

BYRON STATION
ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING
REPORT

2002

MAY 2003

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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. Each reactor is designed to have a capacity of 1285 and 1245 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 3.41E-01 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 2002.

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 2.24E+00 curies of fission and activation gases were released with a maximum quarterly release rate of 1.42E-01 $\mu\text{Ci/sec}$, for both units.

A total of 3.09E-05 curies of I-131 were released during the year with a maximum quarterly average release rate of 2.76E-06 $\mu\text{Ci/sec}$.

A total of 3.30E-06 curies of beta emitters were released as airborne particulate matter with a maximum quarterly average release rate of 1.57E-07 $\mu\text{Ci/sec}$. Alpha-emitting radionuclides were below detectable limits.

A total of 4.95E+00 curies of tritium were released with a maximum average quarterly release rate of 1.67E-01 $\mu\text{Ci/sec}$.

1.2 Liquids Released to Rock River

A total of 1.33E+07 liters of radioactive liquid waste (prior to dilution) containing 4.40E-01 curies (excluding tritium, noble gases and alpha) were discharged from the station. These wastes were released at a maximum quarterly average concentration of 1.28E-09 $\mu\text{Ci/ml}$. A total of 1.90E+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 the Barnwell disposal facility or to waste processors. For detail, refer to Byron Station 2002 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.

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. Isodose contours based on concurrent meteorological data for gamma dose are shown in Figure 3.1-1 for the year. Based on measured effluents and average meteorological data, the maximum total body dose to an individual would be $1.21\text{E-}03$ 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 $7.27\text{E-}06$ mrem (Table 3.4-1). The maximum gamma air dose was $1.70\text{E-}04$ mrad (Table 3.1-1) based on measured effluents and average meteorological data, and $1.32\text{E-}05$ 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 $2.26\text{E-}05$ mrem (Table 3.4-1).

The air concentrations of radioactive noble gases at the offsite receptor locations are given in Figure 3.1-2. The maximum offsite beta air dose for the year, based on measured effluents and average meteorological data, was $7.36\text{E-}05$ mrad (Table 3.1-1). The beta air dose based on concurrent meteorological data was $4.22\text{E-}05$ 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 2002 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 Iodine Concentrations in Air

The calculated concentration contours for iodine in air are shown in Figure 3.1-3. Included in these calculations is an iodine cloud depletion factor which accounts for the phenomenon of elemental iodine deposition on the ground. The maximum offsite concentration is estimated to be $1.70\text{E-}05$ pCi/m³ for the year (Table 3.4-1).

3.1.2.2 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 1.81E-02 mrem during the year (Table 3.1-1 [infant]).

3.1.3 Concentrations of Particulates in Air

Concentration contours of radioactive airborne particulates are shown in Figure 3.1-4. The maximum annual offsite concentration is estimated to be 1.86E-01 pCi/m³ (Table 3.4-1).

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 3.40E-01 mrem (adult) and no organ dose exceeded 3.88E+00 mrem (Table 3.2-1 [adult]).

3.3 Assessment of Dose to Member of Public

During the period January to December, 2002, 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 Figure 3.1-1 (based on concurrent meteorological data), and as shown in Table 3.3-1:

- 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 any

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

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).
- 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 99.9% during 2002 (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 22.1 mR at the indicator locations and 18.8 mR at the control locations. TLD results are listed in Section 4.0 of Appendix III and locations are shown in Figure 5.0-1.

Quarterly external radiation dose at indicator air sampling locations averaged 20.4 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) and 2001 (19.2 mR). These differences are not statistically significant. A different style of TLD was used starting in 2001, which accounts for the higher indicated dose.

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 0.011 to 0.052 pCi/m^3 and averaged 0.026 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) and 2001 (0.024 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 2001.

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 2001.

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 2.3 to 4.7 pCi/L ; BY-29 (Byron, Upstream) gross beta averaged 3.0 pCi/L , ranging from 2.3 to 3.9 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 2001.

At Oregon Pool of Rock River, Downstream (BY-12) tritium averaged 537 pCi/L , ranging from 40 to $1,389 \text{ pCi/L}$. Elevated levels of tritium downstream from discharge

pipe are attributable to the station operation. These levels were similar to those obtained in 1985 through 2001.

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 2001.

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 0.5 (May through October) and 5.0 (November through April) pCi/L in all samples.

Cs-134, Cs-137 and Ba/La-140 were below the LLD levels of 15, 18 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 2001, 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

There were no modifications of the sampling program in 2002.

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 W. Mueller on August 26, 2002. Results of the milch animal and nearest cattle census are presented on pages 39-40 of Appendix III.

8.0 NEAREST RESIDENCES CENSUS

The census of nearest residences within a 6.2-mile radius was conducted by W. Mueller on August 26, 2002.

Results of the nearest residence census are presented on page 41 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 2002.

APPENDIX I

DATA TABLES AND FIGURES

Table 1.1-1

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	4.81E-01	2.44E-01	7.34E-01	1.00E-01	1.56E+00
2. Avg. Release Rate	uCi/sec	6.19E-02	3.41E-02	9.44E-02	1.29E-02	4.95E-02
Iodine-131						
1. Total Release	Ci	5.82E-06	8.28E-07	3.21E-06	0.00E+00	9.86E-06
2. Avg. Release Rate	uCi/sec	7.48E-07	1.06E-07	4.13E-07	0.00E+00	3.13E-07
Particulates Half Life >= 8 days						
1. Total Release	Ci	1.22E-06	0.00E+00	0.00E+00	0.00E+00	1.22E-06
2. Avg. Release Rate	uCi/sec	1.57E-07	0.00E+00	0.00E+00	0.00E+00	3.87E-08
Others						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulates and Others Combined						
1. Total Release	Ci	1.22E-06	0.00E+00	0.00E+00	0.00E+00	1.22E-06
2. Avg. Release Rate	uCi/sec	1.57E-07	0.00E+00	0.00E+00	0.00E+00	3.87E-08
Tritium						
1. Total Release	Ci	5.57E-01	5.15E-01	6.02E-01	4.30E-01	2.10E+00
2. Avg. Release Rate	uCi/sec	7.16E-02	6.62E-02	7.74E-02	5.53E-02	6.66E-02
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 1.1-1 (continued)

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES
Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	1.70E-01	5.70E-02	3.69E-01	8.40E-02	6.80E-01
2. Avg. Release Rate	uCi/sec	2.19E-02	7.33E-02	4.75E-02	1.08E-02	2.16E-02
Iodine-131						
1. Total Release	Ci	1.64E-06	1.11E-06	1.83E-05	0.00E+00	2.10E-05
2. Avg. Release Rate	uCi/sec	2.11E-07	1.43E-07	2.35E-06	0.00E+00	6.66E-07
Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	0.00E+00	1.51E-06	5.73E-07	2.08E-06
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	1.94E-07	7.38E-08	6.60E-08
Others						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulates and Others Combined						
1. Total Release	Ci	0.00E+00	0.00E+00	1.51E-06	5.73E-07	2.08E-06
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	1.94E-07	7.37E-08	6.60E-08
Tritium						
1. Total Release	Ci	7.25E-01	5.59E-01	6.99E-01	8.72E-01	2.85E+00
2. Avg. Release Rate	uCi/sec	9.32E-02	7.19E-02	8.99E-02	1.12E-01	9.04E-02
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 1.2-1

BYRON

EFFLUENT AND WASTE DISPOSAL REPORT

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
Unit-1, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	1.40E-01	3.48E-02	1.37E-02	3.16E-02	2.20E-01
2. Avg. Diluted Conc. uCi/ml		1.28E-09	1.53E-10	1.18E-10	2.64E-10	3.76E-10
Tritium						
1. Total Release	Ci	2.21E+02	3.26E+02	2.02E+02	2.00E+02	9.49E+02
2. Avg. Diluted Conc. uCi/ml		1.17E-05	2.40E-06	3.11E-06	8.82E-06	6.15E-06
Dissolved and Entrained Gases						
1. Total Release	Ci	4.89E-03	3.94E-03	2.92E-03	1.53E-03	1.33E-02
2. Avg. Diluted Conc. uCi/ml		4.45E-11	1.72E-11	2.50E-11	1.28E-11	2.27E-11
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		2.97E+09	3.52E+09	3.81E+09	3.38E+09	1.37E+10
Volume of dil. water liters		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Unit-2, 2002

REPORT FOR 2002	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	1.40E-01	3.48E-02	1.37E-02	3.16E-02	2.20E-01
2. Avg. Diluted Conc. uCi/ml		1.28E-09	1.53E-10	1.18E-10	2.64E-10	3.76E-10
Tritium						
1. Total Release	Ci	2.21E+02	3.26E+02	2.02E+02	2.00E+02	9.49E+02
2. Avg. Diluted Conc. uCi/ml		1.17E-05	2.40E-06	3.11E-06	8.82E-06	6.15E-06
Dissolved and Entrained Gases						
1. Total Release	Ci	4.89E-03	3.94E-03	2.92E-03	1.53E-03	1.33E-02
2. Avg. Diluted Conc. uCi/ml		4.45E-11	1.72E-11	2.50E-11	1.28E-11	2.27E-11
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		2.97E+09	3.52E+09	3.81E+09	3.38E+09	1.37E+10
Volume of dil. water liters		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Figure 3.1-1

Estimated Cumulative Gamma Dose (in mrem)
from the Byron Station for the period
January-December 2002

Isopleth Labels

Small figure - multiply by 10^{-7}

Large figure - multiply by 10^{-8}

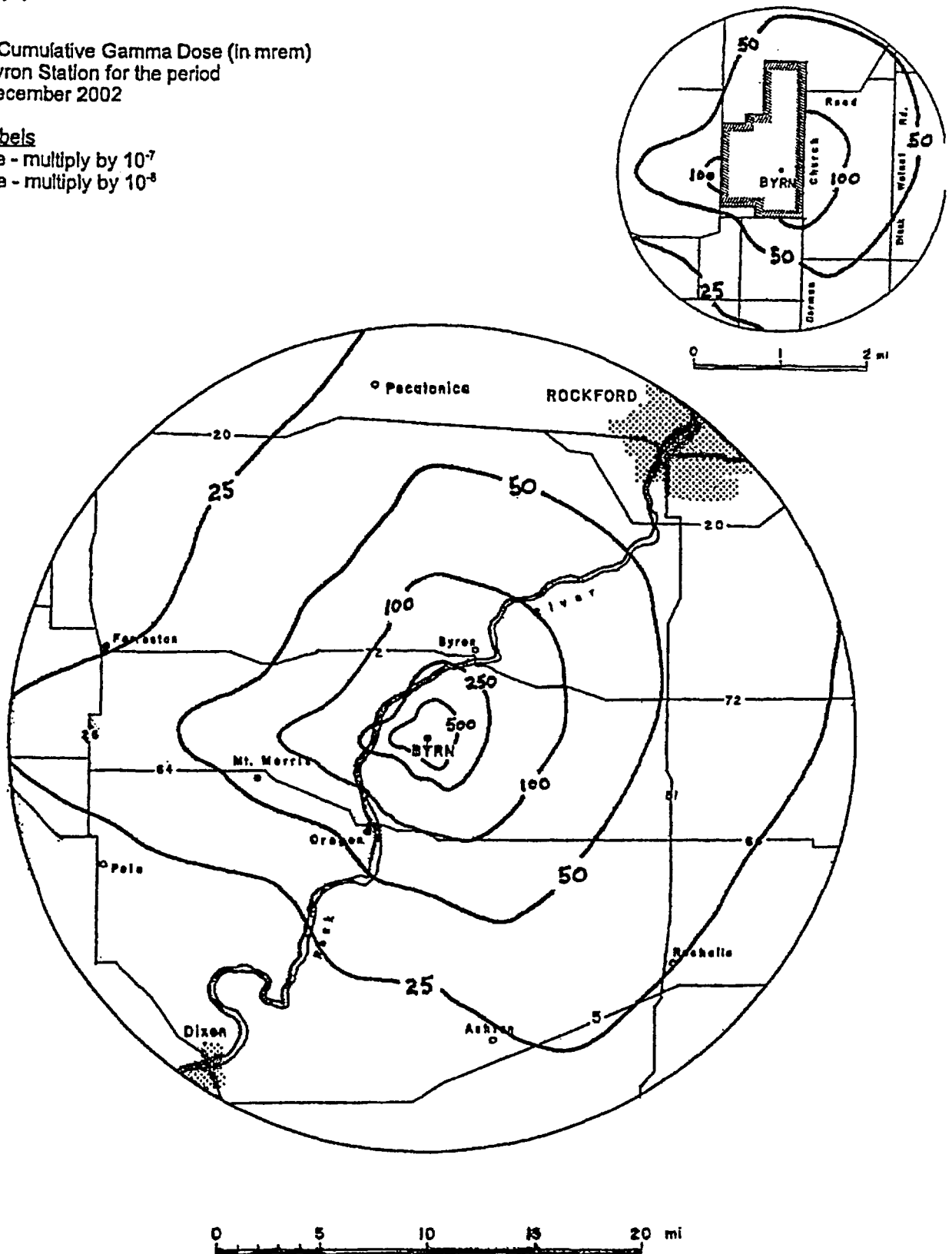


Figure 3.1-2

Estimated Total Concentrations (in pCi/m³)
of Noble Gases from the Byron Station
for the period January-December 2002

Isopleth Labels

Small figure - multiply by 10⁻³

Large figure - multiply by 10⁻⁴

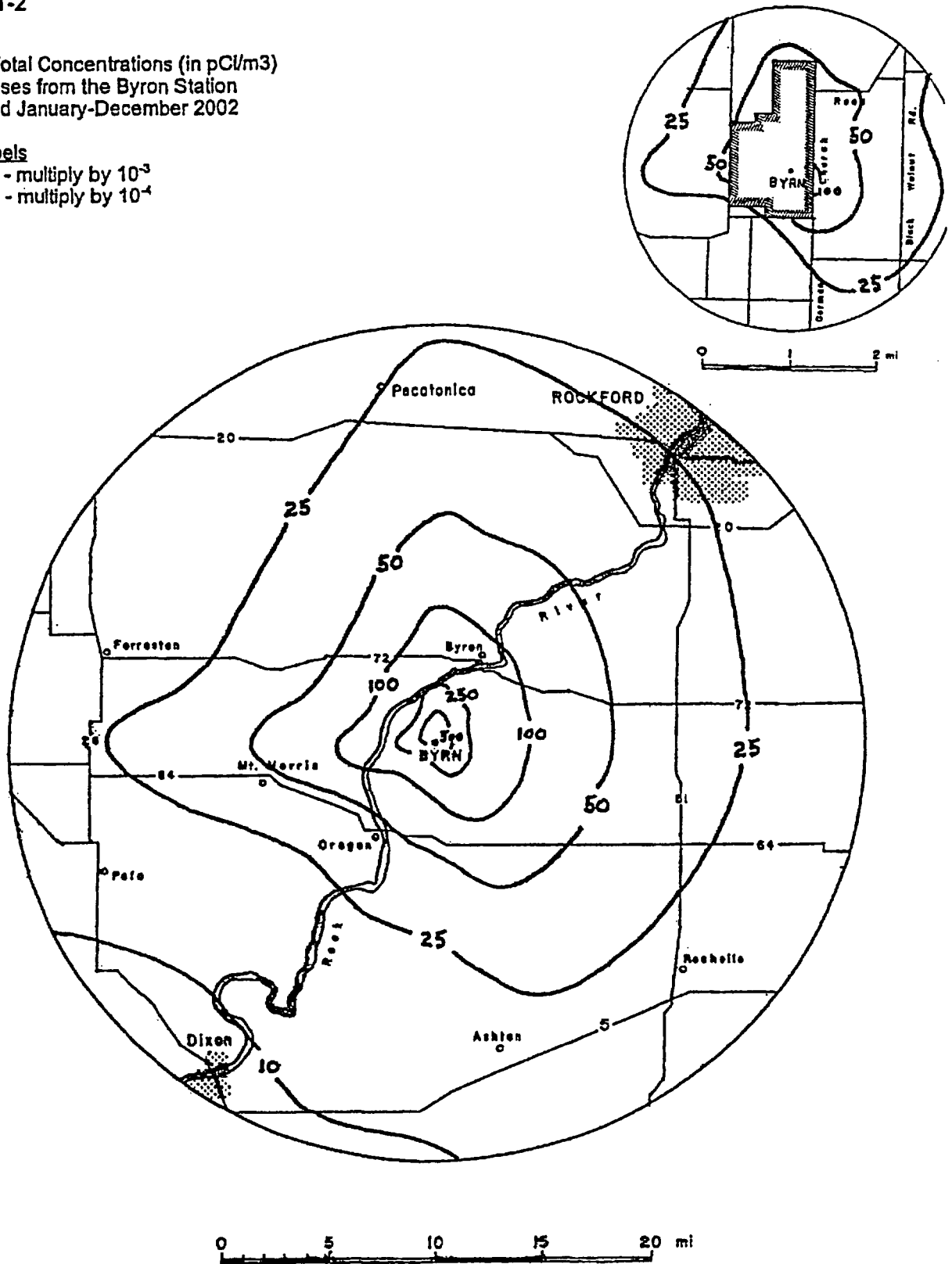


Figure 3.1-3

Estimated Total Concentrations (in pCi/m³)
of Iodines from the Byron Station for
the period January-December 2002

Isopleth Labels

Small figure - multiply by 10⁻⁷

Large figure - multiply by 10⁻⁶

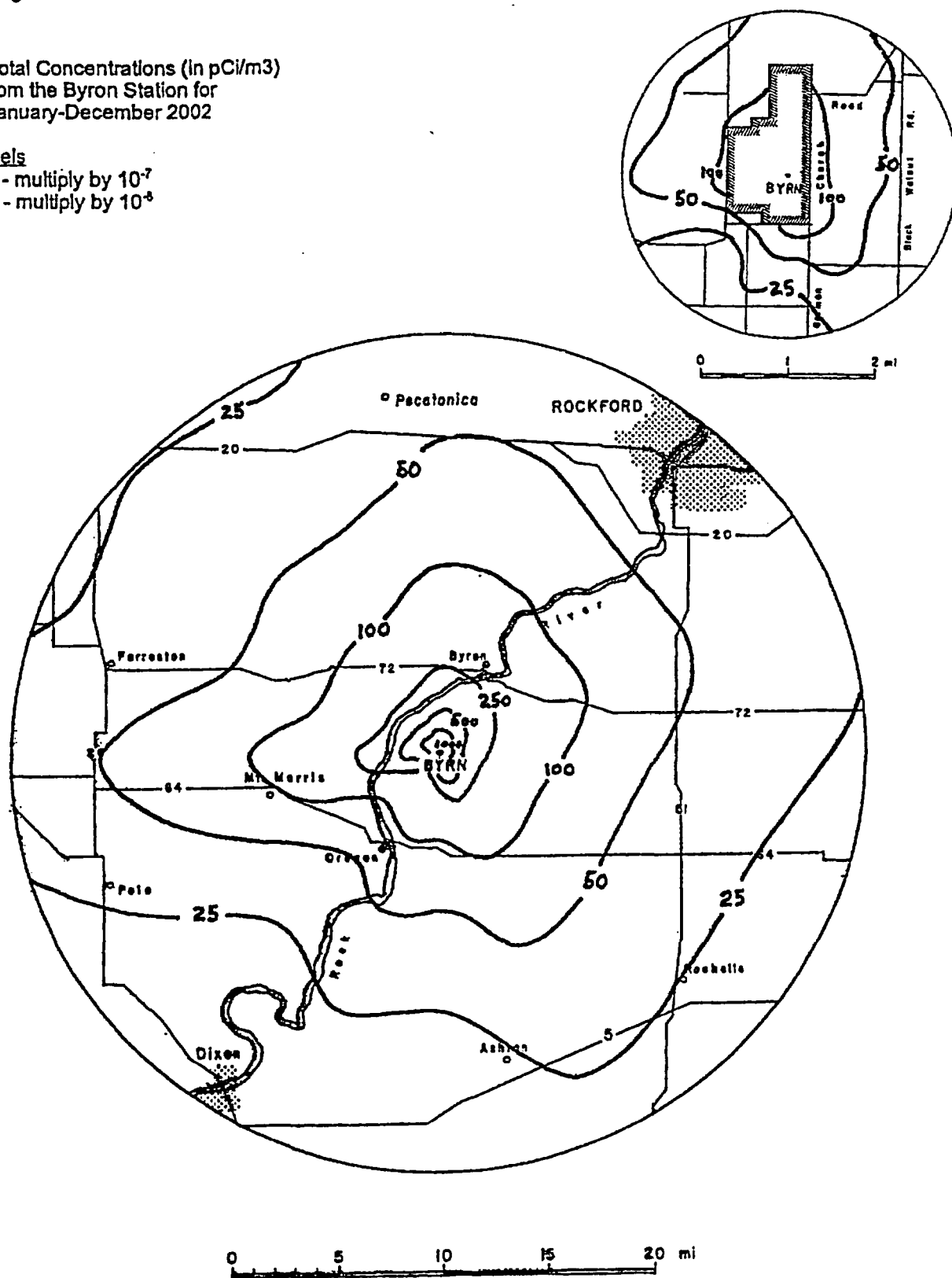


Figure 3.1-4

Estimated Total Concentrations (in pCi/m³)
of Particulates from the Byron Station
for the period January-December 2002

Isopleth Labels

Small figure - multiply by 10⁻³

Large figure - multiply by 10⁻⁴

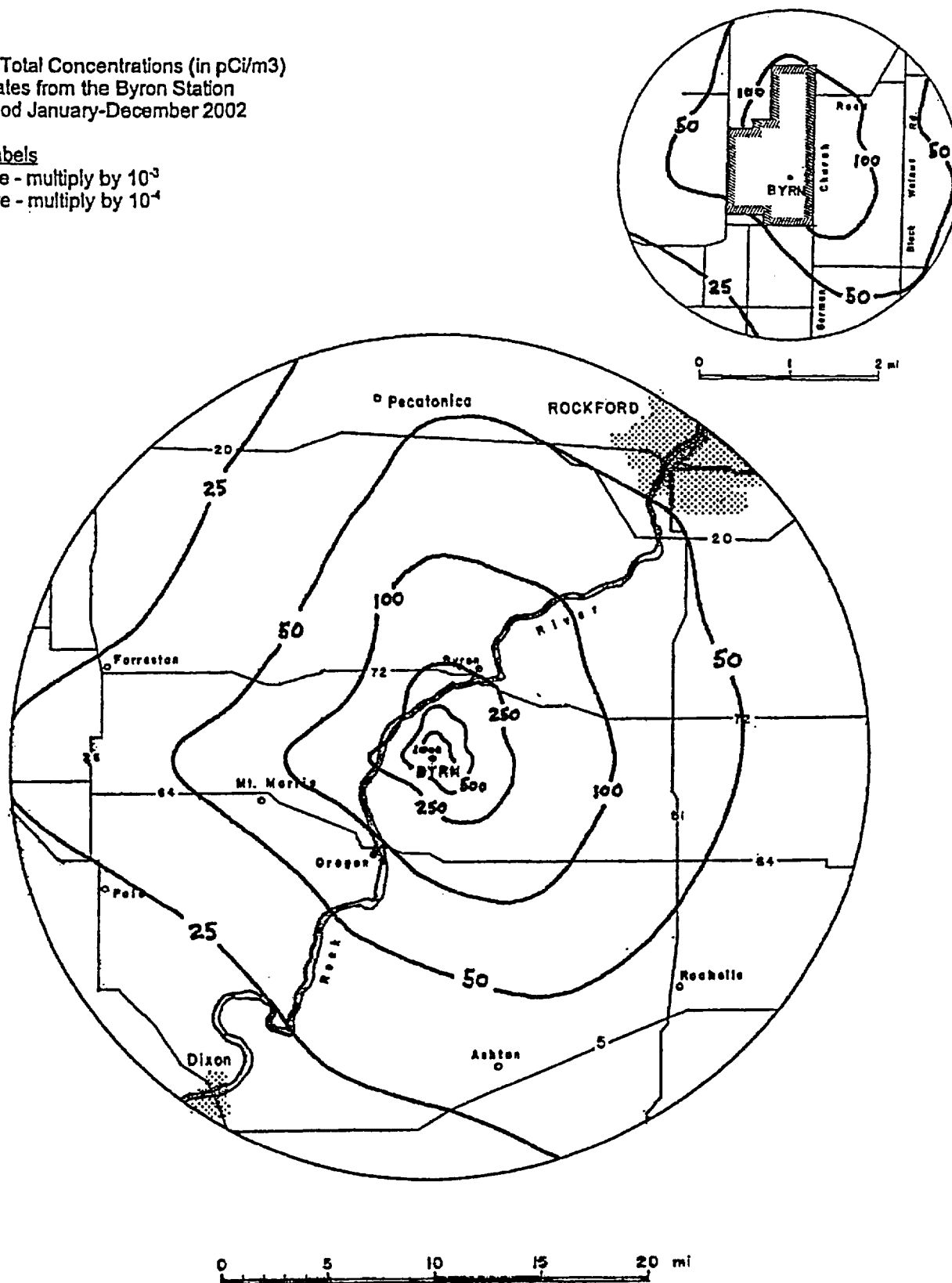


Table 3.1-1

BYRON

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002
Unit Range - From: 1 To: 1

```

=== I&P DOSE LIMIT ANALYSIS ===== ANNUAL 2002 =====
Annual - Limit      Age      Organ      Dose      Limit      Max % of
                    Group     (mrem)     (mrem)     Limit
-----
2002 - Admin. Any Organ  INFANT  THYROID  9.07E-03  1.13E+01  8.06E-02
2002 - Admin. Total Body  CHILD   TBODY    6.06E-04  1.05E+01  5.77E-03

2002 - T.Spc. Any Organ  INFANT  THYROID  9.07E-03  1.50E+01  6.05E-02
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          5.14E+00
CO-58        1.65E-03
I-131        9.41E+01
I-132        8.82E-03
I-133        7.24E-01

2002 - T.Spc. Total Body  CHILD   TBODY    6.06E-04  1.50E+01  4.04E-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          9.89E+01
CO-58        4.36E-02
I-131        1.06E+00
I-132        9.03E-03
I-133        1.14E-02

```

Table 3.1-1 (continued)

BYRON

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-1, 2002

Report for: 2002

Unit Range - From: 1 To: 1

```

=== NG DOSE LIMIT ANALYSIS ===== ANNUAL 2002 =====
Annual - Limit                               Dose      Limit      Max % of
                                           (mrad)    (mrad)    Limit
-----
2002 - Admin. Gamma                        8.50E-05  7.50E+00  1.13E-03
2002 - Admin. Beta                        3.68E-05  1.50E+01  2.45E-04

2002 - T.Spc. Gamma                        8.50E-05  1.00E+01  8.50E-04
Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters)                    Compass Point: NA
Nuclide      Percentage
-----
AR-41        3.59E+01
XE-138       1.87E+00
KR-87        2.48E-02
KR-85M       2.56E-01
XE-135       7.04E+00
XE-133M      3.27E-01
KR-88        3.85E+00
XE-133       5.07E+01

2002 - T.Spc. Beta                        3.68E-05  2.00E+01  1.84E-04
Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters)                    Compass Point: NA
Nuclide      Percentage
-----
AR-41        7.19E+00
XE-138       5.47E-01
KR-87        2.35E-02
KR-85M       2.32E-01
XE-135       5.12E+00
XE-133M      8.40E-01
KR-88        4.21E-01
XE-133       8.56E+01

```

Table 3.1-1 (continued)

BYRON

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002

Unit Range - From: 2 To: 2

=== I&P DOSE LIMIT ANALYSIS ===== ANNUAL 2002 =====

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2002 - Admin. Any Organ	INFANT	THYROID	9.07E-03	1.13E+01	8.06E-02
2002 - Admin. Total Body	CHILD	TBODY	6.06E-04	1.05E+01	5.77E-03

2002 - T.Spc. Any Organ	INFANT	THYROID	9.07E-03	1.50E+01	6.05E-02
-------------------------	--------	---------	----------	----------	----------

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 5.14E+00

CO-58 1.65E-03

I-131 9.41E+01

I-132 8.82E-03

I-133 7.24E-01

2002 - T.Spc. Total Body	CHILD	TBODY	6.06E-04	1.50E+01	4.04E-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 9.89E+01

CO-58 4.36E-02

I-131 1.06E+00

I-132 9.03E-03

I-133 1.14E-02

Table 3.1-1 (continued)

BYRON

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit-2, 2002

Report for: 2002
Unit Range - From: 2 To: 2

--- NG DOSE LIMIT ANALYSIS -----		ANNUAL 2002 -----		
Annual - Limit		Dose (mrad)	Limit (mrad)	Max % of Limit
2002 - Admin. Gamma		8.50E-05	7.50E+00	1.13E-03
2002 - Admin. Beta		3.68E-05	1.50E+01	2.45E-04
2002 - T.Spc. Gamma		8.50E-05	1.00E+01	8.50E-04
Receptor: 4	Composite Crit. Receptor - NG			
Distance:	0.00 (meters)			Compass Point: NA
Nuclide	Percentage			
AR-41	3.59E+01			
XE-138	1.87E+00			
KR-87	2.48E-02			
KR-85M	2.56E-01			
XE-135	7.04E+00			
XE-133M	3.27E-01			
KR-88	3.85E+00			
XE-133	5.07E+01			
2002 - T.Spc. Beta		3.68E-05	2.00E+01	1.84E-04
Receptor: 4	Composite Crit. Receptor - NG			
Distance:	0.00 (meters)			Compass Point: NA
Nuclide	Percentage			
AR-41	7.19E+00			
XE-138	5.47E-01			
KR-87	2.35E-02			
KR-85M	2.32E-01			
XE-135	5.12E+00			
XE-133M	8.40E-01			
KR-88	4.21E-01			
XE-133	8.56E+01			

Table 3.2-1

BYRON

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-1, 2002

Report for: 2002

Unit Range - From: 1 To: 1

							Liquid Receptor	
=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ===							ANNUAL 2002	
Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	1.02E-01	2.05E-01	1.38E-01	4.73E-01	1.16E-01	1.94E+00	0.00E+00	1.70E-01

=== SITE DOSE LIMIT ANALYSIS ===				ANNUAL 2002		
Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit	
2002 - Admin. Any Organ	ADULT	GILLI	1.94E+00	7.50E+00	2.58E+01	
2002 - Admin. Total Body	ADULT	TBODY	1.70E-01	2.25E+00	7.55E+00	

2002 - T.Spc. Any Organ	ADULT	GILLI	1.94E+00	1.00E+01	1.94E+01
-------------------------	-------	-------	----------	----------	----------

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	5.79E+00
NA-24	2.19E-04
CR-51	1.65E-01
MN-54	1.93E+00
FE-55	1.84E-01
FE-59	1.29E-01
CO-58	3.81E+00
CO-60	8.94E+00
ZN-65	9.70E-01
SR-92	2.00E-02
ZR-95	6.73E-03
NB-95	6.04E+01
AG-110M	1.37E-02
TE-125M	1.69E+01
TE-132	7.06E-01
I-131	1.75E-05
I-132	4.49E-05
CS-137	6.08E-04
CS-138	1.36E-09
BA-140	7.61E-05
LA-140	7.23E-04
CE-144	2.78E-03

2002 - T.Spc. Total Body	ADULT	TBODY	1.70E-01	3.00E+00	5.66E+00
--------------------------	-------	-------	----------	----------	----------

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Table 3.2-1 (continued)

BYRON

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit-2, 2002

Report for: 2002

Unit Range - From: 2 To: 2

Liquid Receptor

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	1.02E-01	2.05E-01	1.38E-01	4.73E-01	1.16E-01	1.94E+00	0.00E+00	1.70E-01

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2002 - Admin. Any Organ	ADULT	GILLI	1.94E+00	7.50E+00	2.58E+01
2002 - Admin. Total Body	ADULT	TBODY	1.70E-01	2.25E+00	7.55E+00

2002 - T.Spc. Any Organ ADULT GILLI 1.94E+00 1.00E+01 1.94E+01

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	5.79E+00
NA-24	2.19E-04
CR-51	1.65E-01
MN-54	1.93E+00
FE-55	1.84E-01
FE-59	1.29E-01
CO-58	3.81E+00
CO-60	8.94E+00
ZN-65	9.70E-01
SR-92	2.00E-02
ZR-95	6.73E-03
NB-95	6.04E+01
AG-110M	1.37E-02
TE-125M	1.69E+01
TE-132	7.06E-01
I-131	1.75E-05
I-132	4.49E-05
CS-137	6.08E-04
CS-138	1.36E-09
BA-140	7.61E-05
LA-140	7.23E-04
CE-144	2.78E-03

2002 - T.Spc. Total Body ADULT TBODY 1.70E-01 3.00E+00 5.66E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)

Major Contributors (0% or greater to total)

