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PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 and 3

Annual Radiological
Environmental Operating Report

Report No. 64

1 January Through 31 December 2006

Prepared By

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Peach Bottom Atomic Power Station
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I. Executive Summary

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 2006 through 31 December 2006. During that time period, 1,121 analyses were performed on 815 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.

The remaining sample media representing the aquatic environment included fish and sediment samples. These media were analyzed for concentrations of gamma emitting nuclides. Fish samples showed no detectable fission or activation products from the operation of PBAPS. Cesium-137 activity was found at most sediment locations and was consistent with data from previous years. Low levels of Cs-137 and Co-60 activity were detected in sediment during extended sampling. The dose to a teenager's skin from the sediment pathway was calculated to be 5.01 E-03 mrem/year, which represents 0.025% of the allowable fraction of 10 CFR 50, Appendix I limits. The dose to a teenager's whole body from the sediment pathway was calculated to be 4.26 E-03 mrem/year, which represents 0.071% of the allowable fraction of 10 CFR 50, Appendix I limits. The most likely source of the contamination is the RHR Heat Exchanger.

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. Cs-137 was found at a low concentration in lettuce, attributed to the soil

attached to the lettuce. No Peach Bottom activation or fission products were detected.

Ambient gamma radiation levels were measured quarterly throughout the year. Most 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 first Annual Radiological Groundwater Protection Program Report (ARGPPR) is found in Appendix F. The report concludes that there are no active releases into the groundwater from the operation of PBAPS.

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 2006 through 31 December 2006.

A. Objectives

The objectives of the REMP are:

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

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

B. Implementation of the Objectives

Implementation of the objectives is accomplished by:

1. Identifying significant exposure pathways.

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

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

III. Program Description

A. Sample Collection

Normandeau Associates 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 2006. 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, fish, and sediment. Surface water from two locations (1LL and 1MM) and drinking water from two locations (4L and 6I) were collected weekly by automatic sampling equipment. Weekly samples from each of the surface and drinking water locations were composited into a separate monthly sample for analysis. Approximately, two quarts of water were removed from the weekly sample container and placed into a clean two-gallon polyethylene bottle to form a monthly composite. Control locations were 1LL and 6I. Fish samples comprising the flesh from two groups: Bottom Feeder (catfish) and Predator (smallmouth bass and largemouth bass) were collected semiannually from two locations: 4 and 6 (control). Sediment samples composed of recently deposited substrate were collected semiannually at three locations: 4J, 4T and 6F (control). 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, 1Z, 1C, 3A, and 5H2). The control location was 5H2. Airborne iodine and particulate samples were obtained at each location using a vacuum pump with charcoal and glass fiber filters attached. The pumps were run continuously and sampled air at the rate of approximately 1 cubic foot per minute. The filters were replaced weekly and sent to the laboratory for analysis.

Milk samples were collected biweekly at five locations (J, O, R, S and T) from April through November and monthly from December through March. Six additional locations (B, C, D, E, L, and P) were sampled quarterly. Locations B, 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 (1L, 1P, 1A, 1Q, 1D, 2, 1M, 1R, 1I, 1C, 1J, 1K, 1F, 40, 1NN, 1H, 1G, 1B, and 1E), near and within the site perimeter representing fence post doses (i.e., at locations where the doses will be potentially greater than maximum annual off-site doses) from PBAPS releases.

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

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

The specific TLD locations were determined by the following criteria:

1. The presence of relatively dense population;

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

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

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

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

B. Sample Analysis

This section describes the general analytical methods used by Teledyne Brown Engineering and Environmental Inc. to analyze the environmental samples for radioactivity for the PBAPS REMP in 2006. 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 and drinking water.
4. Concentrations of I-131 in air and milk.
5. Ambient gamma radiation levels at various site environs.

C. Data Interpretation

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

1. <u>Lower Limit of Detection and Minimum Detectable Concentration</u>

   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 2006 the PBAPS REMP had a sample collection recovery rate of better than 99%. The exceptions to this program are listed below:

1. REMP air particulate filters did not meet the required LLD for the following samples (AR#578328):

   03/20/06 – 03/27/06, Location 5H2
   04/14/05 – 04/21/06, Location 3A
   04/21/06 – 04/28/06, Location 3A
   04/21/06 – 04/28/06, Location 1C
   05/19/06 – 05/26/06, Location 1B

2. Four orifices used for the PBAPS air sampling program as part of the REMP failed their calibration. The flow orifices that failed are:

   217004 (B) Station 1B Calibration data – 0.972 As found – 0.941
   217052 (B) Station 1C Calibration data – 0.975 As found – 0.934
   217051 (B) Station 3A Calibration data – 0.976 As found – 0.943
   217027 (B) Trip Blank Calibration data – 0.970 As found – 1.011

   The Out of Tolerance conditions are thought to be the result of corrosion on the admiralty brass orifice plates. The stainless steel orifice plates currently in use at other Exelon stations had a much lower rate of failure than the admiralty brass orifice plates. The corrective actions to switch to stainless steel orifice plates for all locations (AR578328).

3. The milk I-131 LLD of 1.0 pCi/L was missed due to the discontinuation and poor performance of two types of filter paper used in the I-131 analysis. Although sample aliquots were increased (up to 8 liters, when possible) and count times extended (up to 64 hours, in some cases), LLD requirements were missed due to low chemical yield and decay of the iodine during the investigation. The actual values for the milk samples varied from 1.11 to 2.02 pCi/liter (AR#525342). TBE initiated NCR 06-13 to investigate and document this event. The following periods and locations were effected:

   06/05/2006, Location J
   06/05/2006, Location O
   06/05/2006, Location R
   06/05/2006, Location S
   06/05/2006, Location T
   06/19/2006, Location T

4. The food product I-131 LLD of 60 pCi/L was missed due to the discontinuation and poor performance of two types of filter paper used in the I-131 analysis. Although sample aliquots were increased (up to 8 liters, when possible) and count times extended (up to 64 hours, in some cases), LLD requirements were missed due to low

chemical yield and decay of the iodine during the investigation (AR#525342). TBE initiated NCR 06-13 to investigate and document this event. The following periods and locations were effected:

05/30/2006, Location 1Q, domestic grape leaves and poke weed
05/30/2006, Location 2B, ferns and tulip tree leaves
05/30/2006, Location 55, cabbage and peas

5. A food product sample showed I-131 at a concentration of 124 ± 35 pCi/kg wet due to the presence of a non-decaying beta emitter. The sample was recounted 12 days after the initial count and the activity was still present. Iodine-131 has a half-life of ~8 days. The I-131 should have experienced considerable decay (1 ½ half-lives) over the 12 days between counting therefore the non-decaying beta emitter is not attributed to I-131. The analysis for I-131 is a chemical separation followed by counting of betas. It is thought that a long lived nuclide, probably a naturally occurring nuclide, carried through the chemical separation and gave the beta counts (AR#542317). The following period and location was effected:

   05/30/06, Location 1Q, peas

6. Two food product samples showed Cs-137 at concentrations of 8 ± 5 pCi/kg wet (station 1Q lettuce) and 5 ± 4 pCi/kg wet (station 2B lettuce) due to the extended count time (67 hours) required to meet I-131 and La-140 detection limits due to limited sample volume. The Cs-137 would not have been detected with a normal count time of four to 10 hours and any Cs-137 that was quantified is considered to be in the soil that was adhering to the samples. The samples had been consumed for an I-131 analysis (in order to achieve required I-131 LLD) and reruns could not be performed. The vegetation program is new at Peach Bottom. It is known that there is Cs-137 in the soil as a legacy from atmospheric bomb testing. Sample results were well below the ODCM limits (AR#542286). The following period and locations were effected:

   07/03/06, Location 1Q, lettuce
   07/03/06, Location 2B, lettuce

7. The BVS sampler was out of service on 07/07/06 due to ground fault problems; manual sampling was therefore conducted. BVS was returned back to service on 07/20/06 (AR#507225).

8. A TLD sample container was destroyed at the Transco Pumping Station. The station was probably destroyed by someone mowing the lawn in the area. The TLDs were recovered and placed in a new container (AR#521937). The following period and location was effected:

08/17/06, Location 50

9. Manual sampling was initiated on 10/11/06 due to the BVS being removed from service. On 10/14/06 the BVS was returned to service (AR#507225).

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

E. Program Changes

There were no changes to the normal REMP program in 2006. A separate program was instituted to monitor groundwater in the surrounding environs, during 2006. This program and any sampling and analysis results are discussed in the attached report, "Annual Radiological Groundwater Protection Program Report".

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

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

Tritium

Monthly samples from both locations were composited quarterly and analyzed for tritium activity (Table C-I.1, Appendix C). No tritium activity was detected. Results ranged from <156 to <174 pCi/l and averaged 168 pCi/l at the control location and 167 pCi/l at the indicator location.

Gamma Spectrometry

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

2. Drinking Water

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

Gross Beta

Samples from both locations were analyzed for concentrations of total gross beta activity (Tables C-II.1 and Figures C-1 Appendix C). The values ranged from <1.9 to 4.0 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). No tritium activity was detected. Results ranged from <152 to <173 pCi/l and averaged 166 pCi/l at the control location and 166 pCi/l at the indicator location.

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. Fish

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

Gamma Spectrometry

The edible portion of fish samples from both locations was analyzed for gamma emitting nuclides (Table C-III.1, Appendix C). Naturally occurring K-40 was found at all stations and ranged from 2,810 to 3,980 pCi/kg wet and was consistent with levels detected in previous years. No fission or activation products were found. Historical levels of Cs-137 are shown in Figure C-3, Appendix C.

4. Sediment

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

Gamma Spectrometry

Sediment samples from all three locations were analyzed for gamma emitting nuclides (Table C-IV.1, Appendix C). Nuclides detected were naturally occurring K-40, Ra-226, Th-228 and Th-232. Potassium-40 was found in all locations and ranged from 9,430 to 26,000 pCi/kg dry. Concentrations of the fission product Cs-137 were found at locations 4T and 6F. 4T had the highest average concentration Cs-137 of 168 pCi/kg dry. 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. The shoreline doses due to the activity in the sediment were calculated using the methodology of Regulatory Guide 1.109, Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance With 10 CFR Part 50, Appendix I. The following nuclides concentrations (Pu-238, Pu-239, Pu-241, Am-241, Cm-242 and Cm-244, C-14, Ni-63 and Tc-99) were scaled from 10 CFR 61 analyses and added to the dose calculations. There was insignificant additional dose due to these additional nuclides.

5. Extended Sediment

Extended sediment sampling at various distances downstream of PBAPS discharge was done in 2006. Low levels of Cs-137 and Co-60 activity were detected in extended sediment samples. Cesium-137 was found in four of 15 samples and ranged from 59 to 428 pCi/kg dry. Cobalt-60 was found in seven of 15 samples and ranged from 73 to 197 pCi/kg dry. The dose to a teenager's skin from the sediment pathway was calculated to be 5.01 E-03 mrem/year, which represents 0.025% of the allowable fraction of 10 CFR 50, Appendix I limits. The dose to a teenager's whole body from the sediment pathway was calculated to be 4.26 E-03 mrem/year, which represents 0.071% of the allowable fraction of 10 CFR 50, Appendix I limits. The most likely source of the contamination is the RHR Heat Exchangers.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

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

Gross Beta

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

Detectable gross beta activity was observed at all locations. Comparison of results among the three groups aid in determining the effects, if any, resulting from the operation of PBAPS. The results from the On-Site locations (Group I) ranged from <7 to 34 E-3 pCi/m^3, with a mean of 17 E-3 pCi/m^3. The results from the Intermediate Distance location (Group II) ranged from <7 to 27 E-3 pCi/m^3 with a mean of 16 E-3 pCi/m^3. The results from the Distant location (Group III) ranged from <7 to 26 E-3 pCi/m^3 with a mean of 15 E-3 pCi/m^3 A comparison of the weekly mean values for 2006 indicate no notable differences among the three groups (Figure C-5, Appendix C). In addition, a comparison of the 2006 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 58 to 129 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 six locations (J, O, R, S and T) biweekly April through November and monthly December through March. Samples from six additional locations (B, C, D, E, L, P) were taken quarterly. The following analyses were performed:

Iodine-131

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

Gamma Spectrometry

Each milk sample from locations J, O, R, S, and T 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 1,040 to 1,490 pCi/l. All other nuclides were less than the MDC. Comparison of the 2006 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, K-40, Ra-226, Ac-228, Th-228 and Th-232. Naturally occurring Be-7 and K-40 activity was found at all locations. Beryllium-7 activity was found in 40 of 42 samples and ranged from <62 to 4,020 pCi/kg wet. Potassium-40 activity was found in all samples and ranged from 2,560 to 7,740 pCi/kg wet. Cesium-137, attributed to the soil attached to the samples, was found in two samples of lettuce at concentrations of 5.14 and 8.22 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.

Most TLD measurements were below 10 mR per standard month, with a range of 3.7 to 10.5 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 2006, a total of 32 TN-68 casks, each loaded with 68 fuel bundles were in place on the ISFSI pad. As part of the overall REMP, additional TLDs were placed at locations near the site boundary and at the nearest resident. Although there was a general trend for increased dose at all REMP locations (see Figure C-7, Appendix C), Onsite location 1R, which is located on the hillside overlooking the ISFSI showed an increase trend of 1 to 2 mR per standard month when compared to controls (Figure C-8, Appendix C). Location 2B, which represents the nearest residence showed no increase in dose rates when compared to controls.

Data from location 2B is used to demonstrate compliance to both 40CFR190 and 10CFR72.104 limits.

E. Land Use Census

A Land Use Survey conducted during the 2006 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	2.8
2 NNE	2.1	2.1	2.1
3 NE	2.1	2.1	2.1
4 ENE	2.0	2.4	2.1
5 E	2.0	2.9	2.9
6 ESE	3.8	3.8	3.8
7 SE	3.7	3.7	3.7
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	2.3
12 WSW	0.7	-	0.9
13 W	1.0	1.0	1.0
14 WNW	0.6	0.8	-
15 NW	0.6	3.4	3.4
16 NNW	1.0	-	-

F. 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, 24 out of 28 analytes met the specified acceptance criteria. Four samples did not meet the specified acceptance criteria for the following reasons:

1. Teledyne Brown Engineering's MAPEP Series 15 January 2006 soil Cs-134 was evaluated as a false positive, although TBE considered the result a non-detect due to the peak not being identified by the gamma software. MAPEP suggests the Bi-214 is not being differentiated from the Cs-134 peak. When the ratio of activity to uncertainty exceeds 3, TBE will use a key line analysis rather than a weighted mean analysis when evaluating MAPEP non-detects.

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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APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT SUMMARY

TABLE A - 1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2006

Name of Facility: PEACH BOTTOM ATOMIC POWER STATION — **DOCKET NUMBER:** 50-277 & 50-278

Location of Facility: YORK COUNTY, PA — **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	H-3	8	200	167 (0/4) (<157/<172)	168 (0/4) (<156/<174)	168 (0/4) (<156/<174)	1LL CONTROL PEACH BOTTOM UNITS 2 AND 3 INTAKE 0.24 MILES NE OF SITE	0
	GAMMA	24						
	MN-54		15	3 (0/12) (<1/<6)	3 (0/12) (<1/<5)	3 (0/12) (<1/<6)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CO-58		15	3 (0/12) (<1/<6)	3 (0/12) (<1/<5)	3 (0/12) (<1/<6)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	FE-59		30	7 (0/12) (<2/<14)	6 (0/12) (<2/<11)	7 (0/12) (<2/<14)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CO-60		15	3 (0/12) (<1/<8)	3 (0/12) (<1/<6)	3 (0/12) (<1/<8)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	ZN-65		30	6 (0/12) (<2/<15)	6 (0/12) (<1/<12)	6 (0/12) (<2/<15)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	NB-95		15	3 (0/12) (<1/<7)	3 (0/12) (<1/<6)	3 (0/12) (<1/<7)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	ZR-95		30	5 (0/12) (<2/<12)	5 (0/12) (<1/<10)	5 (0/12) (<2/<12)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0

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

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Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	I-131		15	11 (0/12) (<3/<14)	11 (0/12) (<2/<15)	11 (0/12) (<3/<14)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CS-134		15	3 (0/12) (<1/<7)	3 (0/12) (<1/<6)	3 (0/12) (<1/<7)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CS-137		18	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	BA-140		60	22 (0/12) (<7/<33)	22 (0/12) (<5/<33)	22 (0/12) (<7/<33)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	LA-140		15	8 (0/12) (<2/<12)	7 (0/12) (<2/<11)	8 (0/12) (<2/<12)	1MM INDICATOR PEACH BOTTOM CANAL DISCHARGE 1.04 MILES SE OF SITE	0
DRINKING WATER (PCI/LITER)	GR-B	24	4	2.7 (8/12) (< 1.9/ 3.7)	2.7 (10/12) (< 1.9/ 4.0)	2.7 (8/12) (< 1.9/ 3.7)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	H-3	8	200	166 (0/4) (<152/<173)	166 (0/4) (<158/<173)	166 (0/4) (<152/<173)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	GAMMA	24						
	MN-54		15	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	6I CONTROL HOLTWOOD DAM HYDROELECTRIC STATION 5.75 MILES NW OF SITE	0

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

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Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
DRINKING WATER (PCI/LITER)	CO-58		15	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	FE-59		30	7 (0/12) (<2/<13)	7 (0/12) (<2/<13)	7 (0/12) (<2/<13)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	CO-60		15	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	6I CONTROL HOLTWOOD DAM HYDROELECTRIC STATION 5.75 MILES NW OF SITE	0
	ZN-65		30	7 (0/12) (<1/<16)	7 (0/12) (<2/<14)	7 (0/12) (<1/<16)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	NB-95		15	3 (0/12) (<1/<7)	3 (0/12) (<1/<6)	3 (0/12) (<1/<7)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	ZR-95		30	6 (0/12) (<1/<12)	6 (0/12) (<2/<11)	6 (0/12) (<2/<11)	6I CONTROL HOLTWOOD DAM HYDROELECTRIC STATION 5.75 MILES NW OF SITE	0
	I-131		15	11 (0/12) (<3/<15)	11 (0/11) (<4/<14)	11 (0/12) (<3/<15)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
	CS-134		15	3 (0/12) (<1/<8)	3 (0/12) (<1/<7)	3 (0/12) (<1/<8)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0

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Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
DRINKING WATER (PCI/LITER)	CS-137		18	3 (0/12) (<1/<7)	3 (0/12) (<1/<6)	3 (0/12) (<1/<6)	6I CONTROL HOLTWOOD DAM HYDROELECTRIC STATION 5.75 MILES NW OF SITE	0
	BA-140		60	21 (0/12) (<7/<34)	22 (0/12) (<8/<35)	22 (0/12) (<8/<35)	6I CONTROL HOLTWOOD DAM HYDROELECTRIC STATION 5.75 MILES NW OF SITE	0
	LA-140		15	7 (0/12) (<2/<11)	7 (0/12) (<3/<11)	7 (0/12) (<2/<11)	4L INDICATOR CONOWINGO DAM EL 33' MSL 8.66 MILES SE OF SITE	0
BOTTOM FEEDER (FISH) (PCI/KG WET)	GAMMA	4						
	K-40		N/A	3195 (2/2) (3130/3260)	3020 (2/2) (2810/3230)	3195 (2/2) (3130/3260)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
	MN-54		130	53 (0/2) (<43/<63)	58 (0/2) (<40/<77)	58 (0/2) (<40/<77)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	CO-58		130	59 (0/2) (<54/<65)	59 (0/2) (<39/<78)	59 (0/2) (<54/<65)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
	FE-59		260	164 (0/2) (<160/<167)	162 (0/2) (<133/<191)	164 (0/2) (<160/<167)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
	CO-60		130	58 (0/2) (<43/<73)	59 (0/2) (<47/<71)	59 (0/2) (<47/<71)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0

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Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
BOTTOM FEEDER (FISH) (PCI/KG WET)	ZN-65		260	139 (0/2) (<92/<185)	141 (0/2) (<97/<186)	141 (0/2) (<97/<186)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	CS-134		130	64 (0/2) (<51/<76)	60 (0/2) (<32/<88)	64 (0/2) (<51/<76)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
	CS-137		150	62 (0/2) (<51/<73)	54 (0/2) (<39/<70)	62 (0/2) (<51/<73)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
PREDATOR (FISH) (PCI/KG WET)	GAMMA	4						
	K-40		N/A	3550 (2/2) (3240/3860)	3510 (2/2) (3040/3980)	3550 (2/2) (3240/3860)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
	MN-54		130	59 (0/2) (<42/<75)	64 (0/2) (<63/<64)	64 (0/2) (<63/<64)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	CO-58		130	72 (0/2) (<66/<78)	68 (0/2) (<61/<76)	72 (0/2) (<66/<78)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
	FE-59		260	142 (0/2) (<141/<143)	172 (0/2) (<149/<195)	172 (0/2) (<149/<195)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	CO-60		130	68 (0/2) (<57/<79)	75 (0/2) (<65/<86)	75 (0/2) (<65/<86)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0

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Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
PREDATOR (FISH) (PCI/KG WET)	ZN-65		260	142 (0/2) (<125/<158)	164 (0/2) (<127/<200)	164 (0/2) (<127/<200)	6 CONTROL HOLTWOOD POND LOCATED IN HOLTWOOD POND	0
	CS-134		130	59 (0/2) (<43/<76)	59 (0/2) (<51/<66)	59 (0/2) (<43/<76)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
	CS-137		150	69 (0/2) (<54/<84)	57 (0/2) (<47/<68)	69 (0/2) (<54/<84)	4 INDICATOR CONOWINGO POND LOCATED IN CONOWINGO	0
SEDIMENT (PCI/KG DRY)	GAMMA	6						
	BE-7		N/A	770 (0/4) (<494/<975)	846 (0/2) (<747/<945)	936 (0/2) (<897/<975)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	K-40		N/A	18475 (4/4) (14400/26000)	9645 (2/2) (9430/9860)	22500 (2/2) (19000/26000)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	MN-54		N/A	87 (0/4) (<45/<122)	86 (0/2) (<80/<92)	111 (0/2) (<100/<122)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	CO-58		N/A	88 (0/4) (<52/<127)	82 (0/2) (<56/<107)	112 (0/2) (<96/<127)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	CO-60		N/A	96 (0/4) (<58/<132)	70 (0/2) (<58/<82)	115 (0/2) (<98/<132)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0

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Name of Facility: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
SEDIMENT (PCI/KG DRY)	CS-134		150	95 (0/4) (<45/<130)	99 (0/2) (<60/<138)	118 (0/2) (<105/<130)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
	CS-137		180	122 (2/4) (<68/217)	89 (1/2) (70/<107)	168 (2/2) (118/217)	4T INDICATOR CONOWINGO POND NEAR CONOWINGO DAM 7.92 MILES SE OF SITE	0
EXTENDED SEDIMENT (PCI/KG DRY)	GAMMA	15						
	BE-7		N/A	900 (2/15) (<494/<975)	N/A	1780 (1/1) (1780)	9000 FEET	0
	K-40		N/A	14833 (15/15) (22800/7300)	N/A	22800 (1/1) (22800)	12000 FEET	0
	MN-54		N/A	86 (0/15) (<46/<136)	N/A	136 (0/1) (<136)	6000 FEET BR	0
	CO-58		N/A	93 (0/15) (<56/<152)	N/A	152 (0/1) (<152)	2500 BR	0
	CO-60		N/A	128 (4/15) (59/428)	N/A	428 (1/1) (428)	6000 BR	0
	CS-134		150	144 (0/15) (<55/<144)	N/A	144 (0/1) (<144)	2000 BR	0

THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING BOTH THE MDAs AND 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, 2006

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Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
EXTENDED SEDIMENT (PCI/KG DRY)	CS-137		180	117 (7/15) (<56/197)	N/A	197 (1/1) (197)	15000 FEET	0
AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	260	10	17 (255/260) (<7/34)	N/A	17 (52/52) (7/32)	1Z INDICATOR WEATHER STATION #1 0.26 MILES SE OF SITE	0
	GAMMA	20						
	BE-7		N/A	81.1 (18/20) (58/<129)	N/A	91.8 (3/4) (65/<129)	5H2 INDICATOR MANOR SUBSTATION 30.79 MILES NE OF SITE	0
	MN-54		N/A	2.9 (0/20) (< 1.8/< 4.7)	N/A	3.1 (0/4) (< 2.2/< 4.7)	3A INDICATOR DELTA PA SUBSTATION 3.62 MILES SW OF SITE	0
	CO-58		N/A	4.3 (0/20) (< 2.1/< 7.8)	N/A	4.5 (0/4) (< 3.3/< 7.8)	5H2 INDICATOR MANOR SUBSTATION 30.79 MILES NE OF SITE	0
	CO-60		N/A	2.8 (0/20) (< 1.0/< 6.0)	N/A	3.1 (0/4) (< 1.0/< 6.0)	1C INDICATOR PEACH BOTTOM SOUTH SUB STATION 0.85 MILES SSE OF SITE	0
	CS-134		50	2.7 (0/20) (< 1.5/< 4.9)	N/A	2.9 (0/4) (< 1.5/< 4.9)	5H2 INDICATOR MANOR SUBSTATION 30.79 MILES NE OF SITE	0
AIR PARTICULATE (E-3 PCI/CU.METER)	CS-137		60	2.7 (0/20) (< 1.8/< 4.5)	N/A	3.0 (0/4) (< 2.5/< 4.2)	5H2 INDICATOR MANOR SUBSTATION 30.79 MILES NE OF SITE	0

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

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Location of Facility: YORK COUNTY, PA **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
AIR IODINE (E-3 PCI/CU.METER)	GAMMA	260						
	I-131		70	41 (0/260) (<7/<69)	N/A	46 (0/52) (<19/<69)	1C INDICATOR PEACH BOTTOM SOUTH SUB STATION 0.85 MILES SSE OF SITE	0
MILK (PCI/LITER)	I-131	129	1	0.6 (0/96) (< 0.2/< 2.0)	0.6 (0/33) (< 0.2/< 1.5)	0.7 (0/4) (< 0.5/< 0.9)	D INDICATOR 3.51 MILES NE OF SITE	0
	GAMMA	105						
	K-40		N/A	1294 (84/84) (1040/1490)	1287 (21/21) (1210/1430)	1349 (21/21) (1200/1490)	R INDICATOR 0.89 MILES WSW OF SITE	0
	CS-134		15	7 (0/84) (<2/<13)	7 (0/21) (<2/<13)	7 (0/21) (<2/<13)	R INDICATOR 0.89 MILES WSW OF SITE	0
	CS-137		18	7 (0/84) (<2/<13)	7 (0/21) (<2/<13)	7 (0/21) (<2/<13)	R INDICATOR 0.89 MILES WSW OF SITE	0
	BA-140		60	37 (0/84) (<16/<56)	37 (0/21) (<17/<50)	38 (0/21) (<16/<56)	J INDICATOR 0.97 MILES W OF SITE	0
MILK (PCI/LITER)	LA-140		15	11 (0/84) (<5/<15)	11 (0/21) (<5/<15)	11 (0/21) (<5/<15)	T CONTROL 5.7 MILES W OF SITE	0

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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN: STATIONS # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTIME REPORTED MEASUREMENTS
FOOD PRODUCTS (PCI/KG WET)	GAMMA	42						
	BE-7		N/A	687 (27/28) (<62/4020)	486 (13/14) (89/2070)	737 (14/14) (156/2310)	1Q INDICATOR NW SECTOR	0
	MN-54		N/A	9 (0/28) (<1/<26)	9 (0/14) (<2/<21)	10 (0/14) (<1/<21)	1Q INDICATOR NW SECTOR	0
	CO-58		N/A	10 (0/28) (<2/<32)	10 (0/14) (<3/<24)	12 (0/14) (<2/<24)	1Q INDICATOR NW SECTOR	0
	CO-60		N/A	9 (0/28) (<1/<25)	9 (0/14) (<2/<25)	10 (0/14) (<1/<21)	1Q INDICATOR NW SECTOR	0
	I-131		60	55 (0/27) (<11/<133)	49 (0/14) (<26/<65)	57 (0/13) (<15/<131)	1Q INDICATOR NW SECTOR	0
	CS-134		60	9 (0/28) (<1/<32)	9 (0/14) (<2/<23)	10 (0/14) (<1/<22)	1Q INDICATOR NW SECTOR	0
	CS-137		80	9 (2/28) (<1/<24)	9 (0/14) (<2/<22)	10 (1/14) (<1/<20)	1Q INDICATOR NW SECTOR	0
DIRECT RADIATION (MILLI-ROENTGEN/STD.MO.)	TLD-QUARTERLY	188	N/A	7 (172/172) (4/11)	7 (16/16) (5/8)	8 (4/4) (8/10)	1R INDICATOR TRANSMISSION LINE HILL 0.53 MILES SSE	0

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

APPENDIX B

SAMPLE DESIGNATION AND LOCATIONS

TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2006

Location	Location Description	Distance & Direction from PBAPS Vents
A. Surface Water		
1LL	Peach Bottom Units 2 and 3 Intake - Composite (Control)	0.24 miles NE
1MM	Peach Bottom Canal Discharge -Composite	1.04 miles SE
B. Drinking (Potable) Water		
4L	Conowingo Dam EL 33' MSL - Composite	8.66 miles SE
6I	Holtwood Dam Hydroelectric Station - Composite (Control)	5.75 miles NW
C. Fish		
4	Conowingo Pond	Located in Conowingo Pond below the discharge
6	Holtwood Pond (Control)	Located in Holtwood Pond
D. Sediment		
4J	Conowingo Pond near Berkin's Run	1.39 miles SE
4T	Conowingo Pond near Conowingo Dam	7.92 miles SE
6F	Holtwood Dam (Control)	5.96 miles NW
E. Air Particulate - Air Iodine		
1B	Weather Station #2	0.49 miles NW
1Z	Weather Station #1	0.26 miles SE
1A	Weather Station #1	0.26 miles SE
1C	Peach Bottom South Sub Station	0.85 miles SSE
3A	Delta, PA – Substation	3.62 miles SW
5H2	Manor Substation	30.79 miles NE
F. Milk – bi-weekly / monthly		
J		0.97 miles W
O		2.32 miles SW
R		0.89 miles WSW
S		3.61 miles SE
T	(Control)	6.55 miles W
G. Milk – quarterly		
B	(Control)	10.58 miles S
C	(Control)	9.54 miles NW
D		3.51 miles NE
E	(Control)	8.74 miles N
L		2.12 miles NE
P		2.08 miles ENE
H. Food Products – monthly when available		
1Q		0.79 miles NW
2B		0.73 miles SSE
55	(Control)	9.9 miles NE

TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2006

Location	Location Description	Distance & Direction from PBAPS Vents
I. 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
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

TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2006

Location	Location Description	Distance & Direction from PBAPS Vents
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, 2006

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, 2006*

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

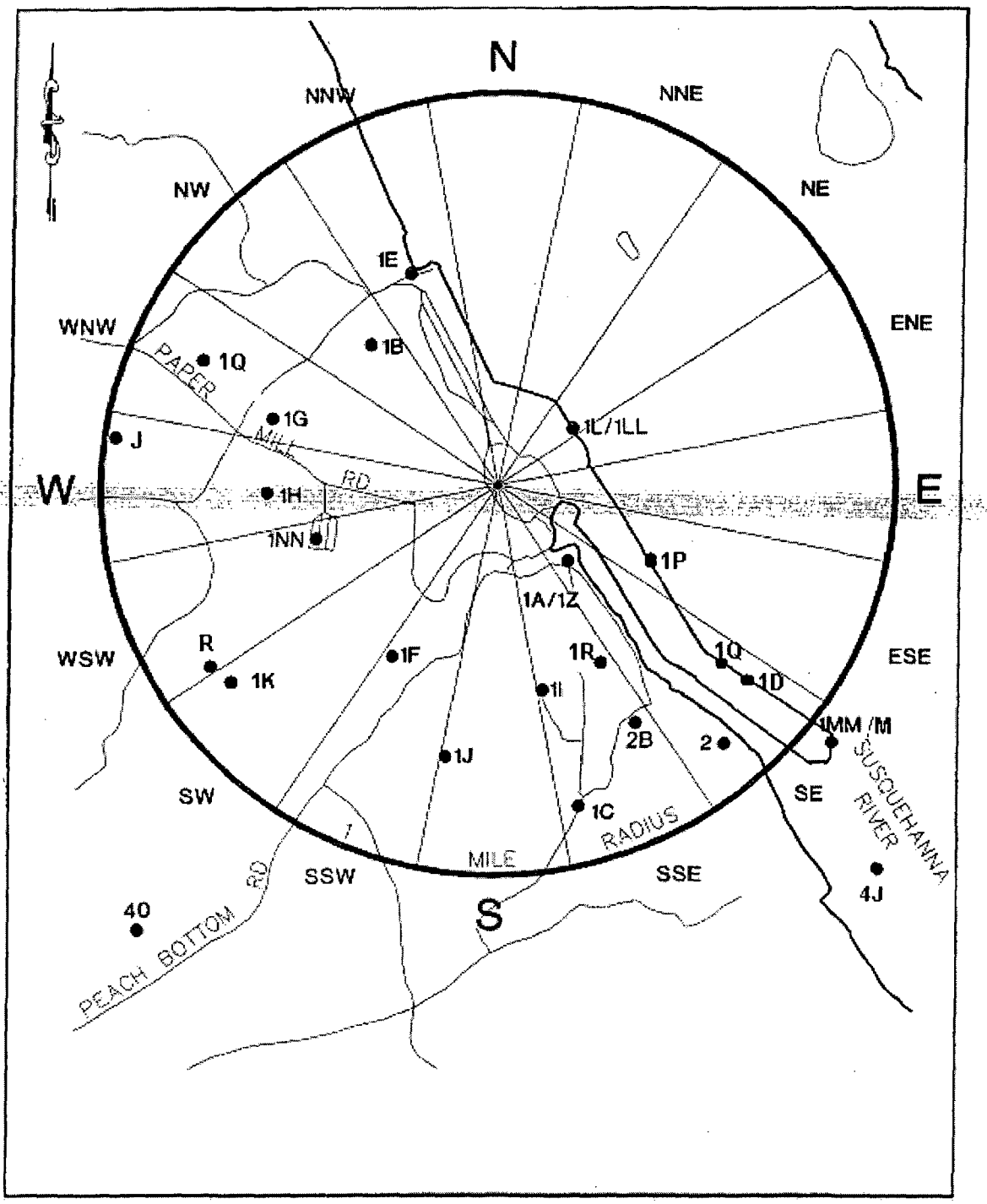

Figure B-1
Environmental Sampling Locations Between Within One Mile of the Peach Bottom Atomic Power Station, 2006

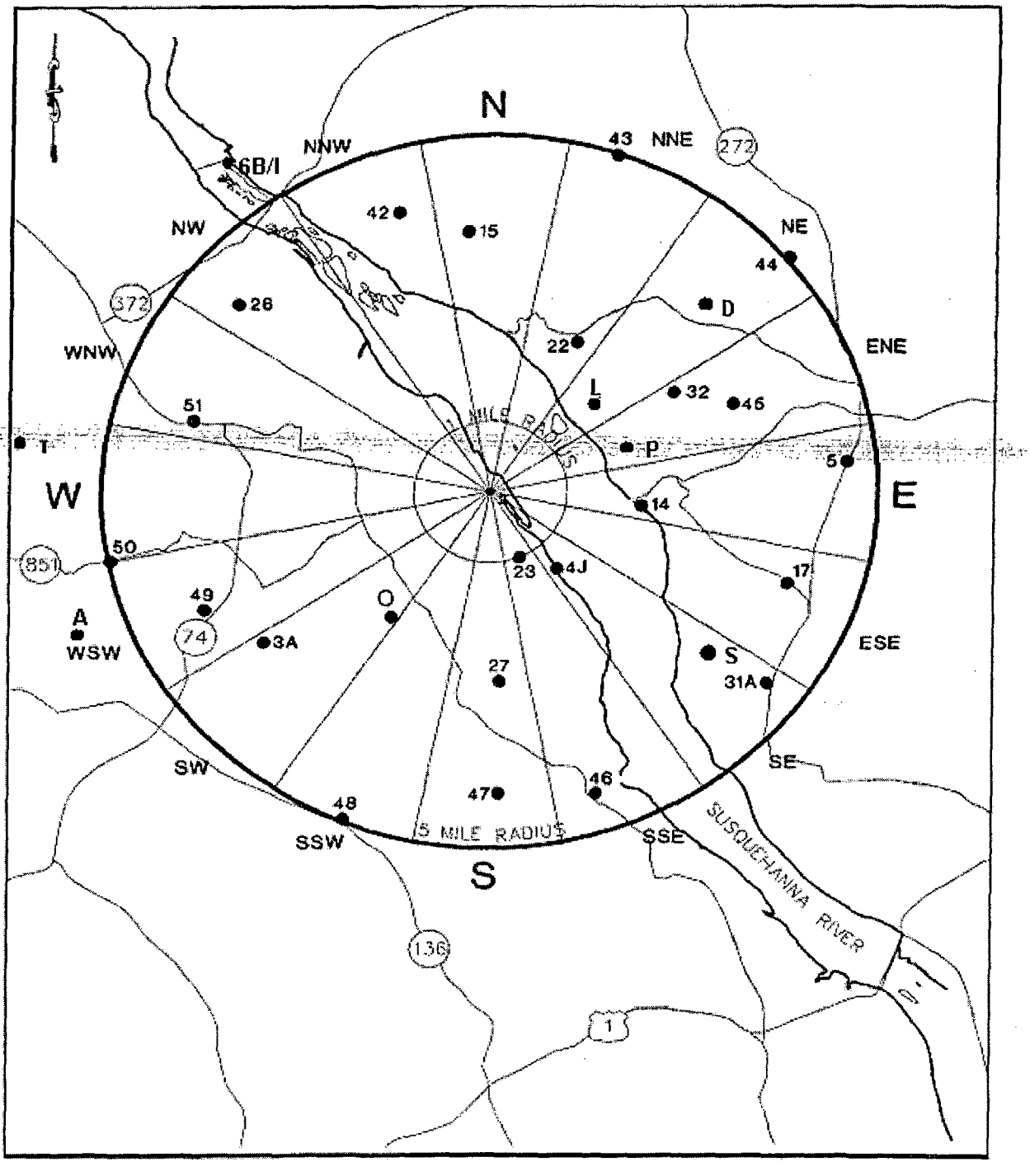

Figure B-2
Environmental Sampling Locations Between One and Approximately Five Miles of the Peach Bottom Atomic Power Station, 2006

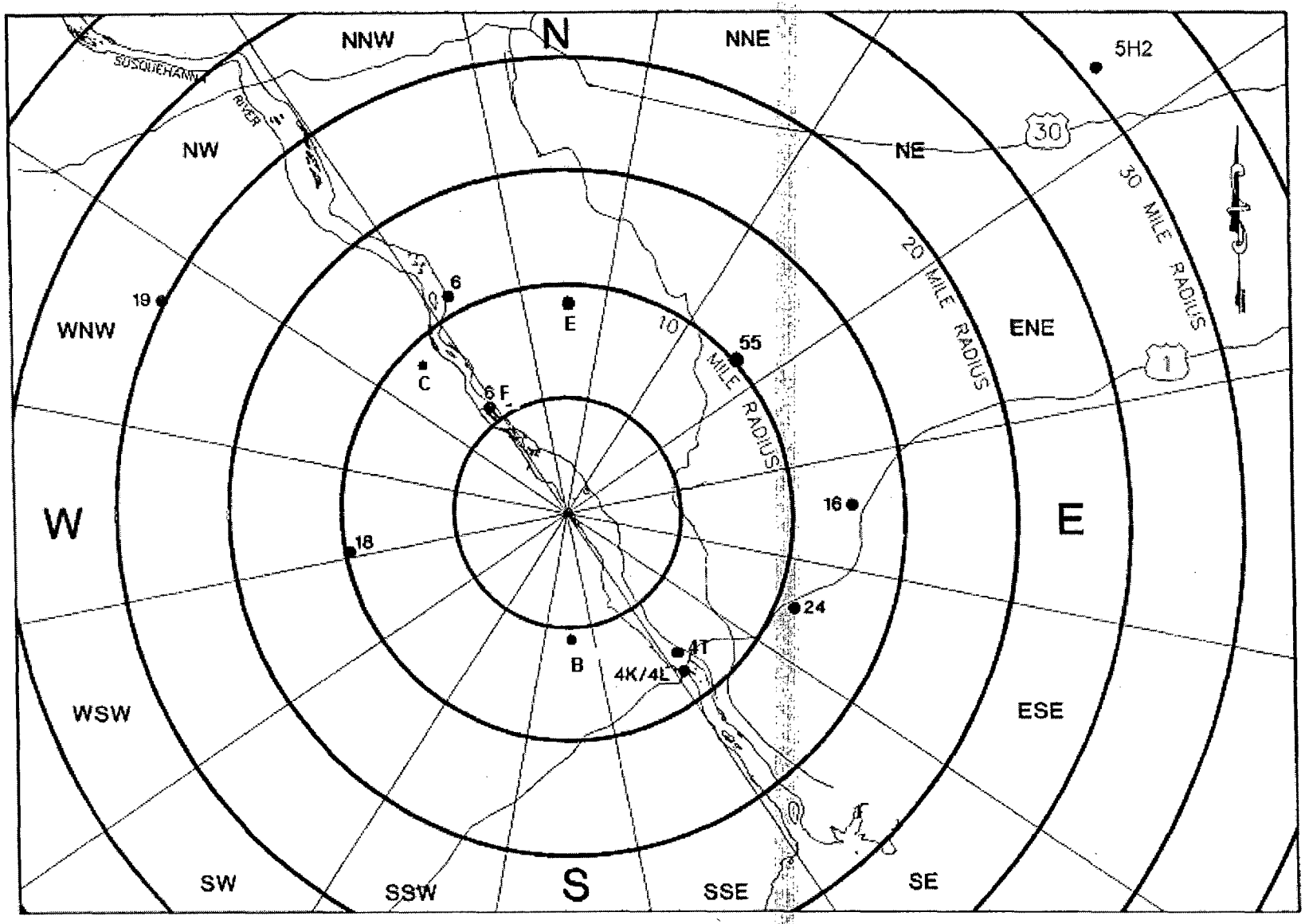

Figure B-3
Environmental Sampling Locations Greater Than
Five Miles from the Peach Bottom Atomic Power Station, 2006

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, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1LL	1MM
JAN-MAR	< 174	< 172
APR-JUN	< 168	< 169
JUL-SEP	< 172	< 171
OCT-DEC	< 156	< 157
MEAN	168 ± 16	167 ± 14

TABLE C-I.2 CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr9-5	I-131	Cs-134	Cs-137	Ba-140	La-140
1LL	JAN	< 5	< 5	< 11	< 6	< 12	< 5	< 10	< 12	< 6	< 6	< 31	< 9
	FEB	< 4	< 4	< 8	< 4	< 8	< 4	< 7	< 10	< 4	< 4	< 23	< 8
	MAR	< 2	< 2	< 5	< 2	< 5	< 2	< 4	< 7	< 2	< 2	< 14	< 5
	APR	< 4	< 4	< 10	< 4	< 9	< 5	< 8	< 13	< 4	< 5	< 29	< 10
	MAY	< 3	< 3	< 8	< 3	< 6	< 3	< 6	< 13	< 3	< 3	< 33	< 11
	JUN	< 4	< 5	< 10	< 5	< 11	< 5	< 9	< 14	< 5	< 5	< 31	< 11
	JUL	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 9	< 1	< 1	< 11	< 4
	AUG	< 1	< 1	< 3	< 1	< 2	< 2	< 2	< 15	< 1	< 1	< 21	< 6
	SEP	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 5	< 2
	OCT	< 1	< 1	< 2	< 1	< 1	< 1	< 2	< 13	< 1	< 1	< 15	< 5
	NOV	< 4	< 4	< 10	< 4	< 9	< 6	< 7	< 15	< 4	< 4	< 32	< 11
	DEC	< 3	< 3	< 7	< 3	< 7	< 4	< 6	< 6	< 3	< 3	< 15	< 5
	MEAN	3 ± 3	3 ± 3	6 ± 7	3 ± 3	6 ± 8	3 ± 4	5 ± 6	11 ± 8	3 ± 4	3 ± 4	22 ± 19	7 ± 6
1MM	JAN	< 6	< 6	< 14	< 8	< 15	< 7	< 12	< 14	< 7	< 6	< 33	< 12
	FEB	< 3	< 3	< 7	< 3	< 7	< 3	< 6	< 9	< 4	< 3	< 21	< 7
	MAR	< 2	< 2	< 5	< 2	< 5	< 2	< 4	< 6	< 2	< 2	< 13	< 5
	APR	< 4	< 4	< 10	< 5	< 9	< 5	< 8	< 14	< 5	< 4	< 31	< 11
	MAY	< 3	< 3	< 7	< 3	< 6	< 3	< 5	< 13	< 3	< 3	< 30	< 10
	JUN	< 4	< 4	< 10	< 4	< 9	< 5	< 9	< 14	< 5	< 5	< 32	< 11
	JUL	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 13	< 1	< 1	< 16	< 5
	AUG	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 14	< 1	< 1	< 19	< 8
	SEP	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 3	< 1	< 1	< 7	< 2
	OCT	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 14	< 1	< 1	< 16	< 5
	NOV	< 3	< 4	< 7	< 3	< 8	< 4	< 6	< 14	< 3	< 4	< 24	< 6
	DEC	< 5	< 4	< 10	< 5	< 10	< 4	< 8	< 9	< 4	< 5	< 23	< 7
	MEAN	3 ± 4	3 ± 3	7 ± 8	3 ± 4	6 ± 8	3 ± 4	5 ± 6	11 ± 7	3 ± 4	3 ± 4	22 ± 17	8 ± 6

TABLE C-II.1 CONCENTRATIONS OF TOTAL GROSS BETA IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L	6I
JAN	3.0 ± 1.4	< 1.9
FEB	2.4 ± 1.3	2.7 ± 1.3
MAR	< 1.9	2.8 ± 1.4
APR	< 2.1	2.7 ± 1.5
MAY	2.9 ± 1.3	4.0 ± 1.4
JUN	3.5 ± 1.4	2.8 ± 1.4
JUL	< 2.1	< 2.2
AUG	< 1.9	2.5 ± 1.5
SEP	3.5 ± 1.5	3.0 ± 1.5
OCT	2.7 ± 1.2	3.0 ± 1.2
NOV	3.7 ± 1.4	1.9 ± 1.3
DEC	2.2 ± 1.2	2.5 ± 1.2
MEAN	2.7 ± 1.3	2.7 ± 1.1

