 ± 0.9	0.8 ± 0.7	0.8 ± 0.5
3A	01/02 - 04/02/04	40 ± 10	< 0.8	< 0.8	< 0.8	< 0.8	< 0.9
	04/02 - 07/02/04	72 ± 13	< 0.9	< 1.2	< 1.0	< 0.9	< 1.0
	10/01 - 09/26/03	61 ± 12	< 0.8	< 0.9	< 0.7	< 0.7	< 0.8
	10/01 - 12/31/04	52 ± 14	< 0.9	< 1.4	< 1.1	< 0.9	< 1.0
	MEAN	56 ± 27	0.8 ± 0.1	1.1 ± 0.6	0.9 ± 0.3	0.8 ± 0.2	0.9 ± 0.2
5H2	12/29 - 03/29/04	38 ± 13	< 0.9	< 1.1	< 0.8	< 1.0	< 0.8
	03/29 - 06/28/04	70 ± 19	< 1.4	< 1.9	< 1.4	< 1.1	< 1.3
	06/28 - 09/27/04	57 ± 7	< 0.3	< 0.4	< 0.4	< 0.3	< 0.4
	09/27 - 12/28/04	46 ± 12	< 0.7	< 0.8	< 1.3	< 0.5	< 0.8
	MEAN	53 ± 28	0.8 ± 0.9	1.0 ± 1.2	1.0 ± 0.9	0.7 ± 0.7	0.8 ± 0.8

TABLE C-VI.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

		GROUP I		GROUP II	GROUP III
WEEK	1B	1Z	1C	3A	5H2
1	< 14	< 8	< 14	< 14	< 16
2	< 13	< 9	< 12	< 11	< 9
3	< 10	< 7	< 11	< 14	< 10
4	< 9	< 9	< 9	< 11	< 12
7	< 19	< 13	< 17	< 14	< 8
6	< 11	< 13	< 8	< 15	< 12
7	< 11	< 9	< 13	< 14	< 13
8	< 10	< 10	< 11	< 12	< 9
9	< 15	< 13	< 15	< 17	< 11
10	< 15	< 11	< 17	< 16	< 13
11	< 11	< 8	< 14	< 13	< 9
12	< 13	< 9	< 13	< 14	< 12
13	< 8	< 16	< 10	< 13	< 8
14	< 18	< 18	< 18	< 17	< 13
15	< 18	< 18	< 18	< 17	< 12
16	< 13	< 10	< 15	< 15	< 10
17	< 13	< 10	< 13	< 14	< 14
18	< 9	< 9	< 9	< 8	< 10
19	< 10	< 8	< 12	< 15	< 9
20	< 8	< 7	< 8	< 9	< 17
21	< 13	< 10	< 13	< 17	< 10
22	< 14	< 15	< 15	< 16	< 13
23	< 13	< 14	< 13	< 15	< 15
24	< 7	< 9	< 15	< 14	< 8
25	< 16	< 13	< 16	< 17	< 11
26	< 15	< 15	< 15	< 15	< 11
27	< 13	< 15	< 15	< 19	< 9
28	< 13	< 13	< 13	< 13	< 10
29	< 7	< 15	< 14	< 15	< 11
30	< 20	< 20	< 20	< 20	< 7
31	< 9	< 11	< 7	< 7	< 17
32	< 16	< 15	< 16	< 15	< 13
33	< 15	< 15	< 15	< 15	< 16
34	< 13	< 13	< 13	< 13	< 13
35	< 14	< 14	< 14	< 14	< 11
36	< 22	< 21	< 22	< 22	< 11
37	< 17	< 17	< 17	< 17	< 12
38	< 14	< 13	< 13	< 13	< 13
39	< 12	< 12	< 11	< 12	< 9
40	< 30	< 30	< 30	< 29	< 10
41	< 24	< 24	< 24	< 24	< 17
42	< 24	< 23	< 24	< 24	< 18
43	< 24	< 24	< 24	< 24	< 13
44	< 19	< 19	< 19	< 19	< 12
45	< 8	< 10	< 6	< 9	< 12
46	< 18	< 18	< 18	< 18	< 13
47	< 8	< 14	< 15	< 10	< 13
48	< 18	< 18	< 19	< 18	< 11
49	< 20	< 19	< 20	< 20	< 12
50	< 20	< 20	< 20	< 20	< 17
51	< 28	< 28	< 28	< 28	< 6
52	< 19	< 19	< 18	< 19	< 13
MEAN	15 ± 11	14 ± 11	15 ± 10	16 ± 9	12 ± 6

TABLE C-VII.1 CONCENTRATIONS OF I-131 IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

	NEARBY FARMS			INTERMEDIATE DISTANCE FARMS				DISTANT FARMS			
COLLECTION PERIOD	J	0	R	S	D	L	P	A	B	C	E
01/19/04	< 0.7	< 0.5	< 0.5	< 0.6				< 0.6			
02/16/04	< 0.1	< 0.1	< 0.1	< 0.3	< 0.3	< 0.7	< 0.6	< 0.1	< 0.9	< 0.4	< 0.8
03/13/04	< 0.5	< 0.6	< 0.5	< 0.8				< 0.7			
04/12/04	< 1.0	< 0.6	< 0.6	< 0.5				< 0.9			
04/24/04	< 0.8	< 0.6	< 0.8	< 0.9				< 0.7			
05/10/04	< 0.9	< 0.9	< 0.7	< 0.9	< 0.6	< 0.6	< 0.5	< 0.7	(1)	< 0.7	< 0.6
05/24/04	< 0.6	< 0.5	< 0.8	< 0.7				< 0.6			
06/07/04	< 0.4	< 0.4	< 0.6	< 0.7				< 0.5			
06/21/04	< 0.5	< 0.4	< 0.3	< 0.6				< 0.5			
07/05/04	< 0.6	< 0.3	< 0.2	< 0.5				< 0.4			
07/17/04	< 0.4	< 0.7	< 0.3	< 0.4				< 0.6			
07/29/04	< 0.4	< 0.8	< 0.4	< 0.4				< 0.8			
08/14/04	< 0.5	< 0.5	< 0.6	< 0.4				< 0.4			
08/30/04	< 0.2	< 0.4	< 0.4	< 0.3	< 0.3	< 0.6	< 0.4	< 0.3	< 0.6	< 0.3	< 0.6
09/13/04	< 0.2	< 0.5	< 0.2	< 0.6				< 0.3			
09/27/04	< 0.4	< 0.3	< 0.4	< 0.3				< 0.3			
10/11/04	< 0.5	< 0.3	< 0.3	< 0.2				< 0.3			
10/25/04	< 0.4	< 0.3	< 0.3	< 0.3				< 0.3			
11/08/04	< 0.4	< 0.6	< 0.3	< 0.4	< 0.4	< 0.4	< 0.4	< 0.6	< 0.6	< 0.4	< 0.3
11/22/04	< 0.5	< 0.4	< 0.4	< 0.4				< 0.5			
12/18/04	< 0.4	< 0.3	< 0.3	< 0.3				< 0.6			
MEAN	0.5 ± 0.4	0.5 ± 0.4	0.4 ± 0.4	0.5 ± 0.4	0.4 ± 0.3	0.6 ± 0.3	0.5 ± 0.2	0.5 ± 0.4	0.7 ± 0.4	0.5 ± 0.4	0.6 ± 0.4

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
A	01/18/04	1320 ± 139	< 4	< 5	< 17	< 5
	02/15/04	1350 ± 87	< 3	< 4	< 14	< 4
	03/13/04	1360 ± 73	< 3	< 3	< 14	< 5
	04/11/04	1290 ± 70	< 3	< 3	< 15	< 6
	04/24/04	1440 ± 77	< 2	< 3	< 10	< 3
	05/10/04	1320 ± 72	< 2	< 2	< 10	< 3
	05/23/04	1330 ± 72	< 3	< 3	< 11	< 4
	06/06/04	1310 ± 73	< 3	< 3	< 16	< 6
	06/20/04	1150 ± 86	< 4	< 4	< 15	< 5
	07/04/04	1310 ± 71	< 3	< 3	< 14	< 5
	07/17/04	1250 ± 81	< 3	< 4	< 15	< 5
	07/29/04	1240 ± 91	< 3	< 4	< 18	< 6
	08/15/04	1210 ± 197	< 8	< 9	< 33	< 11
	08/29/04	1350 ± 212	< 9	< 10	< 38	< 11
	09/12/04	1200 ± 127	< 5	< 6	< 18	< 7
	09/26/04	1370 ± 110	< 4	< 5	< 17	< 6
	10/10/04	1500 ± 136	< 5	< 6	< 21	< 6
	10/25/04	1260 ± 217	< 8	< 9	< 29	< 8
	11/07/04	1450 ± 150	< 4	< 4	< 18	< 6
	11/21/04	1350 ± 128	< 4	< 5	< 21	< 6
	12/18/04	1380 ± 163	< 4	< 5	< 28	< 8
	MEAN	1321 ± 171	4 ± 4	5 ± 4	19 ± 15	6 ± 4
J	01/19/04	1290 ± 150	< 6	< 8	< 26	< 9
	02/16/04	1310 ± 74	< 3	< 4	< 13	< 4
	03/13/04	1360 ± 84	< 2	< 3	< 12	< 3
	04/12/04	1310 ± 90	< 4	< 4	< 18	< 6
	04/24/04	1300 ± 86	< 4	< 4	< 15	< 5
	05/10/04	1230 ± 81	< 2	< 3	< 14	< 4
	05/24/04	1280 ± 71	< 3	< 3	< 11	< 4
	06/07/04	1130 ± 190	< 7	< 6	< 33	< 7
	06/21/04	1310 ± 70	< 3	< 4	< 12	< 4
	07/05/04	1210 ± 92	< 4	< 4	< 15	< 5
	07/17/04	1180 ± 84	< 2	< 3	< 12	< 4
	07/29/04	1240 ± 70	< 3	< 3	< 15	< 5
	08/14/04	1220 ± 192	< 9	< 11	< 39	< 11
	08/30/04	1320 ± 242	< 6	< 9	< 34	< 8
	09/13/04	1270 ± 97	< 3	< 4	< 12	< 4
	09/27/04	1190 ± 141	< 6	< 6	< 20	< 6
	10/11/04	1480 ± 144	< 6	< 6	< 20	< 7
	10/25/04	1510 ± 162	< 7	< 8	< 29	< 10
	11/08/04	1420 ± 139	< 4	< 5	< 15	< 5
	11/22/04	1550 ± 156	< 4	< 5	< 19	< 4
	12/18/04	1260 ± 134	< 5	< 7	< 36	< 9
	MEAN	1303 ± 219	4 ± 4	5 ± 4	20 ± 18	6 ± 5

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
O	01/18/04	1150 ± 112	< 4	< 5	< 22	< 5
	02/15/04	1260 ± 83	< 2	< 3	< 12	< 3
	03/13/04	1250 ± 77	< 2	< 3	< 10	< 4
	04/11/04	1330 ± 76	< 2	< 2	< 11	< 4
	04/24/04	1190 ± 74	< 3	< 3	< 13	< 4
	05/10/04	1210 ± 88	< 4	< 4	< 20	< 7
	05/23/04	1180 ± 82	< 3	< 3	< 11	< 3
	06/06/04	1320 ± 81	< 2	< 3	< 15	< 4
	06/20/04	1220 ± 72	< 3	< 4	< 13	< 4
	07/04/04	1190 ± 199	< 7	< 9	< 33	< 12
	07/17/04	1190 ± 70	< 3	< 3	< 14	< 4
	07/29/04	1200 ± 78	< 3	< 4	< 15	< 5
	08/15/04	1180 ± 213	< 10	< 12	< 38	< 12
	08/29/04	1330 ± 177	< 8	< 10	< 35	< 10
	09/12/04	1160 ± 110	< 4	< 3	< 14	< 4
	09/26/04	1280 ± 105	< 4	< 4	< 18	< 5
	10/10/04	1190 ± 136	< 4	< 4	< 14	< 5
	10/25/04	1310 ± 187	< 8	< 11	< 37	< 10
	11/07/04	1260 ± 152	< 5	< 6	< 25	< 8
	11/21/04	1190 ± 117	< 5	< 5	< 20	< 5
	12/18/04	1200 ± 145	< 3	< 5	< 24	< 7
	MEAN	1228 ± 115	4 ± 4	5 ± 6	19 ± 18	6 ± 6
R	01/19/04	1460 ± 117	< 2	< 4	< 14	< 5
	02/16/04	1330 ± 69	< 3	< 3	< 12	< 3
	03/13/04	1330 ± 98	< 4	< 5	< 19	< 6
	04/12/04	1330 ± 89	< 3	< 3	< 13	< 5
	04/24/04	1340 ± 90	< 4	< 4	< 16	< 6
	05/10/04	1310 ± 73	< 2	< 3	< 11	< 4
	05/24/04	1300 ± 79	< 3	< 4	< 12	< 4
	06/07/04	1360 ± 85	< 3	< 3	< 13	< 4
	06/21/04	1370 ± 86	< 3	< 3	< 11	< 4
	07/05/04	1330 ± 77	< 2	< 3	< 8	< 3
	07/17/04	1280 ± 105	< 4	< 4	< 18	< 6
	07/29/04	1270 ± 97	< 5	< 5	< 21	< 7
	08/14/04	1590 ± 240	< 8	< 10	< 36	< 12
	08/30/04	1390 ± 287	< 8	< 9	< 32	< 8
	09/13/04	1390 ± 120	< 3	< 3	< 12	< 4
	09/27/04	1240 ± 127	< 3	< 4	< 12	< 5
	10/11/04	1280 ± 126	< 5	< 6	< 17	< 5
	10/25/04	1570 ± 182	< 8	< 8	< 30	< 11
	11/08/04	1490 ± 166	< 4	< 6	< 23	< 4
	11/22/04	1480 ± 130	< 5	< 5	< 17	< 6
	12/18/04	1300 ± 163	< 5	< 5	< 24	< 9
	MEAN	1369 ± 194	4 ± 4	5 ± 4	18 ± 15	6 ± 5

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
S	01/19/04	1410 ± 131	< 3	< 3	< 14	< 3
	02/16/04	1210 ± 91	< 4	< 4	< 15	< 6
	03/13/04	1290 ± 81	< 3	< 4	< 16	< 5
	04/12/04	1260 ± 87	< 3	< 4	< 17	< 5
	04/24/04	1240 ± 75	< 3	< 4	< 14	< 4
	05/10/04	1140 ± 82	< 3	< 3	< 14	< 4
	05/24/04	1230 ± 86	< 3	< 4	< 14	< 4
	06/07/04	1220 ± 76	< 3	< 4	< 16	< 5
	06/21/04	1220 ± 70	< 3	< 3	< 11	< 3
	07/05/04	1290 ± 81	< 2	< 3	< 11	< 3
	07/17/04	1290 ± 77	< 2	< 3	< 9	< 3
	07/29/04	1420 ± 89	< 2	< 3	< 10	< 3
	08/14/04	1250 ± 155	< 8	< 9	< 32	< 11
	08/30/04	1260 ± 258	< 8	< 11	< 40	< 10
	09/13/04	1300 ± 103	< 4	< 4	< 15	< 5
	09/27/04	1240 ± 126	< 3	< 4	< 15	< 4
	10/11/04	1100 ± 161	< 7	< 9	< 30	< 9
	10/25/04	1350 ± 196	< 6	< 8	< 27	< 10
	11/08/04	1430 ± 151	< 6	< 7	< 27	< 9
	11/22/04	1120 ± 122	< 3	< 4	< 12	< 4
	12/18/04	1310 ± 128	< 5	< 5	< 32	< 9
	MEAN	1266 ± 178	4 ± 4	5 ± 5	19 ± 18	6 ± 5

TABLE C-VIII.1 QUARTERLY TLD RESULTS FOR PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. MONTH ± 2 STANDARD DEVIATIONS