Table 3.4-1

Byron Station - Unit 1

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2002

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	2.790E-06(ESE)	5.220E-07(NNW)	7.320E-06(W)	1.020E-06(SE)	1.007E-05(SSE)
BETA AIR (mrad)	1.180E-05(ESE)	2.000E-06(NNW)	1.500E-05(NNW)	2.240E-06(SE)	2.725E-05(NNW)
WHOLE BODY (mrem)	1.460E-06(SSE)	2.760E-07(SE)	3.210E-06(NNE)	5.630E-07(S)	5.377E-06(SSE)
SKIN (mrem)	5.160E-06(SSE)	8.330E-07(NNE)	9.540E-06(SSE)	1.580E-06(SE)	1.658E-05(SSE)
ORGAN (mrem)	9.160E-06(ESE)	9.080E-06(NNW)	1.140E-05(NNW)	6.230E-06(SE)	3.117E-05(NNW)
CRITICAL PERSON	Teenager	Teenager	Teenager	Teenager	Teenager
CRITICAL ORGAN	Thyroid	Thyroid	Thyroid	Liver	Thyroid

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP. I	
	QUARTERLY OBJECTIVE	% OF 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 1 - Vent

Date of calculation: 4/21/2003

Table 3.4-1 (continued)

Byron Station - Unit 2

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2002

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	8.020E-07(ESE)	5.800E-07(NNW)	1.650E-06(W)	5.280E-07(SE)	3.166E-06(SSE)
BETA AIR (mrad)	3.880E-06(ESE)	1.980E-06(NNW)	8.810E-06(NNW)	1.950E-06(SE)	1.495E-05(NNW)
WHOLE BODY (mrem)	3.620E-07(SSE)	3.130E-07(SE)	9.250E-07(SSE)	3.300E-07(SE)	1.889E-06(SSE)
SKIN (mrem)	1.420E-06(SSE)	8.930E-07(NNE)	3.090E-06(SSE)	1.040E-06(SE)	6.040E-06(SSE)
ORGAN (mrem)	1.060E-05(ESE)	9.900E-06(NNW)	1.550E-05(NNW)	1.260E-05(SE)	4.121E-05(NNW)
CRITICAL PERSON	Teenager	Teenager	Teenager	Adult	Teenager
CRITICAL ORGAN	Thyroid	Thyroid	Thyroid	Lung	Thyroid

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP. I	
	QUARTERLY OBJECTIVE	% OF 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

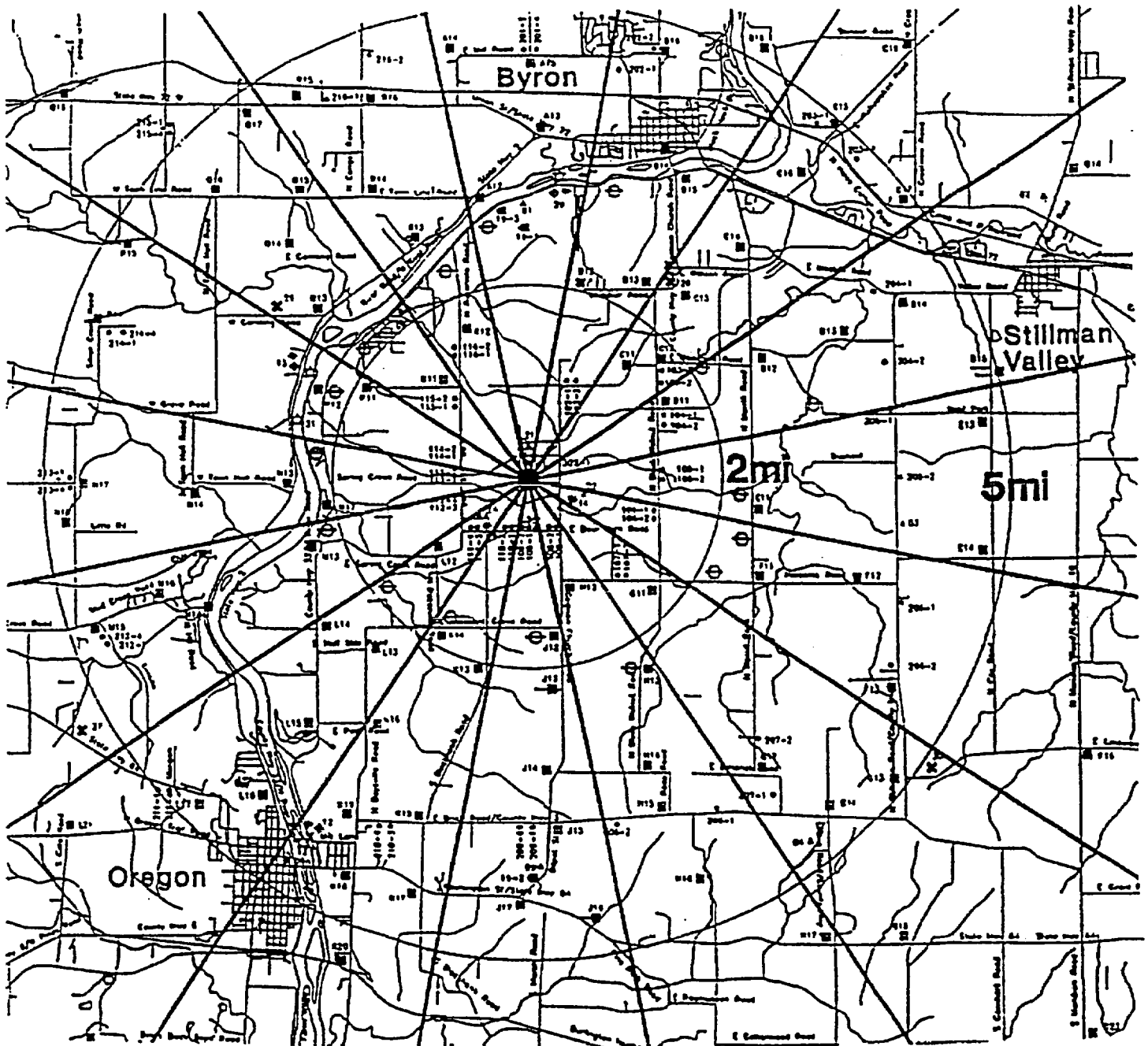
Calculation used release data from the following:
Unit 2 - Vent

**Maximum Offsite
Values (pCi/m3)**

Iodine	1.70E-05
Particulate Matter	1.86E-01
Data Recovery (priority parameters)	99.9%

Date of calculation: 4/21/2003

Figure 5.0-1



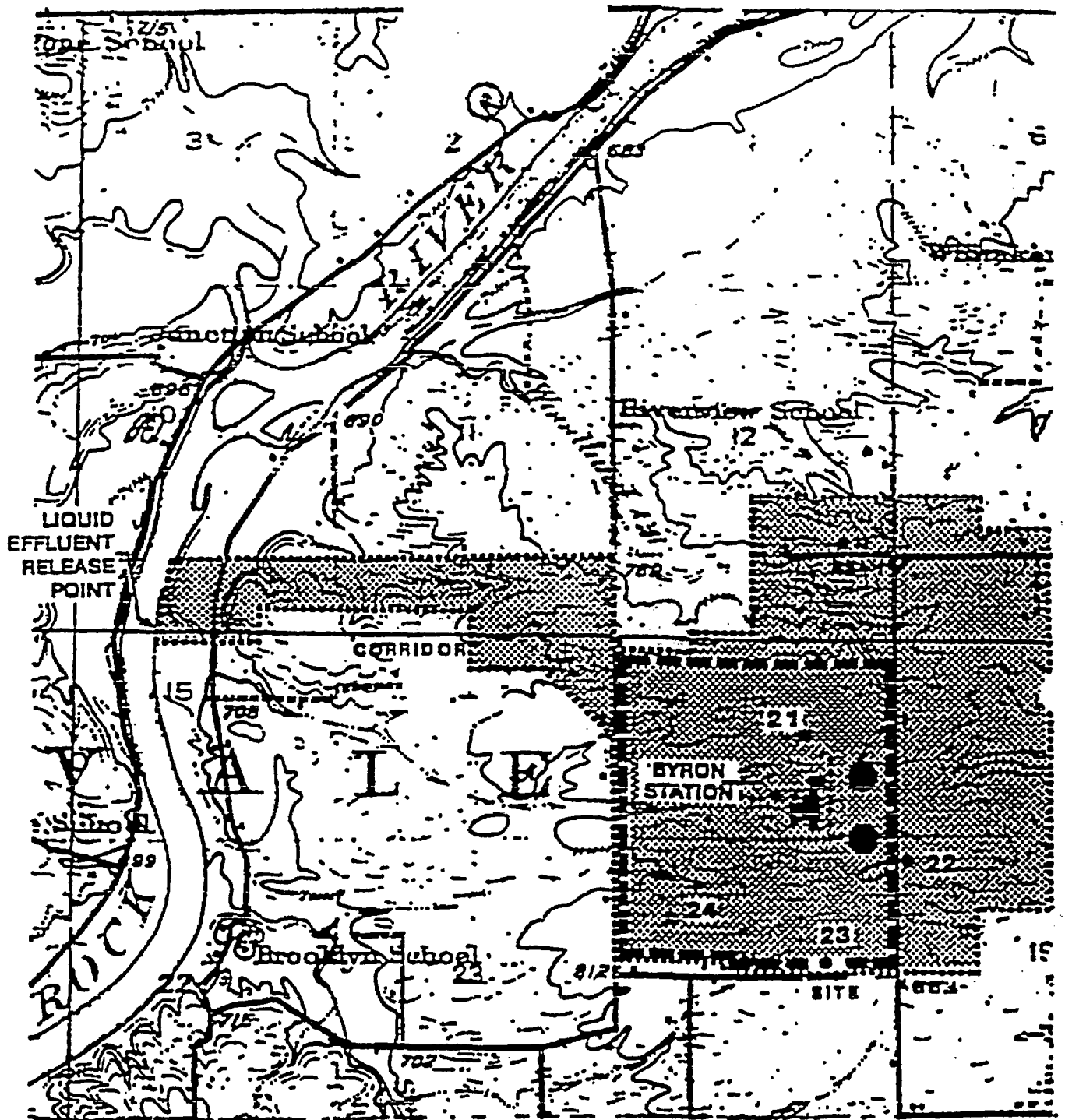
• TLD Location



BYRON STATION

INNER AND OUTER RING TLD LOCATIONS

Figure 5.0-2



0 1/2 1 KM



0 1/2 1 MILE



• Air Sampling Location

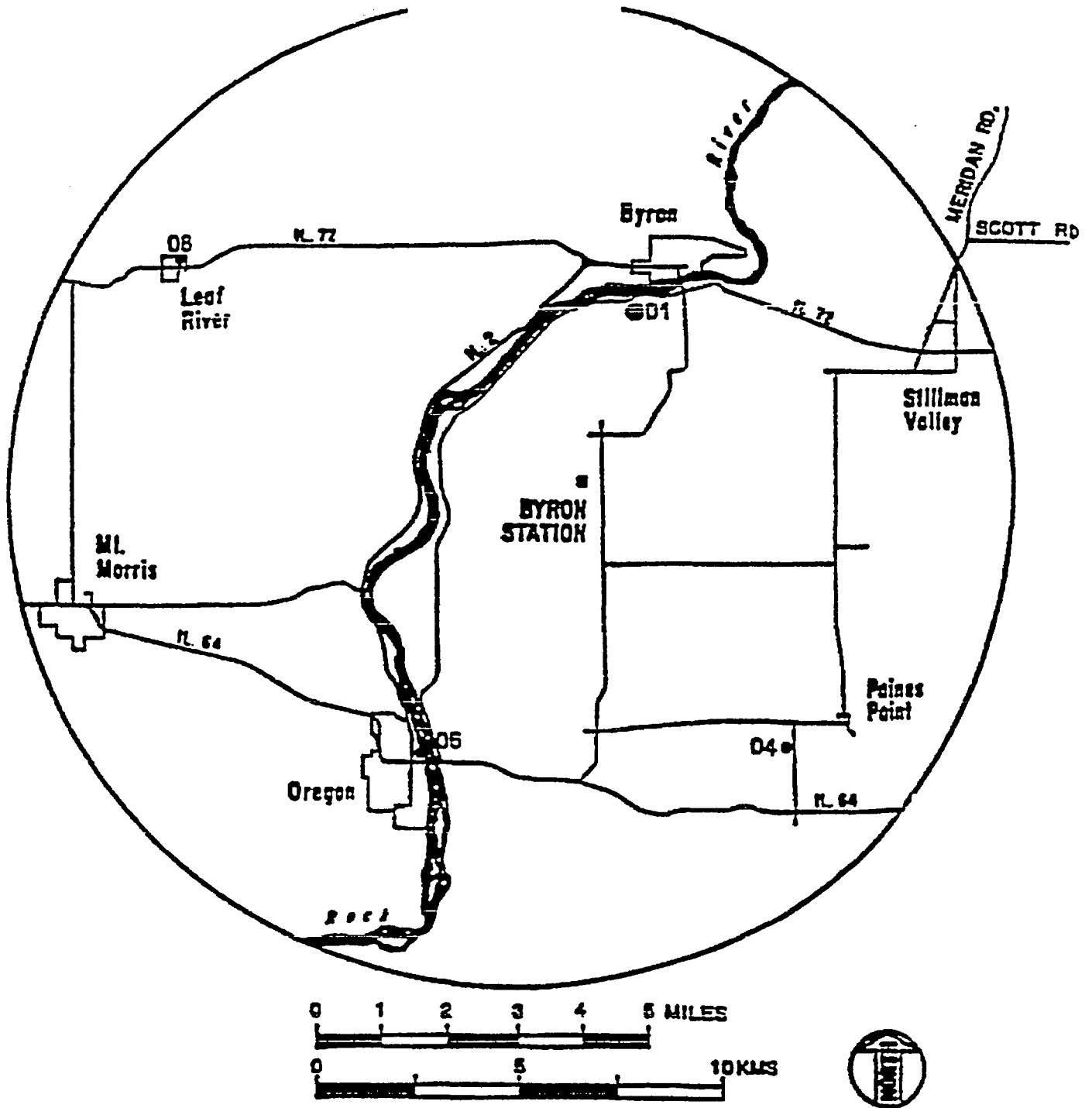


Byron Station

Onsite Air Sampler Locations

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

Figure 5.0-3



• Air Sampling Location

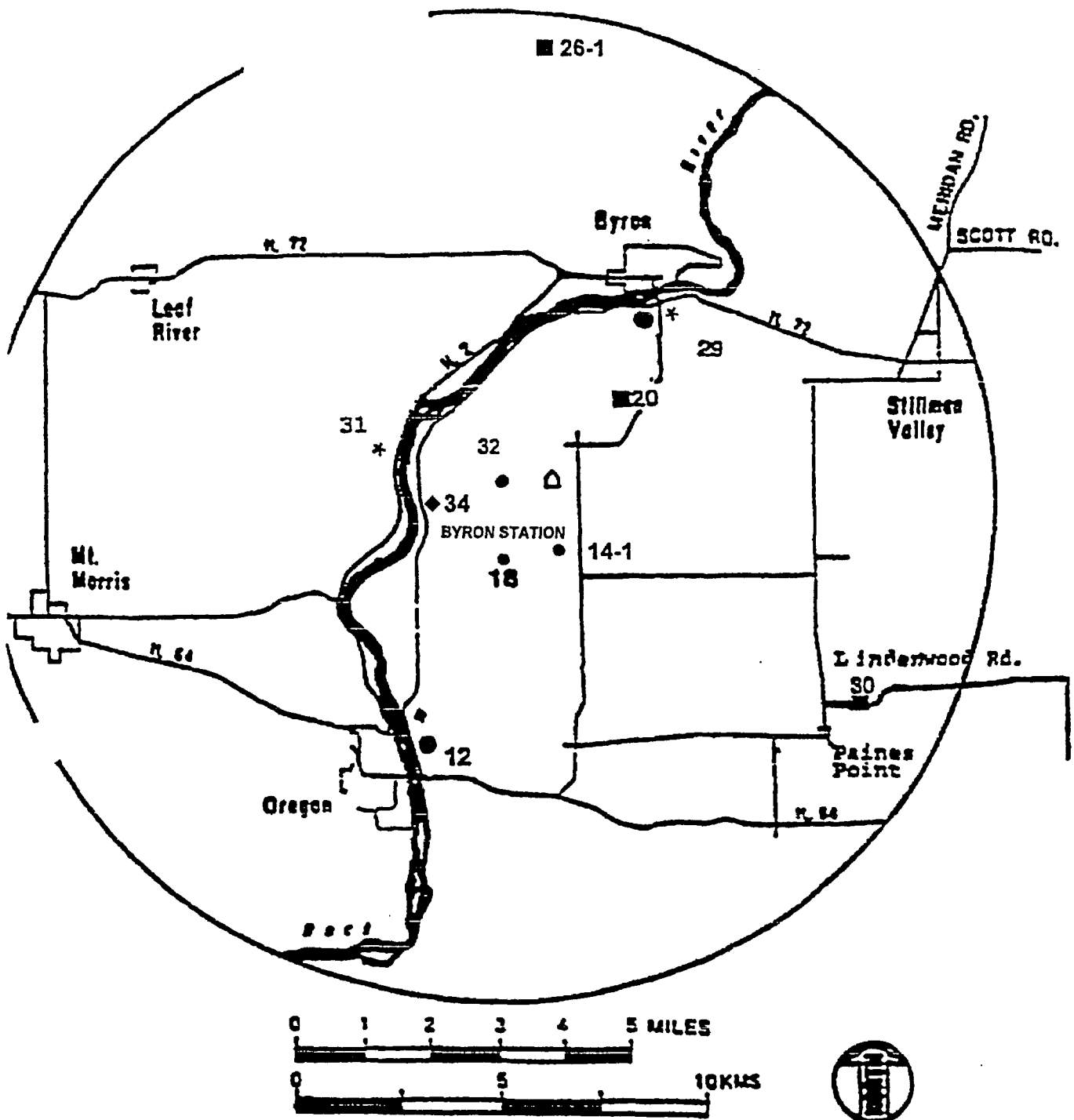
■ Byron Station

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

I-20

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-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	D. White	.	.	.	◀	.	.	.	.
BY-Quad 2	3485 German Church Road	.	.	.	◀	.	.	.	.
BY-Quad 3	1417 Brick Road	.	.	.	◀	.	.	.	.
BY-Quad 4	D.L. Hardisty	.	.	.	◀	.	.	.	.
BY-Control	Walt Mueller	.	.	.	◀	.	.	.	.
BY-20	K. Reeverts Dairy Farm	.	.	.	.	◀	.	.	.
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 Welford	.	.	.	.	.	.	.	◀
BY-34	Rock River Downstream	.	.	.	.	.	◀	.	.

CENSUS
Dairy
Residence
Cattle

TABLE 5.0-2

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

1. AIR SAMPLERS

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
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

<u>Site Code</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
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)

<u>Site Code</u> ^a	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
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

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
BY-20	K. Reeverts Dairy Farm	2.0	NE	C
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.

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

4. VEGETABLES

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
BY-Quad 1	D. White	3.0	N	A
BY-Quad 2	3485 German Church Road	0.6	SSE	H
BY-Quad 3	1417 Brick Road	4.0	S	J
BY-Quad 4	D.L. Hardisty	2.5	NNW	R
BY-Control (C)	Walt Mueller	15.6	N	A

5. GROUND/WELL WATER

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
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

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

7. FISH

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
BY-29 (C)	Byron, Upstream	3.0	N	A
BY-31	Byron, Discharge	2.2	WNW	P

8. SEDIMENTS

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
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		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
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		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
4. TLDs (continued)					
	Outer Ring		Quarterly	Gamma	Quarterly
	BY-213-1,4				
	214-1,4				
	215-1,4				
	216-1,2				
5. Milk	BY-20	K. Reevert's Dairy	Biweekly:	I-131	Biweekly:
	BY-26-1	Dennis Herbert	May-October	Gamma Isot.	May-October
	BY-30	D. Roos Dairy	Monthly:		Monthly:
			November-April		November-April
6. Vegetables	Quad 1	D. White	Annually - two varieties from each location as available at harvest.	Gamma Isot.	Annually
	Quad 2	3485 German Church Road		I-131	Annually, on broad leaf vegetation.
	Quad 3	1417 Brick Road			
	Quad 4	D. L. Hardisty			
	Control	W. Mueller			
7. Ground/Well Water	BY-14-1	3200 N. German Road	Quarterly	Gamma Isot.	Quarterly
	BY-18	McCoy Farm		Tritium	
	BY-32	Wolford Well			
8. Surface Water	BY-12	Oregon Pool of Rock River Downstream	Weekly	Gross Beta Gamma Isot. Tritium	Monthly composite. Monthly composite. Quarterly composite.
	BY-29 (C)	Byron, Upstream			
9. Fish (at least two species)	BY-29 (C)	Byron, Upstream	Two times/year	Gamma Isot.	Two times/year on edible portions only.
	BY-31	Byron, Discharge			
10. Sediments	BY-12	Oregon Pool of Rock River Downstream	Semiannually	Gamma Isot.	Semiannually
	BY-34	Rock River Downstream			
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.

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
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 2002
 (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	0.028 (52/52) (0.011-0.046)	BY-08, Leaf River, 6.8 mi. WNW, Sector P	0.030 (13/13) (0.015-0.047)	0.030 (13/13) (0.015-0.047)	0
	Gamma Spec. 5						
	Cs-134	0.01	<LLD	-	-	<LLD	0
	Cs-137	0.01	<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 9	5	<LLD	-	-	<LLD	0
	Gamma Spec. 9						
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Ba-La-140	15	<LLD	-	-	<LLD	0
	Other Gammas	10-15	<LLD	-	-	<LLD	0
Surface Water (pCi/L)	Gross Beta 6	4	4.1 (1/1)	BY-12, Oregon Pool of Rock River, 4.5 mi. SSW, Sector K	4.1 (1/1)	<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	1,389 (1/1)	BY-12, Oregon Pool of Rock River, 4.5 mi. SSW, Sector K	1,389 (1/1)	206 (1/1)	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	25.7 (78/78) (20.0-30.0)	BY-208-1 ^b , 4.0 mi. SSE, Sector H	30.0 (1/1)	22.0 (2/2) (21.0-23.0)	

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

^b BY-208-1, BY-215-4, and BY-216-1 had identical means of 30 mR. Only BY-208-1 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 2002
 (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	0.019 (52/52) (0.012-0.037)	BY-08, Leaf River 6.8 mi. WNW, Sector P	0.021 (13/13) (0.014-0.037)	0.021 (13/13) (0.014-0.037)	0
	Gamma Spec. 5						
	Cs-134	0.01	<LLD				0
	Cs-137	0.01	<LLD				0
	Other Gammas	0.01-0.04	<LLD				0
Airborne Iodine (pCi/m ³)	I-131 35	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131 15	0.5/5.0 ^b	<LLD	-	-	<LLD	0
	Gamma Spec. 15						
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Ba/La-140	15	<LLD	-	-	<LLD	0
	Other Gammas	10-15	<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Gamma Spec. 4						
	Cs-134	0.10	<LLD	-	-	<LLD	0
	Cs-137	0.10	<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. 2						
	Cs-134	0.15	<LLD	-	-	None	0
	Cs-137	0.18	<LLD	-	-	None	0
	Other Gammas	0.10-0.60	<LLD	-	-	None	0

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

^b 0.5 pCi/L. (May-October); 5.0 pCi/L. (November-April).

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 2002
 (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	4.7 (1/1)	BY-12, Oregon Pool of Rock River, Downstream 4.5 mi. SSW, Sector K	4.7 (1/1)	<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	219 (1/1)	BY-12, Oregon Pool of Rock River, Downstream 4.5 mi. SSW, Sector K	219 (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 15-30		<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 80	9.7	21.9 (78/78) (15-27)	BY-207-1 ^b 4.2 mi. SE, Sector G	27.0 (1/1)	18.5 (2/2) (17.0-20.0)	0

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

^b Locations BY-207-1, 212-1 and 212-4 had identical means of 27.0 mR. Only BY-207-1 is detailed in this summary.

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 2002
 (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	0.024 (52/52) (0.017-0.035)	BY-08, Leaf River 6.8 mi. WNW, Sector P	0.028 (13/13) (0.021-0.040)	0.028 (13/13) (0.021-0.040)	0
	Gamma Spec. 5						
	Cs-134	0.01	<LLD	-	-	<LLD	0
	Cs-137	0.01	<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 21	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 21						
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Ba/La-140	15	<LLD	-	-	<LLD	0
	Other Gammas	10-15	<LLD	-	-	<LLD	0
Vegetation (pCi/g wet)	I-131 13	0.06	<LLD	-	-	<LLD	0
	Gamma Spec. 13						
	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	500 (1/1)	BY-12 Oregon Pool of Rock River, 4.5 mi SSW, Sector K	500 (1/1)	<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 2002
 (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	19.7 (78/78) (14.0-25.0)	BY-208-1 ^b , 4.0 mi SSE, Sector H	25.0 (1/1)	16.5 (2/2) (16.0-17.0)	0

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

^b Locations BY-208-1 and 215-1 had identical means of 25.0 mR. Only BY-208-1 is detailed in this summary.

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 2002
 (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 70	0.01	0.032 (56/56) (0.014-0.052)	BY-08, Leaf River 6.8 mi WNW, Sector P	0.035 (14/14) (0.018-0.052)	0.035 (14/14) (0.018-0.052)	0
	Gamma Spec. 5						
	Cs-134	0.01	<LLD	-	-	<LLD	0
	Cs-137	0.01	<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 12	0.5/5.0 ^b	<LLD	-	-	<LLD	0
	Gamma Spec. 12						
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Ba-La-140	15	<LLD	-	-	<LLD	0
	Other Gammas	10-15	<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Gamma Spec. 4						
	Cs-134	0.10	<LLD	-	-	<LLD	0
	Cs-137	0.10	<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.

^b 0.5 pCi/L. (May-October); 5.0 pCi/L. (November-April).

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 2002
 (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	4.3 (1/3)	BY-12, Oregon Pool of Rock River, 4.5 mi SSW, Sector K	4.3 (1/3)	<LLD	0
	Gamma Spec. 6						
	Cs-134 15	15	<LLD		-	<LLD	0
	Cs-137 18	18	<LLD		-	<LLD	0
	Other ODCM-Required Gammas 15-30	15-30	<LLD		-	<LLD	0
	Tritium 2	200	<LLD		-	<LLD	0
Well Water (pCi/L)	Gamma Spec. 3						
	Cs-134 15	15	<LLD	-	-	None	0
	Cs-137 18	18	<LLD	-	-	None	0
	Other ODCM-Required Gammas 15-30	15-30	<LLD	-	-	None	0
	Tritium 3	200	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qt.)	Gamma Dose 80	9.7	21.3 (78/78) (15.0-25.0)	BY-215-4, 5.2 mi. NW, Sector Q	25.0 (1/1)	18.0 (2/2) (17.0-19.0)	0

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

BYRON

APPENDIX II

METEOROLOGICAL DATA

Byron Nuclear Station

Period of Record: January - March 2002
 Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	3	0	0	3
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	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	2	2	0	4
WNW	0	0	0	1	1	0	2
NW	0	0	0	1	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	0	7	3	0	10

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 2002
 Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	3	0	0	0	3
NNE	0	2	0	0	0	0	2
NE	0	0	1	1	0	0	2
ENE	0	0	4	1	0	0	5
E	0	0	3	0	0	0	3
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	1	0	2	0	0	3
SSW	0	0	1	0	0	0	1
SW	0	0	0	0	0	0	0
WSW	0	0	1	1	0	0	2
W	0	0	0	3	1	0	4
WNW	0	0	1	3	0	0	4
NW	0	0	0	1	1	0	2
NNW	0	0	0	2	1	0	3
Variable	0	0	0	0	0	0	0
Total	0	3	14	14	4	0	35

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 2002
 Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	1	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	2	0	0	0	2
ENE	0	0	5	0	0	0	5
E	1	1	1	0	0	0	3
ESE	0	0	0	0	0	0	0
SE	0	0	1	0	0	0	1
SSE	0	0	2	0	0	0	2
S	0	0	2	1	3	0	6
SSW	0	1	3	3	1	0	8
SW	0	0	5	3	0	0	8
WSW	0	0	2	2	0	0	4
W	1	1	0	5	1	0	8
WNW	0	1	4	4	0	0	9
NW	0	1	1	1	0	0	3
NNW	0	0	3	1	1	0	5
Variable	0	0	0	0	0	0	0
Total	2	6	32	20	6	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: January - March 2002
 Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	25	37	16	2	0	82
NNE	0	15	19	1	1	0	36
NE	1	17	37	21	5	0	81
ENE	2	8	23	13	1	0	47
E	0	10	31	3	0	0	44
ESE	1	2	1	2	0	0	6
SE	2	1	10	4	0	0	17
SSE	0	6	36	20	2	0	64
S	6	7	25	38	7	0	83
SSW	2	4	21	32	10	0	69
SW	3	9	44	21	3	0	80
WSW	2	15	30	12	0	0	59
W	2	11	48	53	1	12	127
WNW	2	20	52	54	8	5	141
NW	0	25	40	36	0	0	101
NNW	3	21	41	12	2	0	79
Variable	0	0	0	0	0	0	0
Total	28	196	495	338	42	17	1116

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 2002
 Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	6	4	0	0	0	11
NNE	1	6	1	0	0	0	8
NE	1	3	3	0	0	0	7
ENE	0	0	3	2	0	0	5
E	1	9	5	0	0	0	15
ESE	0	3	11	0	0	0	14
SE	1	8	14	1	0	0	24
SSE	3	17	23	15	1	0	59
S	1	23	40	19	2	0	85
SSW	4	29	28	40	2	0	103
SW	4	42	74	23	0	0	143
WSW	2	43	40	4	0	0	89
W	7	25	23	6	0	0	61
WNW	7	31	12	2	0	0	52
NW	4	18	7	0	0	0	29
NNW	3	31	25	0	0	0	59
Variable	0	0	0	0	0	0	0
Total	40	294	313	112	5	0	764

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 2002
 Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
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	0	1	0	0	0	0	1
E	0	6	0	0	0	0	6
ESE	0	0	4	1	0	0	5
SE	5	2	1	0	0	0	8
SSE	2	4	1	0	0	0	7
S	6	6	7	0	0	0	19
SSW	4	10	1	0	0	0	15
SW	2	5	0	0	0	0	7
WSW	2	3	0	0	0	0	5
W	3	8	0	0	0	0	11
WNW	3	7	0	0	0	0	10
NW	9	1	0	0	0	0	10
NNW	2	3	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	39	56	14	1	0	0	110

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 2002
 Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	3	0	0	0	0	0	3
ENE	1	1	1	0	0	0	3
E	1	3	0	0	0	0	4
ESE	1	0	4	0	0	0	5
SE	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0
S	1	3	1	0	0	0	5
SSW	0	1	0	0	0	0	1
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	1	0	0	0	0	0	1
NW	4	0	0	0	0	0	4
NNW	4	0	0	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	17	8	7	0	0	0	32

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 2002
 Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	3	0	3
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	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	3	2	5
WNW	0	0	0	0	1	0	1
NW	0	0	0	0	0	1	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	0	0	7	3	10

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: January - March 2002
 Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	2	0	0	2
NNE	0	1	1	0	0	0	2
NE	0	0	0	1	1	0	2
ENE	0	0	5	1	1	0	7
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	0	2	1	3
S	0	0	2	0	0	0	2
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	2	0	0	2
W	0	0	0	1	3	1	5
WNW	0	0	0	1	2	0	3
NW	0	0	0	2	0	2	4
NNW	0	0	0	1	0	1	2
Variable	0	0	0	0	0	0	0
Total	0	1	9	11	9	5	35

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: January - March 2002
 Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	0	1
NNE	0	1	0	0	0	0	1
NE	0	0	0	2	0	0	2
ENE	0	0	5	0	0	0	5
E	0	1	2	0	0	0	3
ESE	0	0	0	0	0	0	0
SE	0	0	0	1	0	0	1
SSE	0	0	1	0	0	0	1
S	0	0	2	1	3	2	8
SSW	0	0	3	2	3	0	8
SW	0	0	2	3	1	0	6
WSW	0	0	1	3	1	0	5
W	0	1	1	2	4	0	8
WNW	1	1	1	2	4	0	9
NW	0	1	1	0	0	1	3
NNW	0	0	2	1	0	2	5
Variable	0	0	0	0	0	0	0
Total	1	5	22	17	16	5	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: January - March 2002
 Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	10	20	34	12	6	83
NNE	0	3	13	20	0	0	36
NE	0	3	22	31	15	10	81
ENE	4	3	10	16	12	2	47
E	0	2	15	22	8	0	47
ESE	2	1	1	1	2	0	7
SE	0	2	1	9	4	0	16
SSE	0	3	6	18	27	7	61
S	0	2	9	20	22	18	71
SSW	1	2	8	26	27	13	77
SW	0	6	16	25	22	9	78
WSW	0	6	29	28	10	0	73
W	0	10	29	37	39	21	136
WNW	2	8	23	47	35	16	131
NW	1	12	21	39	30	5	108
NNW	1	12	17	36	13	8	87
Variable	0	0	0	0	0	0	0
Total	12	85	240	409	278	115	1139