TABLE C-II.2 CONCENTRATIONS OF TRITIUM IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L	6I
JAN-MAR	< 167	< 165
APR-JUN	< 173	< 168
JUL-SEP	< 152	< 158
OCT-DEC	< 173	< 173
MEAN	166 ± 20	166 ± 13

TABLE C-II.3 **CONCENTRATIONS OF GAMMA EMITTERS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006**

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	I-131	Cs-134	Cs-137	Ba-140	La-140
4L	JAN	< 6	< 6	< 13	< 6	< 16	< 7	< 12	< 11	< 8	< 7	< 31	< 11
	FEB	< 5	< 5	< 11	< 5	< 12	< 6	< 9	< 11	< 6	< 6	< 26	< 10
	MAR	< 2	< 3	< 5	< 2	< 6	< 3	< 4	< 6	< 3	< 3	< 15	< 5
	APR	< 4	< 4	< 8	< 4	< 9	< 4	< 7	< 10	< 4	< 4	< 22	< 8
	MAY	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 14	< 2	< 2	< 25	< 8
	JUN	< 5	< 5	< 12	< 6	< 12	< 5	< 10	< 15	< 6	< 5	< 34	< 11
	JUL	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 9	< 1	< 1	< 11	< 3
	AUG	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 14	< 1	< 1	< 17	< 6
	SEP	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 3	< 1	< 1	< 7	< 2
	OCT	< 1	< 1	< 2	< 1	< 1	< 1	< 2	< 12	< 1	< 1	< 15	< 4
	NOV	< 4	< 4	< 9	< 4	< 9	< 5	< 8	< 15	< 4	< 4	< 30	< 10
	DEC	< 4	< 5	< 10	< 3	< 9	< 5	< 9	< 8	< 4	< 5	< 21	< 8
	MEAN	3 ± 4	3 ± 4	7 ± 9	3 ± 4	7 ± 10	3 ± 4	6 ± 7	11 ± 7	3 ± 5	3 ± 4	21 ± 17	7 ± 6
6I	JAN	< 6	< 6	< 11	< 6	< 14	< 6	< 11	< 9	< 7	< 6	< 26	< 8
	FEB	< 4	< 4	< 9	< 5	< 10	< 5	< 9	< 10	< 5	< 5	< 25	< 9
	MAR	< 2	< 3	< 5	< 3	< 5	< 3	< 4	< 6	< 3	< 3	< 15	< 5
	APR	< 4	< 4	< 10	< 4	< 10	< 5	< 9	< 12	< 5	< 5	< 28	< 9
	MAY	< 3	< 3	< 8	< 3	< 7	< 3	< 6	< 12	< 3	< 3	< 31	< 11
	JUN	< 5	< 5	< 13	< 6	< 12	< 5	< 10	< 14	< 5	< 6	< 35	< 10
	JUL	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 13	< 1	< 1	< 17	< 5
	AUG	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 14	< 1	< 1	< 17	< 5
	SEP	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 4	< 1	< 1	< 8	< 3
	OCT	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 12	< 1	< 1	< 16	< 4
	NOV	< 4	< 4	< 8	< 4	< 8	< 4	< 7	< 13	< 3	< 4	< 28	< 9
	DEC	< 5	< 4	< 9	< 4	< 8	< 4	< 6	< 9	< 4	< 5	< 23	< 8
	MEAN	3 ± 4	3 ± 3	7 ± 7	3 ± 4	7 ± 9	3 ± 4	6 ± 7	11 ± 7	3 ± 4	3 ± 4	22 ± 16	7 ± 5

TABLE C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN PREDATOR & BOTTOM FEEDER (FISH) SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
4	PREDATOR								
	06/20 - 06/20/06	3240 ± 901	< 75	< 78	< 143	< 79	< 158	< 76	< 84
	10/30 - 10/30/06	3860 ± 884	< 42	< 66	< 141	< 57	< 125	< 43	< 54
	MEAN	3550 ± 877	59 ± 46	72 ± 18	142 ± 3	68 ± 32	142 ± 47	59 ± 46	69 ± 43
	BOTTOM FEEDER								
	06/13 - 06/13/06	3130 ± 833	< 63	< 65	< 167	< 73	< 185	< 76	< 73
	10/31 - 11/01/06	3260 ± 768	< 43	< 54	< 160	< 43	< 92	< 51	< 51
	MEAN	3195 ± 184	53 ± 29	59 ± 16	164 ± 10	58 ± 42	139 ± 131	64 ± 36	62 ± 30
6	PREDATOR								
	06/02 - 06/02/06	3980 ± 997	< 64	< 76	< 149	< 86	< 200	< 66	< 68
	10/04 - 10/04/06	3040 ± 808	< 63	< 61	< 195	< 65	< 127	< 51	< 47
	MEAN	3510 ± 1329	64 ± 1	68 ± 21	172 ± 65	75 ± 30	164 ± 103	59 ± 21	57 ± 30
	BOTTOM FEEDER								
	05/30 - 06/02/06	3230 ± 862	< 77	< 78	< 191	< 71	< 186	< 88	< 70
	10/03 - 10/04/06	2810 ± 672	< 40	< 39	< 133	< 47	< 97	< 32	< 39
	MEAN	3020 ± 594	58 ± 53	59 ± 55	162 ± 82	59 ± 34	141 ± 127	60 ± 79	54 ± 43

TABLE C-IV.1 **CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006**

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137
4J	06/17/06	14400 ± 1350	< 83	< 77	< 97	< 101	< 86
	12/14/06	14500 ± 1250	< 45	< 52	< 58	< 45	< 68
	MEAN	14450 ± 141	64 ± 53	65 ± 35	77 ± 55	73 ± 79	77 ± 26
4T	06/17/06	19000 ± 1600	< 100	< 96	< 98	< 130	118 ± 70
	12/14/06	26000 ± 2630	< 122	< 127	< 132	< 105	217 ± 176
	MEAN	22500 ± 9899	111 ± 32	112 ± 44	115 ± 49	118 ± 35	168 ± 140
6F	06/17/06	9860 ± 1380	< 92	< 107	< 82	< 138	< 107
	12/14/06	9430 ± 1320	< 80	< 56	< 58	< 60	70 ± 68
	MEAN	9645 ± 608	86 ± 16	82 ± 72	70 ± 34	99 ± 110	89 ± 52

TABLE C-IV.2 **CONCENTRATIONS OF GAMMA EMITTERS IN EXTENDED SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006**

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137
250 FT A	06/17/06	7300 ± 804	< 52	< 66	59 ± 27	< 69	< 56
250 FT BR	06/17/06	7900 ± 1050	< 75	< 87	< 85	< 98	< 78
500 FT BR	06/17/06	7900 ± 1380	< 95	< 113	< 101	< 134	182 ± 63
750 FT BR	06/17/06	9990 ± 1080	< 77	< 97	< 85	< 77	87
1000 FT BR	06/17/06	18500 ± 1320	< 91	< 98	< 84	< 117	85
1250 BR	06/17/06	17600 ± 1540	< 94	< 104	< 99	< 125	94
2000 BR	06/17/06	13100 ± 1520	< 112	< 123	< 96	< 144	157 ± 111
2500 BR	06/17/06	15200 ± 1670	< 130	< 152	230 ± 57	< 136	140
3000 BR	06/17/06	13800 ± 627	< 46	< 57	241 ± 29	< 67	73 ± 25
6000 BR	06/17/06	20700 ± 1590	< 136	< 138	428 ± 66	< 121	162 ± 69
	MEAN	13199 ± 9646	91 ± 60	103 ± 59	151 ± 232	109 ± 58	111 ± 89
3000 FT	12/14/06	16500 ± 1600	< 83	< 83	< 114	< 67	107 ± 72
6000 FT	12/14/06	11200 ± 1200	< 69	< 56	< 70	< 56	76
9000 FT	12/14/06	17400 ± 1470	< 61	< 67	< 62	< 62	81
12000 FT	12/14/06	22800 ± 1750	< 76	< 71	< 87	< 55	187 ± 68
15000 FT	12/14/06	22600 ± 1850	< 88	< 85	< 78	< 75	197 ± 103
	MEAN	18100 ± 9644	75 ± 21	73 ± 24	82 ± 40	63 ± 16	130 ± 116

TABLE C-V.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

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

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

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-V.2 **MONTHLY AND YEARLY MEAN VALUES OF GROSS BETA CONCENTRATIONS (E-3 PCI/CU METER) IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM, 2006**

GROUP I - ON-SITE LOCATIONS				GROUP II - INTERMEDIATE DISTANCE LOCATIONS				GROUP III - CONTROL LOCATIONS			
COLLECTION PERIOD	MIN.	MAX.	MEAN ± 2 SD	COLLECTION PERIOD	MIN.	MAX.	MEAN ± 2 SD	COLLECTION PERIOD	MIN.	MAX.	MEAN ± 2 SD
12/30/2005 - 02/03/2006	12	19	15 ± 4	12/30/2005 - 02/03/2006	13	16	14 ± 3	12/30/2005 - 02/03/2006	12	15	13 ± 3
02/03/2006 - 03/03/2006	13	28	20 ± 9	02/03/2006 - 03/03/2006	13	21	18 ± 7	02/03/2006 - 03/03/2006	14	20	17 ± 6
03/03/2006 - 03/31/2006	10	19	14 ± 4	03/03/2006 - 03/31/2006	12	17	15 ± 5	03/03/2006 - 03/31/2006	< 7	18	13 ± 12
03/31/2006 - 04/28/2006	< 7	18	13 ± 9	03/31/2006 - 04/28/2006	< 7	17	11 ± 9	03/31/2006 - 04/28/2006	9	13	10 ± 4
04/28/2006 - 06/01/2006	< 7	25	12 ± 12	04/28/2006 - 06/01/2006	7	19	12 ± 9	04/28/2006 - 06/01/2006	8	16	12 ± 7
06/01/2006 - 06/30/2006	8	21	12 ± 7	06/01/2006 - 06/30/2006	7	19	13 ± 10	06/01/2006 - 06/30/2006	9	15	11 ± 7
06/30/2006 - 08/03/2006	17	25	22 ± 5	06/30/2006 - 08/03/2006	16	27	21 ± 10	06/30/2006 - 08/03/2006	18	24	21 ± 6
08/03/2006 - 08/31/2006	14	23	19 ± 5	08/03/2006 - 08/31/2006	15	23	19 ± 8	08/03/2006 - 08/31/2006	12	19	15 ± 7
08/31/2006 - 09/28/2006	12	27	19 ± 9	08/31/2006 - 09/28/2006	14	21	17 ± 8	08/31/2006 - 09/28/2006	8	18	14 ± 10
09/28/2006 - 11/03/2006	11	19	17 ± 5	09/28/2006 - 11/03/2006	10	21	17 ± 8	09/28/2006 - 11/03/2006	9	18	15 ± 8
11/03/2006 - 11/30/2006	10	34	20 ± 17	11/03/2006 - 11/30/2006	15	21	17 ± 5	11/03/2006 - 11/30/2006	15	22	18 ± 7
11/30/2006 - 01/02/2007	16	28	22 ± 8	11/30/2006 - 01/02/2007	12	26	20 ± 12	11/30/2006 - 01/02/2007	18	26	21 ± 8
12/30/05 - 01/02/2007	< 7	34	17 ± 7	12/30/05 - 01/02/2007	< 7	27	16 ± 7	12/30/05 - 01/02/2007	< 7	26	15 ± 7

TABLE C-V.3 CONCENTRATION OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

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	12/30 - 03/31/06	74 ± 40	< 5	< 6	< 3	< 3	< 2
	03/31 - 06/30/06	70 ± 53	< 2	< 4	< 2	< 3	< 3
	06/30 - 09/28/06	106 ± 52	< 2	< 3	< 3	< 2	< 2
	09/28 - 12/28/06	63 ± 20	< 2	< 3	< 2	< 2	< 2
	MEAN	78 ± 38	2.7 ± 2.4	3.7 ± 2.8	2.6 ± 1.5	2.5 ± 1.2	2.2 ± 0.6
1C	12/30 - 03/31/06	68 ± 53	< 3	< 6	< 6	< 5	< 3
	03/31 - 06/30/06	93 ± 52	< 3	< 5	< 2	< 2	< 2
	06/30 - 09/28/06	97 ± 43	< 2	< 2	< 1	< 2	< 2
	09/28 - 12/28/06	67 ± 26	< 3	< 4	< 4	< 3	< 3
	MEAN	81 ± 32	2.7 ± 1.4	4.2 ± 3.6	3.1 ± 4.4	2.7 ± 2.9	2.6 ± 1.3
1Z	12/30 - 03/31/06	96 ± 44	< 4	< 7	< 4	< 4	< 3
	03/31 - 06/30/06	107 ± 59	< 3	< 5	< 3	< 3	< 2
	06/30 - 09/28/06	69 ± 30	< 2	< 3	< 1	< 2	< 2
	09/28 - 12/28/06	62 ± 26	< 3	< 3	< 2	< 3	< 3
	MEAN	84 ± 43	3.0 ± 1.8	4.5 ± 3.0	2.5 ± 2.7	2.8 ± 1.8	2.7 ± 1.2
3A	12/30 - 03/31/06	< 65	< 5	< 7	< 4	< 4	< 4
	03/31 - 06/30/06	75 ± 43	< 3	< 5	< 3	< 2	< 2
	06/30 - 09/28/06	85 ± 30	< 2	< 2	< 2	< 2	< 2
	09/28 - 12/28/06	58 ± 27	< 2	< 3	< 3	< 3	< 2
	MEAN	71 ± 23	3.1 ± 2.3	4.3 ± 4.8	3.0 ± 1.3	2.8 ± 2.1	2.7 ± 2.4
5H2	01/03 - 04/03/06	< 129	< 5	< 8	< 1	< 5	< 4
	03/31 - 06/30/06	78 ± 52	< 2	< 4	< 3	< 2	< 3
	07/03 - 10/02/06	95 ± 30	< 2	< 3	< 3	< 1	< 3
	10/02 - 01/02/07	65 ± 30	< 3	< 3	< 4	< 3	< 3
	MEAN	92 ± 55	3.0 ± 2.3	4.5 ± 4.4	2.7 ± 2.0	2.9 ± 3.0	3.0 ± 1.6

TABLE C-VI.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

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

	GROUP I			GROUP II	GROUP III
WEEK	1B	1Z	1C	3A	5H2
1	< 20	< 21	< 20	< 21	< 21
2	< 44	< 44	< 45	< 43	< 14
3	< 34	< 34	< 34	< 33	< 15
4	< 63	< 65	< 62	< 64	< 21
7	< 44	< 45	< 45	< 44	< 13
6	< 42	< 43	< 42	< 42	< 26
7	< 48	< 49	< 48	< 48	< 17
8	< 46	< 47	< 46	< 46	< 20
9	< 33	< 34	< 33	< 33	< 18
10	< 32	< 32	< 32	< 32	< 14
11	< 49	< 50	< 49	< 49	< 16
12	< 39	< 40	< 39	< 39	< 18
13	< 55	< 56	< 53	< 56	< 19
14	< 36	< 36	< 37	< 36	< 17
15	< 39	< 40	< 39	< 39	< 19
16	< 23	< 44	< 43	< 43	< 20
17	< 46	< 47	< 47	< 47	< 22
18	< 54	< 56	< 54	< 54	< 19
19	< 59	< 40	< 59	< 59	< 42
20	< 69	< 69	< 69	< 69	< 20
21	< 67	< 69	< 67	< 67	< 24
22	< 41	< 41	< 41	< 41	< 16
23	< 53	< 54	< 52	< 52	< 16
24	< 55	< 56	< 56	< 56	< 19
25	< 29	< 30	< 29	< 29	< 21
26	< 23	< 23	< 23	< 24	< 34
27	< 50	< 49	< 51	< 28	< 31
28	< 55	< 55	< 55	< 56	< 23
29	< 65	< 65	< 63	< 64	< 26
30	< 60	< 60	< 61	< 63	< 23
31	< 37	< 30	< 37	< 38	< 13
32	< 46	< 46	< 46	< 47	< 21
33	< 20	< 19	< 19	< 20	< 21
34	< 48	< 48	< 48	< 49	< 14
35	< 21	< 21	< 21	< 21	< 20
36	< 33	< 33	< 33	< 27	< 25
37	< 51	< 51	< 51	< 52	< 39
38	< 53	< 53	< 53	< 53	< 7
39	< 66	< 67	< 67	< 67	< 25
40	< 29	< 29	< 29	< 29	< 14
41	< 54	< 54	< 54	< 55	< 7
42	< 53	< 67	< 67	< 68	< 47
43	< 27	< 27	< 27	< 27	< 33
44	< 59	< 59	< 59	< 60	< 46
45	< 46	< 46	< 46	< 47	< 10
46	< 52	< 52	< 52	< 53	< 32
47	< 41	< 41	< 42	< 42	< 46
48	< 31	< 31	< 31	< 32	< 12
49	< 55	< 35	< 55	< 55	< 42
50	< 56	< 56	< 56	< 57	< 24
51	< 51	< 51	< 51	< 52	< 18
52	< 32	< 32	< 32	< 32	< 11
MEAN	45 ± 26	45 ± 26	46 ± 26	45 ± 27	22 ± 20

TABLE C-VII.1 CONCENTRATIONS OF I-131 IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

	NEARBY FARMS			INTERMEDIATE DISTANCE FARMS							
COLLECTION PERIOD	J	0	R	S	D	L	P	B	C	E	T
01/16/06	< 0.4	< 0.4	< 0.4	< 0.3							< 0.5
02/14/06	< 0.7	< 0.6	< 0.8	< 0.6	< 0.6	< 0.6	< 0.6	< 0.5	< 0.8	< 0.7	< 0.5
03/13/06	< 0.2	< 0.2	< 0.2	< 0.4							< 0.2
04/10/06	< 0.3	< 0.5	< 0.3	< 0.2							< 0.2
04/24/06	< 0.7	< 0.7	< 0.2	< 0.2							< 0.6
05/08/06	< 0.5	< 0.7	< 0.8	< 0.6							< 0.5
05/22/06	< 0.6	< 0.7	< 0.7	< 0.4	< 0.7	< 0.5	< 0.7	< 0.6	< 0.5	< 0.6	< 0.7
06/05/06	< 1.1 (1)	< 1.4 (1)	< 2.0 (1)	< 1.7 (1)							< 1.5 (1)
06/19/06	< 0.8	< 0.8	< 0.9	< 0.9							< 1.2 (1)
07/03/06	< 0.7	< 0.4	< 0.5	< 0.7							< 0.6
07/17/06	< 0.6	< 0.8	< 0.5	< 0.8							< 0.6
07/31/06	< 0.8	< 0.8	< 0.9	< 0.6							< 0.8
08/14/06	< 0.4	< 0.5	< 0.6	< 0.4	< 0.5	< 0.3	< 0.3	< 0.5	< 0.5	< 0.6	< 0.4
08/28/06	< 0.6	< 0.5	< 0.8	< 0.5							< 0.5
09/11/06	< 0.3	< 0.3	< 0.3	< 0.3							< 0.3
09/25/06	< 0.5	< 0.5	< 0.5	< 0.5							< 0.6
10/09/06	< 0.5	< 0.6	< 0.6	< 0.5							< 0.5
10/23/06	< 0.5	< 0.5	< 0.6	< 0.5							< 0.6
11/06/06	< 0.7	< 0.8	< 0.5	< 0.4	< 0.9	< 0.8	< 0.9	< 0.4	< 0.5	< 0.8	< 0.5
11/20/06	< 0.7	< 0.9	< 1.0	< 0.7							< 0.8
12/18/06	< 0.6	< 0.6	< 0.7	< 0.6							< 0.7
MEAN	0.6 ± 0.4	0.6 ± 0.5	0.7 ± 0.8	0.6 ± 0.6	0.7 ± 0.4	0.5 ± 0.4	0.6 ± 0.5	0.5 ± 0.2	0.6 ± 0.3	0.7 ± 0.1	0.6 ± 0.6

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
J	01/15/06	1310 ± 207	< 12	< 11	< 43	< 10
	02/13/06	1260 ± 127	< 9	< 7	< 39	< 12
	03/13/06	1160 ± 126	< 9	< 8	< 39	< 12
	04/09/06	1350 ± 124	< 7	< 7	< 27	< 9
	04/23/06	1330 ± 42	< 2	< 2	< 41	< 13
	05/07/06	1370 ± 124	< 7	< 7	< 38	< 14
	05/21/06	1340 ± 133	< 8	< 8	< 43	< 14
	06/04/06	1290 ± 53	< 3	< 3	< 30	< 10
	06/19/06	1400 ± 182	< 12	< 11	< 41	< 14
	07/02/06	1220 ± 146	< 8	< 8	< 34	< 10
	07/17/06	1390 ± 71	< 3	< 4	< 16	< 5
	07/30/06	1360 ± 120	< 5	< 6	< 41	< 11
	08/14/06	1310 ± 157	< 6	< 6	< 39	< 13
	08/28/06	1440 ± 143	< 5	< 7	< 33	< 7
	09/11/06	1370 ± 189	< 7	< 10	< 39	< 12
	09/25/06	1380 ± 205	< 7	< 10	< 32	< 6
	10/09/06	1190 ± 135	< 4	< 6	< 46	< 13
	10/23/06	1240 ± 114	< 4	< 5	< 52	< 15
	11/06/06	1410 ± 180	< 8	< 8	< 56	< 14
	11/20/06	1470 ± 132	< 5	< 6	< 55	< 12
	12/18/06	1200 ± 169	< 5	< 7	< 22	< 7
	MEAN	1323 ± 171	7 ± 5	7 ± 5	38 ± 20	11 ± 6
O	01/15/06	1260 ± 143	< 10	< 9	< 34	< 10
	02/13/06	1140 ± 147	< 8	< 9	< 43	< 12
	03/13/06	1170 ± 117	< 8	< 8	< 34	< 10
	04/09/06	1040 ± 127	< 10	< 9	< 34	< 11
	04/23/06	1260 ± 44	< 2	< 2	< 44	< 14
	05/07/06	1110 ± 141	< 8	< 8	< 39	< 12
	05/21/06	1330 ± 125	< 9	< 8	< 43	< 14
	06/04/06	1270 ± 58	< 3	< 3	< 34	< 10
	06/19/06	1100 ± 182	< 8	< 9	< 41	< 15
	07/02/06	1350 ± 137	< 7	< 7	< 31	< 10
	07/17/06	1270 ± 65	< 4	< 4	< 16	< 5
	07/30/06	1320 ± 163	< 6	< 6	< 39	< 12
	08/14/06	1320 ± 144	< 4	< 8	< 27	< 10
	08/28/06	1270 ± 105	< 4	< 4	< 21	< 8
	09/11/06	1220 ± 191	< 8	< 9	< 39	< 11
	09/25/06	1300 ± 208	< 7	< 9	< 37	< 15
	10/09/06	1090 ± 117	< 5	< 6	< 44	< 14
	10/23/06	1300 ± 104	< 4	< 5	< 48	< 14
	11/06/06	1340 ± 138	< 4	< 6	< 41	< 12
	11/20/06	1160 ± 110	< 4	< 5	< 52	< 14
	12/18/06	1110 ± 185	< 8	< 9	< 28	< 7
	MEAN	1225 ± 193	6 ± 5	7 ± 5	36 ± 17	11 ± 5

