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

SUBJECT: Annual Radiological Environmental Operating Report No. 67
January 1, 2009 through December 31, 2009

In accordance with the requirements of Section 5.6.2 of the Peach Bottom Atomic Power Station, Units 2 and 3 Technical Specifications, this letter submits the Annual Radiological Environmental Operating Report No. 67. This report provides the 2009 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 and 3, had no adverse impact on the environment. There are no commitments contained in this letter.

If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,

Garey L. Stathes

Garey L. Stathes, Plant Manager
Peach Bottom Atomic Power Station

GLS/LJL/AMC/bcb

Enclosure

ccn 10-43

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

IE25
NRR

Docket No: 50-277
50-278

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 and 3

Annual Radiological
Environmental Operating Report

Report No. 67
1 January Through 31 December 2009

Prepared By

Exelon SM
Nuclear

Peach Bottom Atomic Power Station
Delta, PA 17314

April 2010

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I. Executive Summary

In 2009, the dose from both liquid and gaseous effluents was conservatively calculated for the Maximum Exposed Member of the Public for PBAPS. The results of those calculations and their comparison to the allowable limits were as follows:

Effluent	Applicable Organ	Estimated Dose	Age Group	Location		% of Applicable Limit	Limit	Unit
				Distance (meters)	Direction (toward)			
Noble Gas	Gamma - Air Dose	1.61E-01	All	1097	SSE	8.05E-01	20	mRad
Noble Gas	Beta – Air Dose	1.10E-01	All	1097	SSE	2.75E-01	40	mRad
Gaseous	Total Body	2.62E-01	All	1097	SSE	2.62E+00	10	mrem
Gaseous	Skin	4.73E-01	All	1097	SSE	1.58E+00	30	mrem
Iodine, Particulate & Tritium	Thyroid	2.95E-02	Child	1097	SSE	9.83E-02	30	mrem
Direct Radiation	Total Body	<LLD	All	1150	SSE	<LLD	22	mrem
Liquid	Total Body	3.00E-03	Adult	Site Boundary		5.00E-02	6	mrem
Liquid	Liver	4.72E-03	Adult	Site Boundary		2.36E-02	20	mrem

Doses calculated were well below all ODCM limits.

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 2009 through 31 December 2009. During that time period, 1,180 analyses were performed on 972 samples.

Surface water samples were analyzed for concentrations of tritium and gamma emitting nuclides. No tritium, fission or activation products were found.

Drinking water samples were analyzed for concentrations of gross beta, 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. Low levels of tritium were detected in drinking water.

Precipitation samples were analyzed for concentrations of tritium. No tritium was detected above the Exelon specified LLD of 200 pCi/l.

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 two of three sediment locations and was consistent with data from previous years.

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 and food product samples. Milk samples were analyzed for low level concentrations of Iodine-131 and gamma emitting nuclides. No activation or fission products were found. Food product samples were analyzed for concentrations of gamma emitting nuclides. No Peach Bottom activation or fission products were detected.

Ambient gamma radiation levels were measured quarterly throughout the year. 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.

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.

The fourth Annual Radiological Groundwater Protection Program Report (ARGPPR) is found in Appendix F.

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 Radiological Environmental Monitoring Program (REMP) for PBAPS was initiated in 1966. This report covers those analyses performed by Teledyne Brown Engineering (TBE), Global Dosimetry, and Environmental Inc. (Midwest Labs) on samples collected during the period 01 January 2009 through 31 December 2009.

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 operation to assess station radiological effects (if any) on man and the environment.

III. Program Description

A. Sample Collection

Normandeau Associates Inc., (NAI), collected samples for the PBAPS REMP for Exelon Nuclear. This section describes the general collection methods used by NAI to obtain environmental samples for the PBAPS REMP in 2009. 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 NAI 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, precipitation, fish, and sediment. Surface water from two locations (1LL and 1MM) and drinking water from three locations (13B ,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. Precipitation samples from three locations (1A, 1B, 4M) were collected monthly. Fish samples comprising the flesh from two groups: Bottom Feeder (channel catfish and flathead catfish) and Predator (smallmouth bass, largemouth bass, walleye, bluegill, and green sunfish) 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). An additional set of sediment samples was collected in December to validate results.

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, 1C, 1Z, 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 (J, R, S, T and U) from April through November and monthly from December through March. Six additional locations (C, D, E, L, P and W) were sampled quarterly. Locations C, E, and T 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.

Food product samples were collected annually at three locations (1Q, 2B, and 55) in October. All samples were collected in new unused plastic bags 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 19 locations (1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, 1K, 1L, 1M, 1NN, 1P, 1Q, 1R, 2, 2B, and 40), 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 23 locations (14, 15, 17, 22, 23, 26, 27, 31A, 32, 3A, 42, 43, 44, 45, 46, 47, 48, 49, 4K, 5, 50, 51, and 6B), extending to approximately 5 miles from the site and designed to measure possible exposures to close-in population.

The balance of four locations (16, 18, 19, and 24) 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 2009. 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, sediment and food products.
3. Concentrations of tritium in surface, drinking water and precipitation 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.

1. Lower Limit of Detection and Minimum Detectable Concentration

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 concentration (MDC) 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 MDC 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 12 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Nb-95, I-131, 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.

For food product seven nuclides, Be-7, Mn-54, Co-58, Co-60, I-131, Cs-134, and Cs-137 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 2009 the PBAPS REMP had a sample collection recovery rate of better than 99%. The exceptions to this program are listed below:

1. Milk Farm T (previously milk farm A) went out of business. The first milk collection was taken from new sample location Farm V. This deviation is classified as No Impact to the program for the following period (IR#: 856732):

   01/12/09

2. The air monitoring station was not running due to a blown fuse. Sampler did not run long enough to constitute a valid sample for the following period and location (IR# 883091):

   02/12/09 – 02/19/09, Location 3A

3. A TLD box needed to be replaced. This deviation is classified as No Impact to the program for the following periods and location (IR# 913246):

   04/10/09, Location 27

4. The collection data for surface water samples collected by PBAPS personnel did not match between the COC and the date/time on the sample bottles. Primary REMP sampler did figure out the correct time/date for the samples. This deviation is classified as No Impact to the program for the following periods and location(s) (IR# 924933):

   05/04/09 – 05/10/09, Locations 1LL and 1MM
   05/18/09 – 05/24/09, Locations 1LL and 1MM
   05/21/09 – 05/28/09, Locations 1LL and 1MM

5. Only one broadleaf vegetation sample (i.e. edible leaves or leaves from plants that produce edible products) was available for the following period and location (IR# 925487):

   May, Location 1Q

6. Timer from air station was not operational at time of filter exchange, but the pump was running. Because the sample run-time could not be determined, samples were considered to be invalid for the following period and location (IR# 928847):

   05/28/09 – 06/04/09, Location 1Z

7. Cesium-137 was detected in sediment samples taken 06/10/2009; doses calculated were negligible for the following locations (IR# 862694):

   Location 4J and 4T

8. REMP flow orifice # 2677540 was found out-of-tolerance for the following period and location:

   09/02/09, Location 1A

9. Only two species of vegetation were available for collection. This deviation is classified as No Impact to the program for the following period and location (IR# 978386):

   09/21/09, Location 1Q

10. Third quarter TLD results were outside the 2 sigma limits for the following locations (IR# 978386):

    Location 1A, 1B, 1G, 1L, 2, 22, 44

11. Low levels of tritium were detected in drinking water composite samples for the following period and locations: (IR# 990700)

    07/02/10 – 10/01/09 Location 13B and 6I

12. Alternate sampler placed air particulate filter in filter holder incorrectly. According to NAI procedure ER16 section 9.4 states that the samples are invalid if conditions are found that would make the sample suspect. Sample was considered to be invalid for the following period and location (IR# 983369):

    10/15/09 – 10/22/09, Location 1B

13. The TLDs at the station were found lying on the ground. Apparently, birds had "removed" them from the holder. The holder was replaced. This deviation is classified as No Impact to the program for the following period and location (IR#988093):

    10/29/09, Location 6B

14. A drinking water sample was temporarily unavailable because Chester Water Authority was shutdown for the following period and location (IR# 999869):

    12/03/09 – 12/31/09, Locations 1LL, 1MM

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

Drinking water station 13B was added to the REMP program in July.

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.

Gamma Spectrometry

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

2. Drinking Water

Monthly samples were collected from continuous water samplers at three locations (13B, 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 total gross beta activity (Tables C-II.1 and Figures C-1 Appendix C). Gross beta was detected in 16 of 27 samples. The values ranged from 2.2 to 6.2 pCi/l. Concentrations detected 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.2, Appendix C). Tritium activity was detected in two of 10 samples. The values ranged from 148 to 182 pCi/l.

Gamma Spectrometry

Samples from both locations were analyzed for gamma emitting nuclides (Table C-II.3, Appendix C). All nuclides were less than the MDC.

3. Precipitation

Samples were collected monthly at three locations (1A, 1B, and 4M). The following analysis was performed:

Tritium

Monthly samples from three locations were analyzed for tritium activity (Table C-III.1, Appendix C). Tritium was detected in one of 36 samples at a concentration of 116 pCi/l.

4. Fish

Fish samples comprised of bottom feeder and predator 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 2,570 to 4,760 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.

5. 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-V.1, Appendix C). Potassium-40 was found in all locations and ranged from 10,200 to 17,400 pCi/kg dry. The fission product Cs-137 was detected in two of six samples and ranged from 110 to 143 pCi/kg. The activity of Cs-137 detected was consistent with those detected in the preoperational years. 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, 1C and 1Z), 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 8 to 31 E-3 pCi/m3, with a mean of 18 E-3 pCi/m3. The results from the Intermediate Distance location (Group II) ranged from 8 to 26 E-3 pCi/m3 with a mean of 17 E-3 pCi/m3. The results from the Distant location (Group III) ranged from 7 to 27 E-3 pCi/m3 with a mean of 16 E-3 pCi/m3 A comparison of the weekly mean values for 2009 indicate no notable differences among the three groups (Figure C-5, Appendix C). In addition, a comparison of the 2009 air particulate data with previous years data indicate no effects from the operation of PBAPS (Figure C-4, 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 18 of 20 samples. These values ranged from 42 to 119 E-3 pCi/m^3. All other nuclides were less than the MDC.

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 MDC.

2. Terrestrial

a. Milk

Samples were collected from five locations (J, R, S, T and U) biweekly April through November and monthly December through March. Samples from six additional locations (C, D, E, L, P and W) 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 MDC.

Gamma Spectrometry

Each milk sample from locations J, R, S, U and V 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 677 to 1,550 pCi/l. All other nuclides were less than the MDC. Comparison of the 2009 Cs-137 milk data with previous years data indicate no effects from the operation of PBAPS (Figure C-7 (Appendix C).

b. Food Products

Food product samples were collected at three locations (1Q, 2B and 55) when available. Of these locations two, 2B and 55, could be affected by Peach Bottom's effluent releases. The following analysis was performed:

Gamma Spectrometry

Each food product sample from locations 1Q, 2B and 55 was analyzed for concentrations of gamma emitting nuclides (Table C-VIII.1, Appendix C).

Nuclides detected were naturally occurring Be-7, and K-40. Beryllium-7 activity was found in 28 of 38 samples and ranged from 120 to 3,230 pCi/kg wet. Potassium-40 activity was found in all samples and ranged from 2,210 to 8,430 pCi/kg wet. All other nuclides were less than the MDC.

C. Ambient Gamma Radiation

Ambient gamma radiation levels were measured using Panasonic 814 ($CaSO_4$) thermoluminescent dosimeters. Forty-seven TLD locations were established around the site. Results of TLD measurements are listed in Tables C-IX.1 through C-IX.3 and Figure C-7, Appendix C.

All TLD measurements were below 10 mR per standard month, with a range of 2.9 to 8.4 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-7, Appendix C)

D. Independent Spent Fuel Storage Installation (ISFSI)

The Independent Spent Fuel Storage Installation (ISFSI) was utilized beginning June 2000. As of 2009, a total of 44 TN-68 casks, each loaded with 68 fuel bundles, were in place on the ISFSI pad. Onsite location 1R, which is located on the hillside overlooking the ISFSI showed a general increase of 1 to 2 mR per standard month from pre-IFSFI loading (Figure C-8, Appendix C). Location 2B, which represents the nearest residence, showed no effect in dose rate from the IFSFI pad. 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 the 2009 growing season around the Peach Bottom Atomic Power Station (PBAPS) was performed by Normandeau Associates, Inc., NAI 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. 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	2.7
2 NNE	2.1	2.1	2.1
3 NE	2.0	2.0	2.1
4 ENE	2.0	2.4	2.1
5 E	2.0	2.8	2.8
6 ESE	3.9	3.9	3.8
7 SE	3.7	3.7	3.6
8 SSE	0.7	0.7	-
9 S	1.0	1.0	-
10 SSW	1.2	1.8	2.7
11 SW	0.9	0.9	4.6
12 WSW	0.8	-	0.9
13 W	1.0	1.0	1.0
14 WNW	0.5	0.8	4.2
15 NW	0.6	1.8	1.8
16 NNW	1.0	-	-

F. Errata Data

This section provides corrections to the 2007 and 2008 Annual Radiological Environmental Operating Reports (AREOR).

1. In regards to the 2007 AREOR, an unintentional error was noticed in the text of the report that contained information from the 2006 Inter-Laboratory Comparison Program (ICP). The corresponding pages that should be disregarded in the 2007 AREOR are pages 18 and 19.

2. In regards to the 2008 AREOR, four program exceptions were inadvertently left out of the 2008 AREOR. The corresponding pages in the 2008 AREOR are pages 8 and 9 for the following exceptions:

    a. February 11, 2008 – No power to the discharge composite sampler, (IR#734475)
    b. February 23, 2008 – Composite sampler at the discharge canal is not collecting sample, (IR#740208)
    c. April 14, 2008 - Discharge canal composite sampler receiver tank air leak, (IR#763223)
    d. October 16, 2008 - Broken fitting on discharge canal composite sampler – ODCM, (IR#831817).

The corrected pages for the 2007 and 2008 reports are contained in Appendix F of this report.

G. Summary of Results – Inter-Laboratory Comparison Program

The primary and secondary laboratories analyzed Performance Evaluation (PE) samples of air particulate, air iodine, milk, soil, food products and water matrices (Appendix E). The PE samples, supplied by Analytics Inc., Environmental Resource Associates (ERA) and DOE's Mixed Analyte Performance Evaluation Program (MAPEP), were evaluated against the following pre-set acceptance criteria:

1. Analytics Evaluation Criteria

   Analytics' evaluation report provides a ratio of laboratory results and Analytics' known value. Since flag values are not assigned by Analytics, TBE-ES evaluates the reported ratios based on internal QC requirements, which are based on the DOE MAPEP criteria.

2. ERA Evaluation Criteria

   ERA's evaluation report provides an acceptance range for control and warning limits with associated flag values. ERA's acceptance limits are established per the USEPA, NELAC, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits, as applicable. The acceptance limits are either determined by a regression equation specific to each analyte or a fixed percentage limit promulgated under the appropriate regulatory document.

3. DOE Evaluation Criteria

   MAPEP's evaluation report provides an acceptance range with associated flag values.
   The MAPEP defines three levels of performance: Acceptable (flag = "A"), Acceptable with Warning (flag = "W"), and Not Acceptable (flag = "N"). Performance is considered acceptable when a mean result for the specified analyte is ± 20% of the reference value. Performance is acceptable with warning when a mean result falls in the range from ±20% to ±30% of the reference value (i.e., 20% < bias < 30%). If the bias is greater than 30%, the results are deemed not acceptable.

For the primary laboratory, 17 out of 18 analytes met the specified acceptance criteria. One sample did not meet the specified acceptance criteria for the following reason:

1. Teledyne Brown Engineering's Analytics June 2009 Zn-65 in AP result of 137 pCi/L was higher than the known value of 101 pCi/L, resulting in a found to known ratio of 1.36. NCR 09-23 was initiated to investigate this failure. The failure appears to be a result of a slightly high bias on Detector 7. A recount on Detector 17 resulted in a Zn-65 result of 101 pCi/L. The detector has been tagged out-of-service until a recalibration can be performed. Detector 7 is not used for client samples.

For the secondary laboratory, Environmental, Inc., 11 out of 14 analytes met the specified acceptance criteria. Four samples did not meet the specified acceptance criteria for following reasons:

1. Environmental Inc.'s ERA April 2009 Cs-137 in water result of 147.7 pCi/L exceeded the lower control limit of 151.0 pCi/L. All gamma emitters showed a low bias. A large plastic burr found on the base of the Marinelli kept the beaker from sitting directly on the detector. Recounting in a different beaker gave an acceptable result of 155.33 ± 14.55 pCi/L.
2. Environmental Inc.'s ERA April 2009 H-3 in water result of 22819 pCi/L exceeded the upper control limit of 22300 pCi/L. A recount of the original vials averaged 23,009 pCi/L. Reanalysis results were acceptable at 19,170 pCi/L. No cause could be found for the failure.
3. Environmental Inc.'s MAPEP January 2009 Sr-90 in AP result of 0.93 exceeded the upper control limit of 0.83. Reanalysis results were acceptable at 0.54 ± 0.12 Bq/filter. No cause could be found for the failure.
4. Environmental Inc.'s MAPEP July 2009 Sr-90 in soil result of 310.5 Bq/kg exceeded the lower control limit of 319 Bq/kg. Reanalysis results were acceptable at 363.3 Bq/kg. Incomplete separation of strontium from calcium could result in a higher recovery percentage and consequently lower reported activity.

The Inter-Laboratory Comparison Program provides evidence of "in control" counting systems and methods, and that the laboratories are producing accurate and reliable data.

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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2009

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	H-3	8	200	<LLD	<LLD	-		0
	GAMMA	24						
	MN-54		15	<LLD	<LLD	-		0
	CO-58		15	<LLD	<LLD	-		0
	FE-59		30	<LLD	<LLD	-		0
	CO-60		15	<LLD	<LLD	-		0
	ZN-65		30	<LLD	<LLD	-		0
	NB-95		15	<LLD	<LLD	-		0
	ZR-95		30	<LLD	<LLD	-		0

THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2009

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	I-131		15	<LLD	<LLD	-		0
	CS-134		15	<LLD	<LLD	-		0
	CS-137		18	<LLD	<LLD	-		0
	BA-140		60	<LLD	<LLD	-		0
	LA-140		15	<LLD	<LLD	-		0
DRINKING WATER (PCI/LITER)	GR-B	29	4	4.1 (10/17) (2.2/5.4)	3.5 (7/12) (2.4/6.2)	4.1 (3/5) (3.7/4.6)	13B INDICATOR	0
	H-3	11	200	187 (2/7) (182/191)	148 (1/4)	187 (2/3) (182/191)	13B INDICATOR	0
	GAMMA	29						
	MN-54		15	<LLD	<LLD	-		0

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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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2009

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
DRINKING WATER (PCI/LITER)	CO-58		15	<LLD	<LLD	-		0
	FE-59		30	<LLD	<LLD	-		0
	CO-60		15	<LLD	<LLD	-		0
	ZN-65		30	<LLD	<LLD	-		0
	NB-95		15	<LLD	<LLD	-		0
	ZR-95		30	<LLD	<LLD	-		0
	I-131		15	<LLD	<LLD	-		0
	CS-134		15	<LLD	<LLD	-		0

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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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2009

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
DRINKING WATER (PCI/LITER)	CS-137		18	<LLD	<LLD	-		0
	BA-140		60	<LLD	<LLD	-		0
	LA-140		15	<LLD	<LLD	-		0
PRECIPITATION WATER (PCI/LITER)	H-3	36	NA	116 (1/36)	NA	116 (1/12)	1B INDICATOR WEATHER STATION #2 0.49 MILES NW OF SITE	0
BOTTOM FEEDER (PCI/KG WET)	GAMMA K-40	4	NA	3010 (2/2) (2660/3360)	2700 (2/2) (2570/2830)	3010 (2/2) (2660/3360)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
	MN-54		130	<LLD	<LLD	-		0
	CO-58		130	<LLD	<LLD	-		0
	FE-59		260	<LLD	<LLD	-		0

THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2009

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
BOTTOM FEEDER (PCI/KG WET)	CO-60		130	<LLD	<LLD	-		0
	ZN-65		260	<LLD	<LLD	-		0
	CS-134		130	<LLD	<LLD	-		0
	CS-137		150	<LLD	<LLD	-		0
PREDATOR (PCI/KG WET)	GAMMA	4						
	K-40		NA	3855 (2/2) (2950/4760)	3950 (2/2) (3850/4050)	3950 (2/2) (3850/4050)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	MN-54		130	<LLD	<LLD	-		0
	CO-58		130	<LLD	<LLD	-		0
	FE-59		260	<LLD	<LLD	-		0

THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2009

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
PREDATOR (PCI/KG WET)	CO-60		130	<LLD	<LLD	-		0
	ZN-65		260	<LLD	<LLD	-		0
	CS-134		130	<LLD	<LLD	-		0
	CS-137		150	<LLD	<LLD	-		0
SEDIMENT (PCI/KG DRY)	GAMMA K-40	6	NA	14925 (4/4) (11300/17400)	11700 (2/2) (10200/13200)	17250 (2/2) (17100/17400)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	MN-54		NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0

THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2009

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (*LLD*)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SEDIMENT (PCI/KG DRY)	CS-134		150	<LLD	<LLD	-		0
	CS-137		180	127 (2/4) (110/143)	<LLD	143 (1/2)	4J INDICATOR CONOWINGO POND NEAR BERKIN'S RUN 1.39 MILES SE OF SITE	0
AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	257	10	17 (253/257) (7/31)	NA	18 (50/51) (8/31)	1Z INDICATOR WEATHER STATION #1 0.29 MILES SE OF SITE	0
	GAMMA BE-7	20	NA	83 (18/20) (42/119)	NA	94 (4/4) (77/119)	1Z INDICATOR WEATHER STATION #1 0.29 MILES SE OF SITE	0
	MN-54		NA	<LLD	NA	-		0
	CO-58		NA	<LLD	NA	-		0
	CO-60		NA	<LLD	NA	-		0
	CS-134		50	<LLD	NA	-		0

THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: *YORK COUNTY, PA* ***REPORTING PERIOD:*** ***2009***

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
AIR PARTICULATE (E-3 PCI/CU.METER)	CS-137		60	<LLD	NA	-		0
AIR IODINE (E-3 PCI/CU.METER)	GAMMA I-131	258	70	<LLD	NA	-		0
MILK (PCI/LITER)	I-131	134	1	<LLD	<LLD	-		0
	GAMMA K-40	134	NA	1254 (104/104) (769/1550)	1222 (30/30) (677/1380)	1300 (4/4) (1190/1550)	P INDICATOR 2.08 MILES ENE OF SITE	0
	CS-134		15	<LLD	<LLD	-		0
	CS-137		18	<LLD	<LLD	-		0
	BA-140		60	<LLD	<LLD	-		0
MILK (PCI/LITER)	LA-140		15	<LLD	<LLD	-		0

THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
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, 2009

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2009

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
VEGETATION (PCI/KG WET)	GAMMA	38						
	BE-7		NA	917 (18/24) (120/3230)	562 (10/14) (320/1050)	1358 (7/12) (120/3230)	2B INDICATOR SSE SECTOR	0
	MN-54		NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0
	I-131		60	<LLD	<LLD	-		0
	CS-134		60	<LLD	<LLD	-		0
	CS-137		80	<LLD	<LLD	-		0
DIRECT RADIATION (MILLI-ROENTGEN/STD.MO.)	TLD-QUARTERLY	188	NA	5.9 (172/172) (2.9/8.4)	5.4 (16/16) (4.0/6.7)	7.3 (4/4) (6.9/8.4)	1R INDICATOR TRANSMISSION LINE HILL 0.53 MILES SSE	0

THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

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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, 2009

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
13B	Chester Water Authority Susquehanna Pumping Station- Composite	2.52 miles ESE
C. Precipitation		
1A		0.29 miles SE
1B		0.48 miles NW
4M		8.71 miles SE
D. Fish		
4	Conowingo Pond	Located in Conowingo Pond below the discharge
6	Holtwood Pond (Control)	Located in Holtwood Pond
E. 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
F. 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
G. Milk – bi-weekly / monthly		
J		0.97 miles W
R		0.89 miles WSW
S		3.61 miles SE
T	(Control)	6.55 miles W
U		2.20 miles SSW
H. Milk – quarterly		
C	(Control)	9.54 miles NW
D		3.51 miles NE

TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2009

Location	Location Description	Distance & Direction from PBAPS Vents
H. Milk – quarterly (cont'd)		
E	(Control)	8.74 miles N
L		2.12 miles NE
P		2.08 miles ENE
W		16.9 miles S
I. Food Products – monthly when available		
1Q		0.79 miles NW
2B		0.73 miles SSE
55	(Control)	9.9 miles NE
J. 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
1K	Peach Bottom Site Area	0.87 miles SW
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		
2B	Burk Property	0.71 miles SSE
5	Wakefield, PA	4.64 miles E
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

TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2009

Location	Location Description	Distance & Direction from PBAPS Vents
J. Environmental Dosimetry – TLD (cont'd)		
Intermediate Distance (cont'd)		
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
43	Drumore Township School	5.00 miles NNE
46	Broad Creek	4.48 miles SSE
47	Broad Creek Scout Camp	4.26 miles S
Control		
16	Nottingham, PA Substation (Control)	12.72 miles E
24	Harrisville, MD Substation (Control)	10.91 miles ESE
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, 2009

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Monthly composite from a continuous water compositor.	NAI-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.	NAI-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.	NAI-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)
Drinking Water	Gamma Spectroscopy	Monthly composite from a continuous water compositor.	NAI-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.	NAI-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	NAI-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	NAI-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	NAI-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, 2009

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	NAI-ER8 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-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	NAI-ER10 Collection of milk samples for radiological analysis (Peach Bottom Atomic Power 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	NAI-ER10 Collection of milk 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
Food Products	Gamma Spectroscopy	Monthly when available	NAI-ER12 Collection of vegetation samples for radiological analysis (Peach Bottom Atomic Power Station)	1000 grams	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)	NAI-ER9 Collection of TLD samples for radiological analysis (Peach Bottom Atomic Power Station)	2 dosimeters	Global Dosimetry

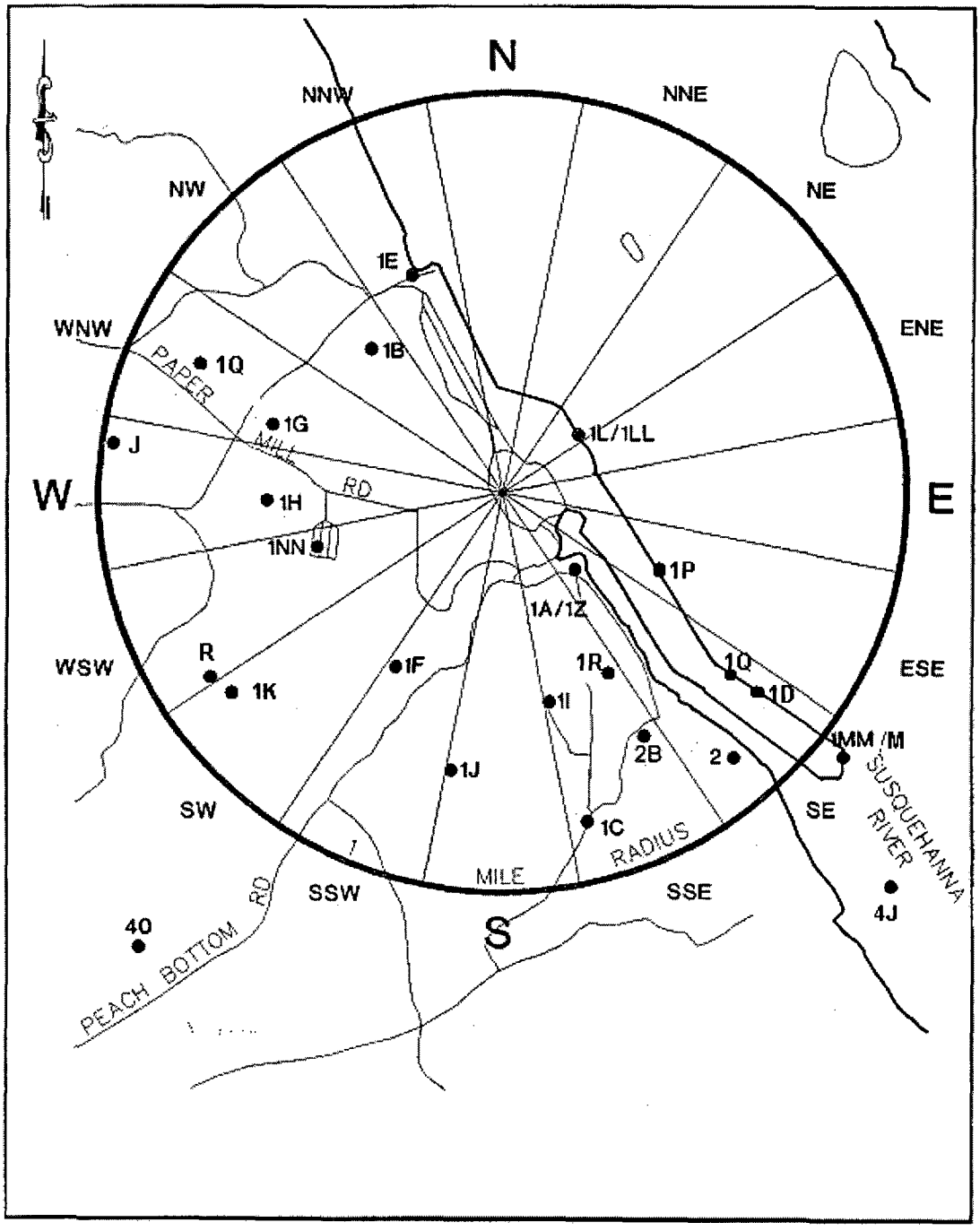


Figure B-1
Environmental Sampling Locations Between Within One Mile of the Peach Bottom Atomic Power Station, 2009