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: January - March 2002
 Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	12	8	0	0	21
NNE	1	4	6	6	0	0	17
NE	0	0	1	4	1	0	6
ENE	0	0	0	0	4	0	4
E	0	1	2	8	0	0	11
ESE	0	1	1	5	5	1	13
SE	0	0	2	3	9	1	15
SSE	0	2	4	7	19	6	38
S	1	1	9	23	27	18	79
SSW	0	2	10	24	47	15	98
SW	0	3	21	53	62	10	149
WSW	1	3	18	60	21	1	104
W	0	2	20	41	5	3	71
WNW	0	0	15	26	4	0	45
NW	0	1	11	26	2	0	40
NNW	2	4	11	34	3	0	54
Variable	0	0	0	0	0	0	0
Total	6	24	143	328	209	55	765

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: January - March 2002
 Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	1	2	0	0	0	3
NE	0	1	0	0	0	0	1
ENE	0	2	0	0	0	0	2
E	2	1	0	0	0	0	3
ESE	0	1	0	1	2	0	4
SE	0	0	1	0	7	1	9
SSE	0	1	1	3	2	0	7
S	1	2	2	1	1	0	7
SSW	0	0	1	7	5	0	13
SW	1	1	6	9	0	0	17
WSW	0	1	3	2	0	0	6
W	0	0	2	5	0	0	7
WNW	0	2	3	8	0	0	13
NW	0	2	4	4	0	0	10
NNW	0	0	0	8	0	0	8
Variable	0	0	0	0	0	0	0
Total	4	15	27	48	17	1	112

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: January - March 2002
 Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	1	3	0	0	0	4
NE	0	2	1	0	0	0	3
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	1	1	4	2	3	0	11
SSE	0	1	0	1	1	0	3
S	0	1	0	0	0	0	1
SSW	0	2	1	0	2	0	5
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	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	1	8	13	4	6	0	32

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 2002

Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
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	2	0	0	0	2
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	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	2	0	0	0	2
W	0	0	1	0	0	0	1
WNW	0	0	3	2	0	0	5
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	8	3	0	0	11

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 2002

Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	1	0	0	1
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	1	0	2	0	0	3
SSE	0	0	3	5	0	0	8
S	0	1	5	4	0	0	10
SSW	0	1	2	0	0	0	3
SW	0	0	2	0	0	0	2
WSW	0	0	2	0	0	0	2
W	0	0	2	0	1	0	3
WNW	0	0	4	1	0	2	7
NW	0	0	8	1	0	0	9
NNW	0	0	4	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	3	33	14	1	2	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 2002
 Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	2	2	0	0	0	4
NE	0	0	3	2	0	0	5
ENE	0	0	1	0	0	0	1
E	0	6	2	0	0	0	8
ESE	0	0	1	0	0	0	1
SE	0	1	3	2	0	0	6
SSE	0	3	2	1	0	0	6
S	0	1	11	14	2	0	28
SSW	0	2	8	7	2	0	19
SW	0	1	18	1	0	0	20
WSW	0	5	7	1	0	0	13
W	0	1	7	2	2	0	12
WNW	0	3	4	1	3	2	13
NW	0	0	11	3	0	0	14
NNW	0	0	8	1	0	0	9
Variable	0	0	0	0	0	0	0
Total	0	25	88	35	9	2	159

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 2002

Stability Class - Neutral - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	27	30	6	0	0	63
NNE	2	12	24	6	0	0	44
NE	7	11	25	9	0	0	52
ENE	1	16	30	10	0	0	57
E	1	32	32	3	0	0	68
ESE	2	7	11	18	2	1	41
SE	3	9	7	7	1	0	27
SSE	5	11	6	14	0	0	36
S	1	25	39	38	5	0	108
SSW	1	16	33	36	12	0	98
SW	2	26	39	11	1	0	79
WSW	3	13	25	6	2	0	49
W	5	13	16	10	2	0	46
WNW	1	21	26	16	7	0	71
NW	1	47	50	9	0	0	107
NNW	2	31	37	3	0	0	73
Variable	0	0	0	0	0	0	0
Total	37	317	430	202	32	1	1019

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 2002

Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	15	7	0	0	0	25
NNE	3	4	5	1	0	0	13
NE	3	10	4	4	0	0	21
ENE	3	2	5	2	0	0	12
E	4	10	12	0	0	0	26
ESE	2	12	16	1	0	0	31
SE	2	8	7	5	1	0	23
SSE	8	23	36	12	0	0	79
S	3	32	48	27	0	0	110
SSW	7	28	19	21	1	0	76
SW	10	19	23	4	0	0	56
WSW	10	16	16	3	0	0	45
W	7	22	12	3	1	0	45
WNW	7	26	7	4	0	0	44
NW	2	17	2	0	0	0	21
NNW	2	15	8	0	0	0	25
Variable	0	0	0	0	0	0	0
Total	76	259	227	87	3	0	652

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 2002

Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	3	0	0	0	0	4
NNE	0	1	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	3	0	0	0	0	3
E	3	7	0	0	0	0	10
ESE	5	9	3	0	0	0	17
SE	0	9	2	0	0	0	11
SSE	7	19	12	0	0	0	38
S	9	50	8	0	0	0	67
SSW	9	15	0	0	0	0	24
SW	9	3	0	0	0	0	12
WSW	1	1	1	0	0	0	3
W	13	2	2	0	0	0	17
WNW	11	1	0	0	0	0	12
NW	12	0	0	0	0	0	12
NNW	4	1	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	84	124	28	0	0	0	236

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 2002

Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	0	0	0	0	0	2
NNE	1	0	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	1	0	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	1	3	2	0	0	0	6
SE	1	1	0	0	0	0	2
SSE	2	3	0	0	0	0	5
S	3	7	0	0	0	0	10
SSW	1	2	0	0	0	0	3
SW	3	0	0	0	0	0	3
WSW	4	1	0	0	0	0	5
W	2	0	0	0	0	0	2
WNW	2	0	0	0	0	0	2
NW	3	0	0	0	0	0	3
NNW	2	0	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	28	17	2	0	0	0	47

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 2002

Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
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	1	1	0	0	2
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	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	1	1	0	0	2
W	0	0	1	0	0	0	1
WNW	0	0	1	3	1	0	5
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	5	2	0	11

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: 5

Byron Nuclear Station

Period of Record: April - June 2002

Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	1	0	0	1
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	1	2	1	0	4
SSE	0	0	3	4	3	0	10
S	0	0	1	2	3	0	6
SSW	0	0	1	3	0	0	4
SW	0	0	0	1	0	0	1
WSW	0	0	1	1	0	0	2
W	0	1	1	1	0	2	5
WNW	0	0	2	2	2	1	7
NW	0	0	1	6	1	0	8
NNW	0	0	0	4	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	1	12	27	10	3	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: 5

Byron Nuclear Station

Period of Record: April - June 2002
 Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	0	2	2	1	0	5
NE	0	0	0	3	0	0	3
ENE	0	1	0	1	0	0	2
E	0	5	1	2	0	0	8
ESE	0	0	0	0	0	0	0
SE	0	0	3	4	1	0	8
SSE	0	2	4	2	2	0	10
S	0	0	2	7	13	3	25
SSW	0	0	6	8	3	0	17
SW	0	1	6	14	1	0	22
WSW	0	1	3	8	1	0	13
W	0	3	2	4	1	4	14
WNW	0	0	2	5	2	3	12
NW	0	0	6	4	4	0	14
NNW	0	0	3	2	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	14	40	66	29	10	159

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: 5

Byron Nuclear Station

Period of Record: April - June 2002

Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	8	16	22	6	0	54
NNE	0	8	12	20	9	0	49
NE	2	6	12	22	3	1	46
ENE	1	8	21	22	16	1	69
E	1	4	24	24	10	0	63
ESE	0	4	7	5	14	8	38
SE	3	6	8	3	2	7	29
SSE	0	5	8	10	6	8	37
S	1	12	31	26	32	12	114
SSW	1	5	20	17	28	12	83
SW	1	11	23	25	20	1	81
WSW	4	4	19	16	2	3	48
W	1	10	9	18	6	5	49
WNW	0	11	23	20	14	7	75
NW	1	13	46	42	8	3	113
NNW	3	8	33	22	5	0	71
Variable	0	0	0	0	0	0	0
Total	21	123	312	314	181	68	1019

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: 5

Byron Nuclear Station

Period of Record: April - June 2002

Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	3	9	9	1	0	23
NNE	1	6	6	9	1	0	23
NE	0	5	7	4	3	4	23
ENE	2	4	3	3	5	0	17
E	2	3	10	12	2	0	29
ESE	0	1	6	7	11	2	27
SE	0	1	5	4	10	3	23
SSE	3	2	3	14	29	13	64
S	1	1	15	33	37	13	100
SSW	1	3	16	28	28	6	82
SW	1	2	20	25	14	3	65
WSW	0	5	9	19	8	0	41
W	1	3	8	12	7	2	33
WNW	0	6	19	20	3	2	50
NW	0	4	4	21	1	0	30
NNW	0	3	0	20	0	0	23
Variable	0	0	0	0	0	0	0
Total	13	52	140	240	160	48	653

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: 5

Byron Nuclear Station

Period of Record: April - June 2002

Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	4	1	0	0	8
NNE	0	2	0	1	0	0	3
NE	0	1	0	0	0	0	1
ENE	0	0	0	2	0	0	2
E	0	1	6	2	0	0	9
ESE	0	0	2	8	2	0	12
SE	0	3	1	4	4	0	12
SSE	1	2	3	2	7	1	16
S	1	3	6	15	18	0	43
SSW	1	2	7	27	5	0	42
SW	1	2	6	31	2	0	42
WSW	1	0	5	4	1	0	11
W	0	4	4	2	1	0	11
WNW	1	0	4	1	0	0	6
NW	0	3	5	3	0	0	11
NNW	0	5	0	3	0	0	8
Variable	0	0	0	0	0	0	0
Total	7	30	53	106	40	1	237

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: 5

Byron Nuclear Station

Period of Record: April - June 2002

Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	1	1	0	0	0	4
NNE	1	1	0	0	0	0	2
NE	0	0	0	0	0	0	0
ENE	2	0	0	0	0	0	2
E	0	0	0	1	0	0	1
ESE	0	0	0	1	0	1	2
SE	1	0	0	1	1	0	3
SSE	1	0	0	0	0	0	1
S	1	0	2	4	1	0	8
SSW	0	1	1	4	0	0	6
SW	0	1	2	2	0	0	5
WSW	0	0	1	4	0	0	5
W	0	0	1	0	0	0	1
WNW	0	0	1	0	0	0	1
NW	0	0	3	0	0	0	3
NNW	1	2	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	9	6	12	17	2	1	47

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: 5

Byron Nuclear Station

Period of Record: July - September 2002

Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	0	9	0	0	0	9
NE	0	1	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	3	2	1	0	0	6
ESE	0	4	0	0	0	0	4
SE	0	5	0	0	0	0	5
SSE	0	0	0	0	0	0	0
S	0	0	3	1	0	0	4
SSW	0	1	1	3	0	0	5
SW	0	2	8	2	0	0	12
WSW	0	0	9	0	0	0	9
W	0	1	1	0	0	0	2
WNW	0	2	0	2	0	0	4
NW	0	0	2	0	0	0	2
NNW	0	2	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	22	35	9	0	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: July - September 2002

Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	3	0	0	0	9
NNE	0	4	4	0	0	0	8
NE	0	0	1	0	0	0	1
ENE	0	1	0	0	0	0	1
E	0	10	5	0	0	0	15
ESE	0	5	0	0	0	0	5
SE	0	2	4	0	0	0	6
SSE	0	4	2	0	0	0	6
S	0	3	4	1	0	0	8
SSW	0	3	5	13	0	0	21
SW	0	3	3	2	0	0	8
WSW	0	5	6	0	0	0	11
W	0	4	4	0	0	0	8
WNW	0	4	0	1	0	0	5
NW	0	4	2	0	0	0	6
NNW	0	3	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	61	43	17	0	0	121

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 2002

Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	2	0	0	0	7
NNE	0	6	3	0	0	0	9
NE	0	6	1	0	0	0	7
ENE	0	4	1	0	0	0	5
E	0	15	5	0	0	0	20
ESE	0	16	3	0	0	0	19
SE	0	8	1	0	0	0	9
SSE	0	4	7	0	0	0	11
S	0	3	6	1	0	0	10
SSW	0	8	10	2	0	0	20
SW	1	15	9	2	0	0	27
WSW	0	9	5	1	0	0	15
W	1	3	9	1	0	0	14
WNW	1	3	0	1	0	0	5
NW	0	7	1	0	0	0	8
NNW	0	6	1	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	4	117	64	8	0	0	193

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 2002
 Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	7	27	19	0	0	0	53
NNE	5	26	14	0	0	0	45
NE	8	10	3	1	0	0	22
ENE	5	19	24	1	0	0	49
E	9	35	12	0	0	0	56
ESE	3	25	1	0	0	0	29
SE	5	12	1	2	0	0	20
SSE	3	33	19	1	0	0	56
S	3	21	16	10	0	0	50
SSW	5	21	25	8	1	0	60
SW	5	36	36	7	0	0	84
WSW	4	24	24	2	0	0	54
W	12	21	12	2	0	0	47
WNW	5	11	7	2	0	0	25
NW	6	12	3	0	0	0	21
NNW	8	18	6	0	0	0	32
Variable	0	0	0	0	0	0	0
Total	93	351	222	36	1	0	703

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 2002

Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	10	6	0	0	0	18
NNE	10	7	3	0	0	0	20
NE	5	4	11	0	0	0	20
ENE	5	18	19	0	0	0	42
E	8	36	5	0	0	0	49
ESE	6	11	2	0	0	0	19
SE	5	11	3	0	0	0	19
SSE	5	20	16	0	0	0	41
S	7	28	38	3	0	0	76
SSW	5	27	19	15	0	0	66
SW	10	37	16	2	0	0	65
WSW	9	15	3	0	0	0	27
W	9	8	1	0	0	0	18
WNW	11	9	4	0	0	0	24
NW	10	13	5	0	0	0	28
NNW	13	18	1	0	0	0	32
Variable	0	0	0	0	0	0	0
Total	120	272	152	20	0	0	564

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 2002

Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	5	4	0	0	0	0	9
NE	3	1	0	0	0	0	4
ENE	1	10	1	0	0	0	12
E	8	35	3	0	0	0	46
ESE	13	22	1	0	0	0	36
SE	10	32	1	0	0	0	43
SSE	1	22	1	0	0	0	24
S	4	33	7	0	0	0	44
SSW	20	12	0	0	0	0	32
SW	19	0	0	0	0	0	19
WSW	12	1	0	0	0	0	13
W	12	0	0	0	0	0	12
WNW	11	1	0	0	0	0	12
NW	11	1	0	0	0	0	12
NNW	6	7	0	0	0	0	13
Variable	0	0	0	0	0	0	0
Total	137	181	14	0	0	0	332

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 2002
 Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	0	0	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	7	5	0	0	0	0	12
ESE	4	11	0	0	0	0	15
SE	4	30	1	0	0	0	35
SSE	8	19	0	0	0	0	27
S	27	12	0	0	0	0	39
SSW	9	8	0	0	0	0	17
SW	7	0	0	0	0	0	7
WSW	7	0	0	0	0	0	7
W	12	0	0	0	0	0	12
WNW	14	0	0	0	0	0	14
NW	16	1	0	0	0	0	17
NNW	10	0	0	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	128	86	1	0	0	0	215

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 2002

Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	1	0	0	1
NNE	0	0	7	1	0	0	8
NE	0	0	1	0	0	0	1
ENE	0	0	1	0	0	0	1
E	0	1	3	0	1	0	5
ESE	0	0	5	0	0	0	5
SE	0	2	1	0	0	0	3
SSE	0	0	2	0	0	0	2
S	0	0	0	2	0	0	2
SSW	0	0	3	3	2	0	8
SW	0	0	5	6	2	0	13
WSW	0	0	5	1	0	0	6
W	0	0	1	0	0	0	1
WNW	0	2	1	0	2	0	5
NW	0	0	1	2	0	0	3
NNW	0	0	2	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	5	38	16	7	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: 1

Byron Nuclear Station

Period of Record: July - September 2002

Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	7	1	0	0	10
NNE	0	0	5	1	0	0	6
NE	0	0	0	0	0	0	0
ENE	0	1	1	0	0	0	2
E	0	2	10	1	0	0	13
ESE	0	4	4	3	0	0	11
SE	0	2	1	0	0	0	3
SSE	0	2	4	1	0	0	7
S	0	2	0	4	1	0	7
SSW	0	2	3	6	9	0	20
SW	0	1	3	5	1	0	10
WSW	0	4	4	3	0	0	11
W	0	3	3	1	0	0	7
WNW	0	0	0	0	1	0	1
NW	0	5	4	0	1	0	10
NNW	0	1	2	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	31	51	26	13	0	121

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: July - September 2002
 Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	3	0	0	0	6
NNE	0	1	4	3	0	0	8
NE	0	3	3	0	0	0	6
ENE	0	3	0	1	0	0	4
E	0	13	13	2	1	0	29
ESE	0	6	7	1	0	0	14
SE	0	6	1	0	0	0	7
SSE	0	3	9	4	1	0	17
S	0	2	0	2	0	0	4
SSW	1	3	6	9	2	0	21
SW	0	11	6	8	2	0	27
WSW	0	8	3	5	2	0	18
W	1	0	4	4	0	0	9
WNW	0	2	2	0	1	0	5
NW	0	4	3	0	0	0	7
NNW	0	7	4	0	0	0	11
Variable	0	0	0	0	0	0	0
Total	2	75	68	39	9	0	193

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: July - September 2002
 Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	13	23	8	1	0	47
NNE	3	14	17	11	0	0	45
NE	1	13	6	4	2	0	26
ENE	3	10	6	21	7	0	47
E	2	18	31	9	0	0	60
ESE	3	13	12	2	0	1	31
SE	3	7	4	3	0	1	18
SSE	0	9	20	19	4	0	52
S	1	14	15	14	10	0	54
SSW	3	17	21	15	12	2	70
SW	0	14	23	29	7	0	73
WSW	5	13	14	17	3	0	52
W	3	14	17	8	3	0	45
WNW	5	5	13	2	1	0	26
NW	0	11	6	3	2	0	22
NNW	2	13	11	9	0	0	35
Variable	0	0	0	0	0	0	0
Total	36	198	239	174	52	4	703

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: July - September 2002
 Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	8	10	0	0	21
NNE	1	8	5	7	0	0	21
NE	1	4	7	11	3	0	26
ENE	3	10	2	22	9	0	46
E	0	13	23	11	0	0	47
ESE	0	5	6	5	1	0	17
SE	0	3	2	5	2	0	12
SSE	0	5	8	10	14	0	37
S	1	2	9	23	20	0	55
SSW	0	5	12	33	29	3	82
SW	0	3	11	32	13	0	59
WSW	2	11	23	8	0	0	44
W	0	7	10	3	0	0	20
WNW	1	4	9	7	1	0	22
NW	1	7	8	12	0	0	28
NNW	0	5	12	10	1	0	28
Variable	0	0	0	0	0	0	0
Total	10	95	155	209	93	3	565

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: July - September 2002
 Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	8	0	0	8
NNE	0	1	0	0	0	0	1
NE	0	3	2	2	0	0	7
ENE	0	3	7	8	2	0	20
E	0	13	25	11	0	0	49
ESE	1	1	3	16	5	0	26
SE	0	0	8	26	12	1	47
SSE	0	0	3	9	3	0	15
S	0	1	8	11	13	0	33
SSW	0	1	6	18	5	0	30
SW	0	5	0	10	0	0	15
WSW	0	4	13	11	0	0	28
W	0	7	11	4	0	0	22
WNW	0	1	8	1	0	0	10
NW	0	0	6	3	0	0	9
NNW	0	1	12	2	0	0	15
Variable	0	0	0	0	0	0	0
Total	1	41	112	140	40	1	335

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: July - September 2002
 Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	3	0	0	0	4
NNE	0	2	1	0	0	0	3
NE	0	3	0	0	0	0	3
ENE	0	3	2	1	0	0	6
E	1	5	6	0	0	0	12
ESE	0	1	4	3	7	0	15
SE	0	2	3	16	9	1	31
SSE	1	3	4	5	4	0	17
S	0	4	3	14	13	0	34
SSW	0	2	6	6	0	0	14
SW	2	4	11	11	0	0	28
WSW	1	4	7	3	0	0	15
W	1	3	5	1	0	0	10
WNW	0	2	1	4	0	0	7
NW	0	3	4	3	0	0	10
NNW	0	2	6	7	0	0	15
Variable	0	0	0	0	0	0	0
Total	6	44	66	74	33	1	224

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: October - December 2002

Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	2	0	0	0	2
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	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	1	2	0	0	3
WSW	0	0	1	0	0	0	1
W	0	0	5	0	0	0	5
WNW	0	1	2	0	0	0	3
NW	0	2	2	0	0	0	4
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	3	17	3	0	0	23

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 - December 2002
 Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	3	0	0	0	3
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	1	2	0	0	0	3
SSE	0	0	0	1	0	0	1
S	0	0	1	1	0	0	2
SSW	0	0	3	3	0	0	6
SW	0	1	0	1	0	0	2
WSW	0	1	1	0	0	0	2
W	0	1	4	1	0	0	6
WNW	0	0	3	0	0	0	3
NW	0	3	3	0	0	0	6
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	8	23	7	0	0	38

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 - December 2002
 Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	5	0	0	0	0	5
NNE	0	1	0	0	0	0	1
NE	0	0	1	0	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	3	0	0	0	3
SSE	1	0	0	1	0	0	2
S	0	1	1	1	0	0	3
SSW	0	1	2	3	0	0	6
SW	0	0	3	3	0	0	6
WSW	1	1	2	2	0	0	6
W	0	1	1	1	0	0	3
WNW	0	1	3	0	0	0	4
NW	0	3	2	0	0	0	5
NNW	0	0	4	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	2	14	22	11	0	0	49

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 - December 2002
 Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	7	36	68	4	0	0	115
NNE	11	14	22	0	0	0	47
NE	4	17	22	2	0	0	45
ENE	1	22	19	0	0	0	42
E	3	29	24	0	0	0	56
ESE	0	17	17	15	0	0	49
SE	2	7	5	2	0	0	16
SSE	0	2	10	11	5	0	28
S	2	3	20	9	0	0	34
SSW	0	17	33	21	0	0	71
SW	3	22	58	15	1	0	99
WSW	2	15	17	16	5	0	55
W	7	22	45	60	20	2	156
WNW	8	35	40	11	2	0	96
NW	6	37	58	17	1	0	119
NNW	9	33	41	8	0	0	91
Variable	0	0	0	0	0	0	0
Total	65	328	499	191	34	2	1119

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 - December 2002
 Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	18	8	0	0	0	29
NNE	3	9	3	0	0	0	15
NE	4	12	3	0	0	0	19
ENE	1	6	5	0	0	0	12
E	8	6	1	0	0	0	15
ESE	1	11	2	5	1	0	20
SE	2	15	4	5	0	0	26
SSE	4	14	28	7	0	0	53
S	2	29	25	8	0	0	64
SSW	6	34	25	25	4	0	94
SW	10	28	35	11	0	0	84
WSW	8	35	29	8	0	0	80
W	5	32	32	7	0	0	76
WNW	8	27	14	2	0	0	51
NW	8	32	7	0	0	0	47
NNW	8	13	2	0	0	0	23
Variable	0	0	0	0	0	0	0
Total	81	321	223	78	5	0	708

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 - December 2002
 Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	0	0	1	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	3	4	0	0	0	0	7
E	4	2	0	0	0	0	6
ESE	4	16	4	0	0	0	24
SE	0	19	2	0	0	0	21
SSE	7	9	1	0	0	0	17
S	4	23	4	0	0	0	31
SSW	6	14	0	0	0	0	20
SW	5	4	0	0	0	0	9
WSW	8	2	0	0	0	0	10
W	14	3	0	0	0	0	17
WNW	9	8	0	0	0	0	17
NW	11	8	0	0	0	0	19
NNW	4	3	0	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	80	115	12	0	0	0	207

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 - December 2002
 Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	1	0	0	0	0	0	1
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	6	2	0	0	0	8
SE	0	2	0	0	0	0	2
SSE	0	5	0	0	0	0	5
S	0	17	0	0	0	0	17
SSW	1	0	0	0	0	0	1
SW	0	0	0	0	0	0	0
WSW	1	0	0	0	0	0	1
W	2	0	0	0	0	0	2
WNW	5	0	0	0	0	0	5
NW	1	0	0	0	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	13	30	2	0	0	0	45

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 - December 2002
 Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	2	0	0	0	2
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	0	0
SSW	0	0	0	1	0	0	1
SW	0	0	0	0	2	0	2
WSW	0	0	0	0	0	0	0
W	0	0	2	4	0	0	6
WNW	0	2	0	2	0	0	4
NW	0	0	1	2	0	0	3
NNW	0	0	1	2	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	2	7	11	3	0	23

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: October - December 2002

Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)

Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	2	0	0	3
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	1	1	0	0	2
SSE	0	0	0	1	0	0	1
S	0	0	0	1	1	0	2
SSW	0	2	0	6	0	0	8
SW	0	0	0	0	1	0	1
WSW	0	2	0	0	0	0	2
W	0	0	1	4	1	0	6
WNW	0	1	0	2	0	0	3
NW	0	1	1	3	0	0	5
NNW	0	0	0	4	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	6	5	24	3	0	38

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: October - December 2002
 Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	1	0	0	0	3
NNE	0	0	1	0	0	0	1
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	2	1	0	0	3
SSE	0	0	0	1	0	0	1
S	1	0	1	1	1	0	4
SSW	0	0	1	3	3	0	7
SW	0	1	1	1	3	0	6
WSW	0	1	0	1	2	0	4
W	0	1	0	2	1	0	4
WNW	0	0	2	2	0	0	4
NW	0	4	0	2	0	0	6
NNW	0	1	2	2	0	0	5
Variable	0	0	0	0	0	0	0
Total	1	10	11	17	10	0	49

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: October - December 2002
 Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	21	42	45	8	0	117
NNE	3	24	22	24	1	0	74
NE	0	11	10	26	4	0	51
ENE	0	5	21	11	1	0	38
E	0	6	33	21	6	3	69
ESE	2	3	3	12	12	8	40
SE	0	4	4	4	1	0	13
SSE	0	0	1	8	7	8	24
S	1	0	5	15	8	5	34
SSW	1	2	23	16	22	2	66
SW	3	7	31	40	17	3	101
WSW	0	7	13	18	2	1	41
W	0	9	19	52	48	20	148
WNW	2	12	26	33	13	8	94
NW	2	16	32	37	13	9	109
NNW	3	18	38	42	3	1	105
Variable	0	0	0	0	0	0	0
Total	18	145	323	404	166	68	1124

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: 1

Byron Nuclear Station

Period of Record: October - December 2002
 Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	3	19	4	0	28
NNE	2	2	14	13	0	0	31
NE	2	4	9	8	0	0	23
ENE	0	7	3	4	3	0	17
E	1	5	4	2	0	0	12
ESE	1	2	2	2	2	4	13
SE	2	1	7	10	3	5	28
SSE	0	2	0	3	13	5	23
S	1	1	5	21	24	2	54
SSW	1	1	20	40	23	15	100
SW	2	0	11	29	29	11	82
WSW	1	2	21	41	8	0	73
W	1	0	28	44	20	0	93
WNW	0	4	17	31	3	1	56
NW	1	4	14	26	5	0	50
NNW	0	1	19	10	0	0	30
Variable	0	0	0	0	0	0	0
Total	15	38	177	303	137	43	713

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: October - December 2002
 Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	5	4	0	0	10
NNE	0	0	1	2	0	0	3
NE	1	1	1	0	0	0	3
ENE	1	5	3	0	0	0	9
E	1	3	0	0	0	0	4
ESE	0	5	3	6	5	0	19
SE	0	0	2	4	5	0	11
SSE	0	2	1	2	6	0	11
S	0	1	4	9	4	0	18
SSW	0	0	2	12	5	0	19
SW	0	1	5	15	0	0	21
WSW	0	1	11	6	0	0	18
W	1	4	3	4	0	0	12
WNW	0	1	7	3	0	0	11
NW	0	1	9	12	0	0	22
NNW	0	1	9	10	0	0	20
Variable	0	0	0	0	0	0	0
Total	4	27	66	89	25	0	211

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: October - December 2002
 Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
 Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	0	1
NNE	0	1	1	0	0	0	2
NE	0	0	0	0	0	0	0
ENE	0	2	0	0	0	0	2
E	0	2	0	0	0	0	2
ESE	0	1	0	0	2	0	3
SE	0	0	0	3	1	0	4
SSE	0	0	0	5	1	0	6
S	0	0	0	0	3	0	3
SSW	0	0	2	4	5	0	11
SW	0	0	0	6	0	0	6
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	1	0	0	0	1
NW	0	0	1	0	0	0	1
NNW	0	0	2	2	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	6	8	20	12	0	46

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

APPENDIX III

2002 REMP SAMPLE RESULTS

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BYRON

1.0 INTRODUCTION

The following constitutes the 2002 Monthly 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. Missing entries indicate analyses that are not completed and the results will appear in subsequent reports.

Missing tables indicate sample media scheduled for collection at a future date. Tables will appear in subsequent reports.

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/Nb-95, I-131, Ba/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 $x \pm 2s; 2TPU$, 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

Sample Type	Location Code	Collection Date	Comments
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None for 2002.

BYRON

2.0 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Expected Collection Date	Reason
SW	BY-29	01-02-02	No sample; water frozen.
SW	BY-29	01-08-02	No sample; water frozen.
SW	BY-29	01-15-02	No sample; water frozen.
SW	BY-29	01-23-02	No sample; water frozen.
SW	BY-29	01-29-02	No sample; water frozen.
SW	BY-29	02-05-02	No sample; water frozen.
SW	BY-29	02-12-02	No sample; water frozen.
SW	BY-29	03-05-02	No sample; water frozen.
SW	BY-29	12-10-02	No sample; water frozen.
SW	BY-29	12-17-02	No sample; water frozen.

BYRON

3.0 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
A/I	BY-21	02-19-02	Power found off; samples appeared viable; used 60 CFH as FL _A for calculations.
A	BY-21	02-25-02	Volume slightly low due to short power outage on 02-19-02.
A/I	BY-23	11-12-02	Backup collector found vacuum gauge not working.

BYRON

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/m³
 Units: 10⁻² pCi/m³

BY-08 (C) Leaf River							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-02-02	286	3.5 ± 0.4; 0.7	-	07-02-02	286	2.2 ± 0.4; 0.5	-
01-08-02	241	4.7 ± 0.5; 1.0	-0.0 ± 0.5; 0.5	07-09-02	288	2.8 ± 0.4; 0.6	-0.3 ± 0.5; 0.5
01-15-02	284	2.6 ± 0.4; 0.6	-	07-16-02	282	3.1 ± 0.4; 0.7	-
01-23-02	327	2.8 ± 0.4; 0.6	-0.2 ± 0.5; 0.5	07-23-02	286	3.3 ± 0.4; 0.7	0.0 ± 0.4; 0.4
01-29-02	245	3.5 ± 0.4; 0.8	-	07-30-02	285	2.1 ± 0.3; 0.5	-
02-05-02	285	2.8 ± 0.4; 0.6	-0.3 ± 0.5; 0.5	08-06-02	286	2.6 ± 0.3; 0.6	-0.1 ± 0.4; 0.4
02-12-02	284	4.0 ± 0.4; 0.9	-	08-13-02	286	2.5 ± 0.4; 0.6	-
02-19-02	284	1.9 ± 0.3; 0.5	0.4 ± 0.5; 0.5	08-20-02	285	2.3 ± 0.3; 0.5	-0.2 ± 0.4; 0.4
02-25-02	250	1.5 ± 0.4; 0.5	-	08-27-02	285	3.1 ± 0.4; 0.7	-
03-05-02	322	2.5 ± 0.3; 0.5	0.0 ± 0.5; 0.5	09-03-02	285	3.0 ± 0.4; 0.7	0.6 ± 0.4; 0.4
03-12-02	284	3.8 ± 0.4; 0.8	-	09-10-02	285	4.0 ± 0.4; 0.8	-
03-19-02	285	2.3 ± 0.3; 0.5	-0.5 ± 0.4; 0.4	09-17-02	284	3.1 ± 0.4; 0.7	0.1 ± 0.4; 0.4
03-26-02	285	2.7 ± 0.4; 0.6	-	09-24-02	286	2.2 ± 0.3; 0.5	-
1st Qtr. Mean±s.d.		3.0 ± 0.9	-0.1± 0.3	3rd Qtr. Mean±s.d.		2.8 ± 0.6	0.0± 0.3
04-02-02	285	2.3 ± 0.4; 0.6	-0.0 ± 0.5; 0.5	10-01-02	285	4.3 ± 0.4; 0.9	-0.1 ± 0.4; 0.4
04-09-02	285	2.3 ± 0.4; 0.6	-	10-08-02	286	2.0 ± 0.3; 0.5	-
04-16-02	288	2.4 ± 0.4; 0.6	-0.4 ± 0.5; 0.5	10-15-02	284	3.6 ± 0.4; 0.8	-0.6 ± 0.4; 0.4
04-23-02	280	1.6 ± 0.3; 0.4	-	10-22-02	287	2.5 ± 0.3; 0.6	-
04-30-02	287	1.9 ± 0.3; 0.4	0.2 ± 0.4; 0.4	10-29-02	286	1.8 ± 0.4; 0.5	-0.2 ± 0.3; 0.3
05-07-02	285	2.0 ± 0.3; 0.5	-	11-05-02	285	4.2 ± 0.4; 0.9	-
05-14-02	284	1.8 ± 0.3; 0.4	-0.1 ± 0.4; 0.4	11-12-02	282	4.7 ± 0.5; 1.0	0.0 ± 0.4; 0.4
05-21-02	286	1.6 ± 0.3; 0.4	-	11-19-02	280	4.7 ± 0.4; 1.0	-
05-28-02	296	1.7 ± 0.3; 0.4	-0.2 ± 0.4; 0.4	11-26-02	285	2.4 ± 0.3; 0.5	-0.2 ± 0.4; 0.4
06-04-02	273	2.3 ± 0.3; 0.5	-	12-03-02	281	2.9 ± 0.3; 0.6	-
06-12-02	325	1.7 ± 0.3; 0.4	0.3 ± 0.3; 0.3	12-10-02	285	3.6 ± 0.4; 0.8	-0.0 ± 0.4; 0.4
06-18-02	245	1.4 ± 0.3; 0.4	-	12-17-02	285	5.2 ± 0.4; 1.0	-
06-25-02	283	3.7 ± 0.4; 0.8	0.1 ± 0.4; 0.4	12-23-02	244	2.5 ± 0.4; 0.6	0.1 ± 0.4; 0.4
2nd Qtr. Mean±s.d.		2.1 ± 0.6	-0.0± 0.2	12-30-02	288	4.6 ± 0.5; 0.9	-
				4th Qtr. Mean±s.d.		3.5 ± 1.1	-0.1± 0.2

^a Volume based on two week collection period.