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
R	01/16/06	1470 ± 143	< 9	< 9	< 30	< 8
	02/13/06	1370 ± 148	< 10	< 9	< 40	< 12
	03/13/06	1380 ± 143	< 9	< 9	< 39	< 13
	04/10/06	1490 ± 152	< 8	< 9	< 34	< 9
	04/24/06	1350 ± 45	< 2	< 2	< 42	< 13
	05/08/06	1370 ± 137	< 9	< 9	< 41	< 12
	05/22/06	1330 ± 139	< 9	< 9	< 46	< 14
	06/05/06	1300 ± 64	< 4	< 4	< 36	< 12
	06/19/06	1350 ± 203	< 13	< 13	< 43	< 13
	07/03/06	1390 ± 126	< 9	< 8	< 27	< 11
	07/17/06	1440 ± 68	< 4	< 4	< 19	< 6
	07/31/06	1270 ± 151	< 5	< 6	< 40	< 14
	08/14/06	1480 ± 213	< 8	< 9	< 37	< 6
	08/28/06	1350 ± 116	< 4	< 5	< 27	< 7
	09/11/06	1420 ± 239	< 7	< 8	< 49	< 13
	09/25/06	1220 ± 191	< 8	< 10	< 30	< 10
	10/09/06	1250 ± 133	< 5	< 6	< 43	< 14
	10/23/06	1300 ± 128	< 4	< 5	< 45	< 14
	11/06/06	1320 ± 120	< 4	< 5	< 37	< 9
	11/20/06	1200 ± 110	< 3	< 4	< 42	< 14
	12/18/06	1280 ± 170	< 6	< 8	< 26	< 5
	MEAN	1349 ± 164	7 ± 5	7 ± 5	37 ± 16	11 ± 6
S	01/16/06	1150 ± 152	< 9	< 9	< 37	< 12
	02/13/06	1280 ± 136	< 10	< 8	< 40	< 11
	03/13/06	1390 ± 160	< 9	< 10	< 45	< 13
	04/10/06	1470 ± 133	< 8	< 7	< 30	< 8
	04/24/06	1270 ± 50	< 3	< 3	< 48	< 15
	05/08/06	1320 ± 140	< 8	< 10	< 44	< 13
	05/22/06	1250 ± 132	< 8	< 8	< 44	< 14
	06/05/06	1290 ± 61	< 3	< 3	< 33	< 10
	06/19/06	1350 ± 185	< 12	< 12	< 43	< 14
	07/03/06	1310 ± 158	< 10	< 9	< 38	< 11
	07/17/06	1300 ± 74	< 4	< 4	< 18	< 6
	07/31/06	1310 ± 148	< 5	< 8	< 41	< 14
	08/14/06	1270 ± 142	< 5	< 6	< 32	< 10
	08/28/06	1260 ± 116	< 4	< 5	< 24	< 6
	09/11/06	1330 ± 184	< 7	< 8	< 33	< 11
	09/25/06	1220 ± 213	< 8	< 11	< 31	< 10
	10/09/06	1260 ± 108	< 4	< 5	< 40	< 13
	10/23/06	1130 ± 126	< 6	< 7	< 56	< 14
	11/06/06	1320 ± 157	< 6	< 7	< 52	< 13
	11/20/06	1180 ± 126	< 4	< 4	< 42	< 15
	12/18/06	1150 ± 123	< 6	< 6	< 18	< 5
	MEAN	1277 ± 163	7 ± 5	7 ± 5	37 ± 20	11 ± 6

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
T	01/15/06	1230 ± 153	< 11	< 11	< 38	< 12
	02/14/06	1210 ± 122	< 8	< 8	< 37	< 11
	03/13/06	1280 ± 129	< 8	< 8	< 38	< 11
	04/09/06	1250 ± 134	< 8	< 8	< 28	< 10
	04/23/06	1280 ± 46	< 2	< 2	< 44	< 15
	05/07/06	1240 ± 146	< 8	< 8	< 37	< 13
	05/21/06	1370 ± 141	< 8	< 8	< 43	< 14
	06/04/06	1230 ± 61	< 3	< 3	< 33	< 10
	06/19/06	1240 ± 194	< 13	< 13	< 44	< 13
	07/02/06	1240 ± 148	< 9	< 8	< 34	< 9
	07/17/06	1340 ± 62	< 3	< 4	< 17	< 5
	07/30/06	1230 ± 128	< 4	< 6	< 37	< 10
	08/14/06	1340 ± 157	< 6	< 8	< 32	< 10
	08/28/06	1330 ± 140	< 6	< 6	< 34	< 9
	09/11/06	1270 ± 212	< 8	< 10	< 47	< 13
	09/25/06	1230 ± 197	< 7	< 8	< 37	< 15
	10/09/06	1340 ± 120	< 4	< 5	< 42	< 11
	10/23/06	1360 ± 119	< 4	< 5	< 50	< 14
	11/06/06	1290 ± 128	< 5	< 5	< 40	< 15
	11/20/06	1290 ± 113	< 4	< 4	< 39	< 13
	12/18/06	1430 ± 158	< 7	< 8	< 29	< 8
	MEAN	1287 ± 119	7 ± 6	7 ± 5	37 ± 14	11 ± 5

TABLE C-VIII.1 CONCENTRATIONS OF GAMMA EMITTERS IN FOOD PRODUCT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

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	05/30/06	481 ± 165	< 21	< 24	< 19	< 122 (1)	< 22	< 20
Domestic Grape Leaves								
1Q	05/30/06	156 ± 101	< 12	< 15	< 11	(1)	< 12	< 12
Peas								
1Q	05/30/06	378 ± 116	< 18	< 24	< 20	< 131 (1)	< 17	< 18
Poke Weed								
1Q	07/03/06	878 ± 113	< 14	< 15	< 14	< 49	< 16	< 15
Cabbage								
1Q	07/03/06	2310 ± 121	< 12	< 13	< 11	< 47	< 13	< 12
Domestic Grape Leaves								
1Q	07/03/06	1090 ± 43	< 6	< 6	< 6	< 15	< 6	8 ± 5 (1)
Lettuce								
1Q	07/31/06	671 ± 83	< 5	< 6	< 5	< 53	< 5	< 5
Cabbage								
1Q	07/31/06	516 ± 234	< 21	< 22	< 21	< 52	< 15	< 18
Lettuce								
1Q	08/28/06	1010 ± 128	< 10	< 13	< 10	< 38	< 9	< 10
Corn Leaf								
1Q	08/28/06	560 ± 47	< 2	< 2	< 1	< 52	< 1	< 1
String Bean Leaves								
1Q	08/28/06	316 ± 43	< 1	< 2	< 3	< 50	< 1	< 1
Turnip Greens								
1Q	10/02/06	1200 ± 94	< 7	< 7	< 7	< 47	< 6	< 7
Unwashed Bean Leaves								
1Q	10/02/06	584 ± 95	< 8	< 9	< 9	< 56	< 7	< 9
Unwashed Celery Leaves								
1Q	10/02/06	161 ± 45	< 6	< 6	< 6	< 36	< 5	< 6
Unwashed Turnip Greens								
	MEAN	737 ± 1117	10 ± 13	12 ± 15	10 ± 13	57 ± 65	10 ± 13	10 ± 12

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

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

TABLE C-VIII.1 CONCENTRATIONS OF GAMMA EMITTERS IN FOOD PRODUCT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

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
2B Ferns	05/30/06	537 ± 272	< 26	< 32	< 25	< 62 (1)	< 32	< 24
2B Poke Weed	05/30/06	164 ± 39	< 3	< 4	< 3	< 53	< 3	< 3
2B Tulip Tree Leaves	05/30/06	346 ± 120	< 14	< 18	< 15	< 133 (1)	< 15	< 15
2B Cabbage	07/03/06	303 ± 106	< 18	< 17	< 19	< 43	< 18	< 18
2B Ferns	07/03/06	4020 ± 162	< 13	< 13	< 14	< 46	< 12	< 12
2B Lettuce	07/03/06	930 ± 34	< 4	< 5	< 5	< 11	< 4	5 ± 4 (1)
2B Cabbage	07/31/06	126 ± 62	< 5	< 5	< 5	< 48	< 4	< 5
2B Lettuce	07/31/06	306 ± 80	< 5	< 6	< 7	< 60	< 5	< 5
2B Cabbage	08/28/06	403 ± 43	< 1	< 2	< 1	< 45	< 1	< 1
2B Corn Leaf	08/28/06	680 ± 45	< 2	< 3	< 2	< 54	< 2	< 2
2B Lettuce	08/28/06	305 ± 35	< 1	< 2	< 1	< 52	< 1	< 2
2B Unwashed Beet Greens	10/02/06	381 ± 67	< 6	< 7	< 7	< 42	< 5	< 6
2B Unwashed Cabbage (Head)	10/02/06	< 62	< 6	< 7	< 8	< 45	< 5	< 6
2B Unwashed Turnip Greens	10/02/06	353 ± 66	< 7	< 9	< 8	< 47	< 6	< 7
	MEAN	637 ± 1998	8 ± 14	9 ± 16	9 ± 14	53 ± 52	8 ± 17	8 ± 14

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

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

TABLE C-VIII.1 CONCENTRATIONS OF GAMMA EMITTERS IN FOOD PRODUCT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

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 Cabbage	05/30/06	89 ± 47	< 7	< 9	< 7	< 63 (1)	< 8	< 7
55 Rhubarb	05/30/06	156 ± 69	< 11	< 13	< 12	< 38	< 10	< 10
55 Peas	05/30/06	< 193	< 16	< 20	< 16	< 65 (1)	< 16	< 16
55 Rhubarb	07/03/06	291 ± 54	< 9	< 10	< 9	< 30	< 10	< 10
55 Cabbage	07/03/06	555 ± 111	< 21	< 20	< 24	< 46	< 21	< 22
55 Corn Leaves	07/03/06	799 ± 156	< 20	< 24	< 25	< 60	< 23	< 22
55 Rhubarb	07/31/06	156 ± 65	< 6	< 6	< 5	< 51	< 5	< 5
55 Turnip Tops	07/31/06	522 ± 73	< 6	< 7	< 5	< 52	< 5	< 6
55 Corn Leaves	08/28/06	491 ± 102	< 3	< 4	< 3	< 37	< 3	< 3
55 Rhubarb	08/28/06	178 ± 27	< 2	< 3	< 2	< 58	< 2	< 2
55 Tobacco Leaves	08/28/06	176 ± 32	< 2	< 3	< 2	< 59	< 2	< 2
55 Unwashed Rhubarb Leaves	10/02/06	316 ± 36	< 4	< 4	< 4	< 26	< 3	< 4
55 Unwashed Sweet Corn Leaves	10/02/06	2070 ± 141	< 8	< 10	< 7	< 58	< 7	< 8
55 Unwashed Yam Leaves	10/02/06	806 ± 73	< 6	< 7	< 6	< 40	< 5	< 6
	MEAN	486 ± 1028	9 ± 12	10 ± 14	9 ± 15	49 ± 25	9 ± 14	9 ± 13

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

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

TABLE C-IX.1 QUARTERLY TLD RESULTS FOR PEACH BOTTOM ATOMIC POWER STATION, 2006

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

STATION CODE	MEAN ± 2 S. D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
1A	6.9 ± 1.7	7.9 ± 0.9	6.1 ± 0.5	7.2 ± 0.5	6.3 ± 0.5
1B	5.9 ± 1.7	6.8 ± 0.7	5.3 ± 0.2	6.5 ± 0.6	5.1 ± 0.6
1C	7.2 ± 1.6	7.9 ± 0.6	6.8 ± 0.3	7.9 ± 0.8	6.3 ± 0.4
1D	6.9 ± 1.4	7.7 ± 0.3	6.6 ± 0.4	7.3 ± 0.3	6.1 ± 0.4
1E	6.6 ± 1.5	7.5 ± 0.5	6.0 ± 0.4	7.0 ± 0.6	6.0 ± 0.5
1F	8.0 ± 1.7	9.0 ± 0.2	7.3 ± 0.6	8.4 ± 0.5	7.3 ± 0.6
1G	5.3 ± 1.7	6.3 ± 0.3	4.6 ± 0.5	5.7 ± 0.3	4.6 ± 0.3
1H	7.1 ± 1.7	8.0 ± 0.7	6.6 ± 0.3	7.7 ± 0.5	6.2 ± 0.2
1I	5.9 ± 1.7	6.9 ± 0.6	5.4 ± 0.3	6.3 ± 0.5	5.1 ± 0.2
1J	8.4 ± 3.3	8.8 ± 0.6	7.0 ± 0.8	11 ± 12	7.1 ± 0.5
1K	7.4 ± 1.5	8.4 ± 0.5	7.1 ± 0.5	7.5 ± 0.6	6.6 ± 0.4
1L	6.4 ± 1.5	7.0 ± 0.6	5.5 ± 0.9	7.0 ± 3.8	6.0 ± 0.4
1M	4.4 ± 1.4	5.1 ± 0.4	3.8 ± 0.3	4.8 ± 0.4	3.7 ± 0.4
1P	4.9 ± 1.8	5.8 ± 0.5	4.2 ± 0.2	5.5 ± 1.6	4.0 ± 0.3
1Q	5.5 ± 1.4	6.3 ± 0.7	4.9 ± 0.4	5.9 ± 0.3	4.9 ± 0.4
1R	8.5 ± 1.9	9.5 ± 0.7	7.7 ± 0.3	9.0 ± 0.4	7.6 ± 0.6
2	6.9 ± 1.5	7.8 ± 0.7	6.4 ± 0.3	7.1 ± 0.5	6.1 ± 0.6
2B	6.7 ± 2.1	7.8 ± 0.7	6.0 ± 0.6	7.3 ± 0.6	5.6 ± 0.5
3A	5.2 ± 1.6	6.1 ± 0.8	4.5 ± 0.4	5.7 ± 0.3	4.6 ± 0.2
4K	4.8 ± 1.5	5.5 ± 1.3	4.1 ± 0.2	5.4 ± 0.3	4.2 ± 1.2
5	6.5 ± 1.9	7.6 ± 0.5	5.8 ± 1.0	6.9 ± 0.6	5.5 ± 0.4
1NN	7.6 ± 1.9	8.5 ± 0.5	6.7 ± 0.4	8.3 ± 0.3	6.9 ± 0.3
6B	5.9 ± 1.5	6.6 ± 0.2	5.1 ± 0.4	6.4 ± 0.7	5.3 ± 0.4
14	5.9 ± 3.1	7.5 ± 0.8	6.2 ± 0.5	3.8 ± 8.2	6.0 ± 0.3
15	7.2 ± 1.6	8.2 ± 0.5	6.8 ± 0.6	7.3 ± 0.5	6.3 ± 0.5
16	6.8 ± 1.6	7.6 ± 0.6	6.4 ± 0.5	7.3 ± 0.4	5.9 ± 0.4
17	8.2 ± 2.2	8.9 ± 0.7	7.4 ± 0.5	9.3 ± 3.4	7.1 ± 0.5
18	7.2 ± 1.3	8.0 ± 0.2	6.8 ± 0.9	7.3 ± 0.3	6.5 ± 0.7
19	6.5 ± 1.6	7.4 ± 0.5	5.8 ± 0.4	7.0 ± 0.6	5.8 ± 0.3
22	7.1 ± 1.5	7.9 ± 0.6	6.6 ± 0.2	7.6 ± 0.9	6.3 ± 0.4
23	7.3 ± 1.5	8.1 ± 0.6	7.1 ± 0.7	7.7 ± 0.5	6.4 ± 0.2
24	5.7 ± 1.9	6.9 ± 0.4	5.0 ± 0.3	6.1 ± 0.7	4.9 ± 0.4
26	7.7 ± 1.7	8.5 ± 0.4	7.1 ± 0.5	8.3 ± 0.6	6.8 ± 0.5
27	7.4 ± 2.3	8.7 ± 1.2	6.6 ± 0.4	8.0 ± 0.6	6.3 ± 0.6
31A	5.7 ± 1.7	6.5 ± 0.6	5.2 ± 0.8	6.4 ± 0.4	4.8 ± 0.3
32	7.6 ± 1.9	8.5 ± 0.7	6.9 ± 0.3	8.3 ± 3.8	6.7 ± 0.4
40	8.0 ± 1.8	8.9 ± 0.6	7.1 ± 0.7	8.6 ± 0.4	7.4 ± 0.4
42	6.4 ± 2.4	7.7 ± 0.8	5.3 ± 0.5	7.1 ± 3.5	5.5 ± 0.4
43	7.8 ± 0.5	9.3 ± 1.1	6.8 ± 0.2	7.9 ± 0.4	6.7 ± 0.9
44	6.8 ± 1.6	7.6 ± 0.4	6.3 ± 0.2	7.3 ± 0.3	5.9 ± 0.3
45	7.4 ± 1.4	8.2 ± 0.4	6.9 ± 0.3	7.8 ± 0.5	6.7 ± 0.4
46	6.3 ± 1.8	7.2 ± 0.6	5.6 ± 0.4	7.0 ± 0.5	5.5 ± 0.2
47	7.7 ± 0.4	8.9 ± 1.3	7.4 ± 0.4	8.3 ± 0.5	7.1 ± 0.3
48	7.4 ± 1.8	8.4 ± 0.3	7.4 ± 1.8	7.6 ± 0.4	6.2 ± 0.4
49	6.9 ± 1.9	7.7 ± 0.5	6.2 ± 0.5	7.6 ± 0.4	5.9 ± 0.3
50	8.0 ± 1.7	8.6 ± 0.4	7.5 ± 0.4	8.8 ± 1.0	7.1 ± 0.6
51	7.3 ± 1.7	8.3 ± 0.7	6.6 ± 0.5	7.7 ± 0.7	6.5 ± 0.2

TABLE C-IX.2 **MEAN QUARTERLY TLD RESULTS FOR THE SITE BOUNDARY, INTERMEDIATE AND CONTROL LOCATIONS FOR PEACH BOTTOM ATOMIC POWER STATION, 2006**

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

COLLECTION PERIOD	SITE BOUNDARY ± 2 S. D.	INTERMEDIATE	CONTROL
JAN-MAR	7.6 ± 2.3	7.8 ± 1.9	7.5 ± 0.9
APR-JUN	6.1 ± 2.2	6.3 ± 1.9	6.0 ± 1.6
JUL-SEP	7.3 ± 2.7	7.3 ± 2.4	6.9 ± 1.1
OCT-DEC	5.9 ± 2.2	6.1 ± 1.6	5.8 ± 1.3

TABLE C-IX.3 **SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR PEACH BOTTOM ATOMIC POWER STATION, 2006**

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. MONTH

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S. D.	PRE-OP MEAN ± 2 S. D.
SITE BOUNDARY	92	3.8	9.3	6.9 ± 2.4	5.4 ± 1.7
INTERMEDIATE	80	3.7	11	6.7 ± 2.7	5.3 ± 1.3
CONTROL	16	4.9	8	6.5 ± 1.8	5.7 ± 1.8

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

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

CONTROL STATIONS - 16, 18, 19, 24

TABLE C-X.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

SURFACE WATER (TRITIUM LIQUID SCINTILLATION)

SAMPLING PERIOD	1LL	1MM
JAN-MAR	12/28/2005 - 03/29/2006	12/28/2005 - 03/29/2006
APR-JUN	03/29/2006 - 06/28/2006	03/29/2006 - 06/28/2006
JUL-SEP	06/28/2006 - 09/27/2006	06/28/2006 - 09/27/2006
OCT-DEC	09/27/2006 - 12/27/2006	09/27/2006 - 12/27/2006

SURFACE WATER (GAMMA SPECTROSCOPY)

SAMPLING PERIOD	1LL	1MM
JAN	12/28/2005 - 02/01/2006	12/28/2005 - 02/01/2006
FEB	02/01/2006 - 03/01/2006	02/01/2006 - 03/01/2006
MAR	03/01/2006 - 03/29/2006	03/01/2006 - 03/29/2006
APR	03/29/2006 - 05/03/2006	03/29/2006 - 05/03/2006
MAY	05/03/2006 - 05/31/2006	05/03/2006 - 05/31/2006
JUN	05/31/2006 - 06/28/2006	05/31/2006 - 06/28/2006
JUL	06/28/2006 - 08/02/2006	06/28/2006 - 08/02/2006
AUG	08/02/2006 - 08/30/2006	08/02/2006 - 08/30/2006
SEP	08/30/2006 - 09/27/2006	08/30/2006 - 09/27/2006
OCT	09/27/2006 - 11/01/2006	09/27/2006 - 11/01/2006
NOV	11/01/2006 - 11/29/2006	11/01/2006 - 11/29/2006
DEC	11/29/2006 - 12/27/2006	11/29/2006 - 12/27/2006

DRINKING WATER (TRITIUM)

SAMPLING PERIOD	4L	6I
JAN-MAR	12/30/2005 - 03/31/2006	12/30/2005 - 03/31/2006
APR-JUN	03/31/2006 - 06/30/2006	03/31/2006 - 06/30/2006
JUL-SEP	06/30/2006 - 09/28/2006	06/30/2006 - 09/28/2006
OCT-DEC	09/28/2006 - 12/28/2006	09/28/2006 - 12/28/2006

DRINKING WATER (GROSS BETA & GAMMA)

SAMPLING PERIOD	4L	6I
JAN	12/30/2005 - 02/03/2006	12/30/2005 - 02/03/2006
FEB	02/03/2006 - 03/03/2006	02/03/2006 - 03/03/2006
MAR	03/03/2006 - 03/31/2006	03/03/2006 - 03/31/2006
APR	03/31/2006 - 05/05/2006	03/31/2006 - 05/05/2006
MAY	05/05/2006 - 06/01/2006	05/05/2006 - 06/01/2006
JUN	06/01/2006 - 06/30/2006	06/01/2006 - 06/30/2006
JUL	06/30/2006 - 08/03/2006	06/30/2006 - 08/03/2006
AUG	08/03/2006 - 08/31/2006	08/03/2006 - 08/31/2006
SEP	08/31/2006 - 09/28/2006	08/31/2006 - 09/28/2006
OCT	09/28/2006 - 11/03/2006	09/28/2006 - 11/03/2006
NOV	11/03/2006 - 11/30/2006	11/03/2006 - 11/30/2006
DEC	11/30/2006 - 12/28/2006	11/30/2006 - 12/28/2006

TABLE C-X.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

AIR PARTICULATE (GAMMA SPECTROSCOPY)

SAMPLING PERIOD	1B	1Z	1C	3A	5H2
JAN-MAR	12/30 - 03/31/2006	12/30 - 03/31/2006	12/30 - 03/31/2006	12/30 - 03/31/2006	01/03 - 04/03/2006
APR-JUN	03/31 - 06/30/2006	03/31 - 06/30/2006	03/31 - 06/30/2006	03/31 - 06/30/2006	03/31 - 06/30/2006
JUL-SEP	06/30 - 09/28/2006	06/30 - 09/28/2006	06/30 - 09/28/2006	06/30 - 09/28/2006	07/03 - 10/02/2006
OCT-DEC	09/28 - 12/28/2006	09/28 - 12/28/2006	09/28 - 12/28/2006	09/28 - 12/28/2006	10/02 - 01/02/2007

