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Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: 2004 Annual Radiological Environmental Operating Report and Current Revision of the Byron Station Offsite Dose Calculation Manual (ODCM)

In accordance with Technical Specification 5.6.2, "Annual Radiological Environmental Operating Report," we are submitting the Annual Radiological Environmental Operating Report (AREOR) for Byron Station. This report is required to be submitted to the NRC by May 15th of each year. This report contains the results of the radiological environmental and meteorological monitoring programs. The Radioactive Effluent Release Report was submitted under separate cover. Also enclosed is a current revision of the Byron Station Offsite Dose Calculation Manual (ODCM) and Technical Requirements Manual Chapters 3.11 and 3.12.

If you have any questions regarding this information, please contact W. Grundmann, Regulatory Assurance Manager, at (815) 406-2800.

Respectfully,

Stephen Kuczynski

Stephen E. Kuczynski
Site Vice President
Byron Nuclear Generating Station

SEK/ES/tlf/rah

Attachments: AREOR
ODCM

BYRON STATION

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

2004

MAY 2005

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INTRODUCTION

Byron Station, a two-unit PWR station, is located about two miles east of the Rock River and approximately three miles southwest of Byron in Ogle County, north central Illinois. The reactors are designed to have a capacities of 1280 and 1254 MW gross, respectively. Unit No. 1 loaded fuel in November 1984 and went on line February 2, 1985. Unit No. 2 went on line January 9, 1987. The station has been designed to keep releases to the environment at levels below those specified in the regulations.

Liquid effluents from Byron Station are released to the Rock River in controlled batches after radioassay of each batch. Gaseous effluents are released to the atmosphere and are calculated on the basis of analyses of weekly grab samples and grab samples of batch releases prior to the release of noble gases as well as continuously collected composite samples of iodine and particulate radioactivity sampled during the course of the year. The results of effluent analyses are summarized on a monthly basis. Airborne concentrations of noble gases, I-131, and particulate radioactivity in offsite areas are calculated using isotopic composition of effluents and meteorological data.

Environmental monitoring is conducted by sampling at indicator and control (background) locations in the vicinity of Byron Station to measure changes in radiation or radioactivity levels that may be attributable to station operation. If significant changes attributable to Byron Station are measured, these changes are correlated with effluent releases. External gamma radiation exposure from noble gases and internal dose from I-131 in milk are the critical pathways at this site; however, an environmental monitoring program is conducted which also includes other pathways.

SUMMARY

Calculations based on gaseous and liquid effluents, Rock River flow and meteorological data indicate that public dose due to radioactive material attributable to Byron Station during the period does not exceed regulatory or Offsite Dose Calculation Manual (ODCM) limits.

The Total Effective Dose Equivalent (TEDE) due to licensed activities at Byron Station calculated for the maximally-exposed individual for the period is 1.18E-02 mrem. The annual limit on TEDE is 100 mrem.

The assessment of radiation doses to the public is performed in accordance with the ODCM. The results of these analyses confirm that the Station is operating in compliance with 10CFR50 Appendix I, 10CFR20 and 40CFR190.

There were no additional operational controls implemented which affected the areas of radiological effluents in 2004.

There were no measurements which exceeded the reporting levels, including any which would not have been attributable to station effluents.

The results of the current radiological environmental monitoring program are approximately the same as those found during the pre-operational studies conducted at Byron Station.

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

Measured concentrations and isotopic composition of noble gases, radioiodine, tritium and particulate radioactivity released to the atmosphere during the year are listed in Table 1.1-1.

A total of 1.61E+01 curies of fission and activation gases were released with a maximum quarterly release rate of 4.68E-01 μCi/sec, for both units.

A total of 1.66E-04 curies of I-131 were released during the year with a maximum quarterly average release rate of 5.98E-06 μCi/sec.

A total of 4.39E-06 curies were released as airborne particulate matter with a maximum quarterly average release rate of 4.74E-07 μCi/sec. Alpha-emitting radionuclides were below detectable limits.

A total of 2.71E+00 curies of tritium were released with a maximum average quarterly release rate of 7.08E-02 μCi/sec.

1.2 Liquids Released to Rock River

A total of 2.86E+10 liters of radioactive liquid waste (prior to dilution) containing 3.58E-02 curies (excluding tritium, noble gases and alpha) were discharged from the station. These wastes were released at a maximum quarterly average concentration of 2.39E-09 μCi/ml. A total of 2.42E+03 curies of tritium was released. Quarterly release totals of principal radionuclides in liquid effluents are given in Table 1.2-1.

2.0 SOLID RADIOACTIVE WASTE

Solid radioactive wastes were shipped by truck to waste processors. For detail, refer to Byron Station 2004 Effluent Report.

3.0 DOSE TO MAN

3.1 Gaseous Effluent Pathways

Table 3.1-1 summarizes the doses resulting from releases of airborne radioactivity via the different exposure pathways.

Isopleth figures and any references to them were removed from the report in 2004 due to a Changed Management decision between the station and the Met Tower contractor.

3.1.1 Noble Gases

3.1.1.1 Gamma Dose Rates

Offsite Gamma air and whole body dose rates are shown in Table 3.1-1 and were calculated based on measured release rates, isotopic composition of the noble gases, and average meteorological data for the period. Dose rates based on concurrent meteorlogical data are shown in Table 3.4-1. Based on measured effluents and average meteorological data, the maximum total body dose to an individual would be 5.18E-04 mrem for the year (Table 3.1-1), with an occupancy or shielding factor of 0.7 included. The maximum total body dose based on measured effluents and concurrent meteorological data would be 4.21E-05 mrem (Table 3.4-1). The maximum gamma air dose was 6.48E-04 mrad (Table 3.1-1) based on measured effluents and average meteorological data, and 7.20E-05 mrad based on concurrent meteorological data (Table 3.4-1).

3.1.1.2 Beta Air and Skin Dose Rates

The range of beta particles in air is relatively small (on the order of a few meters or less); consequently, plumes of gaseous effluents may be considered "infinite" for the purpose of calculating the dose from beta radiation incident on the skin. However, the actual dose to sensitive skin tissues is difficult to calculate due to the effect of the beta particle energies, thickness of inert skin and clothing covering sensitive tissues. For purposes of this report the skin is taken to have a thickness of 7.0 mg/cm^2 and an occupancy factor of 1.0 is used. The skin dose based on concurrent meteorological data was 1.80E-04 mrem (Table 3.4-1).

The maximum offsite beta air dose for the year, based on measured effluents and average meteorological data, was 5.04E-04 mrad (Table 3.1-1). The beta air dose based on concurrent meteorological data was 4.70E-04 mrad (Table 3.4-1).

3.1.2 Radioactive Iodine

The human thyroid exhibits a significant capacity to concentrate ingested or inhaled iodine. The minimal levels of radioiodine, I-131, released during routine operation of the station may be made available to man resulting in a dose to the thyroid. The principal pathway of interest for this radionuclide is ingestion of radioiodine in milk. Calculations made for 2004 and previous years indicate that contributions to doses from inhalation of I-131 and I-133 and ingestion of I-133 in milk are negligible.

3.1.2.1 Dose to Thyroid

The hypothetical thyroid dose to the maximum exposed individual living near the station via ingestion of milk was calculated. The radionuclide considered was I-131 and the source of milk was taken to be the nearest dairy farm with the cows pastured from May through October. The maximum thyroid dose was less than 9.30E-02 mrem during the year (Table 3.1-1 [infant]).

3.2 Liquid Effluent Pathways

The three principal pathways through the aquatic environment for potential doses to man from liquid waste are ingestion of potable water, eating of aquatic foods, and exposure while on the shoreline. Not all of these pathways are significant or applicable at a given time or station but a reasonable approximation of the dose can be made by adjusting the dose formula for season of the year or type and degree of use of the aquatic environment. NRC developed equations* were used to calculate the doses to the whole body, lower GI tract, thyroid, bone and skin. Specific parameters for use in the equations are given in the Exelon Offsite Dose Calculation Manual. The maximum whole body dose for the year was 1.12E-02 mrem (adult) and no organ dose exceeded 3.56E-02 mrem (Table 3.2-1 [adult]).

3.3 Assessment of Dose to Member of Public

During the period January to December, 2004, Byron Station did not exceed these limits as shown in Table 3.1-1 and Table 3.2-1 (based on yearly average meteorological data), and as shown in Table 3.4-1 (based on concurrent meteorological data):

- The RETS limits on dose or dose commitment to a member of the public due to radioactive materials in liquid effluents from each reactor unit (1.5 mrem to the whole body or 5 mrem to any organ during any calendar quarter; 3 mrem to the whole body or 10 mrem to any organ during any calendar year).

- The RETS limits on air dose in noble gases released in gaseous effluents to a member of the public from each reactor unit (5 mrad for gamma radiation or 10 mrad for beta radiation during any calendar quarter; 10 mrad for gamma radiation or 20 mrad for beta radiation during a calendar year).

- The RETS limits on dose to a member of the public due to iodine-131, iodine-133, tritium, and radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each reactor unit (7.5 mrem to any organ during any calendar quarter; 15 mrem to any organ during any calendar year).

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* Nuclear Regulatory Commission, Regulatory Guide 1.109 (Rev. 1).

- The 10CFR20 limit on Total Effective Dose Equivalent to individual members of the public (100 mrem).

4.0 SITE METEOROLOGY

A summary of the site meteorological measurements taken during each calendar quarter of the year is given in Appendix II. The data are presented as cumulative joint frequency distributions of the wind direction for the 250' level and wind speed class by atmospheric stability class determined from the temperature difference between the 250' and 30' levels. Data recovery for all measurements on the tower was 99.6% during 2004 (Table 3.4-1).

5.0 ENVIRONMENTAL MONITORING

Table 5.0-1 provides an outline of the Radiological Environmental Monitoring Program (REMP) as required in the Technical Standards. Table 5.0-2 outlines the sampling locations, sample collection frequency and analysis for the samples. Sampling locations are shown in Figures 5.0-1 through 5.0-4. Concentrations of radioactivity in various media are summarized in Tables 5.0-3 through 5.0-6. A detailed listing of all data is presented in Appendix III.

Specific findings for various environmental media are discussed below.

5.1 Gamma Radiation

External radiation dose was measured using CaF_2 thermoluminescent dosimeters (TLDs). Each location consists of 2 TLD sets. The quarterly average external radiation dose for the year was 24.9 mR at the indicator locations and 20.4 mR at the control locations. TLD results are listed in Section 6.0 of Appendix III and locations are shown in Figure 5.0-1.

Quarterly external radiation dose at indicator air sampling locations averaged 23.1 mR and was similar to that measured in 1985 (14.4 mR), 1986 (14.9 mR), 1987 (15.3 mR), 1988 (15.2 mR), 1989 (14.6 mR), 1990 (14.5 mR), 1991 (14.3 mR), 1992 (13.6 mR), 1993 (14.2 mR), 1994 (14.9 mR), 1995 (14.9 mR), 1996 (15.4 mR), 1997 (13.8 mR), 1998 (14.7 mR), 1999 (13.9 mR), 2000 (14.4 mR), 2001 (19.2 mR), 2002 (20.4mR) and 2003 (22.5 mR). These differences are not statistically significant. A different style of TLD was used starting in 2001. Prior to that timeframe, dose was normalized to the 91-day timeframe. Starting in 2001, dose is "as read," with no correction applied based on TLD period starting before the first day of the quarter.

5.2 Airborne I-131 and Particulate Radioactivity

Locations of the samplers are shown in Figures 5.0-2 and 5.0-3. Airborne I-131 remained below the LLD of 0.07 pCi/m^3 throughout the year in all samples.

Gross beta concentrations ranged from 0.010 to 0.054 pCi/m^3 and averaged 0.023 pCi/m^3, which is similar to the average concentrations in 1985 (0.026 pCi/m^3), 1986 (0.026 pCi/m^3), except for the period from May 12 through June 9 when it was influenced by the nuclear reactor accident at Chernobyl), 1987 (0.027 pCi/m^3), 1988 (0.031 pCi/m^3), 1989 (0.026 pCi/m^3), and similar to 1990 (0.021 pCi/m^3), 1991 (0.020 pCi/m^3), 1992 (0.022 pCi/m^3), 1993 (0.021 pCi/m^3), 1994 (0.021 pCi/m^3), 1995 (0.022 pCi/m^3), 1996 (0.022 pCi/m^3), 1997 (0.021 pCi/m^3), 1998 (0.022 pCi/m^3), 1999 (0.025 pCi/m^3), 2000 (0.025 pCi/m^3), 2001 (0.024 pCi/m^3), 2002 (0.026 pCi/m^3) and 2003 (0.025 pCi/m^3).

All gamma-emitting nuclide activities were below their respective LLD levels. No radioactivity attributable to station operation was detected in any sample.

5.3 Terrestrial Radioactivity

Vegetables were collected in the third quarter and analyzed for iodine-131 and gamma-emitting nuclides. All nuclides were below the limits of detection, indicating that there was no measurable amount of radioactivity attributable to the station releases. Identical results were obtained during the period 1985 through 2003.

5.4 Aquatic Radioactivity

Well water was collected quarterly from three offsite wells, shown in Figure 5.0-4, and analyzed for tritium and gamma-emitting nuclides. All results were below the lower limits of detection. The results were similar to those obtained in 1985 through 2003.

Surface water samples were collected weekly from two locations noted in Figure 5.0-4. Weekly samples were composited monthly and analyzed for gross beta and gamma. Quarterly composites were analyzed for tritium. Cs-134 and Cs-137 concentrations were below the LLD level of 15 pCi/L and 18 pCi/L, respectively, in all samples. All other gamma-emitters were below their respective LLDs. Gross beta at BY-12 (Oregon Pool of Rock River, Downstream) averaged 3.5 pCi/L, ranging from 2.9-4.7 pCi/L; BY-29 (Byron, Upstream) gross beta averaged 4.0 pCi/L, ranging from 2.6-7.0 pCi/L.

Tritium concentration was below the LLD of 200 pCi/L in all samples collected from Byron, Upstream (BY-29). These levels were similar to those obtained in 1985 through 2003.

At Oregon Pool of Rock River, Downstream (BY-12) tritium averaged 363 pCi/L, ranging from 45 to 1,164 pCi/L. Elevated levels of tritium downstream from discharge pipe are attributable to the station operation. These levels were similar to those obtained in 1985 through 2003.

Sediment samples were collected twice and analyzed for gamma-emitters. Cs-134 was below the LLD level of 0.15 pCi/g dry weight in all samples. Cs-137 was below the LLD level of 0.18 pCi/g dry weight in all samples.

Levels of gamma radioactivity in fish were measured and found in all cases to be below the lower limits of detection for the program. The results were identical to those obtained in 1985 through 2003.

5.5 Milk

Milk samples were collected monthly from November through April and biweekly from May through October and analyzed for Iodine-131 and gamma-emitting nuclides. Locations are shown in Figure 5.0-4. Iodine-131 activity was below the LLD level of 1.0 pCi/L in all samples.

Cs-134, Cs-137, Ba-140 and La-140 were below the LLD levels of 15, 18, 60 and 15 pCi/L, respectively. The results for I-131, Cs-134, Cs-137 and Ba/La-140 were identical to those obtained during the period 1985 through 2003, except during several months following the accident at Chernobyl, which occurred on April 26, 1986. During those months I-131 ranged from 0.9 to 58.6 pCi/L, Cs-134 ranged from 5.8 to 10.7 pCi/L and Cs-137 ranged from 5.3 to 17.8 pCi/L.

5.6 Sample Collections

All samples were collected as scheduled except those listed in Listing of Missed Samples, Section 2.0 of Appendix III.

5.7 Program Modifications

Reeverts Dairy Farm (BY-20) withdrew from the program in June of 2004 and was replaced by the Ron Snodgrass Farm (BY-20-1) in September, 2004.

6.0 ANALYTICAL PROCEDURES

Procedures used during the period covered in this report remained unchanged. A summary of the procedures used for analyzing radioactivity in environmental samples is given in Appendix VI of the report for the period January - December 1993.

7.0 MILCH ANIMALS AND NEAREST CATTLE CENSUS

Census of milch animals and nearest cattle were conducted within a 6.2-mile radius of the Station. The survey was conducted by "door-to-door" canvas and by information from Illinois agricultural agents. The census was conducted by T. Goral on August 31 and 27, 2004, respectively.

Results of the milch animal and nearest cattle census are presented on pages 43-44, Section 5.0 of Appendix III.

8.0 NEAREST RESIDENCES CENSUS

The census of nearest residences within a 6.2-mile radius was conducted by T. Goral on August 18, 2004.

Results of the nearest residence census are presented on page 45, Section 5.0 of Appendix III.

9.0 INTERLABORATORY COMPARISON PROGRAM RESULTS

Environmental Incorporated's Interlaboratory Comparison Program Results are presented in Appendix IV.

10.0 ERRATA DATA

There is no errata data for 2004.

BYRON

APPENDIX I

DATA TABLES AND FIGURES

Table 1.1-1

Byron Station Unit One 2004

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	2.50E+00	3.68E+00	2.26E+00	2.81E+00	1.12E+01
2. Avg. Release Rate	uCi/sec	3.18E-01	4.68E-01	2.84E-01	3.53E-01	3.54E-01
Iodine-131						
1. Total Release	Ci	4.70E-05	3.23E-05	2.44E-05	2.24E-05	1.26E-04
2. Avg. Release Rate	uCi/sec	5.98E-06	4.10E-06	3.07E-06	2.81E-06	3.99E-06
Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	0.00E+00	3.77E-06	0.00E+00	3.77E-06
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	4.74E-07	0.00E+00	1.19E-07
Tritium						
1. Total Release	Ci	3.18E-01	2.19E-01	3.06E-01	3.61E-01	1.20E+00
2. Avg. Release Rate	uCi/sec	4.05E-02	2.78E-02	3.85E-02	4.54E-02	3.81E-02

Byron Station Unit Two 2004

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	1.00E+00	1.72E+00	5.83E-01	1.64E+00	4.94E+00
2. Avg. Release Rate	uCi/sec	1.27E-01	2.19E-01	7.33E-02	2.06E-01	1.56E-01
Iodine-131						
1. Total Release	Ci	1.55E-05	1.02E-05	1.25E-05	1.58E-06	3.98E-05
2. Avg. Release Rate	uCi/sec	1.97E-06	1.30E-06	1.57E-06	1.98E-07	1.26E-06
Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	2.25E-07	3.92E-07	0.00E+00	6.17E-07
2. Avg. Release Rate	uCi/sec	0.00E+00	2.86E-08	4.93E-08	0.00E+00	1.95E-08
Tritium						
1. Total Release	Ci	5.31E-01	1.67E-01	2.49E-01	5.63E-01	1.51E+00
2. Avg. Release Rate	uCi/sec	6.75E-02	2.12E-02	3.14E-02	7.08E-02	4.77E-02

Table 1.2-1

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
Byron Station Unit One 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	3.02E-03	8.12E-03	4.82E-03	1.94E-03	1.79E-02
2. Avg. Diluted Conc.	uCi/ml	9.76E-10	2.39E-09	1.15E-09	5.35E-10	1.25E-09
Tritium						
1. Total Release	Ci	4.53E+02	9.79E+01	2.23E+02	4.36E+02	1.21E+03
2. Avg. Diluted Conc.	uCi/ml	1.46E-04	2.88E-05	5.32E-05	1.20E-04	8.44E-05
Dissolved and Entrained Gases						
1. Total Release	Ci	9.36E-03	1.27E-02	8.49E-04	2.83E-03	2.58E-02
2. Avg. Diluted Conc.	uCi/ml	3.02E-09	3.74E-09	2.02E-10	7.78E-10	1.80E-09
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	3.10E+09	3.40E+09	4.20E+09	3.64E+09	1.43E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
Byron Station Unit Two 2004

REPORT FOR 2004	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	3.02E-03	8.12E-03	4.82E-03	1.94E-03	1.79E-02
2. Avg. Diluted Conc.	uCi/ml	9.76E-10	2.39E-09	1.15E-09	5.35E-10	1.25E-09
Tritium						
1. Total Release	Ci	4.53E+02	9.79E+01	2.23E+02	4.36E+02	1.21E+03
2. Avg. Diluted Conc.	uCi/ml	1.46E-04	2.88E-05	5.32E-05	1.20E-04	8.44E-05
Dissolved and Entrained Gases						
1. Total Release	Ci	9.36E-03	1.27E-02	8.49E-04	2.83E-03	2.58E-02
2. Avg. Diluted Conc.	uCi/ml	3.02E-09	3.74E-09	2.02E-10	7.78E-10	1.80E-09
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	3.10E+09	3.40E+09	4.20E+09	3.64E+09	1.43E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 3.1-1

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004
Unit Range - From: 1 To: 1

=== I&P DOSE LIMIT ANALYSIS ========== ANNUAL 2004 ========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	INFANT	THYROID	4.65E-02	1.13E+01	4.13E-01
2004 - Admin. Total Body	CHILD	TBODY	2.59E-04	1.05E+01	2.47E-03
2004 - T.Spc. Any Organ	INFANT	THYROID	4.65E-02	1.50E+01	3.10E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.75E-01
CR-51	4.62E-06
I-131	9.86E+01
I-133	1.04E+00

2004 - T.Spc. Total Body	CHILD	TBODY	2.59E-04	1.50E+01	1.73E-03

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.65E+01
CR-51	8.51E-04
I-131	1.33E+01
I-133	1.96E-01

Table 3.1-1 (continued)

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004
Unit Range - From: 1 To: 1

=== NG DOSE LIMIT ANALYSIS ========== ANNUAL 2004 =========

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2004 - Admin. Gamma	3.24E-04	7.50E+00	4.32E-03
2004 - Admin. Beta	2.52E-04	1.50E+01	1.68E-03
2004 - T.Spc. Gamma	3.24E-04	1.00E+01	3.24E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.04E+00
KR-85	2.26E-01
XE-135	4.16E-01
XE-133M	2.91E-02
XE-131M	1.90E-01
XE-133	9.71E+01

2004 - T.Spc. Beta	2.52E-04	2.00E+01	1.26E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.27E-01
KR-85	8.06E+00
XE-135	1.68E-01
XE-133M	4.15E-02
XE-131M	4.26E-01
XE-133	9.11E+01

Table 3.1-1 (continued)

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004
Unit Range - From: 2 To: 2

=== I&P DOSE LIMIT ANALYSIS ========== ANNUAL 2004 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	INFANT	THYROID	4.65E-02	1.13E+01	4.13E-01
2004 - Admin. Total Body	CHILD	TBODY	2.59E-04	1.05E+01	2.47E-03
2004 - T.Spc. Any Organ	INFANT	THYROID	4.65E-02	1.50E+01	3.10E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.75E-01
CR-51	4.62E-06
I-131	9.86E+01
I-133	1.04E+00

2004 - T.Spc. Total Body	CHILD	TBODY	2.59E-04	1.50E+01	1.73E-03

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.65E+01
CR-51	8.51E-04
I-131	1.33E+01
I-133	1.96E-01

Table 3.1-1 (continued)

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004
Unit Range - From: 2 To: 2

=== NG DOSE LIMIT ANALYSIS ========== ANNUAL 2004 =========

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2004 - Admin. Gamma	3.24E-04	7.50E+00	4.32E-03
2004 - Admin. Beta	2.52E-04	1.50E+01	1.68E-03
2004 - T.Spc. Gamma	3.24E-04	1.00E+01	3.24E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.04E+00
KR-85	2.26E-01
XE-135	4.16E-01
XE-133M	2.91E-02
XE-131M	1.90E-01
XE-133	9.71E+01

2004 - T.Spc. Beta	2.52E-04	2.00E+01	1.26E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.27E-01
KR-85	8.06E+00
XE-135	1.68E-01
XE-133M	4.15E-02
XE-131M	4.26E-01
XE-133	9.11E+01

Table 3.2-1

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Byron Station Unit One 2004

Report for: 2004
Unit Range - From: 1 To: 1

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== ANNUAL 2004 =========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	4.47E-04	5.71E-03	5.64E-03	7.27E-03	5.49E-03	1.78E-02	0.00E+00	5.62E-03
TEEN	4.86E-04	4.35E-03	4.27E-03	4.16E-03	4.12E-03	1.30E-02	0.00E+00	4.25E-03
CHILD	6.24E-04	4.80E-03	4.78E-03	4.62E-03	4.58E-03	7.84E-03	0.00E+00	4.74E-03
INFANT	1.49E-06	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03	0.00E+00	2.03E-03

=== SITE DOSE LIMIT ANALYSIS ========== ANNUAL 2004 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	ADULT	GILLI	1.78E-02	7.50E+00	2.38E-01
2004 - Admin. Total Body	ADULT	TBODY	5.62E-03	2.25E+00	2.50E-01
2004 - T.Spc. Any Organ	ADULT	GILLI	1.78E-02	1.00E+01	1.78E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.07E+01
CR-51	8.25E-03
MN-54	3.31E-01
CO-58	2.17E+00
CO-60	8.92E-01
ZR-95	6.17E-03
NB-95	5.54E+01
TE-125M	9.60E+00
TE-132	8.35E-01
I-131	1.18E-04
I-132	4.55E-05
CS-137	1.59E-03

2004 - T.Spc. Total Body	ADULT	TBODY	5.62E-03	3.00E+00	1.87E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.76E+01
CR-51	1.04E-04
MN-54	6.55E-02
CO-58	7.61E-01
CO-60	3.33E-01
ZR-95	4.18E-06

Table 3.2-1 (continued)

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Byron Station Unit Two 2004

Report for: 2004
Unit Range - From: 2 To: 2

Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== ANNUAL 2004 ========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	4.47E-04	5.71E-03	5.64E-03	7.27E-03	5.49E-03	1.78E-02	0.00E+00	5.62E-03
TEEN	4.86E-04	4.35E-03	4.27E-03	4.16E-03	4.12E-03	1.30E-02	0.00E+00	4.25E-03
CHILD	6.24E-04	4.80E-03	4.78E-03	4.62E-03	4.58E-03	7.84E-03	0.00E+00	4.74E-03
INFANT	1.49E-06	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03	0.00E+00	2.03E-03

=== SITE DOSE LIMIT ANALYSIS ========== ANNUAL 2004 ========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2004 - Admin. Any Organ	ADULT	GILLI	1.78E-02	7.50E+00	2.38E-01
2004 - Admin. Total Body	ADULT	TBODY	5.62E-03	2.25E+00	2.50E-01
2004 - T.Spc. Any Organ	ADULT	GILLI	1.78E-02	1.00E+01	1.78E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	3.07E+01
CR-51	8.25E-03
MN-54	3.31E-01
CO-58	2.17E+00
CO-60	8.92E-01
ZR-95	6.17E-03
NB-95	5.54E+01
TE-125M	9.60E+00
TE-132	8.35E-01
I-131	1.18E-04
I-132	4.55E-05
CS-137	1.59E-03

2004 - T.Spc. Total Body	ADULT	TBODY	5.62E-03	3.00E+00	1.87E-01

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.76E+01
CR-51	1.04E-04
MN-54	6.55E-02
CO-58	7.61E-01
CO-60	3.33E-01
ZR-95	4.18E-06

Table 3.4-1

Byron Station - Unit 1

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2004

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	1.130E-05(ESE)	1.860E-05(S)	1.470E-05(NNW)	1.240E-05(SSE)	5.091E-05(S)
BETA AIR (mrad)	5.530E-05(ESE)	9.000E-05(SSE)	1.340E-04(NNW)	7.760E-05(NNW)	3.324E-04(NNW)
WHOLE BODY (mrem)	5.710E-06(S)	1.090E-05(S)	7.450E-06(S)	6.010E-06(SSE)	2.984E-05(S)
SKIN (mrem)	2.220E-05(S)	4.290E-05(S)	3.400E-05(S)	2.820E-05(SE)	1.246E-04(S)
ORGAN (mrem)	1.200E-05(ESE)	9.690E-06(SSE)	2.090E-05(NNW)	1.270E-05(NNW)	5.233E-05(NNW)
CRITICAL PERSON	Child	Child	Teenager	Child	Child
CRITICAL ORGAN	Thyroid	Thyroid	Thyroid	Thyroid	Thyroid

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I QUARTERLY OBJECTIVE	% OF APP. I	10 CFR 50 APP.I YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	0.00	10.0	0.00
BETA AIR (mrad)	10.0	0.00	20.0	0.00
WHOLE BODY (mrem)	2.5	0.00	5.0	0.00
SKIN (mrem)	7.5	0.00	15.0	0.00
ORGAN (mrem)	7.5	0.00	15.0	0.00
CRITICAL PERSON		Teenager		Child
CRITICAL ORGAN		Thyroid		Thyroid

Calculation used release data from the following:
Unit 1 - Vent

Date of calculation: 4/19/2005

Table 3.4-1 (continued)

Byron Station - Unit 2

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2004

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	4.440E-06(ESE)	8.610E-06(S)	3.720E-06(NNW)	6.680E-06(SSE)	2.110E-05(SSE)
BETA AIR (mrad)	2.330E-05(ESE)	4.270E-05(SSE)	3.630E-05(NNW)	4.660E-05(NNW)	1.373E-04(NNW)
WHOLE BODY (mrem)	2.240E-06(S)	5.030E-06(S)	1.890E-06(S)	3.130E-06(SSE)	1.224E-05(S)
SKIN (mrem)	9.640E-06(S)	2.070E-05(S)	9.620E-06(S)	1.680E-05(SE)	5.526E-05(S)
ORGAN (mrem)	9.270E-06(ESE)	4.240E-06(SSE)	1.400E-05(NNW)	9.590E-06(NNW)	3.588E-05(NNW)
CRITICAL PERSON	Teenager	Teenager	Teenager	Teenager	Teenager
CRITICAL ORGAN	Thyroid	Thyroid	Thyroid	Thyroid	Thyroid

COMPLIANCE STATUS

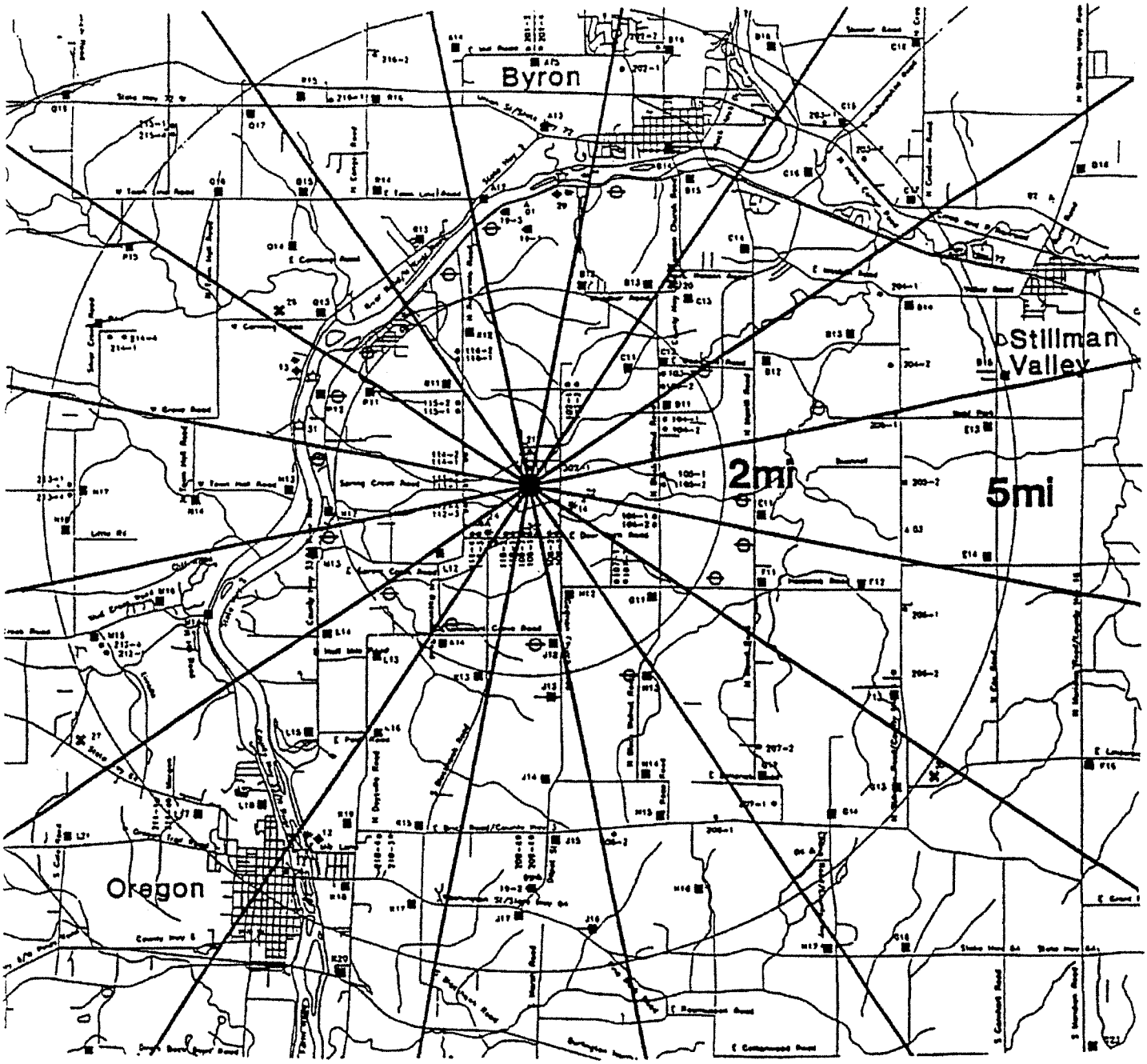
TYPE OF DOSE	10 CFR 50 APP. I QUARTERLY OBJECTIVE	% OF APP. I	10 CFR 50 APP.I YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	0.00	10.0	0.00
BETA AIR (mrad)	10.0	0.00	20.0	0.00
WHOLE BODY (mrem)	2.5	0.00	5.0	0.00
SKIN (mrem)	7.5	0.00	15.0	0.00
ORGAN (mrem)	7.5	0.00	15.0	0.00
CRITICAL PERSON		Teenager		Teenager
CRITICAL ORGAN		Thyroid		Thyroid