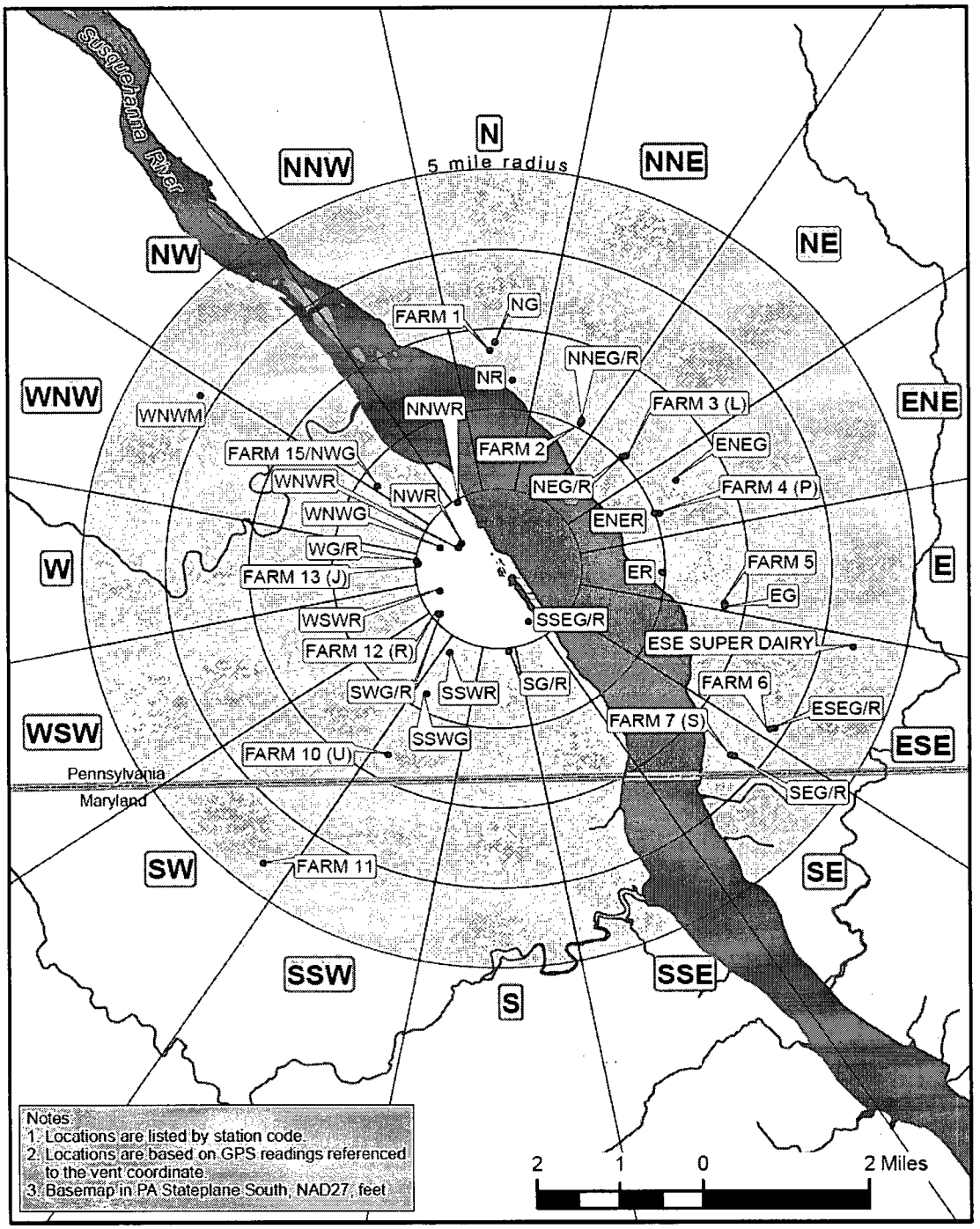


Figure B-2
Environmental Sampling Locations Between One and Approximately Five Miles of the Peach Bottom Atomic Power Station, 2009

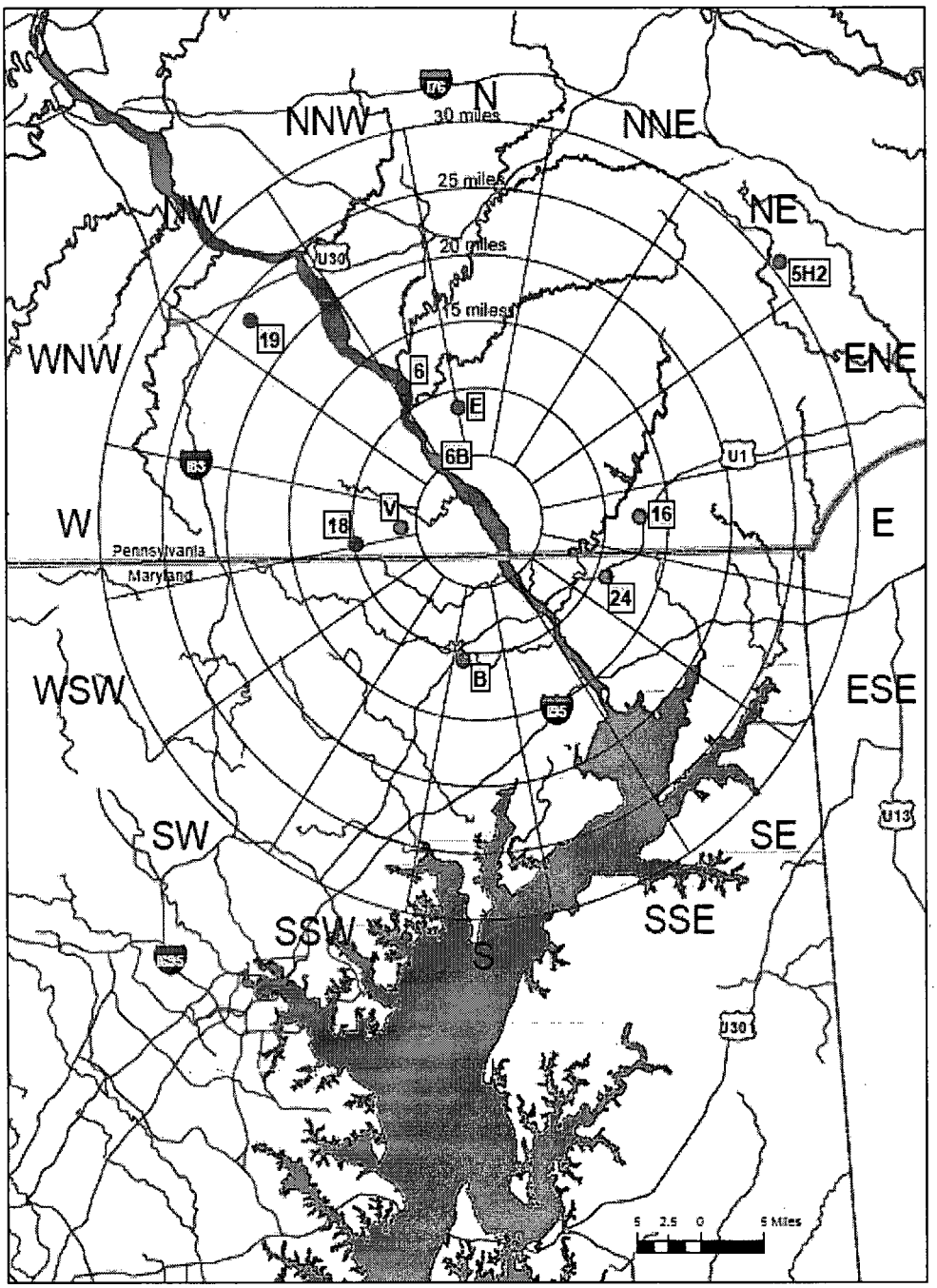


Figure B-3
Environmental Sampling Locations Greater Than
Five Miles from the Peach Bottom Atomic Power Station, 2009

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, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1LL	1MM
12/31/08 - 04/01/09	< 187	< 188
04/01/09 - 07/01/09	< 182 (1)	< 189 (1)
07/01/09 - 09/30/09	< 143	< 144
09/30/09 - 12/30/09	< 170	< 171
MEAN	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
1LL	12/31/08 - 01/28/09	< 3	< 4	< 7	< 3	< 6	< 4	< 7	< 14	< 3	< 3	< 28	< 8
	01/28/09 - 02/25/09	< 4	< 4	< 7	< 4	< 7	< 4	< 8	< 15	< 3	< 4	< 29	< 11
	02/25/09 - 04/01/09	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 22	< 5
	04/01/09 - 04/29/09	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 15	< 1	< 1	< 17	< 5
	04/29/09 - 05/27/09	< 4 (1)	< 4	< 9	< 4	< 7	< 5	< 5	< 14	< 4	< 4	< 24	< 7
	05/27/09 - 07/01/09	< 6	< 4	< 9	< 4	< 10	< 5	< 9	< 14	< 4	< 5	< 32	< 8
	07/01/09 - 07/29/09	< 1	< 1	< 3	< 1	< 3	< 2	< 3	< 9	< 1	< 1	< 15	< 5
	07/29/09 - 09/02/09	< 4	< 5	< 12	< 5	< 9	< 6	< 8	< 15	< 5	< 5	< 36	< 12
	09/02/09 - 09/30/09	< 4	< 4	< 12	< 4	< 10	< 4	< 8	< 15	< 4	< 4	< 31	< 12
	09/30/09 - 10/28/09	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 6	< 2	< 2	< 13	< 5
	10/28/09 - 12/02/09	< 3	< 3	< 6	< 3	< 5	< 3	< 6	< 14	< 3	< 3	< 25	< 7
	12/02/09 - 12/30/09	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 8	< 1	< 1	< 13	< 3
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
1MM	12/31/08 - 01/28/09	< 4	< 4	< 9	< 3	< 7	< 4	< 7	< 13	< 4	< 4	< 25	< 9
	01/28/09 - 02/25/09	< 4	< 4	< 8	< 4	< 8	< 4	< 7	< 13	< 4	< 4	< 27	< 9
	02/25/09 - 04/01/09	< 1	< 3	< 5	< 3	< 5	< 3	< 4	< 10	< 2	< 2	< 19	< 7
	04/01/09 - 04/29/09	< 1	< 1	< 2	< 1	< 1	< 1	< 2	< 15	< 1	< 1	< 17	< 3
	04/29/09 - 05/27/09	< 4 (1)	< 5	< 11	< 5	< 11	< 5	< 10	< 15	< 5	< 6	< 31	< 11
	05/27/09 - 07/01/09	< 3	< 2	< 7	< 4	< 5	< 2	< 5	< 6	< 2	< 3	< 16	< 7
	07/01/09 - 07/29/09	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 6	< 1	< 1	< 9	< 3
	07/29/09 - 09/02/09	< 3	< 4	< 9	< 3	< 7	< 4	< 7	< 11	< 3	< 3	< 24	< 7
	09/02/09 - 09/30/09	< 3	< 3	< 8	< 3	< 6	< 4	< 6	< 13	< 3	< 4	< 26	< 8
	09/30/09 - 10/28/09	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 15	< 5
	10/28/09 - 12/02/09	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 14	< 3	< 3	< 29	< 10
	12/02/09 - 12/30/09	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 13	< 1	< 1	< 19	< 6
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-II.1 **CONCENTRATIONS OF GROSS BETA IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	13B	4L	6I
01/02/09 - 01/29/09	<	< 2.4	< 2.5
01/29/09 - 02/26/09	<	4.0 ± 1.4	2.4 ± 1.3
02/26/09 - 04/02/09	<	2.2 ± 1.2	2.7 ± 1.2
04/02/09 - 04/30/09	<	< 2.1	< 2.1
04/30/09 - 05/28/09	<	2.8 ± 1.5	3.2 ± 1.6
05/28/09 - 07/02/09	<	5.3 ± 1.7	6.2 ± 1.8
07/02/09 - 07/30/09	3.7 ± 1.8 (1)	3.1 ± 1.8	< 2.6
07/30/09 - 09/04/09	< 2.4	< 2.4	2.8 ± 1.7
09/04/09 - 10/01/09	3.9 ± 1.7	5.4 ± 1.8	4.1 ± 1.7
10/01/09 - 10/29/09	4.6 ± 1.9	4.8 ± 1.9	3.3 ± 1.8
10/29/09 - 12/02/09	< 2.4	< 2.4	< 2.4
12/02/09 - 12/30/09	(2)	< 2.4	< 2.5
MEAN	4.1 ± 0.9	3.9 ± 2.5	3.5 ± 2.6

TABLE C-II.2 **CONCENTRATIONS OF TRITIUM IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	13B	4L	6I
01/02/09 - 04/02/09	<	< 181	< 179
04/02/09 - 07/02/09		< 192	< 186
07/02/09 - 10/01/09	182 ± 98 (1)	< 144	148 ± 99 (2)
08/03/09 - 09/01/09	191 ± 126		
10/01/09 - 12/30/09	< 174 (2)	< 171	< 172
MEAN	187 ± 13	-	148

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
(1) SEE PROGRAM CHANGES SECTIONS FOR EXPLANATION
(2) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-II.3 **CONCENTRATIONS OF GAMMA EMITTER IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54		Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
13B	01/02/09 - 01/29/09	<		<	<	<	<	<	<	<	<	<	<	<
	01/29/09 - 02/26/09	<		<	<	<	<	<	<	<	<	<	<	<
	02/26/09 - 04/02/09	<		<	<	<	<	<	<	<	<	<	<	<
	04/02/09 - 04/30/09	<		<	<	<	<	<	<	<	<	<	<	<
	04/30/09 - 05/28/09	<		<	<	<	<	<	<	<	<	<	<	<
	05/28/09 - 07/02/09	<		<	<	<	<	<	<	<	<	<	<	<
	07/23/09 - 07/23/09	< 4	(1)	< 5	< 10	< 4	< 10	< 5	< 8	< 8	< 5	< 5	< 22	< 7
	08/03/09 - 09/01/09	< 5		< 5	< 11	< 5	< 8	< 5	< 8	< 14	< 4	< 4	< 32	< 10
	09/08/09 - 09/28/09	< 4		< 3	< 8	< 3	< 6	< 4	< 5	< 14	< 3	< 3	< 28	< 9
	10/05/09 - 10/26/09	< 2		< 2	< 5	< 2	< 5	< 2	< 4	< 8	< 2	< 2	< 18	< 5
	11/02/09 - 11/16/09	< 1	(2)	< 1	< 4	< 1	< 2	< 2	< 3	< 13	< 1	< 1	< 28	< 8
	MEAN	-		-	-	-	-	-	-	-	-	-	-	-
4L	01/02/09 - 01/29/09	< 4		< 4	< 9	< 4	< 7	< 5	< 8	< 14	< 4	< 5	< 32	< 11
	01/29/09 - 02/26/09	< 4		< 5	< 10	< 4	< 7	< 4	< 9	< 15	< 4	< 5	< 27	< 11
	02/26/09 - 04/02/09	< 2		< 2	< 4	< 2	< 4	< 2	< 4	< 9	< 2	< 2	< 16	< 5
	04/02/09 - 04/30/09	< 1		< 1	< 2	< 1	< 2	< 1	< 2	< 13	< 1	< 1	< 17	< 4
	04/30/09 - 05/28/09	< 4		< 4	< 8	< 3	< 6	< 4	< 8	< 11	< 4	< 4	< 26	< 8
	05/28/09 - 07/02/09	< 4		< 4	< 9	< 4	< 5	< 3	< 7	< 9	< 3	< 3	< 23	< 6
	07/02/09 - 07/30/09	< 2		< 2	< 4	< 2	< 3	< 2	< 3	< 10	< 1	< 2	< 16	< 6
	07/30/09 - 09/04/09	< 4		< 5	< 9	< 3	< 9	< 5	< 8	< 12	< 4	< 4	< 27	< 9
	09/04/09 - 10/01/09	< 5		< 6	< 10	< 6	< 9	< 6	< 10	< 14	< 4	< 5	< 31	< 10
	10/01/09 - 10/29/09	< 1		< 1	< 3	< 1	< 3	< 2	< 3	< 5	< 1	< 2	< 11	< 3
	10/29/09 - 12/02/09	< 3		< 3	< 7	< 3	< 6	< 3	< 5	< 13	< 2	< 2	< 27	< 9
	12/02/09 - 12/30/09	< 1		< 1	< 4	< 1	< 2	< 2	< 3	< 14	< 1	< 1	< 18	< 6
	MEAN	-		-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION
(2) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-II.3 **CONCENTRATIONS OF GAMMA EMITTER IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
6I	01/02/09 - 01/29/09	< 4	< 4	< 9	< 4	< 8	< 4	< 7	< 14	< 3	< 4	< 29	< 7
	01/29/09 - 02/26/09	< 5	< 5	< 10	< 5	< 9	< 5	< 6	< 14	< 4	< 5	< 32	< 11
	02/26/09 - 04/02/09	< 2	< 2	< 5	< 2	< 4	< 2	< 3	< 9	< 2	< 2	< 17	< 7
	04/02/09 - 04/30/09	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 15	< 1	< 1	< 18	< 6
	04/30/09 - 05/28/09	< 4	< 4	< 12	< 5	< 8	< 5	< 8	< 13	< 4	< 5	< 30	< 10
	05/28/09 - 07/02/09	< 4	< 5	< 9	< 5	< 8	< 5	< 8	< 11	< 4	< 5	< 27	< 11
	07/02/09 - 07/30/09	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 11	< 2	< 2	< 19	< 6
	07/30/09 - 09/04/09	< 4	< 4	< 9	< 3	< 7	< 4	< 8	< 11	< 4	< 4	< 25	< 9
	09/04/09 - 10/01/09	< 4	< 4	< 9	< 4	< 7	< 5	< 8	< 13	< 4	< 4	< 30	< 10
	10/01/09 - 10/29/09	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 5	< 2	< 2	< 13	< 4
	10/29/09 - 12/02/09	< 2	< 3	< 5	< 2	< 5	< 3	< 5	< 12	< 2	< 2	< 23	< 8
	12/02/09 - 12/30/09	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 8	< 1	< 1	< 12	< 4
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-III.1 **CONCENTRATIONS OF TRITIUM IN PRECIPITATION WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1A	1B	4M
01/02/09 - 01/29/09	< 186	< 174	< 177
01/29/09 - 02/26/09	< 197	< 199	< 187
02/26/09 - 04/02/09	< 182	< 177	< 183
04/02/09 - 04/30/09	< 192	< 188	< 188
04/30/09 - 05/28/09	< 133	< 129	< 130
05/28/09 - 07/02/09	< 113	116 ± 76	< 105
07/02/09 - 07/30/09	< 173	< 176	< 177
07/30/09 - 09/04/09	< 180 (1)	< 182	< 180
09/04/09 - 10/01/09	< 196	< 146	< 198
10/01/09 - 10/29/09	< 171	< 171	< 168
10/29/09 - 12/03/09	< 165	< 162	< 166
12/03/09 - 12/30/09	< 172	< 172	< 172
MEAN	-	116	-

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-IV.1 **CONCENTRATIONS OF GAMMA EMITTERS IN PREDATOR & BOTTOM FEEDER (FISH) SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PC/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								
	06/17/09	2950 ± 740	< 58	< 60	< 111	< 80	< 102	< 55	< 62
	10/26/09	4760 ± 1040	< 55	< 62	< 138	< 63	< 136	< 62	< 67
	MEAN	3855 ± 2560	-	-	-	-	-	-	-
4	BOTTOM FEEDER								
	06/16/09	2660 ± 869	< 59	< 54	< 141	< 44	< 121	< 57	< 58
	10/26/09	3360 ± 607	< 31	< 37	< 91	< 50	< 73	< 35	< 39
	MEAN	3010 ± 990	-	-	-	-	-	-	-
6	PREDATOR								
	06/09/09	4050 ± 850	< 48	< 45	< 136	< 41	< 127	< 50	< 43
	10/12/09	3850 ± 710	< 44	< 41	< 92	< 41	< 72	< 44	< 44
	MEAN	3950 ± 283	-	-	-	-	-	-	-
6	BOTTOM FEEDER								
	06/07/09	2830 ± 605	< 24	< 24	< 59	< 23	< 45	< 16	< 16
	10/09/09	2570 ± 657	< 39	< 45	< 89	< 41	< 86	< 44	< 42
	MEAN	2700 ± 368	-	-	-	-	-	-	-

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE C-V.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PC/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137	
4J	06/10/09	11300 ± 1020	< 44	< 43	< 53	< 37	143 ± 52	(1)
	12/14/09	13900 ± 1430	< 89	< 107	< 106	< 128	< 103	
	MEAN	12600 ± 3677	-	-	-	-	143	
4T	06/10/09	17100 ± 1790	< 63	< 62	< 83	< 47	110 ± 90	(1)
	12/14/09	17400 ± 1780	< 106	< 109	< 110	< 84	< 125	
	MEAN	17250 ± 424	-	-	-	-	110	
6F	06/10/09	10200 ± 1220	< 56	< 48	< 59	< 48	< 71	
	12/14/09	13200 ± 1060	< 57	< 55	< 56	< 47	< 52	
	MEAN	11700 ± 4243	-	-	-	-	-	

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VI.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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

COLLECTION PERIOD	GROUP I			GROUP II	GROUP III
	1B	1C	1Z	3A	5H2
12/29/08 - 01/05/09					21 ± 5
01/02/09 - 01/08/09	20 ± 6	22 ± 6	16 ± 6	16 ± 6	
01/05/09 - 01/12/09					19 ± 5
01/08/09 - 01/15/09	22 ± 5	23 ± 5	23 ± 5	22 ± 5	
01/12/09 - 01/19/09					25 ± 5
01/15/09 - 01/22/09	21 ± 5	25 ± 5	27 ± 5	26 ± 5	
01/19/09 - 01/26/09					27 ± 5
01/22/09 - 01/29/09	21 ± 5	20 ± 5	23 ± 5	24 ± 5	
01/26/09 - 02/02/09					26 ± 5
01/29/09 - 02/05/09	21 ± 5	20 ± 5	22 ± 5	22 ± 5	
02/02/09 - 02/09/09					20 ± 5
02/05/09 - 02/12/09	22 ± 5	22 ± 5	19 ± 5	21 ± 5	
02/09/09 - 02/17/09					11 ± 4
02/12/09 - 02/19/09	11 ± 4	13 ± 4	14 ± 4	(1)	
02/17/09 - 02/23/09					16 ± 5
02/19/09 - 02/26/09	16 ± 5	21 ± 5	20 ± 5	20 ± 5	
02/23/09 - 03/03/09					20 ± 5
02/26/09 - 03/05/09	18 ± 5	19 ± 5	19 ± 5	21 ± 5	
03/03/09 - 03/09/09					22 ± 6
03/05/09 - 03/12/09	20 ± 5	20 ± 5	24 ± 5	17 ± 5	
03/09/09 - 03/16/09					18 ± 5
03/12/09 - 03/19/09	22 ± 5	20 ± 5	23 ± 5	17 ± 5	
03/16/09 - 03/23/09					22 ± 5
03/19/09 - 03/26/09	20 ± 5	19 ± 5	24 ± 5	17 ± 5	
03/23/09 - 03/30/09					11 ± 4
03/26/09 - 04/02/09	10 ± 4	9 ± 4	8 ± 4	8 ± 4	
03/30/09 - 04/06/09					7 ± 4
04/02/09 - 04/09/09	9 ± 4	10 ± 5	8 ± 4	13 ± 5	
04/06/09 - 04/13/09					21 ± 5
04/09/09 - 04/17/09	16 ± 4	14 ± 4	13 ± 4	12 ± 4	
04/13/09 - 04/20/09					15 ± 4
04/17/09 - 04/23/09	12 ± 5	15 ± 5	11 ± 5	12 ± 5	
04/20/09 - 04/27/09					17 ± 5
04/23/09 - 04/30/09	24 ± 5	20 ± 5	18 ± 5	17 ± 5	
04/27/09 - 05/04/09					17 ± 5
04/30/09 - 05/07/09	10 ± 4	9 ± 4	13 ± 5	10 ± 4	
05/04/09 - 05/11/09					12 ± 4
05/07/09 - 05/14/09	15 ± 5	14 ± 5	9 ± 4	15 ± 5	
05/11/09 - 05/18/09					8 ± 4
05/14/09 - 05/21/09	16 ± 5	17 ± 5	14 ± 4	18 ± 5	
05/18/09 - 05/26/09					16 ± 4
05/21/09 - 05/28/09	9 ± 5	< 7	< 7	9 ± 5	
05/26/09 - 06/01/09					8 ± 5
05/28/09 - 06/04/09	13 ± 4	16 ± 5	(1)	17 ± 5	
06/01/09 - 06/08/09					12 ± 4
06/04/09 - 06/11/09	8 ± 4	12 ± 4	14 ± 6	12 ± 4	
06/08/09 - 06/16/09					9 ± 4
06/11/09 - 06/19/09	9 ± 4	11 ± 4	9 ± 4	12 ± 4	
06/16/09 - 06/22/09					< 6
06/19/09 - 06/25/09	29 ± 7	14 ± 6	30 ± 7	11 ± 6	
06/22/09 - 06/29/09					16 ± 5
06/25/09 - 07/02/09	14 ± 5	15 ± 5	18 ± 6	19 ± 5	
06/29/09 - 07/06/09					9 ± 5
07/02/09 - 07/08/09	19 ± 6	17 ± 5	19 ± 6	14 ± 5	
07/06/09 - 07/13/09					8 ± 5
07/08/09 - 07/16/09	14 ± 4	13 ± 4	13 ± 4	16 ± 5	

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VI.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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

COLLECTION PERIOD	GROUP I			GROUP II	GROUP III
	1B	1C	1Z	3A	5H2
07/13/09 - 07/20/09					17 ± 5
07/16/09 - 07/23/09	21 ± 5	18 ± 5	20 ± 6	21 ± 6	
07/20/09 - 07/27/09					24 ± 6
07/23/09 - 07/30/09	14 ± 5	17 ± 6	14 ± 6	13 ± 5	
07/27/09 - 08/03/09					18 ± 5
07/30/09 - 08/06/09	25 ± 6	20 ± 5	22 ± 6	24 ± 6	
08/03/09 - 08/10/09					15 ± 5
08/06/09 - 08/13/09	15 ± 5	17 ± 5	19 ± 5	19 ± 5	
08/10/09 - 08/17/09					20 ± 5
08/13/09 - 08/20/09	25 ± 6	22 ± 6	19 ± 6	20 ± 6	
08/17/09 - 08/24/09					17 ± 5
08/20/09 - 08/27/09	22 ± 6	22 ± 6	21 ± 6	17 ± 5	
08/24/09 - 08/31/09					16 ± 5
08/27/09 - 09/04/09	16 ± 5	17 ± 5	15 ± 5	16 ± 5	
08/31/09 - 09/07/09					16 ± 5
09/04/09 - 09/10/09	20 ± 6	23 ± 7	25 ± 7	24 ± 6	
09/07/09 - 09/15/09					11 ± 5
09/10/09 - 09/17/09	14 ± 5	18 ± 5	19 ± 6	20 ± 5	
09/15/09 - 09/21/09					13 ± 6
09/17/09 - 09/24/09	11 ± 5	10 ± 5	18 ± 6	11 ± 5	
09/21/09 - 09/28/09					15 ± 5
09/24/09 - 10/01/09	15 ± 5	14 ± 5	14 ± 5	14 ± 5	
09/28/09 - 10/05/09					14 ± 5
10/01/09 - 10/08/09	18 ± 6	15 ± 5	16 ± 6	17 ± 5	
10/05/09 - 10/12/09					17 ± 5
10/08/09 - 10/15/09	18 ± 6	18 ± 6	16 ± 6	18 ± 5	
10/12/09 - 10/19/09					< 8
10/15/09 - 10/22/09	(1)	14 ± 5	22 ± 6	22 ± 6	(1)
10/19/09 - 10/26/09					19 ± 5
10/22/09 - 10/29/09	23 ± 4	23 ± 4	26 ± 4	24 ± 4	
10/26/09 - 11/02/09					8 ± 5
10/29/09 - 11/05/09	14 ± 5	15 ± 5	11 ± 5	9 ± 5	
11/02/09 - 11/09/09					17 ± 5
11/05/09 - 11/12/09	27 ± 6	25 ± 6	31 ± 6	23 ± 6	
11/09/09 - 11/16/09					22 ± 5
11/12/09 - 11/19/09	11 ± 5	9 ± 5	12 ± 5	10 ± 5	
11/16/09 - 11/23/09					20 ± 5
11/19/09 - 11/25/09	19 ± 6	17 ± 6	18 ± 6	18 ± 6	
11/23/09 - 11/30/09					18 ± 5
11/25/09 - 12/03/09	13 ± 4	13 ± 4	17 ± 5	17 ± 5	
11/30/09 - 12/07/09					14 ± 4
12/03/09 - 12/10/09	18 ± 5	20 ± 5	19 ± 5	22 ± 5	
12/07/09 - 12/14/09					20 ± 6
12/10/09 - 12/17/09	24 ± 6	26 ± 6	23 ± 6	26 ± 6	
12/14/09 - 12/21/09					18 ± 5
12/17/09 - 12/23/09	21 ± 6	21 ± 6	22 ± 6	22 ± 6	
12/21/09 - 12/28/09					12 ± 6
12/23/09 - 12/30/09	13 ± 4	17 ± 4	18 ± 5	16 ± 4	
MEAN	17 ± 10	17 ± 9	18 ± 11	17 ± 10	16 ± 10