AIR PARTICULATE (G. BETA & I-131)

WEEK	1B	1Z	1C	3A	5H2
1	12/30 - 01/06/2006	12/30 - 01/06/2006	12/30 - 01/06/2006	12/30 - 01/06/2006	01/03 - 01/09/2006
2	01/06 - 01/13/2006	01/06 - 01/13/2006	01/06 - 01/13/2006	01/06 - 01/13/2006	01/09 - 01/17/2006
3	01/13 - 01/20/2006	01/13 - 01/20/2006	01/13 - 01/20/2006	01/13 - 01/20/2006	01/17 - 01/24/2006
4	01/20 - 01/27/2006	01/20 - 01/27/2006	01/20 - 01/27/2006	01/20 - 01/27/2006	01/24 - 01/30/2006
5	01/27 - 02/03/2006	01/27 - 02/03/2006	01/27 - 02/03/2006	01/27 - 02/03/2006	01/30 - 02/06/2006
6	02/03 - 02/10/2006	02/03 - 02/10/2006	02/03 - 02/10/2006	02/03 - 02/10/2006	02/06 - 02/13/2006
7	02/10 - 02/17/2006	02/10 - 02/17/2006	02/10 - 02/17/2006	02/10 - 02/17/2006	02/13 - 02/21/2006
8	02/17 - 02/24/2006	02/17 - 02/24/2006	02/17 - 02/24/2006	02/17 - 02/24/2006	02/21 - 02/27/2006
9	02/24 - 03/03/2006	02/24 - 03/03/2006	02/24 - 03/03/2006	02/24 - 03/03/2006	02/27 - 03/06/2006
10	03/03 - 03/10/2006	03/03 - 03/10/2006	03/03 - 03/10/2006	03/03 - 03/10/2006	03/06 - 03/13/2006
11	03/10 - 03/17/2006	03/10 - 03/17/2006	03/10 - 03/17/2006	03/10 - 03/17/2006	03/13 - 03/20/2006
12	03/17 - 03/24/2006	03/17 - 03/24/2006	03/17 - 03/24/2006	03/17 - 03/24/2006	03/20 - 03/27/2006
13	03/24 - 03/31/2006	03/24 - 03/31/2006	03/24 - 03/31/2006	03/24 - 03/31/2006	03/27 - 04/03/2006
14	03/31 - 04/07/2006	03/31 - 04/07/2006	03/31 - 04/07/2006	03/31 - 04/07/2006	04/03 - 04/10/2006
15	04/07 - 04/14/2006	04/07 - 04/14/2006	04/07 - 04/14/2006	04/07 - 04/14/2006	04/10 - 04/17/2006
16	04/14 - 04/21/2006	04/14 - 04/21/2006	04/14 - 04/21/2006	04/14 - 04/21/2006	04/17 - 04/24/2006
17	04/21 - 04/28/2006	04/21 - 04/28/2006	04/21 - 04/28/2006	04/21 - 04/28/2006	04/24 - 05/01/2006
18	04/28 - 05/05/2006	04/28 - 05/05/2006	04/28 - 05/05/2006	04/28 - 05/05/2006	05/01 - 05/09/2006
19	05/05 - 05/12/2006	05/05 - 05/12/2006	05/05 - 05/12/2006	05/05 - 05/12/2006	05/09 - 05/15/2006
20	05/12 - 05/19/2006	05/12 - 05/19/2006	05/12 - 05/19/2006	05/12 - 05/19/2006	05/15 - 05/22/2006
21	05/19 - 05/26/2006	05/19 - 05/26/2006	05/19 - 05/26/2006	05/19 - 05/26/2006	05/22 - 05/30/2006
22	05/26 - 06/01/2006	05/26 - 06/01/2006	05/26 - 06/01/2006	05/26 - 06/01/2006	05/30 - 06/05/2006
23	06/01 - 06/08/2006	06/01 - 06/08/2006	06/01 - 06/08/2006	06/01 - 06/08/2006	06/05 - 06/12/2006
24	06/08 - 06/15/2006	06/08 - 06/15/2006	06/08 - 06/15/2006	06/08 - 06/15/2006	06/12 - 06/19/2006
25	06/15 - 06/23/2006	06/15 - 06/23/2006	06/15 - 06/23/2006	06/15 - 06/23/2006	06/19 - 06/26/2006
26	06/23 - 06/30/2006	06/23 - 06/30/2006	06/23 - 06/30/2006	06/23 - 06/30/2006	06/26 - 07/03/2006
27	06/30 - 07/07/2006	06/30 - 07/07/2006	06/30 - 07/07/2006	06/30 - 07/07/2006	07/03 - 07/10/2006
28	07/07 - 07/14/2006	07/07 - 07/14/2006	07/07 - 07/14/2006	07/07 - 07/14/2006	07/10 - 07/17/2006
29	07/14 - 07/20/2006	07/14 - 07/20/2006	07/14 - 07/20/2006	07/14 - 07/20/2006	07/17 - 07/24/2006
30	07/20 - 07/27/2006	07/20 - 07/27/2006	07/20 - 07/27/2006	07/20 - 07/27/2006	07/24 - 07/31/2006
31	07/27 - 08/03/2006	07/27 - 08/03/2006	07/27 - 08/03/2006	07/27 - 08/03/2006	07/31 - 08/08/2006
32	08/03 - 08/10/2006	08/03 - 08/10/2006	08/03 - 08/10/2006	08/03 - 08/10/2006	08/08 - 08/14/2006
33	08/10 - 08/17/2006	08/10 - 08/17/2006	08/10 - 08/17/2006	08/10 - 08/17/2006	08/14 - 08/21/2006
34	08/17 - 08/24/2006	08/17 - 08/24/2006	08/17 - 08/24/2006	08/17 - 08/24/2006	08/21 - 08/28/2006
35	08/24 - 08/31/2006	08/24 - 08/31/2006	08/24 - 08/31/2006	08/24 - 08/31/2006	08/28 - 09/05/2006
36	08/31 - 09/07/2006	08/31 - 09/07/2006	08/31 - 09/07/2006	08/31 - 09/07/2006	09/05 - 09/12/2006
37	09/07 - 09/14/2006	09/07 - 09/14/2006	09/07 - 09/14/2006	09/07 - 09/14/2006	09/12 - 09/18/2006
38	09/14 - 09/21/2006	09/14 - 09/21/2006	09/14 - 09/21/2006	09/14 - 09/21/2006	09/18 - 09/25/2006
39	09/21 - 09/28/2006	09/21 - 09/28/2006	09/21 - 09/28/2006	09/21 - 09/28/2006	09/25 - 10/02/2006
40	09/28 - 10/05/2006	09/28 - 10/05/2006	09/28 - 10/05/2006	09/28 - 10/05/2006	10/02 - 10/09/2006
41	10/05 - 10/12/2006	10/05 - 10/12/2006	10/05 - 10/12/2006	10/05 - 10/12/2006	10/09 - 10/16/2006
42	10/12 - 10/19/2006	10/12 - 10/19/2006	10/12 - 10/19/2006	10/12 - 10/19/2006	10/16 - 10/23/2006
43	10/19 - 10/26/2006	10/19 - 10/26/2006	10/19 - 10/26/2006	10/19 - 10/26/2006	10/23 - 10/30/2006
44	10/26 - 11/03/2006	10/26 - 11/03/2006	10/26 - 11/03/2006	10/26 - 11/03/2006	10/30 - 11/06/2006
45	11/03 - 11/09/2006	11/03 - 11/09/2006	11/03 - 11/09/2006	11/03 - 11/09/2006	11/06 - 11/13/2006
46	11/09 - 11/16/2006	11/09 - 11/16/2006	11/09 - 11/16/2006	11/09 - 11/16/2006	11/13 - 11/20/2006
47	11/16 - 11/24/2006	11/16 - 11/24/2006	11/16 - 11/24/2006	11/16 - 11/24/2006	11/20 - 11/27/2006
48	11/24 - 11/30/2006	11/24 - 11/30/2006	11/24 - 11/30/2006	11/24 - 11/30/2006	11/27 - 12/04/2006
49	11/30 - 12/07/2006	11/30 - 12/07/2006	11/30 - 12/07/2006	11/30 - 12/07/2006	12/04 - 12/11/2006
50	12/07 - 12/15/2006	12/07 - 12/15/2006	12/07 - 12/15/2006	12/07 - 12/15/2006	12/11 - 12/18/2006
51	12/15 - 12/21/2006	12/15 - 12/21/2006	12/15 - 12/21/2006	12/15 - 12/21/2006	12/18 - 12/26/2006
52	12/21 - 12/28/2006	12/21 - 12/28/2006	12/21 - 12/28/2006	12/21 - 12/28/2006	12/26 - 01/02/2007

TABLE C-X.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

TLD

STATION CODE	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC
1A	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1B	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1C	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1D	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1E	01/05/2006 - 03/30/2006	03/30/2006 - 06/29/2006	06/29/2006 - 09/29/2006	09/29/2006 - 01/04/2007
1F	01/05/2006 - 03/30/2006	03/30/2006 - 06/29/2006	06/29/2006 - 09/29/2006	09/29/2006 - 01/05/2007
1G	01/05/2006 - 03/30/2006	03/30/2006 - 06/29/2006	06/29/2006 - 09/29/2006	09/29/2006 - 01/04/2007
1H	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1I	01/06/2006 - 03/31/2006	03/31/2006 - 06/29/2006	06/29/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1J	01/05/2006 - 03/30/2006	03/30/2006 - 06/29/2006	06/29/2006 - 09/29/2006	09/29/2006 - 01/05/2007
1K	01/05/2006 03/31/2006	03/31/2006 06/30/2006	06/30/2006 09/28/2006	09/28/2006 - 01/04/2007
1L	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1M	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1P	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1Q	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1R	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
2	01/05/2006 - 03/30/2006	03/30/2006 - 06/29/2006	06/29/2006 - 09/29/2006	09/29/2006 - 01/05/2007
2B	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
3A	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
4K	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
5	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
1NN	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
6B	01/06/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
14	01/04/2006 - 03/31/2006	03/31/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
15	01/04/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
16	01/04/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
17	01/04/2006 - 03/31/2006	03/31/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
18	01/04/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
19	01/04/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
22	01/04/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
23	01/05/2006 - 03/31/2006	03/31/2006 - 06/29/2006	06/29/2006 - 09/29/2006	09/29/2006 - 01/05/2007
24	01/05/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
26	01/05/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
27	01/05/2006 - 03/31/2006	03/31/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/04/2007
31A	01/05/2006 - 03/31/2006	03/31/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
32	01/05/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
40	01/05/2006 - 03/30/2006	03/30/2006 - 06/29/2006	06/29/2006 - 09/29/2006	09/29/2006 - 01/05/2007
42	01/04/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
43	01/04/2006 - 03/31/2006	03/31/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
44	01/04/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
45	01/04/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
46	01/04/2006 - 03/29/2006	03/29/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
47	01/04/2006 - 03/29/2006	03/29/2006 - 06/30/2006	06/30/2006 - 09/28/2006	09/28/2006 - 01/04/2007
48	01/04/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
49	01/04/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
50	01/04/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/29/2006	09/29/2006 - 01/05/2007
51	01/04/2006 - 03/29/2006	03/29/2006 - 06/28/2006	06/28/2006 - 09/28/2006	09/28/2006 - 01/04/2007

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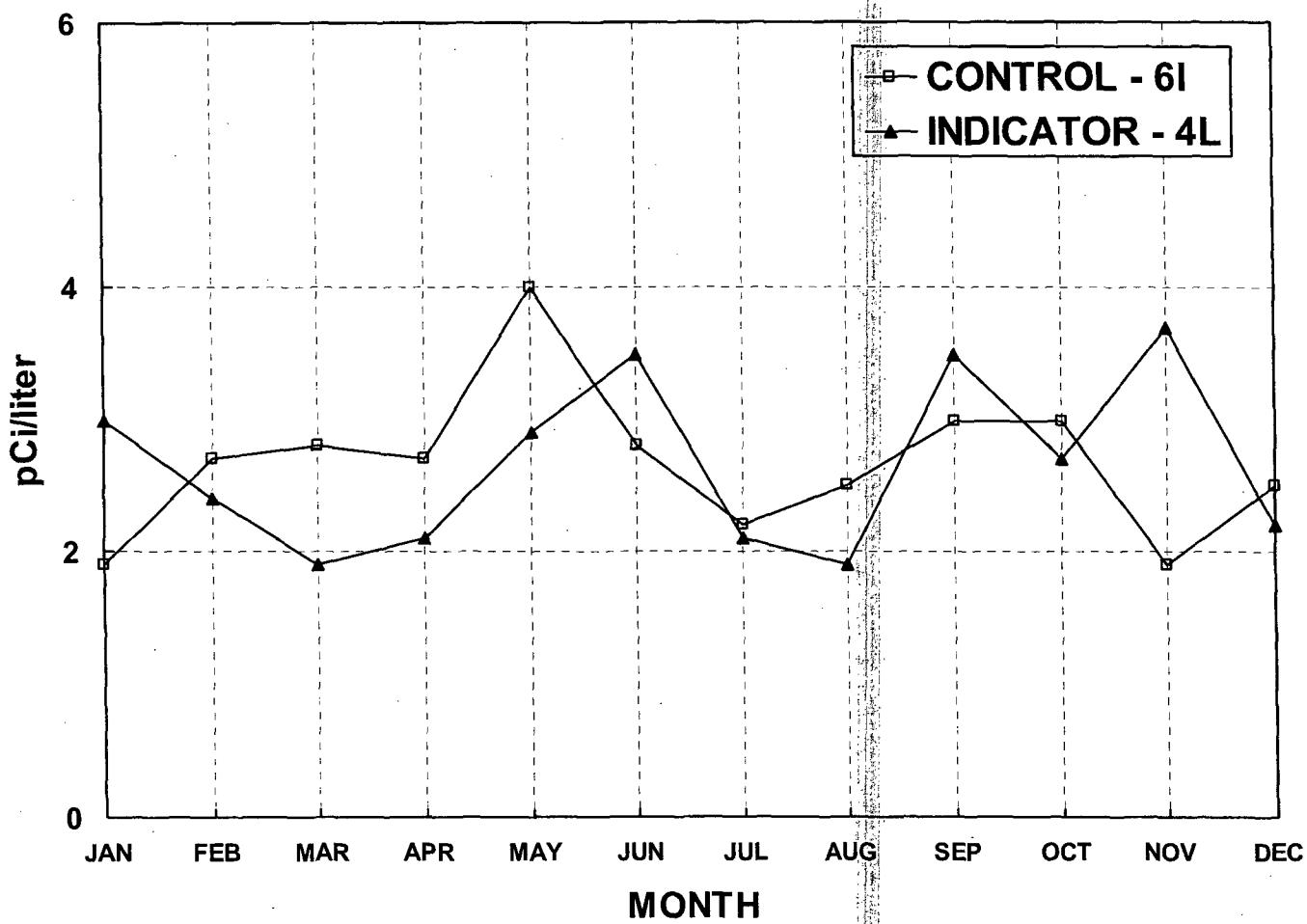
FIGURE C-1
MONTHLY TOTAL GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2006



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 - 2006

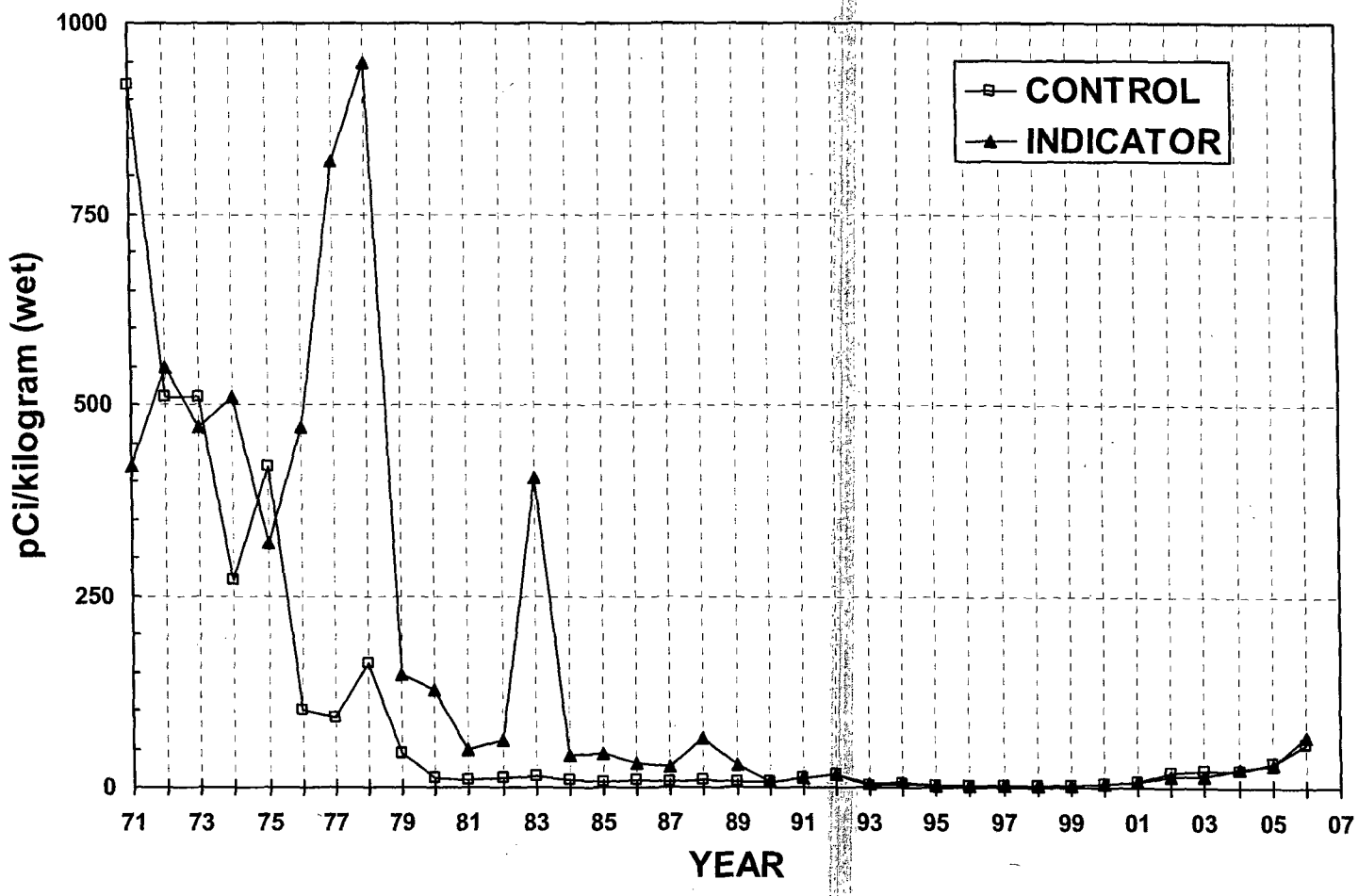
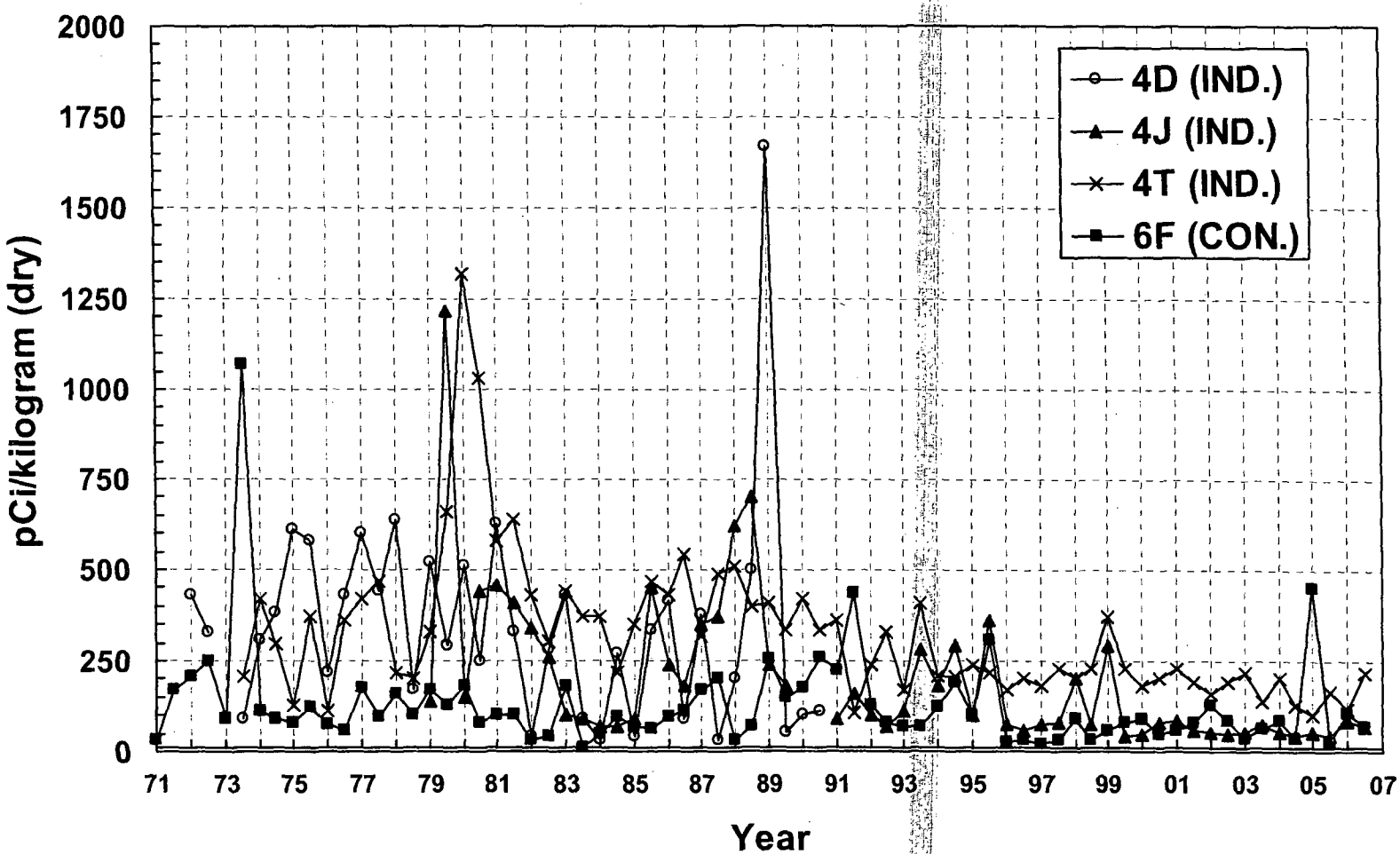


FIGURE C-3
CONCENTRATIONS OF CS-137 IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 – 2006