STATION CODE	MEAN ± 2 S. D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
1A	6.5 ± 0.9	5.9 ± 0.7	6.5 ± 0.2	6.6 ± 1.6	7.0 ± 0.8
1B	5.9 ± 0.5	5.7 ± 0.2	5.7 ± 0.5	6.1 ± 0.6	6.1 ± 1.0
1C	7.1 ± 0.9	7.1 ± 1.9	6.6 ± 0.6	7.0 ± 0.5	7.7 ± 0.7
1D	6.9 ± 1.3	7.4 ± 0.5	6.0 ± 0.4	7.2 ± 1.0	7.1 ± 0.5
1E	6.4 ± 1.0	5.8 ± 0.5	6.1 ± 0.4	6.7 ± 0.6	6.9 ± 0.5
1F	7.7 ± 1.2	6.9 ± 0.9	7.5 ± 0.4	8.2 ± 1.1	8.0 ± 0.5
1G	5.2 ± 0.8	4.6 ± 0.2	5.1 ± 0.4	5.3 ± 0.4	5.6 ± 0.7
1H	6.8 ± 0.8	6.5 ± 0.4	6.5 ± 0.3	7.2 ± 0.9	7.1 ± 0.5
1I	6.0 ± 0.5	6.1 ± 1.6	5.6 ± 0.4	6.1 ± 0.9	6.0 ± 0.4
1J	6.5 ± 5.3	2.5 ± 10	7.4 ± 0.5	7.9 ± 1.0	8.1 ± 0.9
1L	5.9 ± 0.8	5.5 ± 0.6	5.8 ± 0.5	6.4 ± 0.8	6.0 ± 0.5
1M	4.4 ± 0.4	4.3 ± 1.3	4.2 ± 0.3	4.4 ± 0.9	4.7 ± 0.4
1P	5.1 ± 0.8	4.8 ± 1.0	4.7 ± 0.1	5.6 ± 0.7	5.1 ± 0.5
1Q	5.5 ± 1.0	4.9 ± 0.4	5.3 ± 0.5	5.9 ± 1.6	6.0 ± 0.7
1R	8.4 ± 1.2	8.6 ± 0.5	7.5 ± 0.6	8.6 ± 0.7	8.9 ± 0.5
2	6.8 ± 1.2	6.7 ± 0.8	6.0 ± 0.2	7.3 ± 1.1	7.2 ± 0.9
2B	6.6 ± 0.7	6.9 ± 0.4	6.2 ± 0.4	6.9 ± 0.6	6.5 ± 1.4
3A	5.2 ± 0.5	5.3 ± 0.5	4.9 ± 0.3	5.0 ± 0.9	5.4 ± 0.6
4K	5.2 ± 0.7	5.6 ± 0.9	4.8 ± 0.2	5.1 ± 0.4	5.2 ± 0.5
5	6.4 ± 1.1	5.7 ± 0.5	6.2 ± 0.5	6.7 ± 0.5	7.0 ± 0.3
1NN	7.7 ± 1.1	7.7 ± 0.7	7.0 ± 0.4	8.0 ± 0.5	8.2 ± 0.6
6B	5.8 ± 0.7	5.6 ± 0.3	5.5 ± 0.9	6.0 ± 0.6	6.2 ± 0.3
14	6.7 ± 0.8	6.3 ± 0.5	6.3 ± 0.3	7.1 ± 2.1	6.9 ± 0.4
15	6.8 ± 0.6	6.6 ± 0.5	6.5 ± 0.5	7.1 ± 0.9	6.9 ± 0.5
16	7.0 ± 1.6	6.4 ± 0.9	6.2 ± 0.5	7.7 ± 0.6	7.6 ± 2.0
17	7.6 ± 0.7	7.3 ± 0.5	7.2 ± 0.5	7.9 ± 0.5	7.8 ± 0.4
18	7.1 ± 1.2	6.8 ± 0.5	6.5 ± 0.5	7.4 ± 0.4	7.8 ± 0.5
19	6.3 ± 0.8	5.9 ± 0.7	6.1 ± 0.9	6.6 ± 0.7	6.7 ± 0.5
22	7.0 ± 0.8	6.7 ± 0.6	6.6 ± 0.6	7.3 ± 0.9	7.4 ± 0.6
23	7.2 ± 1.3	6.6 ± 0.7	6.6 ± 0.4	7.5 ± 0.8	7.9 ± 0.6
24	5.0 ± 3.6	5.4 ± 0.7	2.4 ± 6.3	6.0 ± 0.5	6.3 ± 0.5
26	7.6 ± 1.4	6.9 ± 0.8	7.1 ± 0.8	8.0 ± 1.0	8.3 ± 0.7
27	7.0 ± 0.9	6.4 ± 0.5	7.0 ± 0.6	7.2 ± 1.8	7.4 ± 0.3
31A	5.4 ± 0.8	5.3 ± 0.4	5.0 ± 0.6	5.5 ± 0.7	5.9 ± 0.5
32	7.3 ± 1.1	6.7 ± 0.4	6.9 ± 0.4	7.6 ± 0.8	7.9 ± 0.9
40	7.9 ± 1.2	7.4 ± 0.6	7.3 ± 0.6	8.2 ± 0.8	8.5 ± 0.7
42	6.0 ± 0.9	5.5 ± 0.6	5.8 ± 0.8	6.2 ± 0.7	6.5 ± 0.2
43	7.5 ± 1.2	6.9 ± 0.4	7.1 ± 0.7	7.9 ± 1.1	8.2 ± 0.3
44	6.6 ± 0.6	6.2 ± 0.8	6.5 ± 0.4	6.8 ± 0.9	6.9 ± 0.3
45	7.4 ± 0.8	7.2 ± 0.9	7.0 ± 0.4	7.3 ± 0.7	7.9 ± 0.4
46	6.3 ± 0.9	5.9 ± 0.3	5.9 ± 0.3	6.4 ± 0.5	6.8 ± 0.3
47	7.3 ± 1.2	6.8 ± 0.7	6.7 ± 0.3	7.8 ± 0.8	7.8 ± 0.5
48	7.0 ± 1.3	6.4 ± 0.3	6.4 ± 0.5	7.6 ± 0.5	7.5 ± 1.0
49	6.7 ± 1.5	5.9 ± 0.6	6.2 ± 0.4	7.3 ± 2.6	7.3 ± 0.8
50	7.9 ± 1.3	7.3 ± 0.9	7.3 ± 0.7	8.4 ± 0.7	8.4 ± 0.6
51	6.9 ± 0.8	6.5 ± 0.4	6.7 ± 0.2	7.3 ± 1.4	7.2 ± 0.7

TABLE C-VIII.2 MEAN QUARTERLY TLD RESULTS FOR THE SITE BOUNDARY, MIDDLE AND CONTROL LOCATIONS FOR PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF MILLI-ROENTGEN PER STD. MONTH ± 2 STANDARD DEVIATIONS OF THE STATION DATA

STATION CODE	SITE BOUNDARY ± 2 S. D.	MIDDLE	CONTROL
JAN-MAR	6.1 ± 1.4	6.3 ± 0.6	6.1 ± 0.6
APR-JUN	6.2 ± 0.9	6.4 ± 0.7	5.3 ± 1.9
JUL-SEP	6.8 ± 1.1	7.0 ± 0.9	6.9 ± 0.8
OCT-DEC	6.9 ± 1.2	7.2 ± 0.9	7.1 ± 0.7

TABLE C-VIII.2 SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. MONTH

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S. D.	PRE-OP MEAN ± 2 S. D.
SITE RING	76	2.5	8.9	6.5 ± 2.4	5.4 ± 1.7
MIDDLE RING	92	4.8	8.4	6.7 ± 1.7	5.3 ± 1.3
OUTER RING	16	2.4	7.8	6.4 ± 2.5	5.7 ± 1.8

THE PRE-OPERATIONAL MEAN WAS CALCULATED FROM MONTHLY TLD READINGS 01/07/73 TO 08/05/73.

SITE BOUNDARY STATIONS - 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, 1L, 1M, 1NN, 1P, 1Q, 1R, 2, 2B, 40
MIDDLE DISTANCE STATIONS - 3A, 4K, 5, 6B, 14, 15, 17, 22, 23, 26, 27, 31A, 32, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51

CONTROL STATIONS - 16, 18, 19, 24

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

SURFACE WATER (TRITIUM LIQUID SCINTILLATION)

SAMPLING PERIOD	1LL	1MM
JAN-MAR	12/31/2003 - 03/31/2004	12/31/2003 - 03/31/2004
APR-JUN	03/31/2004 - 06/30/2004	03/31/2004 - 06/30/2004
JUL-SEP	06/30/2004 - 09/29/2004	06/30/2004 - 09/29/2004
OCT-DEC	09/29/2004 - 12/29/2004	09/29/2004 - 12/29/2004

SURFACE WATER (GAMMA SPECTROSCOPY)

SAMPLING PERIOD	1LL	1MM
JAN	12/31/2003 - 01/28/2004	12/31/2003 - 01/28/2004
FEB	01/28/2004 - 03/03/2004	01/28/2004 - 03/03/2004
MAR	03/03/2004 - 03/31/2004	03/03/2004 - 03/31/2004
APR	03/31/2004 - 04/28/2004	03/31/2004 - 04/28/2004
MAY	04/28/2004 - 06/02/2004	04/28/2004 - 06/02/2004
JUN	06/02/2004 - 06/30/2004	06/02/2004 - 06/30/2004
JUL	06/30/2004 - 07/28/2004	06/30/2004 - 07/28/2004
AUG	07/28/2004 - 09/01/2004	07/28/2004 - 09/01/2004
SEP	09/01/2004 - 09/29/2004	09/01/2004 - 09/29/2004
OCT	09/29/2004 - 11/03/2004	09/29/2004 - 11/03/2004
NOV	11/03/2004 - 12/01/2004	11/03/2004 - 12/01/2004
DEC	12/01/2004 - 12/29/2004	12/01/2004 - 12/29/2004

DRINKING WATER (TRITIUM)

SAMPLING PERIOD	4L	6I
JAN-MAR	01/02/2004 - 04/02/2004	01/02/2004 - 04/02/2004
APR-JUN	04/02/2004 - 07/02/2004	04/02/2004 - 07/02/2004
JUL-SEP	07/02/2004 - 10/01/2004	07/02/2004 - 10/01/2004
OCT-DEC	10/01/2004 - 12/31/2004	10/01/2004 - 12/31/2004

DRINKING WATER (GROSS BETA & GAMMA)

SAMPLING PERIOD	4L	6I
JAN	01/02/2004 - 01/30/2004	01/02/2004 - 01/30/2004
FEB	01/30/2004 - 03/06/2004	01/30/2004 - 03/06/2004
MAR	03/06/2004 - 04/02/2004	03/06/2004 - 04/02/2004
APR	04/02/2004 - 04/30/2004	04/02/2004 - 04/30/2004
MAY	04/30/2004 - 06/04/2004	04/30/2004 - 06/04/2004
JUN	06/04/2004 - 07/02/2004	06/04/2004 - 07/02/2004
JUL	07/02/2004 - 07/29/2004	07/02/2004 - 07/29/2004
AUG	07/29/2004 - 09/03/2004	07/29/2004 - 09/03/2004
SEP	09/03/2004 - 10/01/2004	09/03/2004 - 10/01/2004
OCT	10/01/2004 - 11/05/2004	10/01/2004 - 11/05/2004
NOV	11/05/2004 - 12/05/2004	11/05/2004 - 12/05/2004
DEC	12/05/2004 - 12/31/2004	12/05/2004 - 12/31/2004

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

AIR PARTICULATE (GAMMA SPECTROSCOPY)

SAMPLING PERIOD	1B	1Z	1C	3A	5H2
JAN-MAR	01/02 - 04/02/2004	01/02 - 04/02/2004	01/02 - 04/02/2004	01/02 - 04/02/2004	12/29 - 03/29/2004
APR-JUN	04/02 - 07/02/2004	04/02 - 07/02/2004	04/02 - 07/02/2004	04/02 - 07/02/2004	03/29 - 06/28/2004
JUL-SEP	07/02 - 10/01/2004	07/02 - 10/01/2004	07/02 - 10/01/2004	07/02 - 10/01/2004	06/28 - 09/27/2004
OCT-DEC	10/01 - 12/31/2004	10/01 - 12/31/2004	10/01 - 12/31/2004	10/01 - 12/31/2004	10/01 - 12/31/2004

AIR PARTICULATE (G. BETA & I-131)