BYRON

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/m³
Units: 10⁻² pCi/m³

BY-21 Byron Nearsite N							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-02-02	287	2.4 ± 0.3 ; 0.5	-	07-02-02	289	2.4 ± 0.4 ; 0.6	-
01-08-02	242	4.6 ± 0.5 ; 1.0	-0.0 ± 0.5 ; 0.5	07-09-02	285	2.9 ± 0.4 ; 0.7	0.5 ± 0.4 ; 0.4
01-15-02	283	2.2 ± 0.4 ; 0.5	-	07-16-02	283	2.9 ± 0.4 ; 0.7	-
01-23-02	328	2.8 ± 0.4 ; 0.6	0.6 ± 0.4 ; 0.4	07-23-02	287	3.5 ± 0.4 ; 0.8	0.4 ± 0.4 ; 0.4
01-29-02	243	3.1 ± 0.4 ; 0.7	-	07-30-02	284	2.2 ± 0.3 ; 0.5	-
02-05-02	286	2.8 ± 0.4 ; 0.6	0.2 ± 0.5 ; 0.5	08-06-02	287	2.4 ± 0.3 ; 0.5	0.6 ± 0.4 ; 0.4
02-12-02	286	4.1 ± 0.4 ; 0.9	-	08-13-02	285	2.6 ± 0.4 ; 0.6	-
02-19-02	284 ^b	2.0 ± 0.3 ; 0.5	0.3 ± 0.5 ; 0.5	08-20-02	284	2.2 ± 0.3 ; 0.5	0.5 ± 0.4 ; 0.4
02-25-02	243 ^c	1.1 ± 0.4 ; 0.4	-	08-27-02	287	2.1 ± 0.4 ; 0.5	-
03-05-02	324	2.4 ± 0.3 ; 0.5	-0.5 ± 0.5 ; 0.5	09-03-02	284	2.5 ± 0.4 ; 0.6	-0.2 ± 0.3 ; 0.3
03-12-02	285	4.2 ± 0.4 ; 0.9	-	09-10-02	285	3.2 ± 0.4 ; 0.7	-
03-19-02	284	2.5 ± 0.3 ; 0.6	0.3 ± 0.4 ; 0.4	09-17-02	284	2.9 ± 0.4 ; 0.7	0.3 ± 0.3 ; 0.3
03-26-02	285	2.8 ± 0.4 ; 0.6	-	09-24-02	285	2.1 ± 0.3 ; 0.5	-
1st Qtr. Mean±s.d.		2.9 ± 1.0	0.1± 0.4	3rd Qtr. Mean±s.d.		2.6 ± 0.5	0.3± 0.3
04-02-02	287	1.9 ± 0.4 ; 0.5	-0.2 ± 0.5 ; 0.5	10-01-02	288	4.1 ± 0.4 ; 0.8	-0.1 ± 0.3 ; 0.3
04-09-02	285	2.1 ± 0.4 ; 0.5	-	10-08-02	285	1.9 ± 0.3 ; 0.5	-
04-16-02	286	2.7 ± 0.4 ; 0.6	-0.1 ± 0.5 ; 0.5	10-15-02	282	3.2 ± 0.4 ; 0.7	-0.1 ± 0.3 ; 0.3
04-23-02	280	1.8 ± 0.3 ; 0.5	-	10-22-02	286	2.3 ± 0.3 ; 0.5	-
04-30-02	287	1.9 ± 0.4 ; 0.5	0.5 ± 0.5 ; 0.5	10-29-02	288	1.6 ± 0.3 ; 0.5	0.0 ± 0.4 ; 0.4
05-07-02	279	1.8 ± 0.3 ; 0.5	-	11-05-02	283	4.1 ± 0.4 ; 0.8	-
05-14-02	285	1.8 ± 0.3 ; 0.4	-0.1 ± 0.4 ; 0.4	11-12-02	291	4.4 ± 0.5 ; 0.9	-0.6 ± 0.4 ; 0.4
05-21-02	286	1.7 ± 0.3 ; 0.5	-	11-19-02	281	3.4 ± 0.4 ; 0.7	-
05-28-02	296	1.6 ± 0.3 ; 0.4	0.0 ± 0.4 ; 0.4	11-26-02	284	2.3 ± 0.3 ; 0.5	-0.2 ± 0.4 ; 0.4
06-04-02	272	1.7 ± 0.3 ; 0.4	-	12-03-02	286	2.8 ± 0.3 ; 0.6	-
06-12-02	325	1.7 ± 0.3 ; 0.4	0.0 ± 0.4 ; 0.4	12-10-02	285	3.4 ± 0.4 ; 0.7	-0.1 ± 0.4 ; 0.4
06-18-02	245	1.3 ± 0.3 ; 0.4	-	12-17-02	286	4.4 ± 0.4 ; 0.9	-
06-25-02	283	3.5 ± 0.4 ; 0.7	0.1 ± 0.4 ; 0.4	12-23-02	244	2.4 ± 0.4 ; 0.6	0.2 ± 0.4 ; 0.4
2nd Qtr. Mean±s.d.		2.0 ± 0.6	0.1± 0.2	12-30-02	288	4.5 ± 0.4 ; 0.9	-
				4th Qtr. Mean±s.d.		3.2 ± 1.0	-0.1± 0.3

* Volume based on two week collection period.

^b Power found off; samples viable.

^c Volume slightly low due to short power outage on 02-19-02.

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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/m³
 Units: 10⁻² pCi/m³

BY-22 Byron Nearsite ESE							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-02-02	286	3.1 ± 0.3 ; 0.7	-	07-02-02	287	2.4 ± 0.4 ; 0.6	-
01-08-02	242	3.9 ± 0.4 ; 0.8	0.6 ± 0.4 ; 0.4	07-09-02	287	2.2 ± 0.3 ; 0.5	0.4 ± 0.4 ; 0.4
01-15-02	283	2.1 ± 0.4 ; 0.5	-	07-16-02	283	2.1 ± 0.4 ; 0.5	-
01-23-02	328	2.9 ± 0.4 ; 0.6	0.0 ± 0.4 ; 0.4	07-23-02	287	2.8 ± 0.4 ; 0.6	0.1 ± 0.4 ; 0.4
01-29-02	243	3.4 ± 0.4 ; 0.7	-	07-30-02	284	1.9 ± 0.3 ; 0.5	-
02-05-02	286	2.8 ± 0.4 ; 0.6	0.4 ± 0.5 ; 0.5	08-06-02	287	2.7 ± 0.3 ; 0.6	0.0 ± 0.4 ; 0.4
02-12-02	284	3.9 ± 0.4 ; 0.8	-	08-13-02	285	1.9 ± 0.3 ; 0.5	-
02-19-02	283	1.7 ± 0.3 ; 0.4	-0.6 ± 0.4 ; 0.4	08-20-02	284	2.2 ± 0.3 ; 0.5	0.1 ± 0.3 ; 0.3
02-25-02	248	1.3 ± 0.4 ; 0.4	-	08-27-02	287	2.1 ± 0.4 ; 0.5	-
03-05-02	324	2.1 ± 0.3 ; 0.5	0.3 ± 0.4 ; 0.5	09-03-02	284	2.2 ± 0.4 ; 0.5	0.6 ± 0.3 ; 0.3
03-12-02	285	3.5 ± 0.4 ; 0.7	-	09-10-02	285	2.8 ± 0.4 ; 0.6	-
03-19-02	284	2.5 ± 0.3 ; 0.6	0.3 ± 0.5 ; 0.5	09-17-02	284	2.5 ± 0.4 ; 0.6	0.1 ± 0.4 ; 0.4
03-26-02	285	2.8 ± 0.4 ; 0.6	-	09-24-02	285	2.1 ± 0.3 ; 0.5	-
1st Qtr. Mean±s.d.		2.8 ± 0.8	0.2 ± 0.4	3rd Qtr. Mean±s.d.		2.3 ± 0.3	0.2 ± 0.2
04-02-02	285	2.3 ± 0.4 ; 0.6	0.4 ± 0.4 ; 0.4	10-01-02	286	4.2 ± 0.4 ; 0.8	0.4 ± 0.4 ; 0.4
04-09-02	285	2.2 ± 0.4 ; 0.5	-	10-08-02	286	2.0 ± 0.3 ; 0.5	-
04-16-02	286	2.3 ± 0.4 ; 0.5	-0.0 ± 0.4 ; 0.4	10-15-02	282	3.4 ± 0.4 ; 0.7	0.0 ± 0.4 ; 0.4
04-23-02	280	1.7 ± 0.3 ; 0.5	-	10-22-02	286	2.5 ± 0.3 ; 0.6	-
04-30-02	287	1.6 ± 0.3 ; 0.5	-0.1 ± 0.5 ; 0.5	10-29-02	288	1.9 ± 0.4 ; 0.5	-0.2 ± 0.4 ; 0.4
05-07-02	285	2.0 ± 0.4 ; 0.5	-	11-05-02	283	3.9 ± 0.4 ; 0.8	-
05-14-02	285	1.5 ± 0.3 ; 0.4	-0.2 ± 0.5 ; 0.5	11-12-02	291	4.2 ± 0.4 ; 0.9	0.2 ± 0.3 ; 0.3
05-21-02	286	1.5 ± 0.3 ; 0.4	-	11-19-02	281	3.4 ± 0.4 ; 0.7	-
05-28-02	296	1.5 ± 0.3 ; 0.4	0.1 ± 0.4 ; 0.4	11-26-02	284	2.0 ± 0.3 ; 0.5	0.1 ± 0.3 ; 0.3
06-04-02	272	2.1 ± 0.3 ; 0.5	-	12-03-02	286	2.3 ± 0.3 ; 0.5	-
06-12-02	325	1.5 ± 0.3 ; 0.4	-0.1 ± 0.5 ; 0.5	12-10-02	285	3.2 ± 0.4 ; 0.7	0.2 ± 0.4 ; 0.4
06-18-02	245	1.2 ± 0.3 ; 0.4	-	12-17-02	286	4.5 ± 0.4 ; 0.9	-
06-25-02	283	3.4 ± 0.4 ; 0.7	-0.1 ± 0.4 ; 0.4	12-23-02	244	2.3 ± 0.4 ; 0.6	0.3 ± 0.4 ; 0.4
2nd Qtr. Mean±s.d.		1.9 ± 0.6	-0.0 ± 0.2	12-30-02	286	4.3 ± 0.4 ; 0.9	-
				4th Qtr. Mean±s.d.		3.1 ± 1.0	0.2 ± 0.2

^a Volume based on two week collection period.

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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/m³
 Units: 10⁻² pCi/m³

BY-23 Byron Nearsite S							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-02-02	291	3.3 ± 0.4 ; 0.7	-	07-02-02	287	2.0 ± 0.4 ; 0.5	-
01-08-02	244	4.2 ± 0.4 ; 0.9	0.1 ± 0.5 ; 0.5	07-09-02	287	3.0 ± 0.4 ; 0.7	-0.2 ± 0.4 ; 0.4
01-15-02	283	2.2 ± 0.4 ; 0.5	-	07-16-02	283	2.4 ± 0.4 ; 0.6	-
01-23-02	328	2.7 ± 0.3 ; 0.6	0.3 ± 0.4 ; 0.4	07-23-02	287	3.1 ± 0.4 ; 0.7	0.2 ± 0.4 ; 0.4
01-29-02	243	2.9 ± 0.4 ; 0.6	-	07-30-02	284	2.1 ± 0.3 ; 0.5	-
02-05-02	286	3.1 ± 0.4 ; 0.7	-0.0 ± 0.5 ; 0.5	08-06-02	287	2.5 ± 0.3 ; 0.5	0.2 ± 0.4 ; 0.4
02-12-02	289	3.3 ± 0.4 ; 0.7	-	08-13-02	285	2.4 ± 0.4 ; 0.6	-
02-19-02	288	1.7 ± 0.3 ; 0.4	0.4 ± 0.4 ; 0.4	08-20-02	284	2.0 ± 0.3 ; 0.5	0.1 ± 0.4 ; 0.4
02-25-02	248	1.3 ± 0.4 ; 0.4	-	08-27-02	287	2.0 ± 0.3 ; 0.5	-
03-05-02	324	2.0 ± 0.3 ; 0.5	-0.4 ± 0.5 ; 0.5	09-03-02	284	2.5 ± 0.4 ; 0.6	-0.6 ± 0.4 ; 0.4
03-12-02	285	3.3 ± 0.4 ; 0.7	-	09-10-02	285	3.1 ± 0.4 ; 0.7	-
03-19-02	289	2.3 ± 0.3 ; 0.5	0.3 ± 0.5 ; 0.5	09-17-02	284	2.3 ± 0.4 ; 0.6	-0.3 ± 0.3 ; 0.3
03-26-02	285	2.9 ± 0.4 ; 0.6	-	09-24-02	285	2.0 ± 0.3 ; 0.5	-
1st Qtr. Mean±s.d.		2.7 ± 0.8	0.1 ± 0.3	3rd Qtr. Mean±s.d.		2.4 ± 0.4	-0.1 ± 0.3
04-02-02	285	1.7 ± 0.4 ; 0.5	0.5 ± 0.4 ; 0.4	10-01-02	286	4.2 ± 0.4 ; 0.8	0.1 ± 0.4 ; 0.4
04-09-02	285	1.9 ± 0.3 ; 0.5	-	10-08-02	286	1.8 ± 0.3 ; 0.4	-
04-16-02	286	2.5 ± 0.4 ; 0.6	0.2 ± 0.4 ; 0.4	10-15-02	282	3.3 ± 0.4 ; 0.7	0.2 ± 0.4 ; 0.4
04-23-02	280	1.9 ± 0.4 ; 0.5	-	10-22-02	286	2.6 ± 0.3 ; 0.6	-
04-30-02	292	1.9 ± 0.3 ; 0.5	0.2 ± 0.5 ; 0.5	10-29-02	288	1.4 ± 0.3 ; 0.4	-0.1 ± 0.4 ; 0.4
05-07-02	285	2.0 ± 0.3 ; 0.5	-	11-05-02	283	4.1 ± 0.4 ; 0.8	-
05-14-02	290	1.3 ± 0.3 ; 0.4	-0.4 ± 0.4 ; 0.4	11-12-02	297 ^b	4.5 ± 0.5 ; 0.9	0.3 ± 0.4 ; 0.4
05-21-02	286	1.8 ± 0.3 ; 0.5	-	11-19-02	285	3.2 ± 0.4 ; 0.7	-
05-28-02	296	1.6 ± 0.3 ; 0.4	0.0 ± 0.4 ; 0.4	11-26-02	284	2.1 ± 0.3 ; 0.5	0.1 ± 0.3 ; 0.3
06-04-02	272	2.2 ± 0.3 ; 0.5	-	12-03-02	286	2.5 ± 0.3 ; 0.6	-
06-12-02	326	1.8 ± 0.3 ; 0.4	-0.0 ± 0.4 ; 0.4	12-10-02	290	2.8 ± 0.4 ; 0.6	0.5 ± 0.4 ; 0.4
06-18-02	245	1.3 ± 0.3 ; 0.4	-	12-17-02	286	4.4 ± 0.4 ; 0.9	-
06-25-02	283	3.7 ± 0.4 ; 0.8	-0.3 ± 0.4 ; 0.4	12-23-02	244	2.1 ± 0.4 ; 0.5	-0.1 ± 0.4 ; 0.4
2nd Qtr. Mean±s.d.		2.0 ± 0.6	0.0 ± 0.3	12-30-02	286	4.9 ± 0.5 ; 1.0	-
				4th Qtr. Mean±s.d.		3.1 ± 1.1	0.1 ± 0.2

^a Volume based on two week collection period.

^b Backup collector found vacuum gauge not working.

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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/m³
 Units: 10⁻² pCi/m³

BY-24 Byron Nearsite SW							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-02-02	286	3.2 ± 0.4; 0.7	-	07-02-02	287	2.1 ± 0.4; 0.5	-
01-08-02	244	4.2 ± 0.4; 0.9	0.1 ± 0.4; 0.4	07-09-02	287	2.2 ± 0.4; 0.5	0.1 ± 0.5; 0.5
01-15-02	283	2.3 ± 0.4; 0.6	-	07-16-02	284	2.4 ± 0.4; 0.6	-
01-23-02	328	3.3 ± 0.4; 0.7	-0.0 ± 0.4; 0.4	07-23-02	287	2.7 ± 0.4; 0.6	0.1 ± 0.4; 0.4
01-29-02	243	3.3 ± 0.4; 0.7	-	07-30-02	284	2.0 ± 0.3; 0.5	-
02-05-02	287	2.8 ± 0.4; 0.6	0.6 ± 0.5; 0.5	08-06-02	287	2.5 ± 0.3; 0.5	0.4 ± 0.4; 0.4
02-12-02	284	4.0 ± 0.4; 0.8	-	08-13-02	285	1.9 ± 0.3; 0.5	-
02-19-02	283	1.6 ± 0.3; 0.4	-0.1 ± 0.4; 0.4	08-20-02	284	1.7 ± 0.3; 0.4	0.1 ± 0.4; 0.4
02-25-02	248	1.4 ± 0.4; 0.4	-	08-27-02	287	1.9 ± 0.3; 0.5	-
03-05-02	324	2.4 ± 0.3; 0.5	-0.3 ± 0.5; 0.5	09-03-02	285	2.5 ± 0.4; 0.6	-0.4 ± 0.4; 0.4
03-12-02	285	3.6 ± 0.4; 0.7	-	09-10-02	285	2.7 ± 0.4; 0.6	-
03-19-02	284	2.5 ± 0.3; 0.6	0.5 ± 0.5; 0.5	09-17-02	284	2.2 ± 0.4; 0.5	0.2 ± 0.3; 0.3
03-26-02	285	2.9 ± 0.4; 0.6	-	09-24-02	285	2.1 ± 0.3; 0.5	-
1st Qtr. Mean±s.d.		2.9 ± 0.8	0.1 ± 0.3	3rd Qtr. Mean±s.d.		2.2 ± 0.3	0.1 ± 0.3
04-02-02	285	1.7 ± 0.4; 0.5	0.1 ± 0.5; 0.5	10-01-02	286	4.3 ± 0.4; 0.9	-0.1 ± 0.4; 0.4
04-09-02	285	2.3 ± 0.4; 0.5	-	10-08-02	286	1.6 ± 0.3; 0.4	-
04-16-02	286	2.2 ± 0.4; 0.5	-0.0 ± 0.4; 0.4	10-15-02	282	3.3 ± 0.4; 0.7	-0.2 ± 0.4; 0.4
04-23-02	280	2.0 ± 0.4; 0.5	-	10-22-02	286	2.5 ± 0.3; 0.6	-
04-30-02	287	1.9 ± 0.3; 0.5	0.0 ± 0.5; 0.5	10-29-02	288	2.0 ± 0.4; 0.5	0.1 ± 0.3; 0.3
05-07-02	285	1.9 ± 0.3; 0.5	-	11-05-02	283	3.7 ± 0.4; 0.8	-
05-14-02	285	1.7 ± 0.3; 0.4	-0.1 ± 0.5; 0.5	11-12-02	292	5.2 ± 0.5; 1.0	0.0 ± 0.4; 0.4
05-21-02	286	1.4 ± 0.3; 0.4	-	11-19-02	281	3.3 ± 0.4; 0.7	-
05-28-02	296	1.2 ± 0.3; 0.3	-0.5 ± 0.4; 0.4	11-26-02	284	2.2 ± 0.3; 0.5	-0.5 ± 0.3; 0.3
06-04-02	272	1.8 ± 0.3; 0.4	-	12-03-02	286	2.5 ± 0.3; 0.6	-
06-12-02	326	1.7 ± 0.3; 0.4	0.3 ± 0.4; 0.4	12-10-02	285	3.4 ± 0.4; 0.7	-0.0 ± 0.4; 0.4
06-18-02	245	1.3 ± 0.3; 0.4	-	12-17-02	286	4.5 ± 0.4; 0.9	-
06-25-02	283	3.4 ± 0.4; 0.7	0.4 ± 0.4; 0.4	12-23-02	244	2.4 ± 0.4; 0.6	-0.1 ± 0.4; 0.4
2nd Qtr. Mean±s.d.		1.9 ± 0.5	0.0 ± 0.3	12-30-02	286	4.1 ± 0.4; 0.9	-
				4th Qtr. Mean±s.d.		3.2 ± 1.0	-0.1 ± 0.2

^a Volume based on two week collection period.

BYRON

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m³
 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/m³
 Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

BY-08 (C) Leaf River

2002 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2771	BYAP-4982	BYAP-7217	BYAP-8895
Volume	3,668	3,708	3,714	3,952
Mn-54	-4.7 ± 6.9 ; 6.9	2.3 ± 5.0 ; 5.0	-2.5 ± 5.7 ; 5.7	-8.3 ± 6.5 ; 6.7
Fe-59	12.9 ± 12.1 ; 12.3	6.1 ± 11.1 ; 11.1	2.5 ± 11.7 ; 11.7	3.3 ± 9.7 ; 9.8
Co-58	6.7 ± 6.7 ; 6.8	-5.1 ± 6.2 ; 6.3	0.1 ± 5.1 ; 5.1	-1.4 ± 4.6 ; 4.6
Co-60	0.4 ± 7.5 ; 7.5	1.3 ± 5.7 ; 5.7	-5.4 ± 8.1 ; 8.2	1.1 ± 5.8 ; 5.8
Zn-65	1.0 ± 14.4 ; 14.4	-3.0 ± 13.2 ; 13.2	4.1 ± 12.0 ; 12.1	-0.8 ± 13.4 ; 13.4
Zr/Nb-95	8.8 ± 4.9 ; 5.1	2.2 ± 4.9 ; 4.9	-7.8 ± 5.8 ; 6.0	-6.3 ± 4.3 ; 4.5
Cs-134	4.0 ± 4.7 ; 4.8	3.0 ± 5.4 ; 5.5	2.2 ± 5.7 ; 5.7	2.4 ± 6.4 ; 6.4
Cs-137	0.7 ± 6.8 ; 6.8	-7.1 ± 7.5 ; 7.6	3.3 ± 5.6 ; 5.6	6.2 ± 5.0 ; 5.1
Ba/La-140	14.9 ± 2.7 ; 3.8	-27.5 ± 5.5 ; 7.4	-36.4 ± 6.5 ; 9.2	43.1 ± 4.5 ; 8.9

BY-21 Byron Nearsite N

2002 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2772	BYAP-4983	BYAP-7218	BYAP-8896
Volume	3,667	3,703	3,715	3,963
Mn-54	-1.2 ± 6.8 ; 6.8	5.0 ± 6.5 ; 6.5	-3.4 ± 4.9 ; 4.9	2.6 ± 5.6 ; 5.7
Fe-59	-11.3 ± 15.0 ; 15.1	4.6 ± 8.1 ; 8.2	-28.6 ± 12.4 ; 13.4	-14.4 ± 10.3 ; 10.6
Co-58	-1.6 ± 4.7 ; 4.7	6.0 ± 4.3 ; 4.4	2.9 ± 4.4 ; 4.5	-2.3 ± 4.9 ; 4.9
Co-60	1.5 ± 7.8 ; 7.8	2.6 ± 8.0 ; 8.0	2.8 ± 5.1 ; 5.1	-1.2 ± 6.4 ; 6.4
Zn-65	1.0 ± 14.4 ; 14.4	5.1 ± 9.8 ; 9.9	-22.0 ± 13.2 ; 13.8	-5.3 ± 9.1 ; 9.1
Zr/Nb-95	-0.3 ± 7.2 ; 7.2	8.3 ± 4.8 ; 5.1	-0.2 ± 5.7 ; 5.7	-13.1 ± 9.8 ; 10.0
Cs-134	3.7 ± 6.5 ; 6.6	5.6 ± 5.1 ; 5.2	-2.8 ± 6.9 ; 6.9	1.2 ± 6.2 ; 6.2
Cs-137	-2.2 ± 7.5 ; 7.5	4.0 ± 7.5 ; 7.5	0.4 ± 5.9 ; 5.9	7.2 ± 5.2 ; 5.3
Ba/La-140	12.5 ± 7.3 ; 7.6	-85.1 ± 11.6 ; 19.0	32.8 ± 3.7 ; 6.9	-38.8 ± 7.6 ; 10.3

BYRON

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m³
 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/m³
 Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

BY-22 Byron Nearsite ESE

2002 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2773	BYAP-4984	BYAP-7219	BYAP-8897
Volume	3,668	3,707	3,715	3,961
Mn-54	4.3 ± 4.5 ; 4.6	-0.8 ± 6.1 ; 6.1	4.6 ± 5.3 ; 5.3	4.0 ± 4.2 ; 4.3
Fe-59	-11.3 ± 15.0 ; 15.1	29.0 ± 12.2 ; 13.2	-3.7 ± 12.4 ; 12.4	15.5 ± 9.7 ; 10.1
Co-58	2.5 ± 6.1 ; 6.1	-12.6 ± 6.4 ; 6.8	-0.6 ± 4.5 ; 4.5	0.9 ± 4.9 ; 4.9
Co-60	6.9 ± 7.4 ; 7.5	2.6 ± 8.0 ; 8.0	3.8 ± 6.8 ; 6.9	8.2 ± 5.0 ; 5.2
Zn-65	26.9 ± 14.9 ; 15.7	3.0 ± 9.2 ; 9.2	15.5 ± 11.0 ; 11.3	1.5 ± 12.4 ; 12.4
Zr/Nb-95	-14.8 ± 7.1 ; 7.5	1.5 ± 6.7 ; 6.7	-0.2 ± 5.7 ; 5.7	-1.1 ± 8.6 ; 8.6
Cs-134	-1.6 ± 7.7 ; 7.7	1.2 ± 5.9 ; 5.9	-7.8 ± 7.8 ; 7.9	-0.5 ± 5.3 ; 5.3
Cs-137	0.1 ± 6.3 ; 6.3	-3.2 ± 5.4 ; 5.4	3.7 ± 6.1 ; 6.1	1.6 ± 4.9 ; 4.9
Ba/La-140	15.0 ± 0.0 ; 2.7	61.8 ± 9.0 ; 14.2	40.2 ± 8.7 ; 11.3	7.2 ± 5.4 ; 5.6

BY-23 Byron Nearsite S

2002 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2774	BYAP-4985	BYAP-7220	BYAP-8898
Volume	3,689	3,717	3,715	3,975
Mn-54	1.2 ± 7.2 ; 7.2	3.8 ± 5.4 ; 5.4	1.5 ± 4.7 ; 4.7	0.6 ± 4.7 ; 4.7
Fe-59	-20.8 ± 13.8 ; 14.3	-30.5 ± 14.1 ; 15.1	-1.2 ± 9.7 ; 9.7	4.4 ± 8.3 ; 8.3
Co-58	2.8 ± 4.6 ; 4.6	-6.0 ± 5.4 ; 5.5	3.9 ± 4.0 ; 4.0	-4.5 ± 4.5 ; 4.6
Co-60	-7.0 ± 8.7 ; 8.8	2.4 ± 6.0 ; 6.1	-13.9 ± 8.2 ; 8.6	5.7 ± 4.2 ; 4.3
Zn-65	-6.2 ± 14.9 ; 15.0	-7.1 ± 12.1 ; 12.2	-9.8 ± 10.7 ; 10.9	-11.3 ± 11.1 ; 11.3
Zr/Nb-95	0.5 ± 5.5 ; 5.5	-2.4 ± 5.1 ; 5.1	6.0 ± 5.7 ; 5.8	-8.6 ± 11.3 ; 11.4
Cs-134	6.1 ± 7.1 ; 7.2	3.5 ± 7.2 ; 7.3	-1.2 ± 5.5 ; 5.5	6.6 ± 4.4 ; 4.6
Cs-137	-0.7 ± 6.7 ; 6.7	3.5 ± 6.3 ; 6.3	-1.0 ± 7.2 ; 7.2	0.5 ± 5.1 ; 5.1
Ba/La-140	-79.7 ± 7.2 ; 15.9	10.6 ± 7.2 ; 7.5	31.2 ± 6.5 ; 8.5	-28.8 ± 6.1 ; 8.0

BYRON

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections

ODCM-

Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m³

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/m³

Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

BY-24 Byron Nearsite SW

2002 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2775	BYAP-4986	BYAP-7221,2	BYAP-8899
Volume	3,670	3,707	3,717	3,961
Mn-54	17.4 ± 8.0 ; 8.6	0.8 ± 6.4 ; 6.4	2.2 ± 3.8 ; 3.8	4.3 ± 4.9 ; 5.0
Fe-59	-1.9 ± 12.3 ; 12.3	-1.5 ± 6.8 ; 6.8	8.2 ± 5.9 ; 6.1	-7.8 ± 8.1 ; 8.2
Co-58	2.4 ± 5.8 ; 5.8	-2.9 ± 5.9 ; 6.0	-2.9 ± 3.4 ; 3.5	-0.8 ± 5.1 ; 5.1
Co-60	-3.6 ± 10.1 ; 10.1	5.5 ± 4.8 ; 4.9	0.3 ± 4.2 ; 4.2	-4.3 ± 7.8 ; 7.8
Zn-65	-11.3 ± 21.1 ; 21.2	-1.0 ± 13.7 ; 13.7	8.1 ± 6.4 ; 6.6	4.5 ± 9.7 ; 9.8
Zr/Nb-95	2.6 ± 6.8 ; 6.9	-7.3 ± 15.6 ; 15.7	-3.6 ± 4.2 ; 4.3	-9.4 ± 8.3 ; 8.5
Cs-134	-0.5 ± 8.0 ; 8.0	-1.2 ± 5.3 ; 5.3	2.2 ± 3.8 ; 3.8	-3.7 ± 5.7 ; 5.7
Cs-137	-1.8 ± 7.1 ; 7.2	-4.3 ± 7.5 ; 7.5	1.7 ± 3.7 ; 3.7	-1.1 ± 5.3 ; 5.3
Ba/La-140	-3.1 ± 6.9 ; 6.9	-70.7 ± 9.8 ; 16.0	33.6 ± 3.7 ; 7.1	24.7 ± 6.1 ; 7.5