Calculation used release data from the following:
Unit 2 - Vent

Data Recovery (priority parameters) 99.6%

Date of calculation: 4/19/2005

Figure 5.0-1

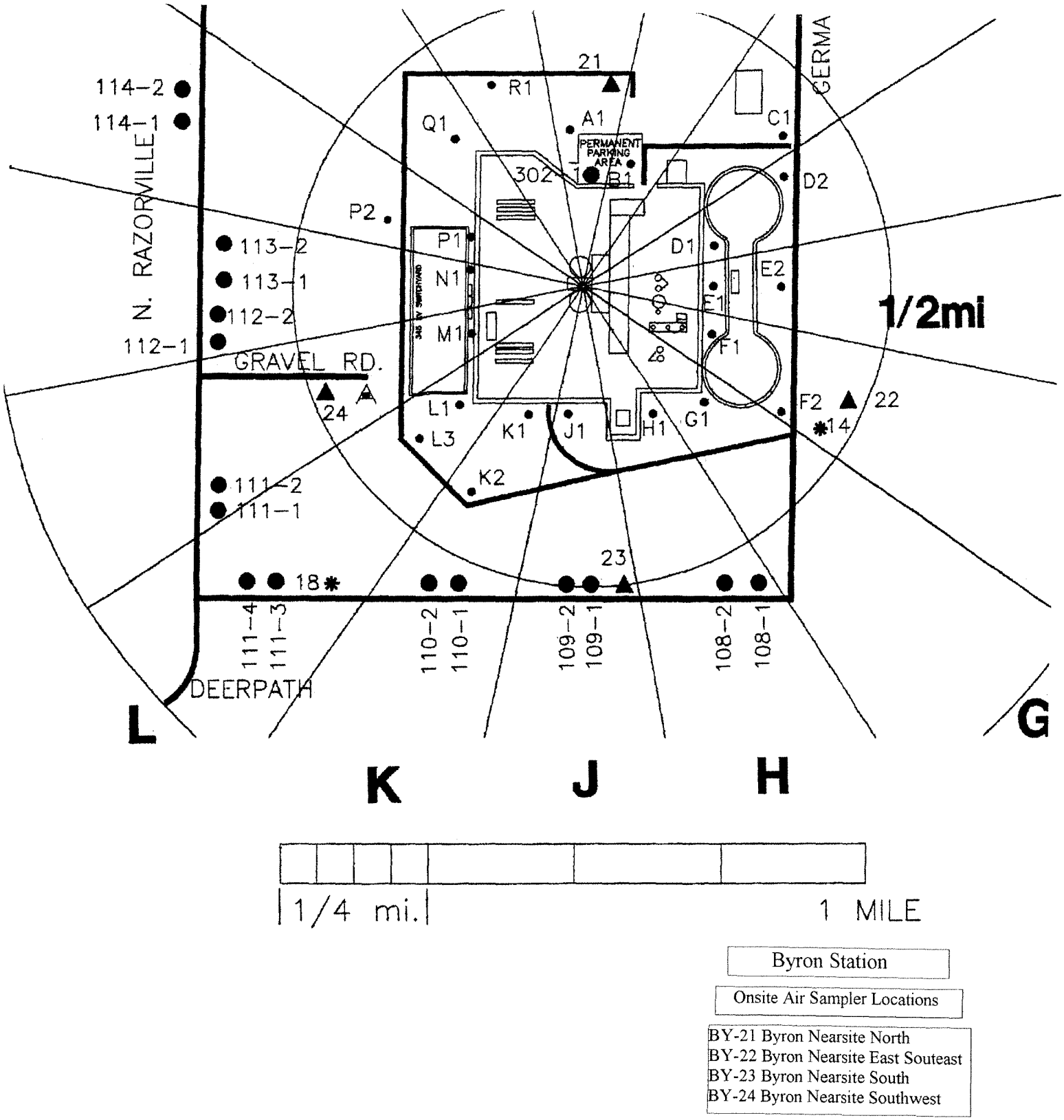


• TLD Location

N

BYRON STATION
INNER AND OUTER RING TLD LOCATIONS

Figure 5.0-2



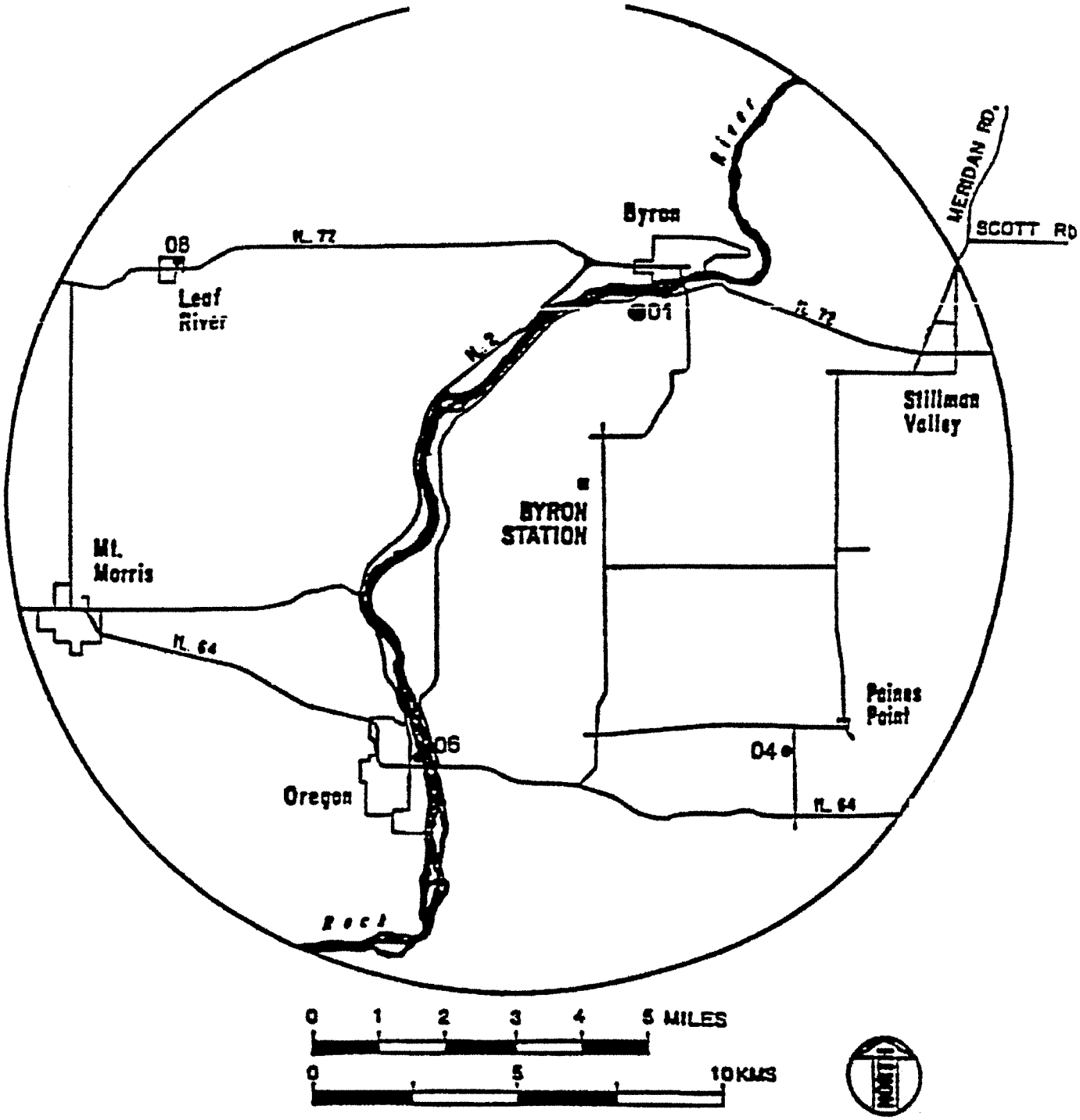
1/4 mi. | 1 MILE

Byron Station

Onsite Air Sampler Locations

BY-21 Byron Nearsite North
BY-22 Byron Nearsite East Souteast
BY-23 Byron Nearsite South
BY-24 Byron Nearsite Southwest

Figure 5.0-3



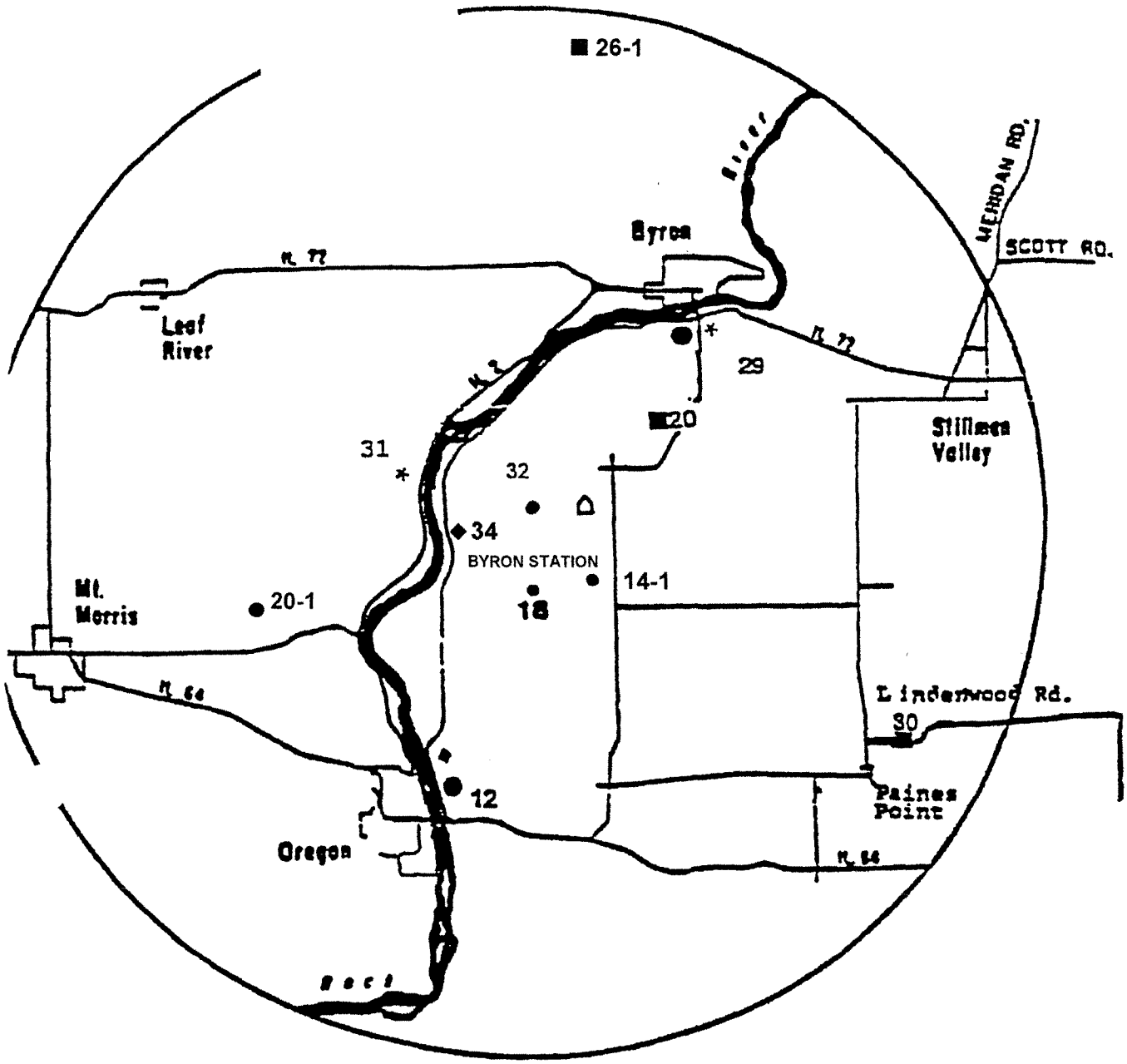
● Air Sampling Location

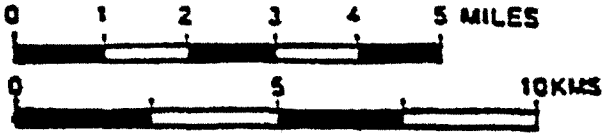
■ Byron Station

Byron Station
Offsite Air Sampling Locations

By-01 Byron
BY-04 Paynes Point
BY-06 Oregon
BY-08 Leaf River

Figure 5.0-4





* Fish
■ Milk
◆ Sediment
● Water
⌂ Byron Station

Byron Station
Ingestion and Waterborne Exposure Pathway Sample Locations
BY-12 Oregon Pool of Rock River, Downstream
BY-14-1 3200 N. German Church Road
BY-18 McCoy Farmstead
BY-20 K. Reeverts Dairy Farm
BY-20-1 Ron Snodgrass Farm
BY-26-1 Dennis Herbert
BY-29 Byron, Upstream
BY-30 Don Roos Dairy
BY-31 Byron, Discharge
BY-32 Ron Wolford Well
BY-34 Rock River, Downstream

TABLE 5.0-1

Byron Radiological Environmental Monitoring Locations	Air Sampling	TLD	Fish	Vegetation	Milk	Sediment	Surface Water	Well Water
BY-01 Byron	✓	✓	.	.	.	.	.	.
BY-04 Paynes Point	✓	✓	.	.	.	.	.	.
BY-06 Oregon	✓	✓	.	.	.	.	.	.
BY-08 Leaf River	✓	✓	.	.	.	.	.	.
BY-12 Oregon Pool of Rock River, Downstream	.	.	.	.	.	✓	✓	.
BY-14-1 3200 German Church Road	.	.	.	.	.	.	.	✓
BY-18 McCoy Farmstead	.	.	.	.	.	.	.	✓
BY-Quad 1 North Cox Road	.	.	.	✓	.	.	.	.
BY-Quad 2 Limerick Road	.	.	.	✓	.	.	.	.
BY-Quad 3 Spring Creek Road	.	.	.	✓	.	.	.	.
BY-Quad 4 Equestrian Pointe	.	.	.	✓	.	.	.	.
BY-Control Gensler Gardens	.	.	.	✓	.	.	.	.
BY-20 K. Reeverts Dairy Farm[a]	.	.	.	.	✓	.	.	.
BY-20-1 Ron Snodgrass Farm[b]	.	.	.	.	✓	.	.	.
BY-21 Byron Near Site N	✓	✓	.	.	.	.	.	.
BY-22 Byron Near Site ESE	✓	✓	.	.	.	.	.	.
BY-23 Byron Near Site S	✓	✓	.	.	.	.	.	.
BY-24 Byron Near Site SW	✓	✓	.	.	.	.	.	.
BY-26-1 Dennis Herbert	.	.	.	.	✓	.	.	.
BY-29 Byron, Upstream	.	.	✓	.	.	.	✓	.
BY-30 Don Roos Dairy	.	.	.	.	✓	.	.	.
BY-31 Byron, Discharge	.	.	✓	.	.	.	.	.
BY-32 Ron Wolford	.	.	.	.	.	.	.	✓
BY-34 Rock River Downstream	.	.	.	.	.	✓	.	.

CENSUS
Dairy
Residence
Cattle

[a] Withdrew from program in June 2004.
[b] Added to program in September 2004 to replace Reeverts Dairy.

TABLE 5.0-2

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

1. AIR SAMPLERS

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-01	Byron	3.0	N	A
BY-04	Paynes Point	5.0	SE	G
BY-06	Oregon	4.7	SSW	K
BY-08 (C)	Leaf River	6.8	WNW	P
BY-21	Byron Nearsite North	0.3	N	A
BY-22	Byron Nearsite East-Southeast	0.4	ESE	F
BY-23	Byron Nearsite South	0.6	S	J
BY-24	Byron Nearsite Southwest	0.6	SW	L

2. TLDs

a. Same as No. 1.

b. Special TLD Locations

Site Code	Distance (miles)	Direction	Sector
Inner Ring			
BY-101-1,2	0.3	N	A
BY-102-1	0.9	NNE	B
BY-102-2	1.0	NNE	B
BY-103-1,2	1.7	NE	C
BY-104-1,2	1.5	ENE	D
BY-105-1,2	1.3	E	E
BY-106-1,2	1.4	ESE	F
BY-107-1,2	1.4	SE	G
BY-108-1	0.7	SSE	H
BY-108-2	0.6	SSE	H
BY-109-1,2	0.6	S	J
BY-110-1,2	0.6	SSW	K
BY-111-3	0.7	SW	L
BY-111-4	0.8	SW	L
BY-112-3,4	0.8	WSW	M
BY-113-1,2	0.7	W	N
BY-114-1,2	0.8	WNW	P
BY-115-1,2	1.0	NW	Q
BY-116-1,2	1.4	NNW	R

[a] Control (background) locations are denoted by a "C" after site code. All other locations are indicators.

TABLE 5.0-2 (continued)

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

2. TLDs

b. Special TLD Locations (continued)

Site Code[a]	Distance (miles)	Direction	Sector
Outer Ring			
BY-201-3	4.5	N	A
BY-201-4	4.4	N	A
BY-202-1	4.3	NNE	B
BY-202-2	4.8	NNE	B
BY-203-1	4.8	NE	C
BY-203-2	4.7	NE	C
BY-204-1	4.2	ENE	D
BY-204-2	4.1	ENE	D
BY-205-1,2	3.8	E	E
BY-206-1	4.1	ESE	F
BY-206-2	4.4	ESE	F
BY-207-1	4.2	SE	G
BY-207-2	3.6	SE	G
BY-208-1	4.0	SSE	H
BY-208-2	3.7	SSE	H
BY-209-1,4	3.7	S	J
BY-210-3,4	3.9	SSW	K
BY-211-1,4	4.9	SW	L
BY-212-1,4	4.7	WSW	M
BY-213-1	4.7	W	N
BY-213-4	4.6	W	N
BY-214-1	4.6	WNW	P
BY-214-4	4.9	WNW	P
BY-215-1	5.3	NW	Q
BY-215-4	5.2	NW	Q
BY-216-1	4.6	NNW	R
BY-216-2	4.8	NNW	R

3. MILK

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-20	K. Reeverts Dairy Farm[b]	2.0	NE	C
BY-20-1	Ron Snodgrass Farm[c]	4.5	W	N
BY-26-1(C)	Dennis Herbert	12.0	N	A
BY-30	Don Roos Dairy	5.3	SE	G

[a] Control (background) locations are denoted by a "C" after site code. All other locations are indicators.
[b] Withdrew from program in June 2004.
[c] Added to program in September 2004 to replace Reeverts Dairy.

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

4. VEGETABLES

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-Quad 1	North Cox Road	4.9	ENE	D
BY-Quad 2	Limerick Road	3.0	SE	G
BY-Quad 3	E. Spring Creek Road	2.0	WSW	M
BY-Quad 4	Equestrian Pointe	2.0	WNW	P
BY-Control (C)	Gensler Gardens	13.0	ENE	D

5. GROUND/WELL WATER

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-14-1	3200 North German Church Road	1.0	SSE	H
BY-18	McCoy Farmstead	0.7	SW	L
BY-32	Ron Wolford Well	1.8	W	N

6. SURFACE WATER

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-12	Oregon Pool of Rock River, Downstream	4.5	SSW	K
BY-29 (C)	Byron, Upstream	3.0	N	A

7. FISH

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-29 (C)	Byron, Upstream	3.0	N	A
BY-31	Byron, Discharge	2.2	WNW	P

8. SEDIMENTS

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-12	Oregon Pool of Rock River, Downstream	4.5	SSW	K
BY-34	Rock River, Downstream	0.6	W	N

[a] Control (background) locations are denoted by a "C" after site code. All other locations are indicators.

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location Code[a]	Location Site	Collection Frequency	Type of Analysis	Frequency of Analysis
1. Airborne Particulates	Onsite, Nearfield and Control		Filter exchange weekly	Gross Beta Gamma Isot.	Weekly Quarterly Composite (or if weekly gross beta in a sample exceeds 5X the average concentration of preceding calendar quarter).
	BY-08 (C)	Leaf River			
	BY-21	Nearsite N			
	BY-22	Nearsite ESE			
	BY-23	Nearsite S			
	BY-24	Nearsite SW			
	Far Field			Gamma Isot.	If gross beta in a sample exceeds 10 times the yearly mean of control samples and radioactivity is confirmed as having its origin in airborne effluents from station.
	BY-01	Byron			
	BY-04	Paynes Point			
	BY-06	Oregon			
2. Airborne Iodine	Same as 1.		Canister exchange biweekly	I-131	Biweekly
3. Air Sampling Train	Same as 1.		-	Test and Maintenance	Weekly
4. TLDs	a. Same as 1. (two TLDs per location)		Quarterly	Gamma	Quarterly
	b. BY-101-1,2	Inner Ring			
	102-1,2				
	103-1,2				
	104-1,2				
	105-1,2				
	106-1,2				
	107-1,2				
	108-1,2				
	109-1,2				
	110-1,2				
	111-3,4				
	112-3,4				
	113-1,2				
	114-1,2				
	115-1,2				
	116-1,2				
	c. BY-201-3,4	Outer Ring			
	202-1,2				
	203-1,2				
	204-1,2				
	205-1,2				
	206-1,2				
	207-1,2				
	208-1,2				
	209-1,4				
	210-3,4				
	211-1,4				
	212-1,4				

[a] Control (background) locations are denoted by a "C" in this column. All other location are indicators.

TABLE 5.0-2 (continued)

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location Code[a]	Location Site	Collection Frequency	Type of Analysis	Frequency of Analysis
4. TLDs (continued)					
	Outer Ring BY-213-1,4 214-1,4 215-1,4 216-1,2		Quarterly	Gamma	Quarterly
5. Milk	BY-20[b] BY-20-1[c] BY-26-1 BY-30	K. Reevert's Dairy Ron Snodgrass Dennis Herbert D. Roos Dairy	Biweekly: May-October Monthly: November-April	I-131 Gamma Isot.	Biweekly: May-October Monthly: November-April
6. Vegetables	Quad 1 Quad 2 Quad 3 Quad 4 Control	N. Cox Road Limerick Road Spring Creek Rd. Equestrian Pointe Gensler Gardens	Annually - two varieties from each location as available at harvest.	Gamma Isot. I-131	Annually Annually
7. Ground/Well Water	BY-14-1 BY-18 BY-32	3200 N. German Road McCoy Farm Wolford Well	Quarterly	Gamma Isot. Tritium	Quarterly
8. Surface Water	BY-12 BY-29 (C)	Oregon Pool of Rock River Downstream Byron,Upstream	Weekly	Gross Beta Gamma Isot. Tritium	Monthly composite. Monthly composite. Quarterly composite.
9. Fish (at least two species)	BY-29 (C) BY-31	Byron, Upstream Byron, Discharge	Two times/year	Gamma Isot.	Two times/year on edible portions only.
10. Sediments	BY-12 BY-34	Oregon Pool of Rock River Downstream Rock River Downstream	Semiannually	Gamma Isot.	Semiannually
11. Land Use Census					
	Milch Animals				
	a. Site Boundary to 2 miles		-	a. Enumeration by a door to door or equivalent counting technique.	Annually during grazing season.
	b. 2 miles to 6.2 miles		-	b. Using referenced information from county agricultural agents or other reliable sources.	

[a] Control (background) locations are denoted by a "C" in this column. All other location are indicators.

[b] Withdrew from program in June 2004.

[c] Added to program in September 2004 to replace Reeverts Dairy.

TABLE 5.0-2 (continued)

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location Code[a]	Location Site	Collection Frequency	Type of Analysis	Frequency of Analysis
11. Land Use Census (continued)	c.	At dairies listed in Item 5.	-	c. Inquire as to feeding practices: 1. Pasture only. 2. Feed and chop only. 3. Pasture and feed: if both, ask farmer to estimate fraction of food from pasture: <25%, 25-50%, 50-75%, or >75%.	Annually during grazing season.
Nearest Residence		In all sectors up to 6.2 miles.	-	-	Annually during grazing season.

[a] Control (background) locations are denoted by a "C" in this column. All other location are indicators.

Table 5.0-3

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
Location of Facility Ogle, Illinois Reporting Period 1st Quarter 2004
(County, State)

Sample Type (Units)	Type and Number of Analyses		LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Air Particulates (pCi/m^3)	Gross Beta	65	0.01	0.027 (52/52) (0.014-0.054)	BY-21, Byron Nearsite North 0.3 mi. N, Sector A	0.029 (13/13) (0.018-0.054)	0.028 (13/13) (0.017-0.041)	0
	Gamma Spec.	5						
	Cs-134		0.05	<LLD	-	-	<LLD	0
	Cs-137		0.06	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m^3)	I-131	35	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131	9	5	<LLD	-	-	<LLD	0
	Gamma Spec.	9						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba -140		60	<LLD	-	-	<LLD	0
	La-140		15	<LLD	-	-	<LLD	0
	Other Gammas		10-15	<LLD	-	-	<LLD	0
Surface Water (pCi/L)	Gross Beta	6	4	4.4 (2/3) (4.1-4.7)	BY-29, Byron, Upstream of Intake, 3.0 mi. N, Sector A	6.0 (2/3) (4.9-7.0)	6.0 (2/3) (4.9-7.0)	0
	Gamma Spec.	6						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas		15-60	<LLD	-	-	<LLD	0
	Tritium	2	200	1,164 (1/1)	BY-12, Oregon Pool of Rock River, Downstreamm 4.5 mi. SSW, Sector K	1,164 (1/1)	<LLD	0
Well Water (pCi/L)	Tritium	3	200	<LLD	-	-	None	0
	Gamma Spec.	3						
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Other ODCM-Required Gammas		15-60	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	80	9.7	23.7 (78/78) (18.0-28.0)	BY-22-2[b], 0.4 mi. ESE, Sector F	28.0 (1/1)	19.5 (2/2) (19.0-20.0)	0

[a] Mean and range based on detectable measurements only. Fractions indicated in parentheses.
[b] Locations BY-22-2 and BY-216-1 had identical results of 28.0 mR. Only BY-22-2 is detailed in this summary.

Table 5.0-4

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
Location of Facility Ogle, Illinois Reporting Period 2nd Quarter 2004
(County, State)

Sample Type (Units)	Type and Number of Analyses		LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Air Particulates (pCi/m^3)	Gross Beta	65	0.01	0.018 (52/52) (0.010-0.035)	BY-08, Leaf River 6.8 mi. WNW, Sector P	0.020 (13/13) (0.013-0.030)	0.020 (13/13) (0.013-0.030)	0
	Gamma Spec.	5						
	Cs-134		0.05	<LLD	-	-	<LLD	0
	Cs-137		0.06	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m^3)	I-131	30	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131	15	1	<LLD	-	-	<LLD	0
	Gamma Spec.	15						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba-140		60	<LLD	-	-	<LLD	0
	La-140		15	<LLD	-	-	<LLD	0
	Other Gammas		10-15	<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Gamma Spec.	4						
	Cs-134		0.13	<LLD	-	-	<LLD	0
	Cs-137		0.15	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas		0.13-0.26	<LLD	-	-	<LLD	0
	Other Gammas		0.20-0.30	<LLD	-	-	<LLD	0
Bottom Sediment (pCi/g wet)	Gamma Spec.	0[b]						
	Cs-134		0.15	<LLD	-	-	None	0
	Cs-137		0.18	<LLD	-	-	None	0

[a] Mean and range based on detectable measurements only. Fractions indicated in parentheses.
[b] Samples not available due to flooding.

Table 5.0-4 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
Location of Facility Ogle, Illinois Reporting Period 2nd Quarter 2004
(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Surface Water (pCi/L)	Gross Beta 6	4	4.0 (1/3)	BY-29, Upstream of Intake, 3.0 mi. N, Sector A	4.1 (1/3)	4.1 (1/3)	0
	Gamma Spec. 6						
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas	15-30	<LLD	-	-	<LLD	0
	Tritium 2	200	<LLD	-	-	<LLD	0
Well Water (pCi/L)	Tritium 3	200	<LLD	-	-	None	0
	Gamma Spec. 3						
	Cs-134	15	<LLD	-	-	None	0
	Cs-137	18	<LLD	-	-	None	0
	Other ODCM-Required Gammas	15-30	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 80	9.7	26.9 (78/78) (20.0-35.0)	BY-104-2, 1.5 mi. ENE, Sector D	35.0 (1/1)	22.5 (2/2) (22.0-23.0)	0

[a] Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-5

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
Location of Facility Ogle, Illinois Reporting Period 3rd Quarter 2004
(County, State)

Sample Type (Units)	Type and Number of Analyses		LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Air Particulates (pCi/m^3)	Gross Beta	65	0.01	0.022 (52/52) (0.011-0.038)	BY-08, Leaf River 6.8 mi. WNW, Sector P	0.025 (13/13) (0.014-0.035)	0.025 (13/13) (0.014-0.035)	0
	Gamma Spec.	5						
	Cs-134		0.05	<LLD	-	-	<LLD	0
	Cs-137		0.06	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m^3)	I-131	35	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131	14	1	<LLD	-	-	<LLD	0
	Gamma Spec.	14						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba -140		60	<LLD	-	-	<LLD	0
	La-140		15	<LLD	-	-	<LLD	0
	Other Gammas		10-15					
Vegetation (pCi/g wet)	I-131	8	0.06	<LLD	-	-	<LLD	0
	Gamma Spec.	8						
	Cs-134		0.06	<LLD	-	-	<LLD	0
	Cs-137		0.08	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.10	<LLD	-	-	<LLD	0
Surface Water (pCi/L)	Gross Beta	6	4	<LLD	-	-	<LLD	0
	Gamma Spec.	6						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas		15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	-	<LLD	0

[a] Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-5 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
Location of Facility Ogle, Illinois Reporting Period 3rd Quarter 2004
(County, State)

Sample Type (Units)	Type and Number of Analyses		LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Well Water (pCi/L)	Tritium	3	200	<LLD	-	-	None	0
	Gamma Spec.	3						
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Other ODCM-Required Gammas		15-30	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	80	9.7	25.2 (78/78) (20.0-29.0)	BY-215-1, 5.3 mi. NW, Sector Q	29.0 (1/1)	21.0 (2/2) (21.0-21.0)	0

[a] Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-6

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
Location of Facility Ogle, Illinois Reporting Period 4th Quarter 2004
(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Air Particulates (pCi/m^3)	Gross Beta 65	0.01	0.025 (52/52) (0.014-0.052)	BY-08, Leaf River 6.8 mi WNW, Sector P	0.026 (13/13) (0.016-0.035)	0.026 (13/13) (0.016-0.035)	0
	Gamma Spec. 5						
	Cs-134	0.05	<LLD	-	-	<LLD	0
	Cs-137	0.06	<LLD	-	-	<LLD	0
	Other Gammas	0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m^3)	I-131 30	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131 12	1	<LLD	-	-	<LLD	0
	Gamma Spec. 12						
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Ba-140	60	<LLD	-	-	<LLD	0
	La-140	15	<LLD	-	-	<LLD	0
	Other Gammas	10-15	<LLD			<LLD	
Fish (pCi/g wet)	Gamma Spec. 4						
	Cs-134	0.13	<LLD	-	-	<LLD	0
	Cs-137	0.15	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas	0.13-0.26	<LLD	-	-	<LLD	0
	Other Gammas	0.20-0.30	<LLD	-	-	<LLD	0
Bottom Sediments (pCi/g dry)	Gamma Spec. 2						
	Cs-134	0.15	<LLD	-	-	<LLD	0
	Cs-137	0.18	<LLD	-	-	<LLD	0
	Other Gammas	0.10-0.60	<LLD	-	-	<LLD	0

[a] Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-6 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
Location of Facility Ogle, Illinois Reporting Period 4th Quarter 2004
(County, State)

Sample Type (Units)	Type and Number of Analyses		LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Surface Water (pCi/L)	Gross Beta	6	4	<LLD	BY-29, Byron, Upstream of Intake, 3.0 mi N, Sector A	4.2 (1/3)	4.2 (1/3)	0
	Gamma Spec.	6						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas		15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	-	<LLD	0
Well Water (pCi/L)	Gamma Spec.	3						
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Other ODCM-Required Gammas		15-30	<LLD	-	-	None	0
	Tritium	3	200	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	80	9.7	24.0 (78/78) (17.0-28.0)	BY-107-7, 1.4 mi. SE, Sector G	28.0 (1/1)	18.5 (2/2) (18.0-19.0)	0

[a] Mean and range based on detectable measurements only. Fractions indicated in parentheses.

APPENDIX II

METEOROLOGICAL DATA

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	1	0	0	1
S	0	0	0	0	2	0	2
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	1	0	1
WSW	0	0	1	0	0	0	1
W	0	0	1	0	0	0	1
WNW	0	0	2	0	0	0	2
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	4	1	3	0	8

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	1	2	1	0	4
S	0	0	0	1	2	0	3
SSW	0	0	0	1	0	0	1
SW	0	0	3	0	0	0	3
WSW	0	0	1	0	0	0	1
W	0	0	1	0	0	0	1
WNW	0	0	3	0	0	0	3
NW	0	0	1	0	0	0	1
NNW	0	0	0	2	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	1	10	6	3	0	20

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	1	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	2	2	0	0	4
S	0	0	0	0	0	0	0
SSW	0	0	0	1	0	1	2
SW	0	0	4	0	0	0	4
WSW	0	0	3	0	0	0	3
W	0	0	3	3	0	0	6
WNW	0	2	0	1	4	2	9
NW	0	1	2	1	0	0	4
NNW	0	0	4	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	4	19	9	4	3	39

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	19	57	30	2	0	110
NNE	5	15	24	3	0	0	47
NE	4	21	12	2	0	0	39
ENE	3	11	25	23	0	0	62
E	7	26	30	9	0	0	72
ESE	2	13	35	31	1	0	82
SE	1	7	24	15	0	0	47
SSE	2	11	30	28	0	0	71
S	0	9	43	29	6	0	87
SSW	4	10	27	34	4	0	79
SW	0	13	22	32	0	1	68
WSW	2	1	25	35	10	2	75
W	3	17	39	46	14	5	124
WNW	5	30	73	48	15	8	179
NW	5	29	78	35	6	2	155
NNW	5	54	72	8	1	0	140
Variable	0	0	0	0	0	0	0
Total	50	286	616	408	59	18	1437

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	4	8	6	0	0	0	18
NNE	2	7	3	0	0	0	12
NE	0	3	2	0	0	0	5
ENE	2	11	11	3	0	0	27
E	5	25	6	0	0	0	36
ESE	4	8	7	7	0	0	26
SE	2	10	9	4	0	0	25
SSE	4	19	12	10	0	0	45
S	3	25	23	7	0	0	58
SSW	2	13	9	5	1	1	31
SW	4	14	25	3	0	0	46
WSW	5	11	17	12	0	0	45
W	4	13	24	6	0	0	47
WNW	5	26	13	2	0	0	46
NW	11	18	3	0	0	0	32
NNW	2	11	0	0	0	0	13
Variable	0	0	0	0	0	0	0
Total	59	222	170	59	1	1	512

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	1	0	0	0	2
NNE	2	0	0	0	0	0	2
NE	0	0	0	0	0	0	0
ENE	0	2	2	0	0	0	4
E	0	8	0	0	0	0	8
ESE	0	3	4	0	0	0	7
SE	1	7	1	0	0	0	9
SSE	1	15	17	0	0	0	33
S	4	10	7	0	0	0	21
SSW	4	4	0	0	0	0	8
SW	3	3	0	0	0	0	6
WSW	1	0	0	0	0	0	1
W	2	0	0	0	0	0	2
WNW	1	1	0	0	0	0	2
NW	2	0	0	0	0	0	2
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	21	54	32	0	0	0	107

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	1	0	0	0	0	0	1
ESE	0	6	2	0	0	0	8
SE	0	2	0	0	0	0	2
SSE	1	2	1	0	0	0	4
S	2	1	1	0	0	0	4
SSW	3	2	0	0	0	0	5
SW	1	0	0	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	8	13	4	0	0	0	25

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	1	0	1
S	0	0	0	0	0	2	2
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	1	1
WSW	0	0	0	1	0	0	1
W	0	0	1	0	0	0	1
WNW	0	0	1	1	0	0	2
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	2	2	1	3	8

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 3

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	1	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	1	2	1	4
S	0	0	0	0	3	1	4
SSW	0	0	0	1	0	0	1
SW	0	0	1	1	0	0	2
WSW	0	0	1	0	0	0	1
W	0	0	1	0	0	0	1
WNW	0	0	1	2	0	0	3
NW	0	0	0	0	0	0	0
NNW	0	0	0	2	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	0	5	7	5	2	19

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 3

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	2	1	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	1	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	1	3	0	4
S	0	0	0	0	0	0	0
SSW	0	0	1	0	1	1	3
SW	0	0	1	2	0	0	3
WSW	0	0	0	4	0	0	4
W	0	1	1	4	0	1	7
WNW	0	1	0	0	0	5	6
NW	0	0	2	1	2	0	5
NNW	0	0	0	3	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	2	8	16	6	7	39

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 3

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	17	40	38	14	2	113
NNE	1	13	15	34	18	0	81
NE	1	7	12	14	3	1	38
ENE	1	6	20	12	14	6	59
E	1	5	39	20	12	2	79
ESE	3	2	23	21	27	2	78
SE	1	2	9	19	11	6	48
SSE	1	4	9	17	22	14	67
S	1	6	12	27	19	12	77
SSW	1	4	10	40	21	7	83
SW	4	3	20	15	30	10	82
WSW	1	1	3	32	29	9	75
W	3	5	25	55	29	19	136
WNW	2	5	36	54	28	27	152
NW	1	6	38	65	41	7	158
NNW	0	11	52	43	8	2	116
Variable	0	0	0	0	0	0	0
Total	24	97	363	506	326	126	1442

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 9
Hours of missing stability measurements in all stability classes: 3