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VI.2 MONTHLY AND YEARLY MEAN VALUES OF GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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

GROUP I - ON-SITE LOCATIONS				GROUP II - INTERMEDIATE DISTANCE LOCATIONS				GROUP III - CONTROL LOCATIONS			
COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD
01/02/09 - 01/29/09	16	27	22 ± 5.6	01/02/09 - 01/29/09	16	26	22 ± 8.6	12/29/08 - 02/02/09	19	27	24 ± 6.6
01/29/09 - 02/26/09	11	22	19 ± 7.7	01/29/09 - 02/26/09	20	22	21 ± 2.7	02/02/09 - 03/03/09	11	20	17 ± 9.1
02/26/09 - 04/02/09	8	24	18 ± 10	02/26/09 - 04/02/09	8	21	16 ± 9.3	03/03/09 - 03/30/09	11	22	18 ± 9.8
04/02/09 - 04/30/09	8	24	14 ± 9.3	04/02/09 - 04/30/09	12	17	13 ± 5.6	03/30/09 - 04/27/09	7	21	15 ± 12
04/30/09 - 05/28/09	9	17	13 ± 6.0	04/30/09 - 05/28/09	9	18	13 ± 8.6	04/27/09 - 06/01/09	8	17	12 ± 8.3
05/28/09 - 07/02/09	8	30	15 ± 13	05/28/09 - 07/02/09	11	19	14 ± 7.2	06/01/09 - 06/29/09	9	16	12 ± 6.5
07/02/09 - 07/30/09	13	21	17 ± 5.8	07/02/09 - 07/30/09	13	21	16 ± 7.3	06/29/09 - 08/03/09	8	24	15 ± 14
07/30/09 - 08/27/09	15	25	21 ± 6.0	07/30/09 - 08/27/09	17	24	20 ± 6.1	08/03/09 - 08/31/09	15	20	17 ± 4.7
08/27/09 - 10/01/09	10	25	17 ± 8.2	08/27/09 - 10/01/09	11	24	17 ± 9.9	08/31/09 - 09/28/09	11	16	14 ± 4.4
10/01/09 - 10/29/09	14	26	19 ± 7.7	10/01/09 - 10/29/09	17	24	20 ± 6.8	09/28/09 - 11/02/09	8	19	15 ± 9.2
10/29/09 - 12/03/09	9	31	17 ± 13	10/29/09 - 12/03/09	9	23	15 ± 12	11/02/09 - 11/30/09	17	22	19 ± 4.2
12/03/09 - 12/30/09	13	26	20 ± 6.8	12/03/09 - 12/30/09	16	26	21 ± 8.2	11/30/09 - 12/28/09	12	20	16 ± 7.6
01/02/09 - 12/30/09	8	31	18 ± 10	01/02/09 - 12/30/09	8	26	17 ± 10	12/29/08 - 12/28/09	7	27	16 ± 10

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE C-VI.3 CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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	01/02/09 - 04/02/09	80 ± 40	< 3	< 3	< 3	< 4	< 3
	04/02/09 - 07/02/09	87 ± 34	< 5	< 5	< 3	< 4	< 3
	07/02/09 - 10/01/09	81 ± 35	< 4	< 5	< 4	< 4	< 3
	10/01/09 - 12/30/09	67 ± 41	< 3	< 3	< 3	< 2	< 3
	MEAN	79 ± 17	-	-	-	-	-
1C	01/02/09 - 04/02/09	85 ± 23	< 3	< 3	< 3	< 3	< 2
	04/02/09 - 07/02/09	82 ± 25	< 3	< 5	< 3	< 3	< 3
	07/02/09 - 10/01/09	119 ± 39	< 4	< 6	< 3	< 4	< 3
	10/01/09 - 12/30/09	75 ± 34	< 5	< 5	< 4	< 4	< 3
	MEAN	90 ± 39	-	-	-	-	-
1Z	01/02/09 - 04/02/09	77 ± 30	< 4	< 6	< 3	< 4	< 3
	04/02/09 - 07/02/09	119 ± 42	< 5	< 6	< 6	< 4	< 4
	07/02/09 - 10/01/09	95 ± 26	< 3	< 3	< 2	< 3	< 3
	10/01/09 - 12/30/09	83 ± 40	< 5	< 6	< 4	< 5	< 4
	MEAN	94 ± 37	-	-	-	-	-
3A	01/02/09 - 04/02/09	82 ± 29	< 4	< 3	< 3	< 3	< 3
	04/02/09 - 07/02/09	< 40	< 3	< 4	< 3	< 4	< 3
	07/02/09 - 10/01/09	70 ± 24	< 4	< 5	< 4	< 4	< 3
	10/01/09 - 12/30/09	< 78	< 6	< 7	< 3	< 5	< 5
	MEAN	76 ± 17	-	-	-	-	-
5H2	12/29/08 - 03/30/09	93 ± 31	< 3	< 3	< 3	< 3	< 2
	03/30/09 - 06/29/09	83 ± 40	< 2	< 4	< 6	< 4	< 5
	06/29/09 - 09/28/09	74 ± 27	< 3	< 3	< 3	< 3	< 3
	09/28/09 - 12/28/09	42 ± 25	< 3	< 2	< 3	< 2	< 2
	MEAN	73 ± 44	-	-	-	-	-

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE C-VII.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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

COLLECTION PERIOD	GROUP I			GROUP II	GROUP III
	1B	1C	1Z	3A	5H2
12/29/08 - 01/05/09					< 17
01/02/09 - 01/08/09	< 59	< 60	< 60	< 59	
01/05/09 - 01/12/09					< 30
01/08/09 - 01/15/09	< 29	< 29	< 13	< 28	
01/12/09 - 01/19/09					< 21
01/15/09 - 01/22/09	< 63	< 63	< 64	< 63	
01/19/09 - 01/26/09					< 8
01/22/09 - 01/29/09	< 41	< 42	< 42	< 41	
01/26/09 - 02/02/09					< 9
01/29/09 - 02/05/09	< 29	< 39	< 39	< 38	
02/02/09 - 02/09/09					< 30
02/05/09 - 02/12/09	< 60	< 26	< 62	< 61	
02/09/09 - 02/17/09					< 10
02/12/09 - 02/19/09	< 41	< 42	< 42	(1)	
02/17/09 - 02/23/09					< 25
02/19/09 - 02/26/09	< 24	< 24	< 25	< 24	
02/23/09 - 03/03/09					< 41
02/26/09 - 03/05/09	< 48	< 49	< 49	< 48	
03/03/09 - 03/09/09					< 8
03/05/09 - 03/12/09	< 34	< 34	< 35	< 15	
03/09/09 - 03/16/09					< 39
03/12/09 - 03/19/09	< 48	< 48	< 49	< 48	
03/16/09 - 03/23/09					< 18
03/19/09 - 03/26/09	< 46	< 46	< 20	< 45	
03/23/09 - 03/30/09					< 52
03/26/09 - 04/02/09	< 62	< 63	< 27	< 62	
03/30/09 - 04/06/09					< 39
04/02/09 - 04/09/09	< 68	< 68	< 69	< 68	
04/06/09 - 04/13/09					< 24
04/09/09 - 04/17/09	< 44	< 19	< 45	< 44	
04/13/09 - 04/20/09					< 30
04/17/09 - 04/23/09	< 44	< 45	< 45	< 35	
04/20/09 - 04/27/09					< 15
04/23/09 - 04/30/09	< 49	< 50	< 21	< 50	
04/27/09 - 05/04/09					< 31
04/30/09 - 05/07/09	< 66	< 68	< 68	< 67	
05/04/09 - 05/11/09					< 35
05/07/09 - 05/14/09	< 29	< 69	< 69	< 68	
05/11/09 - 05/18/09					< 28
05/14/09 - 05/21/09	< 62	< 62	< 62	< 61	
05/18/09 - 05/26/09					< 21
05/21/09 - 05/28/09	< 59	< 37	< 60	< 59	
05/26/09 - 06/01/09					< 15
05/28/09 - 06/04/09	< 45	< 46	(1)	< 45	
06/01/09 - 06/08/09					< 8
06/04/09 - 06/11/09	< 6	< 6	< 8	< 6	
06/08/09 - 06/16/09					< 9
06/11/09 - 06/19/09	< 24	< 24	< 25	< 24	
06/16/09 - 06/22/09					< 28
06/19/09 - 06/25/09	< 63	< 61	< 26	< 61	
06/22/09 - 06/29/09					< 37
06/25/09 - 07/02/09	< 66	< 67	< 38	< 66	
06/29/09 - 07/06/09					< 47
07/02/09 - 07/08/09	< 67	< 64	< 67	< 64	
07/06/09 - 07/13/09					< 12
07/08/09 - 07/16/09	< 25	< 47	< 47	< 47	

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VII.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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

COLLECTION PERIOD	GROUP I			GROUP II	GROUP III
	1B	1C	1Z	3A	5H2
07/13/09 - 07/20/09					< 39
07/16/09 - 07/23/09	< 55	< 24	< 57	< 59	
07/20/09 - 07/27/09					< 18
07/23/09 - 07/30/09	< 28	< 29	< 20	< 27	
07/27/09 - 08/03/09					< 17
07/30/09 - 08/06/09	< 36	< 36	< 37	< 35	
08/03/09 - 08/10/09					< 8
08/06/09 - 08/13/09	< 39	< 40	< 40	< 41	
08/10/09 - 08/17/09					< 16
08/13/09 - 08/20/09	< 25	< 27	< 26	< 25	
08/17/09 - 08/24/09					< 20
08/20/09 - 08/27/09	< 44	< 50	< 45	< 44	
08/24/09 - 08/31/09					< 18
08/27/09 - 09/04/09	< 31	< 31	< 31	< 31	
08/31/09 - 09/07/09					< 23
09/04/09 - 09/10/09	< 60	< 59	< 60	< 59	
09/07/09 - 09/15/09					< 28
09/10/09 - 09/17/09	< 67	< 65	< 67	< 65	
09/15/09 - 09/21/09					< 33
09/17/09 - 09/24/09	< 49	< 50	< 50	< 49	
09/21/09 - 09/28/09					< 17
09/24/09 - 10/01/09	< 34	< 34	< 35	< 34	
09/28/09 - 10/05/09					< 33
10/01/09 - 10/08/09	< 40	< 40	< 40	< 39	
10/05/09 - 10/12/09					< 11
10/08/09 - 10/15/09	< 55	< 55	< 57	< 54	
10/12/09 - 10/19/09					< 48
10/15/09 - 10/22/09	< 35	< 35	< 36	< 35 (1)	
10/19/09 - 10/26/09					< 14
10/22/09 - 10/29/09	< 42	< 42	< 24	< 42	
10/26/09 - 11/02/09					< 22
10/29/09 - 11/05/09	< 66	< 66	< 67	< 65	
11/02/09 - 11/09/09					< 12
11/05/09 - 11/12/09	< 30	< 54	< 55	< 54	
11/09/09 - 11/16/09					< 25
11/12/09 - 11/19/09	< 36	< 36	< 37	< 36	
11/16/09 - 11/23/09					< 36
11/19/09 - 11/25/09	< 41	< 22	< 42	< 40	
11/23/09 - 11/30/09					< 36
11/25/09 - 12/03/09	< 57	< 58	< 58	< 56	
11/30/09 - 12/07/09					< 28
12/03/09 - 12/10/09	< 54	< 54	< 55	< 30	
12/07/09 - 12/14/09					< 20
12/10/09 - 12/17/09	< 59	< 60	< 61	< 60	
12/14/09 - 12/21/09					< 27
12/17/09 - 12/23/09	< 42	< 42	< 42	< 41	
12/21/09 - 12/28/09					< 28
12/23/09 - 12/30/09	< 51	< 51	< 51	< 50	
MEAN	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VIII.1 **CONCENTRATIONS OF I-131 IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

	CONTROL FARMS			INDICATOR FARMS							
COLLECTION PERIOD	V	C	E	U	D	J	L	P	R	S	W
01/12/09	< 0.6 (1)			< 0.8		< 0.8			< 0.7	< 0.7	
02/09/09	< 0.7	< 0.7	< 0.6	< 0.7	< 0.7	< 0.7	< 0.7	< 0.8	< 0.8	< 0.7	< 0.7
03/09/09	< 0.5			< 0.6		< 0.6			< 0.5	< 0.5	
04/06/09	< 0.6			< 0.7		< 0.7			< 0.7	< 0.6	
04/20/09	< 0.4			< 0.4		< 0.4			< 0.5	< 0.6	
05/04/09	< 0.6	< 0.5	< 0.5	< 0.5	< 0.6	< 0.7	< 0.5	< 0.6	< 0.6	< 0.5	< 0.5
05/18/09	< 0.8			< 0.9		< 0.7			< 0.8	< 0.7	
06/01/09	< 0.8			< 0.6		< 0.6			< 0.6	< 0.7	
06/16/09	< 0.7			< 0.6		< 0.7			< 0.7	< 0.7	
06/29/09	< 0.4			< 0.5		< 0.4			< 0.4	< 0.4	
07/13/09	< 0.6			< 0.7		< 0.5			< 0.6	< 0.5	
07/27/09	< 0.6			< 0.7		< 0.5			< 0.6	< 0.6	
08/10/09	< 0.5	< 0.8	< 0.8	< 0.5	< 0.8	< 0.4	< 0.9	< 0.8	< 0.5	< 0.5	< 0.8
08/24/09	< 0.7			< 0.7		< 0.7			< 0.7	< 0.8	
09/07/09	< 0.6			< 0.7		< 0.6			< 0.7	< 0.6	
09/21/09	< 0.6			< 0.6		< 0.6			< 0.6	< 0.7	
10/05/09	< 0.4			< 0.4		< 0.4			< 0.4	< 0.4	
10/19/09	< 0.4			< 0.5		< 0.4			< 0.4	< 0.4	
11/02/09	< 0.7	< 0.7	< 0.7	< 0.6	< 0.9	< 0.7	< 0.7	< 0.7	< 0.7	< 0.6	< 0.7
11/16/09	< 0.8			< 0.7		< 0.8			< 0.8	< 0.7	
11/30/09	< 0.3			< 0.5		< 0.3			< 0.3	< 0.3	
12/14/09	< 0.6			< 0.7		< 0.9			< 0.7	< 0.8	
MEAN	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VIII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
C	02/09/09	1210 ± 84	< 3	< 4	< 37	< 12
	05/04/09	1270 ± 48	< 2	< 2	< 41	< 12
	08/10/09	1210 ± 137	< 5	< 6	< 31	< 10
	11/02/09	1380 ± 150	< 7	< 7	< 35	< 12
	MEAN	1268 ± 160	-	-	-	-
D	02/09/09	1280 ± 99	< 4	< 4	< 43	< 14
	05/04/09	1250 ± 51	< 2	< 2	< 48	< 14
	08/10/09	1330 ± 159	< 6	< 6	< 31	< 11
	11/02/09	1260 ± 125	< 5	< 5	< 31	< 9
	MEAN	1280 ± 71	-	-	-	-
E	02/09/09	1170 ± 77	< 3	< 3	< 29	< 9
	05/04/09	1270 ± 47	< 2	< 2	< 45	< 15
	08/10/09	1290 ± 117	< 4	< 4	< 21	< 8
	11/02/09	1290 ± 128	< 5	< 6	< 34	< 10
	MEAN	1255 ± 115	-	-	-	-
J	01/12/09	1350 ± 117	< 5	< 5	< 38	< 11
	02/09/09	1290 ± 123	< 4	< 5	< 55	< 12
	03/09/09	1320 ± 73	< 3	< 4	< 18	< 5
	04/06/09	1410 ± 53	< 2	< 2	< 22	< 6
	04/20/09	1260 ± 145	< 5	< 6	< 40	< 13
	05/04/09	1220 ± 46	< 2	< 2	< 43	< 14
	05/18/09	1280 ± 50	< 1	< 1	< 22	< 6
	06/01/09	1070 ± 82	< 3	< 4	< 28	< 9
	06/16/09	1120 ± 114	< 4	< 5	< 22	< 8
	06/29/09	1130 ± 63	< 2	< 2	< 28	< 6
	07/13/09	1250 ± 104	< 4	< 5	< 38	< 11
	07/27/09	1180 ± 132	< 5	< 6	< 42	< 15
	08/10/09	1180 ± 120	< 4	< 5	< 21	< 8
	08/24/09	1140 ± 114	< 6	< 6	< 29	< 9
	09/07/09	1010 ± 117	< 5	< 5	< 31	< 8
	09/21/09	1280 ± 143	< 5	< 6	< 27	< 10
	10/05/09	1220 ± 91	< 3	< 4	< 19	< 7
	10/19/09	1320 ± 120	< 4	< 5	< 27	< 9
	11/02/09	1270 ± 146	< 6	< 7	< 56	< 12
	11/16/09	1390 ± 150	< 5	< 7	< 43	< 13
	11/30/09	1430 ± 144	< 6	< 8	< 49	< 13
	12/14/09	769 ± 84	< 4	< 5	< 27	< 7
	MEAN	1222 ± 296	-	-	-	-

TABLE C-VIII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
L	02/09/09	1390 ± 87	< 3	< 3	< 37	< 10
	05/04/09	1290 ± 41	< 1	< 2	< 40	< 12
	08/10/09	1240 ± 132	< 4	< 5	< 24	< 9
	11/02/09	1240 ± 109	< 4	< 4	< 27	< 10
	MEAN	1290 ± 141	-	-	-	-
P	02/09/09	1270 ± 90	< 3	< 4	< 34	< 10
	05/04/09	1190 ± 47	< 2	< 2	< 49	< 14
	08/10/09	1550 ± 148	< 5	< 6	< 32	< 8
	11/02/09	1190 ± 118	< 5	< 6	< 42	< 12
	MEAN	1300 ± 342	-	-	-	-
R	01/12/09	1240 ± 125	< 5	< 5	< 33	< 12
	02/09/09	1200 ± 104	< 4	< 5	< 42	< 13
	03/09/09	1280 ± 85	< 3	< 4	< 19	< 6
	04/06/09	1340 ± 53	< 2	< 2	< 21	< 5
	04/20/09	1310 ± 114	< 4	< 4	< 35	< 11
	05/04/09	1220 ± 37	< 1	< 1	< 37	< 10
	05/18/09	1290 ± 51	< 1	< 1	< 16	< 4
	06/01/09	1350 ± 103	< 4	< 4	< 34	< 8
	06/16/09	1260 ± 120	< 2	< 3	< 15	< 5
	06/29/09	1210 ± 99	< 3	< 3	< 46	< 13
	07/13/09	1200 ± 100	< 4	< 4	< 37	< 11
	07/27/09	1340 ± 131	< 3	< 4	< 23	< 7
	08/10/09	1170 ± 139	< 4	< 4	< 24	< 6
	08/24/09	1380 ± 136	< 6	< 5	< 33	< 11
	09/07/09	1310 ± 163	< 7	< 5	< 38	< 10
	09/21/09	1360 ± 130	< 5	< 5	< 24	< 8
	10/05/09	1210 ± 109	< 5	< 5	< 26	< 7
	10/19/09	1120 ± 90	< 4	< 4	< 20	< 5
	11/02/09	1330 ± 122	< 5	< 6	< 41	< 13
	11/16/09	1390 ± 134	< 5	< 6	< 38	< 14
	11/30/09	1370 ± 145	< 5	< 6	< 47	< 9
	12/14/09	1280 ± 107	< 4	< 6	< 27	< 8
	MEAN	1280 ± 151	-	-	-	-

TABLE C-VIII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
S	01/12/09	1250 ± 136	< 5	< 6	< 48	< 14
	02/09/09	1240 ± 105	< 4	< 4	< 42	< 13
	03/09/09	1330 ± 83	< 3	< 3	< 16	< 5
	04/06/09	1270 ± 45	< 2	< 2	< 19	< 6
	04/20/09	1350 ± 152	< 5	< 7	< 44	< 14
	05/04/09	1340 ± 43	< 2	< 2	< 45	< 12
	05/18/09	1340 ± 55	< 2	< 2	< 37	< 11
	06/01/09	1370 ± 129	< 3	< 3	< 23	< 7
	06/16/09	1290 ± 131	< 4	< 5	< 22	< 4
	06/29/09	1220 ± 82	< 3	< 4	< 37	< 11
	07/13/09	1250 ± 118	< 5	< 6	< 43	< 11
	07/27/09	1380 ± 144	< 3	< 4	< 23	< 9
	08/10/09	1200 ± 141	< 5	< 5	< 22	< 5
	08/24/09	1140 ± 165	< 7	< 9	< 40	< 9
	09/07/09	1200 ± 136	< 5	< 7	< 30	< 8
	09/21/09	1290 ± 135	< 3	< 4	< 16	< 4
	10/05/09	1140 ± 91	< 3	< 3	< 19	< 4
	10/19/09	1230 ± 99	< 3	< 4	< 20	< 6
	11/02/09	1280 ± 129	< 6	< 6	< 46	< 11
	11/16/09	1280 ± 112	< 5	< 5	< 40	< 9
	11/30/09	1320 ± 144	< 5	< 6	< 41	< 10
	12/14/09	1160 ± 93	< 3	< 4	< 22	< 6
	MEAN	1267 ± 143	-	-	-	-
U	01/12/09	1280 ± 99	< 4	< 5	< 31	< 9
	02/09/09	1280 ± 101	< 4	< 4	< 37	< 12
	03/09/09	1260 ± 96	< 4	< 4	< 22	< 6
	04/06/09	1300 ± 55	< 2	< 2	< 23	< 7
	04/20/09	1300 ± 117	< 4	< 4	< 32	< 8
	05/04/09	1190 ± 42	< 1	< 1	< 35	< 9
	05/18/09	677 ± 77	< 2	< 2	< 36	< 10
	06/01/09	1210 ± 85	< 3	< 4	< 25	< 8
	06/16/09	1200 ± 121	< 3	< 5	< 19	< 3
	06/29/09	1210 ± 80	< 3	< 3	< 35	< 11
	07/13/09	1240 ± 143	< 5	< 7	< 48	< 12
	07/27/09	1230 ± 156	< 4	< 4	< 25	< 8
	08/10/09	1320 ± 164	< 7	< 7	< 40	< 13
	08/24/09	1080 ± 133	< 6	< 6	< 35	< 11
	09/07/09	1090 ± 150	< 7	< 8	< 38	< 13
	09/21/09	970 ± 132	< 6	< 6	< 27	< 10
	10/05/09	1290 ± 87	< 3	< 3	< 17	< 5
	10/19/09	1220 ± 116	< 4	< 4	< 25	< 6
	11/02/09	1370 ± 144	< 4	< 6	< 50	< 7
	11/16/09	1340 ± 134	< 6	< 6	< 42	< 11
	11/30/09	1220 ± 135	< 5	< 5	< 44	< 10
	12/14/09	1300 ± 159	< 8	< 7	< 47	< 14
	MEAN	1208 ± 300	-	-	-	-

TABLE C-VIII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
V	01/12/09	1200 ± 116	< 4	< 4	< 42	< 10
	02/09/09	1230 ± 99	< 4	< 4	< 45	< 12
	03/09/09	1260 ± 93	< 3	< 4	< 20	< 6
	04/06/09	1290 ± 51	< 2	< 2	< 24	< 6
	04/20/09	1230 ± 137	< 5	< 6	< 46	< 13
	05/04/09	1290 ± 40	< 1	< 2	< 41	< 13
	05/18/09	1280 ± 52	< 2	< 2	< 36	< 12
	06/01/09	1260 ± 94	< 4	< 4	< 31	< 10
	06/16/09	1250 ± 150	< 6	< 7	< 30	< 7
	06/29/09	1140 ± 93	< 4	< 4	< 45	< 11
	07/13/09	1240 ± 127	< 5	< 6	< 41	< 13
	07/27/09	1250 ± 73	< 3	< 3	< 20	< 5
	08/10/09	1230 ± 145	< 6	< 7	< 37	< 12
	08/24/09	1280 ± 114	< 4	< 5	< 24	< 8
	09/07/09	1380 ± 152	< 5	< 7	< 34	< 9
	09/21/09	1150 ± 133	< 5	< 6	< 28	< 9
	10/05/09	1260 ± 108	< 4	< 4	< 24	< 6
	10/19/09	1160 ± 104	< 4	< 4	< 22	< 7
	11/02/09	1110 ± 116	< 5	< 5	< 38	< 10
	11/16/09	1410 ± 137	< 5	< 5	< 35	< 13
	11/30/09	1120 ± 129	< 5	< 6	< 42	< 10
	12/14/09	1160 ± 112	< 4	< 6	< 31	< 8
	MEAN	1235 ± 152	-	-	-	-
W	02/09/09	1290 ± 90	< 4	< 4	< 35	< 11
	05/04/09	1090 ± 36	< 1	< 2	< 36	< 10
	08/10/09	1200 ± 107	< 2	< 3	< 14	< 4
	11/02/09	1250 ± 134	< 4	< 4	< 30	< 8
	MEAN	1208 ± 173	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-IX.1 **CONCENTRATIONS OF GAMMA EMITTERS IN FOOD PRODUCT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7		Mn-54	Co-58	Co-60	I-131	Cs-134	Cs-137
1Q									
Polk Leaves	05/29/09	490 ± 155	(1)	< 10	< 9	< 10	< 45	< 8	< 10
Cabbage	06/29/09	211 ± 148		< 15	< 16	< 12	< 60	< 16	< 18
Lettuce Leaves	06/29/09	424 ± 184		< 11	< 13	< 8	< 44	< 11	< 13
Pak Choi Leaves	06/29/09	275 ± 112		< 12	< 14	< 15	< 40	< 10	< 12
Cabbage	07/27/09	229 ± 84		< 8	< 8	< 8	< 60	< 6	< 7
Pak Choi Leaves	07/27/09	549 ± 224		< 17	< 20	< 17	< 50	< 15	< 18
Red Beet Leaves	07/27/09	606 ± 109		< 6	< 7	< 6	< 59	< 5	< 6
Cabbage	08/24/09	199 ± 94		< 15	< 16	< 14	< 32	< 14	< 17
Red Beet Tops	08/24/09	1330 ± 252		< 26	< 31	< 28	< 59	< 28	< 29
Turnip Greens	08/24/09	1100 ± 209		< 21	< 22	< 28	< 48	< 22	< 22
Cabbage	09/21/09	< 162	(1)	< 17	< 17	< 18	< 36	< 15	< 15
Polk Leaves	09/21/09	1590 ± 274		< 29	< 28	< 27	< 56	< 23	< 25
	MEAN	637 ± 969		-	-	-	-	-	-
2B									
Cabbage	06/29/09	120 ± 98		< 11	< 12	< 12	< 43	< 10	< 11
Red Cabbage	06/29/09	< 166		< 14	< 16	< 16	< 51	< 14	< 15
Zucchini Leaves	06/29/09	1100 ± 211		< 14	< 14	< 17	< 55	< 11	< 13
Cabbage	07/27/09	< 58		< 6	< 6	< 5	< 56	< 5	< 6
Red Cabbage	07/27/09	< 61		< 6	< 6	< 7	< 58	< 4	< 6
Zucchini Leaves	07/27/09	1380 ± 140		< 5	< 6	< 5	< 59	< 5	< 5
Cabbage	08/24/09	< 147		< 14	< 19	< 19	< 36	< 15	< 18
Red Cabbage	08/24/09	< 194		< 19	< 21	< 21	< 44	< 21	< 23
Yellow Squash Leaves	08/24/09	3230 ± 497		< 24	< 25	< 27	< 54	< 26	< 30
Cabbage	09/21/09	359 ± 136		< 17	< 17	< 19	< 32	< 16	< 19
Red Cabbage	09/21/09	446 ± 125		< 16	< 15	< 16	< 35	< 16	< 16
Sweet Corn Leaves	09/21/09	2870 ± 400		< 23	< 23	< 21	< 60	< 27	< 26
	MEAN	1358 ± 2479		-	-	-	-	-	-

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-IX.1 **CONCENTRATIONS OF GAMMA EMITTERS IN FOOD PRODUCT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	Mn-54	Co-58	Co-60	I-131	Cs-134	Cs-137
55								
Leaf Lettuce	05/29/09	401 ± 145	< 10	< 13	< 11	< 56	< 10	< 12
Rhubarb Leaves	05/29/09	333 ± 109	< 10	< 8	< 10	< 51	< 10	< 11
Cabbage	06/29/09	< 154	< 14	< 16	< 15	< 55	< 14	< 15
Leaf Lettuce	06/29/09	429 ± 141	< 15	< 15	< 17	< 53	< 13	< 14
Turnip Leaves	06/29/09	320 ± 124	< 15	< 15	< 14	< 55	< 13	< 16
Cabbage	07/27/09	< 58	< 5	< 6	< 5	< 58	< 5	< 6
Leaf Lettuce	07/27/09	463 ± 89	< 5	< 5	< 4	< 54	< 4	< 5
Turnip Leaves	07/27/09	650 ± 98	< 5	< 6	< 5	< 53	< 4	< 5
Cabbage	08/24/09	< 173	< 17	< 17	< 18	< 44	< 18	< 19
Pak Choi Leaves	08/24/09	596 ± 299	< 31	< 34	< 39	< 58	< 35	< 32
Turnip Leaves	08/24/09	872 ± 240	< 23	< 23	< 19	< 54	< 26	< 24
Cabbage	09/21/09	< 186	< 16	< 18	< 15	< 41	< 17	< 18
Pak Choi Leaves	09/21/09	508 ± 218	< 27	< 24	< 22	< 56	< 24	< 26
Zucchini Leaves	09/21/09	1050 ± 267	< 24	< 24	< 25	< 49	< 20	< 24
	MEAN	562 ± 476	-	-	-	-	-	-