WEEK	1B	1Z	1C	3A	5H2
1	01/02 - 01/09/2004	01/02 - 01/09/2004	01/02 - 01/09/2004	01/02 - 01/09/2004	12/29 - 01/05/2004
2	01/09 - 01/16/2004	01/09 - 01/16/2004	01/09 - 01/16/2004	01/09 - 01/16/2004	01/05 - 01/12/2004
3	01/16 - 01/23/2004	01/16 - 01/23/2004	01/16 - 01/23/2004	01/16 - 01/23/2004	01/12 - 01/19/2004
4	01/23 - 01/30/2004	01/23 - 01/30/2004	01/23 - 01/30/2004	01/23 - 01/30/2004	01/19 - 01/26/2004
5	01/30 - 02/05/2004	01/30 - 02/05/2004	01/30 - 02/05/2004	01/30 - 02/05/2004	01/27 - 02/02/2004
6	02/05 - 02/13/2004	02/05 - 02/13/2004	02/05 - 02/13/2004	02/05 - 02/13/2004	02/02 - 02/09/2004
7	02/13 - 02/20/2004	02/13 - 02/20/2004	02/13 - 02/20/2004	02/13 - 02/20/2004	02/09 - 02/16/2004
8	02/20 - 02/27/2004	02/20 - 02/27/2004	02/20 - 02/27/2004	02/20 - 02/27/2004	02/16 - 02/23/2004
9	02/27 - 03/06/2004	02/27 - 03/06/2004	02/27 - 03/06/2004	02/27 - 03/06/2004	02/23 - 03/01/2004
10	03/06 - 03/12/2004	03/06 - 03/12/2004	03/06 - 03/12/2004	03/06 - 03/12/2004	03/01 - 03/08/2004
11	03/12 - 03/19/2004	03/12 - 03/19/2004	03/12 - 03/19/2004	03/12 - 03/19/2004	03/08 - 03/15/2004
12	03/19 - 03/26/2004	03/19 - 03/26/2004	03/19 - 03/26/2004	03/19 - 03/26/2004	03/15 - 03/22/2004
13	03/26 - 04/02/2004	03/26 - 04/02/2004	03/26 - 04/02/2004	03/26 - 04/02/2004	03/22 - 03/29/2004
14	04/02 - 04/09/2004	04/02 - 04/09/2004	04/02 - 04/09/2004	04/02 - 04/09/2004	03/29 - 04/05/2004
15	04/09 - 04/16/2004	04/09 - 04/16/2004	04/09 - 04/16/2004	04/09 - 04/16/2004	04/05 - 04/12/2004
16	04/16 - 04/23/2004	04/16 - 04/23/2004	04/16 - 04/23/2004	04/16 - 04/23/2004	04/12 - 04/19/2004
17	04/23 - 04/30/2004	04/23 - 04/30/2004	04/23 - 04/30/2004	04/23 - 04/30/2004	04/19 - 04/26/2004
18	04/30 - 05/07/2004	04/30 - 05/07/2004	04/30 - 05/07/2004	04/30 - 05/07/2004	04/26 - 05/03/2004
19	05/07 - 05/14/2004	05/07 - 05/14/2004	05/07 - 05/14/2004	05/07 - 05/14/2004	05/03 - 05/10/2004
20	05/14 - 05/21/2004	05/14 - 05/21/2004	05/14 - 05/21/2004	05/14 - 05/21/2004	05/10 - 05/17/2004
21	05/21 - 05/28/2004	05/21 - 05/28/2004	05/21 - 05/28/2004	05/21 - 05/28/2004	05/17 - 05/24/2004
22	05/28 - 06/04/2004	05/28 - 06/04/2004	05/28 - 06/04/2004	05/28 - 06/04/2004	05/24 - 06/01/2004
23	06/04 06/11/2004	06/04 06/11/2004	06/04 06/11/2004	06/04 06/11/2004	06/01 - 06/07/2004
24	06/11 - 06/18/2004	06/11 - 06/18/2004	06/11 - 06/18/2004	06/11 - 06/18/2004	06/07 - 06/14/2004
25	06/18 - 06/25/2004	06/18 - 06/25/2004	06/18 - 06/25/2004	06/18 - 06/25/2004	06/14 - 06/21/2004
26	06/25 - 07/02/2004	06/25 - 07/02/2004	06/25 - 07/02/2004	06/25 - 07/02/2004	06/21 - 06/28/2004
27	07/02 - 07/09/2004	07/02 - 07/09/2004	07/02 - 07/09/2004	07/02 - 07/09/2004	06/28 - 07/06/2004
28	07/09 - 07/15/2004	07/09 - 07/15/2004	07/09 - 07/15/2004	07/09 - 07/15/2004	07/06 - 07/12/2004
29	07/15 - 07/22/2004	07/15 - 07/22/2004	07/15 - 07/22/2004	07/15 - 07/22/2004	07/12 - 07/19/2004
30	07/22 - 07/29/2004	07/22 - 07/29/2004	07/22 - 07/29/2004	07/22 - 07/29/2004	07/19 - 07/26/2004
31	07/29 - 08/06/2004	07/29 - 08/06/2004	07/29 - 08/06/2004	07/29 - 08/06/2004	07/26 - 08/02/2004
32	08/06 - 08/13/2004	08/06 - 08/13/2004	08/06 - 08/13/2004	08/06 - 08/13/2004	08/02 - 08/09/2004
33	08/13 - 08/20/2004	08/13 - 08/20/2004	08/13 - 08/20/2004	08/13 - 08/20/2004	08/09 - 08/16/2004
34	08/20 - 08/27/2004	08/20 - 08/27/2004	08/20 - 08/27/2004	08/20 - 08/27/2004	08/16 - 08/23/2004
35	08/27 - 09/03/2004	08/27 - 09/03/2004	08/27 - 09/03/2004	08/27 - 09/03/2004	08/23 - 08/30/2004
36	09/03 - 09/10/2004	09/03 - 09/10/2004	09/03 - 09/10/2004	09/03 - 09/10/2004	08/30 - 09/07/2004
37	09/10 - 09/17/2004	09/10 - 09/17/2004	09/10 - 09/17/2004	09/10 - 09/17/2004	09/07 - 09/13/2004
38	09/17 - 09/24/2004	09/17 - 09/24/2004	09/17 - 09/24/2004	09/17 - 09/24/2004	09/13 - 09/20/2004
39	09/24 - 10/01/2004	09/24 - 10/01/2004	09/24 - 10/01/2004	09/24 - 10/01/2004	09/20 - 09/27/2004
40	10/01 - 10/08/2004	10/01 - 10/08/2004	10/01 - 10/08/2004	10/01 - 10/08/2004	09/27 - 10/04/2004
41	10/08 - 10/14/2004	10/08 - 10/14/2004	10/08 - 10/14/2004	10/08 - 10/14/2004	10/04 - 10/11/2004
42	10/14 - 10/22/2004	10/14 - 10/22/2004	10/14 - 10/22/2004	10/14 - 10/22/2004	10/11 - 10/18/2004
43	10/22 - 10/29/2004	10/22 - 10/29/2004	10/22 - 10/29/2004	10/22 - 10/29/2004	10/18 - 10/25/2004
44	10/29 - 11/05/2004	10/29 - 11/05/2004	10/29 - 11/05/2004	10/29 - 11/05/2004	10/25 - 11/01/2004
45	11/05 - 11/12/2004	11/05 - 11/12/2004	11/05 - 11/12/2004	11/05 - 11/12/2004	11/01 - 11/08/2004
46	11/12 - 11/19/2004	11/12 - 11/19/2004	11/12 - 11/19/2004	11/12 - 11/19/2004	11/08 - 11/15/2004
47	11/19 - 11/26/2004	11/19 - 11/26/2004	11/19 - 11/26/2004	11/19 - 11/26/2004	11/15 - 11/22/2004
48	11/26 - 12/04/2004	11/26 - 12/04/2004	11/26 - 12/04/2004	11/26 - 12/04/2004	11/22 - 11/29/2004
49	12/04 - 12/10/2004	12/04 - 12/10/2004	12/04 - 12/10/2004	12/04 - 12/10/2004	11/29 - 12/06/2004
50	12/10 - 12/17/2004	12/10 - 12/17/2004	12/10 - 12/17/2004	12/10 - 12/17/2004	12/06 - 12/13/2004
51	12/17 - 12/23/2004	12/17 - 12/23/2004	12/17 - 12/23/2004	12/17 - 12/23/2004	12/13 - 12/20/2004
52	12/23 - 12/31/2004	12/23 - 12/31/2004	12/23 - 12/31/2004	12/23 - 12/31/2004	12/20 - 12/28/2004

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

TLD

STATION CODE	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC
1A	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1B	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1C	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1D	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1E	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1F	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1G	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1H	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1I	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1J	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
L1	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1M	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1P	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1Q	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1R	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
2	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
2B	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
3A	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
4K	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
5	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
1NN	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
6B	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
14	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
15	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
16	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
17	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
18	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
19	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
22	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
23	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
24	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
26	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
27	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
31A	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
32	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
40	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
42	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
43	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
44	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
45	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
46	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
47	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
48	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
49	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
50	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004
51	01/07/2004 - 04/02/2004	04/02/2004 - 07/02/2004	07/02/2004 - 10/01/2004	10/01/2004 - 12/31/2004

FIGURE C-1
MONTHLY INSOLUBLE GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2004

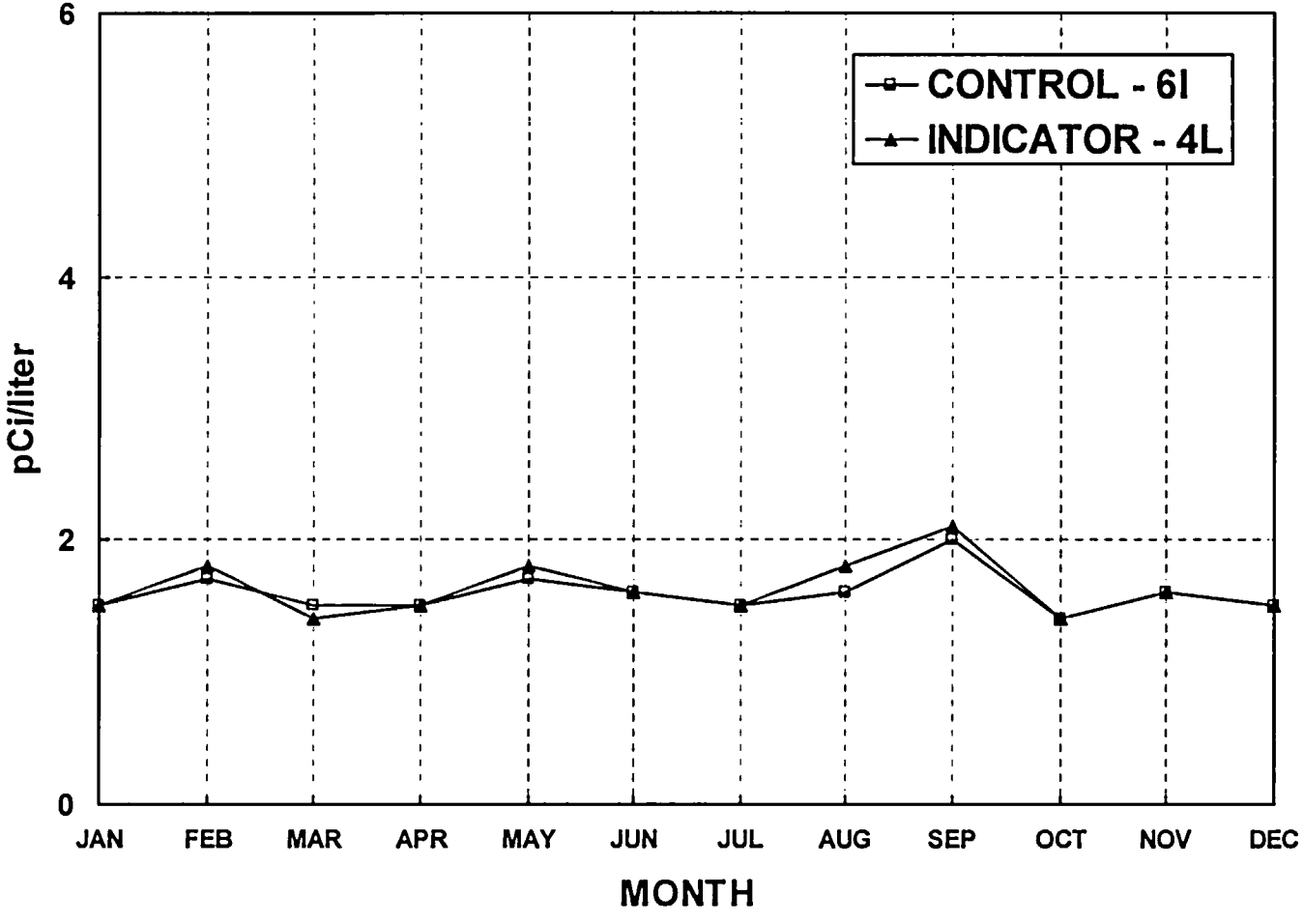


FIGURE C-2
MONTHLY SOLUBLE GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2004