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	9	8	0	0	19
NNE	0	1	5	9	2	0	17
NE	1	4	1	3	0	0	9
ENE	2	5	10	4	0	1	22
E	3	10	18	12	3	0	46
ESE	3	4	1	4	11	3	26
SE	1	1	1	5	6	4	18
SSE	0	2	7	6	7	9	31
S	1	4	7	11	17	6	46
SSW	0	4	10	22	4	6	46
SW	0	1	13	20	16	3	53
WSW	0	1	3	30	12	0	46
W	0	1	4	22	9	0	36
WNW	0	3	17	24	3	1	48
NW	1	5	23	12	0	0	41
NNW	0	5	11	4	0	0	20
Variable	0	0	0	0	0	0	0
Total	12	53	140	196	90	33	524

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 6
Hours of missing stability measurements in all stability classes: 3

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	1	1	1	0	4
NNE	0	0	1	1	0	0	2
NE	0	0	2	0	0	0	2
ENE	0	1	1	0	0	0	2
E	0	1	5	2	0	0	8
ESE	0	3	0	1	4	0	8
SE	0	0	2	0	4	0	6
SSE	0	0	4	4	7	0	15
S	0	0	6	11	11	0	28
SSW	0	0	1	8	3	0	12
SW	0	0	1	2	0	0	3
WSW	0	0	3	3	0	0	6
W	0	1	4	0	0	0	5
WNW	0	1	0	0	0	0	1
NW	0	0	2	1	0	0	3
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	8	36	34	30	0	108

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 3

Byron Nuclear Station

Period of Record: January - March 2004
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	1	1	0	0	2
SSE	0	0	3	5	0	0	8
S	0	1	1	0	1	0	3
SSW	0	1	0	1	1	0	3
SW	0	0	2	1	0	0	3
WSW	0	0	1	2	0	0	3
W	0	0	2	0	0	0	2
WNW	0	1	0	0	0	0	1
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	3	10	10	2	0	25

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 3

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	1	2	0	0	4
NNE	0	0	2	0	0	0	2
NE	0	0	0	1	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	3	0	0	0	3
WSW	0	0	1	1	0	0	2
W	0	0	2	0	0	0	2
WNW	0	1	1	0	0	0	2
NW	0	1	1	0	0	0	2
NNW	0	1	1	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	4	12	4	0	0	20

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	4	4	0	0	8
NNE	0	2	3	0	0	0	5
NE	0	0	0	1	0	0	1
ENE	0	1	0	0	0	0	1
E	0	0	1	0	0	0	1
ESE	0	0	1	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	1	1	0	0	2
SW	0	1	2	0	0	0	3
WSW	0	1	3	1	0	0	5
W	0	2	5	2	0	0	9
WNW	0	3	7	1	0	0	11
NW	0	2	13	0	1	0	16
NNW	0	1	2	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	13	42	10	1	0	66

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	7	11	2	0	0	20
NNE	0	2	1	1	0	0	4
NE	0	2	0	0	0	0	2
ENE	0	0	2	0	0	0	2
E	1	1	2	0	0	0	4
ESE	0	0	3	0	0	0	3
SE	0	0	0	1	0	0	1
SSE	0	0	6	0	0	0	6
S	0	0	2	3	1	0	6
SSW	0	0	3	7	0	1	11
SW	0	1	10	4	0	0	15
WSW	0	4	4	3	0	0	11
W	0	10	9	4	0	0	23
WNW	0	1	7	1	2	0	11
NW	0	5	6	3	0	0	14
NNW	0	5	2	2	1	0	10
Variable	0	0	0	0	0	0	0
Total	1	38	68	31	4	1	143

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	4	20	40	8	0	0	72
NNE	2	14	16	2	0	0	34
NE	1	19	15	9	1	0	45
ENE	3	19	28	7	1	0	58
E	4	29	27	2	0	0	62
ESE	2	8	13	7	4	0	34
SE	1	20	22	9	0	0	52
SSE	0	9	19	4	0	0	32
S	2	11	33	21	3	0	70
SSW	2	24	34	24	12	4	100
SW	3	26	46	31	9	0	115
WSW	2	13	28	14	3	1	61
W	1	19	25	13	8	0	66
WNW	2	25	21	14	4	1	67
NW	5	27	20	6	0	0	58
NNW	7	31	20	7	3	0	68
Variable	0	0	0	0	0	0	0
Total	41	314	407	178	48	6	994

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	7	26	6	1	0	0	40
NNE	3	24	4	1	0	0	32
NE	3	10	6	0	0	0	19
ENE	4	19	22	3	0	0	48
E	2	30	13	2	0	0	47
ESE	1	23	26	5	1	0	56
SE	0	15	17	7	0	0	39
SSE	0	23	35	8	0	0	66
S	2	27	42	13	0	0	84
SSW	10	23	21	8	10	0	72
SW	5	21	27	3	2	0	58
WSW	1	17	4	2	0	0	24
W	5	9	3	0	0	0	17
WNW	7	17	6	0	0	0	30
NW	8	18	2	0	0	0	28
NNW	8	29	6	1	0	0	44
Variable	0	0	0	0	0	0	0
Total	66	331	240	54	13	0	704

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	7	0	0	0	0	9
NNE	1	1	0	0	0	0	2
NE	0	1	0	0	0	0	1
ENE	1	0	1	0	0	0	2
E	2	8	1	0	0	0	11
ESE	1	13	6	0	0	0	20
SE	1	6	2	0	0	0	9
SSE	0	10	9	0	0	0	19
S	5	17	5	0	0	0	27
SSW	5	7	0	0	0	0	12
SW	7	0	0	0	0	0	7
WSW	6	3	0	0	0	0	9
W	9	3	0	0	0	0	12
WNW	13	1	0	0	0	0	14
NW	13	1	0	0	0	0	14
NNW	5	4	0	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	71	82	24	0	0	0	177

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	1	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	1	0	1	0	0	0	2
SSE	4	0	0	0	0	0	4
S	1	4	0	0	0	0	5
SSW	1	3	0	0	0	0	4
SW	2	0	0	0	0	0	2
WSW	3	0	0	0	0	0	3
W	11	0	0	0	0	0	11
WNW	7	0	0	0	0	0	7
NW	9	0	0	0	0	0	9
NNW	3	2	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	42	9	2	0	0	0	53

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	3	2	0	0	5
NNE	0	0	0	1	0	0	1
NE	0	0	0	2	0	0	2
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	3	0	0	0	3
WSW	0	0	0	1	1	0	2
W	0	0	2	0	0	0	2
WNW	0	0	2	0	0	0	2
NW	0	0	1	1	0	0	2
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	0	12	7	1	0	20

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 1

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	4	2	0	7
NNE	0	1	2	2	0	0	5
NE	0	0	0	2	0	0	2
ENE	0	0	1	0	0	0	1
E	0	0	1	0	0	0	1
ESE	0	0	1	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	3	0	1	0	4
WSW	0	0	3	2	1	0	6
W	0	0	4	0	1	0	5
WNW	0	0	6	3	1	0	10
NW	0	0	10	9	0	1	20
NNW	0	0	2	2	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	1	34	24	6	1	66

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 1

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	9	6	1	0	18
NNE	0	1	3	1	0	0	5
NE	0	1	3	0	0	0	4
ENE	0	0	0	0	0	0	0
E	1	0	2	2	1	0	6
ESE	0	0	0	1	0	0	1
SE	0	0	2	0	0	0	2
SSE	0	0	3	2	1	0	6
S	0	0	3	0	0	0	3
SSW	0	0	2	1	8	1	12
SW	0	0	7	4	3	2	16
WSW	0	2	2	6	0	0	10
W	0	3	11	7	2	0	23
WNW	0	2	4	5	0	2	13
NW	0	1	7	3	2	1	14
NNW	0	0	5	2	1	2	10
Variable	0	0	0	0	0	0	0
Total	1	12	63	40	19	8	143

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 1

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	12	37	18	5	0	75
NNE	1	6	22	15	2	0	46
NE	0	8	12	8	4	1	33
ENE	2	10	11	13	15	3	54
E	4	15	25	29	4	0	77
ESE	1	9	6	7	7	5	35
SE	0	6	12	14	4	5	41
SSE	0	5	15	10	3	2	35
S	3	8	13	24	14	3	65
SSW	1	14	14	23	17	13	82
SW	0	10	38	36	30	16	130
WSW	1	2	20	24	14	2	63
W	2	13	16	13	16	8	68
WNW	0	15	16	14	11	6	62
NW	1	9	23	21	10	3	67
NNW	1	10	28	14	5	3	61
Variable	0	0	0	0	0	0	0
Total	20	152	308	283	161	70	994

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 4
Hours of missing stability measurements in all stability classes: 1

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	7	7	23	0	0	37
NNE	0	2	9	16	1	0	28
NE	0	5	16	16	1	0	38
ENE	0	3	13	14	5	0	35
E	0	7	15	17	6	0	45
ESE	1	2	7	30	17	1	58
SE	0	2	9	18	12	2	43
SSE	1	2	7	16	11	3	40
S	0	0	8	30	36	9	83
SSW	0	1	14	34	18	13	80
SW	0	0	18	24	21	4	67
WSW	0	0	8	11	8	1	28
W	0	5	14	8	1	0	28
WNW	0	2	9	9	0	0	20
NW	0	1	10	17	1	0	29
NNW	1	2	15	18	1	0	37
Variable	0	0	0	0	0	0	0
Total	3	41	179	301	139	33	696

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 13
Hours of missing stability measurements in all stability classes: 1

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	8	4	0	0	14
NNE	0	0	0	5	0	0	5
NE	1	1	2	2	0	0	6
ENE	1	6	1	0	0	0	8
E	0	2	3	1	0	0	6
ESE	0	2	2	7	7	0	18
SE	0	2	2	5	2	0	11
SSE	0	1	1	4	4	0	10
S	0	0	1	4	11	1	17
SSW	0	1	4	3	7	0	15
SW	0	1	4	6	3	0	14
WSW	0	0	5	9	0	0	14
W	0	0	5	5	0	0	10
WNW	0	1	3	1	0	0	5
NW	0	2	10	3	0	0	15
NNW	0	4	9	3	0	0	16
Variable	0	0	0	0	0	0	0
Total	2	25	60	62	34	1	184

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 1

Byron Nuclear Station

Period of Record: April - June 2004
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	5	3	1	0	0	9
NNE	0	1	0	0	0	0	1
NE	0	2	0	0	0	0	2
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	0	2	0	0	2
SSE	0	0	0	3	1	0	4
S	0	0	1	0	0	0	1
SSW	0	0	1	1	1	0	3
SW	0	1	2	2	0	0	5
WSW	0	0	2	1	0	0	3
W	1	1	3	0	0	0	5
WNW	0	1	1	5	0	0	7
NW	1	2	4	3	0	0	10
NNW	1	2	3	2	0	0	8
Variable	0	0	0	0	0	0	0
Total	3	16	20	20	2	0	61

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 1

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	2	2	0	0	5
NNE	1	1	1	0	0	0	3
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	1	2	0	0	0	3
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	6	0	0	0	6
S	0	0	1	2	0	0	3
SSW	0	2	10	0	0	0	12
SW	0	0	1	0	0	0	1
WSW	0	0	3	0	0	0	3
W	0	0	1	1	0	0	2
WNW	0	0	1	0	0	0	1
NW	0	3	2	0	0	0	5
NNW	0	2	7	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	1	10	37	5	0	0	53

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	3	1	0	0	6
NNE	1	4	8	0	0	0	13
NE	0	4	0	0	0	0	4
ENE	0	2	0	0	0	0	2
E	0	2	2	0	0	0	4
ESE	0	1	0	0	0	0	1
SE	0	0	1	0	0	0	1
SSE	0	1	4	0	0	0	5
S	0	0	16	3	0	0	19
SSW	0	7	11	0	0	0	18
SW	0	3	1	0	0	0	4
WSW	0	0	1	1	0	0	2
W	0	2	2	0	0	0	4
WNW	1	5	0	0	0	0	6
NW	0	4	2	0	0	0	6
NNW	0	8	2	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	2	45	53	5	0	0	105

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	2	7	0	0	0	10
NNE	1	5	8	0	0	0	14
NE	1	0	1	0	0	0	2
ENE	0	1	1	0	0	0	2
E	0	5	2	0	0	0	7
ESE	1	0	2	0	0	0	3
SE	0	1	2	0	0	0	3
SSE	0	5	4	0	0	0	9
S	0	1	11	4	0	0	16
SSW	1	6	7	1	0	0	15
SW	0	8	6	0	0	0	14
WSW	0	3	5	1	0	0	9
W	0	6	4	0	0	0	10
WNW	0	7	0	0	0	0	7
NW	0	9	1	0	0	0	10
NNW	1	9	3	0	0	0	13
Variable	0	0	0	0	0	0	0
Total	6	68	64	6	0	0	144

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	5	40	18	6	0	0	69
NNE	4	14	12	0	0	0	30
NE	1	8	6	0	0	0	15
ENE	0	14	4	0	0	0	18
E	3	13	11	0	0	0	27
ESE	0	9	7	0	0	0	16
SE	2	7	11	0	0	0	20
SSE	4	16	23	0	0	0	43
S	8	34	44	3	0	0	89
SSW	8	35	22	4	0	0	69
SW	2	27	28	0	0	0	57
WSW	4	19	21	1	0	0	45
W	4	37	35	5	0	0	81
WNW	6	26	11	3	0	0	46
NW	5	19	3	0	0	0	27
NNW	7	30	7	0	0	0	44
Variable	0	0	0	0	0	0	0
Total	63	348	263	22	0	0	696

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	6	37	20	0	0	0	63
NNE	4	12	2	0	0	0	18
NE	8	12	4	0	0	0	24
ENE	7	21	6	0	0	0	34
E	3	21	1	0	0	0	25
ESE	1	14	2	0	0	0	17
SE	3	20	12	0	0	0	35
SSE	5	35	38	1	0	0	79
S	6	42	17	2	0	0	67
SSW	10	23	0	1	0	0	34
SW	9	22	1	0	0	0	32
WSW	8	15	3	0	0	0	26
W	8	25	7	1	0	0	41
WNW	10	20	3	1	0	0	34
NW	11	14	0	0	0	0	25
NNW	12	12	1	0	0	0	25
Variable	0	0	0	0	0	0	0
Total	111	345	117	6	0	0	579

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	13	13	0	0	0	0	26
NNE	4	7	0	0	0	0	11
NE	3	1	0	0	0	0	4
ENE	5	4	0	0	0	0	9
E	2	12	0	0	0	0	14
ESE	3	14	2	0	0	0	19
SE	8	24	3	0	0	0	35
SSE	5	60	7	0	0	0	72
S	12	26	0	0	0	0	38
SSW	14	5	0	0	0	0	19
SW	12	5	0	0	0	0	17
WSW	7	0	0	0	0	0	7
W	17	0	0	0	0	0	17
WNW	14	5	0	0	0	0	19
NW	6	2	0	0	0	0	8
NNW	8	8	0	0	0	0	16
Variable	0	0	0	0	0	0	0
Total	133	186	12	0	0	0	331

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	2	0	0	0	0	3
NNE	1	0	0	0	0	0	1
NE	3	0	0	0	0	0	3
ENE	2	0	0	0	0	0	2
E	5	3	0	0	0	0	8
ESE	2	13	1	0	0	0	16
SE	4	24	1	0	0	0	29
SSE	16	44	10	0	0	0	70
S	19	18	1	0	0	0	38
SSW	9	3	0	0	0	0	12
SW	14	0	0	0	0	0	14
WSW	2	0	0	0	0	0	2
W	10	1	0	0	0	0	11
WNW	11	0	0	0	0	0	11
NW	15	1	0	0	0	0	16
NNW	11	1	0	0	0	0	12
Variable	0	0	0	0	0	0	0
Total	125	110	13	0	0	0	248

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	4	2	0	0	6
NNE	0	1	1	2	0	0	4
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	2	1	0	0	3
ESE	0	0	0	0	0	0	0
SE	0	1	0	0	0	0	1
SSE	0	0	0	4	0	0	4
S	0	0	1	3	1	0	5
SSW	0	0	6	4	0	0	10
SW	0	0	2	1	0	0	3
WSW	0	0	1	1	0	0	2
W	0	0	0	1	2	0	3
WNW	0	0	0	0	0	0	0
NW	0	0	3	0	0	0	3
NNW	0	1	8	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	0	3	28	19	3	0	53

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 6

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	5	1	0	0	6
NNE	0	1	2	5	0	0	8
NE	0	2	5	2	0	0	9
ENE	0	2	1	0	0	0	3
E	0	2	2	1	0	0	5
ESE	0	0	1	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	0	4	1	0	5
S	0	0	9	5	1	0	15
SSW	0	1	10	8	2	0	21
SW	0	2	2	0	0	0	4
WSW	0	0	0	1	1	0	2
W	0	2	1	2	0	0	5
WNW	0	2	3	0	0	0	5
NW	0	1	3	2	0	0	6
NNW	0	4	6	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	0	19	50	31	5	0	105

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 6

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	3	3	0	0	6
NNE	0	1	3	6	0	0	10
NE	0	1	5	2	0	0	8
ENE	0	0	1	1	0	0	2
E	0	3	1	0	0	0	4
ESE	0	3	3	2	0	0	8
SE	0	0	0	1	0	0	1
SSE	0	2	3	5	0	0	10
S	0	0	6	5	2	0	13
SSW	0	4	9	4	2	0	19
SW	0	3	5	4	1	0	13
WSW	0	4	1	1	2	0	8
W	0	3	0	6	0	0	9
WNW	0	6	5	0	0	0	11
NW	0	4	5	1	0	0	10
NNW	0	7	6	1	0	0	14
Variable	0	0	0	0	0	0	0
Total	0	41	56	42	7	0	146

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 6

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	4	23	27	4	1	0	59
NNE	0	8	15	14	9	0	46
NE	2	2	6	4	1	0	15
ENE	0	4	4	6	0	0	14
E	0	9	6	10	0	0	25
ESE	0	7	13	3	0	0	23
SE	0	3	4	13	1	0	21
SSE	2	5	13	12	2	0	34
S	2	16	30	35	7	0	90
SSW	2	12	30	16	4	3	67
SW	3	18	18	15	1	0	55
WSW	3	7	14	20	2	0	46
W	1	12	25	22	5	0	65
WNW	1	17	18	25	5	0	66
NW	2	21	9	4	0	0	36
NNW	1	11	11	5	0	0	28
Variable	0	0	0	0	0	0	0
Total	23	175	243	208	38	3	690

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 8
Hours of missing stability measurements in all stability classes: 6

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	4	11	19	0	0	36
NNE	1	2	14	31	4	0	52
NE	0	4	7	8	1	0	20
ENE	0	5	13	14	0	0	32
E	1	3	17	13	0	0	34
ESE	0	4	2	9	1	0	16
SE	1	2	2	9	1	1	16
SSE	0	4	7	10	21	1	43
S	0	2	16	29	26	2	75
SSW	0	3	24	26	3	0	56
SW	0	1	17	16	1	0	35
WSW	1	2	24	5	0	0	32
W	0	6	18	21	0	0	45
WNW	1	4	14	6	2	0	27
NW	1	4	14	20	2	0	41
NNW	3	6	9	4	0	0	22
Variable	0	0	0	0	0	0	0
Total	11	56	209	240	62	4	582

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 7
Hours of missing stability measurements in all stability classes: 6

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	7	7	0	0	16
NNE	0	1	6	13	0	0	20
NE	0	5	6	6	0	0	17
ENE	0	5	1	2	0	0	8
E	0	3	7	1	0	0	11
ESE	0	2	3	7	4	0	16
SE	2	2	3	5	9	3	24
SSE	0	1	3	14	11	1	30
S	2	4	6	27	10	0	49
SSW	3	2	10	31	4	0	50
SW	0	0	2	9	1	0	12
WSW	0	7	5	3	0	0	15
W	0	4	12	1	0	0	17
WNW	1	4	14	3	0	0	22
NW	2	3	5	7	0	0	17
NNW	1	2	11	2	1	0	17
Variable	0	0	0	0	0	0	0
Total	11	47	101	138	40	4	341

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 2
Hours of missing stability measurements in all stability classes: 6

Byron Nuclear Station

Period of Record: July - September 2004
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	2	2	0	0	5
NNE	0	5	2	3	0	0	10
NE	1	10	4	6	0	0	21
ENE	0	2	1	0	0	0	3
E	1	1	0	0	0	0	2
ESE	0	2	0	2	5	0	9
SE	0	3	0	2	8	1	14
SSE	0	2	3	5	9	2	21
S	0	3	5	30	9	0	47
SSW	0	2	23	17	17	0	59
SW	1	4	7	7	0	0	19
WSW	1	4	6	9	0	0	20
W	0	6	8	0	0	0	14
WNW	1	5	4	1	0	0	11
NW	1	2	4	1	0	0	8
NNW	0	0	3	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	6	52	72	86	48	3	267

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 6

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	1	0	0	0	1
NE	0	0	1	1	0	0	2
ENE	0	1	0	0	0	0	1
E	0	6	0	0	0	0	6
ESE	0	3	2	0	0	0	5
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	1	1	0	0	2
SW	0	2	6	3	0	0	11
WSW	0	2	1	0	0	0	3
W	0	2	5	0	0	0	7
WNW	0	5	3	0	0	0	8
NW	0	0	0	0	0	0	0
NNW	0	1	5	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	0	22	26	5	0	0	53

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	2	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	3	0	0	0	0	3
ESE	0	5	1	0	0	0	6
SE	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	1	1	0	0	2
SSW	0	0	0	0	0	0	0
SW	0	1	3	1	0	0	5
WSW	0	1	0	0	0	0	1
W	0	0	1	0	0	0	1
WNW	0	1	1	1	0	0	3
NW	0	1	0	0	0	0	1
NNW	0	5	1	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	0	17	11	3	0	0	31

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	1	0	0	0	2
NNE	0	2	0	1	0	0	3
NE	0	0	0	1	0	0	1
ENE	0	1	0	0	0	0	1
E	0	6	0	0	0	0	6
ESE	0	1	0	0	0	0	1
SE	0	0	2	0	0	0	2
SSE	0	0	0	0	0	0	0
S	0	0	2	4	0	0	6
SSW	0	0	0	0	0	0	0
SW	0	1	3	2	0	0	6
WSW	0	0	4	0	0	0	4
W	0	4	2	0	2	0	8
WNW	0	2	1	0	0	0	3
NW	0	2	2	2	0	0	6
NNW	0	2	2	1	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	22	19	11	2	0	54

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	13	18	26	2	0	62
NNE	3	18	3	11	0	0	35
NE	2	18	2	1	0	0	23
ENE	6	24	18	1	0	0	49
E	3	28	10	0	0	0	41
ESE	1	9	3	0	0	0	13
SE	5	11	26	4	0	0	46
SSE	0	9	66	17	5	0	97
S	1	12	33	20	5	0	71
SSW	0	17	39	20	2	0	78
SW	2	21	35	11	1	0	70
WSW	2	12	24	14	7	1	60
W	2	12	28	28	10	0	80
WNW	2	32	51	29	10	4	128
NW	3	29	39	21	4	0	96
NNW	5	18	46	18	1	0	88
Variable	0	0	0	0	0	0	0
Total	40	283	441	221	47	5	1037

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	5	24	21	0	0	0	50
NNE	3	20	11	4	0	0	38
NE	6	8	5	1	0	0	20
ENE	8	21	19	2	0	0	50
E	7	33	14	0	0	0	54
ESE	8	15	8	0	0	0	31
SE	3	15	16	1	0	0	35
SSE	0	20	12	6	0	0	38
S	2	16	24	6	1	0	49
SSW	4	21	31	23	1	0	80
SW	5	42	30	6	0	0	83
WSW	1	21	15	2	0	0	39
W	15	18	11	1	0	0	45
WNW	8	15	13	1	0	0	37
NW	9	26	3	0	0	0	38
NNW	4	27	13	0	0	0	44
Variable	0	0	0	0	0	0	0
Total	88	342	246	53	2	0	731

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	1	0	0	0	4
NNE	1	4	0	0	0	0	5
NE	2	1	0	0	0	0	3
ENE	3	3	2	0	0	0	8
E	2	13	0	0	0	0	15
ESE	3	10	1	0	0	0	14
SE	0	9	1	0	0	0	10
SSE	0	10	1	0	0	0	11
S	4	11	3	0	0	0	18
SSW	6	4	0	0	0	0	10
SW	1	1	0	0	0	0	2
WSW	5	0	0	0	0	0	5
W	9	6	0	0	0	0	15
WNW	5	4	0	0	0	0	9
NW	11	4	0	0	0	0	15
NNW	3	3	0	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	55	86	9	0	0	0	150

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	1	1	0	0	0	0	2
E	9	12	0	0	0	0	21
ESE	2	7	0	0	0	0	9
SE	1	9	0	0	0	0	10
SSE	0	21	2	0	0	0	23
S	0	3	0	0	0	0	3
SSW	0	4	0	0	0	0	4
SW	1	1	0	0	0	0	2
WSW	0	0	0	0	0	0	0
W	3	0	0	0	0	0	3
WNW	4	0	0	0	0	0	4
NW	4	0	0	0	0	0	4
NNW	1	1	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	27	59	2	0	0	0	88

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	2	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	0	2	1	0	3
ENE	0	0	1	0	0	0	1
E	0	0	6	0	0	0	6
ESE	0	0	3	2	0	0	5
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	1	0	0	1
SSW	0	0	1	0	0	0	1
SW	0	0	8	0	3	0	11
WSW	0	0	2	1	1	0	4
W	0	0	4	2	0	0	6
WNW	0	2	6	1	0	0	9
NW	0	0	0	0	0	0	0
NNW	0	1	3	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	3	34	11	5	0	53

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	2	0	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	3	0	0	0	3
ESE	0	1	4	1	0	0	6
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	0	0	1	1	0	2
SSW	0	0	0	0	0	0	0
SW	0	0	1	0	2	0	3
WSW	0	0	1	1	0	0	2
W	0	0	2	0	0	0	2
WNW	0	0	1	0	1	0	2
NW	0	1	1	0	0	0	2
NNW	0	4	1	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	7	17	3	4	0	31

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	2	1	0	0	3
NNE	0	0	2	0	0	0	2
NE	0	0	0	0	2	0	2
ENE	0	0	0	0	0	0	0
E	0	2	4	0	0	0	6
ESE	0	1	1	0	0	0	2
SE	0	0	1	1	0	0	2
SSE	0	0	0	0	0	0	0
S	0	0	0	4	0	0	4
SSW	0	0	0	0	2	0	2
SW	0	0	2	2	2	0	6
WSW	0	0	0	3	0	0	3
W	0	3	1	2	0	2	8
WNW	0	1	1	1	0	0	3
NW	0	3	0	1	2	0	6
NNW	0	1	1	2	1	0	5
Variable	0	0	0	0	0	0	0
Total	0	11	15	17	9	2	54

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	5	27	18	19	5	74
NNE	2	9	9	5	20	0	45
NE	6	5	13	1	2	0	27
ENE	1	7	18	4	5	0	35
E	2	5	25	25	5	0	62
ESE	0	4	4	3	0	0	11
SE	0	6	10	5	15	0	36
SSE	0	2	14	39	18	12	85
S	0	2	17	30	13	10	72
SSW	2	4	17	31	24	6	84
SW	0	4	15	29	15	4	67
WSW	0	3	15	27	9	5	59
W	0	6	12	19	28	19	84
WNW	3	6	19	34	34	16	112
NW	0	11	34	40	12	15	112
NNW	0	5	18	35	15	2	75
Variable	0	0	0	0	0	0	0
Total	16	84	267	345	234	94	1040

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	4	11	14	1	0	33
NNE	2	5	9	27	8	2	53
NE	1	11	8	11	5	1	37
ENE	7	9	3	12	9	0	40
E	2	8	19	36	6	0	71
ESE	1	9	3	12	2	0	27
SE	0	1	6	10	6	0	23
SSE	0	2	9	20	6	5	42
S	0	1	8	15	9	6	39
SSW	0	1	8	25	22	7	63
SW	0	7	14	36	41	8	106
WSW	1	2	8	38	7	1	57
W	2	1	15	22	2	0	42
WNW	2	5	5	10	6	0	28
NW	0	5	11	17	4	0	37
NNW	1	9	15	31	2	0	58
Variable	0	0	0	0	0	0	0
Total	22	80	152	336	136	30	756

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 2
Hours of missing stability measurements in all stability classes: 10

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	0	5	4	0	0	10
NNE	0	0	6	1	0	0	7
NE	1	1	4	3	0	0	9
ENE	1	3	10	2	0	0	16
E	0	0	8	6	2	0	16
ESE	0	1	5	2	1	0	9
SE	1	1	2	3	8	0	15
SSE	0	0	0	4	3	0	7
S	0	0	0	3	8	0	11
SSW	0	1	0	8	2	0	11
SW	0	3	1	6	1	0	11
WSW	0	1	0	0	0	0	1
W	0	2	3	3	0	0	8
WNW	0	2	4	7	0	0	13
NW	0	0	1	4	1	0	6
NNW	0	2	8	3	0	0	13
Variable	0	0	0	0	0	0	0
Total	4	17	57	59	26	0	163

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Nuclear Station

Period of Record: October - December2004
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	1	0	0	2
NNE	0	1	4	0	0	0	5
NE	0	1	4	0	0	0	5
ENE	0	2	2	0	0	0	4
E	1	6	9	1	0	0	17
ESE	0	0	2	2	6	0	10
SE	0	2	2	2	2	0	8
SSE	0	0	5	3	0	1	9
S	0	0	1	8	9	0	18
SSW	0	0	0	4	6	0	10
SW	0	0	0	0	0	0	0
WSW	0	0	0	3	2	0	5
W	0	0	0	2	0	0	2
WNW	0	0	0	1	0	0	1
NW	0	0	0	2	0	0	2
NNW	0	0	0	1	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	12	30	30	25	1	99

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

BYRON

APPENDIX III

2004 REMP SAMPLE RESULTS

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1.0 INTRODUCTION

The following constitutes the 2004 Progress Report for the Radiological Environmental Monitoring Program conducted at the Byron Station, Byron, Illinois. Results of completed analyses are presented in the attached tables.

Data obtained in the program are well within the ranges previously encountered in the program and to be expected in the environmental media sampled.

For all gamma isotopic analyses, spectrum is computer scanned from 80 to 2048 keV. Specifically included are Mn-54, Fe-59, Co-58, Co-60, Zn-65, Zr-95, Nb-95, I-131, Ba-140, La-140, Cs-134 and Cs-137. Naturally occurring gamma-emitters, such as K-40 and Ra daughters, are frequently detected but not listed here. The data is reported in the format of x±2s;2TPU, where "x" is the significant result, "s" is the one standard deviation counting uncertainty, and TPU is the total propagated uncertainty at the one sigma confidence level.

Locations denoted by a "(C)" after site code refer to control locations.

All concentrations, except gross beta, are decay corrected to the time of collection.

TLD data is provided by Exelon Generation Company.

Deviations from Scheduled Sampling and Corrective Actions Taken

All samples were collected within the scheduled period unless noted otherwise in the Listing of Missed Samples.

Unusual Environmental Measurements

None for 2004

Sample Type	Location Code	Collection Date	Comments

2.0 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Expected Collection Date	Reason
SW	BY-29	01-13-04 to 02-17-04	No sample; water frozen.
BS	BY-12	05-25-04	Sample not available in May due to flooding; will collect as soon as river recedes.
BS	BY-34	05-25-04	Sample not available in May due to flooding; will collect as soon as river recedes.
MI	BY-20	06-01-04	No sample; no one home. Collector will obtain sample next week.
TLD	BY-206-2	06-01-04	TLD BY-206-2 found missing during monthly check; placed Spare #Y2048082.
BS	BY-12	06-08-04	Sample not collected in June due to flooding; will collect as soon as river recedes.
MI	BY-20	06-08-04	No sample; participant withdrew from program.
BS	BY-34	06-08-04	Sample not collected in June due to flooding; will collect as soon as river recedes.
VE	BY-Quad 2	09-16-04	No root vegetation collected; after diligent search of quadrant, collector was unable to find sample or viable alternative.
VE	BY-Quad 3	09-16-04	No root vegetation collected; after diligent search of quadrant, collector was unable to find sample or viable alternative.
SW	BY-12	12-21-04	No sample; water frozen.
SW	BY-29	12-21-04	No sample; water frozen.
SW	BY-12	12-28-04	No sample; water frozen.
SW	BY-29	12-28-04	No sample; water frozen.

3.0 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
WW	BY-14-1	01-13-04	Well BY-14-1 not located; not on station map or in former collector's route directions. Address supplied to collector by Program Coordinator on 01-14-04; will collect next week. (Sample collected 01-20-04).
A/I	BY-22	02-17-04	Unable to read timer; loose wire found; estimated reading of 167.6 hours used. Collector reattached wire.
A	BY-22	06-15-04	Timer motor stalled out; collector replaced timer. Estimated time of 167.5 hrs. used for calculations.
A	BY-24	07-27-04	Timer meter found not working; collector replaced timer. Estimated time of 167.6 hrs. used for calculations.
A/I	BY-08	08-16-04	Collector found vacuum gauge broken; replaced gauge and checked reading.

4.0 2004 ANALYSES DATA TABLES

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-08 (C) Leaf River				
Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
01-06-04		333	3.4 ± 0.4; 0.7	0.0± 0.3; 0.3
01-13-04		281	3.5 ± 0.4; 0.7	-
01-20-04		282	2.3 ± 0.3; 0.5	0.1± 0.3; 0.3
01-27-04		285	1.7 ± 0.3; 0.4	-
02-03-04		289	4.1 ± 0.5; 0.9	-1.1± 0.4; 0.4
02-10-04		281	4.1 ± 0.4; 0.8	-
02-17-04		284	3.6 ± 0.4; 0.8	-1.0± 0.4; 0.4
02-24-04		290	3.1 ± 0.4; 0.7	-
03-02-04		292	2.3 ± 0.3; 0.5	-0.4± 0.3; 0.3
03-09-04		287	2.3 ± 0.3; 0.5	-
03-16-04		284	2.4 ± 0.4; 0.6	-0.2± 0.3; 0.3
03-23-04		284	1.9 ± 0.3; 0.5	-
03-30-04		287	2.2 ± 0.3; 0.5	0.7± 0.4; 0.4
1st Qtr. Mean±s.d.			2.8 ± 0.8	-0.3± 0.6
04-06-04		293	1.9 ± 0.4; 0.5	-
04-13-04		288	1.9 ± 0.4; 0.5	0.2± 0.3; 0.3
04-20-04		292	3.0 ± 0.4; 0.7	-
04-27-04		304	1.7 ± 0.3; 0.4	0.0± 0.3; 0.3
05-04-04	05-07-04	285	2.6 ± 0.3; 0.6	-
05-11-04	05-17-04	287	2.8 ± 0.3; 0.6	0.2± 0.4; 0.4
05-18-04	05-21-04	283	1.3 ± 0.3; 0.4	-
05-25-04	06-16-04	282	1.7 ± 0.3; 0.5	0.1± 0.4; 0.4
06-01-04	06-04-04	285	1.6 ± 0.3; 0.4	-
06-08-04	06-11-04	284	2.0 ± 0.3; 0.5	-0.1± 0.3; 0.3
06-15-04	06-18-04	285	1.9 ± 0.3; 0.5	-
06-22-04	06-25-04	287	1.4 ± 0.3; 0.4	0.1± 0.3; 0.3
06-29-04	07-02-04	287	2.0 ± 0.3; 0.5	-
2nd Qtr. Mean±s.d.			2.0 ± 0.5	0.1± 0.1

[a] Volume based on two week collection period.

NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-08 (C) Leaf River

	Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
	07-06-04	07-09-04	283	2.4 ± 0.4; 0.6	-0.3± 0.3;0.3
	07-13-04	07-16-04	289	1.4 ± 0.3; 0.4	-
	07-20-04	07-23-04	283	2.1 ± 0.4; 0.5	-0.5± 0.3;0.3
	07-27-04	08-02-04	284	2.2 ± 0.4; 0.5	-
	08-03-04	08-06-04	284	3.4 ± 0.4; 0.7	0.7± 0.4;0.4
	08-10-04	08-17-04	285	2.0 ± 0.3; 0.5	-
	08-16-04	08-20-04	244[b]	1.7 ± 0.4; 0.5	0.4± 0.4;0.4
	08-24-04	08-30-04	327	3.0 ± 0.3; 0.6	-
	08-31-04	09-03-04	287	1.4 ± 0.3; 0.4	-0.2± 0.3;0.3
	09-07-04	09-10-04	285	3.4 ± 0.4; 0.7	-
	09-14-04	09-17-04	285	2.7 ± 0.4; 0.6	-0.6± 0.3;0.4
	09-21-04	09-23-04	282	3.1 ± 0.4; 0.7	-
	09-28-04	10-01-04	289	3.5 ± 0.4; 0.7	-0.5± 0.4;0.4
3rd Qtr. Mean±s.d.				2.5 ± 0.8	-0.2± 0.5
	10-05-04	10-11-04	282	2.3 ± 0.3; 0.5	-
	10-12-04	10-15-04	289	2.5 ± 0.4; 0.6	-0.1± 0.4;0.4
	10-19-04	10-22-04	280	1.6 ± 0.4; 0.5	-
	10-27-04	11-01-04	323	2.4 ± 0.3; 0.5	-0.6± 0.3;0.3
	11-02-04	11-05-04	249	2.1 ± 0.4; 0.6	-
	11-09-04	11-12-04	279	2.2 ± 0.4; 0.6	-0.4± 0.4;0.4
	11-16-04	11-19-04	287	3.2 ± 0.4; 0.7	-
	11-23-04	12-01-04	288	2.7 ± 0.4; 0.6	0.4± 0.3;0.3
	11-30-04	12-03-04	283	2.1 ± 0.3; 0.5	-
	12-08-04	12-11-04	329	3.3 ± 0.4; 0.7	-0.4± 0.3;0.3
	12-15-04	12-20-05	279	3.5 ± 0.4; 0.8	-
	12-21-04	12-26-04	242	2.3 ± 0.4; 0.6	-0.1± 0.4;0.4
	12-27-04	12-30-04	241	3.3 ± 0.5; 0.8	-
4th Qtr. Mean±s.d.				2.6 ± 0.6	-0.2± 0.3

[a] Volume based on two week collection period.
[b] Collector found vacuum gauge broken; replaced gauge and checked reading.
NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-21 Byron Nearsite N

	Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
	01-06-04		336	5.4 ± 0.4; 1.1	-
	01-13-04		283	3.8 ± 0.4; 0.8	-
	01-20-04		286	2.6 ± 0.3; 0.6	0.9± 0.3;0.3
	01-27-04		286	1.9 ± 0.3; 0.5	-
	02-03-04		287	3.6 ± 0.4; 0.8	-0.1± 0.3;0.3
	02-10-04		284	3.8 ± 0.4; 0.8	-
	02-17-04		284	2.9 ± 0.4; 0.6	0.6± 0.3;0.3
	02-24-04		280	2.4 ± 0.3; 0.6	-
	03-02-04		273	2.3 ± 0.3; 0.5	0.1± 0.4;0.4
	03-09-04		246	2.6 ± 0.4; 0.6	-
	03-16-04		275	2.4 ± 0.4; 0.6	0.7± 0.4;0.4
	03-23-04		275	1.8 ± 0.3; 0.4	-
	03-30-04		274	2.3 ± 0.3; 0.5	-0.2± 0.3;0.3
1st Qtr. Mean±s.d.				2.9 ± 1.0	0.4± 0.5
	04-06-04		259	1.4 ± 0.4; 0.4	-
	04-13-04		279	1.9 ± 0.4; 0.5	-0.2± 0.3;0.3
	04-20-04		273	2.5 ± 0.4; 0.6	-
	04-27-04		271	1.5 ± 0.3; 0.4	0.1± 0.4;0.4
	05-04-04	05-07-04	288	2.1 ± 0.3; 0.5	-
	05-11-04	05-17-04	287	2.6 ± 0.3; 0.6	-0.3± 0.3;0.3
	05-18-04	05-21-04	284	1.4 ± 0.3; 0.4	-
	05-25-04	06-16-04	285	1.5 ± 0.3; 0.4	0.2± 0.3;0.3
	06-01-04	06-04-04	283	1.4 ± 0.3; 0.4	-
	06-08-04	06-11-04	284	1.9 ± 0.3; 0.5	-0.1± 0.3;0.3
	06-15-04	06-18-04	284	1.8 ± 0.3; 0.4	-
	06-22-04	06-25-04	284	1.4 ± 0.3; 0.4	0.1± 0.3;0.3
	06-29-04	07-02-04	285	1.9 ± 0.3; 0.5	-
2nd Qtr. Mean±s.d.				1.8 ± 0.4	-0.0± 0.2

[a] Volume based on two week collection period.
NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-21 Byron Nearsite N

	Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
	07-06-04	07-09-04	285	1.6 ± 0.3; 0.4	-0.1± 0.3;0.3
	07-13-04	07-16-04	284	1.3 ± 0.3; 0.4	-
	07-20-04	07-23-04	280	2.1 ± 0.4; 0.5	-0.9± 0.3;0.4
	07-27-04	08-02-04	285	1.8 ± 0.3; 0.5	-
	08-03-04	08-06-04	285	3.3 ± 0.4; 0.7	0.5± 0.3;0.3
	08-10-04	08-17-04	285	1.9 ± 0.3; 0.5	-
	08-16-04	08-20-04	244	1.3 ± 0.4; 0.4	-0.1± 0.4;0.4
	08-24-04	08-30-04	326	2.7 ± 0.3; 0.6	-
	08-31-04	09-03-04	290	1.1 ± 0.3; 0.4	0.5± 0.3;0.3
	09-07-04	09-10-04	283	3.4 ± 0.4; 0.7	-
	09-14-04	09-17-04	282	2.0 ± 0.4; 0.5	0.4± 0.3;0.3
	09-21-04	09-23-04	289	2.5 ± 0.4; 0.6	-
	09-28-04	10-01-04	281	2.7 ± 0.4; 0.6	0.7± 0.3;0.4
3rd Qtr. Mean±s.d.				2.1 ± 0.7	0.1± 0.6
	10-05-04	10-11-04	289	1.6 ± 0.3; 0.4	-
	10-12-04	10-15-04	282	2.5 ± 0.4; 0.6	-0.5± 0.4;0.4
	10-19-04	10-22-04	290	1.4 ± 0.3; 0.4	-
	10-27-04	11-01-04	320	2.3 ± 0.3; 0.5	-0.2± 0.3;0.3
	11-02-04	11-05-04	249	1.6 ± 0.4; 0.5	-
	11-09-04	11-12-04	280	1.9 ± 0.4; 0.5	0.4± 0.4;0.4
	11-16-04	11-19-04	285	2.5 ± 0.3; 0.6	-
	11-23-04	12-01-04	282	3.2 ± 0.4; 0.7	0.0± 0.3;0.3
	11-30-04	12-03-04	283	1.7 ± 0.3; 0.4	-
	12-08-04	12-11-04	329	3.0 ± 0.4; 0.6	0.1± 0.3;0.3
	12-15-04	12-20-05	276	3.3 ± 0.4; 0.7	-
	12-21-04	12-26-04	241	2.4 ± 0.4; 0.6	1.2± 0.4;0.4
	12-27-04	12-30-04	241	2.6 ± 0.5; 0.7	-
4th Qtr. Mean±s.d.				2.3 ± 0.6	0.2± 0.6

[a] Volume based on two week collection period.
NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-22 Byron Nearsite ESE

	Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
	01-06-04		323	3.0 ± 0.4; 0.7	-
	01-13-04		283	3.0 ± 0.4; 0.6	-
	01-20-04		284	2.1 ± 0.3; 0.5	-0.2± 0.4;0.4
	01-27-04		288	1.6 ± 0.3; 0.4	-
	02-03-04		281	3.0 ± 0.4; 0.7	0.2± 0.3;0.3
	02-10-04		284	3.6 ± 0.4; 0.8	-
	02-17-04		284[b]	3.0 ± 0.4; 0.6	0.1± 0.3;0.3
	02-24-04		292	2.8 ± 0.3; 0.6	-
	03-02-04		277	2.4 ± 0.3; 0.6	-0.3± 0.4;0.4
	03-09-04		279	2.3 ± 0.4; 0.5	-
	03-16-04		274	2.1 ± 0.4; 0.5	-0.1± 0.3;0.3
	03-23-04		271	1.7 ± 0.3; 0.4	-
	03-30-04		277	2.0 ± 0.3; 0.5	-0.5± 0.3;0.4
1st Qtr. Mean±s.d.				2.5 ± 0.6	-0.1± 0.3
	04-06-04		268	2.0 ± 0.4; 0.5	-
	04-13-04		284	1.9 ± 0.4; 0.5	-1.3± 0.4;0.4
	04-20-04		269	2.7 ± 0.4; 0.6	-
	04-27-04		279	1.5 ± 0.3; 0.4	-0.3± 0.3;0.3
	05-04-04	05-07-04	288	2.1 ± 0.3; 0.5	-
	05-11-04	05-17-04	286	2.5 ± 0.3; 0.6	-1.2± 0.3;0.4
	05-18-04	05-21-04	289	1.0 ± 0.3; 0.3	-
	05-25-04	06-16-04	290	1.3 ± 0.3; 0.4	0.2± 0.3;0.3
	06-01-04	06-04-04	297	1.3 ± 0.3; 0.4	-
	06-08-04	06-11-04	285	1.9 ± 0.3; 0.5	0.4± 0.3;0.3
	06-15-04	06-18-04	291[c]	1.7 ± 0.3; 0.4	-
	06-22-04	06-25-04	284	1.6 ± 0.3; 0.4	-0.0± 0.3;0.3
	06-29-04	07-02-04	285	1.9 ± 0.3; 0.5	-
2nd Qtr. Mean±s.d.				1.8 ± 0.5	-0.3± 0.7

[a] Volume based on two week collection period.
[b] Unable to read timer; loose wire found; estimated reading of 167.6 hours used. Collector replaced wire.
[c] Timer motor stalled out; collector replaced timer. Estimated runtime of 167.5 hours used for calculations.
NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-22 Byron Nearsite ESE

	Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
	07-06-04	07-09-04	283	2.4 ± 0.4; 0.6	-0.2± 0.3;0.3
	07-13-04	07-16-04	280	1.3 ± 0.3; 0.4	-
	07-20-04	07-23-04	287	2.2 ± 0.4; 0.5	0.5± 0.3;0.3
	07-27-04	08-02-04	278	1.6 ± 0.3; 0.4	-
	08-03-04	08-06-04	285	3.8 ± 0.4; 0.8	0.3± 0.3;0.3
	08-10-04	08-17-04	285	2.4 ± 0.4; 0.6	-
	08-16-04	08-20-04	244	1.5 ± 0.4; 0.5	0.7± 0.3;0.3
	08-24-04	08-30-04	326	2.7 ± 0.3; 0.6	-
	08-31-04	09-03-04	282	1.3 ± 0.3; 0.4	-0.6± 0.3;0.3
	09-07-04	09-10-04	283	3.1 ± 0.4; 0.7	-
	09-14-04	09-17-04	282	2.2 ± 0.4; 0.5	-0.1± 0.4;0.4
	09-21-04	09-23-04	289	2.4 ± 0.4; 0.6	-
	09-28-04	10-01-04	281	2.8 ± 0.4; 0.6	-0.2± 0.3;0.3
3rd Qtr. Mean±s.d.				2.3 ± 0.7	0.0± 0.5
	10-05-04	10-11-04	286	1.7 ± 0.3; 0.4	-
	10-12-04	10-15-04	280	2.4 ± 0.4; 0.6	-0.5± 0.4;0.4
	10-19-04	10-22-04	288	1.5 ± 0.4; 0.5	-
	10-27-04	11-01-04	317	2.6 ± 0.3; 0.6	-0.8± 0.3;0.3
	11-02-04	11-05-04	249	1.7 ± 0.4; 0.5	-
	11-09-04	11-12-04	286	1.9 ± 0.4; 0.5	0.6± 0.3;0.3
	11-16-04	11-19-04	285	3.2 ± 0.4; 0.7	-
	11-23-04	12-01-04	282	3.4 ± 0.4; 0.7	0.5± 0.3;0.3
	11-30-04	12-03-04	283	1.6 ± 0.3; 0.4	-
	12-08-04	12-11-04	329	3.3 ± 0.4; 0.7	-0.8± 0.3;0.3
	12-15-04	12-20-05	278	3.4 ± 0.4; 0.7	-
	12-21-04	12-26-04	243	2.5 ± 0.4; 0.6	0.7± 0.4;0.4
	12-27-04	12-30-04	243	3.0 ± 0.5; 0.7	-
4th Qtr. Mean±s.d.				2.5 ± 0.7	-0.1± 0.7

[a] Volume based on two week collection period.

NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-23 Byron Nearsite S

Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
01-06-04		324	3.1 ± 0.4; 0.7	-
01-13-04		278	3.5 ± 0.4; 0.7	-
01-20-04		284	2.0 ± 0.3; 0.5	0.6± 0.3;0.4
01-27-04		276	1.4 ± 0.3; 0.4	-
02-03-04		281	3.3 ± 0.4; 0.7	-0.1± 0.3;0.3
02-10-04		272	3.4 ± 0.4; 0.7	-
02-17-04		292	2.8 ± 0.3; 0.6	-0.4± 0.3;0.3
02-24-04		294	2.8 ± 0.3; 0.6	-
03-02-04		283	2.5 ± 0.4; 0.6	-0.5± 0.3;0.3
03-09-04		283	2.4 ± 0.4; 0.6	-
03-16-04		280	2.4 ± 0.4; 0.6	-0.2± 0.3;0.3
03-23-04		280	1.7 ± 0.3; 0.4	-
03-30-04		283	2.4 ± 0.3; 0.5	0.2± 0.3;0.3
1st Qtr. Mean±s.d.			2.6 ± 0.6	-0.1± 0.4
04-06-04		267	2.3 ± 0.4; 0.6	-
04-13-04		283	1.7 ± 0.4; 0.5	-0.3± 0.3;0.3
04-20-04		286	3.5 ± 0.4; 0.8	-
04-27-04		279	1.7 ± 0.3; 0.5	0.2± 0.3;0.3
05-04-04	05-07-04	287	2.3 ± 0.3; 0.5	-
05-11-04	05-17-04	286	2.6 ± 0.3; 0.6	0.2± 0.3;0.3
05-18-04	05-21-04	282	1.1 ± 0.3; 0.3	-
05-25-04	06-16-04	287	1.4 ± 0.3; 0.4	-0.4± 0.3;0.3
06-01-04	06-04-04	285	1.3 ± 0.3; 0.4	-
06-08-04	06-11-04	284	2.3 ± 0.3; 0.5	-0.2± 0.3;0.3
06-15-04	06-18-04	279	1.7 ± 0.3; 0.4	-
06-22-04	06-25-04	278	1.1 ± 0.3; 0.4	0.4± 0.3;0.3
06-29-04	07-02-04	278	1.9 ± 0.3; 0.5	-
2nd Qtr. Mean±s.d.			1.9 ± 0.7	-0.0± 0.3

[a] Volume based on two week collection period.

NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-23 Byron Nearsite S

	Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
	07-06-04	07-09-04	280	2.6 ± 0.4; 0.6	0.9± 0.3;0.3
	07-13-04	07-16-04	285	1.5 ± 0.3; 0.4	-
	07-20-04	07-23-04	278	2.0 ± 0.4; 0.5	-0.5± 0.3;0.3
	07-27-04	08-02-04	273	1.8 ± 0.4; 0.5	-
	08-03-04	08-06-04	285	3.2 ± 0.4; 0.7	-0.3± 0.3;0.3
	08-10-04	08-17-04	285	2.0 ± 0.3; 0.5	-
	08-16-04	08-20-04	249	1.2 ± 0.4; 0.4	0.4± 0.3;0.4
	08-24-04	08-30-04	325	2.5 ± 0.3; 0.5	-
	08-31-04	09-03-04	280	1.2 ± 0.3; 0.4	-0.3± 0.3;0.3
	09-07-04	09-10-04	285	3.1 ± 0.4; 0.7	-
	09-14-04	09-17-04	283	1.9 ± 0.4; 0.5	-0.1± 0.4;0.4
	09-21-04	09-23-04	287	2.4 ± 0.4; 0.6	-
	09-28-04	10-01-04	283	2.6 ± 0.3; 0.6	0.1± 0.3;0.3
3rd Qtr. Mean±s.d.				2.1 ± 0.7	0.0± 0.5
	10-05-04	10-11-04	288	2.0 ± 0.3; 0.5	-
	10-12-04	10-15-04	283	2.2 ± 0.4; 0.6	0.3± 0.3;0.3
	10-19-04	10-22-04	289	1.4 ± 0.4; 0.4	-
	10-27-04	11-01-04	321	2.4 ± 0.3; 0.5	0.6± 0.3;0.3
	11-02-04	11-05-04	244	2.0 ± 0.4; 0.5	-
	11-09-04	11-12-04	285	2.1 ± 0.4; 0.5	0.1± 0.4;0.4
	11-16-04	11-19-04	282	3.1 ± 0.4; 0.7	-
	11-23-04	12-01-04	277	3.2 ± 0.4; 0.7	0.1± 0.3;0.3
	11-30-04	12-03-04	282	1.9 ± 0.3; 0.5	-
	12-08-04	12-11-04	322	3.3 ± 0.4; 0.7	0.5± 0.3;0.3
	12-15-04	12-20-05	279	3.4 ± 0.4; 0.8	-
	12-21-04	12-26-04	243	2.6 ± 0.4; 0.6	0.6± 0.4;0.4
	12-27-04	12-30-04	242	3.1 ± 0.5; 0.7	-
4th Qtr. Mean±s.d.				2.5 ± 0.6	0.4± 0.2

[a] Volume based on two week collection period.
NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-24 Byron Nearsite SW

Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
01-06-04		326	3.3 ± 0.4; 0.7	-
01-13-04		280	3.6 ± 0.4; 0.8	-
01-20-04		286	2.2 ± 0.3; 0.5	0.4± 0.3;0.3
01-27-04		286	2.0 ± 0.3; 0.5	-
02-03-04		290	2.8 ± 0.4; 0.6	0.5± 0.3;0.4
02-10-04		286	2.9 ± 0.4; 0.6	-
02-17-04		287	3.3 ± 0.4; 0.7	0.4± 0.4;0.4
02-24-04		287	2.7 ± 0.3; 0.6	-
03-02-04		278	2.1 ± 0.3; 0.5	-0.5± 0.4;0.4
03-09-04		289	2.5 ± 0.4; 0.6	-
03-16-04		287	2.2 ± 0.4; 0.5	-0.8± 0.4;0.4
03-23-04		286	2.1 ± 0.3; 0.5	-
03-30-04		286	2.3 ± 0.3; 0.5	-0.8± 0.4;0.4
1st Qtr. Mean±s.d.			2.6 ± 0.5	-0.1 ± 0.6
04-06-04		275	1.9 ± 0.4; 0.5	-
04-13-04		288	2.0 ± 0.4; 0.5	-0.7± 0.4;0.4
04-20-04		277	2.6 ± 0.4; 0.6	-
04-27-04		277	1.5 ± 0.3; 0.4	0.1± 0.3;0.3
05-04-04	05-07-04	273	2.4 ± 0.3; 0.6	-
05-11-04	05-17-04	286	2.9 ± 0.4; 0.6	0.0± 0.4;0.4
05-18-04	05-21-04	289	1.5 ± 0.3; 0.4	-
05-25-04	06-16-04	283	1.4 ± 0.3; 0.4	0.2± 0.3;0.3
06-01-04	06-04-04	280	1.6 ± 0.3; 0.4	-
06-08-04	06-11-04	277	2.1 ± 0.3; 0.5	-1.1± 0.4;0.4
06-15-04	06-18-04	277	1.6 ± 0.3; 0.4	-
06-22-04	06-25-04	285	1.2 ± 0.3; 0.4	-0.2± 0.3;0.3
06-29-04	07-02-04	280	2.0 ± 0.3; 0.5	-
2nd Qtr. Mean±s.d.			1.9 ± 0.5	-0.3± 0.5

[a] Volume based on two week collection period.

NOTE: Gross beta count date added in May per station request.

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange

Required LLD: Gross Beta = 0.01, I-131 = 0.07 pCi/m^3

Units: 10^{-2} pCi/m^3

BY-24 Byron Nearsite SW

	Date Collected	Date Counted	Volume (m^3)	Gross Beta	I-131[a]
	07-06-04	07-09-04	280	2.3 ± 0.4; 0.6	0.2± 0.3;0.3
	07-13-04	07-16-04	280	1.1 ± 0.3; 0.3	-
	07-20-04	07-23-04	285	1.9 ± 0.4; 0.5	0.6± 0.3;0.3
	07-27-04	08-02-04	275[b]	1.7 ± 0.3; 0.5	-
	08-03-04	08-06-04	285	3.0 ± 0.4; 0.7	-0.5± 0.3;0.3
	08-10-04	08-17-04	285	2.1 ± 0.3; 0.5	-
	08-16-04	08-20-04	244	1.1 ± 0.4; 0.4	-0.1± 0.3;0.3
	08-24-04	08-30-04	326	2.8 ± 0.3; 0.6	-
	08-31-04	09-03-04	280	1.2 ± 0.3; 0.4	0.3± 0.3;0.3
	09-07-04	09-10-04	288	3.0 ± 0.4; 0.7	-
	09-14-04	09-17-04	283	2.4 ± 0.4; 0.6	0.1± 0.3;0.3
	09-21-04	09-23-04	287	2.2 ± 0.4; 0.5	-
	09-28-04	10-01-04	282	2.7 ± 0.4; 0.6	0.7± 0.3;0.3
3rd Qtr. Mean±s.d.				2.1 ± 0.7	0.2± 0.4
	10-05-04	10-11-04	288	1.4 ± 0.3; 0.4	-
	10-12-04	10-15-04	283	2.3 ± 0.4; 0.6	-0.5± 0.3;0.3
	10-19-04	10-22-04	290	1.5 ± 0.4; 0.4	-
	10-27-04	11-01-04	321	2.4 ± 0.3; 0.5	0.8± 0.3;0.3
	11-02-04	11-05-04	248	2.0 ± 0.4; 0.5	-
	11-09-04	11-12-04	285	2.0 ± 0.4; 0.5	0.4± 0.3;0.3
	11-16-04	11-19-04	285	2.8 ± 0.4; 0.6	-
	11-23-04	12-01-04	282	5.2 ± 0.5; 1.1	0.0± 0.3;0.3
	11-30-04	12-03-04	285	1.9 ± 0.3; 0.5	-
	12-08-04	12-11-04	327	2.4 ± 0.3; 0.5	-1.1± 0.3;0.4
	12-15-04	12-20-05	280	3.2 ± 0.4; 0.7	-
	12-21-04	12-26-04	243	3.0 ± 0.5; 0.7	0.6± 0.4;0.4
	12-27-04	12-30-04	241	3.1 ± 0.5; 0.7	-
4th Qtr. Mean±s.d.				2.5 ± 1.0	0.0± 0.7

[a] Volume based on two week collection period.
[b] Timer meter found not working; collector replaced timer; estimated reading of 167.6 hours used for calculations.
NOTE: Gross beta count date added in May per station request.

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections

ODCM-

Required LLDs: Cs-134 = 0.05, Cs-137 = 0.06 pCi/m^3

Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01; Ba/La-140 = 0.025 pCi/m^3

Units: 10^{-4} pCi/m^3

Sample Description and Concentration

BY-08 (C) Leaf River

2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-1999	BYAP-4326	BYAP-6539	BYAP-7809
Volume	3,767	3,749	3,714	3,656
Mn-54	2.1 ± 4.7 ; 4.7	5.8 ± 4.3 ; 4.4	8.2 ± 4.7 ; 4.9	-0.3 ± 6.7 ; 6.7
Fe-59	1.1 ± 9.9 ; 9.9	-3.7 ± 10.7 ; 10.7	4.7 ± 8.9 ; 8.9	5.8 ± 10.9 ; 10.9
Co-58	-0.6 ± 4.9 ; 4.9	3.0 ± 3.9 ; 4.0	-4.1 ± 5.5 ; 5.5	-2.3 ± 4.8 ; 4.8
Co-60	2.6 ± 2.9 ; 3.0	-2.1 ± 5.3 ; 5.3	5.6 ± 7.2 ; 7.3	4.8 ± 7.1 ; 7.2
Zn-65	4.7 ± 10.2 ; 10.3	-5.7 ± 12.1 ; 12.1	-2.4 ± 10.6 ; 10.6	1.6 ± 13.1 ; 13.1
Nb/Zr-95	1.0 ± 5.3 ; 5.3	-3.1 ± 4.7 ; 4.7	-6.2 ± 6.0 ; 6.1	-0.2 ± 5.8 ; 5.8
Cs-134	5.4 ± 5.7 ; 5.7	-0.1 ± 3.9 ; 3.9	1.4 ± 6.1 ; 6.1	2.1 ± 6.3 ; 6.3
Cs-137	-1.8 ± 6.2 ; 6.2	-2.2 ± 4.3 ; 4.3	-2.6 ± 6.9 ; 6.9	2.2 ± 5.4 ; 5.4
Ba/La-140	26.6 ± 6.8 ; 8.3	3.4 ± 5.3 ; 5.3	-3.1 ± 7.6 ; 7.6	14.0 ± 8.3 ; 8.7

BY-21 Byron Nearsite N

2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2000	BYAP-4327	BYAP-6540	BYAP-7810
Volume	3,678	3,651	3,706	3,652
Mn-54	0.9 ± 6.8 ; 6.8	2.0 ± 4.2 ; 4.3	0.6 ± 6.2 ; 6.2	1.5 ± 6.9 ; 6.9
Fe-59	8.9 ± 9.6 ; 9.7	-20.0 ± 8.4 ; 9.1	-3.6 ± 9.4 ; 9.4	11.7 ± 10.0 ; 10.2
Co-58	-1.2 ± 3.7 ; 3.7	4.2 ± 4.1 ; 4.2	3.5 ± 5.1 ; 5.1	-4.8 ± 4.9 ; 5.0
Co-60	2.8 ± 5.1 ; 5.2	1.8 ± 3.4 ; 3.4	-1.5 ± 5.4 ; 5.4	-1.5 ± 5.5 ; 5.5
Zn-65	-1.6 ± 12.7 ; 12.7	-7.9 ± 8.1 ; 8.2	14.5 ± 12.5 ; 12.7	1.6 ± 9.7 ; 9.7
Nb/Zr-95	-4.3 ± 5.3 ; 5.4	3.1 ± 5.4 ; 5.5	-1.9 ± 6.7 ; 6.7	-14.0 ± 5.7 ; 6.2
Cs-134	0.9 ± 5.5 ; 5.5	1.6 ± 5.3 ; 5.3	2.8 ± 5.8 ; 5.8	-2.5 ± 5.4 ; 5.4
Cs-137	-4.0 ± 5.9 ; 6.0	5.6 ± 5.1 ; 5.2	-1.5 ± 4.6 ; 4.6	-0.4 ± 7.0 ; 7.0
Ba/La-140	-10.7 ± 9.1 ; 9.3	-17.9 ± 5.3 ; 6.2	46.1 ± 4.8 ; 9.5	-9.8 ± 5.0 ; 5.3

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections

ODCM-Required LLDs: Cs-134 = 0.05, Cs-137 = 0.06 pCi/m^3

Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01; Ba/La-140 = 0.025 pCi/m^3

Units: 10^{-4} pCi/m^3

Sample Description and Concentration

BY-22 Byron Nearsite ESE

2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2001	BYAP-4328,9	BYAP-6541	BYAP-7811
Volume	3,702	3,701	3,693	3,656
Mn-54	3.0 ± 6.6 ; 6.6	0.9 ± 3.1 ; 3.1	-4.3 ± 5.3 ; 5.4	-3.4 ± 7.1 ; 7.1
Fe-59	1.1 ± 6.0 ; 6.0	-5.1 ± 5.9 ; 6.0	-6.0 ± 12.2 ; 12.2	24.5 ± 10.1 ; 11.0
Co-58	-0.5 ± 4.5 ; 4.5	4.8 ± 3.2 ; 3.3	8.8 ± 4.2 ; 4.4	-2.4 ± 5.3 ; 5.3
Co-60	5.4 ± 5.9 ; 6.0	-1.1 ± 3.6 ; 3.6	2.1 ± 6.4 ; 6.4	11.6 ± 6.2 ; 6.5
Zn-65	-29.5 ± 14.5 ; 15.4	3.2 ± 7.4 ; 7.4	-7.3 ± 13.1 ; 13.1	-14.7 ± 13.2 ; 13.4
Nb/Zr-95	-2.2 ± 5.5 ; 5.5	7.1 ± 3.4 ; 3.7	-14.7 ± 6.5 ; 7.0	6.6 ± 5.9 ; 6.0
Cs-134	7.3 ± 6.7 ; 6.8	1.6 ± 3.7 ; 3.7	4.8 ± 6.2 ; 6.2	-8.3 ± 6.9 ; 7.1
Cs-137	2.8 ± 5.5 ; 5.5	-0.2 ± 3.2 ; 3.2	0.1 ± 5.0 ; 5.0	0.3 ± 6.8 ; 6.8
Ba/La-140	21.3 ± 3.7 ; 5.3	-14.5 ± 3.5 ; 4.3	17.0 ± 6.2 ; 6.9	-9.9 ± 5.0 ; 5.3

BY-23 Byron Nearsite S

2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2002	BYAP-4330	BYAP-6542	BYAP-7812
Volume	3,717	3,669	3,686	3,642
Mn-54	3.0 ± 5.6 ; 5.6	-3.5 ± 6.7 ; 6.8	2.5 ± 5.5 ; 5.5	-0.6 ± 6.1 ; 6.1
Fe-59	17.6 ± 10.9 ; 11.3	-8.7 ± 16.3 ; 16.3	-2.4 ± 7.7 ; 7.8	2.3 ± 8.3 ; 8.3
Co-58	5.0 ± 4.8 ; 4.8	-1.5 ± 5.1 ; 5.1	1.9 ± 4.9 ; 4.9	7.1 ± 4.0 ; 4.2
Co-60	-5.5 ± 6.9 ; 7.0	-1.6 ± 6.4 ; 6.4	1.2 ± 6.2 ; 6.2	-4.9 ± 5.9 ; 6.0
Zn-65	-4.8 ± 11.8 ; 11.9	6.1 ± 17.7 ; 17.7	-3.3 ± 12.3 ; 12.3	-7.4 ± 13.2 ; 13.3
Nb/Zr-95	-3.9 ± 6.8 ; 6.8	1.4 ± 5.7 ; 5.7	-6.6 ± 6.7 ; 6.8	10.2 ± 5.8 ; 6.1
Cs-134	5.7 ± 4.5 ; 4.6	-0.8 ± 7.6 ; 7.6	1.4 ± 6.1 ; 6.1	7.1 ± 4.8 ; 5.0
Cs-137	-0.6 ± 5.7 ; 5.7	4.6 ± 6.5 ; 6.6	10.4 ± 6.0 ; 6.3	-0.7 ± 6.2 ; 6.2
Ba/La-140	-30.8 ± 6.2 ; 8.2	-28.0 ± 7.6 ; 9.1	-80.8 ± 8.9 ; 16.9	31.2 ± 8.9 ; 10.5

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections

ODCM-

Required LLDs: Cs-134 = 0.05, Cs-137 = 0.06 pCi/m^3

Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01; Ba/La-140 = 0.025 pCi/m^3

Units: 10^{-4} pCi/m^3

Sample Description and Concentration

BY-24 Byron Nearsite SW

2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2003	BYAP-4331	BYAP-6543	BYAP-7813
Volume	3,760	3,654	3,687	3,665
Mn-54	2.4 ± 5.4 ; 5.4	0.7 ± 7.0 ; 7.0	5.2 ± 5.4 ; 5.5	8.3 ± 6.0 ; 6.1
Fe-59	-3.3 ± 12.3 ; 12.3	1.4 ± 9.3 ; 9.3	14.3 ± 10.2 ; 10.5	-2.3 ± 11.3 ; 11.3
Co-58	0.9 ± 5.1 ; 5.1	-2.2 ± 5.3 ; 5.3	0.9 ± 5.2 ; 5.3	-3.9 ± 4.5 ; 4.5
Co-60	1.2 ± 6.1 ; 6.1	-6.2 ± 9.3 ; 9.4	-0.6 ± 5.7 ; 5.7	5.3 ± 4.2 ; 4.3
Zn-65	-0.8 ± 10.8 ; 10.8	-8.9 ± 16.9 ; 17.0	-5.7 ± 13.4 ; 13.5	1.6 ± 13.1 ; 13.1
Nb/Zr-95	-6.2 ± 5.0 ; 5.1	4.9 ± 7.9 ; 7.9	9.7 ± 4.8 ; 5.1	-9.9 ± 6.8 ; 7.0
Cs-134	2.7 ± 6.2 ; 6.2	-2.2 ± 8.1 ; 8.1	4.9 ± 5.7 ; 5.7	-0.7 ± 6.3 ; 6.3
Cs-137	3.8 ± 5.6 ; 5.6	0.3 ± 7.4 ; 7.4	6.1 ± 5.7 ; 5.8	8.7 ± 6.6 ; 6.8
Ba/La-140	27.0 ± 6.8 ; 8.3	-65.3 ± 9.3 ; 14.9	-10.9 ± 4.9 ; 5.3	34.0 ± 4.4 ; 7.5

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM-Required LLDs:	I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-20 K. Reeverts Dairy Farm

Date Collected	01-06-04	02-03-04	03-02-04	04-06-04
Lab Code	BYMI-42	BYMI-441	BYMI-858,9	BYMI-1448
I-131	0.05 ± 0.12 ; 0.12	-0.05 ± 0.15 ; 0.15	-0.15 ± 0.17 ; 0.17	-0.02 ± 0.14 ; 0.14
Mn-54	-1.1 ± 2.3 ; 2.3	0.3 ± 3.6 ; 3.6	-1.3 ± 2.2 ; 2.2	-1.1 ± 2.9 ; 2.9
Fe-59	-0.2 ± 4.4 ; 4.4	-0.6 ± 7.0 ; 7.0	3.2 ± 4.5 ; 4.5	-6.5 ± 6.6 ; 6.6
Co-58	0.5 ± 1.8 ; 1.8	-0.7 ± 3.9 ; 3.9	1.3 ± 2.3 ; 2.3	-0.7 ± 2.6 ; 2.6
Co-60	1.3 ± 2.4 ; 2.4	-0.9 ± 4.9 ; 4.9	3.3 ± 2.2 ; 2.2	-0.3 ± 2.5 ; 2.5
Zn-65	-2.8 ± 5.8 ; 5.8	2.7 ± 7.7 ; 7.7	0.0 ± 5.4 ; 5.4	-1.4 ± 6.6 ; 6.6
Nb/Zr-95	-0.1 ± 2.3 ; 2.3	-5.1 ± 3.8 ; 3.9	1.1 ± 2.1 ; 2.1	-1.4 ± 2.5 ; 2.5
Cs-134	-1.2 ± 2.3 ; 2.3	-0.6 ± 4.4 ; 4.4	-0.5 ± 2.6 ; 2.6	0.9 ± 3.1 ; 3.1
Cs-137	-0.1 ± 2.5 ; 2.5	3.8 ± 4.0 ; 4.0	-2.1 ± 2.3 ; 2.3	-1.4 ± 2.7 ; 2.7
Ba-140	9.6 ± 8.7 ; 8.7	6.1 ± 10.8 ; 10.8	-5.8 ± 7.5 ; 7.5	-12.5 ± 9.7 ; 9.9
La-140	-0.5 ± 2.2 ; 2.2	-1.1 ± 4.4 ; 4.4	-3.3 ± 2.3 ; 2.4	1.9 ± 2.4 ; 2.4

Date Collected	05-04-04	05-18-04	06-01-04	06-08-04
Lab Code	BYMI-2055	BYMI-2375	NS [a]	NS [b]
I-131	-0.13 ± 0.13 ; 0.13	0.00 ± 0.13 ; 0.13		
Mn-54	-1.4 ± 2.5 ; 2.5	1.7 ± 2.4 ; 2.4	-	-
Fe-59	-3.2 ± 6.7 ; 6.7	1.1 ± 4.7 ; 4.7	-	-
Co-58	0.9 ± 2.4 ; 2.4	1.2 ± 1.9 ; 1.9	-	-
Co-60	-0.1 ± 2.6 ; 2.6	0.6 ± 2.8 ; 2.8	-	-
Zn-65	-4.3 ± 6.7 ; 6.7	-7.5 ± 6.3 ; 6.4	-	-
Nb/Zr-95	-2.7 ± 2.5 ; 2.5	-1.4 ± 2.5 ; 2.5	-	-
Cs-134	0.7 ± 2.7 ; 2.7	-1.2 ± 2.4 ; 2.4	-	-
Cs-137	-0.9 ± 3.1 ; 3.1	0.1 ± 2.5 ; 2.5	-	-
Ba-140	13.9 ± 9.3 ; 9.5	-12.9 ± 7.3 ; 7.5	-	-
La-140	-0.9 ± 2.2 ; 2.2	-1.5 ± 2.1 ; 2.1	-	-

[a] "NS" = No sample; no one home. Collector will try next week.
[b] No sample; participant withdrew from program.