BYRON

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-20 K. Reeverts Dairy Farm

Date Collected	01-02-02	02-05-02	03-05-02	04-02-02
Lab Code	BYMI-3	BYMI-655	BYMI-1373	BYMI-1942
I-131	-0.11 ± 0.21 ; 0.21	-0.07 ± 0.15 ; 0.16	0.01 ± 0.16 ; 0.16	-0.02 ± 0.19 ; 0.19
Mn-54	3.3 ± 3.3 ; 3.3	0.2 ± 4.3 ; 4.3	0.7 ± 3.5 ; 3.5	0.0 ± 2.4 ; 2.4
Fe-59	2.3 ± 6.4 ; 6.4	2.0 ± 8.0 ; 8.0	1.9 ± 7.8 ; 7.8	0.9 ± 5.2 ; 5.2
Co-58	0.5 ± 2.9 ; 2.9	-1.2 ± 3.8 ; 3.8	2.5 ± 3.1 ; 3.1	1.7 ± 2.1 ; 2.1
Co-60	2.6 ± 3.5 ; 3.5	0.2 ± 4.1 ; 4.1	0.2 ± 3.8 ; 3.8	1.9 ± 2.9 ; 3.0
Zn-65	-2.4 ± 6.6 ; 6.6	4.0 ± 8.5 ; 8.5	0.9 ± 9.0 ; 9.0	-4.3 ± 5.1 ; 5.1
Zr/Nb-95	1.6 ± 3.0 ; 3.0	2.0 ± 3.5 ; 3.5	-1.7 ± 4.1 ; 4.1	-1.5 ± 2.2 ; 2.2
Cs-134	-2.2 ± 3.8 ; 3.8	-0.1 ± 4.1 ; 4.1	-2.9 ± 4.1 ; 4.1	0.4 ± 2.3 ; 2.3
Cs-137	1.4 ± 3.5 ; 3.5	3.5 ± 3.9 ; 4.0	0.9 ± 3.8 ; 3.8	1.6 ± 2.4 ; 2.4
Ba/La-140	1.2 ± 3.2 ; 3.2	-8.9 ± 4.2 ; 4.4	3.6 ± 3.0 ; 3.0	-1.6 ± 1.5 ; 1.5
Date Collected	05-07-02	05-21-02	06-04-02	06-18-02
Lab Code	BYMI-3030	BYMI-3294	BYMI-3598	BYMI-3977
I-131	0.17 ± 0.19 ; 0.19	0.01 ± 0.21 ; 0.21	-0.15 ± 0.24 ; 0.24	0.04 ± 0.23 ; 0.23
Mn-54	-3.0 ± 2.2 ; 2.2	1.6 ± 3.2 ; 3.2	0.4 ± 1.8 ; 1.8	0.5 ± 2.0 ; 2.0
Fe-59	-3.3 ± 4.9 ; 4.9	8.2 ± 7.7 ; 7.8	-0.9 ± 4.3 ; 4.3	2.3 ± 4.3 ; 4.3
Co-58	-0.4 ± 2.0 ; 2.0	0.5 ± 3.1 ; 3.1	1.1 ± 1.8 ; 1.8	0.6 ± 2.2 ; 2.3
Co-60	0.8 ± 2.0 ; 2.0	-0.5 ± 3.6 ; 3.6	0.1 ± 2.5 ; 2.5	0.9 ± 2.2 ; 2.2
Zn-65	-3.5 ± 5.4 ; 5.4	-2.2 ± 9.6 ; 9.6	0.1 ± 4.2 ; 4.2	1.0 ± 4.7 ; 4.7
Zr/Nb-95	1.0 ± 1.9 ; 1.9	-1.4 ± 3.0 ; 3.0	-0.6 ± 3.8 ; 3.8	-1.6 ± 2.1 ; 2.2
Cs-134	0.4 ± 2.4 ; 2.4	5.1 ± 3.3 ; 3.4	0.2 ± 2.1 ; 2.1	-0.7 ± 2.2 ; 2.2
Cs-137	1.0 ± 2.1 ; 2.1	-0.7 ± 3.5 ; 3.5	0.3 ± 2.2 ; 2.2	0.7 ± 2.2 ; 2.2
Ba/La-140	-4.6 ± 1.9 ; 2.0	-1.8 ± 2.5 ; 2.5	2.5 ± 1.9 ; 2.0	2.3 ± 2.4 ; 2.4

Table 3.	Milk	BYRON
Collection:	Biweekly (May - October) Monthly (November - April)	
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L	
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L	
Units:	pCi/L	

Sample Description and Concentration

BY-20 K. Reeverts Dairy Farm

Date Collected	07-02-02	07-16-02	07-30-02	08-13-02
Lab Code	BYMI-4399	BYMI-4726	BYMI-5056	BYMI-5368
I-131	-0.04 ± 0.20 ; 0.20	-0.14 ± 0.20 ; 0.20	-0.02 ± 0.15 ; 0.15	0.15 ± 0.22 ; 0.22
Mn-54	-1.6 ± 1.9 ; 1.9	-0.6 ± 1.7 ; 1.7	-0.8 ± 2.7 ; 2.7	0.5 ± 2.1 ; 2.1
Fe-59	1.8 ± 4.3 ; 4.3	-2.2 ± 3.6 ; 3.6	4.0 ± 5.7 ; 5.7	-6.2 ± 4.1 ; 4.2
Co-58	0.3 ± 2.0 ; 2.0	0.5 ± 1.5 ; 1.5	1.6 ± 2.9 ; 2.9	-0.1 ± 2.0 ; 2.0
Co-60	-2.4 ± 2.8 ; 2.8	1.7 ± 1.8 ; 1.8	0.9 ± 3.7 ; 3.7	0.7 ± 2.0 ; 2.0
Zn-65	-2.6 ± 5.7 ; 5.7	-0.6 ± 4.6 ; 4.6	-6.4 ± 7.8 ; 7.9	-2.4 ± 5.7 ; 5.7
Zr/Nb-95	-3.2 ± 2.2 ; 2.3	4.4 ± 1.7 ; 1.8	-2.4 ± 2.6 ; 2.6	-2.6 ± 2.1 ; 2.1
Cs-134	1.3 ± 2.1 ; 2.1	0.4 ± 1.8 ; 1.8	1.7 ± 3.3 ; 3.3	0.3 ± 2.2 ; 2.2
Cs-137	1.2 ± 1.9 ; 1.9	0.0 ± 1.9 ; 1.9	-2.5 ± 3.0 ; 3.0	2.5 ± 2.2 ; 2.3
Ba/La-140	0.5 ± 1.5 ; 1.5	2.3 ± 1.3 ; 1.4	-2.6 ± 2.6 ; 2.6	-0.4 ± 1.9 ; 1.9

Date Collected	08-27-02	09-10-02	09-24-02	10-08-02
Lab Code	BYMI-5598	BYMI-5880	BYMI-6240	BYMI-6653
I-131	-0.09 ± 0.21 ; 0.21	-0.14 ± 0.19 ; 0.19	-0.08 ± 0.16 ; 0.16	-0.12 ± 0.19 ; 0.19
Mn-54	-0.7 ± 1.9 ; 1.9	-1.2 ± 2.4 ; 2.4	0.3 ± 3.3 ; 3.3	-1.6 ± 2.2 ; 2.2
Fe-59	2.1 ± 4.1 ; 4.2	1.8 ± 5.9 ; 5.9	-3.2 ± 7.4 ; 7.4	-5.3 ± 4.5 ; 4.5
Co-58	-0.2 ± 1.8 ; 1.8	1.2 ± 2.7 ; 2.7	-0.1 ± 3.2 ; 3.2	-1.0 ± 1.7 ; 1.7
Co-60	1.9 ± 2.3 ; 2.3	0.9 ± 3.1 ; 3.1	0.3 ± 4.0 ; 4.0	1.4 ± 2.6 ; 2.6
Zn-65	-4.4 ± 5.4 ; 5.4	-0.2 ± 6.6 ; 6.6	-1.7 ± 8.0 ; 8.0	-2.9 ± 5.7 ; 5.7
Zr/Nb-95	-1.4 ± 2.0 ; 2.0	-1.4 ± 2.6 ; 2.6	-4.2 ± 3.1 ; 3.2	0.5 ± 2.4 ; 2.4
Cs-134	-0.9 ± 2.1 ; 2.1	0.3 ± 2.8 ; 2.8	1.1 ± 3.5 ; 3.5	1.3 ± 2.7 ; 2.7
Cs-137	1.9 ± 1.9 ; 1.9	0.1 ± 2.8 ; 2.8	-2.8 ± 3.8 ; 3.8	3.8 ± 2.4 ; 2.5
Ba/La-140	-2.8 ± 1.8 ; 1.9	-5.4 ± 2.8 ; 2.9	-4.9 ± 4.0 ; 4.1	-3.0 ± 2.4 ; 2.4

BYRON

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-20 K. Reeverts Dairy Farm

Date Collected	10-22-02	11-05-02	12-03-02
Lab Code	BYMI-7136	BYMI-7590	BYMI-8088
I-131	-0.05 ± 0.22 ; 0.22	-0.24 ± 0.16 ; 0.16	0.33 ± 0.12 ; 0.13
Mn-54	1.5 ± 3.7 ; 3.7	0.1 ± 4.0 ; 4.0	-2.8 ± 2.9 ; 2.9
Fe-59	-2.2 ± 6.7 ; 6.7	1.6 ± 8.3 ; 8.3	0.5 ± 7.8 ; 7.8
Co-58	0.5 ± 3.2 ; 3.2	3.0 ± 3.4 ; 3.5	0.7 ± 3.1 ; 3.1
Co-60	0.7 ± 3.4 ; 3.4	-1.0 ± 5.6 ; 5.6	2.0 ± 3.1 ; 3.1
Zn-65	8.0 ± 8.3 ; 8.4	-2.3 ± 10.8 ; 10.8	-0.9 ± 8.2 ; 8.2
Zr/Nb-95	-1.9 ± 3.2 ; 3.2	0.4 ± 3.5 ; 3.5	0.6 ± 3.0 ; 3.0
Cs-134	-1.9 ± 3.5 ; 3.5	-1.5 ± 5.5 ; 5.5	1.3 ± 3.0 ; 3.0
Cs-137	1.3 ± 3.0 ; 3.0	-0.5 ± 4.5 ; 4.5	1.4 ± 3.3 ; 3.3
Ba/La-140	-6.5 ± 3.7 ; 3.8	0.6 ± 4.4 ; 4.4	0.7 ± 2.7 ; 2.7

BYRON

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-26-1 (C) Dennis Herbert

Date Collected	01-02-02	02-05-02	03-05-02	04-02-02
Lab Code	BYMI-4	BYMI-656	BYMI-1374,5	BYMI-1943
I-131	-0.10 ± 0.19 ; 0.19	0.11 ± 0.14 ; 0.14	-0.04 ± 0.14 ; 0.14	-0.02 ± 0.17 ; 0.17
Mn-54	1.3 ± 4.0 ; 4.0	-1.6 ± 3.4 ; 3.4	-0.6 ± 2.3 ; 2.3	-0.8 ± 3.1 ; 3.1
Fe-59	5.2 ± 7.0 ; 7.0	-1.6 ± 7.3 ; 7.3	13.2 ± 8.3 ; 8.4	1.9 ± 7.0 ; 7.0
Co-58	0.1 ± 3.9 ; 3.9	2.3 ± 3.5 ; 3.5	0.2 ± 2.2 ; 2.2	2.8 ± 3.3 ; 3.4
Co-60	2.5 ± 4.9 ; 4.9	-1.7 ± 4.2 ; 4.2	0.6 ± 3.0 ; 3.0	0.7 ± 3.7 ; 3.7
Zn-65	0.7 ± 8.9 ; 8.9	6.4 ± 7.4 ; 7.4	-0.8 ± 6.5 ; 6.5	3.4 ± 7.8 ; 7.8
Zr/Nb-95	1.0 ± 3.6 ; 3.6	1.4 ± 3.6 ; 3.6	-1.5 ± 2.2 ; 2.2	-0.5 ± 3.4 ; 3.4
Cs-134	3.1 ± 3.8 ; 3.8	-1.9 ± 3.6 ; 3.6	0.2 ± 2.9 ; 2.9	-4.2 ± 3.6 ; 3.7
Cs-137	-1.3 ± 3.6 ; 3.6	2.1 ± 3.2 ; 3.2	0.3 ± 2.6 ; 2.6	1.9 ± 3.8 ; 3.8
Ba/La-140	4.9 ± 3.9 ; 3.9	-2.7 ± 3.8 ; 3.8	0.9 ± 2.2 ; 2.2	-1.4 ± 3.4 ; 3.4
Date Collected	05-07-02	05-21-02	06-04-02	06-18-02
Lab Code	BYMI-3031	BYMI-3295	BYMI-3599	BYMI-3978
I-131	-0.03 ± 0.21 ; 0.21	0.00 ± 0.19 ; 0.19	0.14 ± 0.26 ; 0.26	-0.02 ± 0.24 ; 0.24
Mn-54	0.8 ± 1.8 ; 1.8	2.0 ± 4.2 ; 4.2	-0.7 ± 1.3 ; 1.3	2.1 ± 1.8 ; 1.8
Fe-59	3.8 ± 4.7 ; 4.7	0.6 ± 7.4 ; 7.4	2.3 ± 3.2 ; 3.2	3.7 ± 4.3 ; 4.4
Co-58	1.9 ± 2.0 ; 2.1	0.3 ± 3.1 ; 3.1	0.5 ± 1.3 ; 1.3	-1.4 ± 1.7 ; 1.8
Co-60	3.4 ± 2.4 ; 2.4	1.1 ± 3.7 ; 3.7	0.1 ± 1.5 ; 1.5	-1.3 ± 1.9 ; 1.9
Zn-65	-5.6 ± 6.5 ; 6.6	2.4 ± 9.7 ; 9.7	-2.5 ± 3.3 ; 3.4	-1.2 ± 4.8 ; 4.8
Zr/Nb-95	-0.5 ± 1.8 ; 1.8	-2.2 ± 3.2 ; 3.2	-4.0 ± 1.2 ; 1.4	-5.5 ± 3.9 ; 3.9
Cs-134	-1.3 ± 2.5 ; 2.5	1.0 ± 3.7 ; 3.7	-0.8 ± 1.4 ; 1.4	-1.5 ± 2.0 ; 2.0
Cs-137	1.2 ± 2.3 ; 2.3	0.2 ± 3.9 ; 3.9	-1.3 ± 1.6 ; 1.6	-0.3 ± 2.0 ; 2.0
Ba/La-140	-2.1 ± 1.9 ; 1.9	4.5 ± 3.2 ; 3.3	-1.3 ± 1.6 ; 1.7	2.4 ± 1.9 ; 1.9

BYRON

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-26-1 (C) Dennis Herbert

Date Collected	07-02-02	07-16-02	07-30-02	08-13-02
Lab Code	BYMI-4400	BYMI-4727	BYMI-5057	BYMI-5369
I-131	-0.04 ± 0.22 ; 0.22	-0.13 ± 0.20 ; 0.20	-0.10 ± 0.17 ; 0.17	-0.11 ± 0.24 ; 0.24
Mn-54	1.6 ± 1.6 ; 1.6	-1.9 ± 1.8 ; 1.8	0.6 ± 1.9 ; 1.9	1.0 ± 2.2 ; 2.2
Fe-59	-1.1 ± 3.4 ; 3.4	4.9 ± 4.5 ; 4.5	9.3 ± 4.6 ; 4.7	3.8 ± 4.6 ; 4.6
Co-58	1.6 ± 1.4 ; 1.4	-1.1 ± 1.7 ; 1.7	-1.2 ± 2.0 ; 2.0	-1.3 ± 2.2 ; 2.2
Co-60	0.8 ± 1.8 ; 1.8	-0.5 ± 1.8 ; 1.8	-3.1 ± 2.3 ; 2.4	2.9 ± 2.5 ; 2.6
Zn-65	1.4 ± 3.7 ; 3.7	-4.7 ± 5.0 ; 5.0	-4.2 ± 4.9 ; 4.9	-4.6 ± 6.4 ; 6.4
Zr/Nb-95	-0.9 ± 1.6 ; 1.6	-1.4 ± 1.6 ; 1.6	1.1 ± 2.0 ; 2.0	-1.1 ± 2.4 ; 2.5
Cs-134	0.5 ± 1.5 ; 1.5	-0.3 ± 2.0 ; 2.0	0.5 ± 2.4 ; 2.4	-2.7 ± 2.8 ; 2.8
Cs-137	0.9 ± 1.6 ; 1.6	-0.1 ± 2.0 ; 2.0	2.5 ± 2.1 ; 2.1	-2.7 ± 2.4 ; 2.5
Ba/La-140	-5.8 ± 1.5 ; 1.7	-8.7 ± 1.8 ; 2.1	-1.4 ± 2.3 ; 2.3	-0.2 ± 2.6 ; 2.6
Date Collected	08-27-02	09-10-02	09-24-02	10-08-02
Lab Code	BYMI-5599	BYMI-5881	BYMI-6241	BYMI-6654
I-131	0.24 ± 0.26 ; 0.26	0.01 ± 0.19 ; 0.19	-0.10 ± 0.16 ; 0.16	0.00 ± 0.18 ; 0.18
Mn-54	2.1 ± 4.0 ; 4.0	-0.1 ± 3.2 ; 3.2	1.5 ± 3.2 ; 3.2	0.8 ± 4.1 ; 4.1
Fe-59	6.6 ± 7.1 ; 7.2	-1.6 ± 6.8 ; 6.8	1.3 ± 5.5 ; 5.5	2.1 ± 7.6 ; 7.7
Co-58	0.3 ± 3.2 ; 3.2	-1.0 ± 2.9 ; 2.9	-0.4 ± 3.3 ; 3.3	-2.4 ± 3.4 ; 3.5
Co-60	-4.8 ± 4.8 ; 4.8	-1.3 ± 3.3 ; 3.3	-0.9 ± 3.6 ; 3.6	3.4 ± 5.1 ; 5.1
Zn-65	5.0 ± 8.4 ; 8.4	-3.8 ± 8.8 ; 8.8	1.9 ± 8.0 ; 8.0	1.0 ± 9.0 ; 9.0
Zr/Nb-95	1.3 ± 2.7 ; 2.7	-4.3 ± 3.1 ; 3.1	-1.3 ± 3.3 ; 3.3	-0.5 ± 3.0 ; 3.0
Cs-134	-1.3 ± 4.0 ; 4.1	2.8 ± 2.7 ; 2.8	0.7 ± 3.3 ; 3.3	2.7 ± 4.0 ; 4.0
Cs-137	-1.1 ± 3.5 ; 3.5	1.7 ± 3.3 ; 3.3	1.2 ± 3.6 ; 3.6	-2.0 ± 3.8 ; 3.8
Ba/La-140	-4.0 ± 3.4 ; 3.4	4.4 ± 2.9 ; 3.0	2.1 ± 3.6 ; 3.6	-2.8 ± 4.1 ; 4.1

BYRON

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-26-1 (C) Dennis Herbert

Date Collected	10-22-02	11-05-02	12-03-02
Lab Code	BYMI-7137	BYMI-7591,2	BYMI-8089
I-131	-0.18 ± 0.22 ; 0.22	-0.16 ± 0.17 ; 0.17	0.09 ± 0.10 ; 0.10
Mn-54	0.6 ± 2.3 ; 2.3	1.6 ± 2.6 ; 2.6	0.9 ± 3.4 ; 3.4
Fe-59	-1.8 ± 5.1 ; 5.1	1.7 ± 4.4 ; 4.4	3.8 ± 7.8 ; 7.9
Co-58	-0.5 ± 2.4 ; 2.4	-1.2 ± 2.1 ; 2.1	-2.5 ± 3.5 ; 3.6
Co-60	-1.0 ± 2.2 ; 2.2	0.6 ± 2.5 ; 2.5	2.9 ± 4.4 ; 4.4
Zn-65	2.4 ± 6.2 ; 6.2	-6.2 ± 5.4 ; 5.5	-7.2 ± 8.6 ; 8.6
Zr/Nb-95	-0.4 ± 2.4 ; 2.4	-1.8 ± 2.3 ; 2.3	2.5 ± 3.3 ; 3.3
Cs-134	1.4 ± 2.4 ; 2.4	-0.5 ± 2.3 ; 2.3	0.4 ± 4.0 ; 4.0
Cs-137	-1.8 ± 2.4 ; 2.4	-0.1 ± 2.7 ; 2.7	-1.2 ± 3.4 ; 3.4
Ba/La-140	-1.0 ± 2.7 ; 2.7	-1.3 ± 2.6 ; 2.6	3.9 ± 3.8 ; 3.8

BYRON

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-30 Don Roos Dairy

Date Collected	01-02-02	02-05-02	03-05-02	04-02-02
Lab Code	BYMI-5	BYMI-657	BYMI-1376	BYMI-1944
I-131	-0.16 ± 0.18 ; 0.18	0.08 ± 0.15 ; 0.15	0.04 ± 0.16 ; 0.16	-0.00 ± 0.18 ; 0.18
Mn-54	-1.6 ± 3.6 ; 3.6	0.5 ± 3.2 ; 3.2	-1.3 ± 2.8 ; 2.8	-0.7 ± 3.1 ; 3.1
Fe-59	2.3 ± 6.2 ; 6.2	-7.6 ± 7.1 ; 7.2	2.5 ± 5.5 ; 5.6	-1.7 ± 5.7 ; 5.7
Co-58	0.6 ± 3.5 ; 3.5	2.1 ± 3.2 ; 3.3	-1.7 ± 2.7 ; 2.7	2.2 ± 2.9 ; 2.9
Co-60	3.4 ± 4.2 ; 4.3	0.3 ± 3.4 ; 3.4	1.5 ± 3.1 ; 3.1	-1.8 ± 3.2 ; 3.2
Zn-65	3.3 ± 8.0 ; 8.0	-3.0 ± 6.7 ; 6.7	-7.7 ± 6.3 ; 6.4	4.9 ± 7.3 ; 7.4
Zr/Nb-95	2.0 ± 3.6 ; 3.6	-6.4 ± 6.4 ; 6.5	2.6 ± 2.8 ; 2.8	-1.0 ± 3.1 ; 3.1
Cs-134	-2.0 ± 4.0 ; 4.0	3.0 ± 3.4 ; 3.4	-1.0 ± 2.9 ; 2.9	1.1 ± 3.5 ; 3.5
Cs-137	-4.9 ± 4.1 ; 4.2	2.0 ± 3.5 ; 3.5	0.6 ± 2.3 ; 2.3	-0.9 ± 3.4 ; 3.4
Ba/La-140	1.2 ± 3.1 ; 3.1	-4.0 ± 3.0 ; 3.1	0.4 ± 3.0 ; 3.0	-1.8 ± 2.3 ; 2.3
Date Collected	05-07-02	05-21-02	06-04-02	06-18-02
Lab Code	BYMI-3032	BYMI-3296	BYMI-3600	BYMI-3979
I-131	0.21 ± 0.22 ; 0.23	-0.23 ± 0.22 ; 0.23	-0.19 ± 0.23 ; 0.23	-0.19 ± 0.23 ; 0.23
Mn-54	-0.3 ± 1.9 ; 1.9	2.8 ± 3.7 ; 3.7	0.7 ± 2.3 ; 2.3	-0.7 ± 1.8 ; 1.8
Fe-59	1.5 ± 4.0 ; 4.0	0.7 ± 9.3 ; 9.3	1.3 ± 4.9 ; 4.9	1.0 ± 3.7 ; 3.7
Co-58	-1.3 ± 1.8 ; 1.8	3.9 ± 3.9 ; 3.9	2.3 ± 2.2 ; 2.2	2.5 ± 1.5 ; 1.6
Co-60	0.8 ± 2.4 ; 2.4	-2.7 ± 4.7 ; 4.7	-0.3 ± 2.3 ; 2.3	1.2 ± 2.2 ; 2.2
Zn-65	-3.5 ± 5.4 ; 5.4	-5.5 ± 10.6 ; 10.6	1.7 ± 5.0 ; 5.0	-2.2 ± 4.9 ; 4.9
Zr/Nb-95	0.6 ± 5.3 ; 5.3	-1.6 ± 7.8 ; 7.8	4.3 ± 2.2 ; 2.3	-1.8 ± 1.8 ; 1.8
Cs-134	-0.6 ± 2.4 ; 2.4	-3.4 ± 4.8 ; 4.9	0.7 ± 2.3 ; 2.3	0.8 ± 2.1 ; 2.1
Cs-137	0.9 ± 2.5 ; 2.6	-0.9 ± 3.5 ; 3.5	2.2 ± 2.3 ; 2.3	1.1 ± 1.9 ; 1.9
Ba/La-140	-4.0 ± 2.0 ; 2.1	-2.5 ± 4.1 ; 4.2	-12.7 ± 2.4 ; 2.9	-4.4 ± 1.4 ; 1.5

Table 3.	Milk	BYRON
Collection:	Biweekly (May - October) Monthly (November - April)	
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L	
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L	
Units:	pCi/L	

Sample Description and Concentration

BY-30 Don Roos Dairy

Date Collected	07-02-02	07-16-02	07-30-02	08-13-02
Lab Code	BYMI-4401,2	BYMI-4728	BYMI-5058	BYMI-5370
I-131	-0.33 ± 0.28 ; 0.28	-0.08 ± 0.17 ; 0.17	-0.12 ± 0.16 ; 0.16	0.09 ± 0.22 ; 0.22
Mn-54	1.4 ± 1.5 ; 1.5	-0.2 ± 1.7 ; 1.7	-0.8 ± 2.2 ; 2.2	2.9 ± 2.4 ; 2.4
Fe-59	3.5 ± 3.2 ; 3.2	-1.0 ± 3.6 ; 3.6	-6.6 ± 4.1 ; 4.2	7.6 ± 5.3 ; 5.4
Co-58	2.0 ± 1.4 ; 1.5	0.7 ± 1.5 ; 1.5	-1.0 ± 2.1 ; 2.1	0.8 ± 2.2 ; 2.2
Co-60	-2.4 ± 1.7 ; 1.7	0.3 ± 2.3 ; 2.3	0.3 ± 2.6 ; 2.6	-2.2 ± 2.8 ; 2.9
Zn-65	-0.2 ± 4.0 ; 4.0	0.1 ± 4.0 ; 4.0	-2.3 ± 5.7 ; 5.7	1.5 ± 6.2 ; 6.2
Zr/Nb-95	-3.5 ± 1.5 ; 1.5	0.4 ± 1.7 ; 1.7	0.7 ± 2.3 ; 2.3	-0.3 ± 2.2 ; 2.2
Cs-134	0.1 ± 1.5 ; 1.5	-0.3 ± 1.9 ; 1.9	-2.4 ± 2.5 ; 2.5	-2.6 ± 2.8 ; 2.8
Cs-137	-0.7 ± 1.6 ; 1.6	1.3 ± 1.8 ; 1.8	1.5 ± 2.1 ; 2.1	2.1 ± 2.8 ; 2.8
Ba/La-140	-5.8 ± 1.5 ; 1.7	5.1 ± 1.2 ; 1.4	-3.7 ± 2.1 ; 2.2	-3.4 ± 2.8 ; 2.9
Date Collected	08-27-02	09-10-02	09-24-02	10-08-02
Lab Code	BYMI-5600	BYMI-5882	BYMI-6242	BYMI-6655
I-131	-0.14 ± 0.21 ; 0.21	-0.01 ± 0.21 ; 0.21	-0.02 ± 0.18 ; 0.18	-0.11 ± 0.17 ; 0.17
Mn-54	0.5 ± 4.5 ; 4.5	0.3 ± 0.8 ; 0.8	-2.2 ± 2.7 ; 2.7	-0.6 ± 3.4 ; 3.4
Fe-59	2.8 ± 12.8 ; 12.8	2.8 ± 1.8 ; 1.8	1.3 ± 6.4 ; 6.4	-1.2 ± 7.5 ; 7.5
Co-58	-2.8 ± 4.0 ; 4.0	-0.1 ± 0.7 ; 0.7	-0.2 ± 2.5 ; 2.5	1.7 ± 3.3 ; 3.4
Co-60	2.5 ± 5.7 ; 5.7	0.3 ± 0.8 ; 0.8	-1.3 ± 2.6 ; 2.6	-2.4 ± 4.4 ; 4.4
Zn-65	9.7 ± 14.3 ; 14.3	-0.5 ± 2.0 ; 2.0	1.0 ± 6.7 ; 6.7	0.3 ± 8.0 ; 8.0
Zr/Nb-95	2.4 ± 4.6 ; 4.6	-0.2 ± 0.8 ; 0.8	0.9 ± 3.0 ; 3.0	1.3 ± 3.4 ; 3.4
Cs-134	-1.4 ± 5.9 ; 5.9	-0.4 ± 0.8 ; 0.8	3.0 ± 2.9 ; 2.9	0.5 ± 3.4 ; 3.4
Cs-137	1.5 ± 5.2 ; 5.2	-0.2 ± 0.8 ; 0.8	1.6 ± 2.6 ; 2.6	-0.0 ± 3.9 ; 3.9
Ba/La-140	-0.4 ± 6.3 ; 6.3	-1.1 ± 0.8 ; 0.8	-0.6 ± 2.5 ; 2.5	-0.8 ± 2.7 ; 2.7

BYRON

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-30 Don Roos Dairy

Date Collected	10-22-02	11-05-02	12-03-02
Lab Code	BYMI-7138	BYMI-7593	BYMI-8090
I-131	0.12 ± 0.27 ; 0.27	-0.18 ± 0.16 ; 0.16	0.08 ± 0.13 ; 0.13
Mn-54	-2.8 ± 3.8 ; 3.8	0.4 ± 2.2 ; 2.2	2.2 ± 3.4 ; 3.4
Fe-59	4.3 ± 9.2 ; 9.2	-4.4 ± 5.3 ; 5.3	2.4 ± 7.6 ; 7.6
Co-58	-3.9 ± 4.1 ; 4.1	-0.3 ± 2.1 ; 2.1	1.0 ± 3.3 ; 3.3
Co-60	1.6 ± 5.6 ; 5.6	0.1 ± 2.3 ; 2.3	-1.9 ± 4.0 ; 4.0
Zn-65	3.2 ± 11.8 ; 11.8	-2.5 ± 6.0 ; 6.0	-0.2 ± 8.1 ; 8.1
Zr/Nb-95	-1.8 ± 3.7 ; 3.7	0.8 ± 2.4 ; 2.4	-2.8 ± 3.5 ; 3.5
Cs-134	1.0 ± 4.8 ; 4.8	0.1 ± 2.9 ; 2.9	-0.8 ± 4.3 ; 4.3
Cs-137	0.1 ± 4.1 ; 4.1	0.1 ± 2.4 ; 2.4	-3.4 ± 4.7 ; 4.7
Ba/La-140	-1.4 ± 3.6 ; 3.6	-3.0 ± 2.4 ; 2.4	2.2 ± 3.7 ; 3.7

BYRON

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^{-3} pCi/g wet weight

Sample Description and Concentration

By-29 (C) Byron, Upstream

Date Collected	05-02-02	05-02-02	10-03-02	10-03-02
Lab Code	BYF-2877	BYF-2878	BYF-6440	BYF-6441
Type	Silver Redhorse	Freshwater Drum	Shorthead Redhorse	Golden Redhorse
Mn-54	$0.2 \pm 0.7 ; 0.7$	$0.4 \pm 1.0 ; 1.0$	$0.1 \pm 0.9 ; 0.9$	$-0.3 \pm 0.7 ; 0.7$
Fe-59	$-0.5 \pm 1.8 ; 1.8$	$1.1 \pm 1.9 ; 1.9$	$0.6 \pm 1.8 ; 1.8$	$1.1 \pm 1.8 ; 1.8$
Co-58	$-0.9 \pm 0.8 ; 0.8$	$0.2 \pm 0.9 ; 0.9$	$-0.1 \pm 0.9 ; 0.9$	$-0.0 \pm 0.9 ; 0.9$
Co-60	$0.0 \pm 0.9 ; 0.9$	$-0.4 \pm 1.3 ; 1.3$	$0.8 \pm 1.1 ; 1.1$	$0.2 \pm 0.9 ; 0.9$
Zn-65	$0.9 \pm 1.8 ; 1.8$	$-0.4 \pm 2.1 ; 2.1$	$-0.1 \pm 2.0 ; 2.0$	$-0.4 \pm 2.2 ; 2.2$
Zr/Nb-95	$0.0 \pm 0.7 ; 0.7$	$-0.6 \pm 1.9 ; 1.9$	$-2.0 \pm 1.5 ; 1.5$	$0.2 \pm 0.7 ; 0.7$
Cs-134	$1.2 \pm 0.9 ; 0.9$	$-0.2 \pm 1.2 ; 1.2$	$-0.4 \pm 1.1 ; 1.1$	$-0.5 \pm 0.8 ; 0.8$
Cs-137	$-0.1 \pm 0.7 ; 0.7$	$0.4 \pm 1.0 ; 1.0$	$-0.2 \pm 0.9 ; 0.9$	$-0.1 \pm 0.9 ; 0.9$
Ba/La-140	$11.1 \pm 4.5 ; 4.7$	$2.1 \pm 1.0 ; 1.0$	$0.6 \pm 0.8 ; 0.8$	$-1.9 \pm 1.0 ; 1.0$