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, 2006

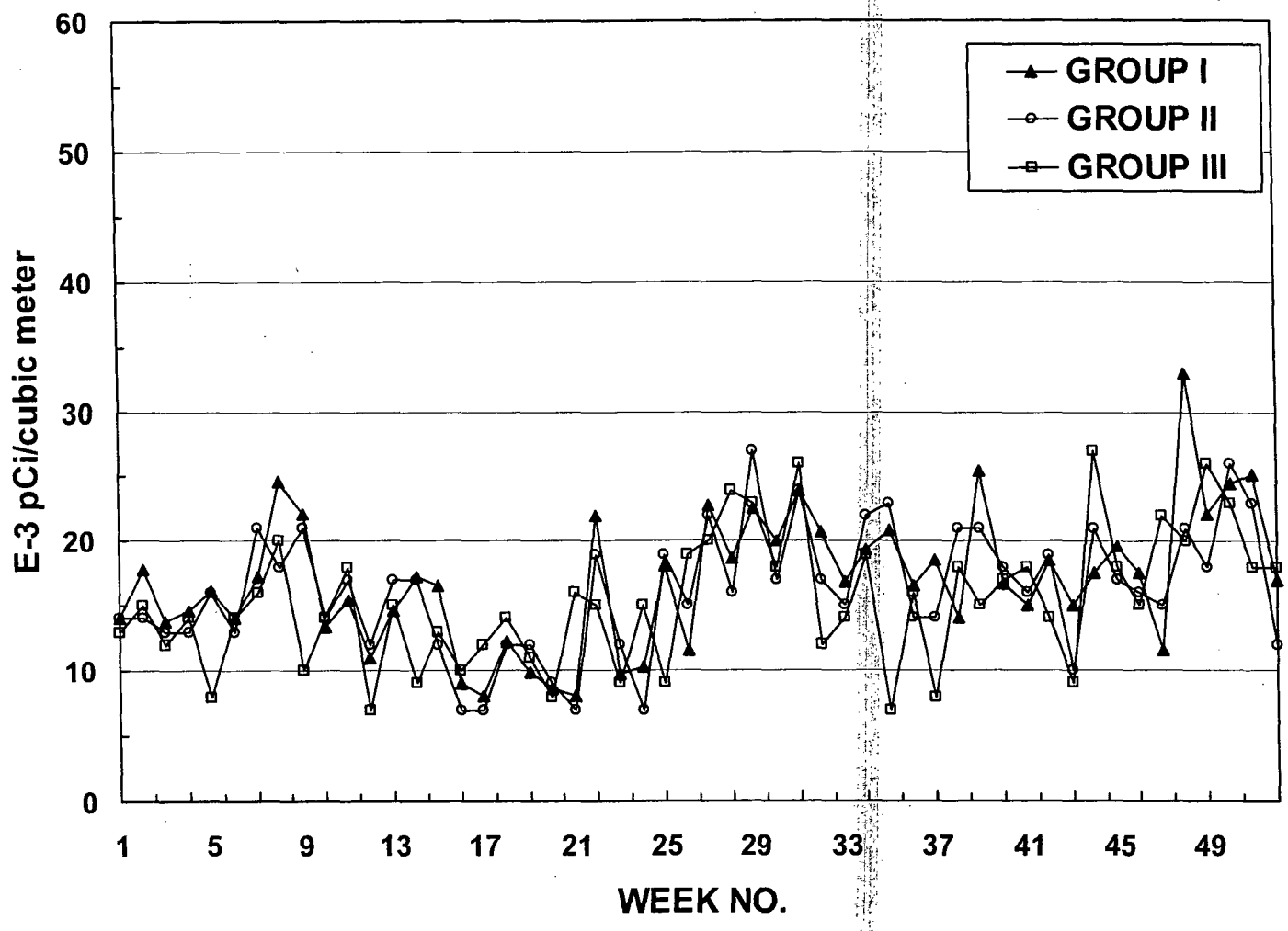


FIGURE C-5
MEAN MONTHLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATE
SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1970 – 2006

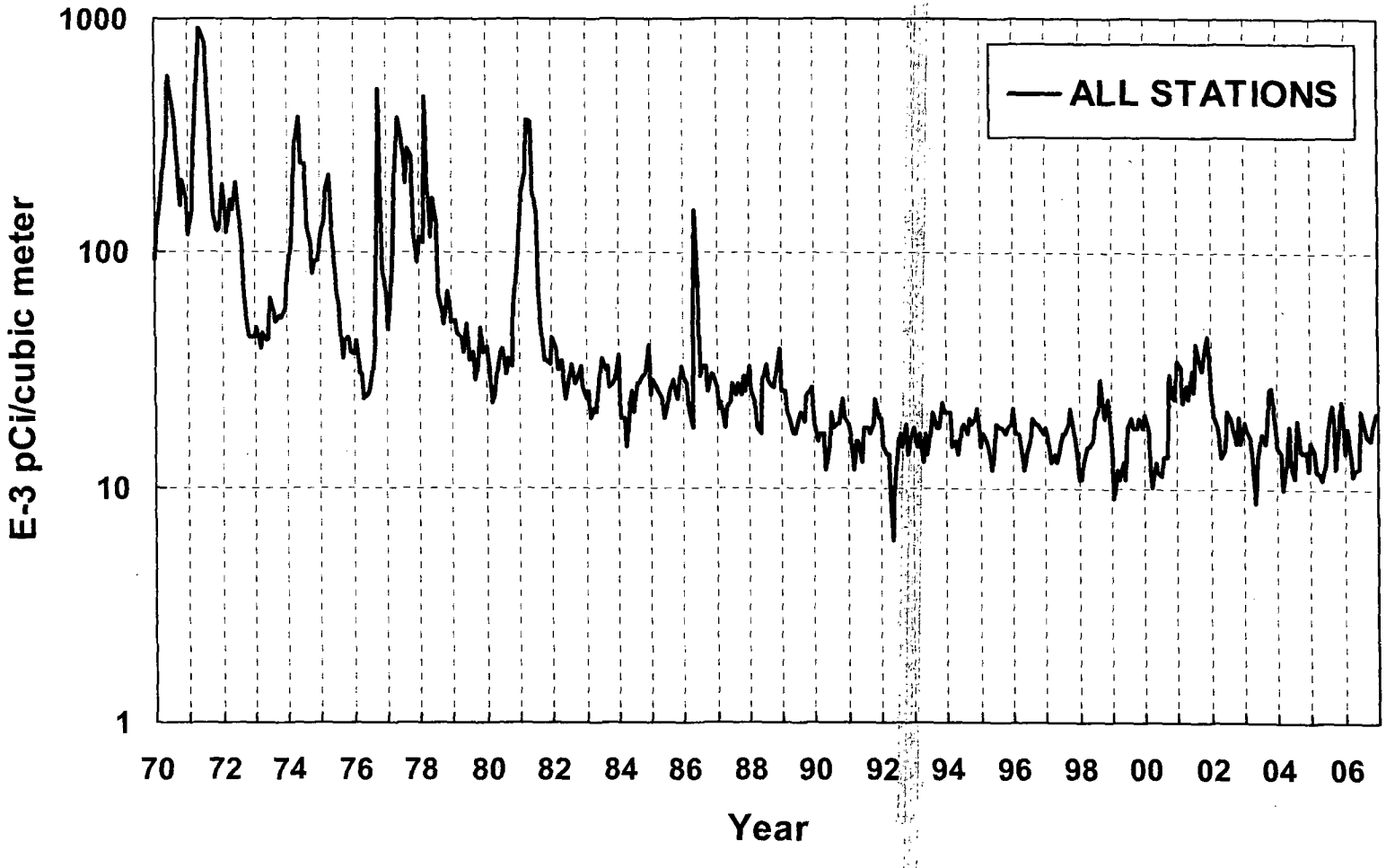
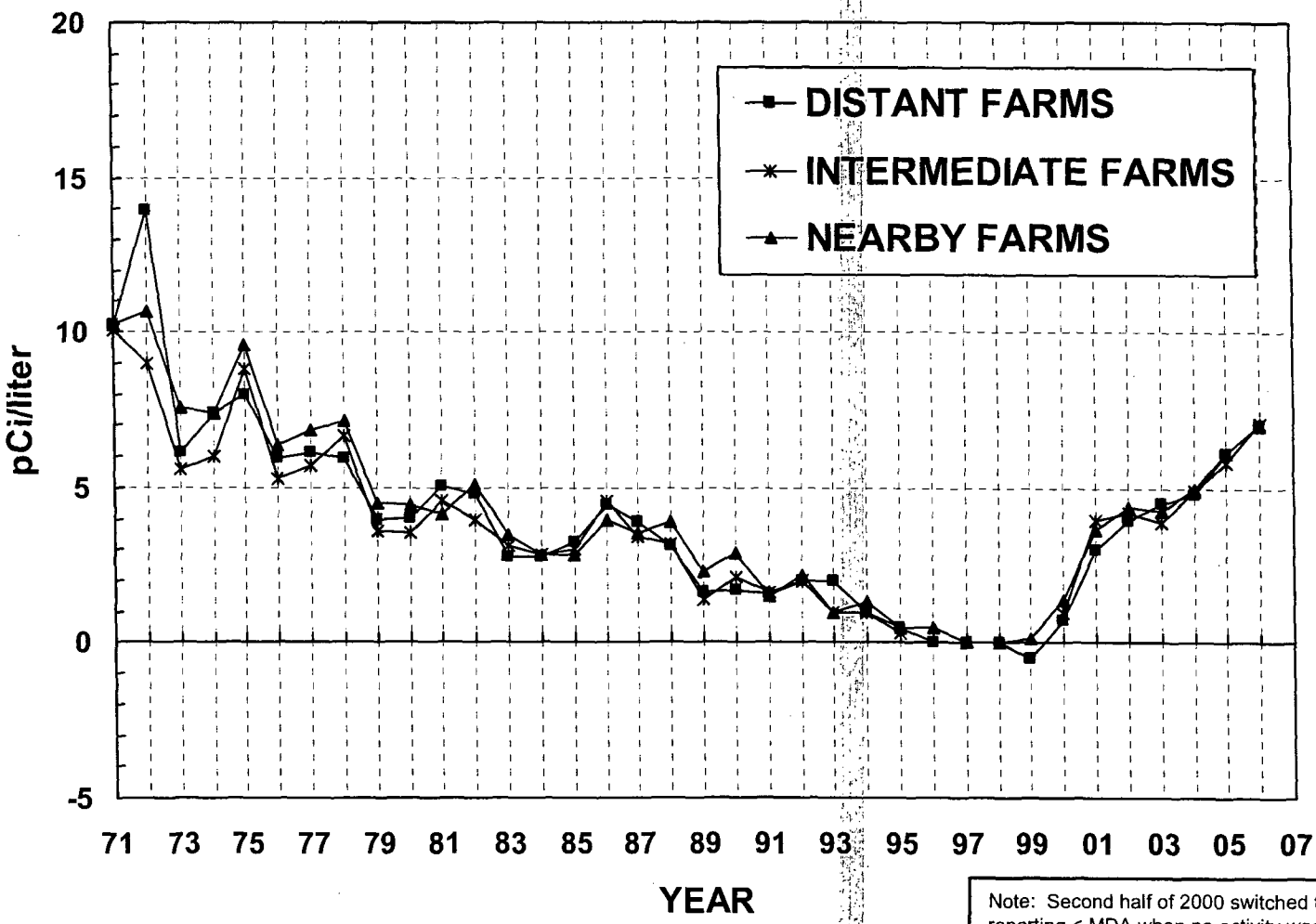


FIGURE C-6
MEAN ANNUAL CS-137 CONCENTRATIONS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 - 2006



Intermediate Farms Discontinued from 1995 - 1999

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

FIGURE C- 7
MEAN QUARTERLY AMBIENT GAMMA RADIATION LEVELS (TLD) IN THE VICINITY OF PBAPS, 1973 - 2006

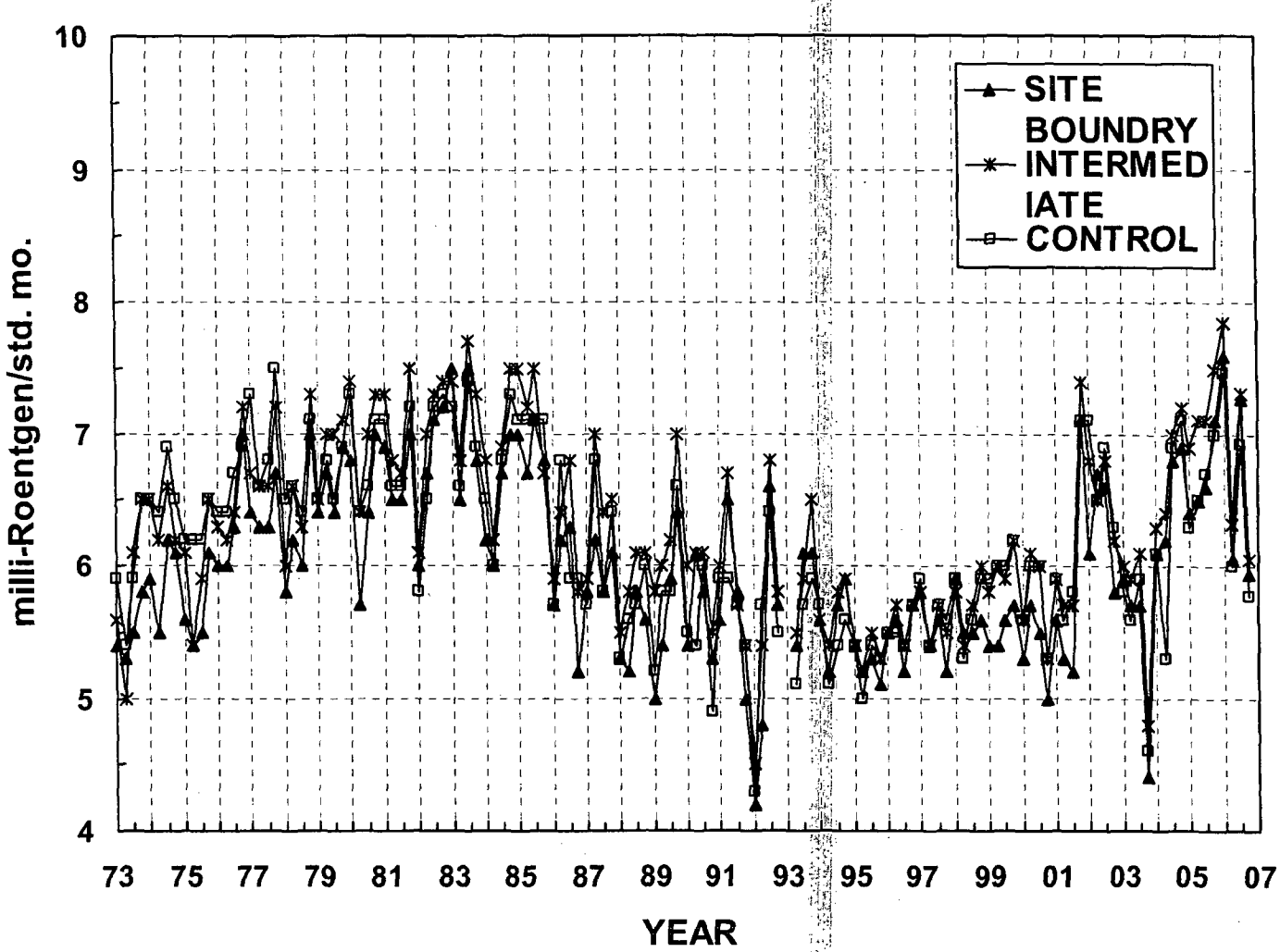
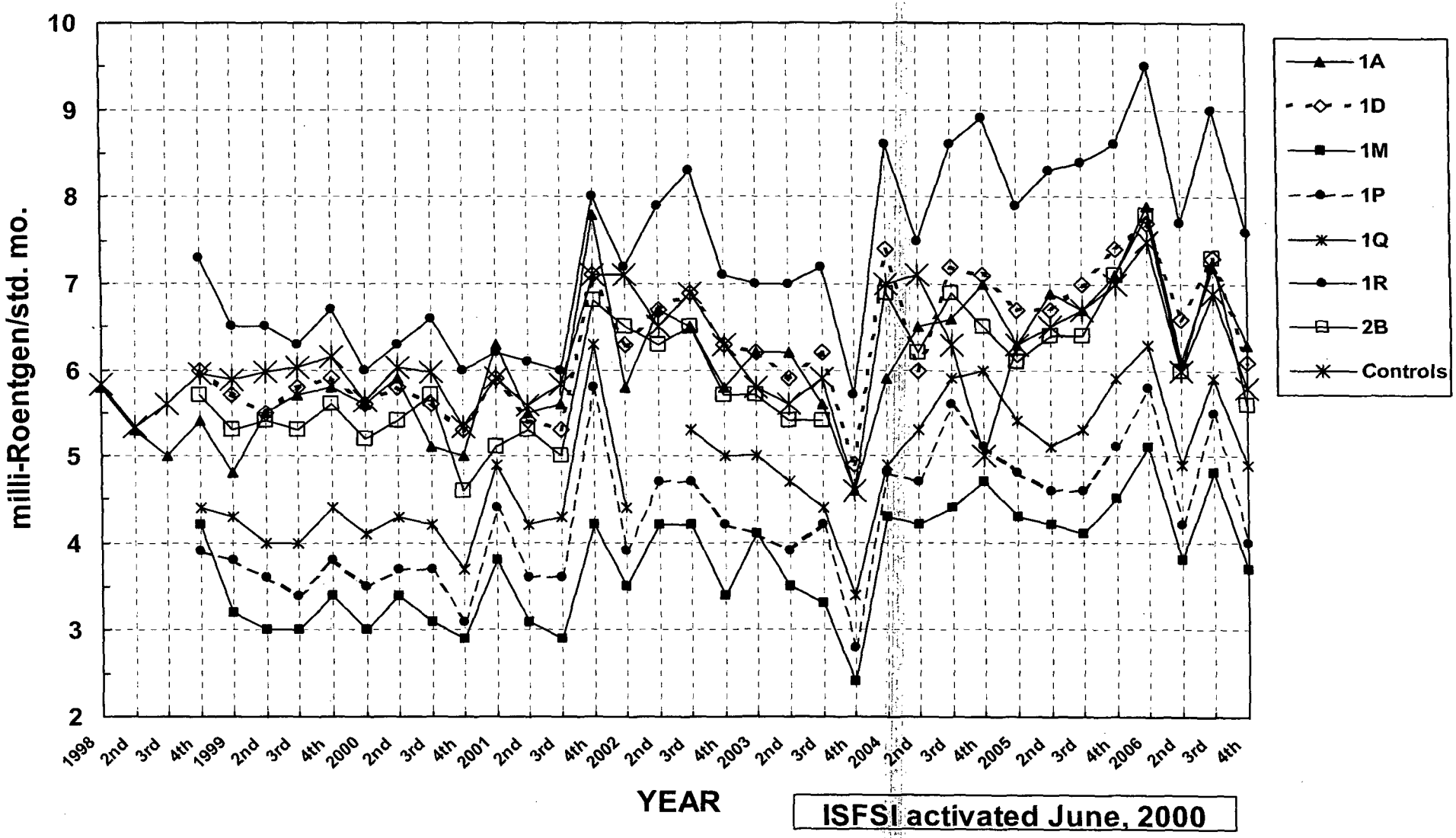


FIGURE C-8
QUARTERLY AMBIENT GAMMA RADIATION LEVELS (TLD) NEAR THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION LOCATED AT PBAPS, 1998 - 2006



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, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L
JAN	< 1.9
FEB	< 1.9
MAR	< 1.7
APR	< 1.9
MAY	< 2.1
JUN	< 1.9
JUL	< 1.9
AUG	< 1.9
SEP	< 2.1
OCT	< 1.9
NOV	< 1.8
DEC	< 1.9
MEAN	1.9 ± 0.2

TABLE D-I.2 CONCENTRATIONS OF GROSS BETA SOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	4L
JAN	< 1.7
FEB	< 1.8
MAR	< 1.9
APR	< 1.8
MAY	< 0.8
JUN	< 1.6
JUL	< 1.8
AUG	< 1.7
SEP	< 1.8
OCT	< 1.7
NOV	< 0.9
DEC	< 1.8
MEAN	1.6 ± 0.7

TABLE D-I.3 CONCENTRATIONS OF GAMMA EMITTERS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

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	< 7	< 3	< 4	< 2	< 3	< 2	< 3	< 14	< 2
	FEB	< 4	< 4	< 9	< 4	< 11	< 7	< 5	< 5	< 7	< 24	< 3
	MAR	< 2.4	< 2.4	< 10	< 3.6	< 5.2	< 5.3	< 1.9	< 3.6	< 2.4	< 12	< 4.8
	APR	< 1.7	< 2.8	< 8.5	< 1.4	< 5.3	< 3.5	< 2.6	< 2.7	< 3.1	< 14	< 2
	MAY	< 2	< 1.6	< 6.3	< 2.5	< 4	< 4	< 3	< 2.9	< 2.3	< 14	< 3.2
	JUN	< 2.6	< 2.7	< 4.6	< 1.4	< 2.2	< 2.7	< 3.5	< 3.7	< 2.6	< 15	< 2.3
	JUL	< 5.2	< 2.6	< 7.2	< 3.2	< 5.2	< 5.3	< 2.7	< 4.7	< 4.8	< 21	< 4.8
	AUG	< 4.2	< 3.6	< 12	< 4.4	< 7.2	< 10	< 4.1	< 5.5	< 5.4	< 24	< 3.3
	SEP	< 3.4	< 2.2	< 6.4	< 1.9	< 3.6	< 4.6	< 2.6	< 4.8	< 2.7	< 15	< 2.3
	OCT	< 2.7	< 3.1	< 4.9	< 3.2	< 2.3	< 6	< 2.9	< 2.9	< 4	< 15	< 3.5
	NOV	< 2.6	< 2	< 7.8	< 3.1	< 5.1	< 3	< 1.4	< 3.8	< 2.5	< 14	< 2.1
	DEC	< 2.6	< 1.4	< 5.9	< 2.6	< 4.7	< 3.9	< 3.4	< 2.6	< 3.3	< 12	< 2.4
	MEAN	3 ± 2	3 ± 1	7 ± 4	3 ± 2	5 ± 5	5 ± 4	3 ± 2	4 ± 2	4 ± 3	16 ± 9	3 ± 2

TABLE D-II.1 CONCENTRATIONS OF GROSS BETA INSOLUBLE IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

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

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

TABLE D-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006**

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	12/30 - 03/31/06	65 ± 13.8	< 0.9	< 0.4	< 0.8	< 0.6	< 0.6
	04/01 - 06/27/05	97 ± 18.1	< 0.5	< 1.0	< 0.7	< 0.7	< 0.6
	07/01 - 09/30/05	91 ± 15	< 0.7	< 0.5	< 1.0	< 0.5	< 0.6
	09/30 - 12/30/05	64 ± 15.4	< 0.5	< 0.9	< 1.1	< 0.6	< 0.4
	MEAN	79 ± 35	0.7 ± 0.4	0.7 ± 0.6	0.9 ± 0.4	0.6 ± 0.2	0.6 ± 0.2