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM-Required LLDs:	I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-20-1 Ron Snodgrass

Date Collected	09-07-04	09-21-04	10-05-04	10-19-04
Lab Code	BYMI-5039 [a]	BYMI-5375	BYMI-5724	BYMI-6244
I-131	-0.04 ± 0.17 ; 0.17	-0.03 ± 0.15 ; 0.15	-0.14 ± 0.18 ; 0.19	0.03 ± 0.17 ; 0.17
Mn-54	5.0 ± 3.9 ; 3.9	-0.2 ± 2.4 ; 2.4	3.1 ± 4.5 ; 4.6	0.7 ± 2.3 ; 2.3
Fe-59	3.2 ± 10.4 ; 10.4	-1.8 ± 4.5 ; 4.5	0.8 ± 7.4 ; 7.4	6.6 ± 4.6 ; 4.6
Co-58	-2.3 ± 4.5 ; 4.5	-1.5 ± 1.9 ; 2.0	1.3 ± 4.4 ; 4.5	-1.6 ± 2.2 ; 2.2
Co-60	0.1 ± 5.8 ; 5.8	1.5 ± 2.2 ; 2.2	0.4 ± 3.8 ; 3.8	-0.9 ± 2.5 ; 2.5
Zn-65	8.8 ± 12.1 ; 12.1	-11.6 ± 6.5 ; 6.7	10.5 ± 10.1 ; 10.2	-2.4 ± 4.9 ; 4.9
Nb/Zr-95	1.9 ± 4.7 ; 4.8	-1.2 ± 2.4 ; 2.4	-3.9 ± 3.5 ; 3.5	1.3 ± 2.4 ; 2.4
Cs-134	0.8 ± 5.8 ; 5.8	1.3 ± 2.6 ; 2.6	3.6 ± 4.4 ; 4.4	0.8 ± 2.3 ; 2.3
Cs-137	0.9 ± 4.6 ; 4.6	-0.2 ± 2.7 ; 2.7	-2.4 ± 4.0 ; 4.1	0.2 ± 2.5 ; 2.5
Ba-140	-17.7 ± 16.0 ; 16.2	-2.9 ± 8.5 ; 8.5	9.9 ± 13.9 ; 14.0	-11.4 ± 8.3 ; 8.5
La-140	0.5 ±5.5 ; 5.5	1.6 ±2.1 ; 2.1	-1.5 ±3.9 ; 3.9	2.0 ±2.3 ; 2.3

Date Collected	11-02-04	12-08-04
Lab Code	BYMI-6564	BYMI-7232
I-131	0.05 ± 0.23 ; 0.23	-0.14 ± 0.17 ; 0.17
Mn-54	-2.9 ± 2.3 ; 2.4	-1.4 ± 2.7 ; 2.7
Fe-59	-9.9 ± 4.6 ; 4.8	-9.3 ± 5.8 ; 5.9
Co-58	2.1 ± 2.2 ; 2.2	0.3 ± 2.1 ; 2.1
Co-60	1.9 ± 2.0 ; 2.0	1.1 ± 2.2 ; 2.2
Zn-65	5.0 ± 4.8 ; 4.8	0.7 ± 6.2 ; 6.2
Nb/Zr-95	-0.1 ± 2.3 ; 2.3	-0.8 ± 2.2 ; 2.2
Cs-134	-0.1 ± 2.4 ; 2.4	1.6 ± 2.4 ; 2.4
Cs-137	-0.3 ± 2.3 ; 2.3	-1.0 ± 2.0 ; 2.0
Ba-140	-2.2 ± 7.7 ; 7.7	17.3 ± 7.7 ; 8.1
La-140	6.4 ±2.3 ; 2.4	0.9 ±2.9 ; 2.9

[a] New location as of September 2004.

Table 3. Milk

Collection: Biweekly (May - October)
Monthly (November - April)

ODCM-Required LLDs: I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Other LLDs: Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-26-1 (C) Dennis Herbert

Date Collected	01-06-04	02-03-04	03-02-04	04-06-04
Lab Code	BYMI-43	BYMI-442	BYMI-860	BYMI-1449
I-131	0.04 ± 0.10 ; 0.10	-0.02 ± 0.12 ; 0.12	-0.12 ± 0.19 ; 0.20	0.05 ± 0.21 ; 0.21
Mn-54	1.4 ± 2.2 ; 2.2	-0.8 ± 3.8 ; 3.8	3.3 ± 4.5 ; 4.5	1.3 ± 4.5 ; 4.5
Fe-59	-0.6 ± 4.3 ; 4.3	6.0 ± 7.8 ; 7.8	2.4 ± 10.2 ; 10.2	5.1 ± 8.5 ; 8.6
Co-58	1.4 ± 2.2 ; 2.2	3.9 ± 3.8 ; 3.9	-0.4 ± 3.7 ; 3.7	1.2 ± 3.8 ; 3.8
Co-60	0.6 ± 2.1 ; 2.1	2.8 ± 3.4 ; 3.5	6.0 ± 4.6 ; 4.6	-4.0 ± 5.1 ; 5.2
Zn-65	0.4 ± 5.4 ; 5.4	2.7 ± 7.1 ; 7.1	6.3 ± 8.8 ; 8.8	9.4 ± 8.5 ; 8.6
Nb/Zr-95	0.3 ± 2.5 ; 2.5	4.9 ± 3.5 ; 3.6	-2.0 ± 4.3 ; 4.3	1.1 ± 4.1 ; 4.1
Cs-134	-1.6 ± 2.6 ; 2.6	0.3 ± 4.4 ; 4.4	-0.8 ± 4.5 ; 4.5	2.9 ± 4.0 ; 4.0
Cs-137	-1.5 ± 2.4 ; 2.4	-1.2 ± 3.9 ; 3.9	3.3 ± 3.3 ; 3.4	-0.3 ± 4.1 ; 4.1
Ba-140	6.1 ± 7.5 ; 7.6	-7.8 ± 12.9 ; 12.9	-12.4 ± 12.2 ; 12.3	7.8 ± 12.7 ; 12.7
La-140	-0.3 ± 1.6 ; 1.6	-3.2 ± 4.7 ; 4.7	-2.0 ± 4.2 ; 4.2	-3.2 ± 4.6 ; 4.6

Date Collected	05-04-04	05-18-04	06-01-04	06-15-04
Lab Code	BYMI-2056,7	BYMI-2376	BYMI-2639	BYMI-2968
I-131	-0.05 ± 0.12 ; 0.12	-0.09 ± 0.13 ; 0.13	-0.09 ± 0.11 ; 0.11	0.01 ± 0.10 ; 0.10
Mn-54	0.9 ± 2.6 ; 2.6	-0.0 ± 4.3 ; 4.3	2.8 ± 2.6 ; 2.6	1.5 ± 2.2 ; 2.3
Fe-59	-2.8 ± 5.5 ; 5.5	-3.6 ± 8.1 ; 8.1	2.5 ± 6.4 ; 6.4	-2.6 ± 5.0 ; 5.0
Co-58	1.7 ± 3.2 ; 3.2	1.7 ± 3.6 ; 3.6	-0.2 ± 2.7 ; 2.7	-0.1 ± 2.2 ; 2.2
Co-60	-2.1 ± 2.9 ; 2.9	1.2 ± 4.1 ; 4.1	1.0 ± 2.9 ; 2.9	-1.0 ± 2.8 ; 2.8
Zn-65	-0.7 ± 7.3 ; 7.3	-10.0 ± 8.6 ; 8.7	-5.6 ± 8.2 ; 8.2	-2.2 ± 5.8 ; 5.8
Nb/Zr-95	1.9 ± 2.4 ; 2.4	1.9 ± 3.6 ; 3.6	-0.2 ± 2.5 ; 2.5	-2.0 ± 2.2 ; 2.3
Cs-134	-2.0 ± 2.7 ; 2.7	-1.8 ± 4.7 ; 4.7	1.2 ± 3.2 ; 3.2	-1.3 ± 2.5 ; 2.5
Cs-137	0.3 ± 2.7 ; 2.7	-3.0 ± 3.7 ; 3.7	-0.8 ± 3.0 ; 3.0	-0.9 ± 2.6 ; 2.6
Ba-140	-4.1 ± 8.5 ; 8.5	6.1 ± 12.1 ; 12.1	-1.0 ± 9.4 ; 9.4	-1.1 ± 8.6 ; 8.6
La-140	-0.1 ± 2.7 ; 2.7	4.1 ± 3.0 ; 3.0	1.4 ± 3.0 ; 3.0	-1.0 ± 1.8 ; 1.8

Table 3. Milk

Collection: Biweekly (May - October)
Monthly (November - April)

ODCM-Required LLDs: I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Other LLDs: Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-26-1 (C) Dennis Herbert

Date Collected	06-29-04	07-13-04	07-27-04	08-10-04
Lab Code	BYMI-3258	BYMI-3663	BYMI-4059	BYMI-4501
I-131	-0.30 ± 0.20 ; 0.20	-0.04 ± 0.13 ; 0.13	0.03 ± 0.18 ; 0.18	0.03 ± 0.14 ; 0.14
Mn-54	0.3 ± 3.8 ; 3.8	-1.7 ± 2.4 ; 2.4	1.0 ± 2.3 ; 2.3	-2.1 ± 3.9 ; 3.9
Fe-59	10.2 ± 7.7 ; 7.8	-0.6 ± 5.1 ; 5.1	3.0 ± 5.0 ; 5.0	12.0 ± 8.4 ; 8.5
Co-58	-0.4 ± 3.6 ; 3.6	-0.5 ± 1.9 ; 1.9	1.2 ± 2.0 ; 2.0	-3.6 ± 4.2 ; 4.2
Co-60	-0.5 ± 4.7 ; 4.7	-2.4 ± 2.5 ; 2.5	-1.4 ± 2.6 ; 2.6	0.3 ± 5.4 ; 5.4
Zn-65	-7.1 ± 8.4 ; 8.4	3.3 ± 6.2 ; 6.2	-7.5 ± 6.5 ; 6.6	0.8 ± 9.0 ; 9.0
Nb/Zr-95	-4.0 ± 3.9 ; 3.9	-0.4 ± 2.5 ; 2.5	-0.2 ± 2.3 ; 2.3	2.5 ± 3.9 ; 3.9
Cs-134	-0.1 ± 4.4 ; 4.4	-0.5 ± 2.8 ; 2.8	1.6 ± 2.4 ; 2.4	-3.8 ± 4.3 ; 4.3
Cs-137	0.5 ± 3.7 ; 3.7	0.5 ± 2.5 ; 2.5	-2.5 ± 2.7 ; 2.7	-1.2 ± 3.6 ; 3.6
Ba-140	-7.7 ± 11.8 ; 11.8	4.1 ± 8.7 ; 8.8	3.7 ± 8.1 ; 8.1	-0.6 ± 12.2 ; 12.2
La-140	0.4 ±3.3 ; 3.3	0.6 ±2.2 ; 2.2	0.4 ±2.0 ; 2.0	1.8 ±3.8 ; 3.8

Date Collected	08-24-04	09-07-04	09-21-04	10-05-04
Lab Code	BYMI-4720	BYMI-5040	BYMI-5376	BYMI-5725
I-131	-0.08 ± 0.17 ; 0.17	0.01 ± 0.18 ; 0.18	-0.05 ± 0.15 ; 0.15	-0.12 ± 0.17 ; 0.17
Mn-54	2.0 ± 2.0 ; 2.1	-2.4 ± 4.1 ; 4.2	-0.6 ± 3.3 ; 3.3	2.6 ± 3.9 ; 3.9
Fe-59	-5.0 ± 6.1 ; 6.1	0.8 ± 8.6 ; 8.6	-2.5 ± 6.8 ; 6.8	6.1 ± 8.4 ; 8.5
Co-58	-0.2 ± 2.4 ; 2.4	0.8 ± 4.3 ; 4.3	2.4 ± 2.6 ; 2.6	-2.2 ± 2.9 ; 2.9
Co-60	-1.5 ± 2.6 ; 2.6	2.1 ± 4.2 ; 4.2	-3.0 ± 4.2 ; 4.2	1.0 ± 3.8 ; 3.8
Zn-65	1.2 ± 5.4 ; 5.4	-3.8 ± 10.3 ; 10.3	0.9 ± 11.1 ; 11.1	3.5 ± 7.8 ; 7.8
Nb/Zr-95	-3.0 ± 2.2 ; 2.2	5.0 ± 3.7 ; 3.8	3.7 ± 3.1 ; 3.2	-4.7 ± 3.6 ; 3.6
Cs-134	-0.3 ± 2.8 ; 2.8	-0.3 ± 4.1 ; 4.1	-2.4 ± 3.9 ; 3.9	-3.4 ± 4.1 ; 4.1
Cs-137	-1.3 ± 2.7 ; 2.7	-0.5 ± 3.8 ; 3.8	0.6 ± 3.7 ; 3.7	-0.1 ± 3.8 ; 3.8
Ba-140	6.5 ± 9.2 ; 9.3	19.4 ± 11.4 ; 11.7	-8.5 ± 11.6 ; 11.7	-2.8 ± 13.0 ; 13.0
La-140	2.0 ±2.0 ; 2.1	0.6 ±3.7 ; 3.7	1.3 ±3.2 ; 3.2	3.3 ±2.8 ; 2.9

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM-Required LLDs:	I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-26-1 (C) Dennis Herbert

Date Collected	10-19-04	11-02-04	12-08-04
Lab Code	BYMI-6245	BYMI-6565	BYMI-7233
I-131	0.06 ± 0.19 ; 0.19	0.02 ± 0.17 ; 0.17	-0.17 ± 0.17 ; 0.17
Mn-54	3.8 ± 2.5 ; 2.6	-0.8 ± 2.1 ; 2.1	0.8 ± 3.9 ; 3.9
Fe-59	-0.2 ± 5.8 ; 5.8	-1.2 ± 5.8 ; 5.8	-5.3 ± 8.8 ; 8.8
Co-58	0.6 ± 2.3 ; 2.3	-1.1 ± 2.3 ; 2.3	-3.1 ± 4.0 ; 4.0
Co-60	1.1 ± 2.5 ; 2.5	-0.3 ± 2.7 ; 2.7	-1.6 ± 5.0 ; 5.0
Zn-65	-0.9 ± 6.5 ; 6.5	5.2 ± 6.4 ; 6.5	-4.6 ± 9.9 ; 9.9
Nb/Zr-95	-0.7 ± 2.1 ; 2.1	-1.4 ± 2.4 ; 2.4	1.8 ± 4.0 ; 4.0
Cs-134	-0.1 ± 2.7 ; 2.7	0.2 ± 2.5 ; 2.5	2.2 ± 4.2 ; 4.2
Cs-137	1.8 ± 2.7 ; 2.8	1.0 ± 2.5 ; 2.5	2.3 ± 3.9 ; 3.9
Ba-140	3.8 ± 8.3 ; 8.3	1.2 ± 8.4 ; 8.4	9.3 ± 10.8 ; 10.9
La-140	-0.1 ± 2.5 ; 2.5	1.6 ± 2.0 ; 2.0	-7.6 ± 4.0 ; 4.1

Table 3. Milk

Collection: Biweekly (May - October)
Monthly (November - April)

ODCM-Required LLDs: I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Other LLDs: Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-30 Don Roos Dairy

Date Collected	01-06-04	02-03-04	03-02-04	04-06-04
Lab Code	BYMI-44	BYMI-443	BYMI-861	BYMI-1450
I-131	0.03 ± 0.12 ; 0.12	0.05 ± 0.11 ; 0.11	-0.01 ± 0.19 ; 0.19	0.09 ± 0.18 ; 0.18
Mn-54	-1.4 ± 2.1 ; 2.1	2.4 ± 4.8 ; 4.8	-0.4 ± 2.8 ; 2.8	-0.4 ± 2.7 ; 2.7
Fe-59	-5.2 ± 4.4 ; 4.5	3.7 ± 9.0 ; 9.0	-7.2 ± 6.0 ; 6.1	-5.5 ± 5.9 ; 5.9
Co-58	-0.9 ± 2.3 ; 2.3	3.7 ± 4.1 ; 4.2	1.1 ± 2.6 ; 2.6	-3.2 ± 2.8 ; 2.9
Co-60	1.9 ± 2.3 ; 2.3	0.4 ± 4.2 ; 4.2	3.6 ± 3.0 ; 3.0	2.9 ± 2.5 ; 2.6
Zn-65	-4.2 ± 5.3 ; 5.3	0.7 ± 9.4 ; 9.4	2.3 ± 5.9 ; 5.9	-1.5 ± 6.6 ; 6.6
Nb/Zr-95	-1.6 ± 2.4 ; 2.5	2.0 ± 3.7 ; 3.7	1.1 ± 2.6 ; 2.6	0.5 ± 2.6 ; 2.6
Cs-134	1.3 ± 2.4 ; 2.4	-5.0 ± 4.9 ; 4.9	0.9 ± 2.7 ; 2.7	-0.6 ± 3.0 ; 3.0
Cs-137	0.6 ± 2.3 ; 2.3	0.8 ± 4.3 ; 4.3	-2.6 ± 2.9 ; 2.9	0.1 ± 3.0 ; 3.0
Ba-140	-11.4 ± 8.5 ; 8.6	17.2 ± 13.4 ; 13.6	-5.5 ± 9.3 ; 9.3	-9.6 ± 9.3 ; 9.4
La-140	-4.7 ± 2.4 ; 2.5	-1.1 ± 1.4 ; 1.4	0.8 ± 1.8 ; 1.8	0.4 ± 2.8 ; 2.8

Date Collected	05-04-04	05-18-04	06-01-04	06-15-04
Lab Code	BYMI-2058	BYMI-2377	BYMI-2640	BYMI-2969
I-131	-0.11 ± 0.13 ; 0.13	-0.03 ± 0.13 ; 0.13	-0.11 ± 0.13 ; 0.13	0.01 ± 0.14 ; 0.14
Mn-54	0.3 ± 2.8 ; 2.8	1.3 ± 2.6 ; 2.6	-1.2 ± 3.9 ; 3.9	1.8 ± 1.9 ; 1.9
Fe-59	4.6 ± 5.9 ; 5.9	1.7 ± 5.5 ; 5.5	-3.2 ± 7.5 ; 7.6	-1.6 ± 4.5 ; 4.5
Co-58	1.2 ± 2.8 ; 2.8	-1.2 ± 2.6 ; 2.6	-1.4 ± 3.5 ; 3.5	0.3 ± 1.9 ; 1.9
Co-60	-0.4 ± 2.7 ; 2.7	1.3 ± 2.4 ; 2.4	1.0 ± 4.5 ; 4.5	-1.2 ± 2.3 ; 2.3
Zn-65	-4.9 ± 6.7 ; 6.7	-0.9 ± 6.2 ; 6.2	-2.0 ± 7.0 ; 7.0	-6.0 ± 5.2 ; 5.3
Nb/Zr-95	1.2 ± 2.8 ; 2.8	1.1 ± 2.6 ; 2.7	-1.8 ± 3.5 ; 3.5	1.3 ± 2.4 ; 2.4
Cs-134	-0.7 ± 3.2 ; 3.2	-1.3 ± 3.1 ; 3.1	-3.3 ± 4.0 ; 4.0	-0.6 ± 2.5 ; 2.5
Cs-137	1.8 ± 2.9 ; 2.9	1.8 ± 2.8 ; 2.8	-0.6 ± 4.0 ; 4.0	-2.1 ± 2.6 ; 2.7
Ba-140	0.8 ± 10.7 ; 10.7	22.6 ± 9.3 ; 9.8	14.0 ± 12.4 ; 12.5	4.8 ± 9.5 ; 9.5
La-140	-2.0 ± 2.4 ; 2.4	-2.4 ± 3.1 ; 3.2	1.0 ± 2.6 ; 2.6	-2.5 ± 2.6 ; 2.6

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM-Required LLDs:	I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-30 Don Roos Dairy

Date Collected	06-29-04	07-13-04	07-27-04	08-10-04
Lab Code	BYMI-3259	BYMI-3664	BYMI-4060	BYMI-4502
I-131	0.09 ± 0.19 ; 0.19	0.02 ± 0.12 ; 0.12	0.11 ± 0.19 ; 0.19	0.08 ± 0.18 ; 0.18
Mn-54	-0.5 ± 2.1 ; 2.1	1.1 ± 2.4 ; 2.4	-0.3 ± 2.1 ; 2.1	-1.7 ± 4.5 ; 4.5
Fe-59	0.3 ± 5.0 ; 5.0	7.9 ± 5.7 ; 5.8	-0.5 ± 4.6 ; 4.6	-3.4 ± 8.8 ; 8.8
Co-58	0.7 ± 2.3 ; 2.3	-0.6 ± 2.4 ; 2.4	-1.0 ± 1.8 ; 1.8	2.9 ± 4.5 ; 4.5
Co-60	-0.3 ± 2.4 ; 2.4	1.1 ± 2.8 ; 2.8	0.2 ± 2.1 ; 2.1	1.1 ± 4.3 ; 4.3
Zn-65	-0.5 ± 5.4 ; 5.4	3.1 ± 6.3 ; 6.3	-4.8 ± 5.5 ; 5.5	-3.1 ± 9.9 ; 9.9
Nb/Zr-95	-0.2 ± 2.3 ; 2.3	-1.1 ± 2.7 ; 2.7	-1.2 ± 2.0 ; 2.0	-1.6 ± 4.1 ; 4.1
Cs-134	-1.9 ± 2.6 ; 2.6	-0.1 ± 2.8 ; 2.8	1.2 ± 2.3 ; 2.3	-1.9 ± 4.5 ; 4.5
Cs-137	-0.3 ± 2.5 ; 2.5	-1.3 ± 3.2 ; 3.2	0.2 ± 2.1 ; 2.1	2.4 ± 3.8 ; 3.8
Ba-140	-1.2 ± 7.9 ; 7.9	-23.6 ± 9.6 ; 10.1	-7.6 ± 8.1 ; 8.1	-19.8 ± 13.6 ; 13.9
La-140	-3.0 ± 2.4 ; 2.4	-3.1 ± 2.2 ; 2.3	0.6 ± 1.8 ; 1.8	-1.8 ± 3.3 ; 3.3

Date Collected	08-24-04	09-07-04	09-21-04	10-05-04
Lab Code	BYMI-4721	BYMI-5041	BYMI-5377	BYMI-5726
I-131	-0.13 ± 0.20 ; 0.20	-0.10 ± 0.15 ; 0.16	0.16 ± 0.19 ; 0.19	0.09 ± 0.18 ; 0.18
Mn-54	2.0 ± 2.2 ; 2.2	2.9 ± 4.2 ; 4.2	-1.2 ± 4.1 ; 4.1	-1.9 ± 5.6 ; 5.6
Fe-59	1.0 ± 4.7 ; 4.7	6.0 ± 10.3 ; 10.3	8.0 ± 8.4 ; 8.5	6.0 ± 12.9 ; 13.0
Co-58	0.3 ± 2.4 ; 2.4	-4.3 ± 4.3 ; 4.4	0.3 ± 4.3 ; 4.3	3.3 ± 4.7 ; 4.7
Co-60	2.5 ± 2.7 ; 2.7	1.1 ± 5.1 ; 5.1	-0.2 ± 3.6 ; 3.6	-7.7 ± 7.6 ; 7.7
Zn-65	-1.0 ± 5.3 ; 5.3	7.4 ± 10.0 ; 10.0	1.4 ± 10.6 ; 10.6	-3.3 ± 13.6 ; 13.6
Nb/Zr-95	2.9 ± 2.4 ; 2.5	0.1 ± 4.1 ; 4.1	-1.2 ± 2.8 ; 2.8	-8.8 ± 4.9 ; 5.0
Cs-134	-1.1 ± 2.3 ; 2.3	-1.9 ± 5.4 ; 5.4	-3.1 ± 4.5 ; 4.5	0.6 ± 6.2 ; 6.2
Cs-137	-0.3 ± 2.6 ; 2.6	0.7 ± 5.0 ; 5.0	0.9 ± 4.3 ; 4.3	-1.5 ± 5.7 ; 5.7
Ba-140	-3.1 ± 7.8 ; 7.8	26.6 ± 14.4 ; 14.8	0.6 ± 13.5 ; 13.5	-5.9 ± 18.2 ; 18.2
La-140	-1.0 ± 2.1 ; 2.1	10.9 ± 5.5 ; 5.7	5.6 ± 2.8 ; 2.9	9.3 ± 4.4 ; 4.6

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM-Required LLDs:	I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-30 Don Roos Dairy

Date Collected	10-19-04	11-02-04	12-08-04
Lab Code	BYMI-6246	BYMI-6566	BYMI-7234,5
I-131	-0.04 ± 0.18 ; 0.18	-0.10 ± 0.17 ; 0.17	-0.20 ± 0.17 ; 0.17
Mn-54	0.9 ± 1.5 ; 1.5	-1.4 ± 2.1 ; 2.1	0.6 ± 1.8 ; 1.8
Fe-59	-2.5 ± 3.5 ; 3.5	-5.9 ± 4.8 ; 4.8	1.5 ± 4.1 ; 4.1
Co-58	0.3 ± 1.4 ; 1.4	0.7 ± 2.3 ; 2.3	-1.2 ± 1.7 ; 1.7
Co-60	1.2 ± 1.6 ; 1.6	1.2 ± 2.3 ; 2.3	1.1 ± 2.0 ; 2.1
Zn-65	-3.5 ± 4.4 ; 4.4	5.3 ± 5.1 ; 5.2	-1.7 ± 4.2 ; 4.2
Nb/Zr-95	-2.7 ± 1.5 ; 1.6	-0.8 ± 2.3 ; 2.3	0.4 ± 1.7 ; 1.7
Cs-134	1.2 ± 1.7 ; 1.7	1.7 ± 2.8 ; 2.8	2.5 ± 2.0 ; 2.0
Cs-137	-0.8 ± 1.6 ; 1.6	-0.2 ± 2.6 ; 2.6	-1.4 ± 1.9 ; 1.9
Ba-140	0.2 ± 6.0 ; 6.0	-2.7 ± 8.8 ; 8.8	-6.4 ± 6.4 ; 6.5
La-140	0.4 ± 1.2 ; 1.2	2.7 ± 1.3 ; 1.3	2.0 ± 1.5 ; 1.5

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-Required LLDs: Mn-54 = 0.13, Fe-59 = 0.26, Co-58 = 0.13, Co-60 = 0.13, Zn-65 = 0.26, Cs-134 = 0.1, Cs-137 = 0.1 pCi/g wet weight

Other LLDs: Zr/Nb-95 = 0.20, Ba/La-140 = 0.30 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

BY-29 (C) Byron, Upstream

Date Collected	05-05-04	05-05-04	10-26-04	10-26-04
Lab Code	BYF-2097	BYF-2098	BYF-6321	BYF-6322
Type	Channel Catfish	Silver Redhorse	Golden Redhorse	Smallmouth Bass
Mn-54	-0.5 ± 1.0 ; 1.0	0.1 ± 0.7 ; 0.7	-1.5 ± 0.7 ; 0.7	-0.3 ± 1.3 ; 1.3
Fe-59	-1.8 ± 2.0 ; 2.0	4.0 ± 2.0 ; 2.1	0.1 ± 1.4 ; 1.4	1.1 ± 2.6 ; 2.6
Co-58	-0.6 ± 1.1 ; 1.1	-0.2 ± 0.9 ; 0.9	-0.3 ± 0.6 ; 0.6	-0.5 ± 1.1 ; 1.1
Co-60	0.2 ± 1.0 ; 1.0	0.4 ± 1.3 ; 1.3	0.2 ± 0.7 ; 0.7	-0.1 ± 2.0 ; 2.0
Zn-65	-1.4 ± 2.3 ; 2.3	-1.6 ± 2.1 ; 2.1	0.8 ± 1.6 ; 1.6	0.9 ± 3.4 ; 3.4
Nb/Zr-95	-0.2 ± 0.7 ; 0.7	0.5 ± 0.8 ; 0.8	-0.5 ± 0.6 ; 0.6	-0.6 ± 1.1 ; 1.1
Cs-134	0.2 ± 1.1 ; 1.1	0.2 ± 0.8 ; 0.8	0.1 ± 0.7 ; 0.7	1.0 ± 1.2 ; 1.2
Cs-137	-0.1 ± 1.0 ; 1.0	-0.9 ± 0.9 ; 0.9	-0.3 ± 0.7 ; 0.7	0.1 ± 1.2 ; 1.2
Ba/La-140	-3.4 ± 0.9 ; 1.0	-3.7 ± 1.0 ; 1.2	0.1 ± 0.7 ; 0.7	-1.5 ± 1.4 ; 1.5

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-Required LLDs: Mn-54 = 0.13, Fe-59 = 0.26, Co-58 = 0.13, Co-60 = 0.13, Zn-65 = 0.26, Cs-134 = 0.1, Cs-137 = 0.1 pCi/g wet weight

Other LLDs: Zr/Nb-95 = 0.20, Ba/La-140 = 0.30 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

BY-31 Byron, Discharge

Date Collected	05-05-04	05-05-04	10-26-04	10-26-04
Lab Code	BYF-2099	BYF-2100	BYF-6323	BYF-6324
Type	Channel Catfish	Smallmouth Buffalo	Golden Redhorse	Channel Catfish
Mn-54	0.4 ± 0.8 ; 0.8	0.5 ± 1.0 ; 1.0	0.2 ± 0.7 ; 0.7	0.6 ± 0.9 ; 0.9
Fe-59	3.4 ± 1.8 ; 1.9	2.0 ± 2.1 ; 2.1	0.3 ± 1.7 ; 1.7	-2.2 ± 2.7 ; 2.7
Co-58	-0.4 ± 0.8 ; 0.8	-0.6 ± 0.9 ; 0.9	0.2 ± 0.7 ; 0.7	-0.2 ± 1.2 ; 1.2
Co-60	-0.9 ± 0.8 ; 0.8	-0.0 ± 0.8 ; 0.8	-0.1 ± 1.0 ; 1.0	-0.2 ± 1.5 ; 1.5
Zn-65	0.6 ± 2.1 ; 2.1	0.2 ± 2.2 ; 2.2	0.6 ± 2.1 ; 2.1	-2.8 ± 3.1 ; 3.1
Nb/Zr-95	-0.7 ± 0.8 ; 0.8	0.4 ± 0.8 ; 0.8	0.0 ± 0.7 ; 0.7	-0.6 ± 1.1 ; 1.1
Cs-134	0.8 ± 1.1 ; 1.1	1.1 ± 1.0 ; 1.0	0.2 ± 0.7 ; 0.7	0.6 ± 1.1 ; 1.1
Cs-137	0.2 ± 0.9 ; 0.9	-0.2 ± 0.8 ; 0.8	-0.4 ± 0.7 ; 0.7	0.3 ± 1.3 ; 1.3
Ba/La-140	-7.8 ± 1.1 ; 1.5	-2.9 ± 1.0 ; 1.1	-0.7 ± 0.8 ; 0.8	-2.3 ± 1.4 ; 1.4

Table 5. Bottom Sediments

Collection: Semiannually

ODCM-Required LLDs: Cs-134 = 0.15, Cs-137 = 0.18 pCi/g dry weight

Other LLDs: Mn-54 = 0.15; Fe-59 = 0.60; Co-58, Co-60 = 0.10; Zn-65 = 0.60; Zr/Nb-95 = 0.20; Ba/La = 0.60 pCi/g dry weight

Units: 10^{-2} pCi/g dry weight

Sample Description and Concentration

BY-12 Oregon Pool of Rock River

Date Collected	07-13-04	10-12-04
Lab Code	BYBS-3668	BYBS-5965
Mn-54	0.9 ± 1.1 ; 1.1	0.0 ± 1.3 ; 1.3
Fe-59	0.2 ± 1.8 ; 1.8	1.6 ± 2.1 ; 2.2
Co-58	-0.4 ± 0.9 ; 0.9	6.3 ± 3.5 ; 3.6
Co-60	3.1 ± 1.7 ; 1.8	2.4 ± 1.6 ; 1.6
Zn-65	-1.4 ± 2.5 ; 2.5	-2.5 ± 2.8 ; 2.8
Nb/Zr-95	-1.5 ± 1.1 ; 1.1	-3.2 ± 1.3 ; 1.4
Cs-134	0.9 ± 1.4 ; 1.4	0.9 ± 1.6 ; 1.6
Cs-137	7.6 ± 3.5 ; 3.6	9.4 ± 3.0 ; 3.3
Ba/La-140	-3.3 ± 1.1 ; 1.2	-3.3 ± 1.4 ; 1.4

BY-34 Rock River, Downstream

Date Collected	07-13-04	10-12-04
Lab Code	BYBS-3669	BYBS-5966
Mn-54	0.7 ± 1.4 ; 1.4	0.1 ± 1.2 ; 1.2
Fe-59	-1.0 ± 3.1 ; 3.1	1.5 ± 2.6 ; 2.6
Co-58	1.7 ± 1.3 ; 1.4	1.0 ± 1.2 ; 1.2
Co-60	2.8 ± 1.3 ; 1.3	-0.3 ± 1.5 ; 1.5
Zn-65	-1.4 ± 3.4 ; 3.4	-3.3 ± 3.3 ; 3.3
Nb/Zr-95	-1.0 ± 1.7 ; 1.7	0.2 ± 1.4 ; 1.4
Cs-134	0.3 ± 2.0 ; 2.0	-0.7 ± 1.4 ; 1.4
Cs-137	0.2 ± 4.1 ; 4.1	4.9 ± 2.6 ; 2.7
Ba/La-140	1.4 ± 1.3 ; 1.3	-2.9 ± 1.0 ; 1.1

Table 6. Vegetation

Collection:	Annually
ODCM-Required LLDs:	I-131 = 0.06, Cs-134 = 0.06, Cs-137 = 0.08 pCi/g wet weight
Other LLDs:	Mn-54 = 0.05; Fe-59 = 0.10; Co-58, Co-60, Zn-65 = 0.05; Zr/Nb-95 = 0.01; Ba/La-140 = 0.02 pCi/g wet weight
Units:	10^{-2} pCi/g wet weight

Sample Description and Concentration

BY-Control Gensler Gardens

Date Collected	09-16-04	09-16-04
Lab Code	BYVE-5339,40 [a]	BYVE-5341
Type	GreenBeans/Cucumber	Cabbage
Mn-54	0.6 ± 0.6 ; 0.6	-0.3 ± 0.9 ; 0.9
Fe-59	-1.3 ± 1.3 ; 1.3	1.8 ± 2.0 ; 2.0
Co-58	-0.1 ± 0.6 ; 0.6	-0.7 ± 1.1 ; 1.1
Co-60	0.9 ± 0.8 ; 0.8	0.2 ± 0.8 ; 0.8
Zn-65	1.5 ± 1.5 ;1.5	0.3 ± 2.3 ;2.3
Nb/Zr-95	-0.1 ± 0.7 ;0.7	0.3 ± 0.9 ;0.9
I-131	-0.3 ± 0.5 ;0.5	-0.8 ± 1.0 ;1.0
Cs-134	0.4 ± 0.7 ; 0.7	-0.9 ± 1.0 ; 1.0
Cs-137	-0.7 ± 0.8 ; 0.8	-1.0 ± 0.9 ; 0.9
Ba/La-140	0.0 ± 0.8 ;0.8	0.3 ± 1.2 ;1.2

BY-Quad 1 North Cox Road

Date Collected	09-16-04	09-16-04
Lab Code	BYVE-5342	BYVE-5343
Type	Cabbage	Carrots/Beets
Mn-54	-0.3 ± 0.7 ; 0.7	-0.5 ± 0.7 ; 0.7
Fe-59	-1.0 ± 1.4 ; 1.4	1.3 ± 1.5 ; 1.5
Co-58	0.1 ± 0.7 ; 0.7	-0.6 ± 0.8 ; 0.8
Co-60	-0.1 ± 0.9 ; 0.9	-1.0 ± 0.9 ; 0.9
Zn-65	0.8 ± 1.6 ;1.7	1.1 ± 1.5 ;1.5
Nb/Zr-95	0.3 ± 0.7 ;0.7	0.1 ± 0.7 ;0.7
I-131	0.2 ± 0.7 ;0.7	-0.5 ± 0.7 ;0.7
Cs-134	-0.2 ± 1.0 ; 1.0	-0.2 ± 1.0 ; 1.0
Cs-137	0.2 ± 0.9 ; 0.9	-0.4 ± 0.7 ; 0.7
Ba/La-140	0.2 ± 0.8 ;0.8	0.4 ± 0.6 ;0.6

[a] After diligent search of quadrant, collector unable to find root vegetation; sample is alternative.