BYRON

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	05-02-02	05-02-02	10-03-02	10-03-02
Lab Code	BYF-2875	BYF-2876	BYF-6442	BYF-6443
Type	Bigmouth Buffalo	Freshwater Drum	Channel Catfish	Freshwater Drum
Mn-54	-0.0 ± 0.7 ; 0.7	0.0 ± 0.6 ; 0.6	0.2 ± 0.8 ; 0.8	0.1 ± 0.8 ; 0.8
Fe-59	1.0 ± 1.4 ; 1.4	1.9 ± 1.4 ; 1.5	-1.5 ± 1.8 ; 1.8	0.1 ± 1.5 ; 1.5
Co-58	-1.0 ± 0.6 ; 0.6	-0.1 ± 0.6 ; 0.6	1.7 ± 1.3 ; 1.3	1.1 ± 0.9 ; 0.9
Co-60	0.6 ± 1.0 ; 1.0	0.6 ± 0.7 ; 0.7	0.3 ± 1.0 ; 1.0	0.4 ± 1.1 ; 1.1
Zn-65	1.7 ± 1.7 ; 1.7	0.5 ± 1.5 ; 1.5	-1.6 ± 2.4 ; 2.4	1.4 ± 2.1 ; 2.1
Zr/Nb-95	-0.3 ± 0.6 ; 0.6	0.6 ± 0.6 ; 0.6	0.2 ± 1.1 ; 1.1	-1.1 ± 1.7 ; 1.7
Cs-134	0.2 ± 0.8 ; 0.8	1.2 ± 0.8 ; 0.8	-0.5 ± 1.1 ; 1.1	0.2 ± 1.0 ; 1.0
Cs-137	0.2 ± 0.7 ; 0.7	0.1 ± 0.7 ; 0.7	-0.3 ± 0.9 ; 0.9	0.5 ± 0.9 ; 0.9
Ba/La-140	-2.0 ± 0.8 ; 0.9	-2.8 ± 0.9 ; 1.0	-0.8 ± 1.1 ; 1.1	1.4 ± 0.7 ; 0.7

BYRON

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-58,60 = 0.10; Zn-65 = 0.60; Zr/Nb-95 = 0.20;
Ba/La = 0.60 g dry weightUnits: 10^{-2} pCi/g dry weight

Sample Description and Concentration

By-12 Oregon Pool of Rock River

Date Collected	05-14-02	10-01-02
Lab Code	BYBS-3185	BYBS-6566
Mn-54	0.3 ± 0.8 ; 0.8	0.2 ± 0.4 ; 0.4
Fe-59	2.5 ± 1.5 ; 1.5	-0.2 ± 0.8 ; 0.8
Co-58	0.9 ± 0.9 ; 0.9	0.0 ± 0.4 ; 0.4
Co-60	1.0 ± 0.9 ; 0.9	0.5 ± 0.5 ; 0.5
Zn-65	0.7 ± 2.2 ; 2.2	-0.2 ± 1.0 ; 1.0
Zr/Nb-95	-0.3 ± 0.7 ; 0.7	-0.6 ± 0.4 ; 0.4
Cs-134	0.2 ± 1.0 ; 1.0	1.0 ± 0.5 ; 0.5
Cs-137	1.5 ± 0.8 ; 0.9	1.4 ± 0.7 ; 0.7
Ba/La-140	-0.2 ± 1.0 ; 1.0	-2.0 ± 0.4 ; 0.5

By-34 Rock River, Downstream

Date Collected	05-14-02	10-01-02
Lab Code	BYBS-3186	BYBS-6567
Mn-54	1.1 ± 0.6 ; 0.6	0.1 ± 0.3 ; 0.3
Fe-59	-0.1 ± 0.9 ; 0.9	-0.0 ± 0.6 ; 0.6
Co-58	-0.3 ± 0.6 ; 0.6	0.1 ± 0.2 ; 0.2
Co-60	0.7 ± 0.6 ; 0.6	0.3 ± 0.3 ; 0.3
Zn-65	-1.4 ± 1.3 ; 1.3	-1.6 ± 0.7 ; 0.8
Zr/Nb-95	0.3 ± 0.5 ; 0.5	-0.9 ± 0.3 ; 0.3
Cs-134	0.2 ± 0.7 ; 0.7	0.4 ± 0.3 ; 0.3
Cs-137	0.6 ± 0.5 ; 0.5	0.4 ± 0.3 ; 0.3
Ba/La-140	1.0 ± 0.5 ; 0.5	-1.5 ± 0.3 ; 0.4

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-Control 14784 Berglund Road

Date Collected	07-30-02	07-30-02
Lab Code	BYVE-5070	BYVE-5071
Type	Beets	Beet Greens
Mn-54	-0.4 ± 0.9 ; 0.9	-0.0 ± 0.8 ; 0.8
Fe-59	-2.4 ± 2.0 ; 2.0	-2.3 ± 1.9 ; 1.9
Co-58	0.1 ± 0.9 ; 0.9	0.0 ± 0.8 ; 0.8
Co-60	-0.5 ± 1.0 ; 1.0	0.1 ± 0.7 ; 0.7
Zn-65	0.6 ± 2.1 ; 2.1	0.2 ± 2.1 ; 2.1
Zr/Nb-95	0.4 ± 0.8 ; 0.8	-1.0 ± 0.7 ; 0.7
I-131	0.9 ± 0.8 ; 0.8	0.4 ± 0.6 ; 0.6
Cs-134	0.6 ± 1.0 ; 1.0	-0.5 ± 0.9 ; 0.9
Cs-137	0.1 ± 0.8 ; 0.8	0.5 ± 0.9 ; 0.9
Ba/La-140	-0.0 ± 0.9 ; 0.9	-1.5 ± 0.9 ; 0.9

BY-Quad 1 7083 N. River Road

Date Collected	07-30-02	07-30-02
Lab Code	BYVE-5059	BYVE-5060
Type	Cabbage	Beets
Mn-54	-0.1 ± 0.8 ; 0.8	0.1 ± 0.6 ; 0.6
Fe-59	0.2 ± 1.6 ; 1.6	-0.7 ± 1.8 ; 1.9
Co-58	0.5 ± 0.9 ; 0.9	0.5 ± 0.6 ; 0.6
Co-60	-0.7 ± 1.1 ; 1.1	-0.6 ± 1.0 ; 1.0
Zn-65	0.9 ± 1.8 ; 1.8	-0.3 ± 1.9 ; 1.9
Zr/Nb-95	-0.6 ± 0.9 ; 0.9	-1.2 ± 0.7 ; 0.7
I-131	-0.4 ± 0.7 ; 0.7	-0.1 ± 0.7 ; 0.7
Cs-134	0.3 ± 1.0 ; 1.0	0.1 ± 0.9 ; 0.9
Cs-137	-0.3 ± 1.0 ; 1.0	0.1 ± 0.8 ; 0.8
Ba/La-140	0.5 ± 0.9 ; 0.9	0.3 ± 0.8 ; 0.8

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

Date Collected	07-30-02	
Lab Code	BYVE-5061	
Type	Beet Greens	
Mn-54	-0.2 ± 0.9 ; 0.9	
Fe-59	-0.8 ± 2.2 ; 2.2	
Co-58	-0.5 ± 0.9 ; 0.9	
Co-60	0.0 ± 1.4 ; 1.4	
Zn-65	0.7 ± 2.6 ; 2.6	
Zr/Nb-95	-1.0 ± 0.9 ; 0.9	
I-131	1.0 ± 0.7 ; 0.7	
Cs-134	-0.2 ± 0.9 ; 0.9	
Cs-137	0.8 ± 0.9 ; 0.9	
Ba/La-140	-0.3 ± 0.8 ; 0.8	
<u>BY-Quad 2 3485 German Church Road</u>		
Date Collected	07-30-02	07-30-02
Lab Code	BYVE-5062	BYVE-5063
Type	Potatoes	Cabbage
Mn-54	0.3 ± 0.5 ; 0.5	0.2 ± 0.6 ; 0.6
Fe-59	-0.2 ± 1.2 ; 1.2	-0.3 ± 1.3 ; 1.3
Co-58	-0.2 ± 0.5 ; 0.5	-0.0 ± 0.6 ; 0.6
Co-60	-0.6 ± 0.7 ; 0.7	0.7 ± 0.8 ; 0.8
Zn-65	-0.4 ± 1.5 ; 1.5	0.2 ± 1.9 ; 1.9
Zr/Nb-95	-0.4 ± 0.5 ; 0.5	-0.1 ± 0.7 ; 0.7
I-131	-0.3 ± 0.5 ; 0.5	-0.3 ± 0.7 ; 0.7
Cs-134	0.1 ± 0.5 ; 0.5	-0.1 ± 0.9 ; 0.9
Cs-137	0.3 ± 0.6 ; 0.6	-0.4 ± 0.8 ; 0.8
Ba/La-140	-0.4 ± 0.6 ; 0.6	0.9 ± 0.9 ; 0.9

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

<u>BY-Quad 3 1417 Brick Road</u>		
Date Collected	07-30-02	07-30-02
Lab Code	BYVE-5064 *	BYVE-5065
Type	Carrots	Carrot Greens
Mn-54	2.1 ± 1.4 ; 1.5	0.2 ± 1.0 ; 1.0
Fe-59	0.8 ± 3.3 ; 3.3	-1.4 ± 2.3 ; 2.3
Co-58	0.7 ± 1.3 ; 1.3	-0.8 ± 1.0 ; 1.0
Co-60	-0.3 ± 1.9 ; 1.9	1.3 ± 1.2 ; 1.2
Zn-65	-4.9 ± 4.3 ; 4.3	-2.9 ± 2.8 ; 2.8
Zr/Nb-95	-0.8 ± 1.9 ; 1.9	-2.2 ± 2.2 ; 2.2
I-131	-0.8 ± 1.4 ; 1.4	1.8 ± 1.2 ; 1.2
Cs-134	0.1 ± 1.9 ; 1.9	-0.3 ± 1.2 ; 1.2
Cs-137	1.4 ± 1.6 ; 1.6	-0.6 ± 1.1 ; 1.1
Ba/La-140	2.6 ± 1.9 ; 2.0	-0.9 ± 1.2 ; 1.2
Date Collected	07-30-02	
Lab Code	BYVE-5066	
Type	Kohlrabi	
Mn-54	0.4 ± 0.6 ; 0.6	
Fe-59	0.5 ± 1.4 ; 1.4	
Co-58	0.3 ± 0.5 ; 0.6	
Co-60	-0.3 ± 0.7 ; 0.7	
Zn-65	0.3 ± 1.5 ; 1.5	
Zr/Nb-95	0.2 ± 0.5 ; 0.5	
I-131	-0.5 ± 0.5 ; 0.5	
Cs-134	0.4 ± 0.6 ; 0.6	
Cs-137	0.1 ± 0.6 ; 0.6	
Ba/La-140	0.2 ± 0.5 ; 0.5	

* Ba/La result above a posteriori LLD probably due to small sample size (149 grams). LLD not required by ODCM or contractual requirements and is for information only. LLD reached by laboratory ("less than" data) = <0.014 pCi/gwet; LLD at time of counting (not decay corrected) = 0.020+/-0.019 pCi/gwet. Not enough sample remained for reanalysis.

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

Sample Description and Concentration

BY-Quad 4 6170 Razorville Road

Date Collected	07-30-02	07-30-02
Lab Code	BYVE-5067	BYVE-5068
Type	Potatoes	Cabbage
Mn-54	-0.1 ± 0.4 ; 0.4	0.8 ± 0.6 ; 0.6
Fe-59	0.1 ± 1.1 ; 1.1	-1.6 ± 1.7 ; 1.7
Co-58	-0.1 ± 0.4 ; 0.4	-0.5 ± 0.7 ; 0.7
Co-60	-0.0 ± 0.6 ; 0.6	0.9 ± 0.9 ; 0.9
Zn-65	-0.5 ± 1.2 ; 1.2	-0.4 ± 2.0 ; 2.0
Zr/Nb-95	-0.5 ± 0.4 ; 0.4	-0.8 ± 0.9 ; 0.9
I-131	-0.3 ± 0.5 ; 0.5	-0.9 ± 0.8 ; 0.8
Cs-134	-0.3 ± 0.5 ; 0.5	0.4 ± 0.9 ; 0.9
Cs-137	-0.2 ± 0.4 ; 0.4	0.1 ± 0.8 ; 0.8
Ba/La-140	0.1 ± 0.4 ; 0.4	0.3 ± 0.8 ; 0.8
Date Collected	07-30-02	
Lab Code	BYVE-5069	
Type	Broccoli	
Mn-54	0.3 ± 1.2 ; 1.2	
Fe-59	0.4 ± 2.7 ; 2.7	
Co-58	-1.4 ± 1.1 ; 1.1	
Co-60	0.5 ± 1.1 ; 1.1	
Zn-65	1.7 ± 2.2 ; 2.2	
Zr/Nb-95	-0.5 ± 0.9 ; 0.9	
I-131	-0.7 ± 0.8 ; 0.8	
Cs-134	0.6 ± 1.3 ; 1.3	
Cs-137	0.2 ± 1.0 ; 1.0	
Ba/La-140	-0.3 ± 0.9 ; 0.9	

BYRON

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/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-12 Oregon Pool of Rock River, Downstream

2002 Collection Period	January	February	March
Lab Code	BYSW-795	BYSW-1266	BYSW-2175
Gross Beta	3.3 ± 1.1 ; 1.3	2.9 ± 0.9 ; 1.0	4.1 ± 1.6 ; 1.7
Mn-54	0.1 ± 0.7 ; 0.7	0.7 ± 1.4 ; 1.4	1.2 ± 2.3 ; 2.3
Fe-59	1.3 ± 1.3 ; 1.3	2.0 ± 2.9 ; 2.9	-1.3 ± 3.0 ; 3.0
Co-58	0.3 ± 0.6 ; 0.6	-1.1 ± 1.4 ; 1.4	-0.2 ± 2.2 ; 2.2
Co-60	3.7 ± 1.5 ; 1.6	0.7 ± 1.4 ; 1.4	0.4 ± 3.0 ; 3.0
Zn-65	0.3 ± 1.5 ; 1.5	2.6 ± 2.9 ; 2.9	5.4 ± 5.1 ; 5.1
Zr/Nb-95	0.8 ± 0.7 ; 0.7	0.4 ± 1.5 ; 1.5	0.2 ± 2.1 ; 2.1
Cs-134	0.7 ± 0.7 ; 0.8	1.0 ± 1.8 ; 1.8	1.3 ± 2.5 ; 2.5
Cs-137	-0.2 ± 0.8 ; 0.8	0.1 ± 1.7 ; 1.7	2.2 ± 2.6 ; 2.6
Ba/La-140	-2.9 ± 0.7 ; 0.8	0.1 ± 1.6 ; 1.6	-3.1 ± 2.8 ; 2.8
2002 Collection Period	April	May	June
Lab Code	BYSW-2929,30	BYSW-3672,3	BYSW-4164
Gross Beta	3.5 ± 0.7 ; 0.8	2.3 ± 0.7 ; 0.7	4.7 ± 1.0 ; 1.3
Mn-54	-0.8 ± 1.5 ; 1.5	1.1 ± 1.1 ; 1.1	0.6 ± 1.8 ; 1.8
Fe-59	-2.1 ± 2.6 ; 2.6	-1.1 ± 2.2 ; 2.2	0.2 ± 3.4 ; 3.4
Co-58	1.1 ± 1.4 ; 1.4	0.1 ± 1.1 ; 1.1	0.1 ± 1.5 ; 1.5
Co-60	0.5 ± 1.5 ; 1.5	0.4 ± 1.2 ; 1.2	-0.9 ± 2.0 ; 2.1
Zn-65	-0.8 ± 2.8 ; 2.8	-0.1 ± 2.4 ; 2.4	-1.1 ± 4.4 ; 4.4
Zr/Nb-95	-0.4 ± 1.2 ; 1.2	-1.4 ± 1.2 ; 1.2	0.6 ± 1.5 ; 1.5
Cs-134	-0.4 ± 1.6 ; 1.6	-0.5 ± 1.1 ; 1.1	-0.5 ± 2.0 ; 2.0
Cs-137	1.7 ± 1.3 ; 1.3	0.5 ± 1.2 ; 1.2	-0.7 ± 2.0 ; 2.0
Ba/La-140	0.1 ± 1.7 ; 1.7	-1.9 ± 1.7 ; 1.7	1.6 ± 1.0 ; 1.0

BYRON

Table 7. Surface Water

Collection: Monthly composites of weekly collections

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

Units: pCi/L

Sample Description and Concentration			
<u>BY-12 Oregon Pool of Rock River, Downstream</u>			
2002 Collection Period	July	August	September
Lab Code	BYSW-5465	BYSW-6002	BYSW-6686
Gross Beta	3.3 ± 1.3 ; 1.4	3.3 ± 1.5 ; 1.6	3.2 ± 1.5 ; 1.6
Mn-54	0.2 ± 1.0 ; 1.0	1.0 ± 1.6 ; 1.7	0.9 ± 1.6 ; 1.6
Fe-59	-0.6 ± 1.9 ; 1.9	0.2 ± 3.6 ; 3.6	2.5 ± 2.4 ; 2.4
Co-58	0.4 ± 1.1 ; 1.1	0.3 ± 1.5 ; 1.5	1.0 ± 1.5 ; 1.5
Co-60	0.4 ± 1.2 ; 1.2	0.1 ± 1.8 ; 1.8	0.2 ± 1.9 ; 1.9
Zn-65	-0.6 ± 2.2 ; 2.2	0.4 ± 4.3 ; 4.3	-0.6 ± 3.8 ; 3.8
Zr/Nb-95	1.1 ± 1.0 ; 1.0	-2.2 ± 1.8 ; 1.8	-2.2 ± 2.1 ; 2.1
Cs-134	1.4 ± 1.2 ; 1.2	0.4 ± 1.5 ; 1.5	2.7 ± 2.0 ; 2.1
Cs-137	0.0 ± 1.2 ; 1.2	1.2 ± 2.1 ; 2.1	-0.7 ± 2.0 ; 2.0
Ba/La-140	0.3 ± 1.2 ; 1.2	-7.8 ± 2.3 ; 2.5	3.2 ± 2.5 ; 2.6
2002 Collection Period	October	November	December
Lab Code	BYSW-7645	BYSW-8271	BYSW-8764
Gross Beta	3.9 ± 1.0 ; 1.2	4.3 ± 1.1 ; 1.3	3.5 ± 1.1 ; 1.2
Mn-54	0.4 ± 1.4 ; 1.4	-1.9 ± 1.6 ; 1.6	-0.1 ± 1.7 ; 1.7
Fe-59	-0.6 ± 3.7 ; 3.7	0.3 ± 2.9 ; 2.9	0.5 ± 2.8 ; 2.8
Co-58	0.5 ± 1.7 ; 1.7	1.0 ± 1.5 ; 1.5	-2.8 ± 1.8 ; 1.9
Co-60	-0.1 ± 1.7 ; 1.7	1.0 ± 1.9 ; 2.0	-0.9 ± 1.7 ; 1.7
Zn-65	0.6 ± 4.0 ; 4.0	-3.6 ± 3.4 ; 3.4	-3.5 ± 4.8 ; 4.8
Zr/Nb-95	0.3 ± 3.5 ; 3.5	-1.7 ± 1.9 ; 1.9	0.3 ± 2.1 ; 2.1
Cs-134	0.2 ± 1.7 ; 1.7	1.3 ± 1.7 ; 1.7	-0.6 ± 1.9 ; 1.9
Cs-137	-0.3 ± 1.9 ; 1.9	0.6 ± 1.8 ; 1.8	0.7 ± 1.9 ; 1.9
Ba/La-140	-0.6 ± 1.2 ; 1.2	2.5 ± 2.1 ; 2.1	-5.0 ± 2.5 ; 2.6

BYRON

Table 7. Surface Water

Collection: Monthly composites of weekly collections

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

Units: pCi/L

Sample Description and Concentration			
<u>BY-29 (C) Byron, Upstream</u>			
2002 Collection Period	January	February	March
Lab Code	NS ^a	BYSW-1267 ^b	BYSW-2176 ^c
Gross Beta	-	2.3 ± 0.9 ; 1.0	3.0 ± 1.6 ; 1.7
Mn-54	-	-0.6 ± 2.2 ; 2.2	-0.6 ± 1.4 ; 1.4
Fe-59	-	0.6 ± 4.2 ; 4.2	5.9 ± 3.4 ; 3.5
Co-58	-	-1.0 ± 2.2 ; 2.3	0.9 ± 1.3 ; 1.3
Co-60	-	-0.8 ± 2.3 ; 2.3	-0.3 ± 1.9 ; 1.9
Zn-65	-	0.4 ± 5.3 ; 5.3	1.7 ± 3.8 ; 3.8
Zr/Nb-95	-	-0.2 ± 2.6 ; 2.6	-1.3 ± 1.6 ; 1.6
Cs-134	-	1.3 ± 2.2 ; 2.2	-0.4 ± 2.0 ; 2.0
Cs-137	-	-1.1 ± 2.5 ; 2.5	-1.0 ± 1.7 ; 1.7
Ba/La-140	-	2.7 ± 2.7 ; 2.7	-0.4 ± 1.5 ; 1.5
2002 Collection Period	April	May	June
Lab Code	BYSW-2931	BYSW-3674	BYSW-4165
Gross Beta	3.4 ± 1.0 ; 1.1	3.3 ± 1.0 ; 1.1	3.9 ± 1.0 ; 1.2
Mn-54	0.1 ± 1.5 ; 1.5	-0.4 ± 1.7 ; 1.7	0.6 ± 1.4 ; 1.4
Fe-59	-0.9 ± 3.2 ; 3.2	3.0 ± 3.7 ; 3.7	-2.3 ± 2.8 ; 2.9
Co-58	0.2 ± 1.6 ; 1.6	-0.7 ± 1.4 ; 1.4	1.0 ± 1.6 ; 1.7
Co-60	-1.1 ± 1.7 ; 1.7	-2.0 ± 2.0 ; 2.0	-0.4 ± 1.6 ; 1.6
Zn-65	-0.2 ± 3.6 ; 3.6	-1.1 ± 3.7 ; 3.7	-0.5 ± 3.8 ; 3.8
Zr/Nb-95	-0.9 ± 1.7 ; 1.7	-1.3 ± 1.7 ; 1.7	-2.9 ± 1.7 ; 1.7
Cs-134	0.5 ± 1.8 ; 1.8	1.5 ± 1.9 ; 1.9	0.7 ± 1.6 ; 1.6
Cs-137	-0.0 ± 2.0 ; 2.0	-0.4 ± 1.8 ; 1.8	1.0 ± 1.8 ; 1.8
Ba/La-140	6.3 ± 1.8 ; 2.0	-0.9 ± 2.6 ; 2.6	-2.2 ± 1.5 ; 1.5

BYRON

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/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-29 (C) Byron, Upstream

2002 Collection Period	July	August	September
Lab Code	BYSW-5466	BYSW-6003	BYSW-6687
Gross Beta	2.5 ± 1.3 ; 1.4	2.8 ± 1.5 ; 1.6	2.3 ± 1.6 ; 1.6
Mn-54	-0.3 ± 1.7 ; 1.7	0.6 ± 2.8 ; 2.8	1.0 ± 2.2 ; 2.2
Fe-59	-3.6 ± 3.9 ; 3.9	1.7 ± 3.7 ; 3.7	1.3 ± 4.2 ; 4.2
Co-58	-0.5 ± 1.8 ; 1.8	0.2 ± 3.0 ; 3.0	-3.2 ± 1.8 ; 1.9
Co-60	1.4 ± 2.4 ; 2.4	0.2 ± 2.7 ; 2.7	0.3 ± 1.3 ; 1.3
Zn-65	-3.6 ± 3.9 ; 3.9	-1.0 ± 6.4 ; 6.4	-1.1 ± 5.2 ; 5.2
Zr/Nb-95	-2.0 ± 1.9 ; 1.9	-1.2 ± 2.7 ; 2.7	-1.8 ± 2.1 ; 2.1
Cs-134	-0.2 ± 2.0 ; 2.0	-0.7 ± 2.5 ; 2.5	-0.9 ± 2.3 ; 2.3
Cs-137	-0.6 ± 2.3 ; 2.3	0.8 ± 3.0 ; 3.0	-1.0 ± 2.4 ; 2.4
Ba/La-140	3.4 ± 2.3 ; 2.4	8.5 ± 3.3 ; 3.5	-1.9 ± 2.4 ; 2.5
2002 Collection Period	October	November	December
Lab Code	BYSW-7646	BYSW-8272	BYSW-8762,3 ^d
Gross Beta	2.4 ± 1.0 ; 1.0	3.6 ± 1.2 ; 1.3	3.1 ± 0.7 ; 0.8
Mn-54	-1.1 ± 2.0 ; 2.0	-0.2 ± 1.7 ; 1.7	0.1 ± 1.1 ; 1.1
Fe-59	2.9 ± 3.2 ; 3.3	-1.3 ± 4.2 ; 4.2	-2.8 ± 2.4 ; 2.5
Co-58	-1.2 ± 1.7 ; 1.7	-0.1 ± 2.1 ; 2.1	-0.1 ± 1.3 ; 1.3
Co-60	0.8 ± 2.0 ; 2.0	-1.8 ± 2.1 ; 2.1	0.3 ± 1.1 ; 1.1
Zn-65	-5.2 ± 4.5 ; 4.5	0.2 ± 4.0 ; 4.0	-2.7 ± 2.8 ; 2.8
Zr/Nb-95	-0.5 ± 2.5 ; 2.5	-0.2 ± 2.0 ; 2.0	1.0 ± 2.7 ; 2.7
Cs-134	-0.7 ± 2.2 ; 2.2	0.2 ± 1.6 ; 1.6	0.6 ± 1.3 ; 1.3
Cs-137	-0.6 ± 2.6 ; 2.6	0.1 ± 1.9 ; 1.9	0.5 ± 1.4 ; 1.4
Ba/La-140	-0.3 ± 2.0 ; 2.0	-4.6 ± 2.8 ; 2.8	-4.0 ± 1.8 ; 1.9

^a "NS" = No sample; water frozen.

^b Results reflect two samples for month; water frozen on 02-05-02 and 02-12-02.

^c Results reflect three collections for month; water frozen on 03-05-02.

^d Results reflect three collections for month; water frozen on 12-10-02 and 12-17-02.

BYRON

Table 7.	Surface Water
Collection:	Quarterly composites of weekly collections
ODCM-	
Required LLD:	H-3 = 200 pCi/L
Units:	pCi/L

2002 Collection Period	<u>Sample Description and Concentration</u>
	Lab Code Tritium

BY-12 Oregon Pool of Rock River, Downstream

1st Quarter	BYSW - 2371	1,389 ± 125 ; 226
2nd Quarter	BYSW - 4126	219 ± 76 ; 81
3rd Quarter	BYSW - 6688	500 ± 94 ; 116
4th Quarter	BYSW - 8765	40 ± 69 ; 69

BY-29 (C) Byron, Upstream

1st Quarter	BYSW - 2372 *	42 ± 71 ; 71
2nd Quarter	BYSW - 4127	39 ± 66 ; 67
3rd Quarter	BYSW - 6689	-48 ± 67 ; 68
4th Quarter	BYSW - 8766	-45 ± 64 ; 65

* First analysis above required LLD (206 ± 82 pCi/L); sample recomposited and tritium repeated.

BYRON

Table 8. Well Water
Collection: Quarterly
ODCM- H-3 = 200, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
Required LLDs: Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units: pCi/L

Sample Description and Concentration

BY-14-1 3200 North German Church Road

Date Collected	01-08-02	04-09-02	07-09-02	10-08-02
Lab Code	BYWW-128	BYWW-2190	BYWW-4530	BYWW-6764
H-3	-28 ± 80 ; 80	-35 ± 75 ; 75	10 ± 66 ; 66	-108 ± 64 ; 65
Mn-54	-0.2 ± 1.7 ; 1.7	2.1 ± 1.7 ; 1.7	-0.1 ± 0.7 ; 0.7	-0.3 ± 4.4 ; 4.4
Fe-59	-3.3 ± 3.2 ; 3.2	-3.8 ± 3.9 ; 3.9	-1.3 ± 1.4 ; 1.5	-3.9 ± 8.1 ; 8.1
Co-58	0.3 ± 1.3 ; 1.3	0.8 ± 1.6 ; 1.6	-0.3 ± 0.7 ; 0.7	0.5 ± 4.8 ; 4.8
Co-60	0.5 ± 1.4 ; 1.4	-2.1 ± 1.9 ; 1.9	0.3 ± 0.8 ; 0.8	-2.8 ± 6.0 ; 6.0
Zn-65	-0.7 ± 3.4 ; 3.4	2.0 ± 3.8 ; 3.8	-6.3 ± 1.8 ; 2.1	3.1 ± 11.4 ; 11.4
Zr/Nb-95	-0.5 ± 1.7 ; 1.7	-2.2 ± 1.8 ; 1.8	-3.7 ± 0.8 ; 1.0	1.0 ± 4.8 ; 4.8
Cs-134	-0.9 ± 1.8 ; 1.8	-0.4 ± 2.1 ; 2.1	-0.4 ± 0.8 ; 0.8	1.9 ± 4.8 ; 4.9
Cs-137	-0.7 ± 1.8 ; 1.8	0.0 ± 1.9 ; 1.9	-0.5 ± 0.7 ; 0.7	3.3 ± 4.7 ; 4.7
Ba/La-140	-0.3 ± 1.5 ; 1.5	-1.6 ± 1.8 ; 1.9	-1.2 ± 0.9 ; 0.9	5.0 ± 7.3 ; 7.3

BY-18 McCoy Farmstead

Date Collected	01-08-02	04-09-02	07-09-02	10-08-02
Lab Code	BYWW-129	BYWW-2191	BYWW-4531	BYWW-6765
H-3	-39 ± 79 ; 79	20 ± 78 ; 78	15 ± 66 ; 66	-5 ± 70 ; 70
Mn-54	-0.4 ± 1.3 ; 1.3	0.9 ± 1.4 ; 1.4	-0.4 ± 0.6 ; 0.6	-1.1 ± 3.5 ; 3.5
Fe-59	-0.5 ± 2.3 ; 2.3	-2.3 ± 3.0 ; 3.0	-1.3 ± 1.0 ; 1.0	-3.4 ± 5.5 ; 5.5
Co-58	-0.8 ± 1.7 ; 1.7	-0.8 ± 1.3 ; 1.4	-0.0 ± 0.5 ; 0.5	-0.1 ± 3.2 ; 3.2
Co-60	1.2 ± 1.2 ; 1.3	-0.3 ± 1.7 ; 1.7	0.5 ± 0.6 ; 0.6	0.5 ± 3.9 ; 3.9
Zn-65	-1.0 ± 2.3 ; 2.3	2.2 ± 2.4 ; 2.4	-0.5 ± 1.4 ; 1.4	3.4 ± 5.6 ; 5.6
Zr/Nb-95	-0.6 ± 1.7 ; 1.7	-2.5 ± 1.9 ; 1.9	-1.5 ± 0.6 ; 0.6	-0.8 ± 3.8 ; 3.8
Cs-134	1.8 ± 1.7 ; 1.7	0.9 ± 2.0 ; 2.0	0.3 ± 0.6 ; 0.6	-1.8 ± 3.5 ; 3.5
Cs-137	0.1 ± 1.6 ; 1.6	-0.5 ± 1.9 ; 1.9	0.3 ± 0.6 ; 0.6	-1.5 ± 3.5 ; 3.5
Ba/La-140	-1.3 ± 1.7 ; 1.7	0.5 ± 1.7 ; 1.7	-2.9 ± 0.6 ; 0.8	-0.4 ± 4.3 ; 4.3

BYRON

Table 8. Well Water
 Collection: Quarterly
 ODCM- H-3 = 200, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
 Required LLDs: Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
 Units: pCi/L

Sample Description and Concentration				
<u>BY-32 Ron Wolford</u>				
Date Collected	01-08-02	04-09-02	07-09-02	10-08-02
Lab Code	BYWW-130	BYWW-2192	BYWW-4532	BYWW-6766
H-3	35 ± 83 ; 83	29 ± 78 ; 78	64 ± 69 ; 70	-42 ± 68 ; 68
Mn-54	0.1 ± 1.6 ; 1.6	-0.4 ± 1.8 ; 1.8	-0.2 ± 0.7 ; 0.7	0.5 ± 1.8 ; 1.8
Fe-59	-3.9 ± 3.6 ; 3.6	-1.1 ± 3.4 ; 3.4	-2.0 ± 1.4 ; 1.4	0.4 ± 3.5 ; 3.5
Co-58	0.2 ± 1.5 ; 1.5	-2.8 ± 1.8 ; 1.8	-0.7 ± 0.7 ; 0.7	0.4 ± 1.4 ; 1.4
Co-60	2.3 ± 1.5 ; 1.5	-1.3 ± 1.8 ; 1.8	0.2 ± 0.7 ; 0.7	-0.3 ± 1.7 ; 1.7
Zn-65	-0.9 ± 3.8 ; 3.8	-1.8 ± 4.6 ; 4.6	-3.8 ± 1.6 ; 1.7	-1.6 ± 4.4 ; 4.4
Zr/Nb-95	-0.1 ± 1.5 ; 1.5	-1.5 ± 2.0 ; 2.0	-2.2 ± 0.7 ; 0.8	-1.7 ± 1.9 ; 2.0
Cs-134	0.5 ± 1.9 ; 1.9	0.2 ± 2.2 ; 2.2	0.1 ± 0.8 ; 0.8	-1.0 ± 2.1 ; 2.1
Cs-137	-0.2 ± 1.7 ; 1.7	0.2 ± 1.9 ; 1.9	0.1 ± 0.8 ; 0.8	1.3 ± 2.1 ; 2.1
Ba/La-140	0.5 ± 1.5 ; 1.5	-0.3 ± 1.8 ; 1.8	-1.9 ± 0.9 ; 0.9	-3.5 ± 3.1 ; 3.1