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE C-X.1 QUARTERLY TLD RESULTS FOR PEACH BOTTOM ATOMIC POWER STATION, 2

RESULTS IN UNITS OF MILLI-ROETGEN/STD. QUARTER ± STANDARD DEVIATIO

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
2	5.8 ± 1.9	5.6 ± 0.5	5.4 ± 0.6	7.2 ± 0.5 (1)	5.1 ± 0.1
5	5.3 ± 0.8	5.3 ± 0.5	5.3 ± 0.6	5.7 ± 0.5	4.7 ± 0.3
14	5.9 ± 0.9	6.1 ± 0.4	6.3 ± 0.6	5.9 ± 0.3	5.3 ± 1.0
15	6.2 ± 1.0	6.3 ± 1.5	6.3 ± 0.3	6.7 ± 0.3	5.5 ± 0.4
16	6.0 ± 1.3	6.7 ± 0.4	5.7 ± 0.8	6.2 ± 0.7	5.2 ± 0.3
17	6.6 ± 0.7	6.5 ± 0.7	6.9 ± 1.7	6.9 ± 0.8	6.2 ± 0.5
18	5.8 ± 1.0	6.0 ± 0.9	5.4 ± 0.5	6.4 ± 0.4	5.3 ± 0.4
19	5.3 ± 1.0	5.4 ± 0.8	5.1 ± 0.7	5.9 ± 0.6	4.7 ± 0.3
1A	6.1 ± 1.9	6.1 ± 0.4	5.5 ± 0.4	7.4 ± 0.7 (1)	5.2 ± 0.1
1B	5.4 ± 1.4	6.0 ± 0.4	5.1 ± 0.5	5.8 ± 1.1 (1)	4.5 ± 0.3
1C	6.1 ± 1.5	6.4 ± 0.6	5.5 ± 0.3	7.0 ± 0.4	5.5 ± 0.5
1D	6.1 ± 1.7	6.4 ± 1.7	5.5 ± 0.4	7.1 ± 0.8	5.2 ± 0.3
1E	5.6 ± 1.0	6.0 ± 0.5	5.3 ± 0.4	5.9 ± 0.5	5.0 ± 0.4
1F	7.3 ± 1.6	7.4 ± 1.8	7.2 ± 0.6	8.2 ± 1.3	6.2 ± 0.3
1G	4.7 ± 1.3	5.0 ± 0.3	4.5 ± 0.9	5.3 ± 0.6 (1)	3.8 ± 0.3
1H	6.3 ± 1.4	6.9 ± 1.0	6.0 ± 1.9	6.7 ± 0.8	5.4 ± 0.6
1I	4.9 ± 0.6	5.0 ± 0.8	4.8 ± 0.3	5.2 ± 0.3	4.5 ± 0.4
1J	7.2 ± 1.6	7.7 ± 1.5	6.9 ± 1.0	7.9 ± 0.4	6.1 ± 0.2
1K	6.7 ± 1.2	7.1 ± 0.5	6.7 ± 1.3	7.2 ± 0.7	5.9 ± 0.4
1L	5.2 ± 1.9	5.3 ± 0.5	4.5 ± 0.3	6.4 ± 0.8 (1)	4.4 ± 0.2
1M	3.5 ± 0.9	3.8 ± 0.5	3.3 ± 0.7	3.9 ± 0.3	2.9 ± 0.3
1P	4.2 ± 1.3	4.5 ± 0.6	3.7 ± 0.3	4.9 ± 1.3	3.5 ± 0.4
1Q	4.8 ± 1.3	4.9 ± 0.1	4.4 ± 0.7	5.6 ± 1.1	4.1 ± 0.3
1R	7.3 ± 1.4	6.9 ± 0.6	7.0 ± 0.1	8.4 ± 0.9	7.0 ± 0.5
22	6.5 ± 1.6	6.7 ± 0.5	6.2 ± 0.6	7.4 ± 2.8 (1)	5.5 ± 0.3
23	6.3 ± 1.3	6.7 ± 0.8	5.9 ± 0.8	6.9 ± 0.6	5.5 ± 0.4
24	4.7 ± 1.0	5.1 ± 0.4	4.6 ± 0.6	4.9 ± 0.5	4.0 ± 0.2
26	7.0 ± 1.2	6.9 ± 0.6	7.4 ± 1.2	7.4 ± 0.6	6.1 ± 0.7
27	6.6 ± 1.6	7.0 ± 0.7	6.7 ± 0.4 (1)	7.2 ± 1.3	5.4 ± 0.4
2B	5.4 ± 1.3	5.9 ± 0.6	4.8 ± 0.4	6.1 ± 1.1	4.9 ± 0.2
32	6.5 ± 1.0	6.9 ± 0.8	6.6 ± 0.9	6.7 ± 0.3	5.8 ± 0.4
3A	4.5 ± 0.8	4.8 ± 0.3	4.7 ± 1.1	4.7 ± 0.6	3.9 ± 0.3
40	7.0 ± 1.3	7.6 ± 0.2	7.0 ± 1.2	7.4 ± 1.4	6.1 ± 0.6
42	5.2 ± 1.0	5.5 ± 0.7	5.3 ± 0.3	5.5 ± 0.3	4.5 ± 0.5
43	6.6 ± 1.4	6.7 ± 1.3	6.3 ± 0.8	7.4 ± 0.8	5.8 ± 0.2
44	5.9 ± 1.5	5.7 ± 0.6	6.1 ± 0.2	6.8 ± 1.1 (1)	5.0 ± 0.4
45	6.3 ± 1.1	6.8 ± 0.6	6.0 ± 1.1	6.7 ± 1.4	5.6 ± 0.3
46	5.4 ± 1.3	5.6 ± 0.7	5.2 ± 0.5	6.1 ± 0.5	4.6 ± 0.4
47	6.6 ± 1.4	6.6 ± 0.7	6.4 ± 0.9	7.5 ± 2.0	5.8 ± 0.3
48	6.0 ± 1.2	6.6 ± 0.5	5.7 ± 0.6	6.3 ± 0.8	5.3 ± 0.4
49	5.7 ± 1.5	6.0 ± 0.6	5.4 ± 0.3	6.6 ± 0.8	4.9 ± 0.3
4K	3.7 ± 1.3	4.0 ± 1.0	3.2 ± 0.4	4.5 ± 0.3	3.2 ± 0.3
50	6.9 ± 0.9	7.0 ± 0.4	6.9 ± 0.6	7.3 ± 0.4	6.2 ± 0.5
51	6.6 ± 1.4	7.0 ± 2.1	7.2 ± 3.1	6.7 ± 1.6	5.6 ± 0.4
6B	5.0 ± 1.2	5.3 ± 0.5	5.0 ± 0.2	5.5 ± 0.4	4.1 ± 0.6
1NN	6.7 ± 1.8	7.6 ± 0.7	6.2 ± 0.4	7.4 ± 0.3	5.7 ± 0.2
31A	5.0 ± 0.8	5.2 ± 0.3	5.1 ± 1.0	5.3 ± 0.4	4.4 ± 0.3

(1) SEE PROGRAM EXCEPTIOINS SECTION FOR EXPLANATION

TABLE C-X.2 **MEAN QUARTERLY TLD RESULTS FOR THE SITE BOUNDARY, INTERMEDIATE AND CONTROL LOCATIONS FOR PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF MILLI-ROENTGENS/MONTH ± 2 STANDARD DEVIATIONS OF THE STATION DATA

COLLECTION PERIOD	SITE BOUNDARY	INTERMEDIATE	CONTROL
JAN-MAR	6.1 ± 2.2	6.1 ± 1.6	5.8 ± 1.4
APR-JUN	5.5 ± 2.2	5.9 ± 1.9	5.2 ± 0.9
JUL-SEP	6.6 ± 2.4	6.4 ± 1.8	5.9 ± 1.3
OCT-DEC	5.1 ± 2.0	5.2 ± 1.6	4.8 ± 1.2

TABLE C-X.3 **SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. MONTH

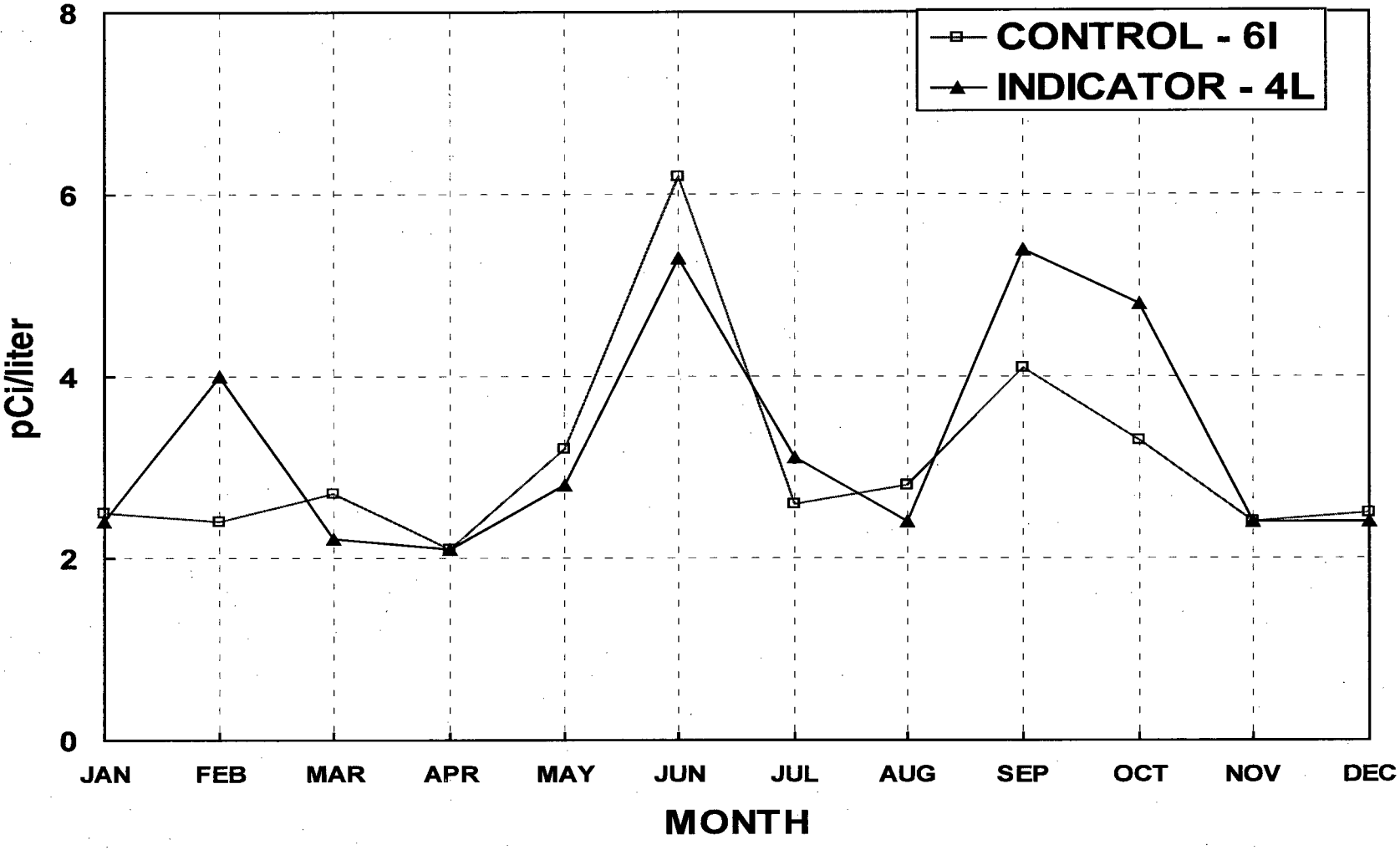
LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S.D.
SITE BOUNDARY	80	2.9	8.4	5.8 ± 2.5
INTERMEDIATE	92	3.2	7.5	5.9 ± 1.9
CONTROL	16	4.0	6.7	5.4 ± 1.4

SITE BOUNDARY STATIONS - 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, 1K, 1L, 1M, 1NN, 1P, 1Q, 1R, 2, 2B, 40

INTERMEDIATE STATIONS - 14, 15, 17, 22, 23, 26, 27, 31A, 32, 3A, 42, 43, 44, 45, 46, 47, 48, 49, 4K, 5, 50, 51, 6B

CONTROL STATIONS - 16, 18, 19, 24

FIGURE C-1
MONTHLY TOTAL GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2009



PBAPS changed to total gross beta at the beginning of 2005.
Previous data included summation of less than values.

FIGURE C-2
MEAN ANNUAL CS-137 CONCENTRATIONS IN FISH SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 – 2009

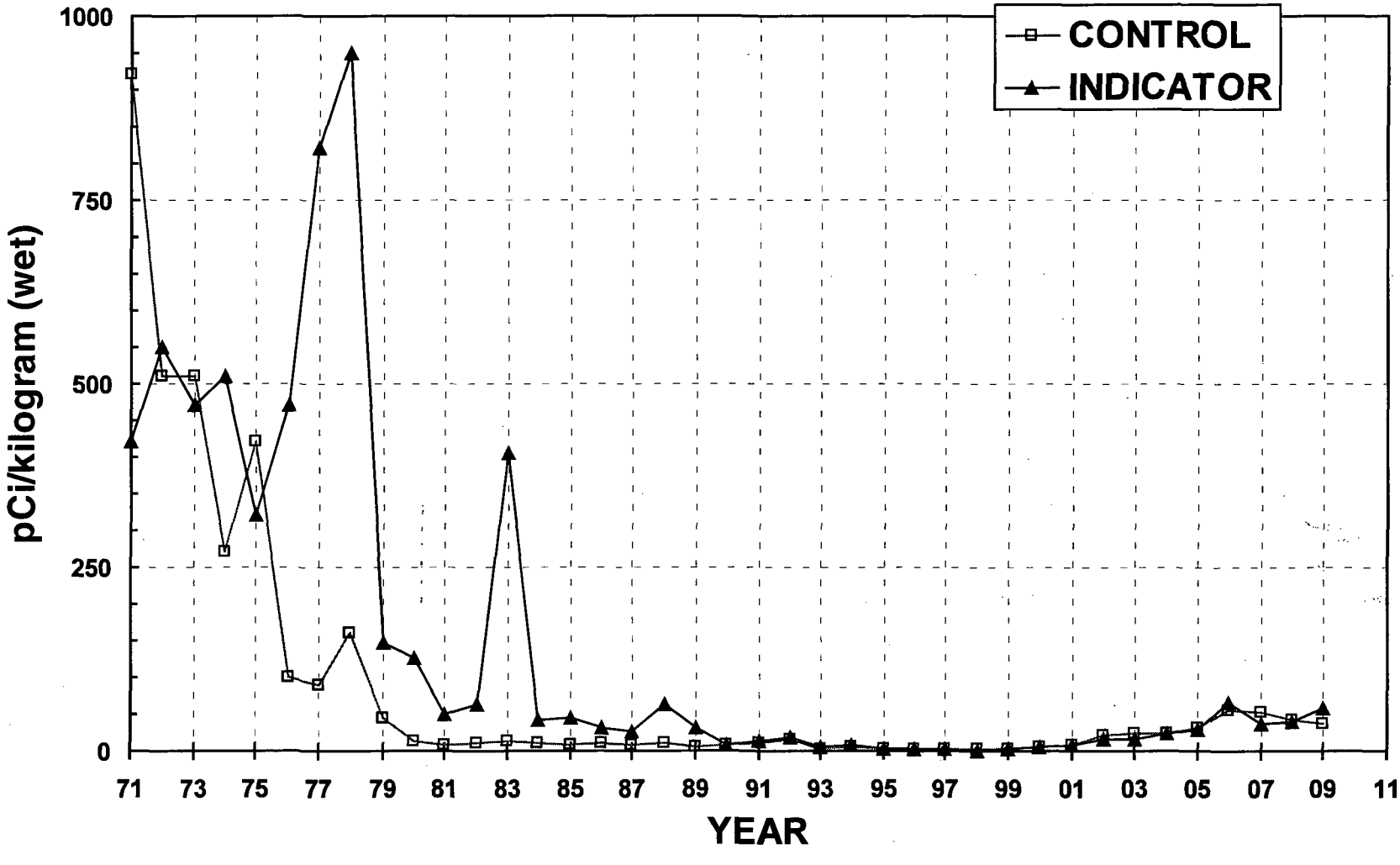
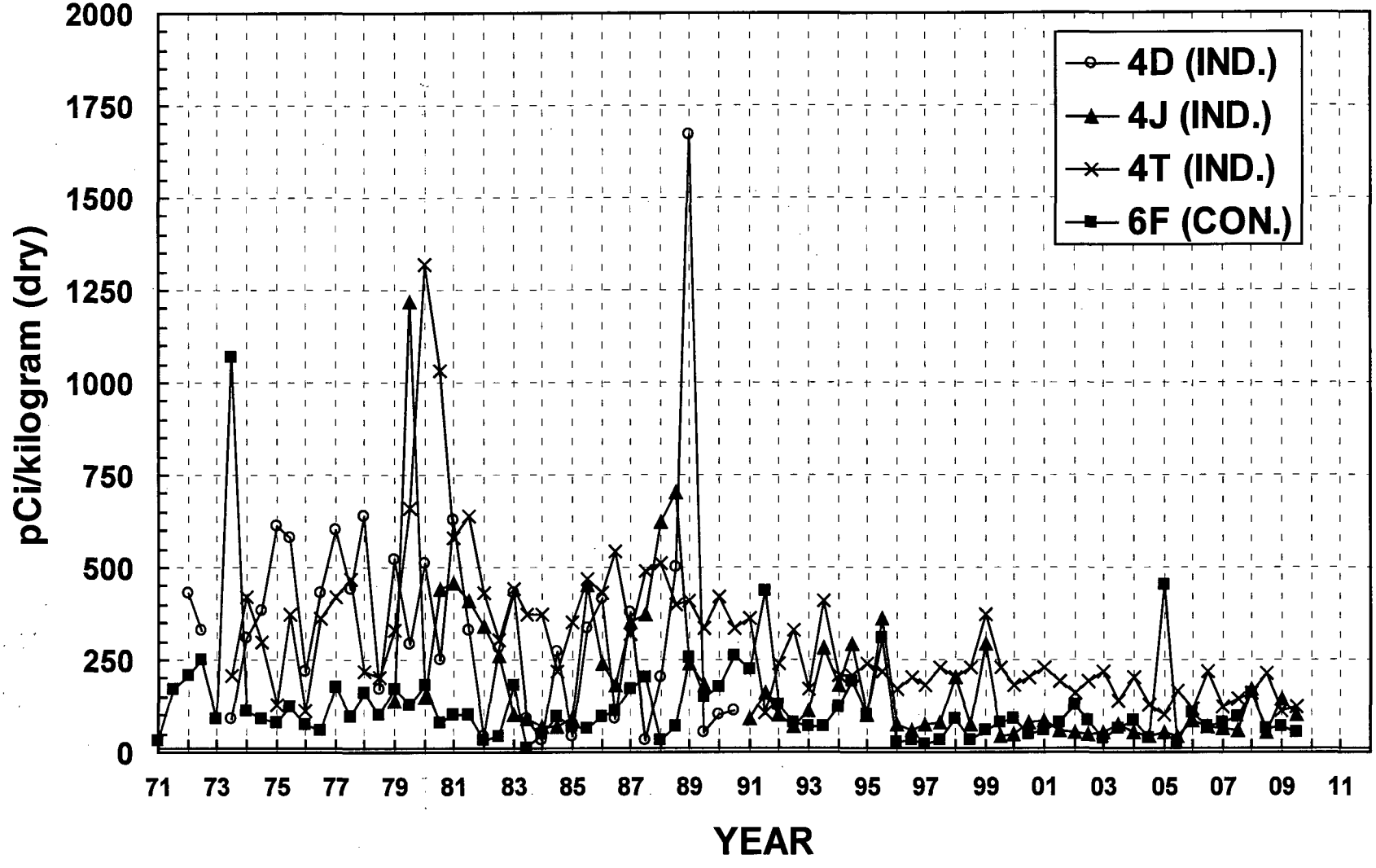


FIGURE C-3
CONCENTRATIONS OF CS-137 IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 – 2009



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

FIGURE C-4
MEAN WEEKLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2009

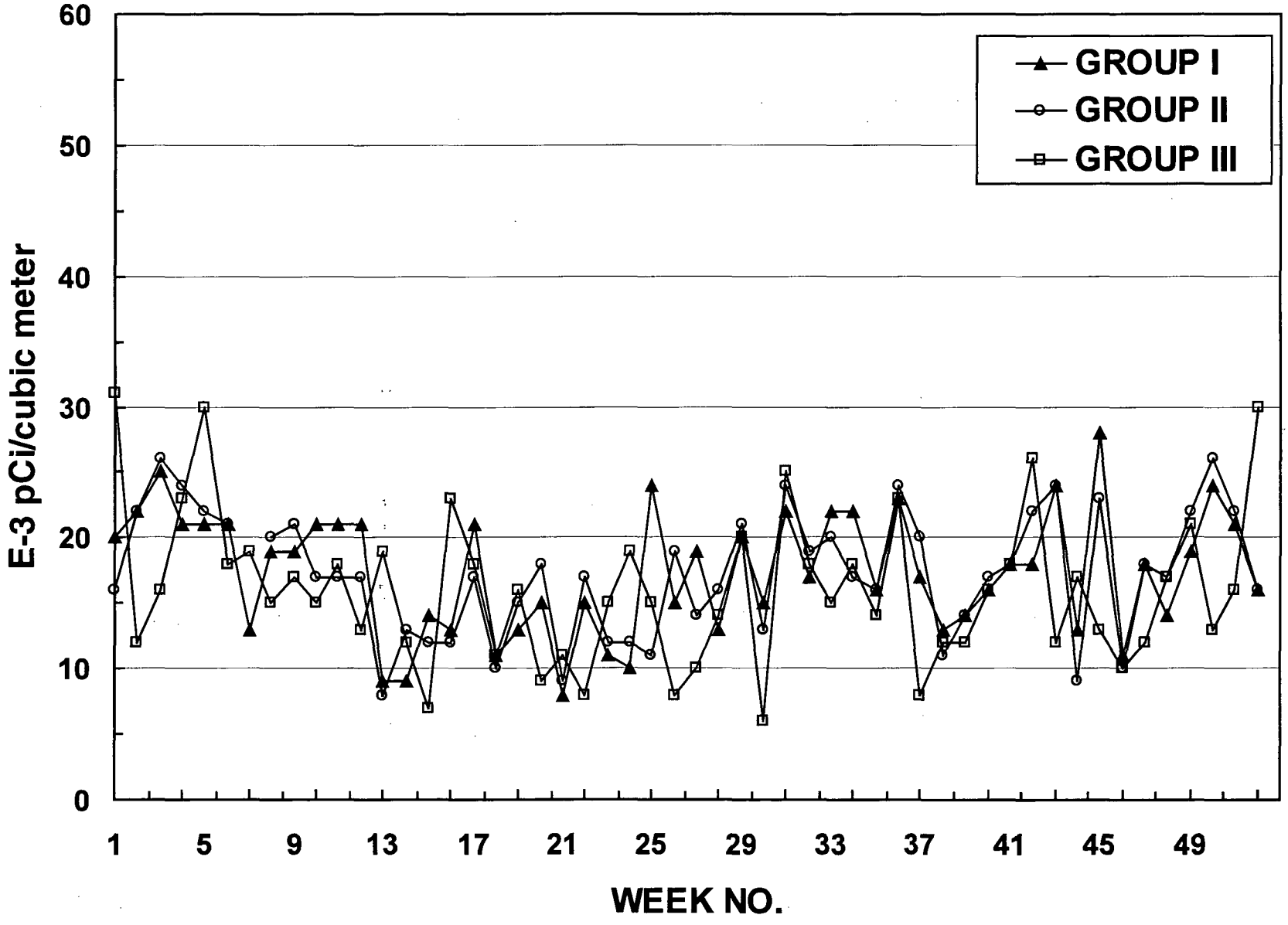


FIGURE C-5
MEAN MONTHLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATE
SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1970 – 2009

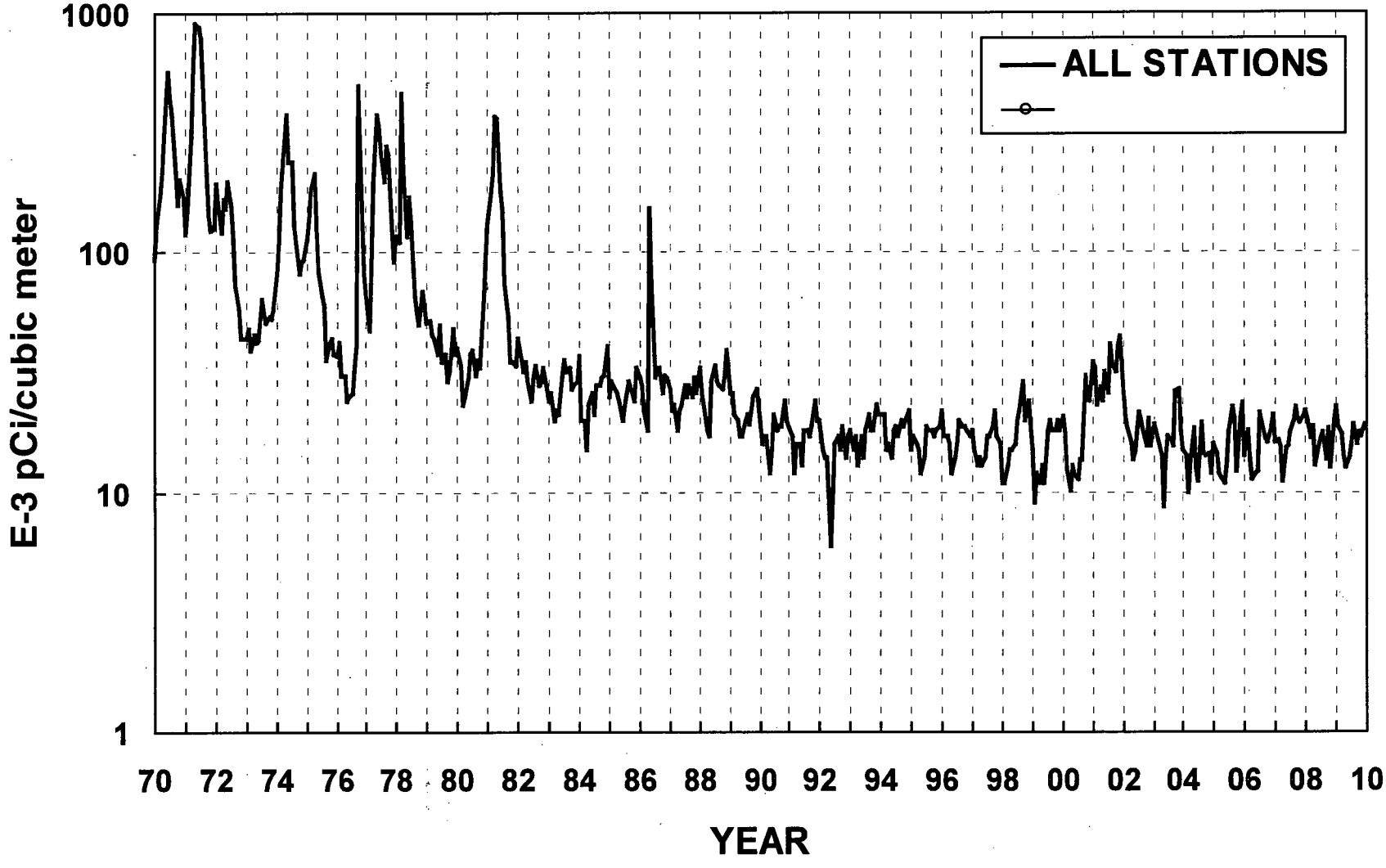
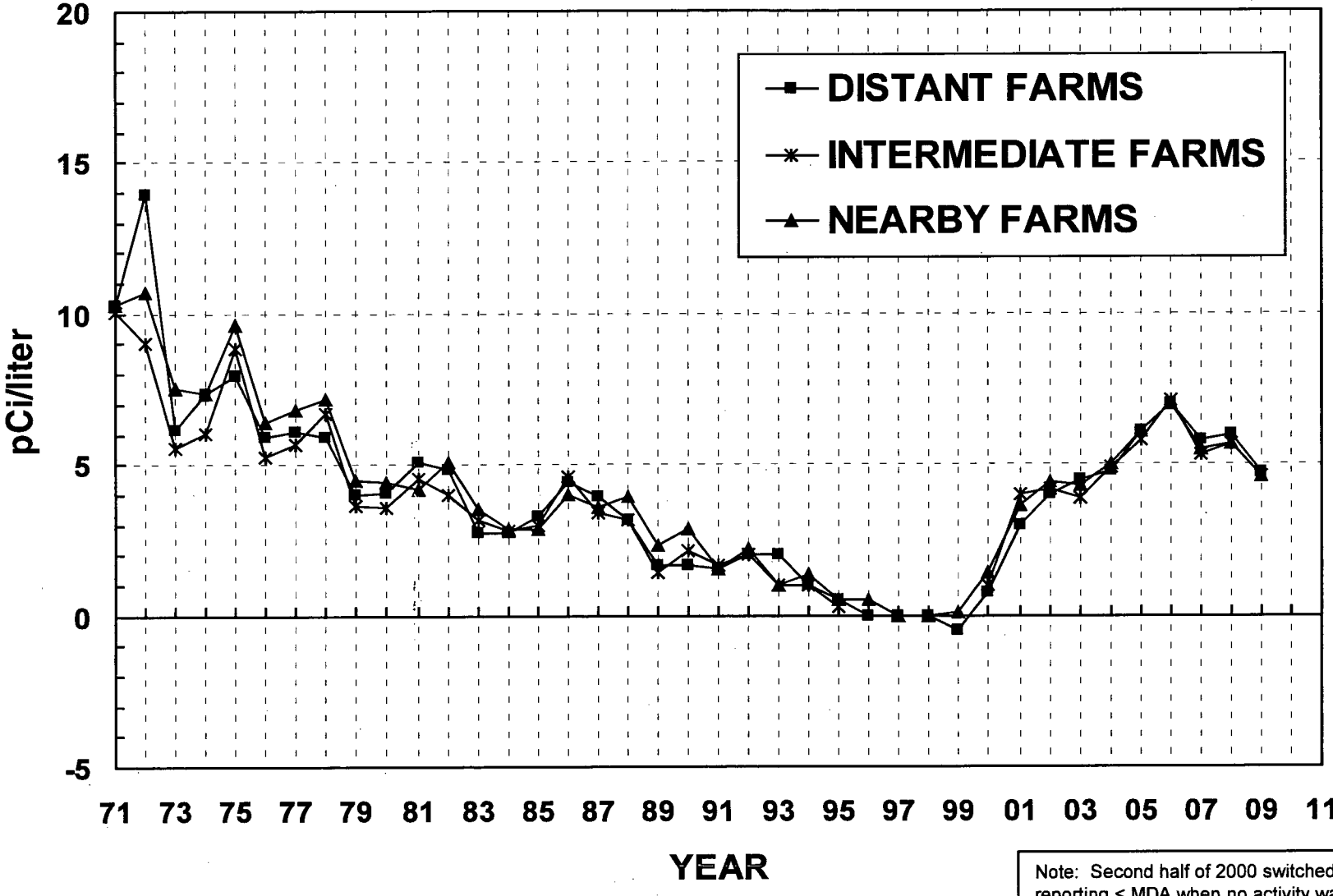