TABLE D-III.1 CONCENTRATIONS OF I-131 BY CHEMICAL SEPARATION AND GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	I-131	K-40	Cs-134	Cs-137	Ba-140	La-140
J	02/13/06	< 0.3	1328 ± 103	< 3	< 4	< 21	< 2
	05/22/05	< 0.1	1401 ± 111	< 2	< 4	< 9	< 2
	08/01/05	< 0.4	1300 ± 109	< 3	< 3	< 10	< 3
	11/06/05	< 0.4	1497 ± 119	< 4	< 3	< 15	< 2
	MEAN	0.30 ± 0.28	1381 ± 176	3 ± 1	3 ± 1	14 ± 11	2 ± 1
O	02/13/06	< 0.4	1279 ± 106	< 4	< 3	< 14	< 3
	05/22/05	< 0.2	1240 ± 91	< 2	< 2	< 14	< 2
	08/01/05	< 0.3	1438 ± 127	< 5	< 3	< 13	< 4
	11/06/05	< 0.3	1220 ± 113	< 4	< 4	< 18	< 5
	MEAN	0.30 ± 0.16	1295 ± 198	4 ± 3	3 ± 1	15 ± 4	3 ± 2
T	02/14/06	< 0.3	1285 ± 123	< 2	< 2	< 25	< 3
	02/13/06	< 0.3	1187 ± 119	< 5	< 3	< 17	< 3
	05/22/05	< 0.4	1249 ± 182	< 4	< 7	< 25	< 4
	08/01/05	< 0.4	1295 ± 121	< 3	< 4	< 17	< 3
	MEAN	0.35 ± 0.12	1254 ± 98	4 ± 2	4 ± 4	21 ± 9	4 ± 1

TABLE D-IV.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2006

DRINKING WATER (GROSS BETA & GAMMA SPECTROSCOPY)

COLLECTION PERIOD	4L
JAN	12/30/05 - 02/03/06
FEB	02/03/06 - 03/03/06
MAR	03/03/06 - 03/31/06
APR	03/31/06 - 05/05/06
MAY	05/06/06 - 06/01/01
JUN	06/01/06 - 06/30/06
JUL	06/30/06 - 08/03/06
AUG	08/03/06 - 08/31/06
SEP	08/31/06 - 09/28/06
OCT	09/28/06 - 11/03/06
NOV	11/03/06 - 11/30/06
DEC	11/30/06 - 12/28/06

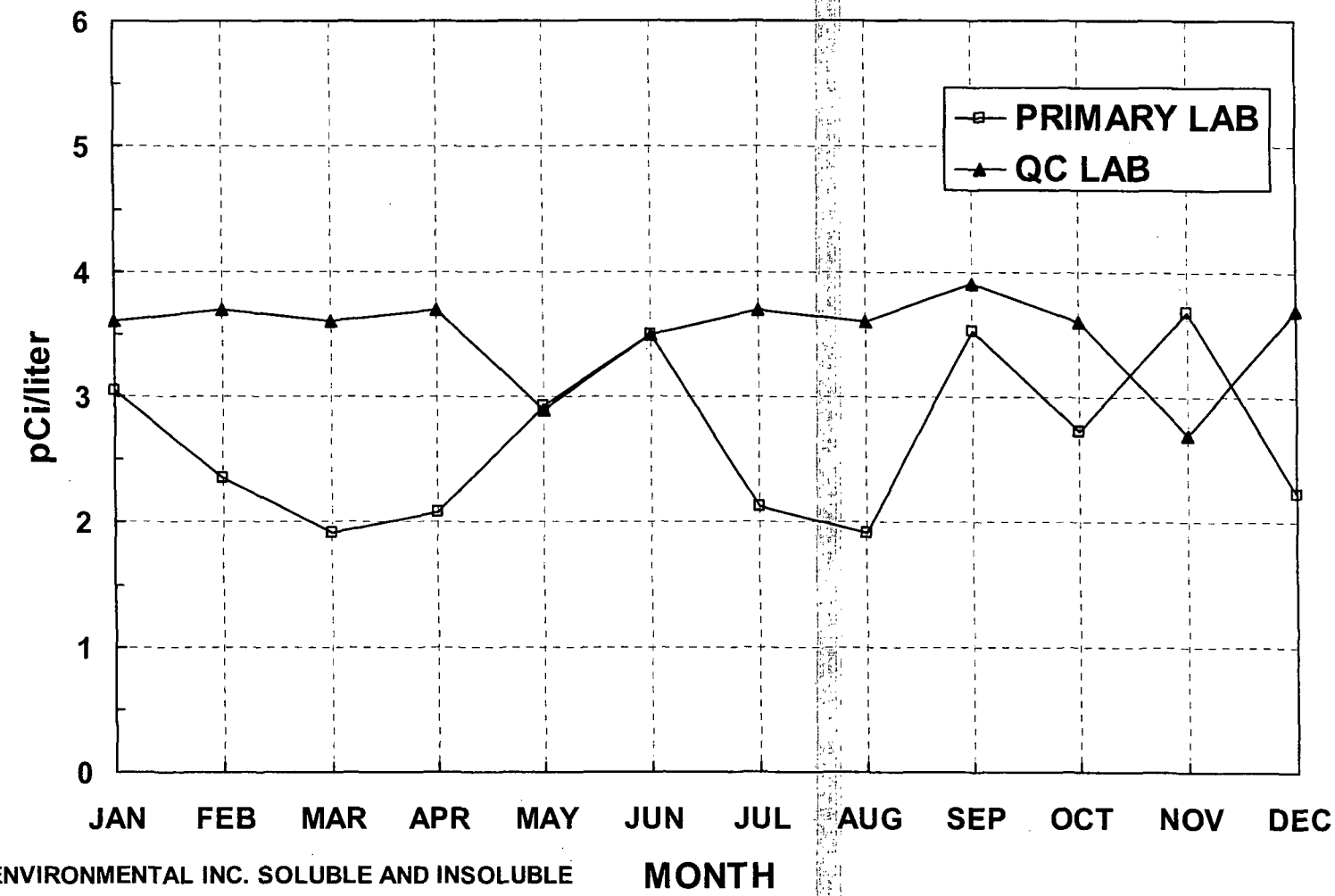
AIR PARTICULATE (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	1A
JAN-MAR	12/30/05 - 03/31/06
APR-JUN	03/31/06 - 06/30/06
JUL-SEP	06/30/06 - 09/28/06
OCT-DEC	09/28/06 - 12/28/06

AIR PARTICULATE (GROSS BETA)

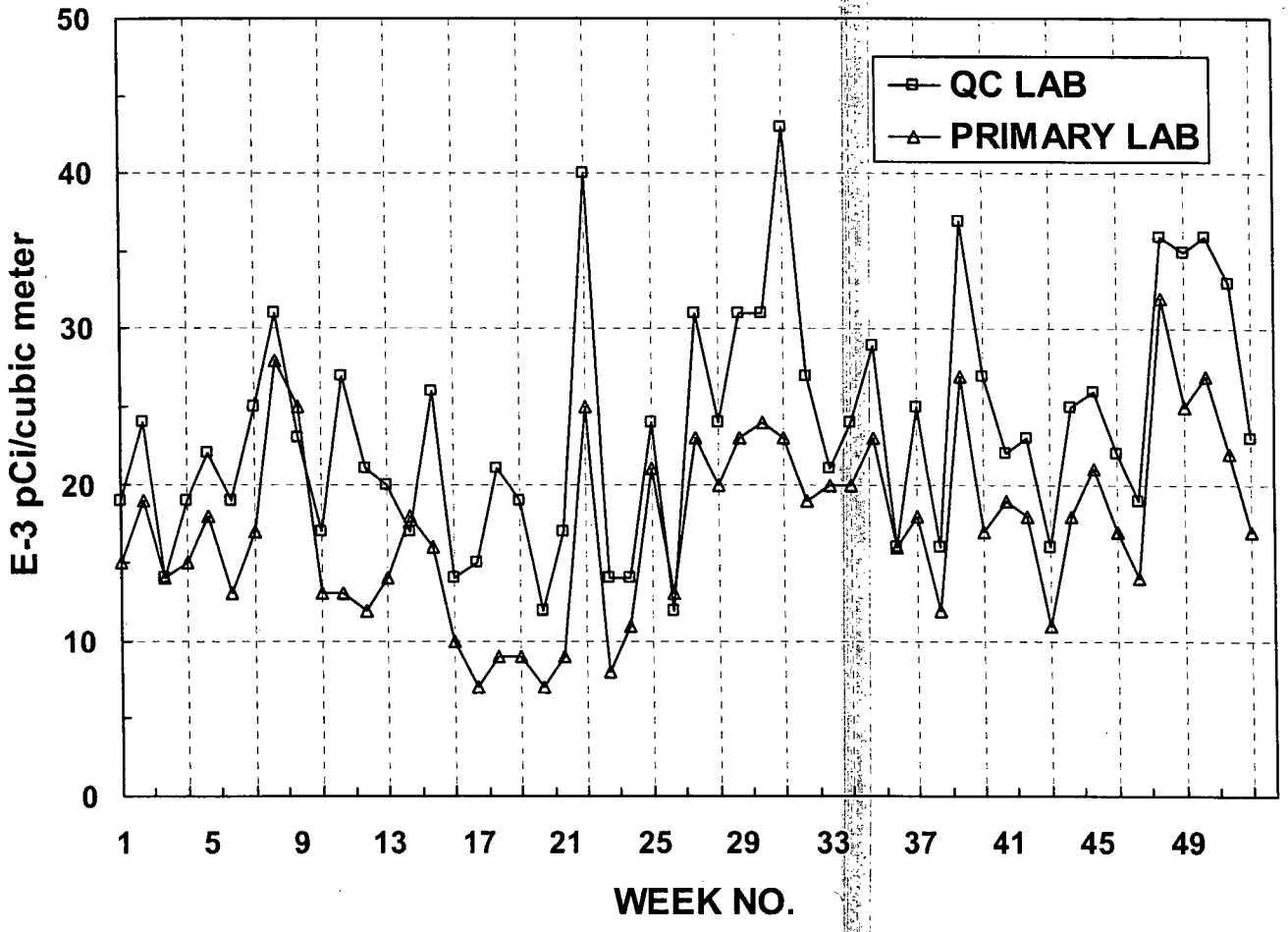
COLLECTION PERIOD	1A	COLLECTION PERIOD	1A
1	12/30/05 - 01/06/06	27	06/30/06 - 07/07/06
2	01/06/06 - 01/13/06	28	07/07/06 - 07/14/06
3	01/13/06 - 01/20/06	29	07/14/06 - 07/20/06
4	01/20/06 01/27/06	30	07/20/06 - 07/27/06
5	01/27/06 - 02/03/06	31	07/27/06 - 08/03/06
6	02/03/06 - 02/10/06	32	08/03/06 -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

FIGURE D-1
COMPARISON OF MONTHLY TOTAL GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2006



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, 2006



APPENDIX E

INTER-LABORATORY COMPARISON PROGRAM

TABLE E-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2006	E4964-396	Milk	Sr-89	pCi/L	91.5	99.2	0.92	A
			Sr-90	pCi/L	12.2	10.8	1.13	A
	E4965-396	Milk	I-131	pCi/L	74.4	78.0	0.95	A
			Ce-141	pCi/L	95.1	104	0.91	A
			Cr-51	pCi/L	278	280	0.99	A
			Cs-134	pCi/L	103	121	0.85	A
			Cs-137	pCi/L	87.6	88.8	0.99	A
			Co-58	pCi/L	93.9	105	0.89	A
			Mn-54	pCi/L	90.0	93.3	0.96	A
			Fe-59	pCi/L	83.0	86.6	0.96	A
			Zn-65	pCi/L	178	176	1.01	A
			Co-60	pCi/L	118	128	0.92	A
	E4967-396	AP	Ce-141	pCi	89.9	74	1.21	W
			Cr-51	pCi	253	200	1.27	W
			Cs-134	pCi	71.5	86.1	0.83	A
			Cs-137	pCi	67.5	63.3	1.07	A
			Co-58	pCi	79.7	74.6	1.07	A
			Mn-54	pCi	74.9	67	1.12	A
			Fe-59	pCi	75.5	61.8	1.22	W
			Zn-65	pCi	146	126	1.16	A
			Co-60	pCi	91.2	91	1.00	A
	E4966-396	Charcoal	I-131	pCi	87.4	86.2	1.01	A
June 2006	E5018-396	Milk	Sr-89	pCi/L	118	129	0.91	A
			Sr-90	pCi/L	9.29	9.74	0.95	A
	E5019-396	Milk	I-131	pCi/L	49.9	63.2	0.79	W
			Ce-141	pCi/L	174	184	0.95	A
			Cr-51	pCi/L	266	259	1.03	A
			Cs-134	pCi/L	111	127	0.88	A
			Cs-137	pCi/L	116	117	0.99	A
			Co-58	pCi/L	101	100	1.01	A
			Mn-54	pCi/L	144	146	0.98	A
			Fe-59	pCi/L	96.7	93.6	1.03	A
			Zn-65	pCi/L	182	185	0.98	A
			Co-60	pCi/L	126	129	0.98	A
	E5021-396	AP	Ce-141	pCi	113	124	0.91	A
			Cr-51	pCi	176	174	1.01	A
			Cs-134	pCi	63.7	85.1	0.75	W
			Cs-137	pCi	76.8	79.0	0.97	A
			Co-58	pCi	63.1	67.4	0.94	A
			Mn-54	pCi	102	99	1.04	A
			Fe-59	pCi	64.6	62.9	1.03	A
			Zn-65	pCi	131	125	1.05	A
			Co-60	pCi	81.6	86.5	0.94	A
	E5020-396	Charcoal	I-131	pCi	65.4	65.9	0.99	A

TABLE E-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September 2006	E5120-396	Milk	Sr-89	pCi/L	90.3	89.2	1.01	A
			Sr-90	pCi/L	11.6	12.4	0.94	A
	E5121-396	Milk	I-131	pCi/L	67.8	73.8	0.92	A
			Ce-141	pCi/L	85.0	86.0	0.99	A
			Cr-51	pCi/L	263	282	0.93	A
			Cs-134	pCi/L	74.7	85.0	0.88	A
			Cs-137	pCi/L	172	175	0.98	A
			Co-58	pCi/L	107	109	0.98	A
			Mn-54	pCi/L	110	113	0.98	A
			Fe-59	pCi/L	46.6	43.7	1.07	A
			Zn-65	pCi/L	144	145	0.99	A
			Co-60	pCi/L	127	134	0.95	A
	E5123-396	AP	Ce-141	pCi	67.1	66.4	1.01	A
			Cr-51	pCi	223	217	1.03	A
			Cs-134	pCi	51.7	65.6	0.79	W
			Cs-137	pCi	134	135.0	0.99	A
			Co-58	pCi	84.8	84.3	1.01	A
			Mn-54	pCi	95.2	87	1.10	A
			Fe-59	pCi	41.6	33.7	1.23	W
			Zn-65	pCi	123	112	1.10	A
			Co-60	pCi	98.9	103	0.96	A
			Co-57	pCi	0.922	(1)	NA	NA
	E5122-396	Charcoal	I-131	pCi	77.7	90.7	0.86	A
December 2006	E5172-396	Milk	Sr-89	pCi/L	72.4	72.0	1.01	A
			Sr-90	pCi/L	7.05	5.90	1.19	A
	E5173-396	Milk	I-131	pCi/L	71.9	70.8	1.02	A
			Ce-141	pCi/L	268	294	0.91	A
			Cr-51	pCi/L	420	433	0.97	A
			Cs-134	pCi/L	128	147	0.87	A
			Cs-137	pCi/L	231	237	0.97	A
			Co-58	pCi/L	82.0	83.8	0.98	A
			Mn-54	pCi/L	113	111	1.02	A
			Fe-59	pCi/L	79.8	79.7	1.00	A
			Zn-65	pCi/L	170	164	1.04	A
			Co-60	pCi/L	265	281	0.94	A
	E5175-396	AP	Ce-141	pCi	220	210	1.05	A
			Cr-51	pCi	343	309	1.11	A
			Cs-134	pCi	90.8	105	0.86	A
			Cs-137	pCi	185	169.0	1.09	A
			Co-58	pCi	65.0	59.7	1.09	A
			Mn-54	pCi	90.6	79	1.15	A
			Fe-59	pCi	70.7	56.7	1.25	W
			Zn-65	pCi	136	117	1.16	A
			Co-60	pCi	208	200	1.04	A

TABLE E-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2006	E5174-396	Charcoal	I-131	pCi	77.4	85.4	0.91	A

(1) Impurity detected but not measured by Analytics.

(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, 2006
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
May 2006	Rad 65	Water	Sr-89	pCi/L	30.2	32.4	23.6 - 41.1	A
			Sr-90	pCi/L	8.74	9.00	0.340 - 17.7	A
			Ba-133	pCi/L	10.9	10.0	1.34 - 18.7	A
			Cs-134	pCi/L	39.7	43.4	34.7 - 52.1	A
			Cs-137	pCi/L	199	214	195 - 233	A
			Co-60	pCi/L	111	113.0	103 - 123	A
			Zn-65	pCi/L	146	152	126 - 178	A
			Gr-A	pCi/L	22.9	21.3	12.1 - 30.5	A
			Gr-B	pCi/L	23.7	23.0	14.3 - 31.7	A
			Ra-226	pCi/L	2.64	3.02	2.23 - 3.81	A
			U-Nat	pCi/L	74.9	69.1	57.1 - 81.1	A
			H-3	pCi/L	7950	8130	6720 - 9540	A
	Rad 65	Water	I-131	pCi/L	18.2	19.1	13.9 - 24.3	A
November 2006	Rad 67	Water	Sr-89	pCi/L	40.0	39.9	31.2 - 48.6	A
			Sr-90	pCi/L	16.2	16.0	7.34 - 24.7	A
			Ba-133	pCi/L	65.0	70.2	58.1 - 82.3	A
			Cs-134	pCi/L	27.4	29.9	21.2 - 38.6	A
			Cs-137	pCi/L	74.4	78.2	69.5 - 86.9	A
			Co-60	pCi/L	61.6	62.3	53.6 - 71.0	A
			Zn-65	pCi/L	277	277	229 - 325	A
			Gr-A	pCi/L	23.3	28.7	16.3 - 41.1	A
			Gr-B	pCi/L	22.0	20.9	12.2 - 29.6	A
			U-Nat	pCi/L	3.18	3.20	0.00 - 8.40	A
			H-3	pCi/L	2930	3050	2430 - 3670	A
		Water	I-131	pCi/L	19.8	22.1	16.9 - 27.3	A

(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, 2006
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Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
January 2006	06-MaW15	Water	Am-241	Bq/L	1.29	1.30	0.91 - 1.69	A
			Cs-134	Bq/L	79.2	95.1	66.57 - 123.63	A
			Cs-137	Bq/L	-0.188			A
			Co-57	Bq/L	151	166.12	116.28 - 215.96	A
			Co-60	Bq/L	141	153.50	107.45 - 199.55	A
			H-3	Bq/L	988	952.01	666.41 - 1237.61	A
			Fe-55	Bq/L	106.0	129.60	90.72 - 168.48	A
			Mn-54	Bq/L	297	315.00	220.50 - 409.50	A
			Ni-63	Bq/L	61.5	60.34	44.24 - 78.44	A
			Pu-238	Bq/L	0.961	0.91	0.64 - 1.18	A
			Pu-239/240	Bq/L	0.00965	0.00710	(1)	A
			Sr-90	Bq/L	12.6	13.16	9.21- 17.11	A
			Tc-99	Bq/L	22.5	23.38	16.37 - 30.39	A
			U-234/233	Bq/L	2.20	2.09	1.46 - 2.72	A
			U-238	Bq/L	2.23	2.17	1.52 - 2.82	A
			Zn-65	Bq/L	219	228.16	159.71 - 296.61	A
	06-GrW15	Water	Gr-A	Bq/L	0.575	0.581	>0.0 - 1.162	A
			Gr-B	Bq/L	1.52	1.13	0.56 - 1.70	A
	06-MaS15	Soil	Am-241	Bq/kg	48.8	57.08	39.96 - 74.20	A
			Cs-134	Bq/kg	15.9			N (1)
			Cs-137	Bq/kg	370	339.69	237.78 - 441.60	A
			Co-57	Bq/kg	667	656.29	459.40 - 853.18	A
			Co-60	Bq/kg	478	447.10	312.97 - 581.23	A
			Mn-54	Bq/kg	384	346.77	242.74 - 450.80	A
			Ni-63	Bq/kg	394	323.51	226.46 - 420.56	W
			K-40	Bq/kg	667	604	423 - 785	A
			Sr-90	Bq/kg	253	314.35	220.04 - 408.66	A
			Tc-99	Bq/kg	146	154.76	108.33 - 201.19	A
			Zn-65	Bq/kg	740	657.36	460.15 - 854.57	A
	06-RdF15	AP	Am-241	Bq/sample	0.0850	0.093	0.065 - 0.121	A
			Cs-134	Bq/sample	2.34	2.934	2.054 - 3.814	A
			Cs-137	Bq/sample	2.45	2.531	1.772 - 3.290	A
			Co-57	Bq/sample	3.87	4.096	2.867 - 5.325	A
			Co-60	Bq/sample	2.12	2.186	1.530 - 2.842	A
			Mn-54	Bq/sample	0.0206			A
			Pu-238	Bq/sample	0.0766	0.067	0.047 - 0.087	A
			Pu-239/240	Bq/sample	0.00520	0.00041	(1)	A
			Sr-90	Bq/sample	0.761	0.792	0.554 - 1.030	A
			U-234/233	Bq/sample	0.0217	0.020	0.014 - 0.026	A
			U-238	Bq/sample	0.0220	0.021	0.015 - 0.027	A
			Zn-65	Bq/sample	3.86	3.423	2.396 - 4.450	A
	06-GrF15	AP	Gr-A	Bq/sample	0.257	0.361	>0.0 - 0.722	A
			Gr-B	Bq/sample	0.398	0.481	0.241 - 0.722	A