BYRON

MILCH ANIMALS, NEAREST LIVESTOCK, AND
NEAREST RESIDENCES CENSUSES

BYRON

MILCH ANIMALS CENSUS, 2002

BY-26-1 Dennis Herbert
 12.0 miles, Sector A
 10% Pasture
 90% Feed

BY-20 K. Reeverts Dairy Farm
 1.9 miles, Sector C
 0% Pasture
 100% Feed

BY-30 Don Roos Dairy
 5.1 miles, Sector G
 0% Pasture
 100% Feed

 2.5 miles, Sector N
 10% Pasture
 90% Feed

 5.8 miles, Sector Q
 20% Pasture
 80% Feed

Census conducted by W. Mueller on August 26, 2002

BYRON

NEAREST LIVESTOCK CENSUS, 2002

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

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>
A	N	3.0 miles
B	NNE	1.5 miles
C	NE	1.9 miles
D	ENE	3.0 miles
E	E	1.4 miles
F	ESE	1.5 miles
G	SE	5.5 miles
H	SSE	3.2 miles
J	S	0.6 miles
K	SSW	2.2 miles
L	SW	3.2 miles
M	WSW	1.7 miles
N	W	2.5 miles
P	WNW	3.5 miles
Q	NW	3.8 miles
R	NNW	1.4 miles

Census conducted by W. Mueller on August 26, 2002

BYRON

NEAREST RESIDENCE CENSUS, 2002

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

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>
A	N	2.7 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 W. Mueller on August 26, 2002

BYRON

4.0 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 2002	Quarter 2 2002	Quarter 3 2002	Quarter 4 2002
I. INDICATOR LOCATIONS					
a. Air Samplers					
BY-01-1	BYRON	22.0	18.0	16.0	18.0
BY-01-2	BYRON	23.0	15.0	16.0	16.0
BY-04-1	PAYNES PT.	25.0	19.0	20.0	22.0
BY-04-2	PAYNES PT.	29.0	22.0	20.0	22.0
BY-06-1	OREGON	21.0	17.0	15.0	18.0
BY-06-2	OREGON	24.0	18.0	16.0	18.0
BY-21-1	NEARSITE N	22.0	17.0	15.0	15.0
BY-21-2	NEARSITE N	20.0	18.0	16.0	16.0
BY-22-1	NEARSITE ESE	26.0	23.0	21.0	24.0
BY-22-2	NEARSITE ESE	26.0	24.0	22.0	24.0
BY-23-1	NEARSITE S	24.0	22.0	20.0	21.0
BY-23-2	NEARSITE S	28.0	22.0	19.0	22.0
BY-24-1	NEARSITE SW	23.0	21.0	18.0	19.0
BY-24-2	NEARSITE SW	23.0	21.0	19.0	20.0
Air Sampler Mean ± S. D.		24.0 ±2.6	19.8 ±2.7	18.1 ±2.4	19.6 ±3.0
Annual Air Sampler Mean ± S.D.					20.4 ±3.4
b. Inner Ring (100 Series)					
BY-101-1		21.0	17.0	14.0	17.0
BY-101-2		22.0	17.0	15.0	15.0
BY-102-1		25.0	23.0	22.0	24.0
BY-102-2		26.0	24.0	21.0	23.0
BY-103-1		27.0	21.0	19.0	21.0
BY-103-2		25.0	25.0	19.0	21.0
BY-104-1		29.0	23.0	20.0	21.0
BY-104-2		28.0	23.0	20.0	22.0
BY-105-1		29.0	26.0	20.0	22.0
BY-105-2		29.0	23.0	20.0	24.0
BY-106-1		26.0	23.0	20.0	24.0
BY-106-2		25.0	22.0	19.0	22.0
BY-107-1		29.0	24.0	21.0	24.0
BY-107-2		29.0	24.0	21.0	23.0
BY-108-1		29.0	22.0	20.0	22.0
BY-108-2		23.0	21.0	19.0	20.0
BY-109-1		24.0	21.0	18.0	23.0
BY-109-2		25.0	21.0	20.0	20.0
BY-110-1		26.0	20.0	21.0	20.0
BY-110-2		23.0	22.0	19.0	20.0
BY-111-3		26.0	24.0	20.0	23.0
BY-111-4		25.0	21.0	19.0	21.0

Exelon Nuclear
Environmental Site Report for Byron

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2002	Quarter 2 2002	Quarter 3 2002	Quarter 4 2002
b. Inner Ring (100 Series)					
BY-112-3		25.0	21.0	18.0	22.0
BY-112-4		26.0	23.0	19.0	21.0
BY-113-1		25.0	22.0	20.0	22.0
BY-113-2		23.0	19.0	19.0	18.0
BY-114-1		23.0	20.0	18.0	20.0
BY-114-2		25.0	21.0	21.0	21.0
BY-115-1		25.0	20.0	19.0	21.0
BY-115-2		23.0	21.0	21.0	20.0
BY-116-1		26.0	22.0	17.0	19.0
BY-116-2		21.0	22.0	21.0	20.0
Inner Ring Mean \pm S.D.		25.4 \pm 2.4	21.8 \pm 2.0	19.4 \pm 1.7	21.1 \pm 2.0
Annual Inner Ring Mean \pm S.D.					21.9 \pm 3.0
c. Outer Ring (200 Series)					
BY-201-3		24.0	24.0	21.0	20.0
BY-201-4		27.0	25.0	18.0	22.0
BY-202-1		25.0	20.0	18.0	19.0
BY-202-2		29.0	22.0	21.0	22.0
BY-203-1		23.0	17.0	15.0	17.0
BY-203-2		24.0	20.0	17.0	20.0
BY-204-1		21.0	19.0	19.0	20.0
BY-204-2		27.0	23.0	19.0	23.0
BY-205-1		27.0	23.0	23.0	22.0
BY-205-2		27.0	22.0	19.0	22.0
BY-206-1		29.0	23.0	21.0	22.0
BY-206-2		29.0	25.0	22.0	22.0
BY-207-1		29.0	27.0	21.0	23.0
BY-207-2		26.0	23.0	19.0	22.0
BY-208-1		30.0	24.0	25.0	23.0
BY-208-2		24.0	23.0	19.0	23.0
BY-209-1		25.0	22.0	20.0	23.0
BY-209-4		25.0	22.0	22.0	21.0
BY-210-3		27.0	24.0	21.0	23.0
BY-210-4		27.0	21.0	18.0	23.0
BY-211-1		28.0	21.0	22.0	23.0
BY-211-4		27.0	24.0	22.0	22.0
BY-212-1		29.0	27.0	20.0	21.0
BY-212-4		25.0	27.0	24.0	23.0
BY-213-1		27.0	24.0	20.0	24.0
BY-213-4		24.0	23.0	24.0	22.0
BY-214-1		27.0	22.0	18.0	22.0
BY-214-4		27.0	22.0	22.0	22.0

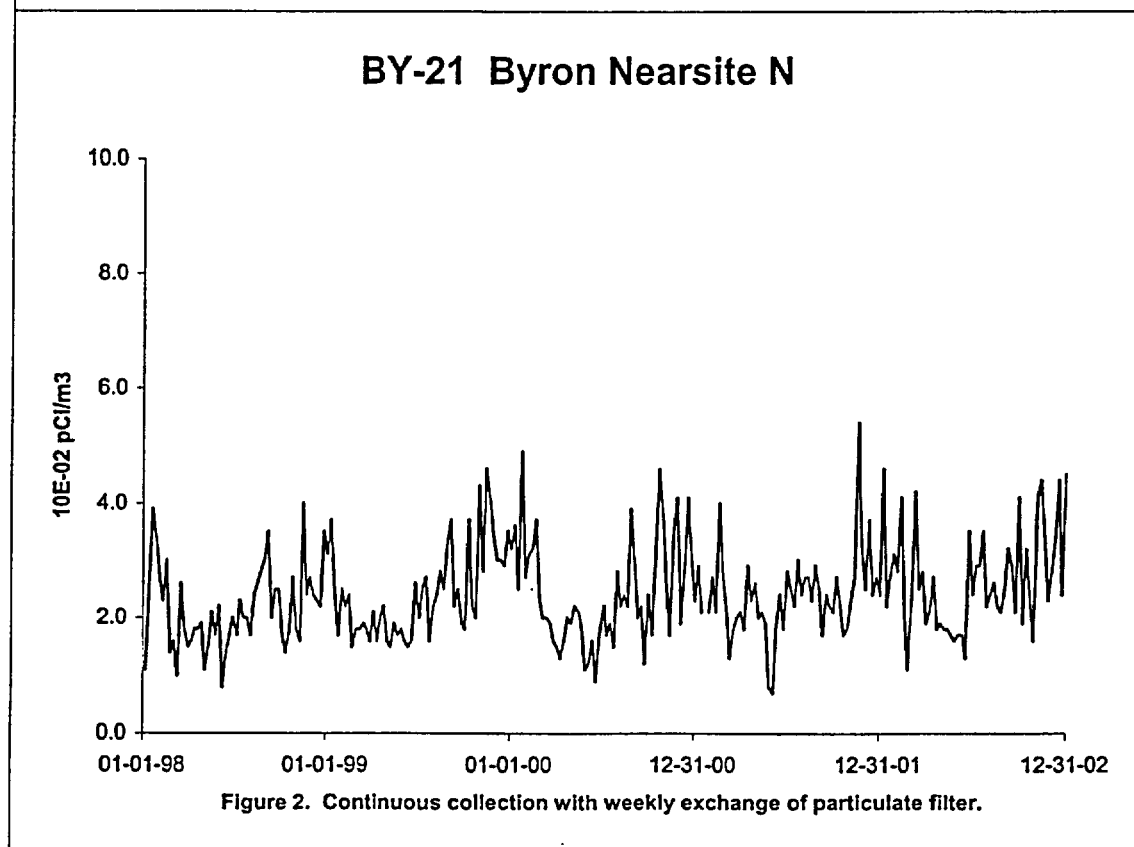
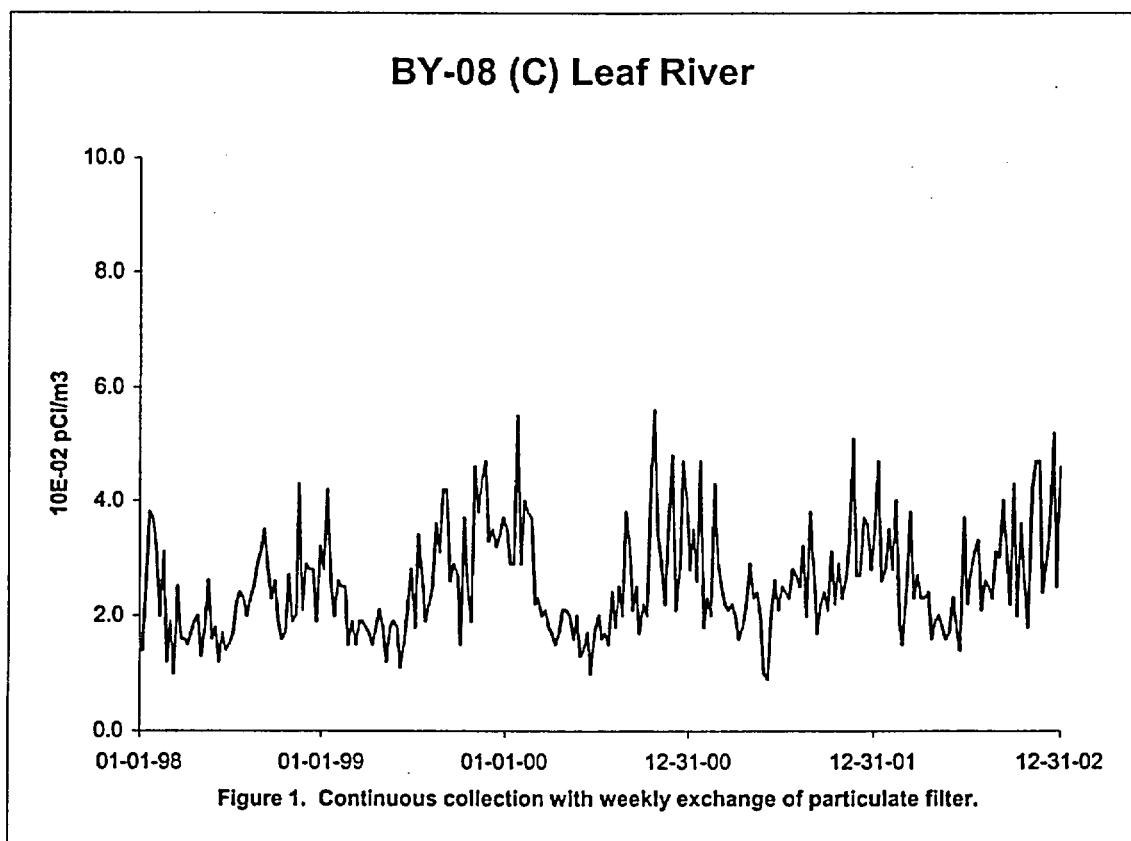
Exelon Nuclear
Environmental Site Report for Byron

		Gamma Radiation Measured in mR by TLDs			
Site	Description	Quarter 1 2002	Quarter 2 2002	Quarter 3 2002	Quarter 4 2002
Outer Ring (200 Series)					
BY-215-1		28.0	23.0	25.0	24.0
BY-215-4		30.0	23.0	20.0	25.0
BY-216-1		30.0	24.0	23.0	24.0
BY-216-2		27.0	25.0	22.0	23.0
	Outer Ring Mean ± S.D.	26.7 ±2.2	22.9 ±2.2	20.6 ±2.4	22.1 ±1.6
	Annual Outer Ring Mean ± S.D.				23.1 ±3.1
	INDICATOR LOCATION MEAN ± S.D.	25.7 ±2.5	21.9 ±2.5	19.7 ±2.3	21.3 ±2.2
	Annual INDICATOR MEAN ± S.D.				22.1 ±3.2
II. CONTROL LOCATIONS					
BY-08-1	LEAF RIVER	23.0	20.0	17.0	19.0
BY-08-2	LEAF RIVER	21.0	17.0	16.0	17.0
	CONTROL LOCATION MEAN ± S.D.	22.0 ±1.4	18.5 ±2.1	16.5 ±0.7	18.0 ±1.4
	Annual CONTROL LOCATION MEAN ± S.D.				18.8 ±1.4

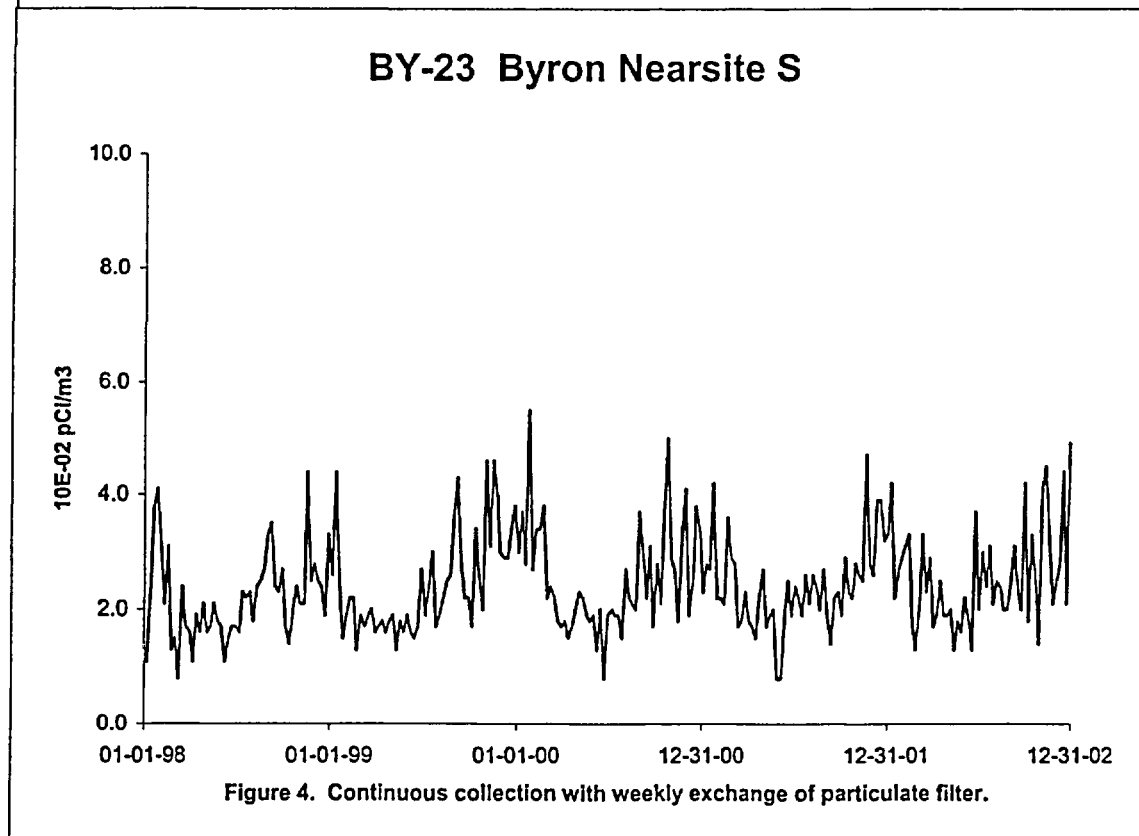
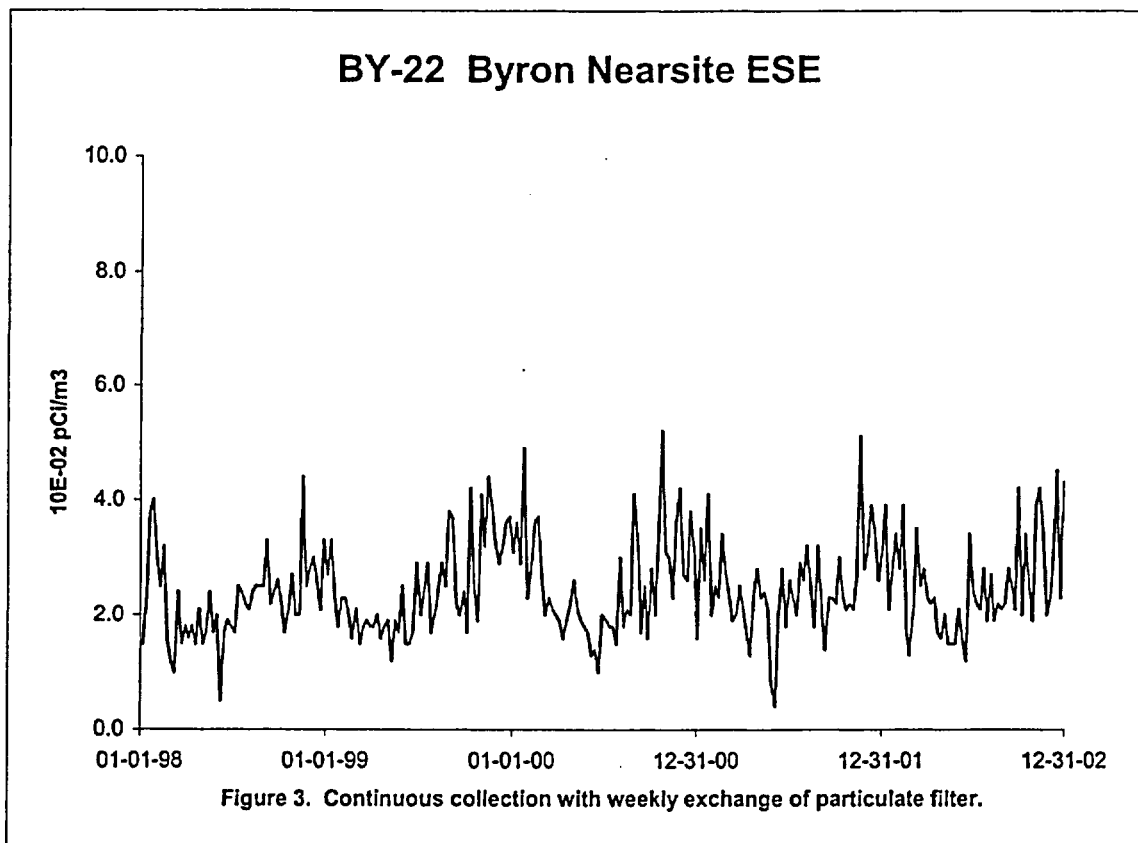
BYRON

5.0 GRAPHS OF DATA TRENDS

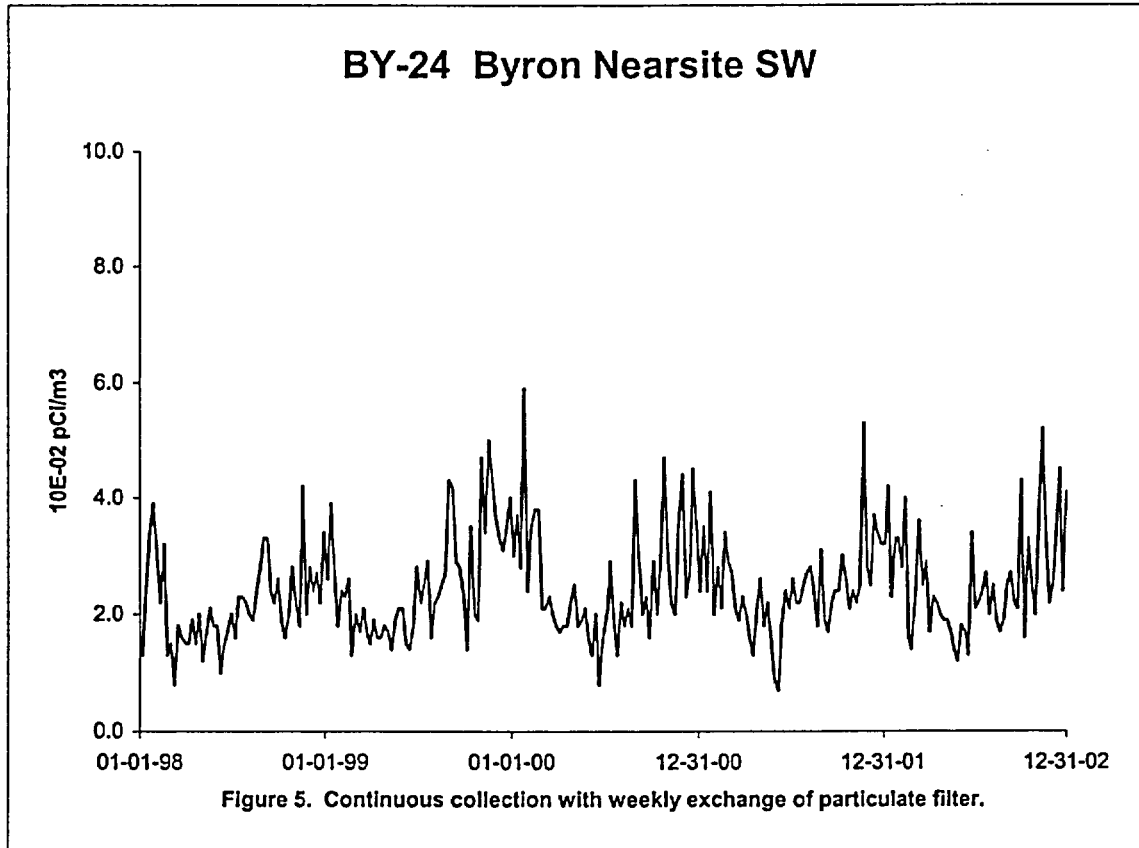
Air Particulates - Gross Beta



Air Particulates - Gross Beta



Air Particulates - Gross Beta



Surface Water - Gross Beta

BY-12 Oregon Pool of Rock River, Downstream

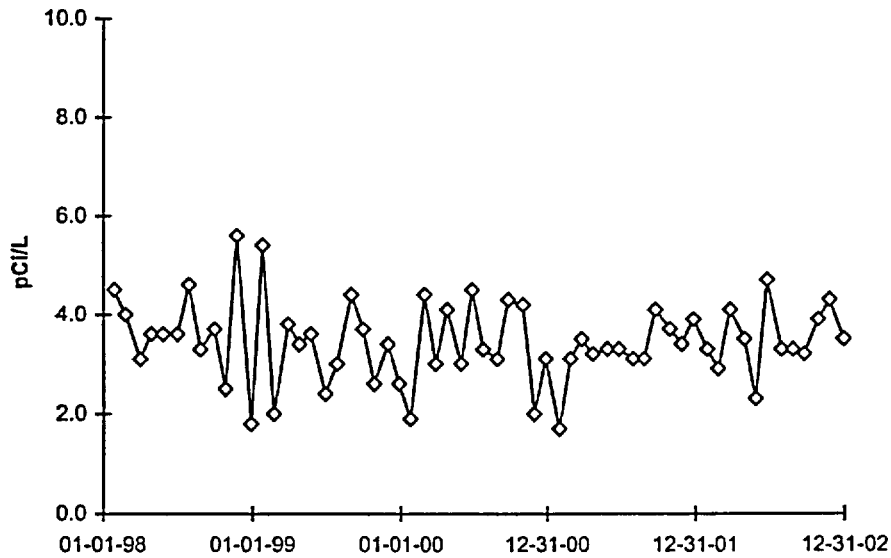


Figure 6. Monthly composites of weekly collections.

BY-29 (C) Byron, Upstream

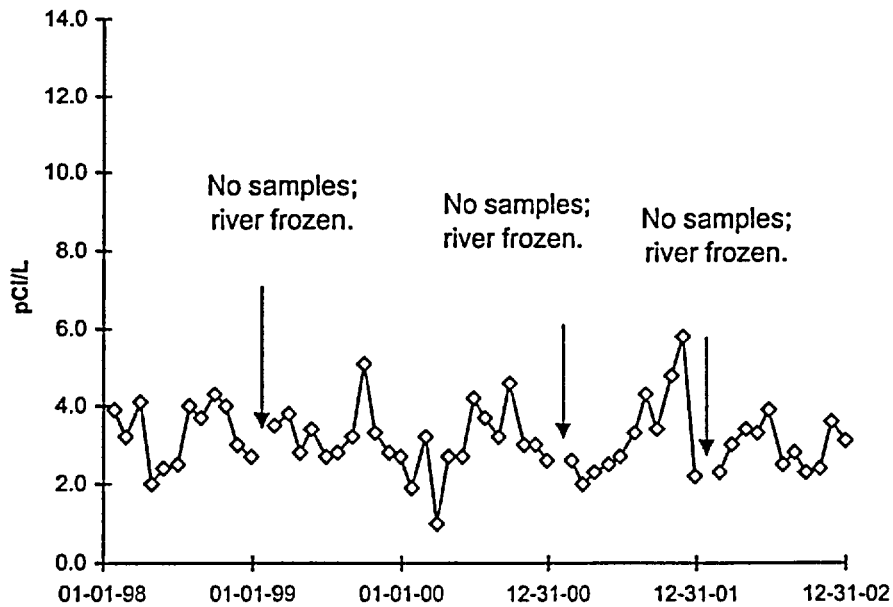


Figure 7. Monthly composites of weekly collections.

Surface Water-Tritium

BY-12 Oregon Pool of Rock River, Downstream

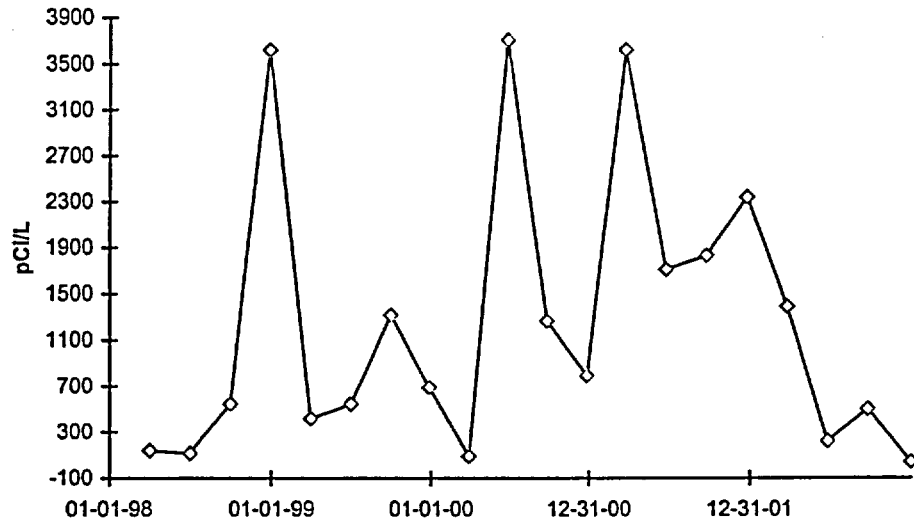


Figure 8. Quarterly composites of weekly collections.

BY-29(C) Byron, Upstream

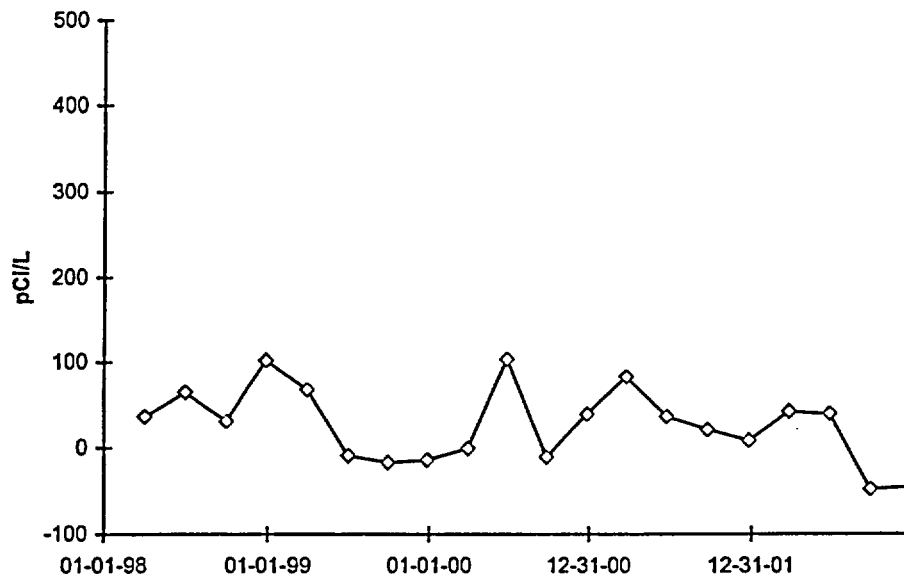


Figure 9. Quarterly composites of weekly collections.

Well Water-Tritium

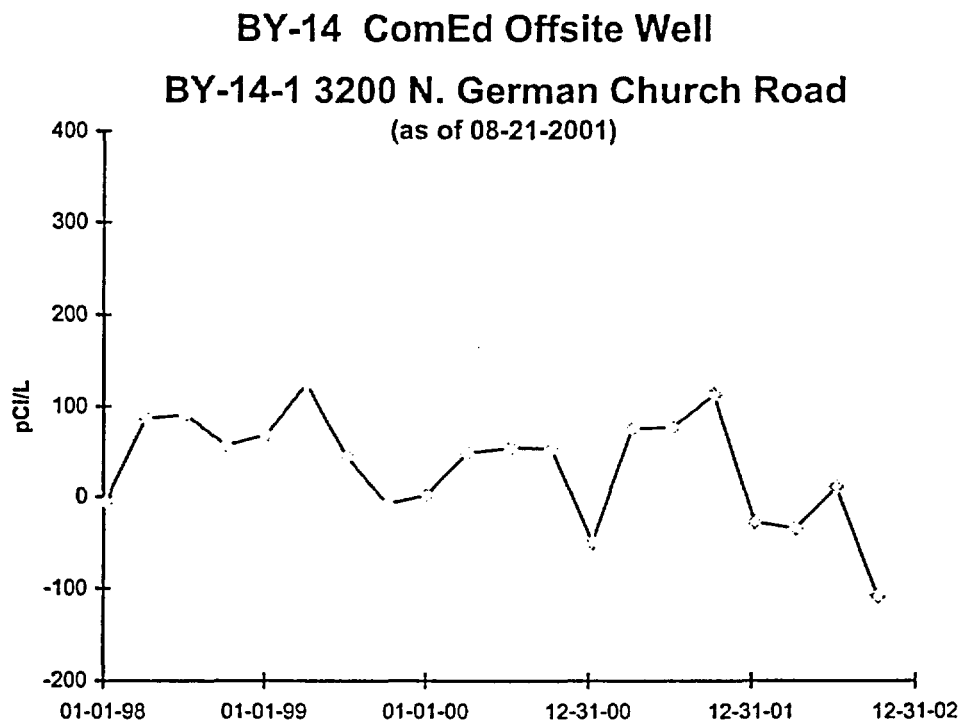


Figure 10. Quarterly collections.