Table 6. Vegetation

Collection:	Annually
ODCM-Required LLDs:	I-131 = 0.06, Cs-134 = 0.06, Cs-137 = 0.08 pCi/g wet weight
Other LLDs:	Mn-54 = 0.05; Fe-59 = 0.10; Co-58, Co-60, Zn-65 = 0.05; Zr/Nb-95 = 0.01; Ba/La-140 = 0.02 pCi/g wet weight
Units:	10^{-2} pCi/g wet weight

Sample Description and Concentration

BY-Quad 2 Limerick Road

Date Collected	09-16-04
Lab Code	BYVE-5344 [a]
Type	Corn Leaves
Mn-54	0.4 ± 1.0 ; 1.0
Fe-59	0.5 ± 2.0 ; 2.0
Co-58	-0.5 ± 1.0 ; 1.0
Co-60	-0.4 ± 1.0 ; 1.0
Zn-65	-5.8 ± 2.6 ;2.7
Nb/Zr-95	-0.5 ± 1.1 ;1.1
I-131	0.4 ± 1.2 ;1.2
Cs-134	0.4 ± 1.2 ; 1.2
Cs-137	0.5 ± 0.9 ; 0.9
Ba/La-140	-0.7 ± 1.0 ;1.0

BY-Quad 3 Spring Creek Road

Date Collected	09-16-04
Lab Code	BYVE-5345 [a]
Type	ChineseCbbg/Broccoli
Mn-54	0.3 ± 0.6 ; 0.6
Fe-59	0.2 ± 1.1 ; 1.1
Co-58	-0.2 ± 0.5 ; 0.5
Co-60	0.8 ± 0.5 ; 0.5
Zn-65	0.6 ± 1.2 ;1.2
Nb/Zr-95	-0.5 ± 0.5 ;0.5
I-131	-0.6 ± 0.6 ;0.6
Cs-134	-0.7 ± 0.6 ; 0.6
Cs-137	0.1 ± 0.6 ; 0.6
Ba/La-140	0.3 ± 0.5 ;0.5

[a] After diligent search of quadrant, collector unable to find root vegetation or alternative.

BYRON

Table 6. Vegetation

Collection: Annually

ODCM-Required LLDs: I-131 = 0.06, Cs-134 = 0.06, Cs-137 = 0.08 pCi/g wet weight

Other LLDs: Mn-54 = 0.05; Fe-59 = 0.10; Co-58, Co-60, Zn-65 = 0.05; Zr/Nb-95 = 0.01; Ba/La-140 = 0.02 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

BY-Quad 4 Equestrian Pointe

Date Collected	09-16-04	09-16-04
Lab Code	BYVE-5346	BYVE-5347
Type	Cabbage	Potatoes/Onion
Mn-54	-0.4 ± 0.8 ; 0.8	-1.0 ± 0.9 ; 0.9
Fe-59	1.3 ± 1.4 ; 1.4	1.4 ± 2.0 ; 2.0
Co-58	0.2 ± 0.9 ; 0.9	-0.3 ± 0.9 ; 0.9
Co-60	0.6 ± 0.8 ; 0.8	0.1 ± 1.1 ; 1.1
Zn-65	-0.5 ± 2.2 ;2.2	-0.3 ± 2.4 ;2.4
Nb/Zr-95	-0.4 ± 0.9 ;0.9	0.1 ± 1.0 ;1.0
I-131	0.9 ± 0.8 ;0.8	-1.0 ± 0.7 ;0.7
Cs-134	-0.2 ± 1.1 ; 1.1	0.3 ± 1.1 ; 1.1
Cs-137	0.1 ± 0.9 ; 0.9	-0.9 ± 1.0 ; 1.0
Ba/La-140	-0.9 ± 1.3 ;1.3	-0.4 ± 0.7 ;0.7

Table 7. Surface Water

Collection: Monthly composites of weekly collections

ODCM-Required LLDs: Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr-95 = 30, Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-12 Oregon Pool of Rock River, Downstream

2004 Collection Period	January	February	March
Lab Code	BYSW-499	BYSW-759	BYSW-1254
Gross Beta	3.1 ± 1.0 ; 1.2	4.1 ± 1.0 ; 1.2	4.7 ± 0.9 ; 1.1
Mn-54	-0.3 ± 2.0 ; 2.0	0.1 ± 2.0 ; 2.0	-0.6 ± 3.1 ; 3.2
Fe-59	-3.2 ± 3.5 ; 3.5	0.5 ± 3.3 ; 3.3	5.9 ± 5.6 ; 5.6
Co-58	-0.7 ± 1.5 ; 1.5	-0.8 ± 1.8 ; 1.8	0.3 ± 3.2 ; 3.2
Co-60	0.6 ± 1.5 ; 1.5	1.0 ± 2.0 ; 2.0	2.0 ± 3.2 ; 3.2
Zn-65	-1.0 ± 3.3 ; 3.3	-3.3 ± 4.7 ; 4.7	1.5 ± 8.5 ; 8.5
Zr-95	-1.7 ± 3.7 ; 3.7	1.1 ± 3.5 ; 3.5	-1.6 ± 7.1 ; 7.1
Nb-95	-0.2 ± 2.0 ; 2.0	-0.1 ± 1.7 ; 1.7	2.8 ± 2.8 ; 2.9
Cs-134	1.0 ± 1.8 ; 1.8	-1.3 ± 1.8 ; 1.9	-0.5 ± 3.8 ; 3.8
Cs-137	-0.5 ± 2.0 ; 2.0	1.9 ± 1.8 ; 1.9	1.4 ± 3.3 ; 3.3
Ba-140	5.5 ± 6.6 ; 6.6	3.0 ± 6.9 ; 6.9	-7.0 ± 12.5 ; 12.5
La-140	1.8 ± 1.7 ; 1.8	-0.7 ± 2.2 ; 2.2	1.3 ± 2.6 ; 2.6

2004 Collection Period	April	May	June
Lab Code	BYSW-1903	BYSW-2556	BYSW-3448
Gross Beta	3.7 ± 1.1 ; 1.3	3.9 ± 1.0 ; 1.2	4.0 ± 1.1 ; 1.2
Mn-54	-2.7 ± 2.7 ; 2.7	1.8 ± 2.2 ; 2.2	-1.2 ± 2.3 ; 2.3
Fe-59	0.9 ± 5.5 ; 5.5	-2.2 ± 3.0 ; 3.0	0.4 ± 3.4 ; 3.4
Co-58	-1.2 ± 2.7 ; 2.7	-0.7 ± 1.6 ; 1.6	-0.6 ± 2.0 ; 2.0
Co-60	-2.3 ± 3.3 ; 3.3	1.9 ± 2.0 ; 2.0	0.2 ± 2.2 ; 2.2
Zn-65	3.1 ± 5.6 ; 5.6	-2.8 ± 4.4 ; 4.4	-5.8 ± 3.8 ; 3.8
Zr-95	3.8 ± 5.3 ; 5.4	0.2 ± 4.3 ; 4.3	-3.7 ± 4.7 ; 4.7
Nb-95	0.1 ± 2.0 ; 2.0	-0.0 ± 1.8 ; 1.8	2.1 ± 1.8 ; 1.9
Cs-134	2.4 ± 3.3 ; 3.3	1.0 ± 2.3 ; 2.3	0.7 ± 2.0 ; 2.0
Cs-137	-0.1 ± 2.9 ; 2.9	-1.0 ± 2.4 ; 2.4	0.2 ± 2.2 ; 2.2
Ba-140	4.5 ± 10.6 ; 10.6	3.7 ± 6.9 ; 7.0	-5.6 ± 7.5 ; 7.5
La-140	4.1 ± 2.9 ; 3.0	2.9 ± 2.3 ; 2.4	-0.3 ± 1.7 ; 1.7

Table 7. Surface Water

Collection: Monthly composites of weekly collections

ODCM-Required LLDs: Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr-95 = 30, Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-12 Oregon Pool of Rock River, Downstream

2004 Collection Period	July	August	September
Lab Code	BYSW-4443,4	BYSW-5176	BYSW-5904
Gross Beta	3.0 ± 0.8 ; 0.9	3.4 ± 1.0 ; 1.2	2.9 ± 1.0 ; 1.1
Mn-54	-1.1 ± 1.6 ; 1.6	-1.5 ± 2.1 ; 2.1	-1.2 ± 2.9 ; 2.9
Fe-59	1.3 ± 3.6 ; 3.6	-1.8 ± 3.7 ; 3.7	-0.4 ± 3.5 ; 3.5
Co-58	0.9 ± 1.7 ; 1.7	0.4 ± 1.7 ; 1.7	-3.0 ± 3.0 ; 3.0
Co-60	-0.1 ± 1.8 ; 1.8	1.0 ± 2.0 ; 2.1	-1.6 ± 3.1 ; 3.1
Zn-65	4.0 ± 3.9 ; 3.9	1.7 ± 4.2 ; 4.2	2.3 ± 3.5 ; 3.6
Zr-95	5.2 ± 4.0 ; 4.1	2.9 ± 4.8 ; 4.8	-0.1 ± 6.9 ; 6.9
Nb-95	-2.4 ± 2.0 ; 2.0	0.6 ± 1.9 ; 1.9	-1.8 ± 2.5 ; 2.5
Cs-134	0.5 ± 1.8 ; 1.8	-0.5 ± 2.1 ; 2.1	-0.7 ± 3.4 ; 3.4
Cs-137	-0.1 ± 2.0 ; 2.0	-1.3 ± 2.4 ; 2.4	-0.7 ± 3.2 ; 3.2
Ba-140	-1.9 ± 6.3 ; 6.3	5.9 ± 7.0 ; 7.1	4.9 ± 10.6 ; 10.7
La-140	-1.5 ± 2.0 ; 2.0	-0.5 ± 2.6 ; 2.6	6.2 ± 2.4 ; 2.6

2004 Collection Period	October	November	December
Lab Code	BYSW-6633	BYSW-7204	BYSW-7602
Gross Beta	3.1 ± 1.0 ; 1.1	3.4 ± 1.1 ; 1.2	2.9 ± 1.4 ; 1.4
Mn-54	0.8 ± 1.4 ; 1.4	0.6 ± 3.0 ; 3.0	-0.9 ± 3.1 ; 3.1
Fe-59	-1.1 ± 2.6 ; 2.6	1.9 ± 5.8 ; 5.8	-2.7 ± 5.4 ; 5.4
Co-58	0.6 ± 1.4 ; 1.4	-1.1 ± 3.4 ; 3.4	-1.3 ± 2.7 ; 2.7
Co-60	-1.3 ± 1.5 ; 1.5	-0.2 ± 3.0 ; 3.0	-2.9 ± 3.4 ; 3.4
Zn-65	0.7 ± 2.6 ; 2.6	0.7 ± 5.9 ; 5.9	-2.0 ± 5.4 ; 5.4
Zr-95	-1.4 ± 3.1 ; 3.1	-5.6 ± 6.0 ; 6.0	7.9 ± 6.1 ; 6.2
Nb-95	-2.0 ± 1.5 ; 1.5	0.4 ± 3.2 ; 3.2	0.8 ± 2.2 ; 2.2
Cs-134	-0.2 ± 1.5 ; 1.5	2.0 ± 4.6 ; 4.6	1.5 ± 2.8 ; 2.8
Cs-137	-0.9 ± 1.8 ; 1.8	2.2 ± 3.3 ; 3.3	-1.5 ± 2.5 ; 2.5
Ba-140	-1.9 ± 5.6 ; 5.6	0.5 ± 10.9 ; 10.9	7.4 ± 8.4 ; 8.4
La-140	-2.5 ± 1.5 ; 1.5	-14.9 ± 4.4 ; 4.9	-7.7 ± 3.0 ; 3.2

Table 7. Surface Water

Collection: Monthly composites of weekly collections

ODCM-Required LLDs: Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr-95 = 30, Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-29 (C) Byron, Upstream

2004 Collection Period	January	February	March
Lab Code	BYSW-46[a]	BYSW-740[a]	BYSW-1255
Gross Beta	4.9 ± 1.1 ; 1.3	7.0 ± 1.2 ; 1.6	3.7 ± 0.8 ; 1.0
Mn-54	0.4± 1.6 ; 1.6	0.7± 2.1 ; 2.1	-1.6± 3.6 ; 3.6
Fe-59	2.2± 2.7 ; 2.7	-4.5± 4.4 ; 4.4	-6.1± 7.4 ; 7.5
Co-58	-1.5± 1.4 ; 1.4	2.2± 2.9 ; 2.9	1.6± 3.5 ; 3.5
Co-60	-0.2± 1.2 ; 1.2	-0.2± 2.7 ; 2.7	-1.6± 4.4 ; 4.5
Zn-65	-1.9± 3.2 ; 3.2	0.5± 3.6 ; 3.6	-2.2± 6.7 ; 6.7
Zr-95	0.3± 3.2 ; 3.2	1.7± 7.5 ; 7.5	-2.7± 7.9 ; 7.9
Nb-95	3.4± 1.5 ; 1.6	-3.1± 2.4 ; 2.5	0.1± 3.1 ; 3.1
Cs-134	0.3± 1.6 ; 1.6	-0.4± 2.7 ; 2.7	0.5± 3.4 ; 3.4
Cs-137	0.0± 1.6 ; 1.6	1.8± 2.7 ; 2.7	1.0± 3.4 ; 3.4
Ba-140	-17.1± 5.6 ; 6.2	-1.7± 10.4 ; 10.4	-2.9± 11.9 ; 11.9
La-140	-13.3± 1.6 ; 2.5	1.9± 1.9 ; 1.9	-2.5± 4.1 ; 4.1

2004 Collection Period	April	May	June
Lab Code	BYSW-1904	BYSW-2557,8	BYSW-3449,50
Gross Beta	2.6 ± 1.1 ; 1.1	3.5 ± 0.8 ; 0.9	4.1 ± 0.8 ; 0.9
Mn-54	0.6± 3.7 ; 3.7	0.6± 1.8 ; 1.8	1.0± 1.3 ; 1.3
Fe-59	3.4± 6.3 ; 6.4	-1.4± 3.1 ; 3.1	-2.9± 2.8 ; 2.8
Co-58	1.9± 3.7 ; 3.7	-1.5± 1.6 ; 1.6	0.6± 1.2 ; 1.2
Co-60	-1.1± 3.1 ; 3.1	1.1± 1.4 ; 1.4	-0.2± 1.2 ; 1.2
Zn-65	-5.7± 6.5 ; 6.6	1.8± 3.8 ; 3.8	-0.8± 2.9 ; 2.9
Zr-95	-4.4± 7.4 ; 7.4	-2.7± 4.4 ; 4.4	1.3± 3.0 ; 3.0
Nb-95	0.8± 3.2 ; 3.2	-2.5± 1.6 ; 1.6	-1.7± 1.5 ; 1.5
Cs-134	1.7± 3.6 ; 3.6	-1.9± 2.0 ; 2.1	0.6± 1.5 ; 1.5
Cs-137	-0.3± 3.8 ; 3.8	-0.1± 1.9 ; 1.9	1.0± 1.6 ; 1.6
Ba-140	-9.5± 11.6 ; 11.7	-6.1± 7.0 ; 7.1	-14.0± 5.3 ; 5.7
La-140	2.1± 4.1 ; 4.1	-0.8± 2.2 ; 2.2	-3.4± 1.9 ; 2.0

[a]Partial composite for month; water frozen.

Table 7. Surface Water

Collection: Monthly composites of weekly collections

ODCM-Required LLDs: Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr-95 = 30, Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-29 (C) Byron, Upstream

2004 Collection Period	July	August	September
Lab Code	BYSW-4445	BYSW-5177	BYSW-5905
Gross Beta	3.9 ± 1.1 ; 1.3	3.6 ± 1.0 ; 1.2	3.4 ± 1.0 ; 1.2
Mn-54	0.2± 2.1 ; 2.1	-0.8± 2.0 ; 2.0	-2.8± 4.0 ; 4.0
Fe-59	4.4± 3.5 ; 3.5	-0.4± 3.2 ; 3.2	3.0± 6.3 ; 6.4
Co-58	-0.2± 1.7 ; 1.7	-0.3± 1.7 ; 1.7	0.9± 3.8 ; 3.8
Co-60	1.8± 2.2 ; 2.2	0.2± 1.6 ; 1.6	-3.2± 3.7 ; 3.7
Zn-65	0.7± 4.1 ; 4.1	2.2± 3.9 ; 3.9	-2.8± 7.6 ; 7.6
Zr-95	0.8± 4.1 ; 4.1	-4.5± 4.1 ; 4.2	-3.2± 6.6 ; 6.6
Nb-95	-2.6± 2.4 ; 2.4	0.8± 1.7 ; 1.7	3.5± 2.9 ; 2.9
Cs-134	-0.7± 2.2 ; 2.2	-0.4± 2.3 ; 2.3	1.2± 3.5 ; 3.5
Cs-137	0.8± 2.1 ; 2.1	0.8± 1.9 ; 1.9	-1.5± 3.5 ; 3.5
Ba-140	-1.9± 7.3 ; 7.3	-6.5± 7.0 ; 7.0	0.3± 12.5 ; 12.5
La-140	1.7± 2.2 ; 2.2	2.9± 2.1 ; 2.1	-1.4± 3.5 ; 3.5

2004 Collection Period	October	November	December
Lab Code	BYSW-6634	BYSW-7205	BYSW-7603 [a]
Gross Beta	3.1 ± 1.0 ; 1.1	3.6 ± 1.1 ; 1.2	4.2 ± 1.5 ; 1.6
Mn-54	-2.3± 2.0 ; 2.0	-0.5± 1.7 ; 1.7	-0.5± 2.0 ; 2.0
Fe-59	1.6± 3.7 ; 3.7	3.1± 2.8 ; 2.8	5.5± 4.0 ; 4.1
Co-58	-2.0± 2.0 ; 2.0	-1.0± 1.9 ; 1.9	0.4± 1.7 ; 1.7
Co-60	0.1± 2.4 ; 2.4	1.8± 1.8 ; 1.9	0.6± 2.1 ; 2.1
Zn-65	0.6± 3.5 ; 3.5	-2.9± 4.9 ; 4.9	-3.7± 3.7 ; 3.8
Zr-95	1.6± 4.3 ; 4.3	0.9± 4.8 ; 4.8	-3.4± 4.4 ; 4.5
Nb-95	1.9± 2.0 ; 2.0	-0.2± 2.1 ; 2.1	1.0± 1.9 ; 1.9
Cs-134	-2.7± 2.3 ; 2.4	-0.3± 1.9 ; 1.9	2.1± 2.0 ; 2.0
Cs-137	0.3± 2.0 ; 2.0	1.5± 2.5 ; 2.5	1.2± 1.9 ; 1.9
Ba-140	7.4± 6.8 ; 6.9	-1.5± 7.4 ; 7.4	-8.4± 7.4 ; 7.5
La-140	-3.6± 2.3 ; 2.4	-0.6± 2.3 ; 2.3	-10.0± 2.6 ; 2.9

[a] Partial composite for month; water frozen.

Table 7. Surface Water

Collection: Quarterly composites of weekly collections

Required LLD: H-3 = 200 pCi/L

Units: pCi/L

2004 Collection Period	Sample Description and Concentration	
	Lab Code	Tritium
	BY-12 Oregon Pool of Rock River, Downstream	
1st Quarter	BYSW - 1238	1,164 ± 123 ; 200
2nd Quarter	BYSW - 3555	119 ± 84 ; 85
3rd Quarter	BYSW - 5607	45 ± 85 ; 85
4th Quarter	BYSW - 7703	122 ± 80 ; 82
	BY-29 (C) Byron, Upstream	
1st Quarter	BYSW - 1239	114 ± 85 ; 86
2nd Quarter	BYSW - 3556	65 ± 81 ; 82
3rd Quarter	BYSW - 5608	97 ± 87 ; 88
4th Quarter	BYSW - 7704	65 ± 77 ; 78

Table 8. Well Water

Collection: Quarterly

ODCM-Required LLDs: H-3 = 200, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr-95 = 30, Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-14-1 3200 North German Church Road

Date Collected	01-20-04	04-13-04	07-13-04	10-12-04
Lab Code	BYWW-282[a]	BYWW-1611	BYWW-3665	BYWW-5962
H-3	41 ± 82 ; 82	-45 ± 83 ; 83	101 ± 82 ; 83	19 ± 83 ; 83
Mn-54	-1.4 ± 3.5 ; 3.5	-0.4 ± 1.4 ; 1.4	-0.5 ± 1.8 ; 1.8	1.7 ± 2.5 ; 2.6
Fe-59	-1.4 ± 6.3 ; 6.3	-0.8 ± 2.6 ; 2.6	-1.5 ± 3.5 ; 3.5	-1.1 ± 5.4 ; 5.4
Co-58	3.0 ± 3.4 ; 3.3	0.1 ± 1.4 ; 1.5	0.2 ± 2.0 ; 1.9	-4.5 ± 2.8 ; 2.4
Co-60	-0.4 ± 3.3 ; 3.5	-1.4 ± 1.5 ; 1.4	-0.4 ± 1.9 ; 2.0	0.5 ± 2.4 ; 2.9
Zn-65	3.8 ± 6.1 ; 6.1	-1.5 ± 3.0 ; 3.0	-7.5 ± 5.4 ; 5.5	-0.7 ± 5.1 ; 5.1
Zr-95	0.2 ± 5.3 ; 5.3	-3.5 ± 2.9 ; 3.0	-2.4 ± 4.3 ; 4.3	1.3 ± 5.7 ; 5.7
Nb-95	2.0 ± 3.0 ; 3.1	-1.4 ± 1.5 ; 1.5	0.1 ± 2.0 ; 2.0	-0.2 ± 2.6 ; 2.6
Cs-134	-0.3 ± 3.9 ; 3.9	-0.4 ± 1.4 ; 1.5	-0.1 ± 2.5 ; 2.5	-1.7 ± 3.2 ; 3.2
Cs-137	-1.0 ± 3.2 ; 3.2	0.7 ± 1.5 ; 1.5	0.3 ± 2.3 ; 2.3	0.9 ± 2.5 ; 2.5
Ba-140	-8.5 ± 12.3 ; 12.4	6.1 ± 4.9 ; 5.0	-6.2 ± 8.6 ; 8.7	6.2 ± 10.0 ; 10.1
La-140	1.1 ± 3.4 ; 3.4	0.4 ± 1.6 ; 1.6	-1.7 ± 2.7 ; 2.7	-2.1 ± 3.0 ; 3.0

BY-18 McCoy Farmstead

Date Collected	01-13-04	04-13-04	07-13-04	10-12-04
Lab Code	BYWW-193	BYWW-1612,3	BYWW-3666	BYWW-5963
H-3	99 ± 85 ; 86	9 ± 60 ; 60	88 ± 81 ; 82	0 ± 82 ; 82
Mn-54	-3.2 ± 3.6 ; 3.6	0.5 ± 1.4 ; 1.5	-0.6 ± 2.0 ; 2.0	-2.2 ± 3.5 ; 3.5
Fe-59	2.1 ± 6.2 ; 6.2	-2.9 ± 2.8 ; 2.8	1.0 ± 2.5 ; 2.5	-4.6 ± 7.0 ; 7.0
Co-58	-0.3 ± 3.4 ; 3.5	0.7 ± 1.3 ; 1.5	-1.6 ± 1.8 ; 1.8	0.3 ± 3.3 ; 4.3
Co-60	-0.6 ± 3.5 ; 3.4	-0.4 ± 1.5 ; 1.3	1.1 ± 1.8 ; 1.8	-4.2 ± 4.3 ; 3.3
Zn-65	-5.2 ± 6.8 ; 6.8	-4.2 ± 3.6 ; 3.6	-5.7 ± 4.8 ; 4.9	-2.3 ± 5.8 ; 5.8
Zr-95	4.8 ± 6.7 ; 6.7	-1.1 ± 2.7 ; 2.7	-4.7 ± 4.9 ; 5.0	-4.9 ± 6.9 ; 6.9
Nb-95	0.7 ± 2.6 ; 2.6	-0.9 ± 1.5 ; 1.5	-1.0 ± 2.1 ; 2.1	-2.2 ± 3.2 ; 3.2
Cs-134	-3.5 ± 4.5 ; 4.5	-0.4 ± 1.7 ; 1.7	1.0 ± 2.2 ; 2.2	0.3 ± 4.0 ; 4.0
Cs-137	-2.6 ± 3.0 ; 3.0	-0.5 ± 1.7 ; 1.7	-0.3 ± 1.8 ; 1.8	1.0 ± 3.6 ; 3.6
Ba-140	-15.5 ± 11.3 ; 11.5	3.2 ± 5.7 ; 5.7	23.5 ± 7.5 ; 8.2	-23.4 ± 13.3 ; 13.7
La-140	1.9 ± 3.0 ; 3.0	1.3 ± 1.8 ; 1.8	-5.1 ± 2.2 ; 2.3	-2.2 ± 5.2 ; 5.2

[a]Unable to collect on scheduled date of 01-13-04.

Table 8. Well Water

Collection: Quarterly

ODCM-Required LLDs: H-3 = 200, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr-95 = 30, Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BY-32 Ron Wolford

Date Collected	01-13-04	04-13-04	07-13-04	10-12-04
Lab Code	BYWW-194	BYWW-1614	BYWW-3667	BYWW-5964
H-3	114 ± 85 ; 87	81 ± 89 ; 89	181 ± 106 ; 109	24 ± 83 ; 83
Mn-54	0.9 ± 2.7 ; 2.7	-2.1 ± 2.0 ; 2.0	-0.4 ± 1.9 ; 1.9	0.7 ± 1.7 ; 1.7
Fe-59	-6.1 ± 5.0 ; 5.1	-0.2 ± 3.6 ; 3.6	2.8 ± 3.1 ; 3.2	0.5 ± 3.5 ; 3.5
Co-58	-1.7 ± 2.9 ; 3.7	-0.3 ± 1.6 ; 1.8	-0.4 ± 1.7 ; 1.8	-1.1 ± 1.8 ; 1.9
Co-60	3.4 ± 3.7 ; 2.9	-0.2 ± 1.8 ; 1.6	-0.5 ± 1.8 ; 1.7	-0.6 ± 1.9 ; 1.8
Zn-65	-1.3 ± 4.3 ; 4.3	-3.2 ± 4.1 ; 4.1	-3.5 ± 3.8 ; 3.9	-1.4 ± 4.2 ; 4.2
Zr-95	4.9 ± 5.8 ; 5.8	-3.6 ± 4.0 ; 4.1	-1.2 ± 3.8 ; 3.8	0.4 ± 4.3 ; 4.3
Nb-95	-0.2 ± 2.8 ; 2.8	0.2 ± 1.6 ; 1.6	2.1 ± 1.8 ; 1.8	1.6 ± 1.9 ; 1.9
Cs-134	0.6 ± 3.0 ; 3.0	1.2 ± 2.2 ; 2.2	-0.4 ± 2.0 ; 2.0	0.2 ± 1.9 ; 1.9
Cs-137	2.2 ± 2.6 ; 2.6	-1.5 ± 2.0 ; 2.0	0.9 ± 2.2 ; 2.2	1.1 ± 1.8 ; 1.8
Ba-140	2.5 ± 10.2 ; 10.2	-3.5 ± 7.0 ; 7.0	9.5 ± 6.4 ; 6.6	-15.5 ± 7.8 ; 8.1
La-140	-0.5 ± 4.2 ; 4.2	0.5 ± 1.6 ; 1.6	2.3 ± 2.3 ; 2.3	4.6 ± 2.7 ; 2.8

5.0 MILCH ANIMALS, NEAREST LIVESTOCK, AND NEAREST RESIDENCES CENSUSES

BYRON

MILCH ANIMALS CENSUS, 2004

			Cows being milked
BY-26-1	Dennis Herbert		
	12.0 miles,	Sector A	46
	10% Pasture 90% Feed		
BY-30	Don Roos Dairy		
	5.1 miles,	Sector G	35
	10% Pasture 90% Feed		
BY-20-1	Ron Snodgrass		
	4.5 miles,	Sector N	35
	100% Feed		

Census conducted by T. Goral on August 31, 2004

BYRON

NEAREST LIVESTOCK CENSUS, 2004

Nearest livestock of the Byron Station within a 6.2 mile radius.

Sector	Direction	Distance	Livestock No.
A	N	5.0 miles	19 Beef Cattle
B	NNE	1.5 miles	3 cattle
C	NE	1.9 miles	3 Beef Cattle
D	ENE	6.5 miles	55 Cattle
E	E	1.3 miles	10 Cattle
F	ESE	1.5 miles	80 beef cattle
G	SE	5.5 miles	50 sheep
H	SSE	3.2 miles	500 Cattle
J	S	0.6 miles	150 beef cattle
K	SSW	2.2 miles	40 cattle
L	SW	3.2 miles	50 Cattle
M	WSW	1.7 miles	450 beef cattle
N	W	2.5 miles	80 Beef Cattle
P	WNW	3.5 miles	50 Beef Cattle
Q	NW	3.8 miles	150 beef cattle
R	NNW	1.4 miles	35 beef catttle

Census conducted by T. Goral on August 27, 2004

BYRON

NEAREST RESIDENCE CENSUS, 2004

Nearest resident of the Byron Station within a 6.2 mile radius.

Sector	Direction	Distance
A	N	2.5 miles
B	NNE	1.0 miles
C	NE	1.2 miles
D	ENE	1.3 miles
E	E	1.3 miles
F	ESE	1.5 miles
G	SE	0.8 miles
H	SSE	0.6 miles
J	S	0.5 miles
K	SSW	0.6 miles
L	SW	0.8 miles
M	WSW	1.7 miles
N	W	1.8 miles
P	WNW	0.8 miles
Q	NW	1.0 miles
R	NNW	1.3 miles

Census conducted by T. Goral on August 18, 2004

6.0 TLD DATA*

*TLD Data provided by Exelon Nuclear.