FIGURE C-6
MEAN ANNUAL CS-137 CONCENTRATIONS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 - 2009



Intermediate Farms Discontinued from 1995 - 1999
Cs-137 milk LLD = 18 pCi/liter

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

FIGURE C- 7
MEAN QUARTERLY AMBIENT GAMMA RADIATION LEVELS (TLD) IN THE VICINITY OF PBAPS, 1973 – 2009

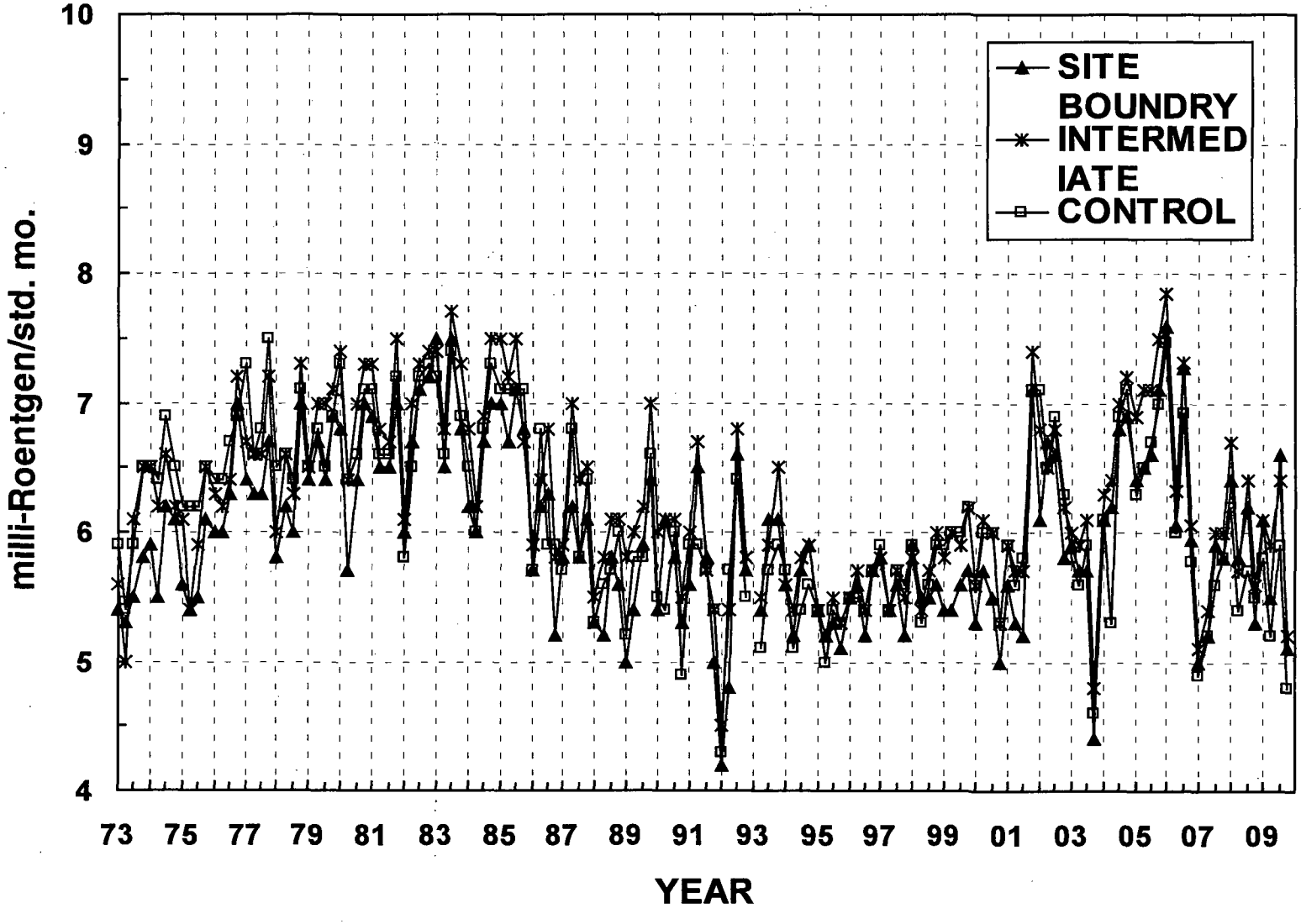
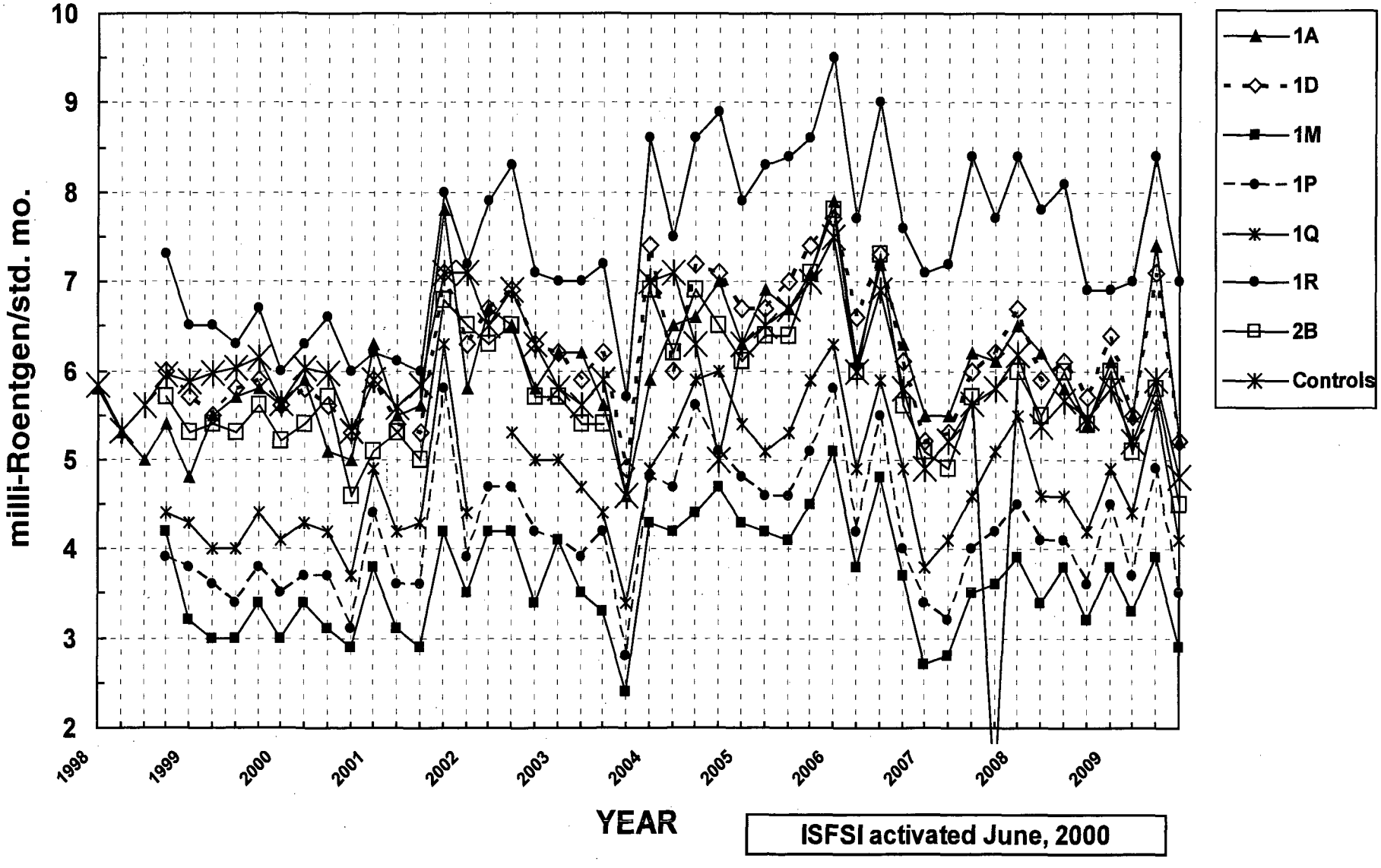


FIGURE C-8
QUARTERLY AMBIENT GAMMA RADIATION LEVELS (TLD) NEAR THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION LOCATED AT PBAPS, 1998 – 2009



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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, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L
JAN	< 1.9
FEB	< 2.1
MAR	< 1.5
APR	< 2.1
MAY	< 1.4
JUN	< 2.0
JUL	< 2.1
AUG	< 2.1
SEP	< 1.9
OCT	< 2.2
NOV	< 2.0
DEC	< 2.1
MEAN	-

TABLE D-I.2 CONCENTRATIONS OF GROSS BETA SOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L
JAN	1.5 ± 0.6
FEB	1.0 ± 0.5
MAR	0.9 ± 0.5
APR	< 0.9
MAY	< 1.9
JUN	2.3 ± 1.0
JUL	1.0 ± 0.4
AUG	2.0 ± 0.9
SEP	< 1.0
OCT	1.6 ± 0.6
NOV	2.1 ± 1.0
DEC	0.6 ± 0.5
MEAN	1.4 ± 1.1

TABLE D-I.3 CONCENTRATIONS OF TRITIUM IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L
JAN-MAR	< 159
APR-JUN	< 147
JUL-SEP	< 154
OCT-DEC	< 152

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE D-I.4 CONCENTRATIONS OF GAMMA EMITTERS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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	< 2	< 5	< 5	< 2	< 4	< 2	< 14	2 ± 2
	FEB	< 3	< 2	< 6	< 2	< 4	< 6	< 4	< 4	< 3	< 18	< 4
	MAR	< 3	< 2	< 5	< 2	< 6	< 4	< 3	< 3	< 3	< 11	< 5
	APR	< 3	< 2	< 8	< 2	< 3	< 3	< 3	< 4	< 3	< 14	< 2
	MAY	< 2	< 3	< 10	< 4	< 6	< 7	< 4	< 3	< 3	< 15	< 3
	JUN	< 2	< 2	9 ± 4	< 2	< 5	< 4.4	< 2	< 3	< 3	< 24	< 4
	JUL	< 2	< 2	< 6	< 3	< 4	< 5.4	< 4	< 4	< 2	< 15	< 6
	AUG	< 3	< 4	< 6	< 2	< 5	< 5.3	< 4	< 4	< 4	12 ± 8	< 3
	SEP	< 2	< 2	< 5	< 2	< 5	< 3	< 3	< 3	< 3	< 15	< 2
	OCT	< 4	< 2	< 4	< 3	< 4	< 6.9	< 3	< 3	< 4	< 17	< 5
	NOV	< 3	< 3	6 ± 4	< 3	< 5	< 6.1	< 2	< 3	< 3	< 10	< 3
	DEC	< 2	< 2	< 6	< 2	< 4	< 3.2	< 2	< 3	< 3	< 10	< 2
	MEAN	-	-	-	-	-	-	-	-	-	-	-

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE D-II.1 CONCENTRATIONS OF TRITIUM IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	WW-PB-4	WW-PB-12	WW-PB-22	WW-PB-24	WW-PB-25	WW-PB-26
JAN	<	<	<	<	<	<
FEB	<	<	<	<	<	<
MAR	<	<	<	<	<	<
APR	<	<	<	<	<	<
MAY	431 ± 105	2687 ± 175	912 ± 124	<	<	<
JUN	<	<	<	<	<	<
JUL	<	<	<	<	<	<
AUG	<	<	<	<	<	<
SEP	<	<	<	<	<	<
OCT	<	<	<	<	<	<
NOV	2065 ± 157	<	<	417 ± 105	27360 ± 480	2916 ± 177
DEC	<	<	<	<	<	<
MEAN	1248 ± 2311	2687 ± 0	912 ± 0	417 ± 0	27360 ± 0	2916 ± 0

TABLE D-II.2 CONCENTRATIONS OF STRONIUM IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	WW-PB-4	WW-PB-24	WW-PB-25	WW-PB-26
JAN	<	<	<	<
FEB	<	<	<	<
MAR	<	<	<	<
APR	<	<	<	<
MAY	<	<	<	<
JUN	<	<	<	<
JUL	<	<	<	<
AUG	<	<	<	<
SEP	<	<	<	<
OCT	<	<	<	<
NOV	< 0.7	< 0.6	< 0.5	< 0.6
DEC	<	<	<	<
MEAN	-	-	-	-

TABLE D-II.3 **CONCENTRATIONS OF GAMMA EMITTERS IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

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
WW-PB-4	JAN	<	<	<	<	<	<	<	<	<	<	<
	FEB	<	<	<	<	<	<	<	<	<	<	<
	MAR	<	<	<	<	<	<	<	<	<	<	<
	APR	<	<	<	<	<	<	<	<	<	<	<
	MAY	<	<	<	<	<	<	<	<	<	<	<
	JUN	<	<	<	<	<	<	<	<	<	<	<
	JUL	<	<	<	<	<	<	<	<	<	<	<
	AUG	<	<	<	<	<	<	<	<	<	<	<
	SEP	<	<	<	<	<	<	<	<	<	<	<
	OCT	<	<	<	<	<	<	<	<	<	<	<
	NOV	< 2	< 3	< 7	< 2	< 5	< 6	< 4	< 4	< 3	< 18	< 3
	DEC	<	<	<	<	<	<	<	<	<	<	<
	MEAN	-	-	-	-	-	-	-	-	-	-	-
WW-PB-24	JAN	<	<	<	<	<	<	<	<	<	<	<
	FEB	<	<	<	<	<	<	<	<	<	<	<
	MAR	<	<	<	<	<	<	<	<	<	<	<
	APR	<	<	<	<	<	<	<	<	<	<	<
	MAY	<	<	<	<	<	<	<	<	<	<	<
	JUN	<	<	<	<	<	<	<	<	<	<	<
	JUL	<	<	<	<	<	<	<	<	<	<	<
	AUG	<	<	<	<	<	<	<	<	<	<	<
	SEP	<	<	<	<	<	<	<	<	<	<	<
	OCT	<	<	<	<	<	<	<	<	<	<	<
	NOV	< 3	< 4	< 6	< 4	< 7	< 10	< 6	< 3	< 4	< 21	< 4
	DEC	<	<	<	<	<	<	<	<	<	<	<
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE D-II.3 CONCENTRATIONS OF GAMMA EMITTERS IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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
WW-PB-25	JAN	<	<	<	<	<	<	<	<	<	<	<
	FEB	<	<	<	<	<	<	<	<	<	<	<
	MAR	<	<	<	<	<	<	<	<	<	<	<
	APR	<	<	<	<	<	<	<	<	<	<	<
	MAY	<	<	<	<	<	<	<	<	<	<	<
	JUN	<	<	<	<	<	<	<	<	<	<	<
	JUL	<	<	<	<	<	<	<	<	<	<	<
	AUG	<	<	<	<	<	<	<	<	<	<	<
	SEP	<	<	<	<	<	<	<	<	<	<	<
	OCT	<	<	<	<	<	<	<	<	<	<	<
	NOV	< 2	< 3	< 4	< 2	< 6	< 5	< 3	< 3	< 3	< 17	< 3
	DEC	<	<	<	<	<	<	<	<	<	<	<
	MEAN	-	-	-	-	-	-	-	-	-	-	-
WW-PB-26	JAN	<	<	<	<	<	<	<	<	<	<	<
	FEB	<	<	<	<	<	<	<	<	<	<	<
	MAR	<	<	<	<	<	<	<	<	<	<	<
	APR	<	<	<	<	<	<	<	<	<	<	<
	MAY	<	<	<	<	<	<	<	<	<	<	<
	JUN	<	<	<	<	<	<	<	<	<	<	<
	JUL	<	<	<	<	<	<	<	<	<	<	<
	AUG	<	<	<	<	<	<	<	<	<	<	<
	SEP	<	<	<	<	<	<	<	<	<	<	<
	OCT	<	<	<	<	<	<	<	<	<	<	<
	NOV	< 3	< 3	< 2	< 2	< 5	< 5	< 3	< 2	< 2	< 15	< 4
	DEC	<	<	<	<	<	<	<	<	<	<	<
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE D-III.1 CONCENTRATIONS OF GROSS BETA INSOLUBLE IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

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

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

TABLE D-III.2 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

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	01/02/09 - 04/02/09	100 ± 13	< 0.9	< 0.6	< 0.6	< 0.7	< 0.6
	04/02/09 - 07/02/09	82 ± 11	< 0.7	< 0.7	< 0.5	< 0.7	< 0.4
	07/02/08 - 10/01/09	89 ± 15	< 0.7	< 0.3	< 0.4	< 0.7	< 0.6
	10/01/09 - 12/30/09	61 ± 12	< 0.6	< 0.8	< 0.6	< 0.5	< 0.5
	MEAN*	83 ± 33	-	-	-	-	-

TABLE D-IV.1 CONCENTRATIONS OF I-131 BY CHEMICAL SEPARATION AND GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	I-131	K-40	Cs-134	Cs-137	Ba-140	La-140
J	02/09/09	< 0.2	1323 ± 107	< 3	< 3	< 9	< 2
	05/04/09	< 0.3	1311 ± 103	< 4	< 4	< 11	< 4
	08/10/09	< 0.2	1274 ± 103	< 4	< 3	< 10	< 3
	11/02/09	< 0.3	1462 ± 117	< 3	< 4	< 22	< 2
	MEAN	-	1343 ± 164				
S	02/09/09	< 0.2	1231 ± 94	< 3	< 3	< 12	2 ± 2
	05/04/09	< 0.3	1439 ± 130	< 3	< 5	< 11	< 4
	08/10/09	< 0.2	1293 ± 105	< 3	< 4	< 12	< 3
	11/02/09	< 0.3	1348 ± 118	< 3	< 4	< 17	< 3
	MEAN	-	1328 ± 176				
V	02/09/09	< 0.2	1428 ± 108	< 3	< 4	< 10	< 2
	05/04/09	< 0.3	1328 ± 117	< 3	< 4	< 10	< 2
	08/10/09	< 0.3	1431 ± 114	< 5	< 3	< 15	< 3
	11/02/09	< 0.3	1328 ± 117	< 5	< 3	< 20	< 3
	MEAN	-	1379 ± 117				

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE D-V.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

DRINKING WATER (GROSS BETA & GAMMA SPECTROSCOPY)

COLLECTION PERIOD	4L
JAN	01/02/09 - 01/29/09
FEB	01/09/09 - 02/26/09
MAR	02/26/09 - 04/02/09
APR	04/02/09 - 04/30/09
MAY	04/30/09 - 05/28/09
JUN	05/28/09 - 07/02/09
JUL	07/02/09 - 07/30/09
AUG	07/30/09 - 09/04/09
SEP	09/04/09 - 10/01/09
OCT	10/01/09 - 10/29/09
NOV	10/29/09 - 12/02/09
DEC	12/02/09 - 12/30/09

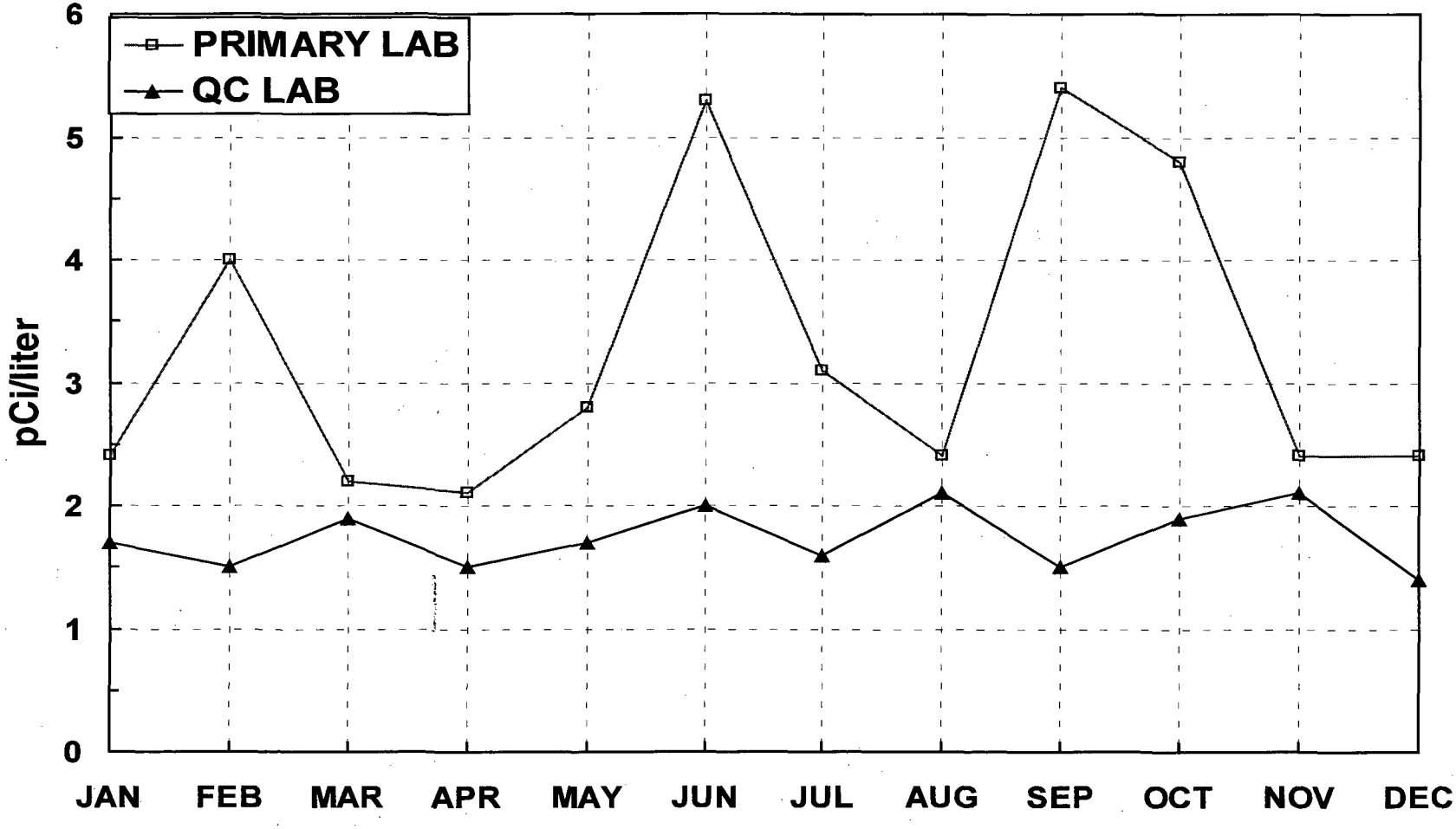
AIR PARTICULATE (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	1A
JAN-MAR	01/02/09 - 04/02/09
APR-JUN	04/02/09 - 07/02/09
JUL-SEP	07/02/09 - 10/01/09
OCT-DEC	10/01/09 - 12/30/09

AIR PARTICULATE (GROSS BETA)

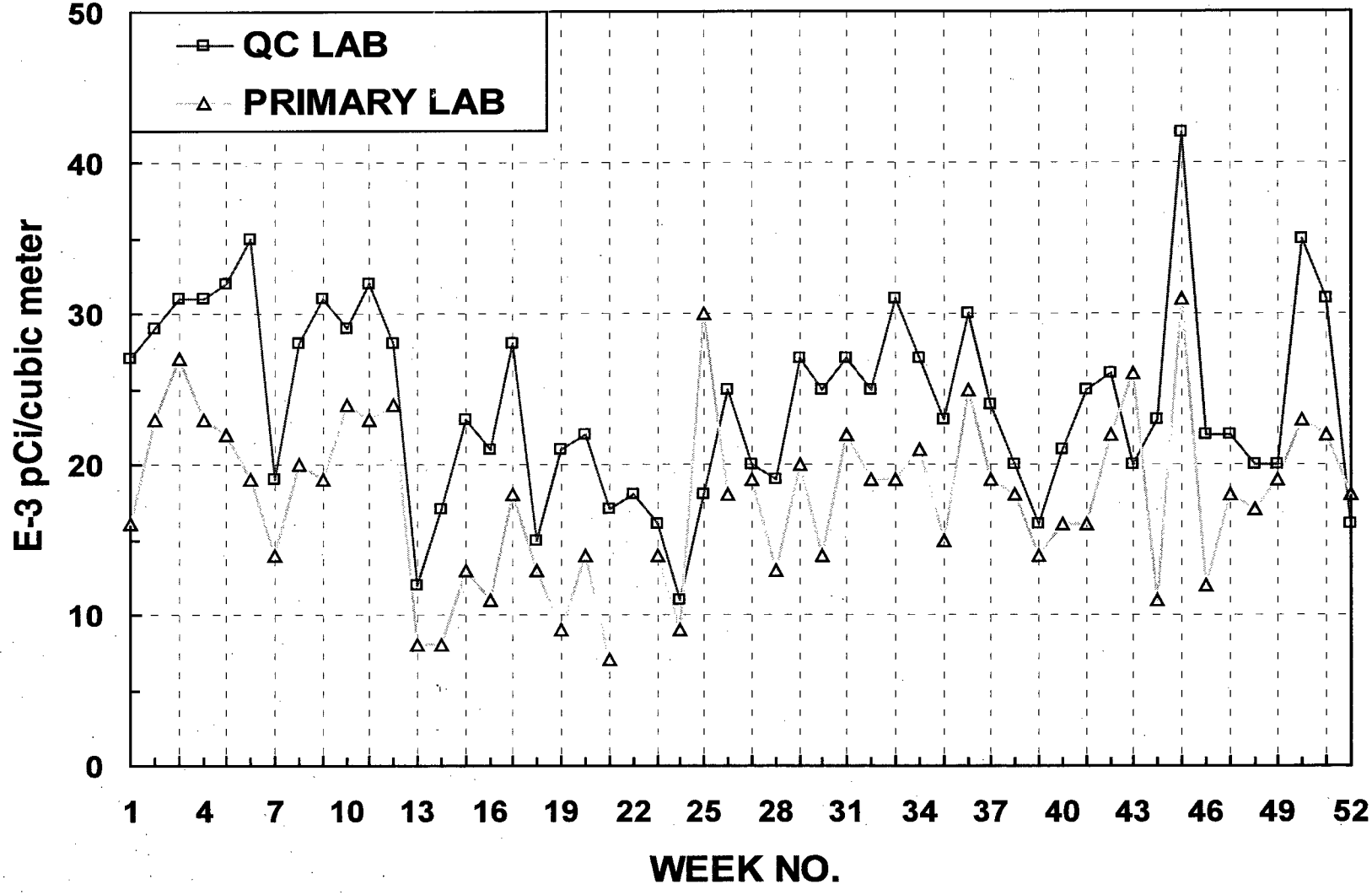
COLLECTION PERIOD	1A	COLLECTION PERIOD	1A
1	01/02/08 - 01/08/09	27	07/02/09 - 07/08/09
2	01/08/09 - 01/15/09	28	07/08/09 - 07/16/09
3	01/15/09 - 01/22/09	29	07/16/09 - 07/23/09
4	01/22/09 - 01/29/09	30	07/23/09 - 07/30/09
5	01/29/09 - 02/05/09	31	07/30/09 - 08/06/09
6	02/05/09 - 02/12/09	32	08/06/09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

FIGURE D-1
COMPARISON OF MONTHLY TOTAL GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2009



ENVIRONMENTAL INC. SOLUBLE AND INSOLUBLE FRACTIONS WERE COMBINED FOR TOTAL GROSS BETA COMPARISON.