TABLE E-3 **DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)**
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 2 OF 3)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
January 2006	06-RdV15	Vegetation	Am-241	Bq/sample	0.156	0.156	0.109 - 0.203	A
			Cs-134	Bq/sample	0.369			A
			Cs-137	Bq/sample	3.15	3.074	2.152 - 3.996	A
			Co-57	Bq/sample	10.1	8.578	6.005 - 11.151	A
			Co-60	Bq/sample	4.69	4.520	3.164 - 5.876	A
			Mn-54	Bq/sample	6.53	6.247	4.373 - 8.121	A
			Pu-238	Bq/sample	0.183	0.137	0.096 - 0.178	N (2)
			Pu-239/240	Bq/sample	0.111	0.164	0.115 - 0.213	N (2)
			Sr-90	Bq/sample	2.22	1.561	1.093 - 2.029	N (2)
			U-234/233	Bq/sample	0.208	0.208	0.146 - 0.270	A
			U-238	Bq/sample	0.176	0.216	0.151 - 0.281	A
			Zn-65	Bq/sample	10.5	9.798	6.859 - 12.737	A
July 2006	06-MaW16	Water	Am-241	Bq/L	2.09	2.31	1.62 - 3.00	A
			Cs-134	Bq/L	99.8	112.82	78.98 - 146.66	A
			Cs-137	Bq/L	191	196.14	137.30 - 254.98	A
			Co-57	Bq/L	203	213.08	149.16 - 277.00	A
			Co-60	Bq/L	46.2	47.5	33.2 - 61.8	A
			H-3	Bq/L	471	428.85	300.20 - 557.50	A
			Fe-55	Bq/L	173	165.4	115.8 - 215.0	A
			Ni-63	Bq/L	109	118.62	83.03 - 154.21	A
			Pu-238	Bq/L	1.50	1.39	0.97 - 1.81	A
			Pu-239/240	Bq/L	2.01	1.94	1.36 - 2.52	A
			Sr-90	Bq/L	13.7	15.69	10.98- 20.40	A
			Tc-99	Bq/L	29.0	27.15	19.00 - 35.29	A
			U-234/233	Bq/L	2.19	2.15	1.50 - 2.80	A
			U-238	Bq/L	2.25	2.22	1.55 - 2.89	A
			Zn-65	Bq/L	178	176.37	123.46 - 229.28	A
	06-GrW16	Water	Gr-A	Bq/L	1.52	1.033	>0.0 - 2.066	A
			Gr-B	Bq/L	1.18	1.03	0.52 - 1.54	A
	06-MaS16	Soil	Am-241	Bq/kg	83.6	105.47	73.83 - 137.11	W
			Cs-134	Bq/kg	393	452.13	316.49 - 587.77	A
			Cs-137	Bq/kg	522	525.73	368.01 - 683.45	A
			Co-57	Bq/kg	636	676.33	473.43 - 879.23	A
			Co-60	Bq/kg	3.78	1.98		A (3)
			Mn-54	Bq/kg	598	594.25	415.98 - 772.52	A
			Ni-63	Bq/kg	571	627.3	470.6 - 874.0	A
			Pu-238	Bq/kg	71.2	82	57 - 107	A
			Pu-239240	Bq/kg	0.487	0.93		A (3)
			K-40	Bq/kg	615	604	423 - 785	A
			Sr-90	Bq/kg	178	223.3	156.3 - 290.3	W
			Tc-99	Bq/kg	175	218.01	152.61 - 283.41	A
			U-234/233	Bq/kg	119	152.44	106.71 - 198.17	W
			U-238	Bq/kg	115	158.73	111.11 -206.35	W
			Zn-65	Bq/kg	937	903.61	632.53 - 1174.69	A

TABLE E-3 **DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)**
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 3 OF 3)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
July 2006	06-RdF16	AP	Am-241	Bq/sample	0.124	0.142	0.099 - 0.185	A
			Cs-134	Bq/sample	2.62	3.147	2.203 - 4.091	A
			Cs-137	Bq/sample	1.98	1.805	1.263 - 2.346	A
			Co-57	Bq/sample	2.65	2.582	1.807 - 3.357	A
			Co-60	Bq/sample	1.63	1.577	1.104 - 2.050	A
			Mn-54	Bq/sample	2.10	1.92	1.34 - 2.50	A
			Pu-238	Bq/sample	0.118	0.118	0.083 - 0.153	A
			Pu-239/240	Bq/sample	0.00822	NA		A
			Sr-90	Bq/sample	0.549	0.62	0.43 - 0.81	A
			U-234/233	Bq/sample	0.140	0.134	0.094 - 0.174	A
			U-238	Bq/sample	0.136	0.139	0.097 - 0.181	A
			Zn-65	Bq/sample	-0.163	NA		A
	06-GrF16	AP	Gr-A	Bq/sample	0.134	0.290	>0.0 - 0.580	A
			Gr-B	Bq/sample	0.358	0.359	0.180 - 0.538	A

(1) False positive test

(2) Evaluated as a false positive by MAPEP although we considered the result a non-detect due to the peak not being identified by the gamma software. For Cs-134, MAPEP suggests the Bi-214 is not being differentiated from the Cs-134 peak. See email attached with MAPEP results in Appendix A. NCR 06-07.

(3) Sr samples analyzed in triplicate and one high result of 2.43 pCi/kg biased the submitted results on the high side. We were unable to determine the cause for the higher result. Since we do not analyze vegetation for isotpic Pu, no NCR was initiated for the Pu failure. MAPEP suggest pyrosulfate fusion preparation prior to analysis for isotopic Pu in vegetation samples.

(4) Not detected, reported a statistically zero result. (False positive test)

(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., 2006**

(Page 1 of 2)

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1078	01/16/06	Sr-89	49.9 ± 3.5	50.2	41.5 - 58.9	Pass
STW-1078	01/16/06	Sr-90	31.5 ± 1.5	30.7	22.0 - 39.4	Pass
STW-1079	01/16/06	Ba-133	86.5 ± 4.1	95.0	78.6 - 111.0	Pass
STW-1079	01/16/06	Co-60	96.3 ± 4.1	95.3	86.6 - 104.0	Pass
STW-1079	01/16/06	Cs-134	22.6 ± 3.0	23.1	14.4 - 31.8	Pass
STW-1079	01/16/06	Cs-137	109.0 ± 5.9	111.0	101.0 - 121.0	Pass
STW-1079	01/16/06	Zn-65	198.0 ± 11.2	192.0	159.0 - 225.0	Pass
STW-1080	01/16/06	Gr. Alpha	10.8 ± 1.4	9.6	1.0 - 18.3	Pass
STW-1080	01/16/06	Gr. Beta	56.9 ± 1.9	61.9	44.6 - 79.2	Pass
STW-1081	01/16/06	Ra-226	4.3 ± 0.4	4.6	3.4 - 5.8	Pass
STW-1081	01/16/06	Ra-228	7.1 ± 1.8	6.6	3.7 - 9.5	Pass
STW-1081	01/16/06	Uranium	20.7 ± 0.5	22.1	16.9 - 27.3	Pass
STW-1088	04/10/06	Sr-89	29.0 ± 1.8	32.4	23.7 - 41.1	Pass
STW-1088	04/10/06	Sr-90	8.7 ± 1.0	9.0	0.3 - 17.7	Pass
STW-1089	04/10/06	Ba-133	10.3 ± 0.4	10.0	1.3 - 18.7	Pass
STW-1089	04/10/06	Co-60	114.0 ± 2.8	113.0	103.0 - 123.0	Pass
STW-1089	04/10/06	Cs-134	41.9 ± 1.4	43.4	34.7 - 52.1	Pass
STW-1089	04/10/06	Cs-137	208.0 ± 1.1	214.0	195.0 - 233.0	Pass
STW-1089	04/10/06	Zn-65	154.0 ± 0.8	152.0	126.0 - 178.0	Pass
STW-1090	04/10/06	Gr. Alpha	13.4 ± 1.1	21.3	12.1 - 30.5	Pass
STW-1090	04/10/06	Gr. Beta	27.7 ± 2.1	23.0	14.3 - 31.7	Pass
STW-1091	04/10/06	I-131	22.0 ± 0.3	19.1	13.9 - 24.3	Pass
STW-1092	04/10/06	H-3	7960.0 ± 57.0	8130.0	6720.0 - 9540.0	Pass
STW-1092	04/10/06	Ra-226	2.9 ± 0.4	3.0	2.2 - 3.8	Pass
STW-1092	04/10/06	Ra-228	20.9 ± 1.2	19.1	10.8 - 27.4	Pass
STW-1092	04/10/06	Uranium	68.6 ± 3.4	69.1	57.1 - 81.1	Pass
STW-1094	07/10/06	Sr-89	15.9 ± 0.7	19.7	11.0 - 28.4	Pass
STW-1094	07/10/06	Sr-90	24.3 ± 0.4	25.9	17.2 - 34.6	Pass
STW-1095	07/10/06	Ba-133	94.9 ± 8.9	88.1	72.9 - 103.0	Pass
STW-1095	07/10/06	Co-60	104.0 ± 1.8	99.7	91.0 - 108.0	Pass
STW-1095	07/10/06	Cs-134	48.7 ± 1.3	54.1	45.4 - 62.8	Pass
STW-1095	07/10/06	Cs-137	236.0 ± 3.0	238.0	217.0 - 259.0	Pass
STW-1095	07/10/06	Zn-65	126.0 ± 8.0	121.0	100.0 - 142.0	Pass
STW-1096	07/10/06	Gr. Alpha	10.9 ± 1.0	10.0	1.3 - 18.6	Pass
STW-1096	07/10/06	Gr. Beta	9.7 ± 0.4	8.9	0.2 - 17.5	Pass
STW-1097	07/10/06	Ra-226	11.0 ± 0.5	10.7	7.9 - 13.5	Pass
STW-1097	07/10/06	Ra-228	12.2 ± 0.8	10.7	6.1 - 15.3	Pass
STW-1097	07/10/06	Uranium	43.4 ± 0.1	40.3	33.3 - 47.3	Pass

TABLE E-4 ERA[a] STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM ENVIRONMENTAL, INC., 2006

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Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1104	10/06/06	Sr-89	38.4 ± 1.3	39.9	31.2 - 45.7	Pass
STW-1104	10/06/06	Sr-90	15.5 ± 0.5	16.0	7.3 - 24.7	Pass
STW-1105	10/06/06	Ba-133	64.9 ± 2.8	70.2	58.1 - 82.3	Pass
STW-1105	10/06/06	Co-60	61.6 ± 1.0	62.3	53.6 - 71.0	Pass
STW-1105	10/06/06	Cs-134	29.0 ± 0.9	29.9	21.2 - 38.6	Pass
STW-1105	10/06/06	Cs-137	77.8 ± 2.4	78.2	69.5 - 86.9	Pass
STW-1105	10/06/06	Zn-65	293.0 ± 2.4	277.0	229.0 - 325.0	Pass
STW-1106	10/06/06	Gr. Alpha	23.9 ± 2.5	28.7	16.3 - 41.1	Pass
STW-1106	10/06/06	Gr. Beta	23.7 ± 1.4	20.9	12.2 - 29.6	Pass
STW-1107 [d]	10/06/06	I-131	28.4 ± 1.2	22.1	16.9 - 27.3	Fail
STW-1108	10/06/06	Ra-226	14.5 ± 0.5	14.4	10.7 - 18.1	Pass
STW-1108	10/06/06	Ra-228	6.6 ± 0.4	5.9	3.3 - 8.4	Pass
STW-1108	10/06/06	Uranium	2.9 ± 0.1	3.2	0.0 - 8.4	Pass
STW-1109	10/06/06	H-3	3000.0 ± 142.0	3050.0	2430.0 - 3670.0	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 Associates (ERA).

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

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

[d] The reported result was an average of three analyses, results ranged from 25.36 to 29.23 pCi/L. A fourth analysis was performed, result of analysis, 24.89 pCi/L.

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2006

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			Concentration [b]			
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STVE-1082	01/01/06	Am-241	0.16 ± 0.06	0.16	0.11 - 0.20	Pass
STVE-1082	01/01/06	Co-57	10.40 ± 0.20	8.58	6.00 - 11.15	Pass
STVE-1082	01/01/06	Co-60	5.00 ± 0.20	4.52	3.16 - 5.88	Pass
STVE-1082 [e]	01/01/06	Cs-134	< 0.20	0.00		Pass
STVE-1082	01/01/06	Cs-137	3.40 ± 0.20	3.07	2.15 - 4.00	Pass
STVE-1082	01/01/06	Mn-54	6.90 ± 0.20	6.25	4.37 - 8.12	Pass
STVE-1082 [f]	01/01/06	Pu-238	0.08 ± 0.03	0.14	0.10 - 0.18	Fail
STVE-1082	01/01/06	Pu-239/40	0.17 ± 0.03	0.16	0.11 - 0.21	Pass
STVE-1082	01/01/06	Sr-90	1.40 ± 0.20	1.56	1.09 - 2.03	Pass
STVE-1082	01/01/06	U-233/4	0.24 ± 0.05	0.21	0.15 - 0.27	Pass
STVE-1082	01/01/06	U-238	0.19 ± 0.04	0.22	0.15 - 0.28	Pass
STVE-1082	01/01/06	Zn-65	11.10 ± 0.50	9.80	6.86 - 12.74	Pass
STSO-1083	01/01/06	Am-241	54.60 ± 5.50	57.08	39.96 - 74.20	Pass
STSO-1083	01/01/06	Co-57	762.90 ± 12.70	656.29	459.40 - 853.18	Pass
STSO-1083	01/01/06	Co-60	504.90 ± 3.10	447.10	312.97 - 581.23	Pass
STSO-1083 [e]	01/01/06	Cs-134	< 1.70	0.00		Pass
STSO-1083	01/01/06	Cs-137	406.50 ± 3.70	339.69	237.78 - 441.60	Pass
STSO-1083	01/01/06	K-40	719.20 ± 18.40	604.00	422.80 - 785.20	Pass
STSO-1083	01/01/06	Mn-54	415.60 ± 4.80	346.77	242.74 - 450.80	Pass
STSO-1083	01/01/06	Ni-63	261.40 ± 14.70	323.51	226.46 - 420.56	Pass
STSO-1083 f	01/01/06	Pu-238	14.60 ± 2.90	61.15	42.81 - 79.50	Fail
STSO-1083 f	01/01/06	Pu-239/40	14.60 ± 2.40	45.85	32.09 - 59.61	Fail
STSO-1083 f	01/01/06	U-233/4	13.50 ± 1.70	37.00	25.90 - 48.10	Fail
STSO-1083 f	01/01/06	U-238	15.40 ± 1.80	38.85	27.20 - 50.50	Fail
STSO-1083	01/01/06	Zn-65	783.40 ± 7.00	657.36	460.15 - 854.57	Pass
STAP-1084	01/01/06	Gr. Alpha	0.26 ± 0.02	0.36	0.00 - 0.72	Pass
STAP-1084	01/01/06	Gr. Beta	0.51 ± 0.03	0.48	0.24 - 0.72	Pass
STAP-1085	01/01/06	Am-241	0.12 ± 0.02	0.09	0.07 - 0.12	Pass
STAP-1085	01/01/06	Co-57	4.32 ± 0.10	4.10	2.87 - 5.32	Pass
STAP-1085	01/01/06	Co-60	2.24 ± 0.16	2.19	1.53 - 2.84	Pass
STAP-1085	01/01/06	Cs-134	2.96 ± 0.19	2.93	2.05 - 3.81	Pass
STAP-1085	01/01/06	Cs-137	2.64 ± 0.20	2.53	1.77 - 3.29	Pass
STAP-1085 [f]	01/01/06	Pu-238	0.03 ± 0.01	0.07	0.05 - 0.09	Fail
STAP-1085 [e]	01/01/06	Pu-239/40	< 0.01	0.00		Pass
STAP-1085	01/01/06	Sr-90	0.77 ± 0.21	0.79	0.55 - 1.03	Pass
STAP-1085	01/01/06	U-233/4	0.03 ± 0.01	0.02	0.01 - 0.03	Pass
STAP-1085	01/01/06	U-238	0.02 ± 0.01	0.02	0.01 - 0.03	Pass
STAP-1085	01/01/06	Zn-65	3.94 ± 0.44	3.42	2.40 - 4.45	Pass

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2006

(Page 2 of 3)

		Concentration [b]				
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1086	01/01/06	Am-241	1.29 ± 0.05	1.30	0.91 - 1.69	Pass
STW-1086	01/01/06	Co-57	177.10 ± 1.00	166.12	116.28 - 215.96	Pass
STW-1086	01/01/06	Co-60	158.30 ± 1.00	153.50	107.45 - 199.55	Pass
STW-1086	01/01/06	Cs-134	96.40 ± 1.50	95.10	66.57 - 123.63	Pass
STW-1086 [e]	01/01/06	Cs-137	< 0.80	0.00		Pass
STW-1086	01/01/06	Fe-55	102.50 ± 18.10	129.60	90.72 - 168.48	Pass
STW-1086	01/01/06	H-3	956.60 ± 16.50	952.01	666.41 - 1238.00	Pass
STW-1086	01/01/06	Mn-54	335.30 ± 2.20	315.00	220.50 - 409.50	Pass
STW-1086	01/01/06	Ni-63	62.90 ± 3.60	60.34	42.24 - 78.44	Pass
STW-1086	01/01/06	Pu-238	0.96 ± 0.07	0.91	0.70 - 1.30	Pass
STW-1086 [e]	01/01/06	Pu-239/40	< 0.20	0.00		Pass
STW-1086	01/01/06	Sr-90	12.80 ± 1.60	13.16	9.21 - 17.11	Pass
STW-1086	01/01/06	Tc-99	22.30 ± 1.20	23.38	16.37 - 30.39	Pass
STW-1086	01/01/06	U-233/4	2.02 ± 0.12	2.09	1.46 - 2.72	Pass
STW-1086	01/01/06	U-238	2.03 ± 0.12	2.17	1.52 - 2.82	Pass
STW-1086	01/01/06	Zn-65	249.50 ± 3.40	228.16	159.71 - 296.61	Pass
STW-1087	01/01/06	Gr. Alpha	0.59 ± 0.10	0.58	0.00 - 1.16	Pass
STW-1087	01/01/06	Gr. Beta	1.69 ± 0.07	1.13	0.56 - 1.70	Pass
STVE-1098 [e]	07/01/06	Co-57	< 0.14	0.00		Pass
STVE-1098 [g]	07/01/06	Co-60	6.89 ± 0.17	5.81	4.06 - 7.55	Pass
STVE-1098	07/01/06	Cs-134	8.46 ± 0.16	7.49	5.24 - 9.73	Pass
STVE-1098	07/01/06	Cs-137	6.87 ± 0.29	5.50	3.85 - 7.14	Pass
STVE-1098	07/01/06	Mn-54	10.36 ± 0.29	8.35	5.85 - 10.86	Pass
STVE-1098	07/01/06	Zn-65	7.46 ± 0.50	5.98	4.19 - 7.78	Pass
STSO-1099	07/01/06	Am-241	130.00 ± 11.60	105.47	73.83 - 137.11	Pass
STSO-1099	07/01/06	Co-57	784.90 ± 3.80	676.33	473.43 - 879.23	Pass
STSO-1099	07/01/06	Co-60	2.10 ± 0.90	1.98	0.00 - 5.00	Pass
STSO-1099	07/01/06	Cs-134	500.70 ± 7.40	452.13	316.49 - 587.77	Pass
STSO-1099	07/01/06	Cs-137	624.20 ± 4.90	525.73	368.01 - 683.45	Pass
STSO-1099	07/01/06	K-40	701.30 ± 3.40	604.00	423.00 - 785.00	Pass
STSO-1099	07/01/06	Mn-54	699.20 ± 5.20	594.25	415.98 - 772.52	Pass
STSO-1099	07/01/06	Ni-63	614.40 ± 17.10	672.30	470.60 - 874.00	Pass
STSO-1099	07/01/06	Pu-238	79.90 ± 5.80	82.00	57.00 - 107.00	Pass
STSO-1099 [e]	07/01/06	Pu-239/40	< 0.70	0.00		Pass
STSO-1099	07/01/06	U-233/4	150.50 ± 5.90	152.44	106.71 - 198.17	Pass
STSO-1099	07/01/06	U-238	151.60 ± 6.00	158.73	111.11 - 206.35	Pass
STSO-1099	07/01/06	Zn-65	1021.90 ± 9.20	903.61	632.53 - 1175.00	Pass

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2006

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		Concentration [b]				
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STAP-1100	07/01/06	Am-241	0.16 ± 0.03	0.14	0.10 - 0.19	Pass
STAP-1100	07/01/06	Co-57	2.17 ± 0.06	2.58	1.81 - 3.36	Pass
STAP-1100	07/01/06	Co-60	1.38 ± 0.07	1.58	1.10 - 2.05	Pass
STAP-1100	07/01/06	Cs-134	2.52 ± 0.13	3.15	2.20 - 4.09	Pass
STAP-1100	07/01/06	Cs-137	1.64 ± 0.08	1.81	1.26 - 2.35	Pass
STAP-1100	07/01/06	Mn-54	1.76 ± 0.18	1.92	1.34 - 2.50	Pass
STAP-1100	07/01/06	Pu-238	0.09 ± 0.02	0.12	0.08 - 0.15	Pass
STAP-1100	07/01/06	Sr-90	0.66 ± 0.21	0.62	0.43 - 0.81	Pass
STAP-1100	07/01/06	U-233/4	0.15 ± 0.02	0.13	0.09 - 0.17	Pass
STAP-1100	07/01/06	U-238	0.13 ± 0.02	0.14	0.10 - 0.18	Pass
STAP-1100 [e]	07/01/06	Zn-65	< 0.07	0.00		Pass
STAP-1101	07/01/06	Gr. Alpha	0.08 ± 0.03	0.29	0.00 - 0.58	Pass
STAP-1101	07/01/06	Gr. Beta	0.41 ± 0.05	0.36	0.18 - 0.54	Pass
STW-1102	07/01/06	Gr. Alpha	0.76 ± 0.07	1.03	0.00 - 2.07	Pass
STW-1102	07/01/06	Gr. Beta	1.23 ± 0.06	1.03	0.52 - 1.54	Pass
STW-1103	07/01/06	Am-241	1.86 ± 0.09	2.31	1.62 - 3.00	Pass
STW-1103	07/01/06	Co-57	224.10 ± 1.20	213.08	149.16 - 277.00	Pass
STW-1103	07/01/06	Co-60	49.40 ± 0.50	47.50	33.20 - 61.80	Pass
STW-1103	07/01/06	Cs-134	112.70 ± 0.90	112.82	78.97 - 146.66	Pass
STW-1103	07/01/06	Cs-137	206.60 ± 1.40	196.14	137.30 - 254.98	Pass
STW-1103	07/01/06	Fe-55	138.40 ± 5.40	165.40	115.80 - 215.00	Pass
STW-1103	07/01/06	H-3	446.50 ± 11.80	428.85	300.20 - 557.50	Pass
STW-1103 [e]	07/01/06	Mn-54	< 0.30	0.00		Pass
STW-1103	07/01/06	Ni-63	116.70 ± 3.60	118.62	83.03 - 154.21	Pass
STW-1103	07/01/06	Pu-238	1.27 ± 0.07	1.39	0.97 - 1.81	Pass
STW-1103	07/01/06	Pu-239/40	1.67 ± 0.08	1.94	1.36 - 2.52	Pass
STW-1103	07/01/06	Sr-90	16.40 ± 1.90	15.69	10.98 - 20.40	Pass
STW-1103	07/01/06	Tc-99	29.40 ± 1.10	27.15	19.00 - 35.29	Pass
STW-1103	07/01/06	U-233/4	1.97 ± 0.08	2.15	1.50 - 2.80	Pass
STW-1103	07/01/06	U-238	1.97 ± 0.08	2.22	1.55 - 2.89	Pass
STW-1103	07/01/06	Zn-65	192.50 ± 2.40	176.37	123.46 - 229.28	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 MAPEP as a false positive.

[f] Difficulties with the analyses for transuranics isotopes in solid samples (Filters, Soil and vegetation), were attributed to incomplete dissolution of the samples. Soil samples were repeated, results of reanalyses: Pu-238, 53.1 ± 5.3 bq/kg. Pu-239/240, 42.4 ± 4.7 bq/kg. U-233/4, 33.3 ± 3.5 bq/kg. U-238, 35.5 ± 3.6 bq/kg.

[g] The July vegetation sample was provided in two separate geometries, (100 ml. and 500 ml.). Results reported here used the 500 ml. standard size geometry. Results for the 100 ml. geometry showed approximately a 15% higher bias.

APPENDIX F

ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM REPORT (ARGPPR)