Exelon Nuclear

Environmental Site Report for Byron

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2004	Quarter 2 2004	Quarter 3 2004	Quarter 4 2004
I. INDICATOR LOCATIONS					
a. Air Samplers					
BY-01-1	BYRON	22.0	22.0	21.0	20.0
BY-01-2	BYRON	21.0	21.0	22.0	17.0
BY-04-1	PAYNES PT.	25.0	27.0	26.0	22.0
BY-04-2	PAYNES PT.	26.0	24.0	25.0	24.0
BY-06-1	OREGON	22.0	21.0	22.0	20.0
BY-06-2	OREGON	20.0	22.0	20.0	20.0
BY-21-1	NEARSITE N	21.0	20.0	22.0	19.0
BY-21-2	NEARSITE N	19.0	21.0	22.0	18.0
BY-22-1	NEARSITE ESE	26.0	26.0	28.0	26.0
BY-22-2	NEARSITE ESE	28.0	26.0	28.0	26.0
BY-23-1	NEARSITE S	23.0	25.0	25.0	26.0
BY-23-2	NEARSITE S	22.0	25.0	26.0	26.0
BY-24-1	NEARSITE SW	21.0	24.0	24.0	22.0
BY-24-2	NEARSITE SW	22.0	28.0	24.0	24.0
	Air Sampler Mean ± S. D.	22.7 ±2.6	23.7 ±2.6	23.9 ±2.5	22.1 ±3.2
	Annual Air Sampler Mean ± S.D.				23.1 ±2.8
b. Inner Ring (100 Series)					
BY-101-1		18.0	20.0	20.0	18.0
BY-101-2		18.0	20.0	21.0	18.0
BY-102-1		25.0	26.0	28.0	27.0
BY-102-2		23.0	30.0	25.0	27.0
BY-103-1		22.0	28.0	23.0	24.0
BY-103-2		26.0	26.0	26.0	25.0
BY-104-1		24.0	29.0	26.0	25.0
BY-104-2		23.0	35.0	27.0	23.0
BY-105-1		26.0	29.0	25.0	25.0
BY-105-2		24.0	27.0	27.0	27.0
BY-106-1		25.0	29.0	26.0	26.0
BY-106-2		24.0	26.0	25.0	25.0
BY-107-1		25.0	32.0	28.0	28.0
BY-107-2		26.0	31.0	28.0	27.0
BY-108-1		25.0	27.0	28.0	26.0
BY-108-2		24.0	30.0	25.0	23.0
BY-109-1		25.0	28.0	27.0	23.0
BY-109-2		22.0	26.0	25.0	25.0
BY-110-1		25.0	27.0	25.0	21.0
BY-110-2		25.0	27.0	25.0	23.0
BY-111-3		26.0	26.0	27.0	26.0
BY-111-4		25.0	29.0	26.0	25.0

Exelon Nuclear

Environmental Site Report for Byron

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2004	Quarter 2 2004	Quarter 3 2004	Quarter 4 2004
b. Inner Ring (100 Series)					
BY-112-3		23.0	25.0	26.0	26.0
BY-112-4		22.0	28.0	26.0	25.0
BY-113-1		27.0	27.0	25.0	24.0
BY-113-2		19.0	24.0	21.0	21.0
BY-114-1		20.0	23.0	20.0	24.0
BY-114-2		22.0	27.0	24.0	25.0
BY-115-1		22.0	27.0	23.0	26.0
BY-115-2		23.0	25.0	25.0	23.0
BY-116-1		22.0	25.0	23.0	22.0
BY-116-2		23.0	26.0	26.0	22.0
	Inner Ring Mean ± S.D.	23.4 ±2.3	27.0 ±3.0	25.1 ±2.2	24.2 ±2.4
	Annual Inner Ring Mean ± S.D.				24.9 ±2.8
c. Outer Ring (200 Series)					
BY-201-3		24.0	28.0	24.0	24.0
BY-201-4		25.0	28.0	26.0	25.0
BY-202-1		23.0	24.0	23.0	23.0
BY-202-2		22.0	31.0	28.0	26.0
BY-203-1		20.0	24.0	23.0	21.0
BY-203-2		21.0	28.0	24.0	23.0
BY-204-1		22.0	24.0	23.0	22.0
BY-204-2		25.0	30.0	27.0	27.0
BY-205-1		25.0	26.0	28.0	27.0
BY-205-2		22.0	27.0	25.0	22.0
BY-206-1		26.0	29.0	26.0	27.0
BY-206-2		24.0		26.0	25.0
BY-207-1		26.0	30.0	27.0	25.0
BY-207-2		23.0	26.0	25.0	25.0
BY-208-1		27.0	30.0	27.0	27.0
BY-208-2		26.0	30.0	26.0	25.0
BY-209-1		23.0	29.0	26.0	24.0
BY-209-4		23.0	29.0	27.0	25.0
BY-210-3		22.0	29.0	25.0	22.0
BY-210-4		25.0	27.0	24.0	22.0
BY-211-1		25.0	28.0	25.0	23.0
BY-211-4		25.0	26.0	27.0	26.0
BY-212-1		27.0	31.0	25.0	27.0
BY-212-4		27.0	31.0	27.0	27.0
BY-213-1		25.0	27.0	28.0	24.0
BY-213-4		26.0	29.0	27.0	25.0
BY-214-1		23.0	30.0	27.0	24.0
BY-214-4		24.0	26.0	27.0	26.0

Exelon Nuclear

Environmental Site Report for Byron

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2004	Quarter 2 2004	Quarter 3 2004	Quarter 4 2004
Outer Ring (200 Series)					
BY-215-1		26.0	31.0	29.0	24.0
BY-215-4		25.0	30.0	28.0	25.0
BY-216-1		28.0	30.0	26.0	25.0
BY-216-2		24.0	28.0	25.0	23.0
	Outer Ring Mean ± S.D.	24.3 ±1.9	28.3 ±2.1	26.0 ±1.6	24.6 ±1.7
	Annual Outer Ring Mean ± S.D.				25.8 ±2.4
					28.0
	INDICATOR LOCATION MEAN ± S.D.	23.7 ±2.3	26.9 ±3.0	25.2 ±2.2	24.0 ±2.5
	Annual INDICATOR MEAN ± S.D.				24.9 ±2.8
II. CONTROL LOCATIONS					
BY-08-1	LEAF RIVER	20.0	22.0	21.0	18.0
BY-08-2	LEAF RIVER	19.0	23.0	21.0	19.0
	CONTROL LOCATION MEAN ± S.D.	19.5 ±0.7	22.5 ±0.7	21.0 ±0.0	18.5 ±0.7
	Annual CONTROL LOCATION MEAN ± S.D.				20.4 ±0.7

7.0 GRAPHS OF DATA TRENDS

Air Particulates - Gross Beta

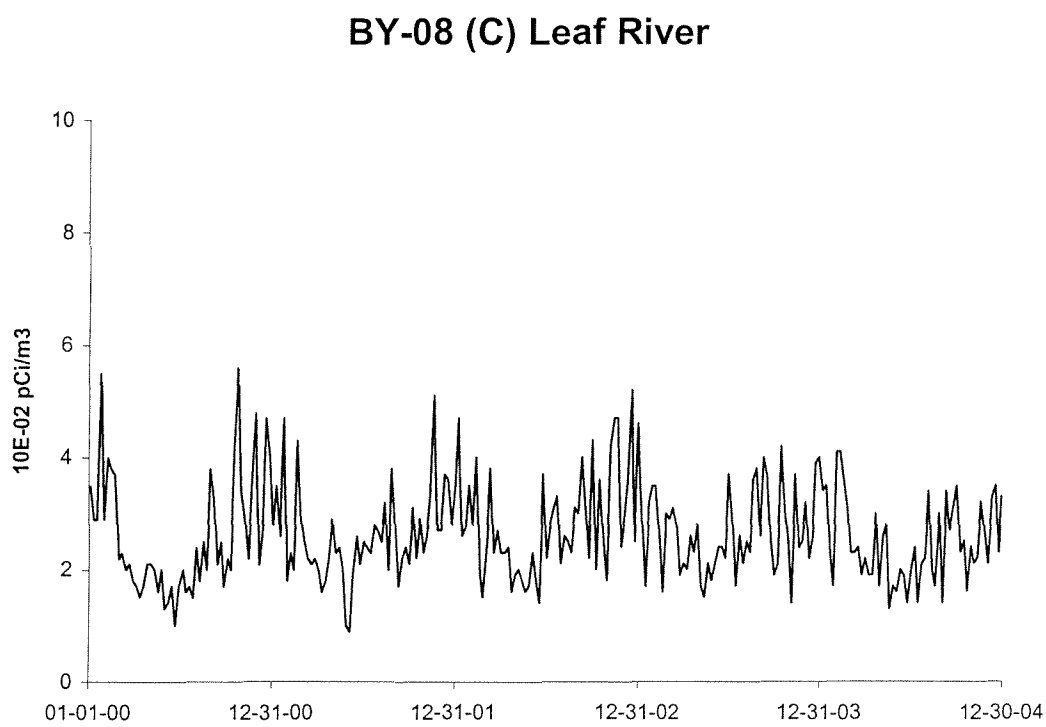

Figure 1. Continuous collection with weekly exchange of particulate filter.

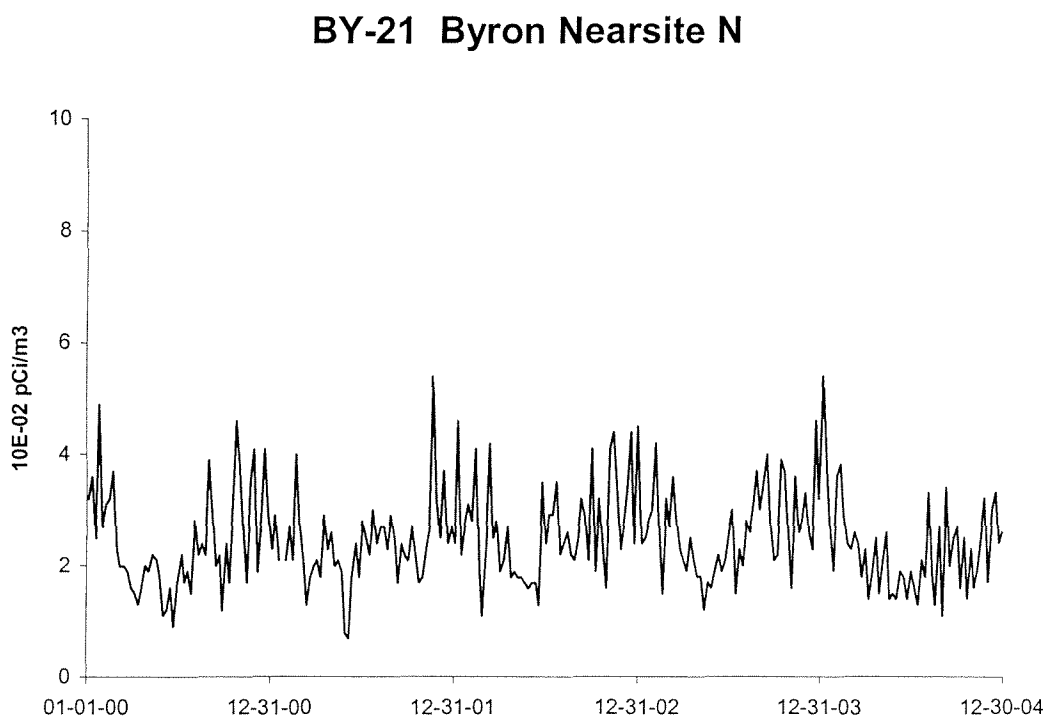

Figure 2. Continuous collection with weekly exchange of particulate filter.

Air Particulates - Gross Beta

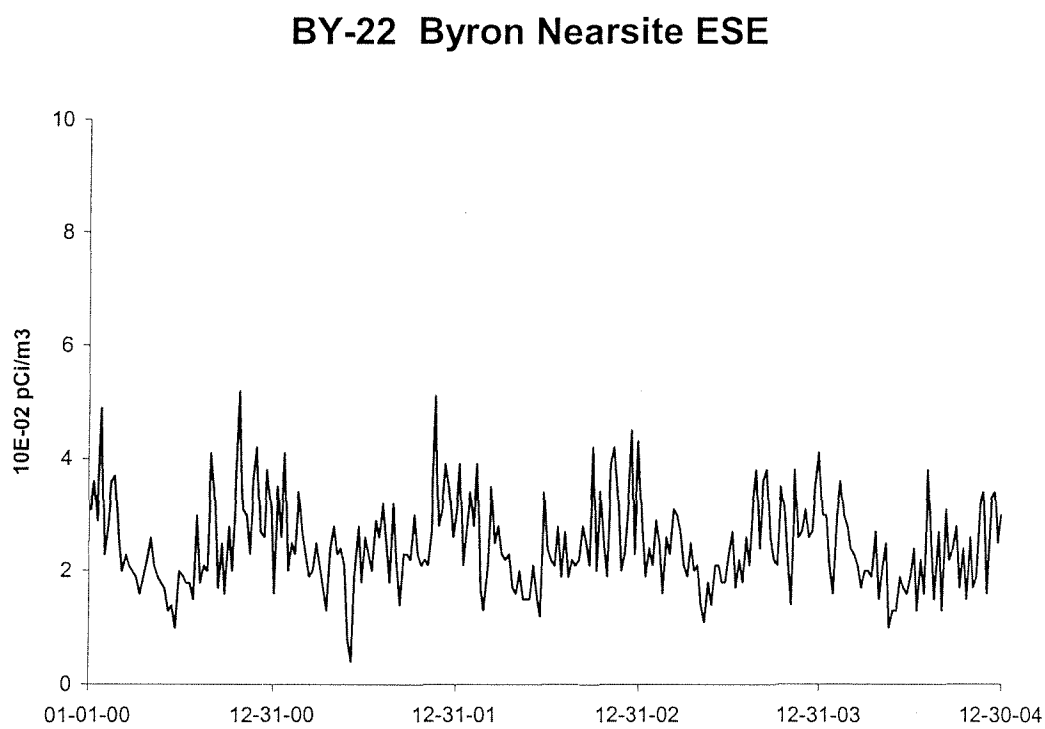

Figure 3. Continuous collection with weekly exchange of particulate filter.

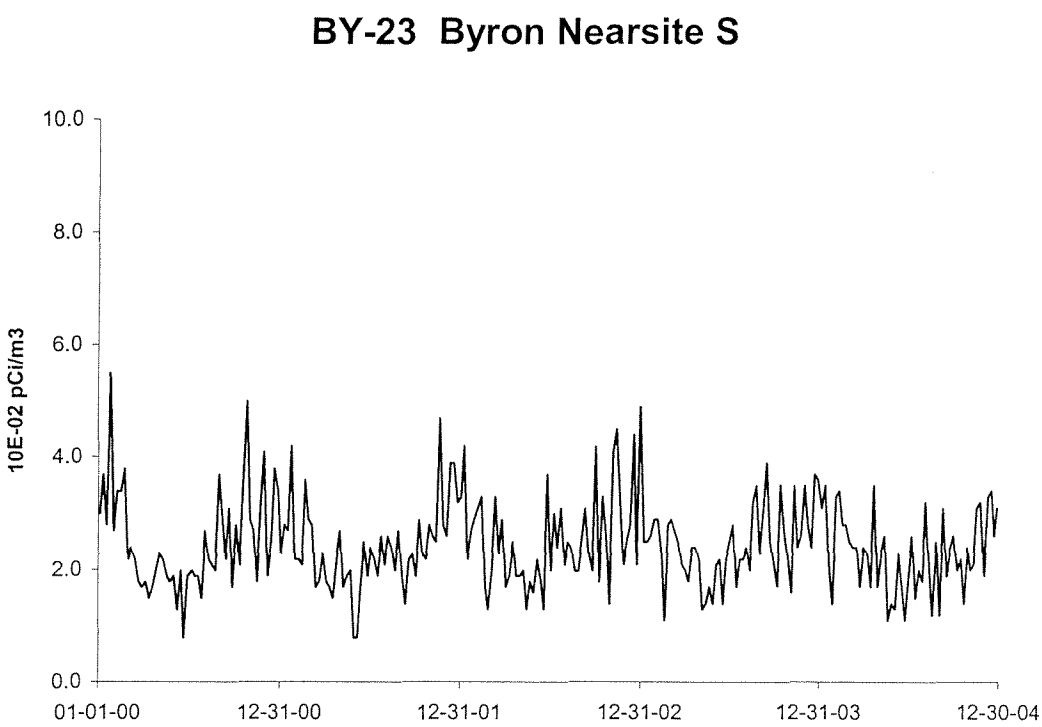

Figure 4. Continuous collection with weekly exchange of particulate filter.

Air Particulates - Gross Beta

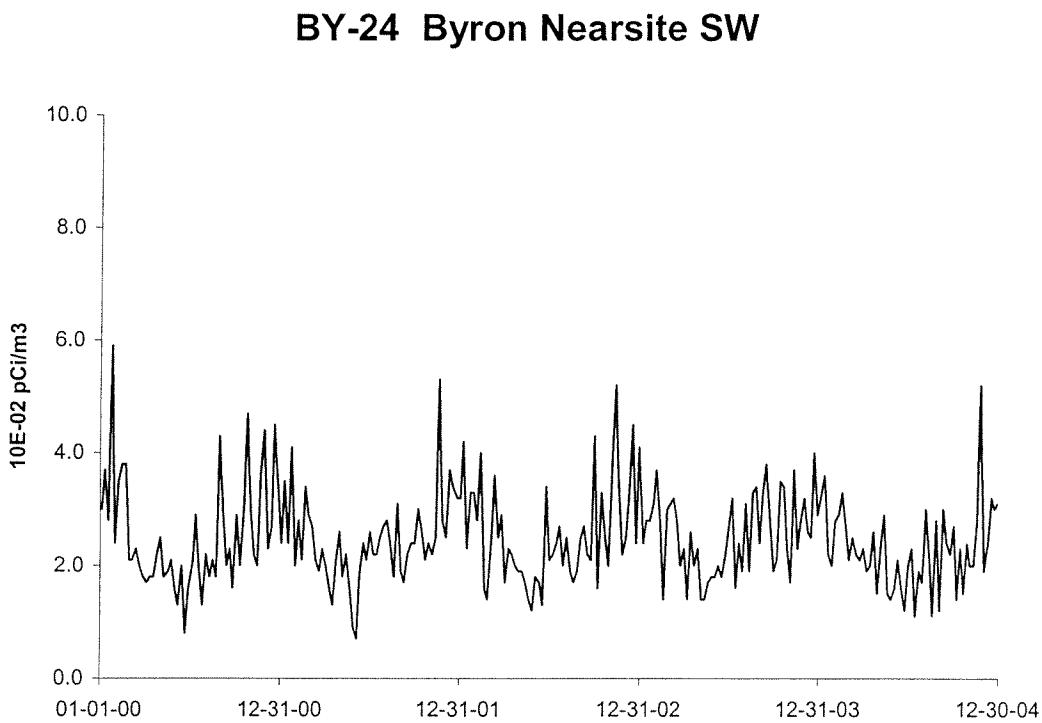

Figure 5. Continuous collection with weekly exchange of particulate filter.

Surface Water - Gross Beta

BY-12 Oregon Pool of Rock River, Downstream

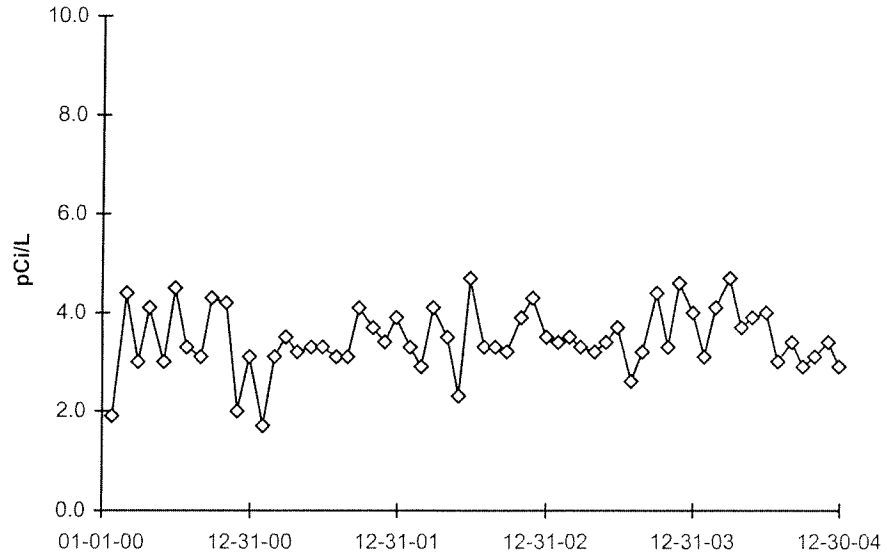

Figure 6. Monthly composites of weekly collections.

BY-29 (C) Byron, Upstream

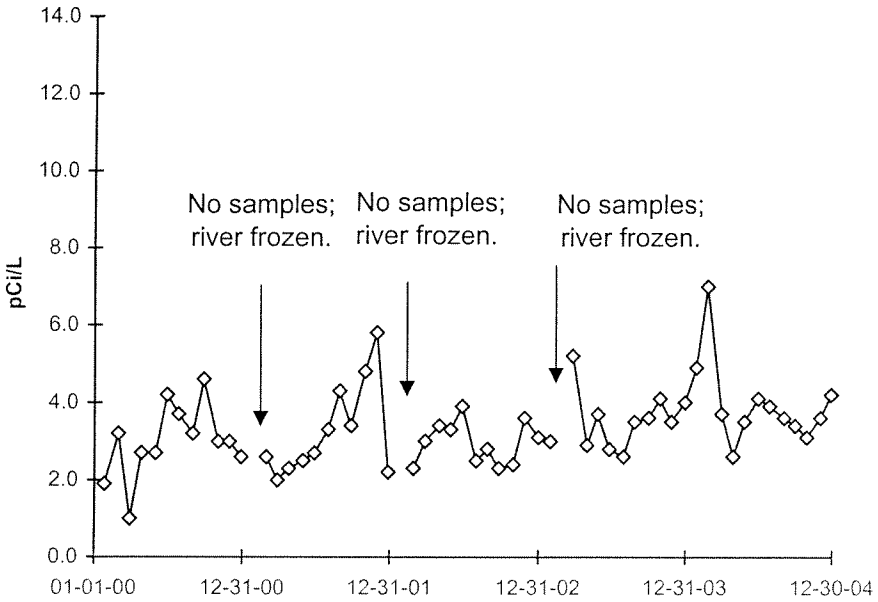

Figure 7. Monthly composites of weekly collections.

BY-12 Oregon Pool of Rock River, Downstream

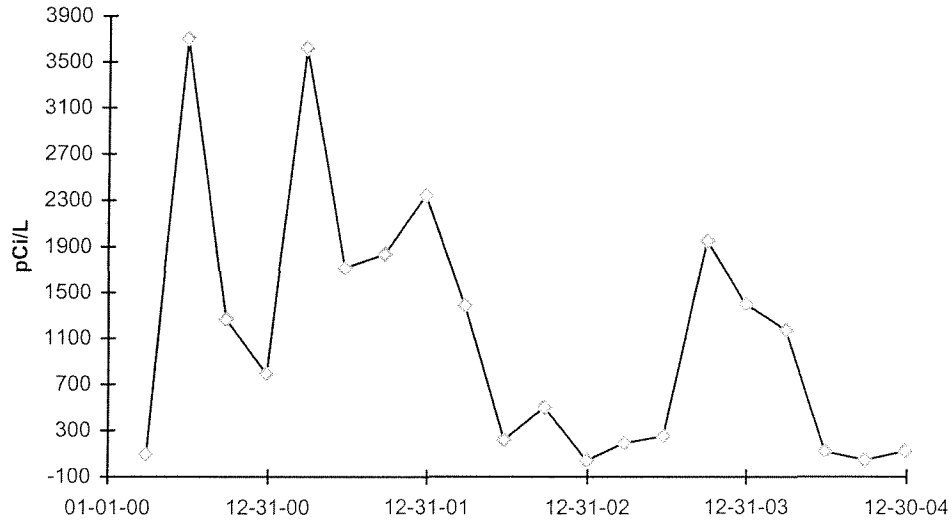

Figure 8. Quarterly composites of weekly collections.

BY-29(C) Byron, Upstream

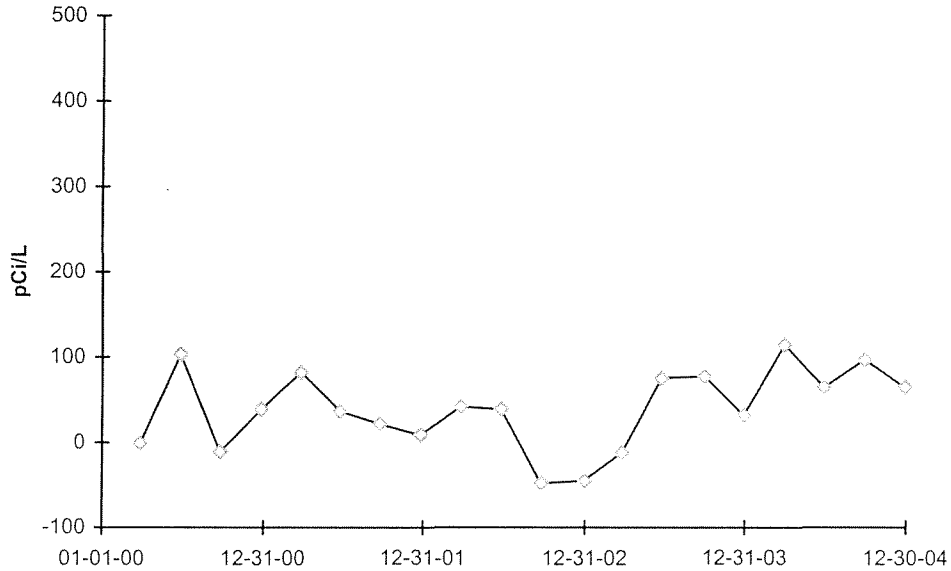

Figure 9. Quarterly composites of weekly collections.

Well Water-Tritium

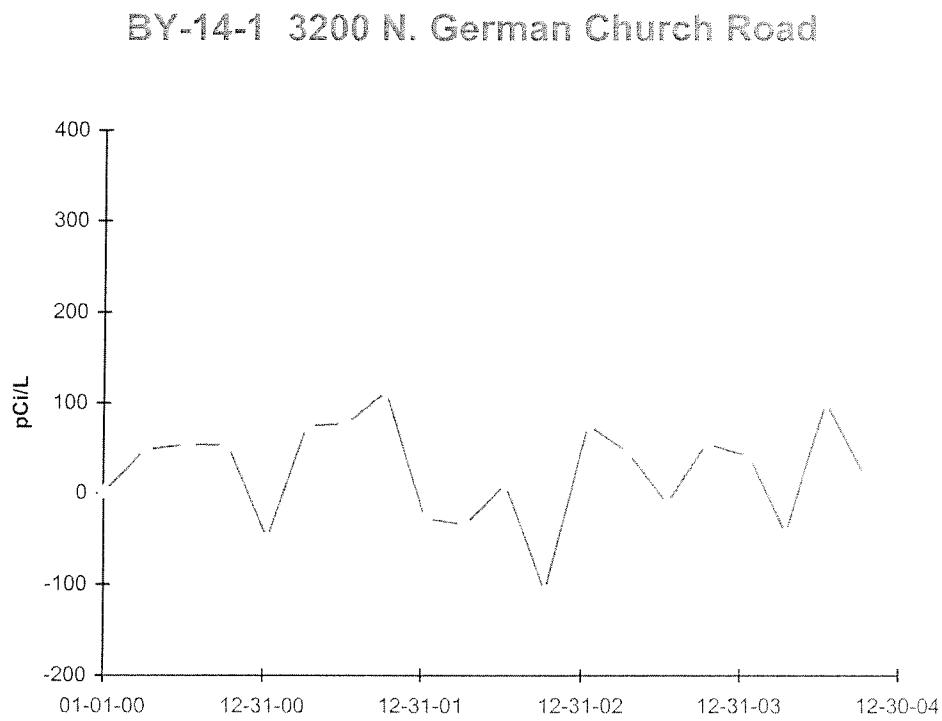

Figure 10. Quarterly collections.

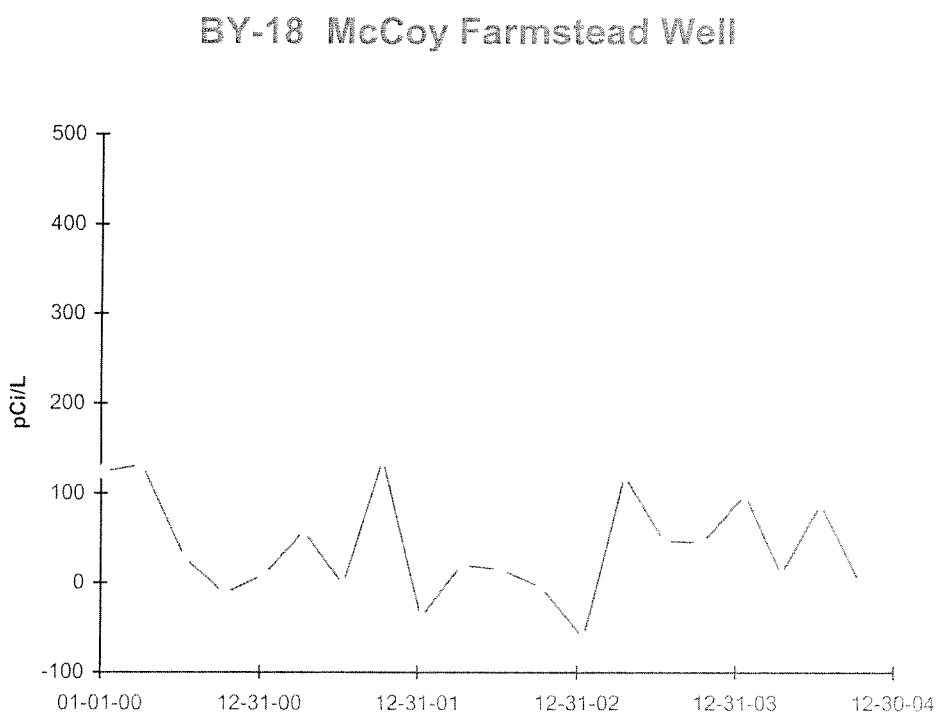

Figure 11. Quarterly collections.

Well Water-Tritium

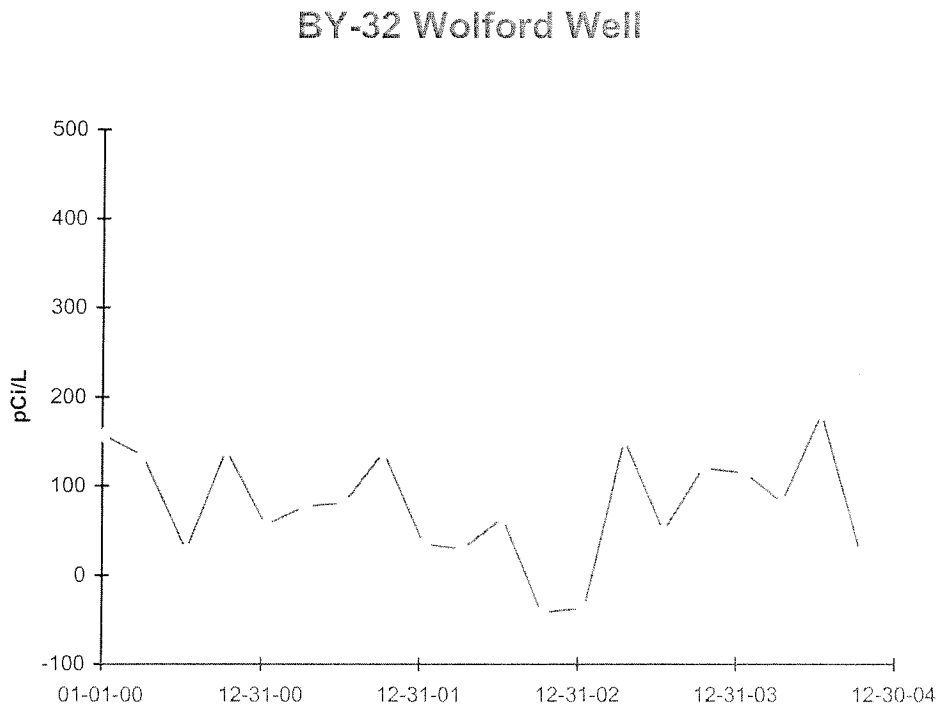

Figure 12. Quarterly collections.

BYRON

APPENDIX IV

INTERLABORATORY COMPARISON PROGRAM RESULTS

Environmental, Inc.
Midwest Laboratory
an Allegheny Technologies Co.

700 Landwehr Road • Northbrook, IL 60062-2
(847) 564-0700 fax (847) 564-4517

APPENDIX IV

INTERLABORATORY COMPARISON PROGRAM RESULTS

NOTE: Environmental Inc., Midwest Laboratory participates in intercomparison studies administered by Environmental Resources Associates, and serves as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada. Results are reported in Appendix A. TLD Intercomparison results, in-house spikes, blanks, duplicates and mixed analyte performance evaluation program results are also reported. Appendix A is updated four times a year; the complete Appendix is included in March, June, September and December monthly progress reports only.

January through December, 2004

Appendix IV

Interlaboratory Comparison Program Results

Environmental, Inc., Midwest Laboratory, formerly Teledyne Brown Engineering Environmental Services Midwest Laboratory has participated in interlaboratory comparison (crosscheck) programs since the formulation of it's quality control program in December 1971. These programs are operated by agencies which supply environmental type samples containing concentrations of radionuclides known to the issuing agency but not to participant laboratories. The purpose of such a program is to provide an independent check on a laboratory's analytical procedures and to alert it of any possible problems.

Participant laboratories measure the concentration of specified radionuclides and report them to the issuing agency. Several months later, the agency reports the known values to the participant laboratories and specifies control limits. Results consistently higher or lower than the known values or outside the control limits indicate a need to check the instruments or procedures used.

Results in Table IV-1 were obtained through participation in the environmental sample crosscheck program administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada.

The results in Table IV-2 list results for thermoluminescent dosimeters (TLDs), via International Intercomparison of Environmental Dosimeters, when available, and internal laboratory testing.

Table IV-3 lists results of the analyses on in-house "spiked" samples for the past twelve months. All samples are prepared using NIST traceable sources. Data for previous years available upon request.

Table IV-4 lists results of the analyses on in-house "blank" samples for the past twelve months. Data for previous years available upon request.

Table IV-5 list results of the in-house "duplicate" program for the past twelve months. Acceptance is based on the difference of the results being less than the sum of the errors. Data for previous years available upon request.

The results in Table IV-6 were obtained through participation in the Mixed Analyte Performance Evaluation Program.

The results in Table IV-7 were obtained through participation in the Environmental Measurement Laboratory Quality Assessment Program.

Attachment A lists acceptance criteria for "spiked" samples.

Out-of-limit results are explained directly below the result.

Attachment A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

LABORATORY PRECISION: ONE STANDARD DEVIATION VALUES FOR VARIOUS ANALYSES[a]

Analysis	Level	One standard deviation for single determination
Gamma Emitters	5 to 100 pCi/liter or kg > 100 pCi/liter or kg	5.0 pCi/liter 5% of known value
Strontium-89[b]	5 to 50 pCi/liter or kg > 50 pCi/liter or kg	5.0 pCi/liter 10% of known value
Strontium-90[b]	2 to 30 pCi/liter or kg > 30 pCi/liter or kg	5.0 pCi/liter 10% of known value
Potassium-40	≥0.1 g/liter or kg	5% of known value
Gross alpha	≤20 pCi/liter > 20 pCi/liter	5.0 pCi/liter 25% of known value
Gross beta	≤100 pCi/liter > 100 pCi/liter	5.0 pCi/liter 5% of known value
Tritium	≤4,000 pCi/liter > 4,000 pCi/liter	$\pm 1\sigma$ = (pCi/liter) = $169.85 \times (\text{known})^{0.0933}$ 10% of known value
Radium-226,-228	≥0.1 pCi/liter	15% of known value
Plutonium	≥0.1 pCi/liter, gram, or sample	10% of known value
Iodine-131, Iodine-129[b]	≤55 pCi/liter > 55 pCi/liter	6.0 pCi/liter 10% of known value
Uranium-238, Nickel-63[b] Technetium-99[b]	≤35 pCi/liter > 35 pCi/liter	6.0 pCi/liter 15% of known value
Iron-55[b]	50 to 100 pCi/liter > 100 pCi/liter	10 pCi/liter 10% of known value
Others[b]	---	20% of known value

[a] From EPA publication, "Environmental Radioactivity Laboratory Intercomparison Studies Program, Fiscal Year, 1981-1982, EPA-600/4-81-004.

[b] Laboratory limit.

TABLE IV-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

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

TABLE IV-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

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

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

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

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

TABLE IV-2. Crosscheck program results; Thermoluminescent Dosimetry, (TLDs).