FIGURE D-2
COMPARISON OF WEEKLY GROSS BETA CONCENTRATIONS FROM COLLOCATED AIR PARTICULATE LOCATIONS SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2009



APPENDIX E

INTER-LABORATORY COMPARISON PROGRAM

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2009
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2009	E6533-396	Milk	Sr-89	pCi/L	102	97.7	1.04	A
			Sr-90	pCi/L	14.9	15.6	0.96	A
	E6534-396	Milk	I-131	pCi/L	66.7	79.3	0.84	A
			Ce-141	pCi/L	87.5	94.9	0.92	A
			Cr-51	pCi/L	275	305	0.90	A
			Cs-134	pCi/L	82.0	93.7	0.88	A
			Cs-137	pCi/L	111	111	1.00	A
			Co-58	pCi/L	114	119	0.96	A
			Mn-54	pCi/L	136	128	1.06	A
			Fe-59	pCi/L	112	99.9	1.12	A
			Zn-65	pCi/L	160	156	1.03	A
			Co-60	pCi/L	142	142	1.00	A
	E6536-396	AP	Ce-141	pCi	120	115	1.04	A
			Cr-51	pCi	385	371	1.04	A
			Cs-134	pCi	113	114	0.99	A
			Cs-137	pCi	149	135	1.10	A
			Co-58	pCi	153	145	1.06	A
			Mn-54	pCi	155	155	1.00	A
			Fe-59	pCi	118	121	0.98	A
			Zn-65	pCi	195	189	1.03	A
			Co-60	pCi	190	173	1.10	A
	E6535-396	Charcoal	I-131	pCi	82.8	79.4	1.04	A
June 2009	E6742-396	Milk	Sr-89	pCi/L	107	112	0.96	A
			Sr-90	pCi/L	19.0	16.7	1.14	A
	E6743-396	Milk	I-131	pCi/L	98.1	102.0	0.96	A
			Ce-141	pCi/L	260	284	0.92	A
			Cr-51	pCi/L	389	400	0.97	A
			Cs-134	pCi/L	144.0	166	0.87	A
			Cs-137	pCi/L	185	192	0.96	A
			Co-58	pCi/L	86.9	91.9	0.95	A
			Mn-54	pCi/L	133	137	0.97	A
			Fe-59	pCi/L	126	122	1.03	A
			Zn-65	pCi/L	173	175	0.99	A
			Co-60	pCi/L	298	312	0.96	A
	E6745-396	AP	Ce-141	pCi	186	163	1.14	A
			Cr-51	pCi	262	231	1.13	A
			Cs-134	pCi	101	95	1.06	A
			Cs-137	pCi	135	111	1.22	W
			Co-58	pCi	61	53	1.16	A
			Mn-54	pCi	83.1	79	1.05	A
			Fe-59	pCi	84	70	1.19	A
			Zn-65	pCi	137	101	1.36	N (1)
			Co-60	pCi	202	180	1.12	A
	E6744-396	Charcoal	I-131	pCi	92.2	95.8	0.96	A

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2009
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September 2009	E6897-396	Milk	Sr-89	pCi/L	113	107	1.06	A
			Sr-90	pCi/L	17.4	18.8	0.93	A
	E6898-396	Milk	I-131	pCi/L	89.2	98.6	0.90	A
			Ce-141	pCi/L	249	275	0.91	A
			Cr-51	pCi/L	213	221	0.96	A
			Cs-134	pCi/L	104.0	123	0.85	A
			Cs-137	pCi/L	172	185	0.93	A
			Co-58	pCi/L	96.3	99.4	0.97	A
			Mn-54	pCi/L	201	206	0.98	A
			Fe-59	pCi/L	154	147	1.05	A
			Zn-65	pCi/L	213	204	1.04	A
			Co-60	pCi/L	154	160	0.96	A
	E6900-396	AP	Ce-141	pCi	181	161	1.12	A
			Cr-51	pCi	145	130	1.12	A
			Cs-134	pCi	71.8	72	0.99	A
			Cs-137	pCi	115	109	1.06	A
			Co-58	pCi	62	58	1.06	A
			Mn-54	pCi	129	121	1.07	A
			Fe-59	pCi	97	98	0.98	A
			Zn-65	pCi	110	120	0.92	A
			Co-60	pCi	98.7	94.1	1.05	A
	E6899-396	Charcoal	I-131	pCi	89.5	92.3	0.97	A
December 2009	E6946-396	Milk	Sr-89	pCi/L	131	131	1.00	A
			Sr-90	pCi/L	19.3	17.9	1.08	A
	E6947-396	Milk	I-131	pCi/L	79.2	87.3	0.91	A
			Ce-141	pCi/L	193	202	0.96	A
			Cr-51	pCi/L	512	548	0.93	A
			Cs-134	pCi/L	222	253	0.88	A
			Cs-137	pCi/L	163	179	0.91	A
			Co-58	pCi/L	200	211	0.95	A
			Mn-54	pCi/L	178	178	1.00	A
			Fe-59	pCi/L	176	178	0.99	A
			Zn-65	pCi/L	326	345	0.94	A
			Co-60	pCi/L	240	256	0.94	A
	E6949-396	AP	Ce-141	pCi	103	103	1.00	A
			Cr-51	pCi	290	280	1.04	A
			Cs-134	pCi	116	129	0.90	A
			Cs-137	pCi	93.4	91.5	1.02	A
			Co-58	pCi	111	108	1.03	A
			Mn-54	pCi	81.0	90.8	0.89	A
			Fe-59	pCi	106	90.8	1.17	A
			Zn-65	pCi	155	176	0.88	A
			Co-60	pCi	135	131	1.03	A

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2009
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2009	E6948-396	Charcoal	I-131	pCi	93.3	93.9	0.99	A

(1) Detector 7 appears to have a slightly high bias. Detector 7 was removed from service until it can be recalibrated. NCR 09-23

(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 **ERA ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2009
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
April 2009	RAD 77	Water	Sr-89	pCi/L	57.4	48.3	37.8 - 55.7	N (1)
			Sr-90	pCi/L	30.6	31.4	22.9 - 36.4	A
			Ba-133	pCi/L	55.2	52.7	43.4 - 58.3	A
			Cs-134	pCi/L	65.8	72.9	59.5 - 80.2	A
			Cs-137	pCi/L	157	168	151 - 187	A
			Co-60	pCi/L	86.4	88.9	80.0 - 100	A
			Zn-65	pCi/L	85.5	84.4	76.0 - 101	A
			Gr-A	pCi/L	47.7	54.2	28.3 - 67.7	A
			Gr-B	pCi/L	45.2	43.5	29.1 - 50.8	A
			I-131	pCi/L	25.2	26.1	21.7 - 30.8	A
			H-3	pCi/L	19733	20300	17800 - 22300	A
October 2009	RAD 79	Water	Sr-89	pCi/L	64.75	62.2	50.2 - 70.1	A
			Sr-90	pCi/L	30.30	30.7	22.4 - 35.6	A
			Ba-133	pCi/L	97.9	92.9	78.3 - 102	A
			Cs-134	pCi/L	76.8	79.4	65.0 - 87.3	A
			Cs-137	pCi/L	59.9	54.6	49.1 - 62.9	A
			Co-60	pCi/L	121	117	105 - 131	A
			Zn-65	pCi/L	115	99.5	89.6 - 119	A
			Gr-A	pCi/L	19.6	23.2	11.6 - 31.1	A
			Gr-B	pCi/L	28.5	26.0	16.2 - 33.9	A
			I-131	pCi/L	22.1	22.2	18.4 - 26.5	A
			H-3	pCi/L	16133	16400	14300 - 18000	A

(1) Calculation did not allow for Y-90 ingrowth on the Sr-89 mount. NCR 09-14

(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-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2009
(PAGE 1 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
March 2009	09-MaW20	Water	Cs-134	Bq/L	18.8	22.5	18.5 - 29.3	A
			Cs-137	Bq/L	0.0601		(1)	A
			Co-57	Bq/L	17.0	18.9	13.2 - 24.6	A
			Co-60	Bq/L	16.1	17.21	12.05 - 22.37	A
			H-3	Bq/L	332	330.9	231.6 - 430.2	A
			Mn-54	Bq/L	13.8	14.7	10.26 - 19.06	A
			Sr-90	Bq/L	6.88	7.21	5.05- 9.37	A
			Zn-65	Bq/L	13.2	13.6	9.5 - 17.7	A
	09-GrW20	Water	Gr-A	Bq/L	0.529	0.635	>0.0 - 1.270	A
			Gr-B	Bq/L	1.87	1.27	0.64 - 1.91	A
	09-MaS20	Soil	Cs-134	Bq/kg	433	467	327 - 607	A
			Cs-137	Bq/kg	649	605	424 - 787	A
			Co-57	Bq/kg	-0.120		(1)	A
			Co-60	Bq/kg	3.91	4.113	(2)	A
			Mn-54	Bq/kg	339	307	215 - 399	A
			K-40	Bq/kg	644	570	399 - 741	A
			Sr-90	Bq/kg	245	257	180 - 334	A
			Zn-65	Bq/kg	272	242	169 - 315	A
	09-RdF20	AP	Cs-134	Bq/sample	2.77	2.93	2.05 - 3.81	A
			Cs-137	Bq/sample	1.41	1.52	1.06 - 1.98	A
			Co-57	Bq/sample	1.24	1.30	0.91 - 1.69	A
			Co-60	Bq/sample	1.33	1.22	0.85 - 1.59	A
			Mn-54	Bq/sample	2.42	2.2709	1.5898 - 2.9522	A
			Sr-90	Bq/sample	0.713	0.64	0.448 - 0.832	A
			Zn-65	Bq/sample	1.30	1.36	0.95 - 1.77	A
	09-GrF20	AP	Gr-A	Bq/sample	0.188	0.348	>0.0 - 0.696	A
			Gr-B	Bq/sample	0.313	0.279	0.140 - 0.419	A
March 2009	09-RdV20	Vegetation	Cs-134	Bq/sample	3.48	3.40	2.38 - 4.42	A
			Cs-137	Bq/sample	1.15	0.93	0.65 - 1.21	W
			Co-57	Bq/sample	3.12	2.36	1.65 - 3.07	N (3)
			Co-60	Bq/sample	-0.0105		(1)	A
			Mn-54	Bq/sample	2.98	2.3	1.61 - 2.99	W
			K-40	Bq/sample	64.1		(4)	
			Sr-90	Bq/sample	1.09	1.260	0.882 - 1.638	A
			Zn-65	Bq/sample	1.73	1.3540	0.948 - 1.760	W
September 2009	09-MaW21	Water	Cs-134	Bq/L	26.5	32.2	22.5 - 41.9	A
			Cs-137	Bq/L	37.2	41.2	28.8 - 53.6	A
			Co-57	Bq/L	32.2	36.6	25.6 - 47.6	A
			Co-60	Bq/L	14.0	15.40	10.8 - 20.0	A
			H-3	Bq/L	705	634.1	443.9 - 824.3	A
			Mn-54	Bq/L	-0.1015		(1)	A
			Sr-90	Bq/L	13.9	12.99	9.09- 16.89	A
			Zn-65	Bq/L	26.2	26.9	18.8 - 35.0	A
	09-GrW21	Water	Gr-A	Bq/L	1.27	1.047	>0.0 - 2.094	A
			Gr-B	Bq/L	9.70	7.53	3.77 - 11.30	A

TABLE E-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2009
(PAGE 2 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
September 2009	09-MaS21	Soil	Am-241	Bq/kg	74.7	89.8	62.9 - 116.7	A
			Cs-134	Bq/kg	0.554		(1)	A
			Cs-137	Bq/kg	706	669	468 - 870	A
			Co-57	Bq/kg	606	586	410 - 762	A
			Co-60	Bq/kg	350	327.000	229 - 425	A
			Mn-54	Bq/kg	876	796	557 - 1035	A
			K-40	Bq/kg	425	375	263 - 488	A
			Sr-90	Bq/kg	505	455	319 - 592	A
			Zn-65	Bq/kg	1370	1178	825 - 1531	A
	09-RdF21	AP	Cs-134	Bq/sample	-0.02		(1)	A
			Cs-137	Bq/sample	1.4	1.4	0.98 - 1.82	A
			Co-57	Bq/sample	5.98	6.48	4.54 - 8.42	A
			Co-60	Bq/sample	1.01	1.03	0.72 - 1.34	A
			Mn-54	Bq/sample	5.16	5.49	3.84 - 7.14	A
			Sr-90	Bq/sample	0.925	0.0835	0.585 - 1.086	A
			Zn-65	Bq/sample	4.39	3.93	2.75 - 5.11	A
	09-GrF21	AP	Gr-A	Bq/sample	0.357	0.659	>0.0 - 1.318	A
			Gr-B	Bq/sample	1.403	1.320	0.66 - 1.98	A
	09-RdV21	Vegetation	Cs-134	Bq/sample	-0.0027		(1)	A
			Cs-137	Bq/sample	2.36	2.43	1.70 - 3.16	A
			Co-60	Bq/sample	2.58	2.57	1.80 - 3.34	A
			Mn-54	Bq/sample	8.36	7.9	5.5 - 10.3	A
			K-40	Bq/sample	57.8		(4)	
			Sr-90	Bq/sample	1.73	1.78	1.25 - 2.31	A
			Zn-65	Bq/sample	-0.59		(1)	A

(1) False positive test.

(2) Sensativity evaluation.

(3) Homogeniety problem. MAPEP requires using entire sample but due to geometry limitations we can only use part of the sample. NCR 09-13

(4) Not evaluated by MAPEP.

(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-4 **ERA (a) STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM ENVIRONMENTAL, INC., 2009**

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1181	04/06/09	Sr-89	41.0 ± 5.8	48.3	37.8 - 55.7	Pass
STW-1181	04/06/09	Sr-90	32.4 ± 2.4	31.4	22.9 - 36.4	Pass
STW-1182	04/06/09	Ba-133	44.6 ± 3.1	52.7	43.4 - 58.3	Pass
STW-1182	04/06/09	Co-60	81.0 ± 3.1	88.9	80.0 - 100.0	Pass
STW-1182	04/06/09	Cs-134	65.6 ± 5.2	72.9	59.5 - 80.2	Pass
STW-1182 [a]	04/06/09	Cs-137	147.7 ± 5.3	168.0	151.0 - 187.0	Fail
STW-1182	04/06/09	Zn-65	79.8 ± 7.5	84.4	76.0 - 101.0	Pass
STW-1183	04/06/09	Gr. Alpha	47.6 ± 2.1	54.2	28.3 - 67.7	Pass
STW-1183	04/06/09	Gr. Beta	38.5 ± 1.3	43.5	29.1 - 50.8	Pass
STW-1184	04/06/09	I-131	24.4 ± 2.5	26.1	21.7 - 30.8	Pass
STW-1186 [e]	04/06/09	H-3	22819.0 ± 453.0	20300.0	17800.0 - 22300.0	Fail
STW-1193	10/05/09	Sr-89	53.0 ± 6.0	62.2	50.2 - 70.1	Pass
STW-1193	10/05/09	Sr-90	31.1 ± 2.2	30.7	22.4 - 35.6	Pass
STW-1194	10/05/09	Ba-133	82.5 ± 3.5	92.9	78.3 - 102.0	Pass
STW-1194	10/05/09	Co-60	116.8 ± 3.3	117.0	105.0 - 131.0	Pass
STW-1194	10/05/09	Cs-134	78.8 ± 5.7	78.8	65.0 - 87.3	Pass
STW-1194	10/05/09	Cs-137	54.2 ± 3.7	54.6	49.1 - 62.9	Pass
STW-1194	10/05/09	Zn-65	102.5 ± 6.2	99.5	89.6 - 119.0	Pass
STW-1195	10/05/09	Gr. Alpha	20.3 ± 2.0	23.2	11.6 - 31.1	Pass
STW-1195	10/05/09	Gr. Beta	23.7 ± 1.4	26.0	16.2 - 33.9	Pass
STW-1196	10/05/09	I-131	22.4 ± 1.4	22.2	18.4 - 26.5	Pass
STW-1198	10/05/09	H-3	17228.0 ± 694.0	16400.0	14300.0 - 18000.0	Pass

[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 Assc (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.*

[d] *All gamma -emitters showed a low bias. A large plastic burr found on the base of the Marinelli kept the beaker from sitting directly on the detector. Result of recount in a different beaker, Cs-137, 155.33 ± 14.55 pCi/L.*

[e] *Samples were recounted and also reanalyzed. A recount of the original vials averaged 23,009 pCi/L. Reanalysis results were acceptable, 19,170 pCi/L.*

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2009

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1170	01/01/09	Co-57	19.60 ± 0.40	18.90	13.20 - 24.60	Pass
STW-1170	01/01/09	Co-60	16.60 ± 0.30	17.21	12.05 - 22.37	Pass
STW-1170	01/01/09	Cs-134	20.40 ± 0.50	22.50	15.80 - 29.30	Pass
STW-1170 [e]	01/01/09	Cs-137	0.10 ± 0.20	0.00	0.00 - 1.00	Pass
STW-1170	01/01/09	H-3	359.90 ± 33.90	330.90	231.60 - 430.20	Pass
STW-1170	01/01/09	Mn-54	15.00 ± 0.40	14.66	10.26 - 19.06	Pass
STW-1170	01/01/09	Sr-90	7.87 ± 1.39	7.21	5.05 - 9.37	Pass
STW-1170	01/01/09	Zn-65	14.00 ± 0.70	13.60	9.50 - 17.70	Pass
STW-1171	01/01/09	Gr. Alpha	0.56 ± 0.06	0.64	0.00 - 1.27	Pass
STW-1171	01/01/09	Gr. Beta	1.29 ± 0.05	1.27	0.64 - 1.91	Pass
STSO-1172 [e]	01/01/09	Co-57	0.00 ± 0.00	0.00	0.00 - 1.00	Pass
STSO-1172	01/01/09	Cs-134	458.60 ± 7.40	467.00	327.00 - 607.00	Pass
STSO-1172	01/01/09	Cs-137	652.30 ± 3.50	605.00	424.00 - 787.00	Pass
STSO-1172	01/01/09	K-40	636.40 ± 9.50	570.00	360.40 - 669.40	Pass
STSO-1172	01/01/09	Mn-54	346.40 ± 3.10	307.00	215.00 - 399.00	Pass
STSO-1172	01/01/09	Sr-90	180.60 ± 12.10	257.00	180.00 - 334.00	Pass
STSO-1172	01/01/09	Zn-65	268.30 ± 4.00	242.00	169.00 - 315.00	Pass
STVE-1173	01/01/09	Co-57	2.75 ± 0.11	2.36	1.65 - 3.07	Pass
STVE-1173 [e]	01/01/09	Co-60	0.06 ± 0.09	0.00	0.00 - 1.00	Pass
STVE-1173	01/01/09	Cs-134	3.49 ± 0.22	3.40	2.38 - 4.42	Pass
STVE-1173	01/01/09	Cs-137	1.01 ± 0.11	0.93	0.65 - 1.21	Pass
STVE-1173	01/01/09	Mn-54	2.52 ± 0.14	2.30	1.61 - 2.99	Pass
STVE-1173	01/01/09	Zn-65	1.52 ± 0.18	1.35	0.95 - 1.76	Pass
STAP-1174	01/01/09	Co-57	1.25 ± 0.05	1.30	0.91 - 1.69	Pass
STAP-1174	01/01/09	Co-60	1.17 ± 0.06	1.22	0.85 - 1.59	Pass
STAP-1174	01/01/09	Cs-134	2.67 ± 0.14	2.93	2.05 - 3.81	Pass
STAP-1174	01/01/09	Cs-137	1.53 ± 0.08	1.52	1.06 - 1.98	Pass
STAP-1174	01/01/09	Mn-54	2.34 ± 0.09	2.27	1.59 - 2.95	Pass
STAP-1174 [f]	01/01/09	Sr-90	0.93 ± 0.14	0.64	0.45 - 0.83	Fail
STAP-1174	01/01/09	Zn-65	1.44 ± 0.14	1.36	0.95 - 1.77	Pass
STAP-1175	01/01/09	Gr. Alpha	0.22 ± 0.03	0.35	0.00 - 0.70	Pass
STAP-1175	01/01/09	Gr. Beta	0.36 ± 0.04	0.28	0.14 - 0.42	Pass
STW-1192	07/01/09	Co-57	37.20 ± 1.50	36.60	25.60 - 47.60	Pass
STW-1192	07/01/09	Co-60	15.10 ± 0.90	15.40	10.80 - 20.00	Pass
STW-1192	07/01/09	Cs-134	30.30 ± 2.10	32.20	22.50 - 41.90	Pass
STW-1192	07/01/09	Cs-137	41.90 ± 1.80	41.20	28.80 - 53.60	Pass
STW-1192	07/01/09	H-3	680.30 ± 33.60	634.10	443.90 - 824.30	Pass
STW-1192 [e]	07/01/09	Mn-54	0.01 ± 0.26	0.00	0.00 - 1.00	Pass
STW-1192	07/01/09	Sr-90	12.90 ± 1.70	12.99	9.09 - 16.89	Pass
STW-1192	07/01/09	Zn-65	28.50 ± 2.40	26.90	18.80 - 35.00	Pass

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2009

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1191	07/01/09	Gr. Alpha	0.88 ± 0.07	1.05	0.00 - 2.09	Pass
STW-1191	07/01/09	Gr. Beta	7.29 ± 0.10	7.53	3.77 - 11.30	Pass
STSO-1188	07/01/09	Co-57	674.60 ± 9.00	586.00	410.00 - 762.00	Pass
STSO-1188	07/01/09	Co-60	356.40 ± 6.30	327.00	229.00 - 425.00	Pass
STSO-1188	07/01/09	Cs-134	0.20 ± 1.90	0.00	0.00 - 1.00	Pass
STSO-1188	07/01/09	Cs-137	767.50 ± 12.00	669.00	468.00 - 870.00	Pass
STSO-1188	07/01/09	K-40	433.00 ± 37.20	375.00	263.00 - 488.00	Pass
STSO-1188	07/01/09	Mn-54	931.60 ± 14.10	796.00	557.00 - 1035.00	Pass
STSO-1188 [g]	07/01/09	Sr-90	310.50 ± 12.20	455.00	319.00 - 592.00	Fail
STSO-1188	07/01/09	Zn-65	1433.90 ± 25.20	1178.00	825.00 - 1531.00	Pass
STVE-1190	07/01/09	Co-57	8.90 ± 0.60	8.00	5.60 - 10.40	Pass
STVE-1190	07/01/09	Co-60	2.50 ± 0.36	2.57	1.80 - 3.34	Pass
STVE-1190	07/01/09	Cs-134	0.01 ± 0.11	0.00	0.00 - 0.10	Pass
STVE-1190	07/01/09	Cs-137	2.42 ± 0.16	2.43	1.70 - 3.16	Pass
STVE-1190	07/01/09	Mn-54	8.35 ± 0.70	7.90	5.50 - 10.30	Pass
STVE-1190	07/01/09	Zn-65	0.01 ± 0.26	0.00	0.00 - 0.10	Pass
STAP-1189	07/01/09	Gr. Alpha	0.33 ± 0.04	0.66	0.00 - 1.32	Pass
STAP-1189	07/01/09	Gr. Beta	1.57 ± 0.07	1.32	0.66 - 1.98	Pass
STAP-1190	07/01/09	Co-57	6.78 ± 0.27	6.48	4.54 - 8.42	Pass
STAP-1190	07/01/09	Co-60	1.06 ± 0.18	1.03	0.72 - 1.34	Pass
STAP-1190	07/01/09	Cs-134	0.01 ± 0.06	0.00	0.01 - 0.05	Pass
STAP-1190	07/01/09	Cs-137	1.49 ± 0.27	1.40	0.98 - 1.82	Pass
STAP-1190	07/01/09	Mn-54	6.00 ± 0.45	5.49	3.84 - 7.14	Pass
STAP-1190	07/01/09	Sr-90	0.79 ± 0.13	0.84	0.59 - 1.09	Pass
STAP-1190	07/01/09	Zn-65	4.55 ± 0.66	3.93	2.75 - 5.11	Pass

[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] *Results are reported in units of Bq/kg (soil), Bq/L (water) or Bq/total sample (filters, vegetation).*

[c] *Laboratory codes as follows: STW (water), STAP (air filter), STSO (soil), STVE (vegetation).*

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

[e] *Included in the testing series as a "false positive".*

[f] *No reason was determined for the initial high results. The analysis was repeated; result of reanalysis; 0.54 ± 0.12 Bq/filter.*

[g] *Incomplete separation of strontium from calcium could result in a higher recovery percentage and consequently lower reported activity. The analysis was repeated; result of reanalysis 363.3 ± 28.6 Bq/kg.*

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APPENDIX F

ERRATA DATA

2007

2. Teledyne Brown Engineering's MAPEP Series 15 January 2006 Sr-90 in vegetation result of 2.22 Bq/kg exceeded the upper acceptance range of 2.029 Bq/kg. The samples were analyzed in triplicate and the results averaged. One high result of 2.43 Bq/kg biased the submitted results on the high side. TBE was unable to determine the cause for the higher result. The Sr-90 in vegetation results for MAPEP Series 14 and MAPEP Series 16 were acceptable. No client samples were analyzed during the MAPEP Series 14 time period.

3. Teledyne Brown Engineering's MAPEP Series 15 January 2006 Pu-238 and Pu-239/240 in vegetation result of 2.22 Bq/kg failed the required acceptance ranges. TBE was evaluating the current preparation method for vegetation samples, which proved insufficient for the analyses. TBE does not perform isotopic Pu on client's vegetation samples.

For the secondary laboratory, 20 out of 25 analytes met the specified acceptance criteria. Seven samples did not meet the specified acceptance criteria for the following reasons:

1. Environmental Inc.'s ERA November 2006 water I-131 result of 28.4 pCi/L exceeded the upper control limit of 27.3 pCi/L. The reported result was an average of three analyses, results ranged from 25.36 pCi/L to 29.23 pCi/L. A fourth analysis was performed, with a result of 24.89 pCi/L.

2. Environmental Inc.'s MAPEP January 2006 vegetation Pu-238 result of 0.08 Bq/sample exceeded the lower control limit of 0.10 Bq/sample due to incomplete dissolution of the sample.

3. Environmental Inc.'s MAPEP January 2006 air particulate Pu-238 result of 0.03 Bq/sample exceeded the lower control limit of 0.05 Bq/sample due to incomplete dissolution of the sample.

4. Environmental Inc.'s MAPEP January 2006 soil Pu-238, Pu-239/240, U-233/234 and U-238 results of 14.6, 14.6, 13.5 and 15.4 Bq/kg, respectively, exceeded the lower control limits of 42.81, 32.09, 25.9 and 27.2 Bq/kg, respectively, due to incomplete dissolution of the sample.

The Inter-Laboratory Comparison Program provides evidence of "in control" counting systems and methods, and that the laboratories are producing accurate and reliable data.

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.

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2008

D. Program Exceptions

For 2008 the PBAPS REMP had a sample collection recovery rate of better than 99%. The exceptions to this program are listed below:

1. The sample pump for REMP airborne particulate/iodine station, located 1396 feet SE of the site, had restricted air flow. The pump was replaced and normal flow was restored for the following period and location (AR# 720461):

   01/10/08, Location 1Z

2. No power to the discharge composite sampler for the following period (IR#734475):

   02/11/08

3. Composite sampler at the discharge canal was not collecting sample for the following period (IR#740208):

   02/23/08

4. The sample pump for REMP airborne particulate/iodine station, located 19,144 feet SW of the site, was replaced for the following period and location (AR# 720461):

   04/10/08, Location 3A

5. An air leak in the composite sampler receiver tank at the discharge canal was discovered for the following period (IR#763223):

   04/14/08

6. No broad leaf vegetation samples (i.e. edible leave or leaves from plants that produced edible products) were available for the following period and location (AR# 786958):

   May, Location 2B

7. No vegetation samples (i.e. edible leave or leaves from plants that produced edible products) were available for the following period and location (AR# 786958):

   June, Location 2B

8. Cesium-137 was detected in sediment samples taken on 06/24/2008; doses calculated were negligible for the following period and locations (AR# 805826):

   06/24/08, Location 4J – 168 pCi/kg Cs-137
   06/24/08, Location 6F – 161 pCi/kg Cs-137
   06/24/08, Location 4T – 157 pCi/kg Cs-137

9. Only two broadleaf vegetation samples (i.e. edible leaves or leaves from plants that produce edible products) were available for the following period and location (AR# 830567):

   September, Location 1Q

10. A broken fitting on a discharge canal composite sampler was discovered for the following period. (IR#831817):

    10/16/09

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

Quarterly Milk Farm F went out of business on May 13, 2008. The Barrow farm is located in the South Sector with the following directions and distance(s): Sector South Direction S-0-59-2W, distance 68,372.7 feet. The milk farm was replaced by Milk Farm W (Dallam Farm) with the following direction and distances: Sector South-Direction (azimuth) 181, distance 89,354.4 feet (AR# 775002).

Control Milk farm T went out of business on December 18, 2008, the farm was located 34,584 feet W of the site. Station T has been replaced by Station V, which is located 6.2 miles (32,736 feet) W of the site (AR# 856762).

APPENDIX G

ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM REPORT (ARGPPR)

Docket No: 50-277
50-278

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 and 3

Annual Radiological
Groundwater Protection Program Report

1 January 2009 Through 31 December 2009

Prepared By

Teledyne Brown Engineering
Environmental Services

Exelon SM

Nuclear

Peach Bottom Atomic Power Station
Delta, PA 17314

May 2010

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Appendices

I. Summary and Conclusions

This report on the Radiological Groundwater Protection Program (RGPP) conducted for the Peach Bottom Atomic Power Station (PBAPS) by Exelon Nuclear covers the period 01 January 2009 through 31 December 2009. This evaluation involved numerous station personnel and contractor support personnel. At Peach Bottom Atomic Power Station, 14 permanent groundwater monitoring wells were installed in 2006. Of these monitoring locations, none were assigned to the station's Radiological Environmental Monitoring Program (REMP). This is the third in a series of annual reports on the status of the Radiological Groundwater Protection Program (RGPP) conducted at Peach Bottom Atomic Power Station. This report covers groundwater and seep water samples, collected from the environment, both on and off station property in 2009. During that time period, 596 analyses were performed on 529 samples from 44 locations. Phase 1 of the monitoring was part of a comprehensive study initiated by Exelon to determine whether groundwater or surface water at and in the vicinity of Peach Bottom Atomic Power Station had been adversely impacted by any releases of radionuclides. Phase 1 was conducted by Conestoga Rovers and Associates (CRA) and the conclusions were made available to state and federal regulators as well as the public on an Exelon web site http://www.exeloncorp.com/ourcompanies/powergen/nuclear/Tritium.htm]. Phase 2 of the RGPP was conducted by Exelon corporate and station personnel to initiate follow up of Phase 1 and begin long-term monitoring at groundwater and surface water locations selected during Phase 1. All analytical results from Phase 2 monitoring are reported herein.