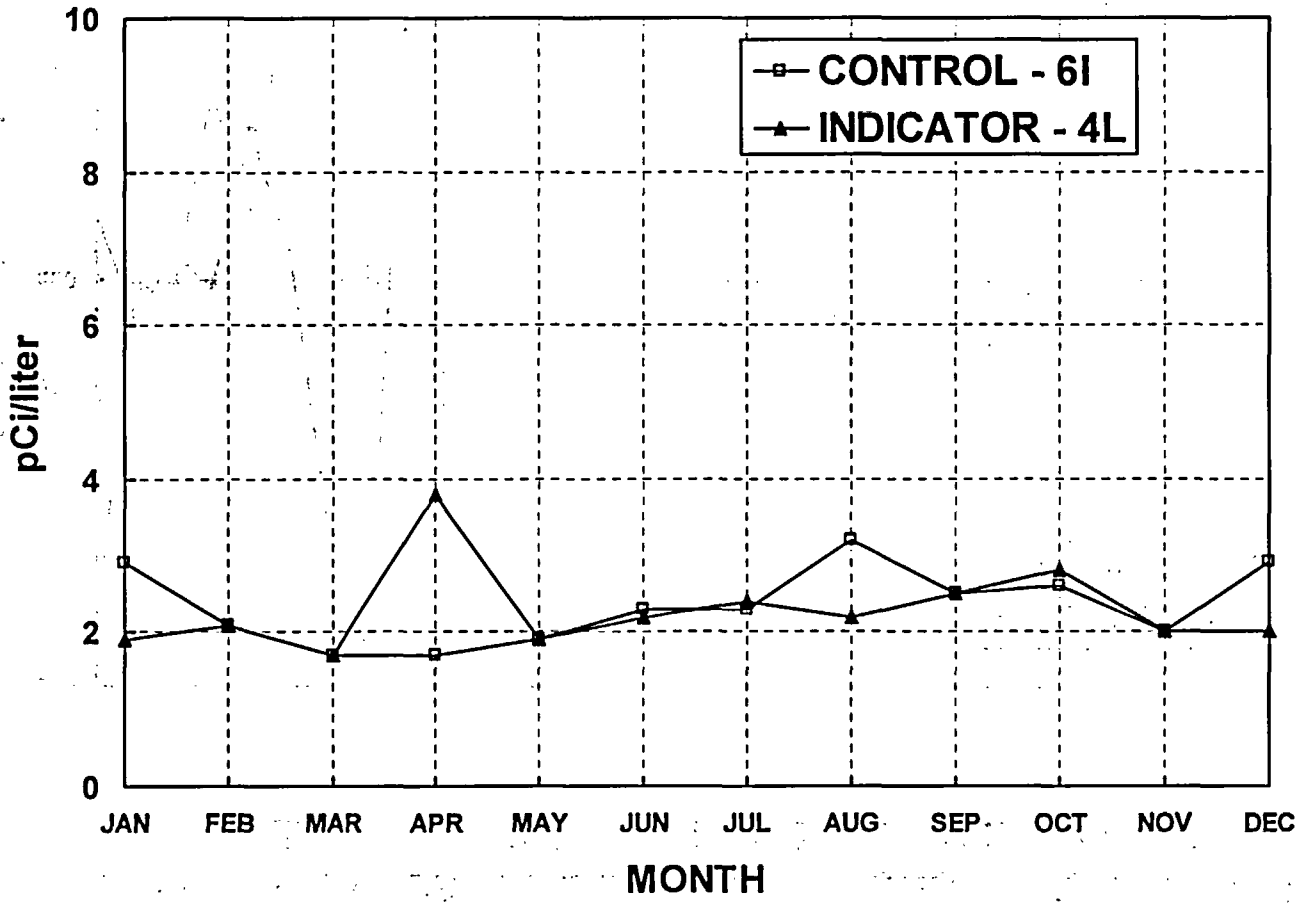


FIGURE C-3
MEAN ANNUAL CS-137 CONCENTRATIONS IN FISH SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 - 2004

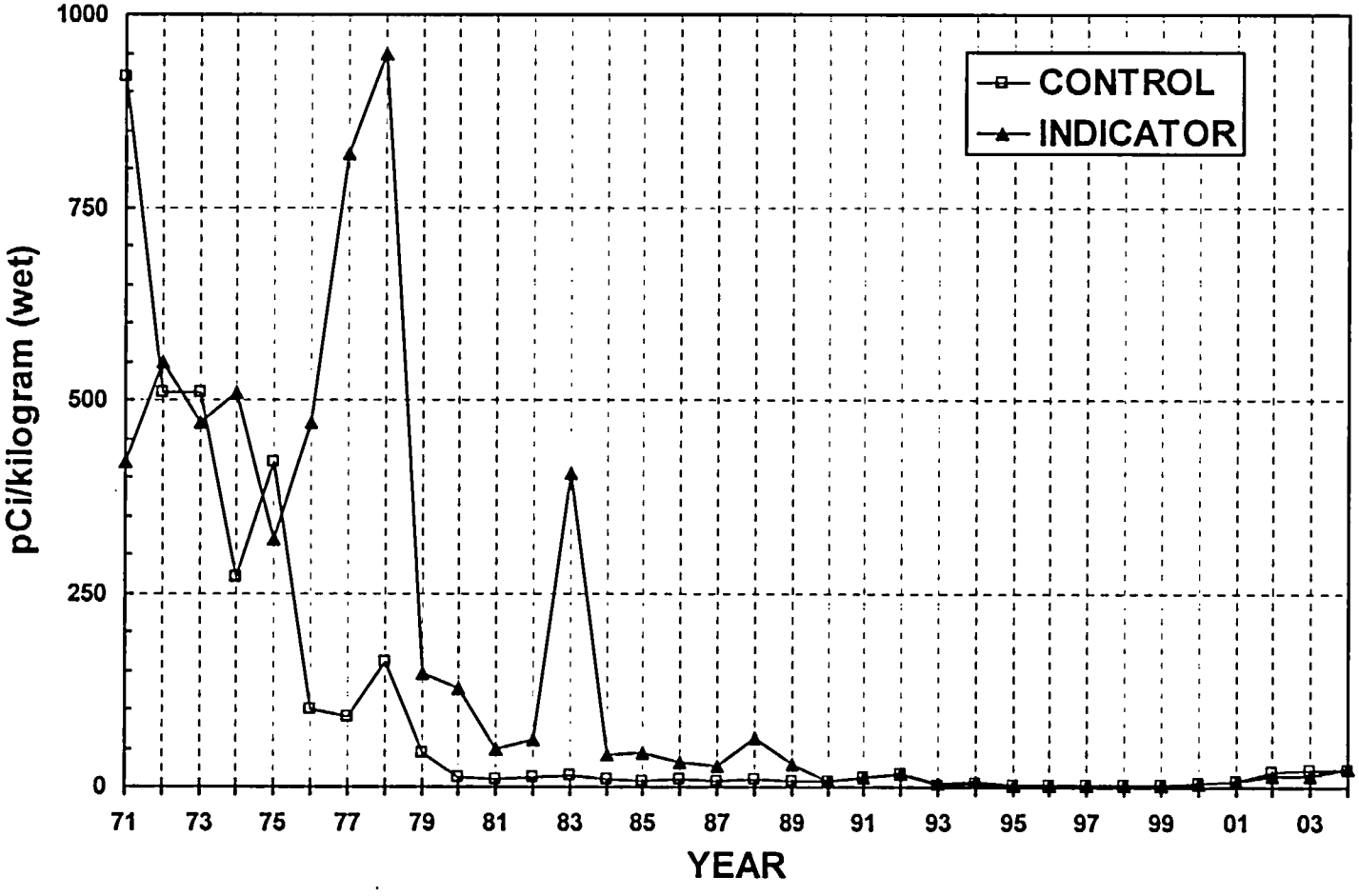
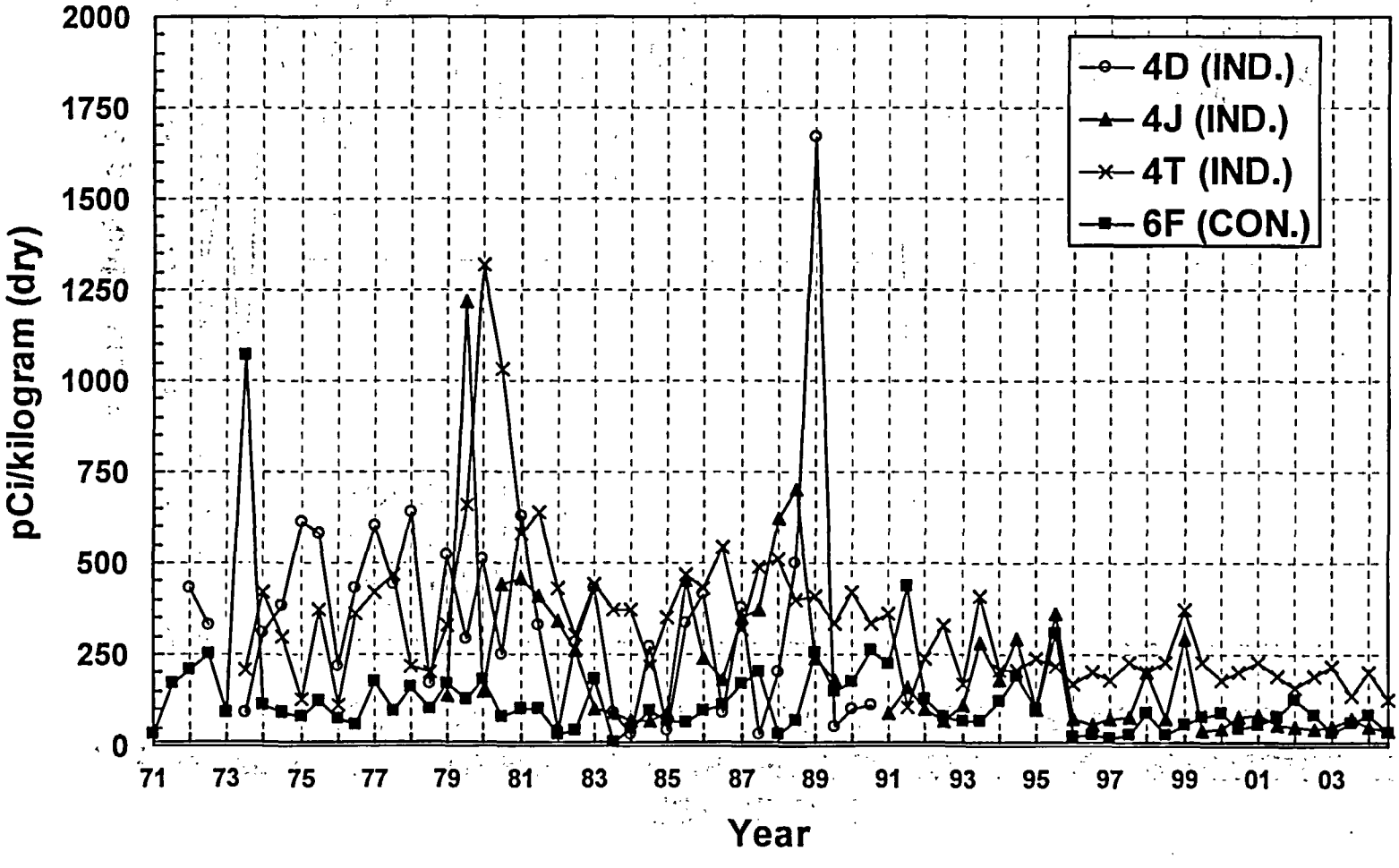


FIGURE C- 4
CONCENTRATIONS OF CS-137 IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 – 2004



No sample collected from Station 4J in 1990 and
Station 4D discontinued beginning 1991

FIGURE C- 5
MEAN WEEKLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2004

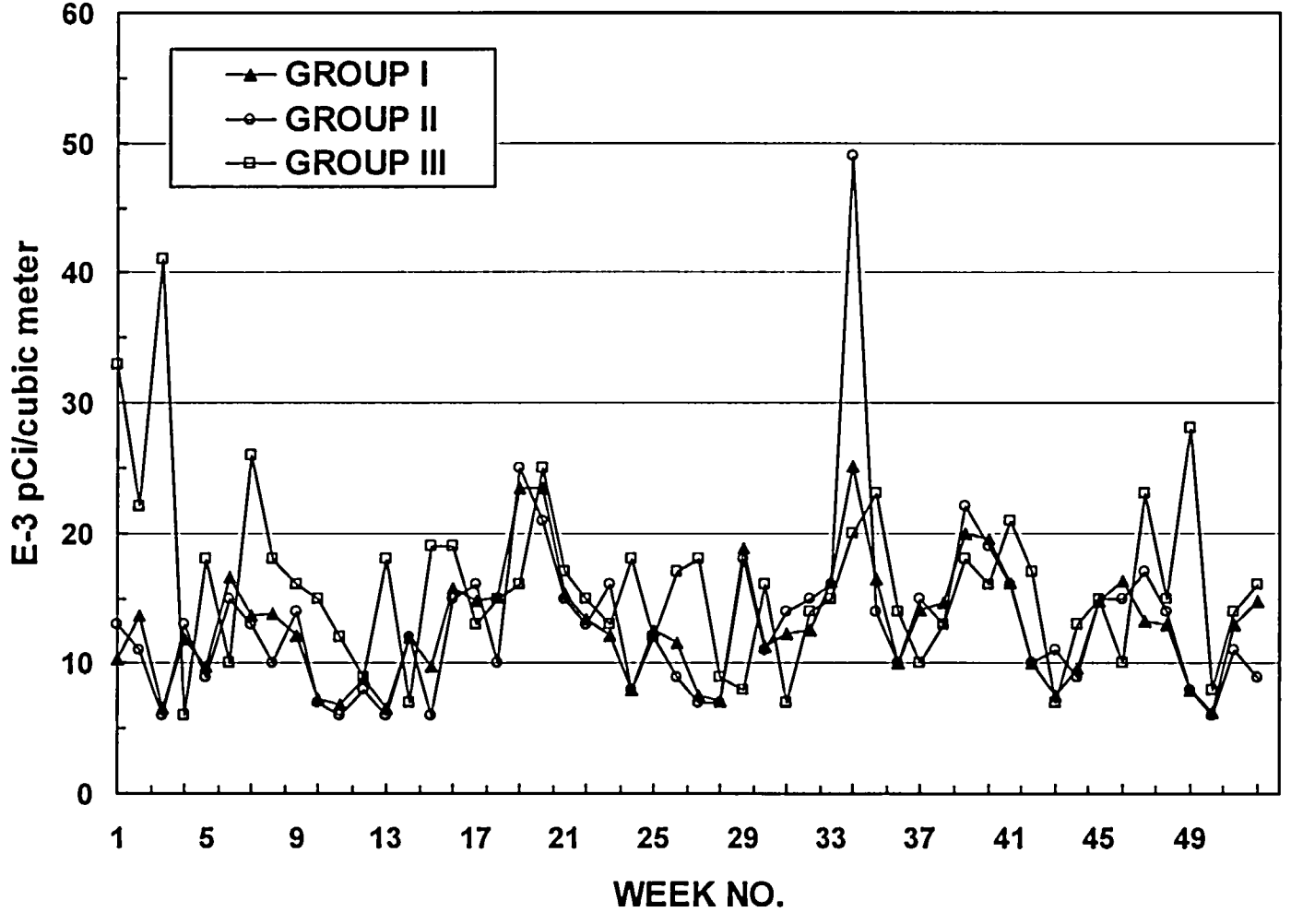


FIGURE C-6
MEAN MONTHLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1970 – 2004

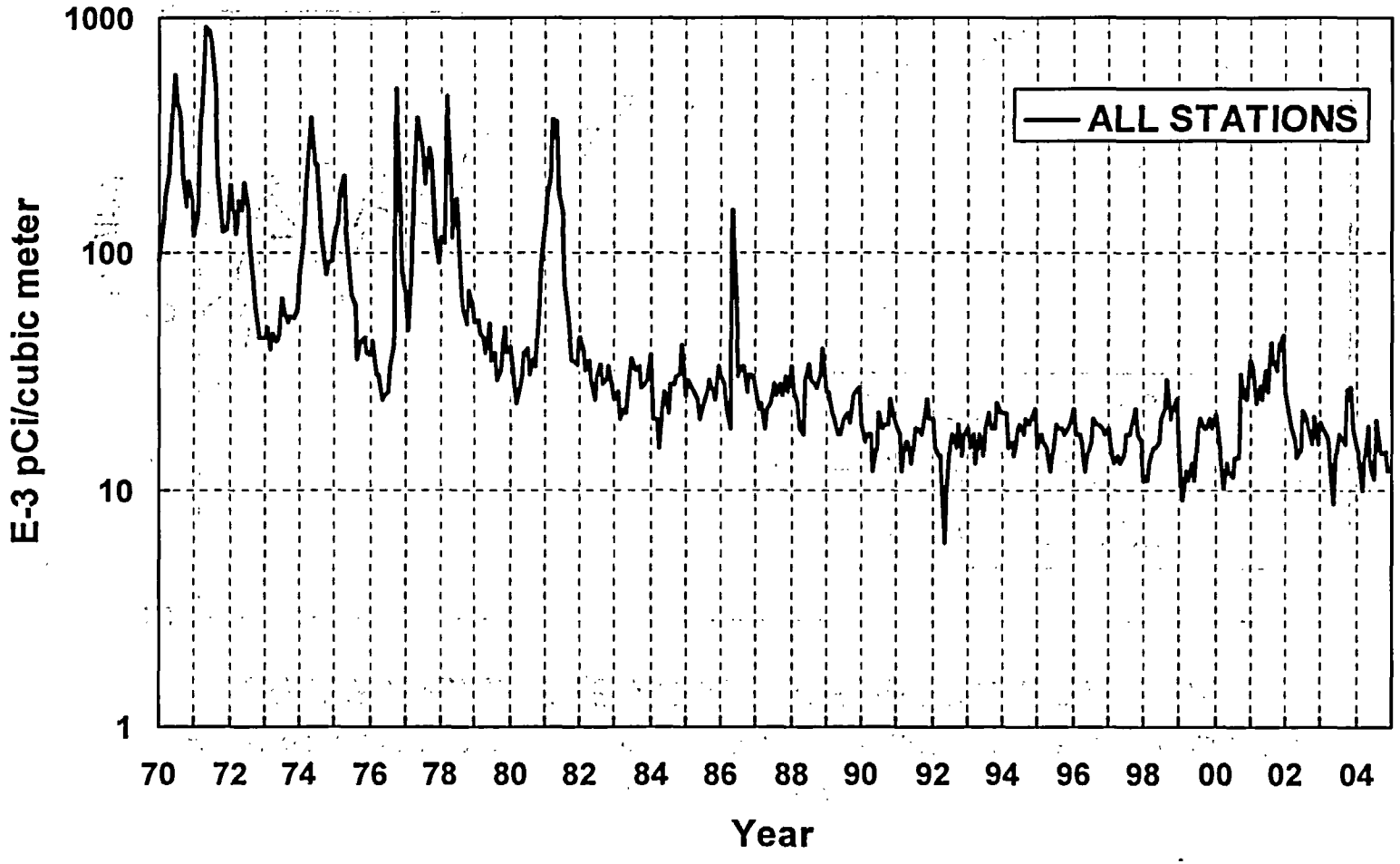
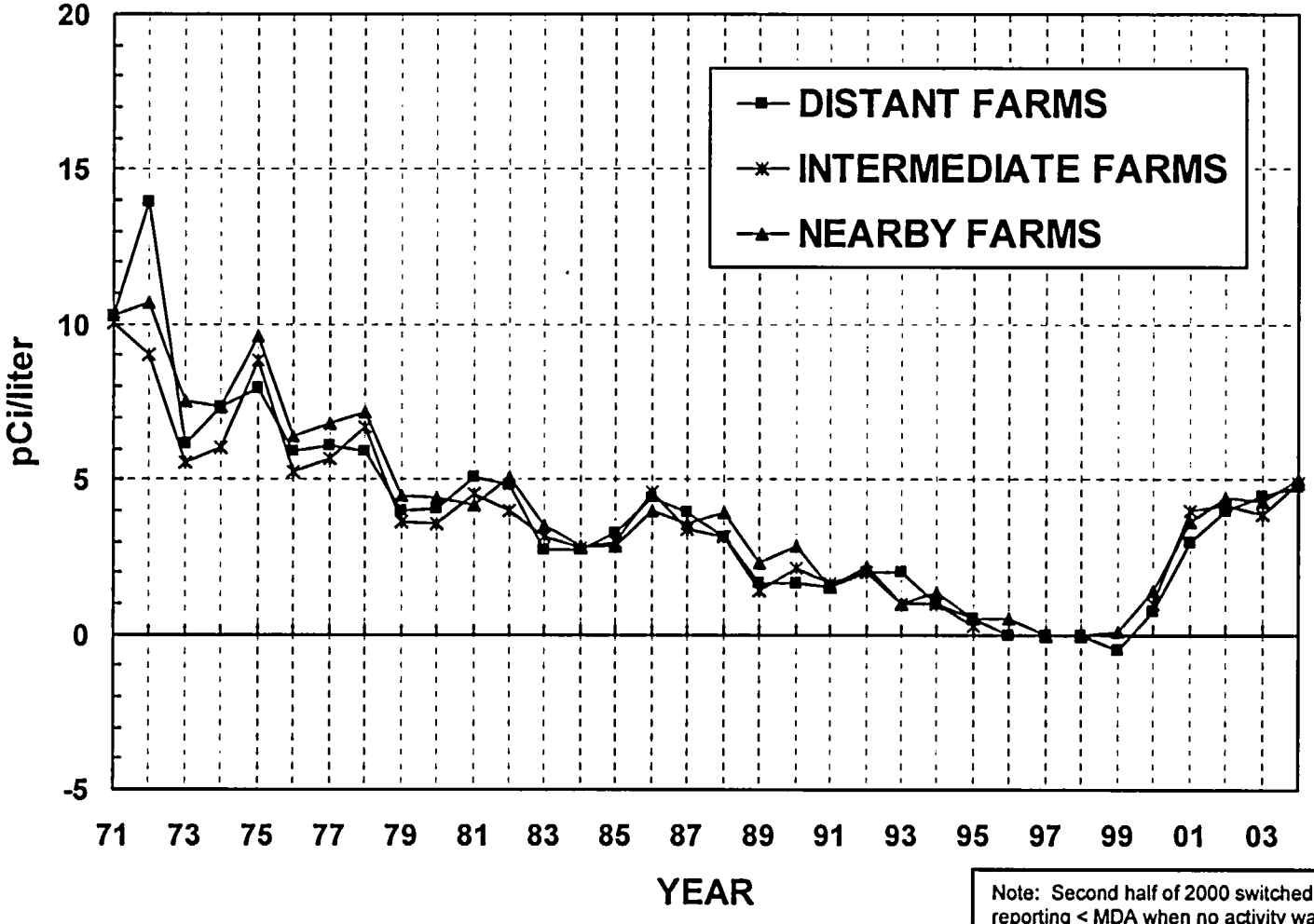


FIGURE C-7
MEAN ANNUAL CS-137 CONCENTRATIONS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 - 2004



Intermediate Farms Discontinued from 1995 - 1999

Note: Second half of 2000 switched to reporting < MDA when no activity was detected. Using MDA values result in a larger number.