Lab Code	TLD Type	Date	Description	mR Known Value	mR Lab Result ± 2 sigma	mR Control Limits
Environmental, Inc.						
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 120	4.69	4.74 ± 0.54	3.28 - 6.10
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 150	3.00	3.02 ± 0.20	2.10 - 3.90
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 180	2.08	1.89 ± 0.45	1.46 - 2.70
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 180	2.08	2.11 ± 0.22	1.46 - 2.70
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 30	75.00	84.40 ± 4.87	52.50 - 97.50
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 60	18.75	19.11 ± 1.86	13.13 - 24.38
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 60	18.75	22.82 ± 5.41	13.13 - 24.38
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 90	8.33	9.05 ± 1.17	5.83 - 10.83
2003-1	CaSO4: Dy Cards	8/8/2003	Reader 1, 90	8.33	7.60 ± 1.08	5.83 - 10.83
Environmental, Inc.						
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 30	61.96	73.50 ± 2.58	43.37 - 80.55
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 60	15.49	19.70 ± 0.51	10.84 - 20.14
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 60	15.49	16.93 ± 1.37	10.84 - 20.14
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 90	6.88	8.06 ± 0.60	4.82 - 8.94
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 90	6.88	6.64 ± 0.58	4.82 - 8.94
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 120	3.87	4.39 ± 0.17	2.71 - 5.03
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 150	2.48	2.34 ± 0.18	1.74 - 3.22
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 150	2.48	2.51 ± 0.16	1.74 - 3.22
2003-2	CaSO4: Dy Cards	1/12/2004	Reader 1, 180	1.72	2.01 ± 0.13	1.20 - 2.24
Environmental, Inc.						
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 30 cm	55.23	61.07 ± 4.38	38.66 - 71.80
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 30 cm	55.23	62.82 ± 1.75	38.66 - 71.80
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 60 cm	13.81	14.10 ± 0.56	9.67 - 17.95
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 60 cm	13.81	14.03 ± 0.48	9.67 - 17.95
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 90 cm	6.14	5.97 ± 0.21	4.30 - 7.98
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 90 cm	6.14	6.26 ± 0.14	4.30 - 7.98
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 120 cm	3.45	4.40 ± 0.63	2.42 - 4.49
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 150 cm	2.21	2.34 ± 0.12	1.55 - 2.87
2004-1	CaSO4: Dy Cards	7/12/2004	Reader 1, 180 cm	1.53	1.65 ± 0.02	1.07 - 1.99

TABLE IV-3. In-House "Spike" Samples

Lab Code	Sample Type	Date	Analysis	Concentration (pCi/L)[a] Laboratory results 2s, n=1[b]	Known Activity	Control Limits[c]
SPVE-707	Vegetation	2/20/2004	I-131(G)	5.68 ± 0.15	4.93	2.96 - 6.90
SPCH-711	Charcoal	2/20/2004	I-131(G)	6.35 ± 0.11	6.94	0.00 - 16.94
SPW-721	water	2/20/2004	Ni-63	161.00 ± 13.20	169.00	101.40 - 236.60
SPAP-733	Air Filter	2/25/2004	Gr. Beta	1.39 ± 0.02	1.48	0.00 - 11.48
SPW-735	water	2/25/2004	Cs-134	41.59 ± 7.02	39.10	29.10 - 49.10
SPW-735	water	2/25/2004	Cs-137	64.11 ± 7.39	64.56	54.56 - 74.56
SPW-735	water	2/25/2004	I-131	36.55 ± 0.48	40.08	28.08 - 52.08
SPW-735	water	2/25/2004	I-131	41.97 ± 8.93	40.08	28.08 - 52.08
SPMI-737	Milk	2/25/2004	Cs-134	37.40 ± 5.40	39.10	29.10 - 49.10
SPMI-737	Milk	2/25/2004	Cs-137	69.13 ± 9.58	64.56	54.56 - 74.56
SPMI-737	Milk	2/25/2004	I-131	45.03 ± 0.53	40.08	28.08 - 52.08
SPMI-737	Milk	2/25/2004	I-131	44.43 ± 9.22	40.08	28.08 - 52.08
SPW-1109	water	3/18/2004	Fe-55	39.98 ± 1.72	39.98	23.99 - 55.97
SPW-1496	water	4/7/2004	H-3	80006.60 ± 776.00	83896.00	67116.80 - 100675.20
SPMI-1683	Milk	4/16/2004	Sr-90	42.80 ± 1.81	43.43	34.74 - 52.12
SPW-1683	water	4/16/2004	I-131	54.47 ± 0.73	66.60	53.28 - 79.92
SPW-1683	water	4/16/2004	I-131(G)	65.82 ± 8.86	66.60	56.60 - 76.60
SPMI-1685	Milk	4/16/2004	Cs-134	33.60 ± 4.24	37.29	27.29 - 47.29
SPMI-1685	Milk	4/16/2004	Cs-137	61.77 ± 7.59	64.36	54.36 - 74.36
SPMI-1685	Milk	4/16/2004	I-131	65.85 ± 0.79	66.60	53.28 - 79.92
SPMI-1685	Milk	4/16/2004	I-131(G)	75.56 ± 11.86	66.60	56.60 - 76.60
SPMI-1685	Milk	4/16/2004	Sr-90	42.56 ± 1.66	43.43	34.74 - 52.12
SPW-1686	water	4/16/2004	Cs-134	39.31 ± 4.35	37.29	27.29 - 47.29
SPW-1686	water	4/16/2004	Cs-137	67.73 ± 7.92	64.36	54.36 - 74.36
SPVE-1862	Vegetation	4/26/2004	I-131(G)	1.32 ± 0.03	1.12	0.67 - 1.57
SPCH-1886	Charcoal	4/26/2004	I-131(G)	2.90 ± 0.07	2.80	1.68 - 3.92
SPAP-1888	Air Filter	4/27/2004	Gr. Beta	1.35 ± 0.02	1.48	0.00 - 11.48
SPF-1917	Fish	4/29/2004	Cs-134	1.44 ± 0.04	1.47	0.88 - 2.06
SPF-1917	Fish	4/29/2004	Cs-137	1.33 ± 0.06	1.29	0.77 - 1.81
SPW-3151	water	6/24/2004	Fe-55	33.85 ± 1.61	37.32	22.39 - 52.25
SPW-4232	water	8/4/2004	H-3	80225.00 ± 785.00	82380.00	65904.00 - 98856.00
SPAP-4234	Air Filter	8/4/2004	Gr. Beta	1.63 ± 0.02	1.46	0.00 - 11.46
SPW-5712	water	10/6/2004	Cs-134	61.04 ± 2.51	63.61	53.61 - 73.61
SPW-5712	water	10/6/2004	Cs-137	62.01 ± 2.76	63.66	53.66 - 73.66
SPW-5712	water	10/6/2004	Sr-90	48.40 ± 2.00	42.94	34.35 - 51.53
SPMI-5714	Milk	10/6/2004	Sr-90	41.61 ± 1.57	42.94	34.35 - 51.53

TABLE IV-3. In-House "Spike" Samples

Lab Code	Sample Type	Date	Analysis	Concentration (pCi/L) Laboratory results 2s, n=1[b]	Known Activity	Control Limits[c]
SPMI-7418	Milk	12/22/2004	Cs-134	59.09 ± 2.59	59.25	49.25 - 69.25
SPMI-7418	Milk	12/22/2004	Cs-137	65.45 ± 5.61	63.35	53.35 - 73.35
SPW-7420	water	12/22/2004	Cs-134	58.42 ± 1.99	59.25	49.25 - 69.25
SPW-7420	water	12/22/2004	Cs-137	64.26 ± 4.18	63.35	53.35 - 73.35
SPW-7420	water	12/22/2004	Sr-89	105.26 ± 4.21	103.47	82.78 - 124.16
SPW-7420	water	12/22/2004	Sr-90	48.24 ± 1.70	42.72	34.18 - 51.26
SPAP-7437	Air Filter	12/22/2004	Gr. Beta	1.65 ± 0.02	1.45	0.00 - 11.45
SPF-7524	Fish	12/29/2004	Cs-134	1.11 ± 0.03	1.27	0.76 - 1.78
SPF-7524	Fish	12/29/2004	Cs-137	1.21 ± 0.05	1.19	0.71 - 1.67
SPW-7526	water	12/29/2004	H-3	78615.70 ± 773.70	80543.00	64434.40 - 96651.60
SPW-7532	water	12/29/2004	Fe-55	30894.00 ± 1484.00	32752.00	26201.60 - 39302.40
SPW-7540	water	12/29/2004	Tc-99	30.28 ± 1.11	32.98	20.98 - 44.98

[a] Liquid sample results are reported in pCi/Liter, air filters (pCi/m3), charcoal (pCi/m^3), and solid samples (pCi/g).

[b] Results are based on single determinations.

[c] Control limits are based on Attachment A, Page A2 of this report.

NOTE: For fish, Jello is used for the Spike matrix. For Vegetation, cabbage is used for the Spike matrix.

TABLE IV-4. In-House "Blank" Samples

Lab Code	Sample Type	Date	Analysis	Concentration (pCi/L)[a] Laboratory results (4.66σ) LLD	Activity[b]	Acceptance Criteria (4.66 σ)
SPCH-712	Charcoal	2/20/2004	I-131(G)	2.24		9.6
SPW-722	Water	2/20/2004	Ni-63	2.64	-0.78 ± 1.58	20
SPAP-734	Air Filter	2/25/2004	Gr. Beta	0.96	-1.02 ± 0.42	3.2
SPW-736	Water	2/25/2004	Cs-134	2.47		10
SPW-736	Water	2/25/2004	Cs-137	1.91		10
SPW-736	Water	2/25/2004	I-131	0.15	-0.031 ± 0.10	0.5
SPW-736	Water	2/25/2004	I-131(G)	3.24		20
SPMI-738	Milk	2/25/2004	Cs-134	2.54		10
SPMI-738	Milk	2/25/2004	Cs-137	5.34		10
SPMI-738	Milk	2/25/2004	I-131	0.16	-0.071 ± 0.10	0.5
SPMI-738	Milk	2/25/2004	I-131(G)	5.36		20
SPW-1110	Water	3/18/2004	Fe-55	772.70	168.4 ± 480.90	1000
SPW-1497	Water	4/7/2004	H-3	152.30	81.4 ± 79.40	200
SPW-1684	Water	4/16/2004	Cs-134	2.43		10
SPW-1684	Water	4/16/2004	Cs-137	2.53		10
SPW-1684	Water	4/16/2004	I-131	0.50	0.21 ± 0.26	0.5
SPW-1684	Water	4/16/2004	I-131(G)	4.49		20
SPW-1684	Water	4/16/2004	Sr-89	0.64	0.19 ± 0.52	5
SPW-1684	Water	4/16/2004	Sr-90	0.64	0.13 ± 0.31	1
SPMI-1686	Milk	4/16/2004	Cs-134	5.00		10
SPMI-1686	Milk	4/16/2004	Cs-137	4.16		10
SPMI-1686	Milk	4/16/2004	I-131	0.45	0.13 ± 0.24	0.5
SPMI-1686	Milk	4/16/2004	I-131(G)	6.53		20
SPMI-1686	Milk	4/16/2004	Sr-89	0.71	0.11 ± 0.70	5
SPMI-1686	Milk	4/16/2004	Sr-90	0.71	0.66 ± 0.40	1
SPVE-1863	Vegetation	4/26/2004	I-131(G)	3.55		20
SPCH-1887	Charcoal	4/26/2004	I-131(G)	7.04		9.6
SPAP-1889	Air Filter	4/27/2004	Gr. Beta	0.74	-0.96 ± 0.35	3.2
SPF-1918	Fish	4/29/2004	Cs-134	7.13		100
SPF-1918	Fish	4/29/2004	Cs-137	6.59		100
SPW-3152	Water	6/24/2004	Fe-55	790.30	-70.0 ± 474.50	1000
SPW-4233	Water	8/4/2004	H-3	154.23	102.67 ± 81.38	200
SPAP-4235	Air Filter	8/4/2004	Gr. Beta	0.96	-0.99 ± 0.38	3.2
SPW-5711	Water	10/6/2004	Co-60	4.26		10
SPW-5711	Water	10/6/2004	Cs-134	6.02		10
SPW-5711	Water	10/6/2004	Cs-137	5.28		10
SPW-5711	Water	10/6/2004	Sr-90	0.61	-0.13 ± 0.27	1

TABLE IV-4. In-House "Blank" Samples

Lab Code	Sample Type	Date	Analysis	Concentration (pCi/L)[a] Laboratory results (4.66σ) LLD	Activity[b]	Acceptance Criteria (4.66 σ)
SPMI-5713	Milk	10/6/2004	Cs-134	4.60		10
SPMI-5713	Milk	10/6/2004	Cs-137	5.81		10
SPMI-5713	Milk	10/6/2004	I-131(G)	6.07		20
SPMI-5713	Milk	10/6/2004	Sr-90	0.68	1.4 ± 0.45	1
SPMI-7419	Milk	12/22/2004	Cs-134	8.66		10
SPMI-7419	Milk	12/22/2004	Cs-137	5.61		10
SPMI-7419	Milk	12/22/2004	Sr-90	0.82	1.67 ± 0.48	1
SPW-7421	Water	12/22/2004	Sr-89	1.21	0.58 ± 0.94	5
SPW-7421	Water	12/22/2004	Sr-90	0.82	0.26 ± 0.41	1
SPAP-7438	Air Filter	12/22/2004	Gr. Beta	0.93	-0.78 ± 0.40	3.2
SPF-7525	Fish	12/29/2004	Cs-134	8.27		100
SPF-7525	Fish	12/29/2004	Cs-137	10.60		100
SPW-7526	Water	12/29/2004	H-3	164.80	-47.0 ± 84.60	200
SPW-7533	Water	12/29/2004	Fe-55	753.00	118.6 ± 465.80	1000
SPW-7535	Water	12/29/2004	Ni-63	13.10	4.3 ± 8.10	20
SPW-7540	Water	12/29/2004	Tc-99	1.19	-0.036 ± 0.72	10

[a] Liquid sample results are reported in pCi/Liter, air filters(pCi/filter), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).

[b] Activity reported is a net activity result. For gamma spectroscopic analysis, activity detected below the LLD value is not reportec

[c] I-131(G); iodine-131 as analyzed by gamma spectroscopy.

[d] Low levels of Sr-90 are still detected in the environment. A concentration of (1-5 pCi/L) in milk is not unusual.

TABLE IV-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result
E-30, 31	1/5/2004	Gr. Beta	1.27 ± 0.06	1.26 ± 0.05	1.27 ± 0.04
E-30, 31	1/5/2004	K-40	1.33 ± 0.21	1.11 ± 0.20	1.22 ± 0.15
WW-58, 59	1/5/2004	Gr. Beta	4.20 ± 1.33	4.46 ± 1.34	4.33 ± 0.94
WW-58, 59	1/5/2004	K-40	2.30 ± 0.23	2.70 ± 0.27	2.50 ± 0.18
TD-7889, 7890	1/5/2004	H-3	16582.00 ± 366.00	16060.00 ± 360.00	16321.00 ± 256.69
MI-79, 80	1/7/2004	K-40	1451.50 ± 125.90	1383.60 ± 115.50	1417.55 ± 85.43
MI-79, 80	1/7/2004	Sr-90	0.90 ± 0.31	1.05 ± 0.34	0.97 ± 0.23
S-100, 101	1/13/2004	Cs-137	8.50 ± 0.23	8.52 ± 0.21	8.51 ± 0.16
SW-225, 226	1/13/2004	Gr. Alpha	2.62 ± 1.26	2.05 ± 1.16	2.34 ± 0.86
SW-225, 226	1/13/2004	Gr. Beta	6.37 ± 1.15	4.92 ± 1.06	5.65 ± 0.78
U-304, 305	1/16/2004	Gr. Beta	5.18 ± 1.38	7.04 ± 1.53	6.11 ± 1.03
SW-345, 346	1/27/2004	I-131	1.32 ± 0.24	1.56 ± 0.21	1.44 ± 0.16
SWT-423, 424	1/27/2004	Gr. Beta	2.34 ± 0.54	2.38 ± 0.52	2.36 ± 0.38
SWU-469, 470	1/27/2004	Gr. Beta	2.99 ± 0.57	3.09 ± 0.67	3.04 ± 0.44
TD-545, 546	2/2/2004	H-3	658.40 ± 104.60	712.30 ± 106.60	685.35 ± 74.67
MI-524, 525	2/4/2004	K-40	1240.00 ± 147.90	1265.60 ± 166.30	1252.80 ± 111.28
MI-567, 568	2/9/2004	K-40	1322.90 ± 105.50	1340.80 ± 112.80	1331.85 ± 77.22
MI-567, 568	2/9/2004	Sr-90	0.98 ± 0.48	0.79 ± 0.42	0.89 ± 0.32
MI-588, 589	2/11/2004	K-40	1185.70 ± 157.80	1337.70 ± 160.00	1261.70 ± 112.36
SWU-778, 779	2/24/2004	Gr. Beta	2.55 ± 0.54	2.53 ± 0.56	2.54 ± 0.39
LW-1014, 1015	3/1/2004	Gr. Beta	1.78 ± 0.56	2.06 ± 0.57	1.92 ± 0.40
SW-966, 967	3/9/2004	Gr. Alpha	2.70 ± 1.43	2.96 ± 1.63	2.83 ± 1.08
SW-966, 967	3/9/2004	Gr. Beta	8.06 ± 1.20	7.33 ± 1.21	7.69 ± 0.85
SW-966, 967	3/9/2004	H-3	182.04 ± 86.24	198.87 ± 86.97	190.45 ± 61.24
SW-1249, 1250	3/31/2004	Gr. Beta	4.71 ± 1.11	5.25 ± 1.10	4.98 ± 0.78
LW-1464, 1465	3/31/2004	Gr. Beta	2.13 ± 0.52	2.39 ± 0.53	2.26 ± 0.37
AP-1633, 1634	3/31/2004	Be-7	0.05 ± 0.02	0.05 ± 0.02	0.05 ± 0.01
AP-1714, 1715	3/31/2004	Be-7	0.04 ± 0.01	0.05 ± 0.01	0.05 ± 0.01
TD-1489, 1490	4/1/2004	H-3	681.00 ± 110.00	709.00 ± 111.00	695.00 ± 78.14
SWT-1299, 1300	4/2/2004	Gr. Beta	3.13 ± 0.57	3.64 ± 0.60	3.39 ± 0.41
DW-1420, 1421	4/2/2004	Gr. Beta	1.29 ± 0.83	1.62 ± 0.87	1.46 ± 0.60
DW-1510, 1511	4/2/2004	I-131	0.68 ± 0.27	0.62 ± 0.36	0.65 ± 0.23
BS-1537, 1538	4/6/2004	Gr. Beta	6.81 ± 1.20	6.76 ± 1.23	6.78 ± 0.86
WW-1654, 1655	4/13/2004	Gr. Beta	6.83 ± 1.17	5.60 ± 1.12	6.21 ± 0.81
LW-1680, 1681	4/13/2004	Gr. Beta	2.45 ± 0.64	2.93 ± 0.62	2.69 ± 0.45
MI-1735, 1736	4/14/2004	K-40	1384.90 ± 182.00	1408.20 ± 187.90	1396.55 ± 130.80
MI-1802, 1803	4/19/2004	K-40	1327.50 ± 109.10	1206.30 ± 113.30	1266.90 ± 78.64
MI-1802, 1803	4/19/2004	Sr-90	0.72 ± 0.40	0.77 ± 0.41	0.74 ± 0.28
U-1781, 1782	4/21/2004	Gr. Alpha	0.20 ± 1.90	-0.30 ± 2.40	-0.05 ± 1.53
SWT-1933, 1934	4/27/2004	Gr. Beta	2.60 ± 0.55	2.33 ± 0.52	2.46 ± 0.38
F-1912, 1913	4/29/2004	H-3	8875.00 ± 250.00	9119.00 ± 253.00	8997.00 ± 177.84
F-1912, 1913	4/29/2004	K-40	3406.90 ± 533.30	3550.60 ± 581.40	3478.75 ± 394.47
LW-1960, 1961	4/29/2004	Gr. Beta	2.23 ± 0.55	2.38 ± 0.57	2.31 ± 0.40

TABLE IV-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result
BS-2083, 2084	5/3/2004	Be-7	1.10 ± 0.44	1.17 ± 0.20	1.14 ± 0.24
BS-2083, 2084	5/3/2004	Gr. Beta	28.44 ± 2.27	25.56 ± 2.04	27.00 ± 1.53
BS-2083, 2084	5/3/2004	K-40	6.75 ± 0.89	6.35 ± 0.53	6.55 ± 0.52
BS-2083, 2084	5/3/2004	Sr-90	0.12 ± 0.04	0.17 ± 0.05	0.15 ± 0.03
MI-2225, 2226	5/11/2004	K-40	1396.30 ± 124.20	1227.60 ± 125.40	1311.95 ± 88.25
SW-2267, 2268	5/11/2004	Gr. Alpha	2.95 ± 1.44	2.41 ± 1.37	2.68 ± 0.99
SW-2267, 2268	5/11/2004	Gr. Beta	6.80 ± 1.18	7.25 ± 1.21	7.03 ± 0.84
MI-2437, 2438	5/17/2004	K-40	1549.00 ± 123.40	1566.20 ± 118.60	1557.60 ± 85.58
MI-2437, 2438	5/17/2004	Sr-90	1.83 ± 0.44	1.99 ± 0.42	1.91 ± 0.30
F-2413, 2414	5/20/2004	K-40	2844.60 ± 550.40	2963.00 ± 532.30	2903.80 ± 382.85
SO-2578, 2579	5/26/2004	Cs-137	0.16 ± 0.02	0.21 ± 0.05	0.18 ± 0.03
SO-2578, 2579	5/26/2004	Gr. Beta	28.07 ± 3.24	28.73 ± 3.00	28.40 ± 2.21
SO-2578, 2579	5/26/2004	K-40	19.41 ± 0.78	18.93 ± 1.04	19.17 ± 0.65
SS-2603, 2604	5/26/2004	Cs-137	0.06 ± 0.02	0.06 ± 0.02	0.06 ± 0.02
SS-2603, 2604	5/26/2004	K-40	10.18 ± 0.63	10.43 ± 0.56	10.30 ± 0.42
G-2677, 2678	6/1/2004	Be-7	1.31 ± 0.25	1.25 ± 0.23	1.28 ± 0.17
G-2677, 2678	6/1/2004	Gr. Beta	5.73 ± 0.12	5.86 ± 0.12	5.79 ± 0.09
G-2677, 2678	6/1/2004	K-40	5.56 ± 0.49	5.78 ± 0.50	5.67 ± 0.35
G-2677, 2678	6/1/2004	Sr-90	0.01 ± 0.00	0.01 ± 0.01	0.01 ± 0.00
DW-2700, 2701	6/1/2004	Gr. Beta	1.82 ± 1.01	2.66 ± 0.94	2.24 ± 0.69
TD-2876, 2877	6/1/2004	H-3	13116.00 ± 324.00	12746.00 ± 320.00	12931.00 ± 227.69
MI-2724, 2725	6/3/2004	K-40	1509.00 ± 116.10	1489.20 ± 126.10	1499.10 ± 85.70
MI-2724, 2725	6/3/2004	Sr-90	1.64 ± 0.46	1.81 ± 0.44	1.73 ± 0.32
BS-2921, 2922	6/3/2004	K-40	8.32 ± 0.63	8.55 ± 0.62	8.44 ± 0.44
TD-2876, 2877	6/4/2004	H-3	13116.00 ± 324.00	12746.00 ± 320.00	12931.00 ± 227.69
BS-2897, 2898	6/4/2004	Gr. Beta	9.31 ± 1.43	8.82 ± 1.39	9.06 ± 1.00
SWU-3092, 3093	6/9/2004	Gr. Beta	1.95 ± 0.71	2.55 ± 0.76	2.25 ± 0.52
CF-2986, 2987	6/14/2004	Be-7	0.69 ± 0.12	0.84 ± 0.19	0.76 ± 0.11
CF-2986, 2987	6/14/2004	K-40	4.50 ± 0.32	3.82 ± 0.48	4.16 ± 0.29
MI-2977, 2978	6/15/2004	K-40	1486.70 ± 120.10	1291.60 ± 167.40	1389.15 ± 103.01
MI-3007, 3008	6/15/2004	K-40	1333.90 ± 121.30	1355.80 ± 176.50	1344.85 ± 107.08
W-3031, 3032	6/18/2004	H-3	642.00 ± 108.00	562.00 ± 105.00	602.00 ± 75.31
W-3071, 3072	6/21/2004	H-3	273.00 ± 94.00	203.00 ± 92.00	238.00 ± 65.76
SW-3145, 3146[b]	6/22/2004	I-131	0.97 ± 0.20	1.43 ± 0.20	1.20 ± 0.14
DW-3278, 3279	6/25/2004	I-131	0.67 ± 0.26	0.48 ± 0.25	0.57 ± 0.18
AP-3922, 3923	6/28/2004	Be-7	0.08 ± 0.01	0.07 ± 0.01	0.07 ± 0.01
AP-3637, 3638	6/29/2004	Be-7	0.08 ± 0.01	0.07 ± 0.01	0.07 ± 0.01
LW-3589, 3590	6/30/2004	Gr. Alpha	0.28 ± 0.55	1.29 ± 0.89	0.79 ± 0.53
LW-3589, 3590	6/30/2004	Gr. Beta	1.91 ± 0.64	2.86 ± 0.70	2.39 ± 0.48
LW-3589, 3590	6/30/2004	H-3	8369.20 ± 262.57	8226.01 ± 260.51	8297.61 ± 184.94
AP-3943, 3944	6/30/2004	Be-7	0.08 ± 0.02	0.09 ± 0.02	0.08 ± 0.01

TABLE IV-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result
E-3327, 3328	7/1/2004	Gr. Beta	1.21 ± 0.06	1.35 ± 0.07	1.28 ± 0.05
E-3327, 3328	7/1/2004	K-40	1.08 ± 0.20	1.30 ± 0.22	1.19 ± 0.15
G-3377, 3378	7/1/2004	Be-7	1.10 ± 0.13	1.16 ± 0.16	1.13 ± 0.10
G-3377, 3378	7/1/2004	Gr. Beta	6.42 ± 0.19	6.28 ± 0.19	6.35 ± 0.13
G-3377, 3378	7/1/2004	K-40	5.26 ± 0.31	5.36 ± 0.28	5.31 ± 0.21
VE-3681, 3682	7/13/2004	K-40	2.65 ± 0.45	2.90 ± 0.61	2.77 ± 0.38
CF-3707, 3708	7/13/2004	Be-7	1.97 ± 0.44	2.11 ± 0.25	2.04 ± 0.25
CF-3707, 3708	7/13/2004	K-40	5.39 ± 0.44	4.98 ± 0.42	5.19 ± 0.30
SW-3773, 3774	7/14/2004	H-3	10697.20 ± 295.70	10689.60 ± 295.70	10693.40 ± 209.09
LW-3849, 3850	7/14/2004	Gr. Beta	2.21 ± 0.54	2.32 ± 0.65	2.27 ± 0.42
SWU-4307, 4308	7/14/2004	Gr. Beta	3.49 ± 0.57	3.68 ± 0.61	3.59 ± 0.42
MI-4051, 4052	7/28/2004	K-40	1190.70 ± 204.60	1357.00 ± 145.90	1273.85 ± 125.65
VE-4079, 4080	7/28/2004	K-40	4.90 ± 0.51	4.62 ± 0.61	4.76 ± 0.40
MI-4163, 4164	7/28/2004	K-40	1422.40 ± 186.50	1330.80 ± 181.00	1376.60 ± 129.95
MI-4163, 4164	7/28/2004	Sr-90	0.87 ± 0.32	1.00 ± 0.35	0.93 ± 0.24
WW-4387, 4388	8/3/2004	Gr. Beta	5.94 ± 0.76	6.28 ± 0.76	6.11 ± 0.54
MI-4286, 4287	8/4/2004	K-40	1435.20 ± 76.90	1404.70 ± 80.54	1419.95 ± 55.68
MI-4286, 4287	8/4/2004	Sr-90	1.88 ± 0.40	1.31 ± 0.35	1.59 ± 0.26
VE-4370, 4371	8/4/2004	H-3	0.54 ± 0.08	0.62 ± 0.08	0.58 ± 0.06
VE-4408, 4409	8/5/2004	K-40	2.03 ± 0.39	2.12 ± 0.32	2.08 ± 0.25
VE-4467, 4468	8/9/2004	K-40	6.28 ± 0.76	6.11 ± 0.75	6.20 ± 0.53
MI-4492, 4493	8/10/2004	K-40	1478.70 ± 116.70	1472.50 ± 105.10	1475.60 ± 78.53
MI-4492, 4493	8/10/2004	Sr-90	1.35 ± 0.40	1.08 ± 0.42	1.22 ± 0.29
MI-4518, 4519	8/11/2004	K-40	1197.30 ± 158.50	1350.20 ± 202.30	1273.75 ± 128.50
VE-4748, 4749	8/25/2004	Gr. Beta	2.31 ± 0.05	2.32 ± 0.05	2.31 ± 0.04
VE-4748, 4749	8/25/2004	K-40	1.70 ± 0.25	1.94 ± 0.31	1.82 ± 0.20
LW-4769, 4770	8/26/2004	Gr. Beta	2.00 ± 0.58	2.07 ± 0.58	2.04 ± 0.41
ME-4905, 4906	9/1/2004	Gr. Beta	3.06 ± 0.10	2.93 ± 0.10	3.00 ± 0.07
ME-4905, 4906	9/1/2004	K-40	2.33 ± 0.67	3.26 ± 0.58	2.80 ± 0.44
MI-4926, 4927	9/1/2004	K-40	1316.20 ± 115.40	1285.80 ± 117.30	1301.00 ± 82.27
MI-4926, 4927	9/1/2004	Sr-90	3.62 ± 0.52	2.07 ± 0.43	2.84 ± 0.34
VE-5027, 5028	9/2/2004	Gr. Beta	2.43 ± 0.07	2.39 ± 0.06	2.41 ± 0.05
VE-5027, 5028	9/2/2004	K-40	1.77 ± 0.20	1.94 ± 0.31	1.86 ± 0.18
SW-5003, 5004	9/7/2004	I-131	1.69 ± 0.23	1.50 ± 0.25	1.59 ± 0.17
MI-5050, 5051	9/7/2004	K-40	1559.40 ± 131.80	1560.70 ± 121.20	1560.05 ± 89.53
MI-5050, 5051	9/7/2004	Sr-90	2.26 ± 0.52	1.61 ± 0.47	1.94 ± 0.35
WW-5072, 5073	9/7/2004	Gr. Beta	4.31 ± 0.70	4.11 ± 0.69	4.21 ± 0.49
SW-5216, 5217	9/14/2004	Gr. Alpha	4.34 ± 1.71	4.30 ± 1.77	4.32 ± 1.23
SW-5216, 5217	9/14/2004	Gr. Beta	7.97 ± 1.24	8.58 ± 1.29	8.27 ± 0.89

TABLE IV-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result
G-5237, 5238	9/15/2004	Be-7	1.18 ± 0.23	1.28 ± 0.24	1.23 ± 0.17
G-5237, 5238	9/15/2004	K-40	7.16 ± 0.58	7.56 ± 0.55	7.36 ± 0.40
LW-5316, 5317	9/16/2004	Gr. Beta	2.76 ± 0.58	2.64 ± 0.54	2.70 ± 0.40
SS-5450, 5451	9/24/2004	K-40	10.33 ± 0.66	10.10 ± 0.74	10.22 ± 0.50
AP-6308, 6309	9/27/2004	Be-7	0.08 ± 0.01	0.08 ± 0.01	0.08 ± 0.01
SWU-5495, 5496	9/28/2004	Gr. Beta	3.38 ± 1.78	4.41 ± 1.94	3.90 ± 1.32
AP-6070, 6071	9/28/2004	Be-7	0.08 ± 0.01	0.08 ± 0.01	0.08 ± 0.01
G-5516, 5517	9/29/2004	Be-7	1.81 ± 0.29	1.74 ± 0.30	1.77 ± 0.21
G-5516, 5517	9/29/2004	K-40	7.35 ± 0.70	7.43 ± 0.62	7.39 ± 0.47
AP-6258, 6259	9/29/2004	Be-7	0.07 ± 0.01	0.07 ± 0.01	0.07 ± 0.01
F-7211, 7212	9/29/2004	Cs-137	0.04 ± 0.01	0.05 ± 0.02	0.05 ± 0.01
F-7211, 7212	9/29/2004	K-40	2.76 ± 0.27	3.07 ± 0.26	2.92 ± 0.19
BS-5902, 5903	10/1/2004	Co-60	0.25 ± 0.05	0.26 ± 0.03	0.25 ± 0.03
BS-5902, 5903	10/1/2004	Co-60	2.53 ± 0.11	2.52 ± 0.06	2.52 ± 0.06
E-5654, 5655	10/4/2004	Gr. Beta	1.40 ± 0.06	1.32 ± 0.06	1.36 ± 0.04
E-5654, 5655	10/4/2004	K-40	1.32 ± 0.26	1.22 ± 0.24	1.27 ± 0.18
MI-5676, 5677	10/4/2004	K-40	1311.00 ± 122.00	1398.00 ± 125.00	1354.50 ± 87.33
SO-5756, 5757	10/4/2004	Gr. Alpha	7.12 ± 3.09	6.69 ± 2.92	6.91 ± 2.13
SO-5756, 5757	10/4/2004	Gr. Beta	19.66 ± 2.63	22.32 ± 2.65	20.99 ± 1.87
SO-5756, 5757	10/4/2004	K-40	16.45 ± 0.86	17.52 ± 0.78	16.99 ± 0.58
VE-6483, 6484	10/6/2004	K-40	9.35 ± 0.55	9.88 ± 0.23	9.61 ± 0.30
MI-5923, 5924	10/12/2004	K-40	1333.60 ± 183.50	1552.40 ± 179.20	1443.00 ± 128.24
SS-6046, 6047	10/13/2004	Cs-137	0.02 ± 0.01	0.02 ± 0.01	0.02 ± 0.01
SS-6046, 6047	10/13/2004	Gr. Beta	7.93 ± 1.72	9.57 ± 1.88	8.75 ± 1.27
SS-6046, 6047	10/13/2004	K-40	5.77 ± 0.42	5.77 ± 0.40	5.77 ± 0.29
DW-6208, 6209	10/15/2004	I-131	0.89 ± 0.26	0.65 ± 0.27	0.77 ± 0.19
BS-6694, 6695	10/19/2004	K-40	11.84 ± 0.67	12.75 ± 0.79	12.29 ± 0.52
VE-6354, 6355	10/25/2004	Gr. Beta	4.82 ± 0.14	4.76 ± 0.14	4.79 ± 0.10
VE-6354, 6355	10/25/2004	K-40	4.71 ± 0.54	4.82 ± 0.61	4.77 ± 0.41
DW-6462, 6463	10/27/2004	Gr. Beta	8.46 ± 1.27	8.22 ± 1.24	8.34 ± 0.89
LW-6377, 6378	10/28/2004	Gr. Beta	2.18 ± 0.54	2.33 ± 0.53	2.25 ± 0.38
SS-6504, 6505	10/29/2004	K-40	9.28 ± 0.61	8.51 ± 0.78	8.89 ± 0.50
LW-6762, 6763	10/31/2004	Gr. Beta	1.85 ± 0.66	1.69 ± 0.64	1.77 ± 0.46
BS-6576, 6577	11/1/2004	Gr. Beta	11.02 ± 1.54	13.77 ± 1.77	12.40 ± 1.17
BS-6576, 6577	11/1/2004	K-40	9.43 ± 0.71	8.84 ± 0.68	9.14 ± 0.49
SO-6715, 6716	11/2/2004	Cs-137	0.29 ± 0.04	0.33 ± 0.06	0.31 ± 0.04
SO-6715, 6716	11/2/2004	Gr. Alpha	10.94 ± 3.95	14.72 ± 4.16	12.83 ± 2.87
SO-6715, 6716	11/2/2004	Gr. Beta	21.33 ± 3.10	24.82 ± 3.10	23.07 ± 2.19
SO-6715, 6716	11/2/2004	K-40	10.42 ± 0.71	12.16 ± 1.06	11.29 ± 0.64
VE-6673, 6674	11/8/2004	Gr. Alpha	0.07 ± 0.04	0.14 ± 0.05	0.11 ± 0.03
VE-6673, 6674	11/8/2004	Gr. Beta	4.50 ± 0.12	4.48 ± 0.12	4.49 ± 0.09
VE-6673, 6674	11/8/2004	K-40	4.05 ± 0.49	4.65 ± 0.55	4.35 ± 0.37

TABLE IV-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result
SO-6820, 6821	11/10/2004	K-40	14.41 ± 1.03	15.01 ± 1.09	14.71 ± 0.75
SO-6820, 6821	11/10/2004	Sr-90	0.04 ± 0.02	0.07 ± 0.02	0.06 ± 0.02
SWU-7160, 7161	11/30/2004	Gr. Beta	4.39 ± 1.98	3.09 ± 1.77	3.74 ± 1.33
MI-7062, 7063	12/1/2004	K-40	1456.00 ± 124.80	1640.50 ± 131.40	1548.25 ± 90.61
MI-7062, 7063	12/1/2004	Sr-90	1.13 ± 0.41	0.98 ± 0.43	1.06 ± 0.30
S-7281, 7282	12/5/2004	Cs-137	0.82 ± 0.15	1.16 ± 0.20	0.99 ± 0.12
VE-7343, 7344	12/13/2004	Gr. Beta	5.25 ± 0.14	5.08 ± 0.14	5.16 ± 0.10
VE-7343, 7344	12/13/2004	K-40	4.23 ± 0.71	4.33 ± 0.69	4.28 ± 0.49
MI-7317, 7318	12/14/2004	K-40	1702.80 ± 129.70	1536.80 ± 115.10	1619.80 ± 86.70
WW-7375, 7376	12/14/2004	Gr. Beta	14.13 ± 1.03	15.22 ± 1.06	14.68 ± 0.74
SWU-7507, 7508	12/14/2004	Gr. Beta	4.48 ± 0.66	5.31 ± 0.69	4.89 ± 0.48
DW-7563, 7564	12/27/2004	Gr. Beta	1.88 ± 0.51	2.34 ± 0.52	2.11 ± 0.37
P-7698, 7699	12/27/2004	H-3	246.01 ± 95.00	259.06 ± 95.51	252.53 ± 67.35
AP-7741, 7742	12/28/2004	Be-7	0.06 ± 0.02	0.05 ± 0.02	0.05 ± 0.01

Note: Duplicate analyses are performed on every twentieth sample received in-house. Results are not listed for those analyses with activities that measure below the LLD.

[a] Results are reported in units of pCi/L, except for air filters (pCi/Filter), food products, vegetation, soil, sediment (pCi/g).

[b] 600 minute count time or longer, resulting in lower error.

TABLE IV-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)[a].

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

TABLE IV-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)[a].

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

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

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

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

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

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

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

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

TABLE IV-7. Environmental Measurements Laboratory Quality Assessment Program (EML)

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

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

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

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

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