In assessing all the data gathered for this report, it was concluded that the operation of Peach Bottom Atomic Power Station had no adverse radiological impact on the environment, and there are no known active releases into the groundwater at Peach Bottom Atomic Power Station.

Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective Lower Limits of Detection (LLDs) as specified in the Offsite Dose Calculation Manual (ODCM) in any of the groundwater or surface water samples. In the case of tritium, Exelon specified that it's laboratories achieve a lower limit of detection 10 times lower than that required by federal regulation.

Strontium-90 was not detected in any of the samples and the required LLD of 2.0 pCi/liter was met except for one sample had a Sr-90 MDA of 3.3 pCi/l (Table B–I.1, Appendix B).

Tritium was detected in 7 groundwater locations at concentrations greater than the United States Environmental Protection Agency (USEPA) drinking water standard (and the Nuclear Regulatory Commission Reporting Limit) of 20,000 pCi/L. Low levels of tritium were detected at concentrations greater than the LLD

of 200 pCi/L in 18 of 42 groundwater and seep water monitoring locations. The tritium concentrations ranged from 146 ± 85 pCi/L to 110,000 ± 11,300 pCi/L. Tritium was not detected in surface water. Based on the sample data, tritium is not migrating off the station property at detectable concentrations.

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.

This report covers those analyses performed by Teledyne Brown Engineering (TBE) on samples collected in 2009.

A. Objective of the RGPP

The long-term objectives of the RGPP are as follows:

1. Identify suitable locations to monitor and evaluate potential impacts from station operations before significant radiological impact to the environment and potential drinking water sources.

2. Understand the local hydrogeologic regime in the vicinity of the station and maintain up-to-date knowledge of flow patterns on the surface and shallow subsurface.

3. Perform routine water sampling and radiological analysis of water from selected locations.

4. Report new leaks, spills, or other detections with potential radiological significance to stakeholders in a timely manner.

5. Regularly assess analytical results to identify adverse trends.

6. Take necessary corrective actions to protect groundwater resources.

B. Implementation of the Objectives

The objectives identified have been implemented at Peach Bottom Atomic Power Station as discussed below:

1. Exelon and its consultant identified locations as described in the Phase 1 study. Phase 1 studies were conducted by Conestoga Rovers and Associates (CRA) and the results and conclusions were made available to state and federal regulators as well as the public on an Exelon web site in station specific reports. Samples for Phase 2 were collected by Normandeau associates. http://www.exeloncorp.com/ourcompanies/powergen/nuclear/Tritium.htm

2. The Peach Bottom Atomic Power Station reports describe the local hydrogeologic regime. Periodically, the flow patterns on the surface and shallow subsurface are updated based on ongoing measurements.

3. Peach Bottom Atomic Power Station will continue to perform routine sampling and radiological analysis of water from selected locations.

4. Peach Bottom Atomic Power Station has implemented new procedures to identify and report new leaks, spills, or other detections with potential radiological significance in a timely manner.

5. Peach Bottom Atomic Power Station staff and consulting hydrogeologist assess analytical results on an ongoing basis to identify adverse trends.

C. Program Description

1. Sample Collection

Sample locations can be found in Table A–1 and Figures A–1 and A–2, Appendix A.

Groundwater and Surface Water

Samples of water are collected, managed, transported and analyzed in accordance with approved procedures following EPA methods. Both groundwater and surface water are collected. Sample locations, sample collection frequencies and analytical

frequencies are controlled in accordance with approved station procedures. Contractor and/or station personnel are trained in the collection, preservation management, and shipment of samples, as well as in documentation of sampling events. Analytical laboratories are subject to internal quality assurance programs, industry cross-check programs, as well as nuclear industry audits. Station personnel review and evaluate all analytical data deliverables as data are received.

Analytical data results are reviewed by both station personnel and an independent hydro geologist for adverse trends or changes to hydrogeologic conditions.

D. *Characteristics of Tritium (H-3)*

Tritium (chemical symbol H-3) is a radioactive isotope of hydrogen. The most common form of tritium is tritium oxide, which is also called "tritiated water." The chemical properties of tritium are essentially those of ordinary hydrogen.

Tritiated water behaves the same as ordinary water in both the environment and the body. Tritium can be taken into the body by drinking water, breathing air, eating food, or absorption through skin. Once tritium enters the body, it disperses quickly and is uniformly distributed throughout the body. Tritium is excreted primarily through urine with a clearance rate characterized by an effective biological half-life of about 14 days. Within one month or so after ingestion, essentially all tritium is cleared. Organically bound tritium (tritium that is incorporated in organic compounds) can remain in the body for a longer period.

Tritium is produced naturally in the upper atmosphere when cosmic rays strike air molecules. Tritium is also produced during nuclear weapons explosions, as a by-product in reactors producing electricity, and in special production reactors, where the isotopes lithium-7 and/or boron-10 are activated to produce tritium. Like normal water, tritiated water is colorless and odorless. Tritiated water behaves chemically and physically like non-tritiated water in the subsurface, and therefore tritiated water will travel at the same velocity as the average groundwater velocity.

Tritium has a half-life of approximately 12.3 years. It decays spontaneously to helium-3 (He-3). This radioactive decay releases a beta particle (low-energy electron). The radioactive decay of tritium is the source of the health risk from exposure to tritium. Tritium is one of the least dangerous radionuclides because it emits very weak radiation and leaves the body relatively quickly. Since tritium is almost always found as

water, it goes directly into soft tissues and organs. The associated dose to these tissues is generally uniform and is dependent on the water content of the specific tissue.

III. Program Description

A. Sample Analysis

This section describes the general analytical methodologies used by TBE and EIML to analyze the environmental samples for radioactivity for the Peach Bottom Atomic Power Station RGPP in 2009.

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

1. Concentrations of gamma emitters in groundwater and surface water.

2. Concentrations of strontium-90 in groundwater and surface water.

3. Concentrations of tritium in groundwater and surface water.

B. Data Interpretation

The radiological data collected prior to Peach Bottom Atomic Power Station becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, Peach Bottom Atomic Power Station was considered operational at initial criticality. Several factors were important in the interpretation of the data:

1. <u>Lower Limit of Detection</u>

   The lower limit of detection (LLD) is a minimum sensitivity value that must be achieved routinely by the analytical parameter.

2. <u>Laboratory Measurements Uncertainty</u>

   The estimated uncertainty in measurement of tritium in environmental samples is frequently on the order of 50% of the measurement value.

   Statistically, the exact value of a measurement is expressed as a range with a stated level of confidence. The convention is to report results with a 95% level of confidence. The uncertainty comes

from calibration standards, sample volume or weight measurements, sampling uncertainty and other factors. Exelon reports the uncertainty of a measurement created by statistical process (counting error) as well as all sources of error (Total Propagated Uncertainty or TPU). Each result has two values calculated. Exelon reports the TPU by following the result with plus or minus ± the estimated sample standard deviation, as TPU, that is obtained by propagating all sources of analytical uncertainty in measurements.

Analytical uncertainties are reported at the 95% confidence level in this report for reporting consistency with the AREOR.

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

For groundwater and surface water 13 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Nb-95, Zr-95, I-131, Cs-134, Cs-137, Ba-140 and La-140 were reported.

C. Background Analysis

A pre-operational radiological environmental monitoring program (pre-operational REMP) was conducted to establish background radioactivity levels prior to operation of the Station. The environmental media sampled and analyzed during the pre-operational REMP were atmospheric radiation, fall-out, domestic water, surface water, marine life, and foodstuffs. The results of the monitoring were detailed in the report entitled, Peach Bottom Atomic Power Station, Environs Radiation Monitoring Program, Preoperational Summary Report units 2 and 3, September 1970- August 1973, January 1974 and Peach Bottom Atomic Power Station, Environs Radiation Monitoring Program, Preoperational Summary Report units 2 and 3, June 1977.

The pre-operational REMP contained analytical results from samples collected from the surface water, discharge, well and rain water.

The pre-operational REMP (Units 2 and 3) analytical results from samples collected from surface water and drinking water wells indicate that tritium was detected in both surface water and drinking water samples. Tritium concentrations in surface water ranged from non-detect at the lower limit of detection (LLD) of 80 picoCuries per liter (pCi/L) to 1,300 pCi/L over the 3-year monitoring period (1970-1973). Tritium concentrations in drinking water ranged from non-detect at the LLD of 80 pCi/L to 790 ± 90 pCi/L. Gross beta analytical results in surface water ranged from 1.2 ± 1.1 pCi/L

to 9.6 ± 3.1 pCi/L. Gamma spectrometry analytical results in surface water and drinking water were found very sporadically and at concentrations nominally that exceed their respective LLD.

1. Background Concentrations of Tritium

The purpose of the following discussion is to summarize background measurements of tritium in various media performed by others. Additional detail may be found by consulting references (CRA 2006).

a. Tritium Production

Tritium is created in the environment from naturally occurring processes both cosmic and subterranean, as well as from anthropogenic (i.e., man-made) sources. In the upper atmosphere, "Cosmogenic" tritium is produced from the bombardment of stable nuclides and combines with oxygen to form tritiated water, which will then enter the hydrologic cycle. Below ground, "lithogenic" tritium is produced by the bombardment of natural lithium present in crystalline rocks by neutrons produced by the radioactive decay of naturally abundant uranium and thorium. Lithogenic production of tritium is usually negligible compared to other sources due to the limited abundance of lithium in rock. The lithogenic tritium is introduced directly to groundwater.

A major anthropogenic source of tritium and strontium-90 comes from the former atmospheric testing of thermonuclear weapons. Levels of tritium in precipitation increased significantly during the 1950s and early 1960s, and later with additional testing, resulting in the release of significant amounts of tritium to the atmosphere. The Canadian heavy water nuclear power reactors, other commercial power reactors, nuclear research and weapons production continue to influence tritium concentrations in the environment.

b. Precipitation Data

Precipitation samples are routinely collected at stations around the world for the analysis of tritium and other radionuclides. Two publicly available databases that provide tritium concentrations in precipitation are Global Network of Isotopes in Precipitation (GNIP) and USEPA's RadNet database. GNIP provides tritium precipitation concentration

data for samples collected world wide from 1960 to 2006. RadNet provides tritium precipitation concentration data for samples collected at stations through out the U.S. from 1960 up to and including 2006. Based on GNIP data for sample stations located in the U.S. Midwest, tritium concentrations peaked around 1963. This peak, which approached 10,000 pCi/L for some stations, coincided with the atmospheric testing of thermonuclear weapons. Tritium concentrations in surface water showed a sharp decline up until 1975 followed by a gradual decline since that time. Tritium concentrations have typically been below 100 pCi/L since around 1980. Tritium concentrations in wells may still be above the 200 pCi/L detection limit from the external causes described above. Water from previous years and decades is naturally captured in groundwater, so some well water sources today are affected by the surface water from the 1960s that was elevated in tritium.

c. Surface Water Data

Surface water level measurements were collected at the surface water monitoring locations during the groundwater level measurement event. The purpose of the surface water monitoring was to provide surface water elevation data to evaluate the groundwater/surface water interaction at the Station.

The USEPA RadNet surface water data typically has a reported 'Combined Standard Uncertainty' of 35 to 50 pCi/L. According to USEPA, this corresponds to a ±70 to 100 pCi/L 95% confidence bound on each given measurement. Therefore, the typical background data provided may be subject to measurement uncertainty of approximately ± 70 to 100 pCi/L.

The radio-analytical laboratory is counting tritium results to an Exelon specified LLD of 200 pCi/L. Typically, the lowest positive measurement will be reported within a range of 40 – 240 pCi/L or 140 ± 100 pCi/L. Clearly, these sample results cannot be distinguished as different from background at this concentration.

IV. Results and Discussion

A. Groundwater Results

Groundwater

Samples were collected from on and off-site wells throughout the year in accordance with the station radiological groundwater protection program. Analytical results and anomalies are discussed below.

Tritium

Samples from 44 locations were analyzed for tritium activity (Table B–I.1, Appendix B). Tritium values ranged from the detection limit to 110,000 pCi/l. Within the station boundary, concentrations of tritium in shallow groundwater reached 110,000 pCi/L. The existing wells at or near the owner-controlled boundary showed no tritium. The location most representative of potential offsite user of drinking water is less than the LLD. (Table B–I.1, Appendix B).

Strontium

Strontium-90 was not detected in any of the samples and the required LLD of 2.0 pCi/liter was met except for one sample had a Sr-90 MDA of 3.3 pCi/l (Table B–I.1, Appendix B).

Gamma Emitters

No power-production gamma emitters were detected in any of the samples. Naturally occurring, berillyum-7 was not detected in any samples. Naturally occurring, potassium-40 was detected in two of 33 samples and the concentration ranged from 86 of 3,540 pCi/liter. No other gamma emitting nuclides were detected. (Table B–I.2, Appendix B).

B. Surface Water Results

Surface Water

Samples were collected from surface water locations throughout the year in accordance with the station radiological groundwater protection program. Analytical results and anomalies are discussed below.

Tritium

Samples from three locations were analyzed for tritium activity (Table B–I.1, Appendix B). Tritium was not detected in any samples. (Table B–II.1, Appendix B).

Strontium

Strontium-90 was not detected in any of the samples and the required LLD of 2.0 pCi/liter was met. (Table B–II.1, Appendix B).

Gamma Emitters

No power-production gamma emitters were detected in any of the samples. No other gamma emitting nuclides were detected. (Table B–II.2, Appendix B).

C. Drinking Water Well Survey

A drinking water well survey was conducted during the summer 2006 by CRA (CRA 2006) around the Peach Bottom Atomic Power Station.

D. Summary of Results – Inter-Laboratory Comparison Program

Inter-Laboratory Comparison Program results for TBE and Environmental Inc. (Midwest Labs) are presented in the AREOR.

E. Leaks, Spills, and Releases

A valve leak was identified in the Unit 3 Condensate Storage Tank moat on June 17, 2009. The valve packing was adjusted and the leak was stopped on June 18, 2009. The Unit 3 Yard Drain Sump tritium activity in May 2009 was 6,081 pCi/L. In December 2009, the tritium activity in the Unit 3 Yard Drain Sump was reduced to 254 pCi/L. This leak was a potential contributor to activity found in well MW-PB-4, see investigation of well MW-PB-4 in section G.

F. Trends

A tritium plume has been identified northeast of the Unit 3 Turbine Building. The highest tritium concentration is in wells MW-PB-25 and 26. The plume extends eastward toward well MW-PB-4. The plume is bounded on the north by wells MW-PB-12 and MW-PB-22. The plume is bounded on the south by wells MW-PB-20 and MW-PB-21. Wells, MW-PB-4, 12, and 19 through 26, are sampled and analyzed weekly for

tritium. All wells had a decreasing tritium activity trend as of the end of December 2009.

G. Investigations

MW-PB-4 Investigation

In May 2009, an overburden well, MW-PB-23, was installed east of the Unit 3 Condensate Storage Tank (CST). The well is 16.5' bgs. This well is dry and has not produced a sample for analysis. The purpose of this well is to assess groundwater tritium activity in the area east of the Unit 3 CST.

In July of 2009,Geo-probe or Vacuum Hole (VH) wells, VH-PB-3, VH-PB-4 and VH-PB-5 were installed on the northeast side of the Unit 3 Turbine Building. Tritium activity in these wells ranged from 34,100 to 110,000 pCi/L. A voluntary, special report was submitted in accordance with NEI 07-07, *Industry Ground Water Protection Initiative – Final Guidance Document.*

Tritium activity in monitoring well MW-PB-4 was 3,040 pCi/L at the beginning of 2009. The tritium activity fluctuated between 945 and 4,020 pCi/L through 2009. Tritium activity at the end of 2009 was 1,060 pCi/L.

In August 2009, monitoring wells MW-PB-24 (8' bgs), MW-PB-25 (6.5' bgs) and MW-PB-26 (20.5' bgs) were installed northeast of the Unit 3 Turbine building. These overburden wells replaced VH-PB-2, VH-PB-4 and VH-PB-5 respectively. The purpose of these wells is to assess groundwater tritium concentrations in the overburden from potential sources in the Unit 3 Turbine Building. Groundwater in the area of the wells has a preferred flow path east along circulating water and storm drain piping towards MW-PB-4.

H. Actions Taken

1. Compensatory Actions

   Since the installation of MW-PB-24, 25 and 26, wells MW-PB-4, 12, and 19 through 26, were sampled and analyzed weekly for tritium. Intake and discharge canal water and domestic water are also sampled at an increased frequency. There has been no detectable tritium in the intake and discharge canal water and domestic water samples.

2. Installation of Monitoring Wells

   Four new monitoring wells were installed in 2009. MW-PB-23, east of the Unit 3 CST, and MW-PB-24, 25 and 26, northeast of the Unit 3 Turbine building. All wells are overburden wells with depths bgs of 6.5' to 20.5'.

3. Actions to Recover/Reverse Plumes

   None.

I. Deviations

Three samples were not analyzed for Fe-55, 4 samples were not analyzed for Sr-90 and 6 samples were obtained once in 2009, when the requirement is for 2 tritium analyses per year. These analyses are performed by an offsite vendor. During 2009, 596 analyses were performed on 529 samples.
Specifics:
Fe- 55 analysis was missed on well MW-B-4, 12, 13. These wells were last sampled and analyzed for Fe-55 in 2007 with no Fe-55 detected.
Sr-90 North Substation, South substation, Salt washdown area, and the Hazardous Waste Staging Area. These sample points were last sampled and analyzed for Sr-90 in 2008 with Sr-90 detected.
Sample points MW-PB-13, North substation, South substation, Salt washdown, Hazardous Waste staging area and SP-PB-3 were not sampled and analyzed for tritium in the second half of 2009.

V. References

1. Conestoga rovers and Associates, Fleetwide Assessment, Peach Bottom Atomic Power station, Delta, PA, Fleetwide Assessment, Rev. 1, September 1, 2006

2. Peach Bottom Atomic Power Station, Environs Radiation Monitoring Program, Preoperational Summary Report units 2 and 3, June 1977

3. Peach Bottom Atomic Power Station, Environs Radiation Monitoring Program, Preoperational Summary Report units 2 and 3, September 1970- August 1973, January 1974

4. AMO Environmental Decisions, March 18, 2009 Report, Fall 2008 Routine Groundwater and Surface Water Monitoring Round Summary

of Results, Conclusions and Recommendations for Future Monitoring Rounds Peach Bottom Atomic Power Station, Delta, Pennsylvania.

APPENDIX A

SAMPLING LOCATIONS, DISTANCE AND DIRECTION

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Distance and Direction, Peach Bottom Atomic Power Station, 2009

Site	Site Type	Sector	Distance (ft.)
HAZ WASTE	Groundwater Well	NNW	2532.6
MW-PB-1	Groundwater Well	SW	1166.6
MW-PB-2	Groundwater Well	WNW	309.0
MW-PB-3	Groundwater Well	SSE	709.7
MW-PB-4	Groundwater Well	ENE	350.2
MW-PB-5	Groundwater Well	NNW	1146.1
MW-PB-6	Groundwater Well	NE	1072.4
MW-PB-7	Groundwater Well	SE	813.9
MW-PB-8	Groundwater Well	SE	1167.0
MW-PB-9	Groundwater Well	SE	2816.9
MW-PB-10	Groundwater Well	SSE	1125.1
MW-PB-11	Groundwater Well	SE	438.4
MW-PB-12	Groundwater Well	NNE	317.2
MW-PB-13	Groundwater Well	NW	329.4
MW-PB-14	Groundwater Well	S	1231.2
MW-PB-15	Groundwater Well	SE	1087.9
MW-PB-16	Groundwater Well	SE	1101.6
MW-PB-17	Groundwater Well	SE	1005.4
MW-PB-18	Groundwater Well	SE	1010.0
MW-PB-19	Groundwater Well	NW	226.8
MW-PB-20	Groundwater Well	E	260.5
MW-PB-21	Groundwater Well	E	363.3
MW-PB-22	Groundwater Well	NE	315.4
MW-PB-24	Groundwater Well	N	185.9
MW-PB-25	Groundwater Well	N	159.7
MW-PB-26	Groundwater Well	NNE	121.1
VH-PB-3	Groundwater Well	Unknown	Unknown
VH-PB-4	Groundwater Well	NNE	144.8
VH-PB-5	Groundwater Well	Unknown	Unknown
VH-PB-13	Groundwater Well	NNE	166.6
PB-HAZMAT STORAGE SHED	Domestic Well - Tap	NNW	2527.1
PB-NORTH SUBSTATION	Domestic Well - Tap	WNW	2553.3
PB-SALT WASHDOWN	Domestic Well - Tap	WSW	2618.2
PB-SOUTH SUBSTATION	Domestic Well - Tap	SSE	2594.3
PB-1	Surface Water	NNW	2850.5
PB-2	Surface Water	ENE	1116.4
PB-3	Surface Water	SE	3242.6
PB-5	Surface Water	SE	1050.2
PB-6	Surface Water	SE	1305.9
SP-PB-1	Seep	S	514.2
SP-PB-2	Seep	WNW	311.6
SP-PB-3	Seep	NNW	1281.1
U/2 YARD DRAIN SUMP	Yard Drain	SSE	498.7
U/3 YARD DRAIN SUMP	Yard Drain	WSW	175.8