FIGURE C- 8
MEAN QUARTERLY AMBIENT GAMMA RADIATION LEVELS (TLD)
IN THE VICINITY OF PBAPS, 1973 - 2004

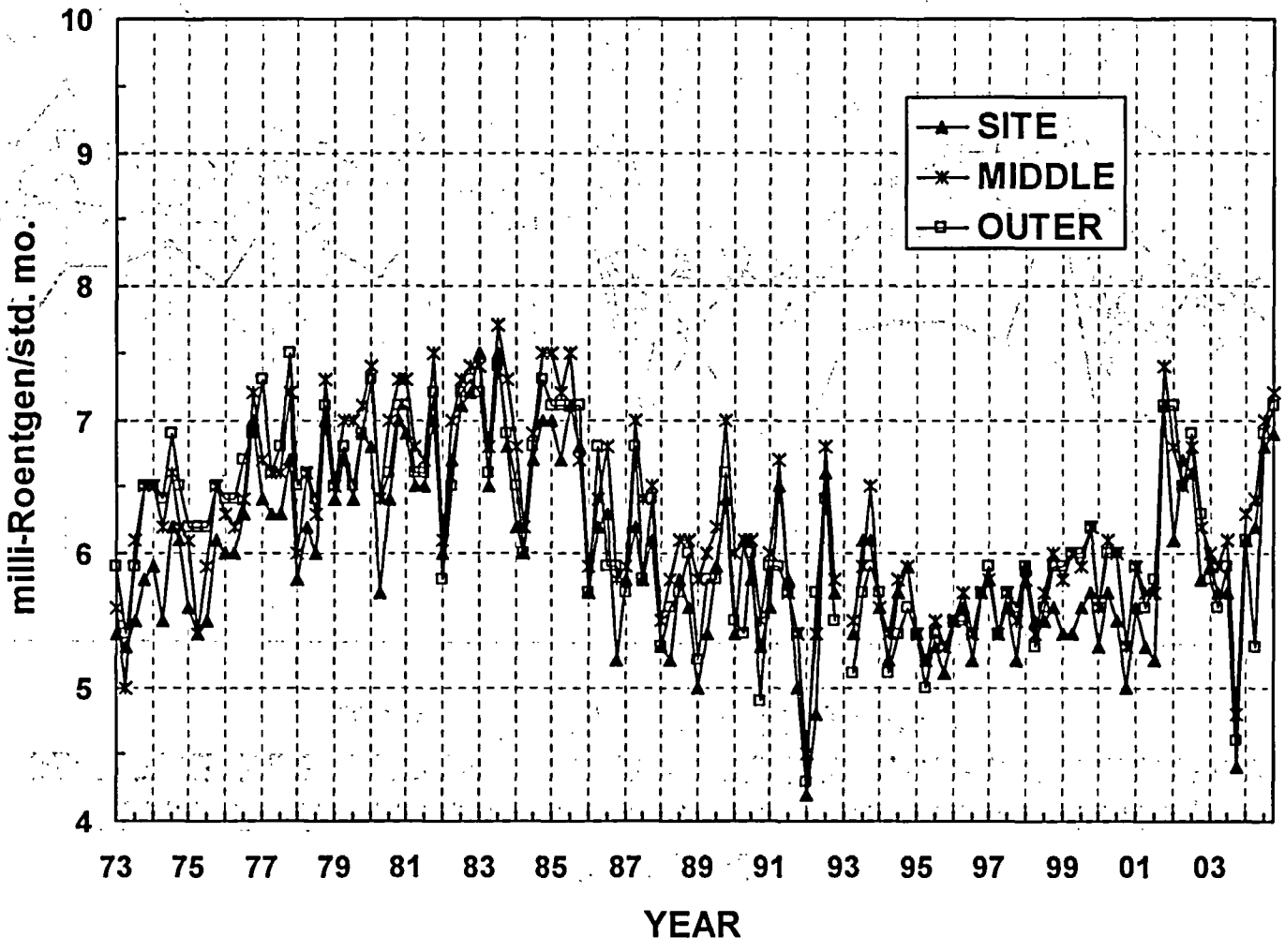
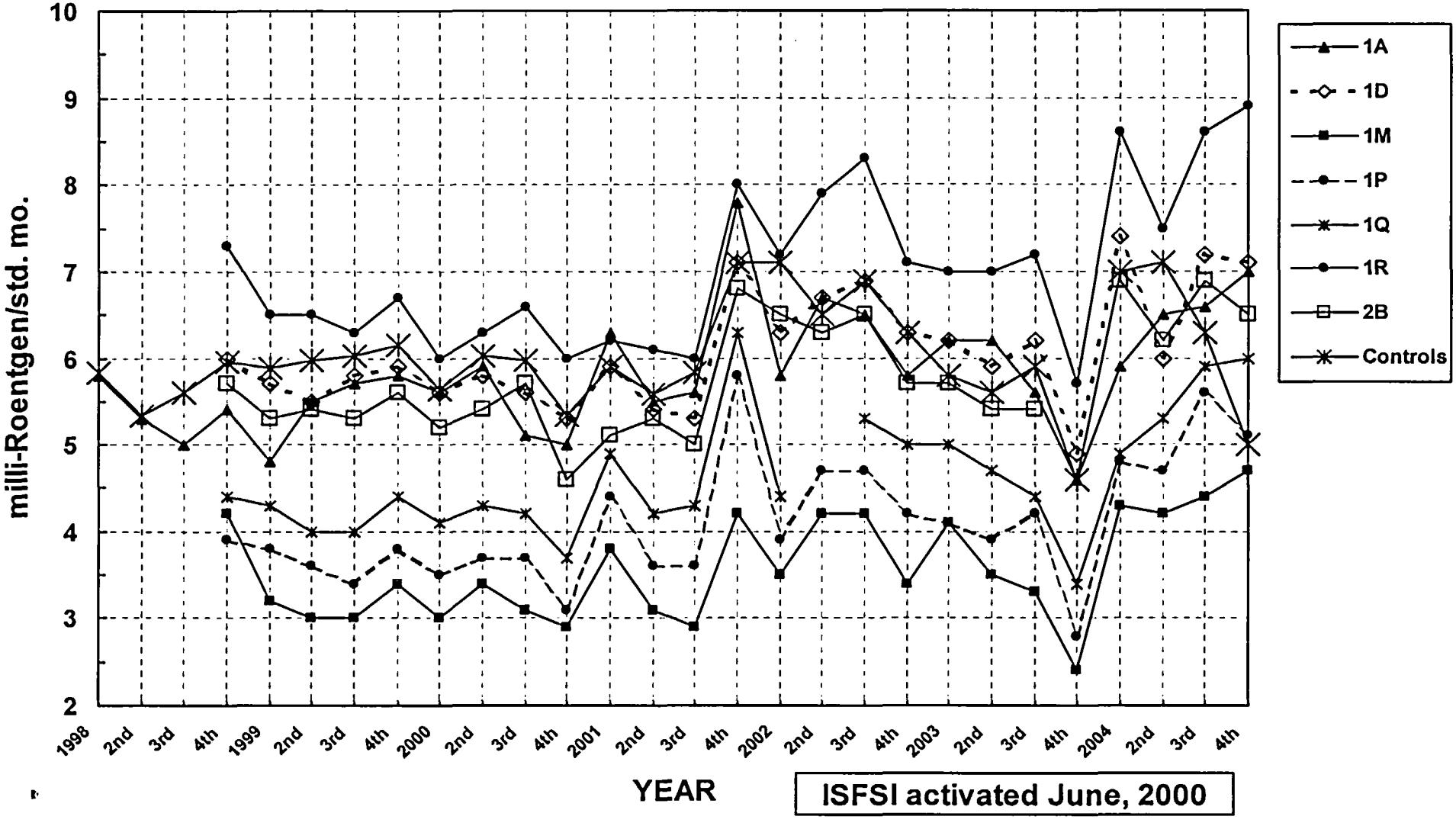


FIGURE C-9
QUARTERLY AMBIENT GAMMA RADIATION LEVELS (TLD) NEAR THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION LOCATED AT PBAPS, 1998 - 2004



APPENDIX D

DATA TABLES AND FIGURES
COMPARISON LABORATORY

The following section contains data and figures illustrating the analyses performed by the QC laboratory, Environmental, Inc. Duplicate samples were obtained from several locations and media and split between the primary laboratory, Teledyne Brown Engineering (TBE) and the QC laboratory. Comparison of the results for most media were within expected ranges.

The QC laboratory results for gross beta insoluble and soluble in drinking water samples were very similar to those reported by the Primary laboratory. All results between the laboratories were within 4 pCi/l of each other. The data reported were well within the historical range.

TABLE D-I.1 CONCENTRATIONS OF GROSS BETA INSOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L
JAN	< 1.7
FEB	< 1.7
MAR	< 1.5
APR	< 1.8
MAY	< 1.7
JUN	< 1.5
JUL	< 1.5
AUG	< 2.1
SEP	< 1.6
OCT	< 2.0
NOV	< 1.5
DEC	< 1.6
MEAN	1.7 ± 0.4

TABLE D-I.2 CONCENTRATIONS OF GROSS BETA SOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L
JAN	< 1.4
FEB	< 1.5
MAR	< 1.5
APR	< 1.6
MAY	< 2.1
JUN	< 1.5
JUL	< 1.6
AUG	< 1.7
SEP	< 1.4
OCT	< 1.6
NOV	< 1.6
DEC	< 1.4
MEAN	1.6 ± 0.4

TABLE D-I.3 CONCENTRATIONS OF GAMMA EMITTERS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
4L	JAN	< 2	< 2	< 3	< 2	< 2	< 3	< 2	< 2	< 2	< 9	< 3
	FEB	< 3	< 3	< 10	< 3	< 8	< 6	< 5	< 4	< 3	< 16	< 5
	MAR	< 2.7	< 3.3	< 4.6	< 4	< 6.2	< 5.6	< 4.7	< 2.4	< 2.5	< 20	< 3.5
	APR	< 1.9	< 2.9	< 4.5	< 2.7	< 3.8	< 3.3	< 1.9	< 4.2	< 3.2	< 11	< 2.6
	MAY	< 2.5	< 1.3	< 4	< 1.5	< 2.3	< 3.1	< 2	< 2.3	< 1.3	< 10	< 2.6
	JUN	< 2.3	< 3.2	< 8.1	< 2.1	< 3.5	< 3.8	< 3.1	< 1.9	< 3.2	< 24	< 7
	JUL	< 3	< 3.9	< 9.6	< 2.1	< 5.3	< 7.2	< 2.4	< 3.5	< 3.5	< 25	< 7.9
	AUG	< 2.5	< 2.3	< 7	< 1.5	< 2.5	< 4.2	< 3.9	< 2.9	< 2.3	< 26	< 2.9
	SEP	< 3.7	< 3.6	< 6.9	< 3.5	< 3.5	< 5.3	< 3	< 3.3	< 4	< 30	< 3.7
	OCT	< 4.8	< 3.5	< 5.5	< 5.2	< 8.5	< 11	< 6.4	< 4	< 5.4	< 34	< 12
	NOV	< 5.7	< 4.3	< 17	< 5.2	< 11	< 11	< 5.1	< 4.2	< 3	< 47	< 7.4
	DEC	< 4.7	< 3.6	< 10	< 6.2	< 9.5	< 8.8	< 4.9	< 5.3	< 4.9	< 22	< 3.3
	MEAN	3 ± 2	3 ± 2	7 ± 8	3 ± 3	5 ± 6	6 ± 6	4 ± 3	3 ± 2	3 ± 2	23 ± 22	5 ± 6

TABLE D-II.1 CONCENTRATIONS OF GROSS BETA INSOLUBLE IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

COLLECTION PERIOD	1A
1	21 ± 4
2	19 ± 4
3	11 ± 3
4	14 ± 4
5	25 ± 3
6	20 ± 4
7	14 ± 4
8	16 ± 4
9	17 ± 4
10	9 ± 4
11	6 ± 3
12	19 ± 4
13	2 ± 3
14	9 ± 3
15	18 ± 4
16	25 ± 4
17	17 ± 4
18	19 ± 4
19	27 ± 5
20	23 ± 4
21	19 ± 4
22	18 ± 4
23	18 ± 4
24	13 ± 3
25	16 ± 4
26	18 ± 4
27	14 ± 3
28	14 ± 4
29	25 ± 3
30	17 ± 3
31	16 ± 3
32	22 ± 4
33	30 ± 4
34	27 ± 3
35	21 ± 4
36	17 ± 3
37	18 ± 3
38	25 ± 3
39	26 ± 3
40	(1)
41	19 ± 5
42	10 ± 3
43	14 ± 4
44	16 ± 4
45	10 ± 4
46	22 ± 4
47	17 ± 4
48	16 ± 4
49	10 ± 5
50	10 ± 5
51	19 ± 3
52	25 ± 4
MEAN	18 ± 12

(1) Sample not received.

TABLE D-II.2 CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	Mn-54	Co-58	Co-60	Cs-134	Cs-137
1A	01/02 - 04/02/04	61 ± 14	< 0.4	< 0.3	< 0.8	< 1.0	< 0.5
	04/02 - 07/02/04	69 ± 16	< 0.9	< 0.3	< 0.4	< 0.6	< 0.6
	07/02 - 10/01/04	63 ± 12	< 0.5	< 0.6	< 0.4	< 0.7	< 0.6
	10/01 - 12/31/04	57 ± 13	< 0.5	< 0.6	< 0.7	< 0.8	< 0.7
	MEAN	63 ± 10	0.6 ± 0.4	0.5 ± 0.3	0.6 ± 0.4	0.8 ± 0.3	0.6 ± 0.2

TABLE D-III.1 CONCENTRATIONS OF I-131 BY CHEMICAL SEPARATION AND GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	I-131	K-40	Cs-134	Cs-137	Ba-140	La-140
A	02/15/04	< 0.2	1299 ± 171.1	< 5	< 6	< 13	< 3
	05/10/04	< 0.2	1415 ± 186.9	< 8	< 7	< 16	< 7
	08/29/04	< 0.2	1274 ± 159	< 7	< 5	< 45	< 8
	11/07/04	< 0.3	1347 ± 115.9	< 3	< 5	< 31	< 5
	MEAN	0.23 ± 0.10	1334 ± 124	6 ± 4	6 ± 2	26 ± 30	6 ± 5
J	02/16/04	< 0.3	1352 ± 167.3	< 5	< 3	< 18	< 5
	05/10/04	< 0.2	1135 ± 190.4	< 6	< 4	< 24	< 4
	08/29/04	< 0.2	1361 ± 189.6	< 7	< 3	< 53	< 5
	11/08/04	< 0.3	1330 ± 115.4	< 3	< 3	< 20	< 6
	MEAN	0.25 ± 0.12	1295 ± 214	5 ± 3	3 ± 1	29 ± 33	5 ± 1
O	02/15/04	< 0.3	1125 ± 157.4	< 7	< 5	< 20	< 5
	05/10/04	< 0.5	1263 ± 168.2	< 6	< 4	< 26	< 7
	08/29/04	< 0.2	1184 ± 156.5	< 8	< 5	< 30	< 5
	11/07/04	< 0.4	1289 ± 157.4	< 5	< 5	< 42	< 12
	MEAN	0.35 ± 0.26	1215 ± 149	7 ± 2	5 ± 1	29 ± 19	7 ± 7