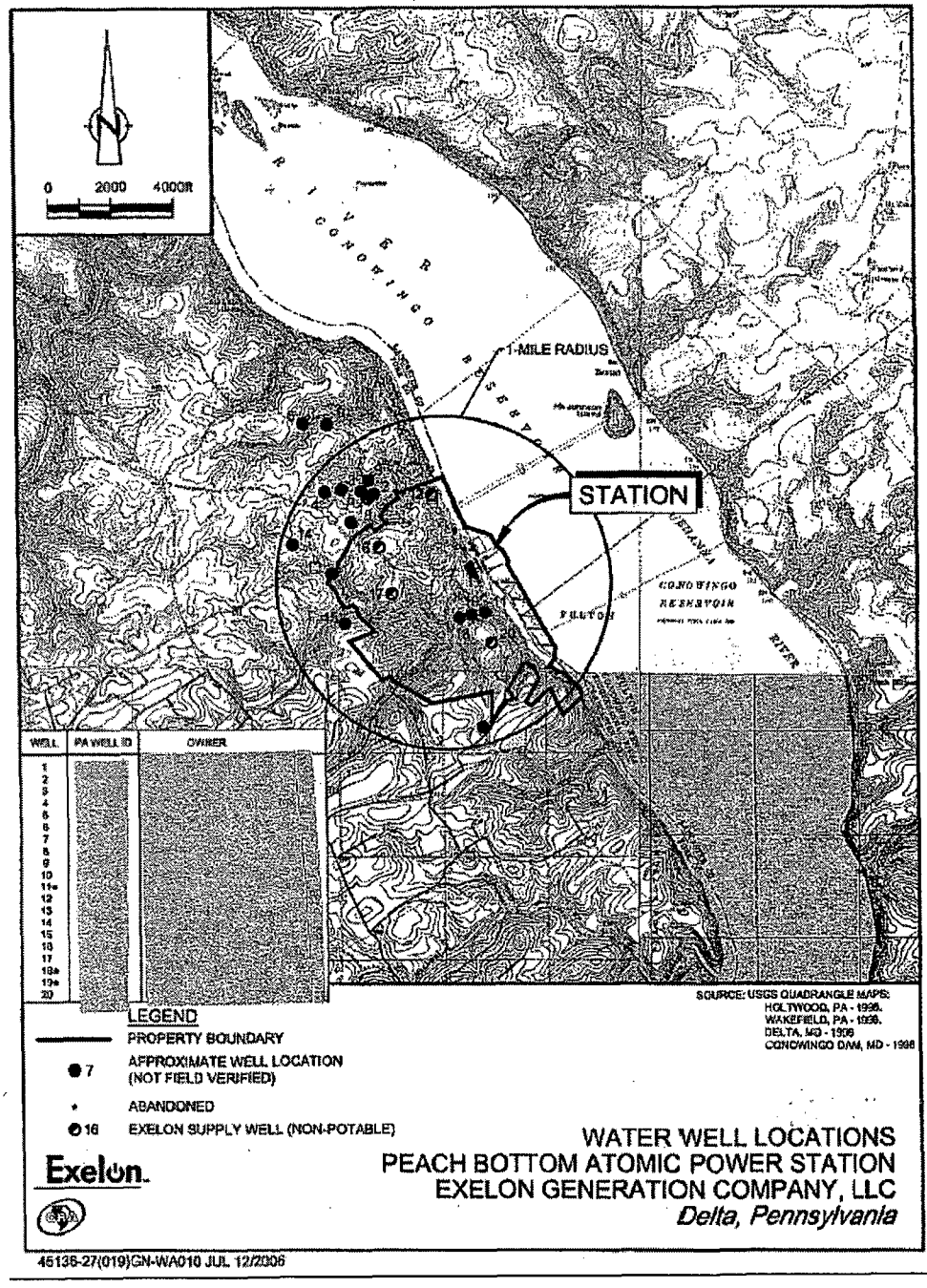

Figure A-1
Well Water Locations, Peach Bottom Atomic Power Station, 2009

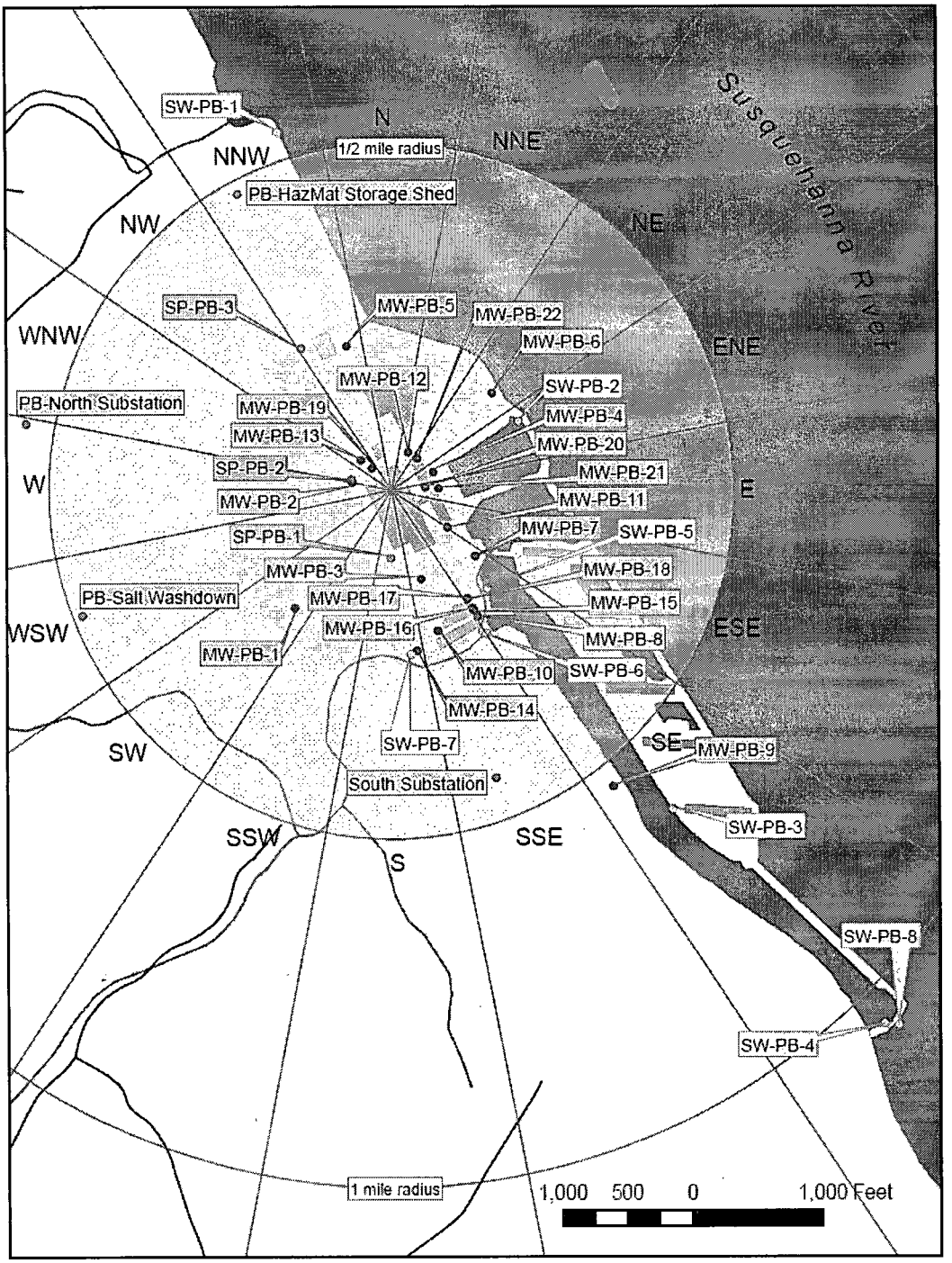

Figure A-2
RGPP Monitoring Locations, Peach Bottom Atomic Power Station, 2009

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APPENDIX B

DATA TABLES

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
HAZ WASTE	05/05/09	< 185	
PB-1	05/04/09	< 156	
PB-10	05/04/09	< 155	
PB-10	11/03/09	< 187	< 0.6
PB-11	05/05/09	< 149	
PB-11	11/03/09	< 185	< 0.7
PB-12	01/05/09	364 ± 125	
PB-12	01/12/09	299 ± 131	
PB-12	01/20/09	265 ± 124	
PB-12	01/26/09	250 ± 124	
PB-12	02/02/09	397 ± 133	
PB-12	02/09/09	360 ± 120	
PB-12	02/16/09	451 ± 133	
PB-12	02/23/09	293 ± 123	
PB-12	03/03/09	266 ± 117	
PB-12	03/09/09	396 ± 136	
PB-12	03/16/09	224 ± 131	
PB-12	03/23/09	240 ± 122	
PB-12	03/30/09	376 ± 130	
PB-12	04/06/09	428 ± 139	
PB-12	04/13/09	454 ± 137	
PB-12	04/20/09	364 ± 128	
PB-12	04/27/09	245 ± 111	
PB-12	05/04/09	359 ± 121	
PB-12	05/04/09	351 ± 111	
PB-12	05/11/09	223 ± 103	
PB-12	05/18/09	324 ± 97	
PB-12	05/26/09	< 187	
PB-12	06/01/09	341 ± 117	
PB-12	06/08/09	263 ± 108	
PB-12	06/15/09	275 ± 126	
PB-12	06/22/09	335 ± 89	
PB-12	06/29/09	393 ± 114	
PB-12	07/06/09	374 ± 122	
PB-12	07/13/09	327 ± 114	
PB-12	07/20/09	273 ± 125	
PB-12	07/27/09	329 ± 133	
PB-12	08/03/09	232 ± 113	
PB-12	08/10/09	< 180	
PB-12	08/17/09	182 ± 117	
PB-12	08/24/09	223 ± 129	
PB-12	08/31/09	211 ± 129	
PB-12	09/08/09	377 ± 119	
PB-12	09/15/09	318 ± 133	
PB-12	09/22/09	230 ± 129	
PB-12	09/28/09	365 ± 135	
PB-12	10/05/09	292 ± 129	
PB-12	10/12/09	341 ± 138	
PB-12	10/19/09	339 ± 137	
PB-12	10/26/09	318 ± 151	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
PB-12	11/02/09	424 ± 163	
PB-12	11/02/09		< 0.6
PB-12	11/09/09	228 ± 112	
PB-12	11/16/09	269 ± 128	
PB-12	11/23/09	369 ± 126	
PB-12	11/30/09	311 ± 117	
PB-12	12/07/09	241 ± 119	
PB-12	12/14/09	334 ± 120	
PB-12	12/21/09	313 ± 114	
PB-12	12/28/09	406 ± 126	
PB-13	11/03/09	< 186	< 0.6
PB-14	05/04/09	< 153	
PB-14	11/03/09	< 191	< 0.5
PB-15	03/23/09	< 175	
PB-15	05/05/09	< 160	
PB-15	11/03/09	< 186	< 0.6
PB-16	03/23/09	< 172	
PB-16	05/04/09	< 156	
PB-16	11/02/09	< 192	< 0.6
PB-17	03/23/09	< 178	
PB-17	05/04/09	< 154	
PB-17	11/03/09	< 186	< 0.6
PB-18	03/23/09	< 177	
PB-18	05/04/09	< 157	
PB-18	11/03/09	< 193	< 0.5
PB-19	03/16/09	541 ± 146	
PB-19	03/19/09	836 ± 166	
PB-19	04/01/09	772 ± 150	
PB-19	04/06/09	447 ± 136	
PB-19	04/13/09	736 ± 151	
PB-19	04/20/09	813 ± 153	
PB-19	04/27/09	666 ± 139	
PB-19	05/04/09	573 ± 149	
PB-19	05/11/09	671 ± 131	
PB-19	05/18/09	833 ± 132	
PB-19	05/26/09	451 ± 143	
PB-19	06/01/09	639 ± 135	
PB-19	06/08/09	419 ± 117	
PB-19	06/15/09	476 ± 135	
PB-19	06/22/09	524 ± 99	
PB-19	06/29/09	543 ± 122	
PB-19	07/06/09	581 ± 133	
PB-19	07/13/09	406 ± 115	
PB-19	07/20/09	306 ± 128	
PB-19	07/27/09	399 ± 136	
PB-19	08/03/09	400 ± 126	
PB-19	08/10/09	251 ± 142	
PB-19	08/17/09	237 ± 121	
PB-19	08/24/09	324 ± 133	
PB-19	08/31/09	< 179	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
PB-19	09/08/09	256 ± 109	
PB-19	09/22/09	299 ± 137	
PB-19	09/28/09	233 ± 129	
PB-19	10/05/09	253 ± 136	
PB-19	10/12/09	337 ± 134	
PB-19	10/19/09	736 ± 168	
PB-19	10/26/09	< 194	
PB-19	11/02/09	244 ± 149	
PB-19	11/02/09		< 1.0
PB-19	11/09/09	291 ± 120	
PB-19	11/16/09	297 ± 125	
PB-19	11/23/09	235 ± 118	
PB-19	11/30/09	< 160	
PB-19	12/07/09	< 178	
PB-19	12/14/09	276 ± 118	
PB-19	12/21/09	221 ± 109	
PB-19	12/28/09	< 173	
PB-2	05/05/09	< 149	
PB-2	11/03/09	< 184	< 0.6
PB-20	03/16/09	< 183	
PB-20	04/01/09	234 ± 115	
PB-20	04/06/09	< 184	
PB-20	04/13/09	217 ± 120	
PB-20	04/20/09	< 173	
PB-20	04/27/09	< 162	
PB-20	05/04/09	< 195	
PB-20	05/11/09	< 141	
PB-20	05/18/09	146 ± 85	
PB-20	05/26/09	< 186	
PB-20	06/01/09	< 149	
PB-20	06/08/09	< 146	
PB-20	06/15/09	< 177	
PB-20	06/22/09	191 ± 83	
PB-20	06/29/09	< 117	
PB-20	07/06/09	< 163	
PB-20	07/13/09	< 162	
PB-20	07/20/09	< 182	
PB-20	07/27/09	< 190	
PB-20	08/03/09	< 175	
PB-20	08/10/09	< 198	
PB-20	08/17/09	< 164	
PB-20	08/24/09	< 183	
PB-20	08/31/09	< 178	
PB-20	09/08/09	< 161	
PB-20	09/28/09	< 166	
PB-20	10/05/09	< 166	
PB-20	10/12/09	< 164	
PB-20	10/19/09	306 ± 142	
PB-20	10/26/09	< 189	
PB-20	11/02/09	< 167	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
PB-20	11/02/09		< 0.7
PB-20	11/09/09	< 163	
PB-20	11/16/09	< 166	
PB-20	11/23/09	202 ± 116	
PB-20	11/30/09	< 161	
PB-20	12/07/09	< 180	
PB-20	12/14/09	< 166	
PB-20	12/21/09	< 162	
PB-20	12/28/09	< 172	
PB-21	03/16/09	446 ± 144	
PB-21	04/01/09	596 ± 137	
PB-21	04/06/09	394 ± 131	
PB-21	04/13/09	478 ± 134	
PB-21	04/20/09	507 ± 135	
PB-21	04/27/09	461 ± 128	
PB-21	05/04/09	532 ± 132	
PB-21	05/11/09	412 ± 116	
PB-21	05/18/09	475 ± 108	
PB-21	05/26/09	257 ± 129	
PB-21	06/01/09	533 ± 128	
PB-21	06/08/09	420 ± 117	
PB-21	06/15/09	453 ± 134	
PB-21	06/22/09	523 ± 97	
PB-21	06/29/09	745 ± 118	
PB-21	07/06/09	739 ± 139	
PB-21	07/13/09	533 ± 141	
PB-21	07/20/09	617 ± 142	
PB-21	07/27/09	658 ± 147	
PB-21	08/03/09	666 ± 135	
PB-21	08/10/09	666 ± 169	
PB-21	08/17/09	675 ± 147	
PB-21	08/24/09	754 ± 164	
PB-21	08/31/09	719 ± 163	
PB-21	09/15/09	878 ± 176	
PB-21	09/28/09	641 ± 147	
PB-21	10/05/09	709 ± 169	
PB-21	10/12/09	726 ± 167	
PB-21	10/19/09	826 ± 180	
PB-21	10/26/09	702 ± 172	
PB-21	11/02/09	892 ± 192	
PB-21	11/02/09		< 0.6
PB-21	11/09/09	636 ± 138	
PB-21	11/16/09	732 ± 161	
PB-21	11/23/09	974 ± 157	
PB-21	11/30/09	801 ± 141	
PB-21	12/07/09	805 ± 153	
PB-21	12/14/09	867 ± 151	
PB-21	12/21/09	773 ± 142	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
PB-21	12/28/09	717 ± 140	
PB-22	01/05/09	959 ± 169	
PB-22	01/12/09	638 ± 144	
PB-22	01/20/09	763 ± 151	
PB-22	01/26/09	715 ± 149	
PB-22	02/02/09	688 ± 150	
PB-22	02/09/09	903 ± 150	
PB-22	02/16/09	834 ± 154	
PB-22	02/23/09	1030 ± 177	
PB-22	03/03/09	936 ± 158	
PB-22	03/09/09	937 ± 172	
PB-22	03/16/09	899 ± 166	
PB-22	03/23/09	935 ± 160	
PB-22	03/30/09	897 ± 155	
PB-22	04/06/09	975 ± 170	
PB-22	04/13/09	866 ± 154	
PB-22	04/20/09	949 ± 174	
PB-22	04/27/09	913 ± 154	
PB-22	05/04/09	753 ± 160	
PB-22	05/04/09	700 ± 134	
PB-22	05/11/09	753 ± 136	
PB-22	05/18/09	880 ± 133	
PB-22	05/26/09	655 ± 158	
PB-22	06/01/09	743 ± 142	
PB-22	06/08/09	773 ± 135	
PB-22	06/15/09	891 ± 155	
PB-22	06/22/09	831 ± 123	
PB-22	06/29/09	852 ± 141	
PB-22	07/06/09	918 ± 147	
PB-22	07/13/09	999 ± 165	
PB-22	07/20/09	1010 ± 172	
PB-22	07/27/09	842 ± 154	
PB-22	08/03/09	1050 ± 170	
PB-22	08/10/09	680 ± 167	
PB-22	08/17/09	738 ± 149	
PB-22	08/24/09	941 ± 178	
PB-22	08/31/09	835 ± 174	
PB-22	09/08/09	971 ± 156	
PB-22	09/15/09	831 ± 174	
PB-22	09/22/09	684 ± 167	
PB-22	09/28/09	716 ± 165	
PB-22	10/05/09	835 ± 172	
PB-22	10/12/09	781 ± 170	
PB-22	10/19/09	777 ± 163	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	SR-90
PB-22	10/26/09		742 ± 180	
PB-22	11/02/09		664 ± 177	
PB-22	11/02/09			< 0.5
PB-22	11/09/09		645 ± 141	
PB-22	11/16/09		594 ± 150	
PB-22	11/23/09		886 ± 153	
PB-22	11/30/09		850 ± 144	
PB-22	12/07/09		842 ± 157	
PB-22	12/14/09		769 ± 142	
PB-22	12/21/09		660 ± 131	
PB-22	12/28/09		913 ± 158	
PB-24	08/10/09		< 183	
PB-24	08/17/09		< 163	
PB-24	08/24/09	ORIGINAL	426 ± 146	
PB-24	08/24/09	RECOUNT	595 ± 134	
PB-24	08/24/09	RERUN	448 ± 144	
PB-24	08/31/09		634 ± 159	
PB-24	09/15/09		402 ± 148	
PB-24	09/22/09		224 ± 126	
PB-24	09/28/09		447 ± 132	
PB-24	10/05/09		285 ± 133	
PB-24	10/12/09		250 ± 132	
PB-24	10/19/09		727 ± 170	
PB-24	10/26/09		405 ± 157	
PB-24	11/02/09		331 ± 152	
PB-24	11/02/09			< 0.6
PB-24	11/02/09		307 ± 121	< 0.5
PB-24	11/09/09		< 161	
PB-24	11/16/09		253 ± 124	
PB-24	11/23/09		310 ± 125	
PB-24	11/30/09		503 ± 128	
PB-24	12/07/09		722 ± 146	
PB-24	12/14/09		990 ± 163	
PB-24	12/21/09		203 ± 113	
PB-24	12/28/09		934 ± 159	
PB-25	08/10/09		53800 ± 5390	
PB-25	08/17/09		36600 ± 3680	
PB-25	08/24/09		17000 ± 1740	
PB-25	08/31/09		34200 ± 3450	
PB-25	10/05/09		13300 ± 1360	
PB-25	10/12/09		12900 ± 1330	
PB-25	10/19/09		3360 ± 379	
PB-25	10/26/09		10200 ± 1070	
PB-25	11/02/09		27800 ± 2820	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	SR-90
PB-25	11/02/09			< 0.6
PB-25	11/02/09		26700 ± 2720	< 0.5
PB-25	11/09/09		23200 ± 2360	
PB-25	11/16/09		49000 ± 4910	
PB-25	11/23/09		12200 ± 1260	
PB-25	11/30/09		36600 ± 3690	
PB-25	12/07/09		19200 ± 1970	
PB-25	12/14/09		9380 ± 984	
PB-25	12/21/09		43200 ± 4360	
PB-25	12/28/09	ORIGINAL	1900 ± 249	
PB-25	12/28/09	RERUN	2150 ± 265	
PB-26	08/10/09		5450 ± 589	
PB-26	08/17/09		5730 ± 617	
PB-26	10/12/09		2820 ± 323	
PB-26	10/19/09		2370 ± 281	
PB-26	10/26/09		2100 ± 265	
PB-26	11/03/09		3280 ± 380	
PB-26	11/03/09			< 0.5
PB-26	11/03/09		3020 ± 359	< 0.5
PB-26	11/09/09		2570 ± 305	
PB-26	11/16/09		2720 ± 316	
PB-26	11/23/09		3190 ± 366	
PB-26	11/30/09		3180 ± 366	
PB-26	12/07/09		3180 ± 378	
PB-26	12/14/09		4000 ± 450	
PB-26	12/21/09		3220 ± 375	
PB-26	12/28/09		4350 ± 487	
PB-3	05/05/09		< 150	
PB-3	11/03/09		< 169	< 0.6
PB-4	01/05/09		2850 ± 348	
PB-4	01/12/09		2390 ± 311	
PB-4	01/26/09		1820 ± 247	
PB-4	02/02/09		962 ± 168	
PB-4	02/09/09		1150 ± 172	
PB-4	02/16/09		4020 ± 456	
PB-4	02/23/09		2510 ± 315	
PB-4	03/03/09		2650 ± 318	
PB-4	03/09/09		2210 ± 289	
PB-4	03/16/09		1680 ± 234	
PB-4	03/23/09		1620 ± 222	
PB-4	03/30/09		1650 ± 222	
PB-4	04/06/09	ORIGINAL	772 ± 156	
PB-4	04/06/09	DUPLICATE	945 ± 167	
PB-4	04/13/09		2150 ± 268	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
PB-4	04/20/09	1370 ± 214	
PB-4	04/27/09	2100 ± 259	
PB-4	05/04/09	2270 ± 292	
PB-4	05/04/09	2430 ± 296	
PB-4	05/11/09	2200 ± 264	
PB-4	05/18/09	2300 ± 260	
PB-4	05/26/09	2330 ± 282	
PB-4	06/01/09	2790 ± 320	
PB-4	06/08/09	2740 ± 319	
PB-4	06/15/09	3310 ± 384	
PB-4	06/22/09	2870 ± 321	
PB-4	06/29/09	2900 ± 336	
PB-4	07/06/09	2830 ± 327	
PB-4	07/13/09	3460 ± 399	
PB-4	07/14/09	2480 ± 284	
PB-4	07/20/09	3410 ± 401	
PB-4	07/17/09	2880 ± 347	
PB-4	07/21/09	3160 ± 372	
PB-4	07/22/09	3660 ± 424	
PB-4	07/23/09	2580 ± 316	
PB-4	07/24/09	3250 ± 380	
PB-4	07/27/09	2860 ± 345	
PB-4	07/28/09	2640 ± 323	
PB-4	07/31/09	3060 ± 367	
PB-4	08/03/09	3790 ± 433	
PB-4	08/04/09	3440 ± 394	
PB-4	08/05/09	3210 ± 377	
PB-4	08/06/09	3110 ± 356	
PB-4	08/07/09	3200 ± 379	
PB-4	08/11/09	2790 ± 329	
PB-4	08/10/09	2780 ± 331	
PB-4	08/17/09	2650 ± 312	
PB-4	08/24/09	2790 ± 327	
PB-4	08/31/09	2510 ± 298	
PB-4	09/08/09	2680 ± 315	
PB-4	09/15/09	2830 ± 325	
PB-4	09/22/09	2980 ± 340	
PB-4	09/28/09	3180 ± 359	
PB-4	10/05/09	2500 ± 292	
PB-4	10/12/09	2420 ± 283	
PB-4	10/19/09	2180 ± 265	
PB-4	10/26/09	977 ± 190	
PB-4	11/02/09	1990 ± 255	
PB-4	11/02/09		< 0.5

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
PB-4	11/02/09	2240 ± 289	< 0.9
PB-4	11/09/09	1410 ± 195	
PB-4	11/16/09	1090 ± 178	
PB-4	11/23/09	1280 ± 182	
PB-4	11/30/09	1120 ± 171	
PB-4	12/07/09	1340 ± 202	
PB-4	12/14/09	1350 ± 195	
PB-4	12/21/09	1090 ± 163	
PB-4	12/28/09	1060 ± 170	
PB-5	05/05/09	< 150	
PB-5	11/03/09	< 184	< 0.6
PB-6	05/05/09	< 185	
PB-6	11/02/09	< 186	< 0.6
PB-7	05/05/09	< 149	
PB-7	11/02/09	< 187	< 0.5
PB-8	05/04/09	< 158	
PB-8	11/02/09	< 186	< 0.5
PB-9	05/04/09	< 148	
PB-9	11/02/09	< 184	< 0.5
PB-NORTH SUBSTATION	05/05/09	< 182	
PB-SALT WASH DOWN	05/05/09	< 178	
PB-SOUTH SUBSTATION	05/05/09	< 185	
SP-PB-1	11/03/09	< 175	< 0.5
SP-PB-2	11/03/09	< 176	< 0.4
SP-PB-1	05/05/09	176 ± 100	
SP-PB-2	05/05/09	< 149	
SP-PB-3	05/05/09	< 183	
U/2-YARD DRAIN SUMP	03/18/09	924 ± 170	
U/2-YARD DRAIN SUMP	05/11/09	923 ± 137	
U/2-YARD DRAIN	03/30/09	370 ± 131	
U/2-YARD DRAIN	04/13/09	850 ± 154	
U/2-YARD DRAIN	04/06/09	694 ± 147	
U/2-YARD DRAIN	04/21/09	578 ± 132	
U/2-YARD DRAIN	04/28/09	883 ± 166	
U/2-YARD DRAIN	05/04/09	1130 ± 179	
U/2-YARD DRAIN	05/26/09	695 ± 159	
U/2-YARD DRAIN	05/18/09	768 ± 160	
U/2-YARD DRAIN	06/09/09	698 ± 146	
U/2-YARD DRAIN	06/15/09	545 ± 101	
U/2-YARD DRAIN	06/22/09	552 ± 111	
U/2-YARD DRAIN	06/30/09	679 ± 136	
U/2-YARD DRAIN	07/07/09	460 ± 135	
U/2-YARD DRAIN	07/13/09	386 ± 131	
U/2-YARD DRAIN	07/20/09	417 ± 137	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
U/2-YARD DRAIN	07/27/09	336 ± 126	
U/2-YARD DRAIN	08/03/09	207 ± 132	
U/2-YARD DRAIN	08/10/09	< 191	
U/2-YARD DRAIN	08/17/09	224 ± 116	
U/2-YARD DRAIN	08/24/09	228 ± 131	
U/2-YARD DRAIN	08/31/09	< 182	
U/2-YARD DRAIN	09/08/09	283 ± 116	
U/2-YARD DRAIN	09/14/09	274 ± 132	
U/2-YARD DRAIN	09/22/09	< 174	
U/2-YARD DRAIN	09/29/09	221 ± 126	
U/2-YARD DRAIN	10/09/09	257 ± 128	
U/2-YARD DRAIN	10/15/09	210 ± 131	
U/2-YARD DRAIN	10/19/09	233 ± 146	
U/2-YARD DRAIN	10/26/09	< 199	
U/2-YARD DRAIN	11/02/09	252 ± 124	
U/2-YARD DRAIN	11/09/09	< 164	
U/2-YARD DRAIN	11/16/09	179 ± 117	
U/2-YARD DRAIN	11/23/09	< 170	
U/2-YARD DRAIN	11/30/09	183 ± 109	
U/2-YARD DRAIN	12/07/09	< 169	
U/2-YARD DRAIN	12/14/09	173 ± 103	
U/2-YARD DRAIN	12/21/09	265 ± 117	
U/2-YARD DRAIN	12/29/09	202 ± 111	
U/3 YARD DRAIN	03/30/09	1420 ± 202	
U/3 YARD DRAIN	04/06/09	2040 ± 266	
U/3 YARD DRAIN	04/13/09	2510 ± 301	
U/3 YARD DRAIN	04/20/09	4080 ± 457	
U/3 YARD DRAIN	05/04/09	5600 ± 617	
U/3 YARD DRAIN	04/28/09	5070 ± 561	
U/3 YARD DRAIN	05/18/09	3380 ± 384	
U/3 YARD DRAIN	05/26/09	3940 ± 438	
U/3 YARD DRAIN	06/09/09	4510 ± 503	
U/3 YARD DRAIN	06/15/09	3020 ± 356	
U/3 YARD DRAIN	06/22/09	2170 ± 257	
U/3 YARD DRAIN	06/30/09	1630 ± 211	
U/3 YARD DRAIN	07/07/09	1160 ± 177	
U/3 YARD DRAIN	07/13/09	1090 ± 181	
U/3 YARD DRAIN	07/20/09	915 ± 161	
U/3 YARD DRAIN	07/27/09	969 ± 161	
U/3 YARD DRAIN	08/03/09	985 ± 187	
U/3 YARD DRAIN	08/10/09	544 ± 159	
U/3 YARD DRAIN	08/17/09	415 ± 118	
U/3 YARD DRAIN	08/24/09	733 ± 164	
U/3 YARD DRAIN	08/31/09	680 ± 162	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SEEP SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
U/3 YARD DRAIN	09/08/09	499 ± 125	
U/3 YARD DRAIN	09/14/09	531 ± 152	
U/3 YARD DRAIN	09/22/09	439 ± 142	
U/3 YARD DRAIN	09/29/09	306 ± 129	
U/3 YARD DRAIN	10/09/09	358 ± 139	
U/3 YARD DRAIN	10/15/09	313 ± 142	
U/3 YARD DRAIN	10/19/09	408 ± 155	
U/3 YARD DRAIN	10/26/09	384 ± 156	
U/3 YARD DRAIN	11/02/09	296 ± 149	
U/3 YARD DRAIN	11/09/09	< 156	
U/3 YARD DRAIN	11/16/09	268 ± 129	
U/3 YARD DRAIN	11/23/09	342 ± 125	
U/3 YARD DRAIN	11/30/09	215 ± 108	
U/3 YARD DRAIN	12/07/09	193 ± 120	
U/3 YARD DRAIN	12/14/09	218 ± 109	
U/3 YARD DRAIN	12/21/09	254 ± 119	
U/3 YARD DRAIN	12/29/09	286 ± 117	
U/3 YARD DRAIN SUMP	05/11/09	4510 ± 479	
U2 YARD DRAIN	03/19/09	745 ± 157	
U2 YARD DRAIN	03/23/09	504 ± 139	
U/2-YARD DRAIN	06/02/09	701 ± 132	
U/3-YARD DRAIN	06/02/09	4410 ± 484	
VH #3	07/19/09	32400 ± 3300	
VH #4	07/19/09	39200 ± 3970	
VH #5	07/19/09	55200 ± 5560	
VH-B-3	07/07/09	110000 ± 11300	< 3.3
VH-PB-4C	07/08/09	34100 ± 3480	
VH-PB-5	07/07/09	64200 ± 6680	
W-PB-13	05/05/09	< 148	

TABLE B-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER AND SEEP WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
MW-PB-10	11/03/09	< 2	< 2	< 5	< 2	< 5	< 3	< 5	< 6	< 2	< 3	< 14	< 5
MW-PB-11	11/03/09	< 3	< 4	< 7	< 3	< 7	< 4	< 6	< 6	< 3	< 4	< 18	< 6
MW-PB-12	11/02/09	< 3	< 3	< 8	< 4	< 7	< 3	< 6	< 7	< 3	< 3	< 17	< 6
MW-PB-13	11/03/09	< 3	< 3	< 6	< 3	< 7	< 3	< 5	< 7	< 3	< 3	< 17	< 6
MW-PB-14	11/03/09	< 4	< 3	< 7	< 3	< 7	< 4	< 6	< 8	< 3	< 4	< 20	< 5
MW-PB-15	11/03/09	< 3	< 3	< 6	< 3	< 5	< 3	< 5	< 6	< 3	< 3	< 15	< 4
MW-PB-16	11/02/09	< 4	< 4	< 9	< 5	< 8	< 5	< 7	< 14	< 3	< 4	< 30	< 9
MW-PB-17	11/03/09	< 3	< 4	< 8	< 3	< 8	< 4	< 7	< 8	< 3	< 4	< 20	< 7
MW-PB-18	11/03/09	< 4	< 4	< 8	< 4	< 8	< 4	< 6	< 8	< 4	< 4	< 20	< 7
MW-PB-19	11/02/09	< 3	< 3	< 7	< 3	< 6	< 3	< 5	< 7	< 3	< 4	< 19	< 6
MW-PB-2	11/03/09	< 4	< 4	< 8	< 4	< 9	< 4	< 6	< 10	< 4	< 4	< 25	< 7
MW-PB-20	11/02/09	< 3	< 4	< 7	< 4	< 7	< 4	< 6	< 9	< 4	< 3	< 20	< 6
MW-PB-21	11/02/09	< 2	< 3	< 5	< 2	< 5	< 3	< 5	< 6	< 2	< 3	< 15	< 3
MW-PB-22	11/02/09	< 3	< 3	< 7	< 3	< 7	< 4	< 6	< 6	< 3	< 3	< 17	< 5
MW-PB-24	11/02/09	< 4	< 5	< 7	< 3	< 10	< 6	< 8	< 11	< 5	< 5	< 24	< 8
MW-PB-24	11/02/09	< 6	< 8	< 15	< 8	< 15	< 9	< 11	< 14	< 6	< 7	< 38	< 12
MW-PB-25	11/02/09	< 6	< 5	< 11	< 6	< 12	< 5	< 11	< 11	< 6	< 6	< 31	< 3
MW-PB-25	11/02/09	< 6	< 7	< 11	< 6	< 12	< 8	< 14	< 14	< 8	< 7	< 40	< 11
MW-PB-26	11/03/09	< 5	< 4	< 10	< 5	< 10	< 5	< 8	< 9	< 5	< 5	< 25	< 8
MW-PB-26	11/03/09	< 6	< 6	< 13	< 6	< 12	< 7	< 12	< 12	< 5	< 6	< 34	< 7
MW-PB-3	11/03/09	< 4	< 5	< 9	< 5	< 9	< 5	< 7	< 8	< 4	< 4	< 23	< 8
MW-PB-4	11/02/09	< 4	< 4	< 8	< 5	< 8	< 4	< 7	< 9	< 4	< 4	< 20	< 7
MW-PB-4	11/02/09	< 3	< 4	< 7	< 4	< 8	< 4	< 6	< 7	< 3	< 3	< 17	< 6
MW-PB-5	11/03/09	< 4	< 4	< 8	< 4	< 9	< 4	< 8	< 9	< 4	< 5	< 24	< 5
MW-PB-6	11/02/09	< 4	< 4	< 8	< 3	< 6	< 4	< 7	< 9	< 4	< 4	< 22	< 5
MW-PB-7	11/02/09	< 3	< 4	< 7	< 3	< 7	< 4	< 6	< 7	< 3	< 4	< 19	< 6
MW-PB-8	11/02/09	< 4	< 4	< 9	< 5	< 9	< 6	< 8	< 11	< 4	< 5	< 23	< 7
MW-PB-9	11/02/09	< 5	< 4	< 10	< 5	< 9	< 6	< 7	< 9	< 5	< 5	< 29	< 9
SP-PB-1	11/03/09	< 5	< 5	< 11	< 6	< 12	< 7	< 11	< 11	< 5	< 6	< 33	< 7
SP-PB-2	11/03/09	< 7	< 7	< 15	< 7	< 14	< 7	< 14	< 14	< 7	< 8	< 39	< 12

TABLE B-II.1 CONCENTRATIONS OF TRITIUM AND STRONTIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
PB-1	05/04/09	< 154	
PB-1	11/03/09	< 178	< 0.5
PB-5	05/05/09	< 149	
PB-5	11/03/09	< 175	< 0.5
PB-6	05/04/09	< 155	
PB-6	11/03/09	< 177	< 0.5

TABLE B-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2009**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
SW-PB-1	11/03/09	< 5	< 3	< 8	< 4	< 5	< 5	< 7	< 9	< 4	< 4	< 22	< 7
SW-PB-5	11/03/09	< 5	< 4	< 11	< 5	< 10	< 5	< 8	< 8	< 4	< 5	< 24	< 7
SW-PB-6	11/03/09	< 4	< 5	< 9	< 4	< 9	< 4	< 8	< 8	< 4	< 5	< 23	< 8