TABLE D-IV.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2004

DRINKING WATER (GROSS BETA & GAMMA SPECTROSCOPY)

COLLECTION PERIOD	4L
JAN	01/02/04 - 01/30/04
FEB	01/30/04 - 03/06/04
MAR	03/06/04 - 04/02/04
APR	04/02/04 - 04/30/04
MAY	04/30/04 - 06/04/04
JUN	06/04/04 - 07/02/04
JUL	07/02/04 - 07/29/04
AUG	07/29/04 - 09/03/04
SEP	09/03/04 - 10/01/04
OCT	10/01/04 - 11/05/04
NOV	11/05/04 - 12/05/04
DEC	12/05/04 - 12/31/04

AIR PARTICULATE (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	1A
JAN-MAR	01/02/04 - 04/02/04
APR-JUN	04/02/04 - 07/02/04
JUL-SEP	07/02/04 - 10/01/04
OCT-DEC	10/01/04 - 12/31/04

AIR PARTICULATE (GROSS BETA)

COLLECTION PERIOD	1A	COLLECTION PERIOD	1A
1	01/02/04 - 01/09/04	27	07/02/04 - 07/09/04
2	01/09/04 - 01/16/04	28	07/09/04 - 07/15/04
3	01/16/04 - 01/23/04	29	07/15/04 - 07/22/04
4	01/23/04 - 01/30/04	30	07/22/04 - 07/29/04
5	01/30/04 - 02/05/04	31	07/29/04 - 08/06/04
6	02/05/04 - 02/13/04	32	08/06/04 - 08/13/04
7	02/13/04 - 02/20/04	33	08/13/04 - 08/20/04
8	02/20/04 - 02/27/04	34	08/20/04 - 08/27/04
9	02/27/04 - 03/06/04	35	08/27/04 - 09/03/04
10	03/06/04 - 03/12/04	36	09/03/04 - 09/10/04
11	03/12/04 - 03/19/04	37	09/10/04 - 09/17/04
12	03/19/04 - 03/26/04	38	09/17/04 - 09/24/04
13	03/26/04 - 04/02/04	39	09/24/04 - 10/01/04
14	04/02/04 - 04/09/04	40	10/01/04 - 10/08/04
15	04/09/04 - 04/16/04	41	10/08/04 - 10/14/04
16	04/16/04 - 04/23/04	42	10/14/05 - 10/22/04
17	04/23/04 - 04/30/04	43	10/22/04 - 10/29/04
18	04/30/04 - 05/07/04	44	10/29/04 - 11/05/04
19	05/07/04 - 05/14/04	45	11/05/04 - 11/12/04
20	05/14/04 - 05/21/04	46	11/12/04 - 11/19/04
21	05/21/04 - 05/28/04	47	11/19/04 - 11/26/04
22	05/28/04 - 06/04/04	48	11/26/04 - 12/04/04
23	06/04/04 - 06/11/04	49	12/04/04 - 12/10/04
24	06/11/04 - 06/18/04	50	12/10/04 - 12/17/04
25	06/18/04 - 06/25/04	51	12/17/04 - 12/23/04
26	06/25/04 - 07/02/04	52	12/23/04 - 12/31/04

FIGURE D-1
COMPARISON OF MONTHLY INSOLUBLE GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2004

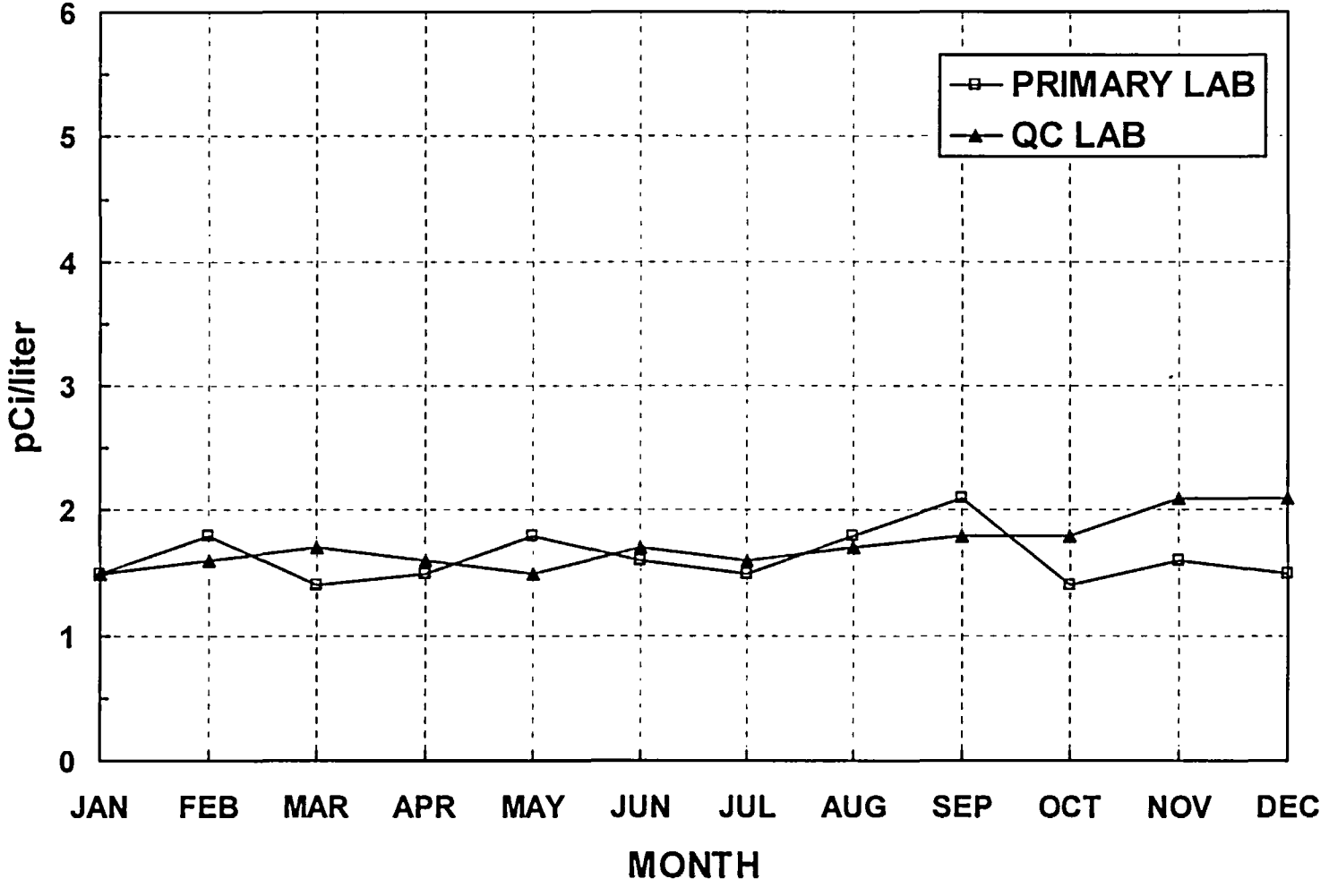


FIGURE D-2
COMPARISON OF MONTHLY SOLUBLE GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2004

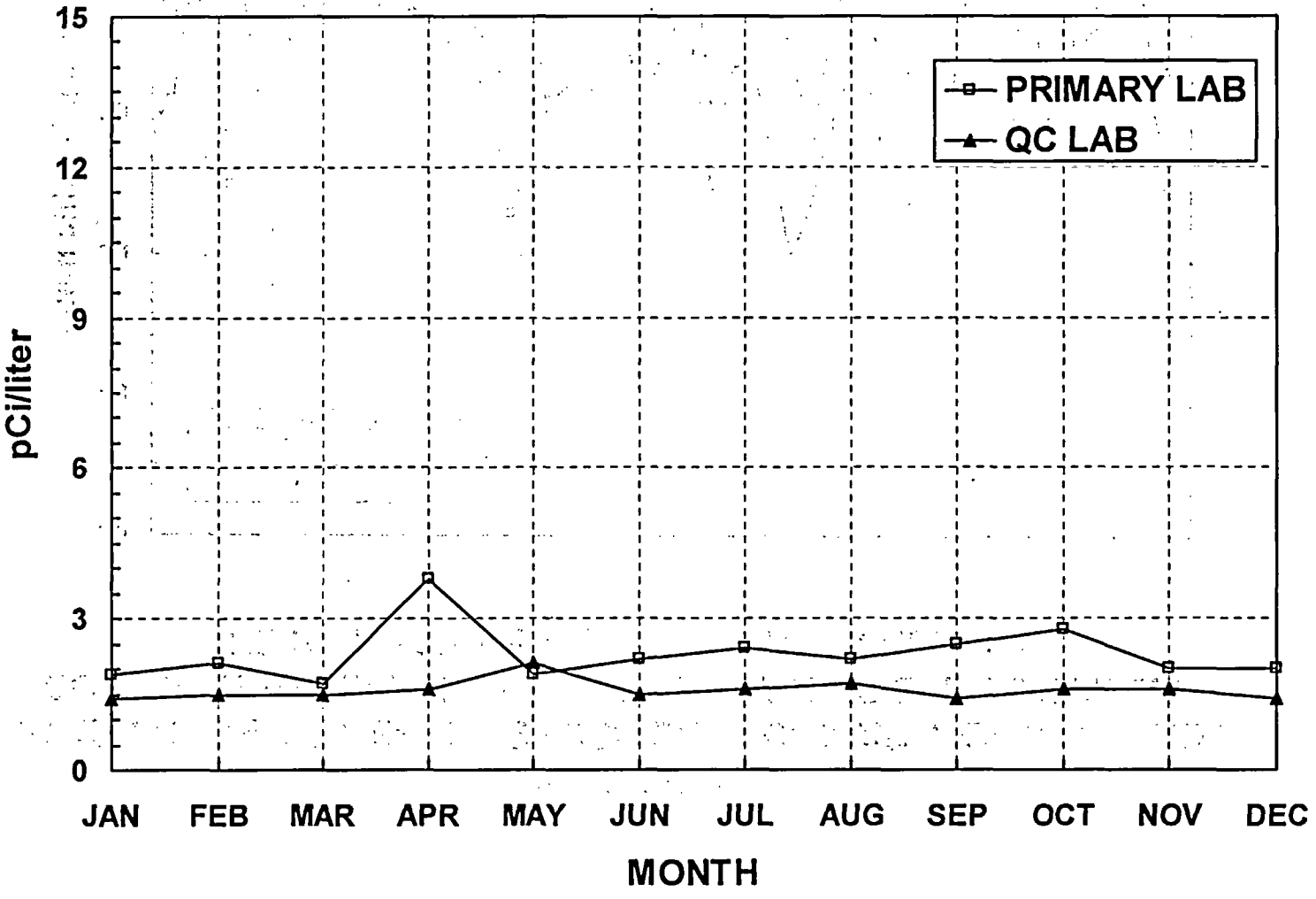
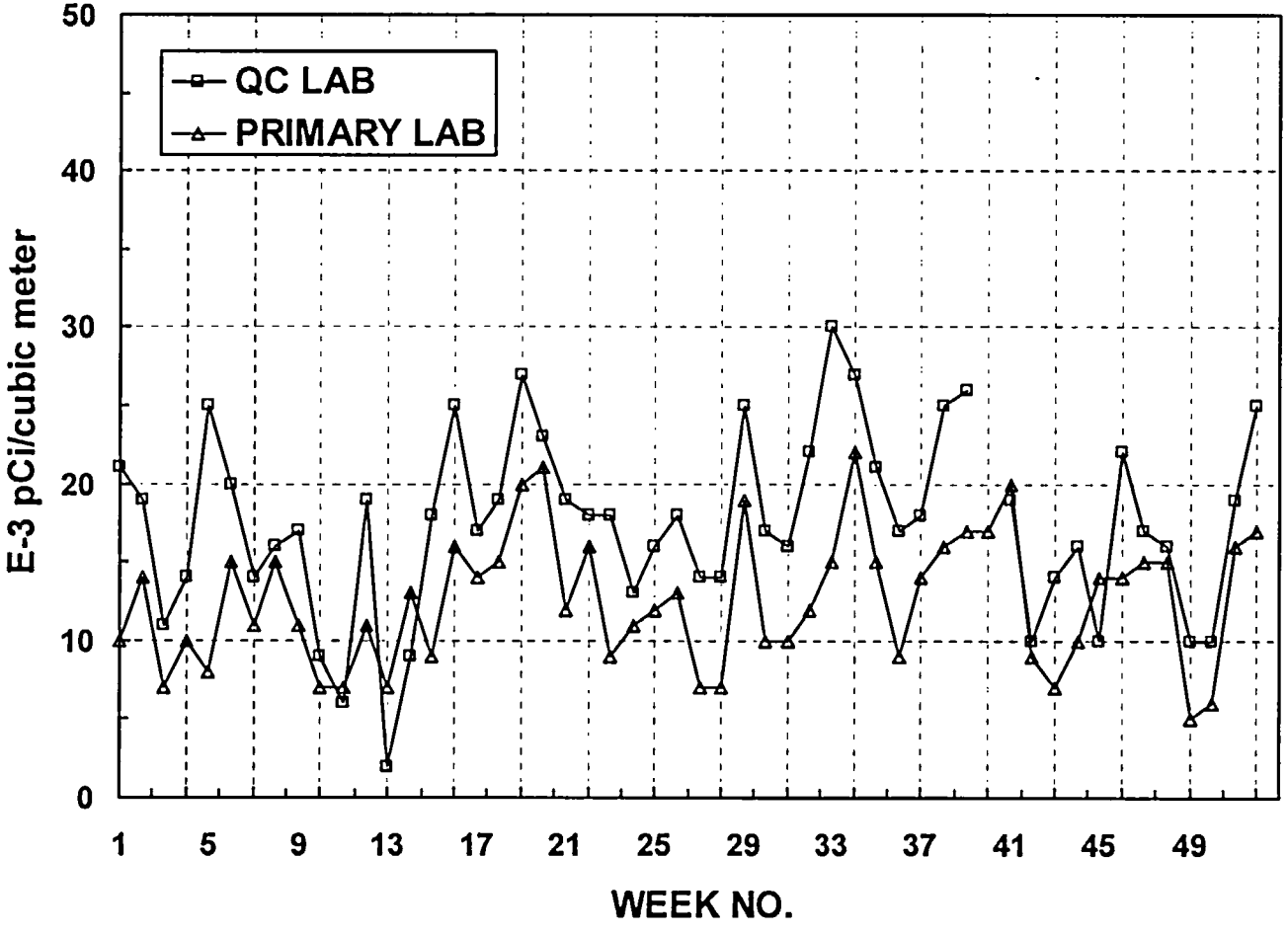


FIGURE D-3
COMPARISON OF WEEKLY GROSS BETA CONCENTRATIONS FROM COLLOCATED AIR PARTICULATE LOCATIONS SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2004



APPENDIX E

INTER-LABORATORY COMPARISON PROGRAM

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE QC SPIKE PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March, 2004	E4128-396	Milk	Sr-89	pCi/L	91	103	0.88	A
			Sr-90	pCi/L	13	12	1.08	A
	E4129-396	Milk	I-131	pCi/L	77	78	0.99	A
			Ce-141	pCi/L	77	85	0.91	A
			Cr-51	pCi/L	340	327	1.04	A
			Cs-134	pCi/L	76	90	0.84	A
			Cs-137	pCi/L	176	185	0.95	A
			Co-58	pCi/L	113	112	1.01	A
			Mn-54	pCi/L	110	114	0.96	A
			Fe-59	pCi/L	65	57	1.14	A
			Zn-65	pCi/L	132	143	0.92	A
			Co-60	pCi/L	144	153	0.94	A
	E4131-396	AP	Ce-141	pCi	87	88	0.99	A
			Cr-51	pCi	325	338	0.96	A
			Cs-134	pCi	87	93	0.94	A
			Cs-137	pCi	185	192	0.96	A
			Co-58	pCi	117	116	1.01	A
			Mn-54	pCi	105	118	0.89	A
			Fe-59	pCi	59	59	1.00	A
			Zn-65	pCi	179	148	1.21	W
			Co-60	pCi	145	159	0.91	A
March, 2004	E4130-396	Charcoal	I-131	pCi	88	97	0.91	A
June, 2004	E4213-396	Milk	Sr-89	pCi/L	77.9	87.7	0.89	A
			Sr-90	pCi/L	12.0	12.7	0.95	A
	E4214-396	Milk	I-131	pCi/L	53.7	58.2	0.92	A
			Ce-141	pCi/L	145	157	0.92	A
			Cr-51	pCi/L	212	228	0.93	A
			Cs-134	pCi/L	85.2	101	0.84	A
			Cs-137	pCi/L	145	156	0.93	A
			Co-58	pCi/L	45.7	46.2	0.99	A
			Mn-54	pCi/L	68.2	70.5	0.97	A
			Fe-59	pCi/L	44.4	44.5	1.00	A
			Zn-65	pCi/L	102	99.3	1.03	A
			Co-60	pCi/L	162	172	0.94	A
	E4216-396	AP	Ce-141	pCi	116	118	0.98	A
			Cr-51	pCi	160	172	0.93	A
			Cs-134	pCi	68.6	76.3	0.90	A
			Cs-137	pCi	108	118	0.92	A
			Co-58	pCi	33.1	39.4	0.84	A
			Mn-54	pCi	51.1	53.3	0.96	A
			Fe-59	pCi	44.0	33.6	1.31	N (1)
			Zn-65	pCi	69.1	75.1	0.92	A
			Co-60	pCi	123	130	0.95	A

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE QC SPIKE PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
	E4215-396	Charcoal	I-131	pCi	71.8	82.0	0.88	A
September, 2004	E4323-396	Milk	Sr-89	pCi/L	93.9	102	0.92	A
			Sr-90	pCi/L	24.0	24.5	0.98	A
	E4324-396	Milk	I-131	pCi/L	81.9	83.5	0.98	A
			Ce-141	pCi/L	214	235	0.91	A
			Cr-51	pCi/L	196	210	0.93	A
			Cs-134	pCi/L	77.3	90.6	0.85	A
			Cs-137	pCi/L	192	202	0.95	A
			Co-58	pCi/L	86.2	89.0	0.97	A
			Mn-54	pCi/L	163	171	0.96	A
			Fe-59	pCi/L	87.4	86.1	1.02	A
			Zn-65	pCi/L	168	167	1.00	A
			Co-60	pCi/L	108	118	0.92	A
September, 2004	E4326-396	AP	Ce-141	pCi	149	148	1.01	A
			Cr-51	pCi	122	132	0.92	A
			Cs-134	pCi	50.3	57.1	0.88	A
			Cs-137	pCi	112	127	0.88	A
			Co-58	pCi	54.8	56.0	0.98	A
			Mn-54	pCi	102	108.0	0.95	A
			Fe-59	pCi	47.6	54.2	0.88	A
			Zn-65	pCi	111	106	1.05	A
			Co-60	pCi	69.0	74.1	0.93	A
	E4325-396	Charcoal	I-131	pCi	70.3	74.9	0.94	A
October, 2004	E4407-396	Milk	Sr-89	pCi/L	91.7	98.6	0.93	A
			Sr-90	pCi/L	11.9	11.3	1.05	A
	E4408-396	Milk	I-131	pCi/L	58.3	66.7	0.87	A
			Ce-141	pCi/L	140	155	0.91	A
			Cr-51	pCi/L	374	379	0.99	A
			Cs-134	pCi/L	143	170	0.84	A
			Cs-137	pCi/L	120	126	0.95	A
			Co-58	pCi/L	140	146	0.96	A
			Mn-54	pCi/L	135	136	1.00	A
			Fe-59	pCi/L	124	121	1.02	A
			Zn-65	pCi/L	198	196	1.01	A
			Co-60	pCi/L	166	175	0.95	A

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE QC SPIKE PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
	E4410-396	AP	Ce-141	pCi	77.0	79.1	0.97	A
			Cr-51	pCi	156	187	0.84	A
			Cs-134	pCi	76.6	83.5	0.92	A
			Cs-137	pCi	58.9	62.0	0.95	A
			Co-58	pCi	68.6	71.8	0.96	A
			Mn-54	pCi	63.2	66.7	0.95	A
			Fe-59	pCi	65.2	59.7	1.09	A
			Zn-65	pCi	99.7	96.3	1.04	A
			Co-60	pCi	80.1	85.9	0.93	A
	E4409A-396	Charcoal	I-131	pCi	80.9	83.3	0.97	A

(1) The Analytics filter had very low activity and was counted longer than two days. This resulted in poor accuracy as demonstrated by the very large error term. Dan Montgomery of Analytics concurred that, with the low counts and large error, the results were reasonably accurate and would not be considered a failed cross check at 1.31 for an environmental level sample. NCR 04-16

(a) Teledyne Brown Engineering reported result.

(b) The Analytics known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) Ratio of Teledyne Brown Engineering to Analytics results.

(d) Analytics evaluation based on TBE internal QC limits: A= Acceptable. Reported result falls within ratio limits of 0.80-1.20. W-Acceptable with warning. Reported result falls within 0.70-0.80 or 1.20-1.30. N = Not Acceptable. Reported result falls outside the ratio limits of < 0.70 and > 1.30.

TABLE E-2 DOE/EML ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE QC SPIKE PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/EML	Evaluation (d)
March, 2004 (2)	QAP 60 (QAP 0403)	AP	Co-60	Bq/filter	33.5	35.4	0.95	A
			Sr-90	Bq/filter	1.8	1.76	1.02	A
			Cs-134	Bq/filter	18.7	18.2	1.03	A
			Cs-137	Bq/filter	24.8	26.4	0.94	A
			Gr-A	Bq/filter	1.8	1.2	1.50	N (1)
			Gr-B	Bq/filter	2.88	2.85	1.01	A
		Soil	K-40	Bq/kg	583	539	1.08	A
			Sr-90	Bq/kg	42.1	51.0	0.83	A
			Cs-137	Bq/kg	1429	1323	1.08	A
			Bi-212	Bq/kg	52.6	50.43	1.04	A
			Pb-212	Bq/kg	50.1	47.73	1.05	A
			Bi-214	Bq/kg	57.6	58.4	0.99	A
			Pb-214	Bq/kg	61.4	61.0	1.01	A
			Ac-228	Bq/kg	49.4	49.0	1.01	A
			Th-234	Bq/kg	114.9	84.0	1.37	A
		Vegetation	K-40	Bq/kg	807.5	720.0	1.12	A
			Co-60	Bq/kg	14.2	14.47	0.98	A
			Sr-90	Bq/kg	685	734.0	0.93	A
			Cs-137	Bq/kg	637.3	584.67	1.09	A
		Water	Co-60	Bq/L	159.7	163.2	0.98	A
			Sr-90	Bq/L	4.74	4.76	1.00	A
			Cs-137	Bq/L	50.6	51.95	0.97	A
			Gr-A	Bq/L	394.0	326.0	1.21	W
			Gr-B	Bq/L	1200.0	1170.0	1.03	A

(1) Incorrect efficiency used. When recalculated with the correct efficiency, the Gross Alpha activity of 1.16 Bq/filter compared well with the value of 1.2 Bq/filter. NCR 04-14

(2) DOE discontinued the EML quality assessment program. MAPEP has expanded their performance test program to include water, soil, AP and vegetation samples.

(a) Teledyne Brown Engineering reported result.

(b) The DOE/EML known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) Ratio of Teledyne Brown Engineering to DOE/EML results.

(d) DOE/EML evaluation: A=acceptable, W=acceptable with warning, N=not acceptable.

TABLE E-3 ERA ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE QC SPIKE PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
May, 2004	Rad 57	Water	Sr-89	pCi/L	139	45.9	37.2 - 54.6	N (1)
			Sr-90	pCi/L	11.3	11.6	2.94 - 20.3	A
			Ba-133	pCi/L	93.9	101	83.5 - 118	A
			Cs-134	pCi/L	43.3	50.5	41.8 - 59.2	A
			Cs-137	pCi/L	79.3	82.5	73.8 - 91.2	A
			Co-60	pCi/L	42.4	41.6	32.9 - 50.3	A
			Zn-65	pCi/L	81.9	75.2	62.2 - 88.2	A
			Gr-A	pCi/L	39.9	38.8	22.0 - 55.6	A
			Gr-B	pCi/L	62.5	59.6	42.3 - 76.9	A
			H-3	pCi/L	33500	30900	25600 - 36200	A
August, 2004	Rad 58	Water	I-131	pCi/L	9.09	9.29	5.83 - 12.8	A
December, 2004	Rad 59	Water	Sr-89	pCi/L	44.0	45.7	37.0 - 54.4	A
			Sr-90	pCi/L	35.3	36.6	27.9 - 45.3	A
			Ba-133	pCi/L	73.9	78.4	64.8 - 92.0	A
			Cs-134	pCi/L	37.8	42.9	34.2 - 51.6	A
			Cs-137	pCi/L	58.3	60.1	51.4 - 68.8	A
			Co-60	pCi/L	11.5	11.7	3.04 - 20.4	A
			Zn-65	pCi/L	51.3	50.9	42.1 - 59.7	A
			Gr-A	pCi/L	23.9	31.7	18.0 - 45.4	W
			Gr-B	pCi/L	33.9	36.3	27.6 - 45.0	A
			I-131	pCi/L	19.2	22.1	16.9 - 27.3	A
			H-3	pCi/L	22900	20700	17100 - 24300	A

(1) The strontium-89 mount was counted without the absorber. When recounted using the absorber, the Sr-89 result of 41.5 pCi/L agreed well with the ERA known value of 45.9 pCi/L. NCR 04-13

(a) Teledyne Brown Engineering reported result.

(b) The ERA known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) ERA evaluation: A=acceptable. Reported result falls within the Warning Limits. NA=not acceptable. Reported result falls outside of the Control Limits. CE=check for Error. Reported result falls within the Control Limits and outside of the Warning Limit.

TABLE E-4 DOE's MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE QC SPIKE PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
January, 2004	03-W11	Water	Cs-134	Bq/L	289.1	322.0	225.40 - 418.60	A
			Cs-137	Bq/L	118.7	124.0	86.80 - 161.20	A
			Co-57	Bq/L	164	173.0	121.10 - 224.90	A
			Co-60	Bq/L	121.1	121.8	85.26 - 158.34	A
			H-3	Bq/L	425.3	379.0	265.30 - 492.70	A
			Mn-54	Bq/L	152.6	155.0	108.50 - 201.50	A
			Sr-90	Bq/L	16.4	17.7	12.39 - 23.01	A
			Zn-65	Bq/L	303.3	320.0	224.00 - 416.00	A
July, 2004	MaW12	Water	Cs-134	Bq/L	177	208	145.60 - 270.40	A
			Cs-137	Bq/L	237	250	175.00 - 325.00	A
			Co-60	Bq/L	160	163	114.10 - 211.90	A
			H-3	Bq/L	109	82.9	58.10 - 107.90	N (1)
			Mn-54	Bq/L	262	267	186.90 - 347.10	A
			Sr-90	Bq/L	6.79	7.4	4.90 - 9.10	A
			Zn-65	Bq/L	217	208	145.60 - 270.40	A
	GrW12	Water	Gr-A	Bq/L	0.836	1.24	>0.0 - 2.40	A
			Gr-B	Bq/L	4.95	4.07	2.05 - 6.15	A
	RdF12	AP	Cs-134	Bq/sample	2.19	2.9	2.03 - 3.77	W
			Cs-137	Bq/sample	1.87	1.96	1.40 - 2.60	A
			Co-60	Bq/sample	2.28	2.35	1.61 - 2.99	A
			Mn-54	Bq/sample	3.06	3.03	2.10 - 3.90	A
			Sr-90	Bq/sample	0.909	0.83	0.56 - 1.04	A
			Zn-65	Bq/sample	4.53	4.11	2.80 - 5.20	A
	GrF12	AP	Gr-A	Bq/sample	0.126	0.37	>0.0 - 0.80	A
			Gr-B	Bq/sample	1.34	1.21	0.60 - 1.80	A
	MaS12	Soil	Cs-134	Bq/kg	327.7	414	290.08 - 538.72	W
			Cs-137	Bq/kg	786.0	836	585.34 - 1,088	A
			Co-60	Bq/kg	509.3	518	362.60 - 673.40	A
			Mn-54	Bq/kg	477	485	339.29 - 630.11	A
			K-40	Bq/kg	609	604	422.80 - 785.20	A
			Zn-65	Bq/kg	727	699	489.51 - 909.09	A

(1) All raw data looked normal for the sample. Evaluating the results based on the ± 20 Bq/L uncertainty, the result easily overlaps the known value at the 95% confidence level. The sample was rerun with a larger aliquot to improve accuracy and lower the uncertainty. The H-3 result of 96.4 + 7.75 Bq/L was within the acceptance range. NCR 04-19

(a) Teledyne Brown Engineering reported result.

(b) The MAPEP known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) DOE/MAPEP evaluation: A=acceptable, W=acceptable with warning, N=not acceptable.

TABLE E-5 DOE/EML ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM[a] ENVIRONMENTAL, INC., 2004

Lab Code	Type	Date	Concentration[a] Analysis	Laboratory results	EML Result[b]	Control Limits[c]	Ratio[e] Env/EML
STW-1009	Water	03/01/04	Am-241	1.21 ± 0.02	1.31	0.66 - 1.56	0.92
STW-1009	Water	03/01/04	Co-60	152.30 ± 0.30	163.20	0.87 - 1.17	0.93
STW-1009	Water	03/01/04	Cs-137	50.40 ± 0.90	51.95	0.90 - 1.25	0.97
STW-1009	Water	03/01/04	H-3	263.50 ± 10.00	186.60	0.69 - 1.91	1.41
STW-1009	Water	03/01/04	Pu-238	1.03 ± 0.04	1.10	0.68 - 1.33	0.94
STW-1009	Water	03/01/04	Pu-239/40	2.90 ± 0.10	3.08	0.62 - 1.38	0.94
STW-1009	Water	03/01/04	Sr-90	5.20 ± 0.30	4.76	0.73 - 1.65	1.09
STW-1009	Water	03/01/04	Uranium	4.35 ± 0.21	4.62	0.40 - 1.45	0.94
STW-1010	Water	03/01/04	Gr. Alpha	208.00 ± 20.70	326.00	0.55 - 1.31	0.64
STW-1010	Water	03/01/04	Gr. Beta	1063.00 ± 27.00	1170.00	0.75 - 1.65	0.91
STSO-1011	Soil	03/01/04	Am-241	14.10 ± 4.30	13.00	0.52 - 2.41	1.08
STSO-1011	Soil	03/01/04	Cs-137	1292.00 ± 13.00	1323.00	0.74 - 1.40	0.98
STSO-1011	Soil	03/01/04	K-40	563.00 ± 83.00	539.00	0.70 - 1.59	1.04
STSO-1011	Soil	03/01/04	Pu-239/40	20.70 ± 1.10	22.82	0.62 - 1.99	0.91
STSO-1011	Soil	03/01/04	Sr-90	72.10 ± 5.80	51.00	0.58 - 2.96	1.41
STSO-1011	Soil	03/01/04	Uranium	139.10 ± 10.20	180.22	0.27 - 1.48	0.77
STVE-1012	Vegetation	03/01/04	Am-241	4.50 ± 0.20	4.93	0.58 - 2.86	0.91
STVE-1012	Vegetation	03/01/04	Co-60	14.10 ± 0.40	14.47	0.64 - 1.49	0.97
STVE-1012	Vegetation	03/01/04	Cs-137	573.90 ± 6.00	584.67	0.75 - 1.48	0.98
STVE-1012	Vegetation	03/01/04	K-40	709.00 ± 19.30	720.00	0.45 - 1.51	0.98
STVE-1012	Vegetation	03/01/04	Pu-239/40	6.60 ± 0.50	6.81	0.60 - 1.98	0.97
STVE-1012	Vegetation	03/01/04	Sr-90	766.50 ± 51.30	734.00	0.50 - 1.37	1.04
STAP-1013	Air Filter	03/01/04	Am-241	0.11 ± 0.01	0.10	0.62 - 1.93	1.05
STAP-1013	Air Filter	03/01/04	Co-60	30.90 ± 1.08	35.40	0.74 - 1.25	0.87
STAP-1013[d]	Air Filter	03/01/04	Cs-134	12.30 ± 1.30	18.20	0.70 - 1.21	0.68
STAP-1013	Air Filter	03/01/04	Cs-137	24.90 ± 0.60	26.40	0.72 - 1.32	0.94
STAP-1013	Air Filter	03/01/04	Pu-238	0.04 ± 0.01	0.04	0.61 - 1.55	0.99
STAP-1013	Air Filter	03/01/04	Pu-239/40	0.17 ± 0.02	0.16	0.67 - 1.58	1.03
STAP-1013	Air Filter	03/01/04	Sr-90	1.80 ± 0.20	1.76	0.62 - 2.26	1.02
STAP-1013	Air Filter	03/01/04	Uranium	0.17 ± 0.01	0.17	0.79 - 2.88	1.00
STAP-1014	Air Filter	03/01/04	Gr. Alpha	1.09 ± 0.06	1.20	0.82 - 1.58	0.91
STAP-1014	Air Filter	03/01/04	Gr. Beta	2.68 ± 0.05	2.85	0.75 - 1.94	0.94

[a] Results are reported in Bq/L with the following exceptions: Air Filters (Bq/Filter), Soil and Vegetation (Bq/kg).

[b] The EML result listed is the mean of replicate determinations for each nuclide ± the standard error of the mean.

[c] Control limits are reported by EML as the ratio of Reported Value / EML value.

[d] Probable effect of summation peaks and slight difference in filter geometry.

[e] Ratio of Environmental, Inc. to DOE/EML results.

TABLE E-6 ERA STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM[a]
ENVIRONMENTAL, INC., 2004

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits
STW-1005	02/17/04	Sr-89	36.5 ± 6.5	44.9 ± 4.5	36.2 - 53.6
STW-1005	02/17/04	Sr-90	13.4 ± 0.8	11.6 ± 1.2	2.9 - 20.3
STW-1006	02/17/04	Ba-133	60.9 ± 2.8	63.2 ± 6.3	52.3 - 74.1
STW-1006	02/17/04	Co-60	95.2 ± 1.5	96.4 ± 9.6	87.7 - 105.0
STW-1006	02/17/04	Cs-134	71.2 ± 5.4	75.8 ± 7.6	67.1 - 84.5
STW-1006	02/17/04	Cs-137	157.0 ± 6.5	155.0 ± 15.5	142.0 - 168.0
STW-1006	02/17/04	Zn-65	103.0 ± 1.1	102.0 ± 10.2	84.4 - 120.0
STW-1007	02/17/04	Gr. Alpha	15.6 ± 1.2	16.6 ± 1.7	7.9 - 25.3
STW-1007	02/17/04	Gr. Beta	46.3 ± 4.4	41.5 ± 4.2	32.8 - 50.2
STW-1008	02/17/04	Ra-226	8.7 ± 0.2	9.3 ± 0.0	6.9 - 11.7
STW-1008	02/17/04	Ra-228	16.6 ± 0.4	18.2 ± 1.8	10.3 - 26.1
STW-1008	02/17/04	Uranium	34.2 ± 0.8	33.0 ± 3.3	27.8 - 38.2
STW-1015	05/18/04	Sr-89	39.7 ± 3.3	45.9 ± 5.0	37.2 - 54.6
STW-1015	05/18/04	Sr-90	12.4 ± 0.9	11.6 ± 5.0	2.9 - 20.3
STW-1016	05/18/04	Ba-133	96.9 ± 2.4	101.0 ± 10.1	83.5 - 118.0
STW-1016	05/18/04	Co-60	39.9 ± 0.5	41.6 ± 5.0	32.9 - 50.3
STW-1016	05/18/04	Cs-134	48.8 ± 0.8	50.5 ± 5.0	41.8 - 59.2
STW-1016	05/18/04	Cs-137	82.6 ± 2.3	82.5 ± 5.0	73.8 - 91.2
STW-1016	05/18/04	Zn-65	77.5 ± 1.5	75.2 ± 7.5	62.2 - 88.2
STW-1017	05/18/04	Gr. Alpha	32.4 ± 2.1	38.8 ± 9.7	22.0 - 55.6
STW-1017	05/18/04	Gr. Beta	63.4 ± 3.5	59.6 ± 10.0	42.3 - 76.9
STW-1018	05/18/04	I-131	25.2 ± 0.4	25.1 ± 3.0	19.9 - 30.3
STW-1019	05/18/04	Ra-226	16.0 ± 1.1	17.3 ± 2.6	12.8 - 21.8
STW-1019	05/18/04	Ra-228	12.6 ± 0.9	10.3 ± 2.6	5.8 - 14.8
STW-1019	05/18/04	Uranium	13.0 ± 0.0	12.7 ± 3.0	7.5 - 17.9
STW-1020	05/18/04	H-3	32043 ± 166	30900 ± 3090	25600 - 36200
STW-1028	08/17/04	Sr-89	16.1 ± 1.9	20.0 ± 2.0	11.3 - 28.7
STW-1028	08/17/04	Sr-90	13.4 ± 0.1	13.6 ± 1.4	4.9 - 22.3
STW-1029	08/17/04	Ba-133	30.2 ± 3.9	32.1 ± 3.2	23.4 - 40.8
STW-1029	08/17/04	Co-60	24.9 ± 1.9	24.0 ± 2.4	15.3 - 32.7
STW-1029	08/17/04	Cs-134	21.4 ± 3.4	21.6 ± 2.2	12.9 - 30.3
STW-1029	08/17/04	Cs-137	205.6 ± 4.3	193.0 ± 19.3	176.0 - 210.0
STW-1029	08/17/04	Zn-65	145.5 ± 3.0	143.0 ± 14.3	118.0 - 168.0
STW-1030	08/17/04	Gr. Alpha	47.7 ± 9.1	57.0 ± 5.7	32.3 - 81.7
STW-1030	08/17/04	Gr. Beta	28.1 ± 2.5	20.0 ± 2.0	11.3 - 28.7
STW-1030	08/17/04	Gr. Beta	28.1 ± 2.5	20.0 ± 2.0	11.3 - 28.7
STW-1031	08/17/04	Ra-226	6.9 ± 0.5	6.3 ± 0.6	4.6 - 7.9
STW-1031	08/17/04	Ra-228	13.1 ± 1.4	14.7 ± 1.5	8.3 - 21.1
STW-1031	08/17/04	Uranium	6.0 ± 0.1	6.2 ± 0.6	1.0 - 11.4

TABLE E-6 **ERA STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM[a]**
ENVIRONMENTAL, INC., 2004
(Page 2 of 2)

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits
STW-1037	11/15/04	Sr-89	42.2 ± 3.5	45.7 ± 5.0	37.0 - 51.5
STW-1037	11/15/04	Sr-90	37.3 ± 1.3	36.6 ± 5.0	27.9 - 45.3
STW-1038	11/15/04	Ba-133	75.5 ± 0.8	78.4 ± 7.8	64.8 - 92.0
STW-1038	11/15/04	Co-60	12.2 ± 0.7	11.7 ± 5.0	3.0 - 20.4
STW-1038	11/15/04	Cs-134	43.6 ± 0.5	42.9 ± 5.0	34.2 - 51.6
STW-1038	11/15/04	Cs-137	59.5 ± 2.9	60.1 ± 5.0	51.4 - 68.8
STW-1038	11/15/04	Zn-65	50.7 ± 3.2	50.9 ± 5.1	42.1 - 59.7
STW-1039	11/15/04	Gr. Alpha	23.9 ± 2.2	31.7 ± 7.9	18.0 - 45.4
STW-1039	11/15/04	Gr. Beta	35.8 ± 1.3	36.3 ± 5.0	27.6 - 45.0
STW-1040	11/15/04	I-131	22.4 ± 1.9	22.0 ± 5.0	16.9 - 27.3
STW-1041	11/15/04	Ra-226	9.8 ± 0.4	9.2 ± 1.4	6.8 - 11.6
STW-1041	11/15/04	Ra-228	8.6 ± 0.3	7.1 ± 1.8	7.0 - 10.2
STW-1041	11/15/04	Uranium	11.1 ± 0.3	11.4 ± 3.0	6.2 - 16.6
STW-1042	11/15/04	H-3	21218.0 ± 285.0	20700.0 ± 2070.0	17100.0 - 24300.0

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing in drinking water conducted by Environmental Resources Associates (ERA).

[b] Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

[c] Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.

TABLE E-7 DOE's MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2004

Lab Code	Type	Date	Concentration[b] Analysis	Laboratory result	Known Activity	Control Limits[c]	Ratio[h] Env/MAPEP
STSO-1022	Soil	05/01/04	Am-241	65.90 ± 4.50	66.97 ± 6.70	46.88 - 87.06	0.98
STSO-1022	Soil	05/01/04	Co-57	388.90 ± 4.00	399.60 ± 40.00	279.72 - 519.48	0.97
STSO-1022	Soil	05/01/04	Co-60	524.80 ± 7.10	518.00 ± 51.80	362.60 - 673.40	1.01
STSO-1022	Soil	05/01/04	Cs-134	403.40 ± 4.60	414.40 ± 41.40	290.08 - 538.72	0.97
STSO-1022	Soil	05/01/04	Cs-137	829.10 ± 7.60	836.20 ± 83.62	585.34 - 1088.00	0.99
STSO-1022	Soil	05/01/04	K-40	620.60 ± 29.50	604.00 ± 60.40	422.80 - 785.20	1.03
STSO-1022	Soil	05/01/04	Ni-63	254.80 ± 8.40	357.05 ± 35.70	249.94 - 464.17	0.71
STSO-1022[d, e]	Soil	05/01/04	Tc-99	59.00 ± 6.00	117.66 ± 11.78	82.36 - 152.96	0.50
STSO-1022[d, f]	Soil	05/01/04	U-233/4	24.70 ± 3.60	37.00 ± 3.70	25.90 - 48.40	0.67
STSO-1022[d, f]	Soil	05/01/04	U-238	24.20 ± 3.50	38.85 ± 3.90	27.20 - 50.51	0.62
STSO-1022	Soil	05/01/04	Zn-65	743.00 ± 13.10	699.30 ± 69.90	489.51 - 909.09	1.06
STAP-1023	Air Filter	05/01/04	Gr. Alpha	0.06 ± 0.02	0.40 ± 0.04	0.00 - 0.80	0.16
STAP-1023	Air Filter	05/01/04	Gr. Beta	1.37 ± 0.08	1.20 ± 0.12	0.60 - 1.80	1.14
STAP-1024	Air Filter	05/01/04	Am-241	0.08 ± 0.03	0.10 ± 0.01	0.07 - 0.13	0.80
STAP-1024	Air Filter	05/01/04	Co-57	2.07 ± 0.06	2.40 ± 0.24	1.68 - 3.12	0.86
STAP-1024	Air Filter	05/01/04	Co-60	2.11 ± 0.08	2.30 ± 0.23	1.61 - 2.99	0.92
STAP-1024[g]	Air Filter	05/01/04	Cs-134	1.78 ± 0.08	2.90 ± 0.29	2.03 - 3.77	0.61
STAP-1024	Air Filter	05/01/04	Cs-137	1.76 ± 0.08	2.00 ± 0.20	1.40 - 2.60	0.88
STAP-1024	Air Filter	05/01/04	Mn-54	2.84 ± 0.11	3.00 ± 0.30	2.10 - 3.90	0.95
STAP-1024	Air Filter	05/01/04	Pu-238	0.12 ± 0.01	0.13 ± 0.01	0.09 - 0.17	0.92
STAP-1024	Air Filter	05/01/04	Pu-239/40	0.08 ± 0.01	0.09 ± 0.01	0.06 - 0.12	0.92
STAP-1024	Air Filter	05/01/04	Sr-90	0.66 ± 0.19	0.80 ± 0.08	0.56 - 1.04	0.83
STAP-1024	Air Filter	05/01/04	U-233/4	0.23 ± 0.03	0.21 ± 0.02	0.15 - 0.27	1.10
STAP-1024	Air Filter	05/01/04	U-238	0.23 ± 0.03	0.22 ± 0.02	0.15 - 0.29	1.05
STAP-1024	Air Filter	05/01/04	Zn-65	3.90 ± 0.22	4.00 ± 0.40	2.80 - 5.20	0.98
STW-1026	Water	05/01/04	Am-241	0.56 ± 0.07	0.60 ± 0.06	0.42 - 0.78	0.93
STW-1026	Water	05/01/04	Co-57	184.10 ± 13.50	185.00 ± 18.50	129.50 - 240.50	1.00
STW-1026	Water	05/01/04	Co-60	164.40 ± 11.70	163.00 ± 16.30	114.10 - 211.90	1.01
STW-1026	Water	05/01/04	Cs-134	201.10 ± 14.00	208.00 ± 20.80	145.60 - 270.40	0.97
STW-1026	Water	05/01/04	Cs-137	245.50 ± 15.80	250.00 ± 25.00	175.00 - 325.00	0.98
STW-1026	Water	05/01/04	Fe-55	37.60 ± 25.30	33.00 ± 3.30	23.10 - 42.90	1.14
STW-1026	Water	05/01/04	H-3	76.50 ± 5.40	83.00 ± 8.30	58.10 - 107.90	0.92
STW-1026	Water	05/01/04	Mn-54	272.10 ± 17.50	267.00 ± 26.70	186.90 - 347.10	1.02
STW-1026	Water	05/01/04	Ni-63	94.40 ± 3.20	100.00 ± 10.00	70.00 - 130.00	0.94
STW-1026	Water	05/01/04	Pu-238	1.11 ± 0.09	1.20 ± 0.12	0.84 - 1.56	0.93
STW-1026	Water	05/01/04	Sr-90	6.20 ± 1.10	7.00 ± 0.70	4.90 - 9.10	0.89
STW-1026	Water	05/01/04	Tc-99	10.70 ± 1.00	10.00 ± 1.00	7.00 - 13.00	1.07

TABLE E-7 DOE's MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2004

Lab Code	Type	Date	Concentration[b] Analysis	Laboratory result	Known Activity	Control Limits[c]	Ratio[h] Env/MAPEP
STW-1026	Water	05/01/04	U-233/4	0.14 ± 0.02	0.12 ± 0.01	0.08 - 0.16	1.17
STW-1026	Water	05/01/04	U-238	0.94 ± 0.05	0.90 ± 0.09	0.63 - 1.17	1.04
STW-1026	Water	05/01/04	Zn-65	219.60 ± 27.90	208.00 ± 20.80	145.60 - 270.40	1.06
STW-1027	Water	05/01/04	Gr. Alpha	1.20 ± 0.10	1.20 ± 0.12	0.00 - 2.40	1.00
STW-1027	Water	05/01/04	Gr. Beta	4.30 ± 0.10	4.10 ± 0.41	2.05 - 6.15	1.05

[a] Results obtained by Environmental, Inc. ,Midwest Laboratory as a participant in the Department of Energy's Mixed Analyte Performance Evaluation Program, Idaho Operations office, Idaho Falls, Idaho

[b] All results are in Bq/kg or Bq/L as requested by the Department of Energy.

[c] MAPEP results are presented as the known values and expected laboratory precision (1 sigma, 1 determination) and control limits as defined by the MAPEP.

[d] The cause of the deviation seems to be incomplete dissolution of the sample.

[e] A spiked soil sample was prepared. Known activity; 32.98 pCi/g; laboratory result 33.47 pCi/g.

[f] The sample was reanalyzed with the same results. Investigation is in progress.

[g] Based on the results of gamma emitting isotopes (Cs-137 and Co-60), the filter geometry appears to be biased by -10%. Addition of the summation peak at 1400 KeV results in a recalculation of 2.12 ± 0.15 Bq/sample.

[h] Ratio of Environmental, Inc. to MAPEP results.

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