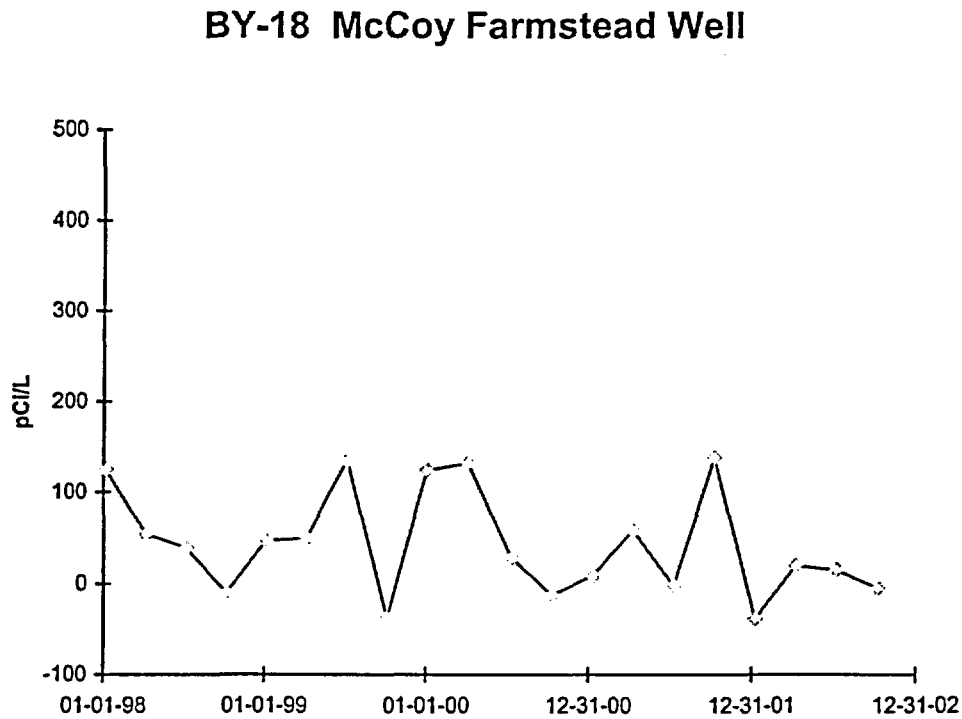
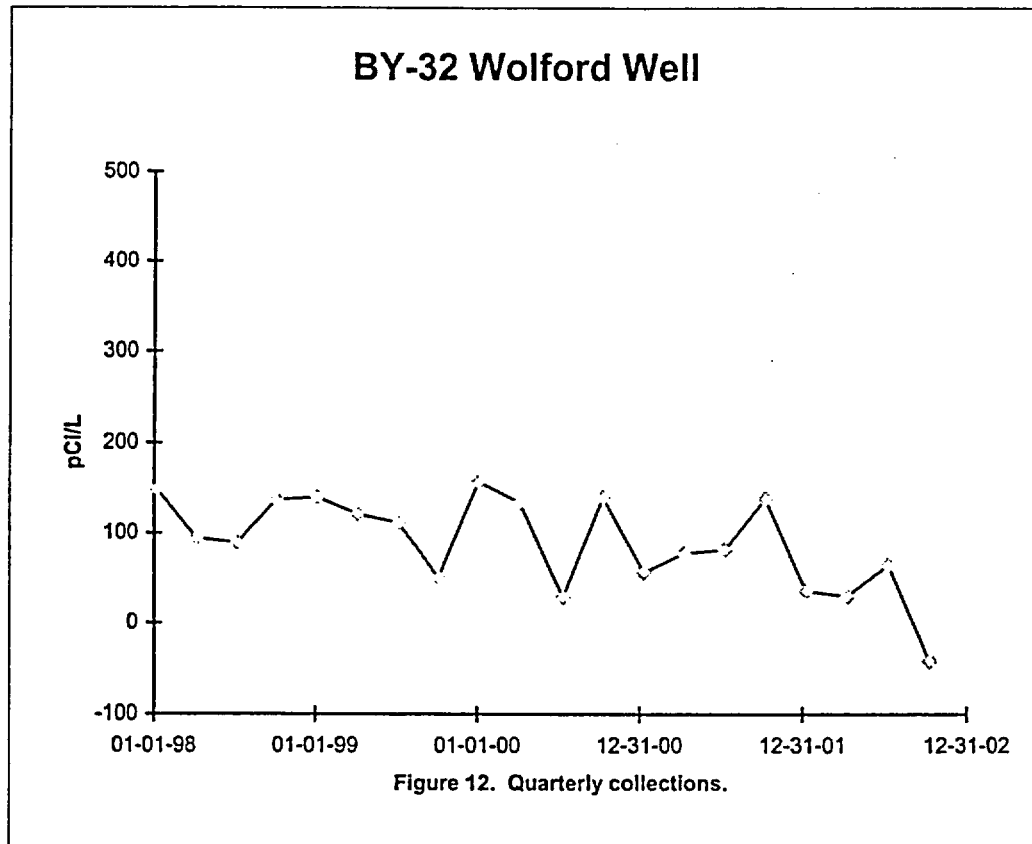


Figure 11. Quarterly collections.

Well Water-Tritium



APPENDIX IV

INTERLABORATORY COMPARISON PROGRAM RESULTS

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 its 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 were obtained for Thermoluminescent Dosimeters (TLDs), via International Intercomparison of Environmental Dosimeters under the sponsorships listed in Table A-2. Results of internal laboratory testing is also listed.

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. 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	1s = (pCi/liter) = 169.85 x (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-940	02/20/02	Sr-89	53.0 ± 2.5	55.3 ± 5.0	46.6 - 64.0
STW-940	02/20/02	Sr-90	16.6 ± 0.5	15.9 ± 5.0	7.2 - 24.6
STW-942	02/20/02	Gr. Alpha	6.5 ± 0.6	8.0 ± 5.0	0.0 - 16.7
STW-942	02/20/02	Gr. Beta	45.7 ± 3.1	48.3 ± 5.0	39.6 - 57.0
STW-944	02/20/02	Ba-133	25.8 ± 1.5	28.9 ± 5.0	20.2 - 37.6
STW-944	02/20/02	Co-60	76.9 ± 2.7	73.4 ± 5.0	64.7 - 82.1
STW-944	02/20/02	Cs-134	38.7 ± 1.6	42.1 ± 5.0	33.4 - 50.8
STW-944	02/20/02	Cs-137	92.9 ± 2.7	88.8 ± 5.0	80.1 - 97.5
STW-944	02/20/02	Ra-226	15.3 ± 0.7	14.3 ± 2.2	10.6 - 18.0
STW-944	02/20/02	Ra-228	17.5 ± 0.4	16.9 ± 4.2	9.6 - 24.2
STW-944	02/20/02	Uranium	23.8 ± 1.1	28.3 ± 3.0	23.1 - 33.5
STW-944	02/20/02	Zn-65	361.0 ± 9.2	359.0 ± 35.9	298.0 - 420.0
STW-951	05/22/02	Gr. Alpha	23.9 ± 2.5	22.8 ± 5.7	13.0 - 32.6
STW-951	05/22/02	Ra-226	5.9 ± 0.5	6.1 ± 0.9	4.5 - 7.7
STW-951	05/22/02	Ra-228	5.6 ± 0.9	4.5 ± 1.1	2.6 - 6.5
STW-951	05/22/02	Uranium	7.6 ± 0.2	9.3 ± 3.0	4.1 - 14.5
STW-952	05/22/02	Co-60	37.9 ± 0.7	39.1 ± 5.0	30.4 - 47.8
STW-952	05/22/02	Cs-134	14.5 ± 0.8	17.1 ± 5.0	8.4 - 25.8
STW-952	05/22/02	Cs-137	50.0 ± 2.0	52.1 ± 5.0	43.4 - 60.8
STW-952	05/22/02	Gr. Beta	171.0 ± 2.5	189.0 ± 28.4	140.0 - 238.0
STW-952	05/22/02	Sr-89	28.4 ± 4.8	31.7 ± 5.0	23.0 - 40.4
STW-952	05/22/02	Sr-90	32.4 ± 3.1	28.3 ± 5.0	19.6 - 37.0
STW-953 ^d	05/22/02	H-3	13900.0 ± 100.0	17400.0 ± 1740.0	14400.0 - 20400.0
STW-954	05/22/02	I-131	14.6 ± 0.3	14.7 ± 2.0	11.2 - 18.2
STW-965	08/21/02	Ba-133	71.9 ± 2.1	80.0 ± 8.0	66.4 - 93.6
STW-965	08/21/02	Co-60	23.8 ± 1.0	23.3 ± 5.0	14.6 - 32.0
STW-965	08/21/02	Cs-134 ^e	62.9 ± 1.2	71.7 ± 5.0	63.0 - 80.4
STW-965	08/21/02	Cs-137	219.3 ± 10.7	214.0 ± 10.7	195.0 - 233.0
STW-965	08/21/02	Gr. Alpha	74.4 ± 0.6	58.8 ± 14.7	33.5 - 84.1
STW-965	08/21/02	Gr. Beta	26.7 ± 0.4	21.9 ± 2.2	13.2 - 30.6
STW-965	08/21/02	Ra-226	5.0 ± 0.5	5.0 ± 0.8	3.7 - 6.3
STW-965	08/21/02	Ra-228	6.0 ± 0.7	4.7 ± 1.2	2.7 - 6.7
STW-965	08/21/02	Sr-89	28.4 ± 1.5	29.0 ± 5.0	20.3 - 37.7
STW-965	08/21/02	Sr-90	36.5 ± 1.1	36.4 ± 5.0	27.7 - 45.1
STW-965	08/21/02	Uranium	4.1 ± 0.1	5.0 ± 3.0	0.0 - 10.2
STW-965	08/21/02	Zn-65	92.4 ± 2.2	95.7 ± 9.6	79.4 - 112.0
STW-966	11/20/02	Gr. Alpha	9.3 ± 0.4	12.2 ± 5.0	3.5 - 20.9
STW-966	11/20/02	Gr. Beta	44.7 ± 1.0	47.0 ± 5.0	38.3 - 55.7
STW-967	11/20/02	H-3	10100.0 ± 38.7	10200.0 ± 1020.0	8440.0 - 12000.0
STW-968	11/20/02	Ra-226	11.6 ± 0.1	12.1 ± 1.8	9.0 - 15.2
STW-968	11/20/02	Ra-228	16.0 ± 1.4	15.1 ± 3.8	8.6 - 21.6
STW-968	11/20/02	Uranium	15.5 ± 0.5	19.2 ± 3.0	14.0 - 24.4
STW-969	11/20/02	I-131	6.0 ± 0.4	6.8 ± 2.0	3.3 - 10.2

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

Lab Code	Date	Analysis	Concentration (pCi/L)		Control Limits
			Laboratory Result ^b	ERA Result ^c	
STW-970	11/20/02	Co-60	104.0 ± 7.1	104.0 ± 5.2	95.0 - 113.0
STW-970	11/20/02	Cs-134	48.2 ± 2.3	55.5 ± 5.0	46.8 - 64.2
STW-970	11/20/02	Cs-137	109.0 ± 12.6	117.0 ± 5.9	107.0 - 127.0
STW-970	11/20/02	Gr. Beta	252.0 ± 26.8	288.0 ± 49.5	244.0 - 416.0
STW-970	11/20/02	Sr-89	43.2 ± 0.7	47.6 ± 5.0	38.9 - 56.3
STW-970	11/20/02	Sr-90	7.5 ± 0.2	7.6 ± 5.0	0.0 - 16.2
STW-971	11/20/02	Gr. Alpha	74.9 ± 1.5	103.0 ± 25.8	58.4 - 148.0
STW-971	11/20/02	Ra-226	8.9 ± 0.0	9.1 ± 1.4	6.7 - 11.5
STW-971	11/20/02	Ra-228	15.3 ± 0.1	17.8 ± 4.5	10.1 - 25.5
STW-971	11/20/02	Uranium	51.7 ± 1.6	61.7 ± 6.2	51.0 - 72.4

^a Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the environmental samples crosscheck program operated by Environmental Resources Associates (ERA).

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

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

^d Analysis was repeated; result of reanalysis: 16114±487 pCi/L.

^e ERA acknowledged an unacceptably high percentage of failure for Cs-134 and questioned its own control limits. No problems were identified in the analysis.

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

Lab Code	TLD Type	Date	Measurement	Known Value	mR	Control Limits
					Lab Result ± 2 sigma	
<u>Environmental, Inc.</u>						
2001-1	CaSO4: Dy Cards	12/24/2001	Reader 1, #1	3.98	3.71 ± 0.12	2.79 - 5.17
2001-1	CaSO4: Dy Cards	12/24/2001	Reader 1, #1	3.98	3.38 ± 0.09	2.79 - 5.17
2001-1	CaSO4: Dy Cards	12/24/2001	Reader 1, #2	7.07	7.89 ± 0.18	4.95 - 9.19
2001-1	CaSO4: Dy Cards	12/24/2001	Reader 1, #2	7.07	7.64 ± 0.25	4.95 - 9.19
2001-1	CaSO4: Dy Cards	12/24/2001	Reader 1, #3	15.9	18.62 ± 0.40	11.13 - 20.67
2001-1	CaSO4: Dy Cards	12/24/2001	Reader 1, #3	15.9	19.58 ± 0.12	11.13 - 20.67
2001-1	CaSO4: Dy Cards	12/24/2001	Reader 1, #4	63.61	78.24 ± 1.23	44.53 - 82.69
2001-1	CaSO4: Dy Cards	12/24/2001	Reader 1, #4	63.61	79.89 ± 2.47	44.53 - 82.69
<u>Environmental, Inc.</u>						
2002-1	CaSO4: Dy Cards	5/28/2002	Reader 1, #1	4.84	4.44 ± 0.16	3.39 - 6.29
2002-1	CaSO4: Dy Cards	5/28/2002	Reader 1, #1	4.84	4.37 ± 0.20	3.39 - 6.29
2002-1	CaSO4: Dy Cards	5/28/2002	Reader 1, #2	8.60	9.08 ± 0.14	6.02 - 11.18
2002-1	CaSO4: Dy Cards	5/28/2002	Reader 1, #2	8.60	8.76 ± 0.16	6.02 - 11.18
2002-1	CaSO4: Dy Cards	5/28/2002	Reader 1, #3	19.34	22.14 ± 0.27	13.54 - 25.14
2002-1	CaSO4: Dy Cards	5/28/2002	Reader 1, #3	19.34	24.03 ± 0.30	13.54 - 25.14
2002-1	CaSO4: Dy Cards	5/28/2002	Reader 1, #4	77.36	92.77 ± 0.58	54.15 - 100.57
2002-1	CaSO4: Dy Cards	5/28/2002	Reader 1, #4	77.36	85.25 ± 0.37	54.15 - 100.57
<u>Environmental, Inc.</u>						
2002-2	CaSO4: Dy Cards	12/13/2002	Reader 1, 30	56.73	71.61 ± 1.79	39.71 - 73.75
2002-2	CaSO4: Dy Cards	12/13/2002	Reader 1, 45 ^a	25.21	33.49 ± 1.38	17.65 - 32.77
^a Precision of the distance (cm) measurement can significantly increase the error. The placement of the card holder on the table could account for the higher error.						
2002-2	CaSO4: Dy Cards	12/13/2002	Reader 1, 60	14.18	17.37 ± 1.24	9.93 - 18.43
2002-2	CaSO4: Dy Cards	12/13/2002	Reader 1, 75	9.08	10.65 ± 1.02	6.36 - 11.80
2002-2	CaSO4: Dy Cards	12/13/2002	Reader 1, 90	6.30	6.37 ± 0.54	4.41 - 8.19
2002-2	CaSO4: Dy Cards	12/13/2002	Reader 1, 120	3.55	4.60 ± 0.41	2.49 - 4.62
2002-2	CaSO4: Dy Cards	12/13/2002	Reader 1, 135	2.80	2.51 ± 0.23	1.96 - 3.64
2002-2	CaSO4: Dy Cards	12/13/2002	Reader 1, 150	2.28	2.22 ± 0.28	1.60 - 2.96

^c Control limits are based on Attachment A, Page IV3 of this report.

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
SPW-11552	Water	1/7/2002	Gr. Alpha	35.33 ± 1.83	34.57	17.29 - 51.86
SPW-11552	Water	1/7/2002	Gr. Beta	112.62 ± 2.44	107.70	96.93 - 118.47
SPMI-595	Milk	1/31/2002	Cs-134	29.63 ± 4.98	27.10	17.10 - 37.10
SPMI-595	Milk	1/31/2002	Cs-137	51.31 ± 7.55	50.89	40.89 - 60.89
SPMI-597	Milk	1/31/2002	Co-60	44.18 ± 7.76	41.36	31.36 - 51.36
SPMI-597	Milk	1/31/2002	Cs-134	20.15 ± 5.08	22.59	12.59 - 32.59
SPMI-597	Milk	1/31/2002	Cs-137	54.88 ± 8.32	50.89	40.89 - 60.89
SPAP-594	Air Filter	2/6/2002	Gr. Beta	1.58 ± 0.02	1.55	0.00 - 11.55
SPW-599	Water	2/19/2002	H-3	47607 ± 595	50189	40151 ± 60227
SPMI-1446	Milk	3/8/2002	I-131(G)	87.84 ± 11.47	85.20	75.20 - 95.20
SPW-1446	Water	3/8/2002	I-131	82.98 ± 1.20	85.20	68.16 - 102.24
SPW-1446	Water	3/8/2002	I-131(G)	92.75 ± 12.87	85.20	75.20 - 95.20
SPMI-1448	Milk	3/8/2002	I-131	88.00 ± 1.13	85.20	68.16 - 102.24
SPVE-1444	Vegetation	3/11/2002	I-131(G)	0.39 ± 0.04	0.42	0.25 - 0.58
SPAP-2078	Air Filter	4/8/2002	Gr. Beta	1.43 ± 0.01	1.55	0.00 - 11.55
SPW-2080	Water	4/5/2002	H-3	49121 ± 608	46912	37530 ± 56294
SPF-2082	Fish	4/5/2002	Cs-134	0.83 ± 0.04	0.83	0.50 - 1.16
SPF-2082	Fish	4/5/2002	Cs-137	1.29 ± 0.07	1.35	0.81 - 1.89
SPMI-2084	Milk	4/8/2002	Cs-134	20.93 ± 5.82	24.69	14.69 - 34.69
SPMI-2084	Milk	4/8/2002	Cs-137	51.83 ± 10.23	50.56	40.56 - 60.56
SPMI-2084	Milk	4/8/2002	I-131	87.72 ± 1.28	88.37	70.70 - 106.04
SPMI-2084	Milk	4/8/2002	I-131(G)	84.08 ± 10.75	88.37	78.37 - 98.37
SPMI-2084	Milk	4/8/2002	Sr-90	62.81 ± 1.99	66.85	53.48 - 80.22
SPW-2115	Water	4/8/2002	I-131	82.42 ± 1.27	88.37	70.70 - 106.04
SPW-2116	Water	4/8/2002	Co-60	32.47 ± 5.78	33.09	23.09 - 43.09
SPW-2116	Water	4/8/2002	Cs-134	30.80 ± 3.60	28.80	18.80 - 38.80
SPW-2116	Water	4/8/2002	Cs-137	53.85 ± 7.07	50.56	40.56 - 60.56
SPW-2116	Water	4/8/2002	I-131(G)	79.09 ± 7.58	88.37	78.37 - 98.37
SPW-2116	Water	4/8/2002	Sr-90	70.35 ± 2.32	66.85	53.48 - 80.22
SPW-2019	Water	5/3/2002	Gr. Alpha	25.89 ± 1.71	34.57	17.29 - 51.86
SPW-2019	Water	5/3/2002	Gr. Beta	101.19 ± 2.37	107.70	96.93 - 118.47
SPCH-3064	Charcoal	5/11/2002	I-131(G)	0.74 ± 0.04	0.85	0.51 - 1.18
SPW-4682	Water	7/17/2002	H-3	40856 ± 548	46179	36943 ± 55415
SPAP-4685	Air Filter	7/17/2002	Gr. Beta	1.58 ± 0.02	1.55	0.00 - 11.55
W-71702S	Water	7/17/2002	Fe-55	10463.00 ± 126.00	12200.60	9760.48 - 14640.72
W-71702S	Water	07/17/02	H-3	45779 ± 583	46179	36943 ± 55415
W-71702S	Water	07/17/02	Ni-63	17.02 ± 1.50	17.10	10.26 - 23.94
SPVE-4910	Vegetation	07/22/02	Sr-90	10.22 ± 0.80	9.04	0.00 - 19.04
W-72302S	Water	07/23/02	Sr-90	21.43 ± 0.97	26.55	16.55 - 36.55
W-80102S	Water	08/01/02	Gr. Alpha	41.25 ± 4.58	34.45	17.23 - 51.68
W-80102S	Water	08/01/02	Gr. Beta	113.66 ± 5.30	107.70	96.93 - 118.47
W-80202S	Water	08/02/02	Tc-99	16.39 ± 0.72	14.13	2.13 - 26.13
SPW-7188	Water	10/25/02	Fe-55	20396 ± 265	22778	18222 - 27334
SPW-7190	Water	10/25/02	Ni-63	227.18 ± 11.60	170.80	102.48 - 239.12

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
SPW-7192	Water	10/25/02	H-3	96310 ± 871	90963	72770 - 109156
SPW-7194	Water	10/25/02	C-14	42938 ± 167	49661	29796 - 69525
SPAP-7198	Air Filter	10/25/02	Gr. Beta	1.65 ± 0.02	1.53	0.00 - 11.53
SPW-7335	Water	10/30/02	Co-60	39.67 ± 7.38	37.05	27.05 - 47.05
SPW-7335	Water	10/30/02	Cs-134	33.09 ± 5.96	34.11	24.11 - 44.11
SPW-7335	Water	10/30/02	Cs-137	46.80 ± 10.39	49.90	39.90 - 59.90
SPMI-7336	Milk	10/30/02	Cs-134	34.40 ± 4.99	34.11	24.11 - 44.11
SPMI-7336	Milk	10/30/02	Cs-137	46.52 ± 8.52	49.91	39.91 - 59.91
SPF-7340	Fish	10/30/02	Cs-134	0.66 ± 0.03	0.68	0.41 - 0.95
SPF-7340	Fish	10/30/02	Cs-137	1.35 ± 0.05	1.33	0.80 - 1.86
SPS-8102	Sediment	11/01/02	Sr-90	14.69 ± 0.67	13.45	3.45 - 23.45

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

^b Results are based on single determinations.

^c Control limits are based on Attachment A, Page IV3 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)		Acceptance Criteria (4.66 σ)
				LLD	Activity ^b	
SPW-11551	water	1/7/2002	Gr. Alpha	0.47	0.45 ± 0.39	1
SPW-11551	water	1/7/2002	Gr. Beta	1.37	0.55 ± 1.03	3.2
SPAP-590	Air Filter	1/31/2002	Co-60	1.78		100
SPAP-590	Air Filter	1/31/2002	Cs-134	3.42		100
SPAP-590	Air Filter	1/31/2002	Cs-137	2.33		100
SPAP-590	Air Filter	1/31/2002	Gr. Beta	0.74	-0.096 ± 0.38	3.2
SPMI-596	Milk	1/31/2002	Co-60	3.54		10
SPMI-596	Milk	1/31/2002	Cs-134	3.24		10
SPMI-596	Milk	1/31/2002	Cs-137	3.89		10
SPMI-596	Milk	1/31/2002	K-40		1472.1 ± 101.50	0
SPW-598	water	1/31/2002	Co-60	2.30		10
SPW-598	water	1/31/2002	Cs-134	3.74		10
SPW-598	water	1/31/2002	Cs-137	3.23		10
SPW-600	water	1/31/2002	H-3	138.80	-96.5 ± 63.40	200
SPMI-1447	Milk	3/7/2002	I-131(G)	7.63		20
SPVE-1443	Vegetation	3/8/2002	I-131(G)	0.02		20
SPW-1445	water	3/8/2002	Co-60	2.76		10
SPW-1445	water	3/8/2002	Cs-134	2.87		10
SPW-1445	water	3/8/2002	Cs-137	4.34		10
SPW-1445	water	3/8/2002	I-131	0.45	0.17 ± 0.31	0.5
SPW-1445	water	3/8/2002	I-131(G)	6.50		20
SPMI-1447	Milk	3/8/2002	I-131	0.31	0.15 ± 0.22	0.5
SPAP-2077	Air Filter	4/8/2002	Gr. Beta	0.32	-0.055 ± 0.19	3.2
SPW-2079	water	4/5/2002	H-3	134.17	16.13 ± 67.39	200
SPF-2081	Fish	4/5/2002	Cs-134	7.67		100
SPF-2081	Fish	4/5/2002	Cs-137	9.54		100
SPMI-2083	Milk	4/8/2002	Cs-134	2.90		10
SPMI-2083	Milk	4/8/2002	Cs-137	3.03		10
SPMI-2083	Milk	4/8/2002	I-131	0.52	-0.38 ± 0.34	0.5
SPMI-2083	Milk ^c	4/8/2002	Sr-90	0.48	1.29 ± 0.36	1
SPW-2115	water	4/8/2002	Co-60	1.49		10
SPW-2115	water	4/8/2002	Cs-134	2.09		10
SPW-2115	water	4/8/2002	Cs-137	3.78		10
SPW-2115	water	4/8/2002	I-131	0.50	-0.16 ± 0.33	0.5
SPW-2115	water	4/8/2002	I-131(G)	3.30		20
SPW-2115	water	4/8/2002	Sr-90	0.66	0.10 ± 0.32	1
SPW-2018	water	4/22/2002	Gr. Alpha	0.56	-0.24 ± 0.38	1
SPW-2018	water	4/22/2002	Gr. Beta	1.38	3.19 ± 1.03	3.2
SPch-3063	Charcoal	5/11/2002	I-131(G)	8.27		9.6
SPW-4683	water	7/17/2002	H-3	129.00	-62.8 ± 60.30	200
W-71702	water	7/17/2002	Fe-55	33.61	-1.72 ± 15.63	1000
W-71702	water	7/17/2002	Ni-63	2.56	0.71 ± 1.37	20
W-71802B	water	7/18/2002	Gr. Alpha	0.48	0.31 ± 0.36	1
W-71802B	water	7/18/2002	Gr. Beta	1.33	0.9 ± 0.95	3.2

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

Lab Code	Sample Type	Date	Analysis	Concentration (pCi/L) ^a		
				Laboratory results (4.66 σ)		Acceptance
				LLD	Activity ^b	Criteria (4.66 σ)
W-72302	water	7/23/2002	Sr-90	0.27	0.027 \pm 0.13	1
W-80202	water	8/2/2002	Tc-99	0.34	-0.051 \pm 0.16	10
SPW-7189	water	10/25/2002	Fe-55	978.21	21.77 \pm 595.33	1000
SPW-7191	water	10/25/2002	Ni-63	11.74	4.47 \pm 7.24	20
SPW-7193	water	10/25/2002	H-3	146.00	-92 \pm 65.00	200
SPAP-7199	Air Filter	10/25/2002	Gr. Beta	0.00	-0.0024 \pm 0.00	3.2
SPMI-7333	Milk	10/30/2002	Cs-134	5.30		10
SPMI-7333	Milk	10/30/2002	Cs-137	4.80		10
SPW-7334	water	10/30/2002	Co-60	3.69		10
SPW-7334	water	10/30/2002	Cs-134	5.37		10
SPW-7334	water	10/30/2002	Cs-137	3.90		10
SPF-7339	Fish	10/30/2002	Cs-134	4.69		100
SPF-7339	Fish	10/30/2002	Cs-137	11.18		100

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

^b The activity reported is the net activity result.

^c 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		Averaged Result
			First Result	Second Result	
CF-20, 21	1/2/2002	Be-7	0.47 ± 0.25	0.37 ± 0.12	0.42 ± 0.14
CF-20, 21	1/2/2002	Gr. Beta	7.82 ± 0.20	7.95 ± 0.21	7.89 ± 0.14
CF-20, 21	1/2/2002	K-40	6.65 ± 0.55	6.53 ± 0.36	6.59 ± 0.33
CF-20, 21	1/2/2002	Sr-90	0.01 ± 0.01	0.01 ± 0.01	0.01 ± 0.00
AP-11804, 11805	1/2/2002	Be-7	0.054 ± 0.011	0.049 ± 0.019	0.052 ± 0.011
AP-11825, 11826	1/2/2002	Be-7	0.053 ± 0.013	0.043 ± 0.013	0.048 ± 0.009
AP-11846, 11847	1/2/2002	Be-7	0.054 ± 0.018	0.048 ± 0.016	0.051 ± 0.012
WW-150, 151	1/7/2002	Gr. Beta	1.26 ± 0.50	1.04 ± 0.46	1.15 ± 0.34
MI-124, 125	1/8/2002	K-40	1332.30 ± 158.90	1271.70 ± 151.50	1302.00 ± 109.77
W-172, 173	1/8/2002	H-3	153.00 ± 68.00	148.00 ± 68.00	150.50 ± 48.08
SW-11698, 11699	1/8/2002	Gr. Alpha	2.51 ± 1.36	3.71 ± 1.80	3.11 ± 1.13
SW-11698, 11699	1/8/2002	Gr. Beta	7.68 ± 1.33	8.49 ± 1.43	8.09 ± 0.98
U-275, 276	1/10/2002	Gr. Alpha	1.40 ± 1.00	1.10 ± 1.20	1.25 ± 0.78
LW-356, 357	1/16/2002	Gr. Beta	3.47 ± 0.65	2.94 ± 0.61	3.21 ± 0.45
LW-377, 378	1/16/2002	Gr. Beta	2.75 ± 0.68	2.84 ± 0.61	2.79 ± 0.46
SW-525, 526	1/30/2002	Gr. Alpha	0.56 ± 0.35	0.24 ± 0.35	0.40 ± 0.25
SW-525, 526	1/30/2002	Gr. Beta	2.29 ± 0.41	2.58 ± 0.39	2.43 ± 0.28
DW-504, 505	1/31/2002	Gr. Alpha	2.30 ± 1.70	3.90 ± 1.40	3.10 ± 1.10
MI-649, 650	2/5/2002	K-40	1319.40 ± 176.70	1210.80 ± 118.20	1265.10 ± 106.29
DW-697, 698	2/6/2002	Gr. Beta	5.10 ± 1.20	4.70 ± 1.20	4.90 ± 0.85
DW-927, 928	2/8/2002	Sr-90	0.69 ± 0.29	0.71 ± 0.29	0.70 ± 0.21
W-973, 974	2/18/2002	Fe-55	7.29 ± 0.97	6.86 ± 0.94	7.08 ± 0.68
W-1673, 1674	2/25/2002	H-3	2640.00 ± 155.00	2908.00 ± 161.00	2774.00 ± 111.74
SWT-1395, 1396	2/26/2002	Gr. Beta	2.96 ± 0.59	2.29 ± 0.53	2.63 ± 0.40
MI-1268, 1269	2/27/2002	K-40	1460.50 ± 162.50	1573.00 ± 168.00	1516.75 ± 116.87
MI-1268, 1269	2/27/2002	Sr-90	0.77 ± 0.36	0.95 ± 0.40	0.86 ± 0.27
MI-1332, 1333	3/5/2002	K-40	1503.00 ± 164.00	1305.00 ± 168.00	1404.00 ± 117.39
MI-1332, 1333	3/5/2002	Sr-90	1.35 ± 0.38	1.07 ± 0.40	1.21 ± 0.28
MI-1458, 1459	3/6/2002	K-40	1411.70 ± 166.70	1390.00 ± 172.30	1400.85 ± 119.87
DW-10100, 10101	3/9/2002	Gr. Alpha	4.10 ± 1.70	1.80 ± 1.60	2.95 ± 1.17
DW-10111, 10112	3/9/2002	Gr. Alpha	7.10 ± 2.00	8.30 ± 2.30	7.70 ± 1.52
MI-1521, 1522	3/11/2002	K-40	1270.80 ± 103.30	1369.10 ± 121.60	1319.95 ± 79.78
MI-1521, 1522	3/11/2002	Sr-90	1.69 ± 0.46	2.46 ± 0.49	2.07 ± 0.34
MI-1541, 1542	3/11/2002	K-40	1562.20 ± 122.80	1529.30 ± 126.10	1545.75 ± 88.01
MI-1541, 1542	3/11/2002	Sr-90	0.85 ± 0.57	1.48 ± 0.43	1.16 ± 0.36
LW-1651, 1652	3/14/2002	Gr. Beta	2.90 ± 0.57	2.57 ± 0.56	2.74 ± 0.40
DW-10134, 10135	3/16/2002	Gr. Alpha	5.60 ± 1.90	5.40 ± 1.60	5.50 ± 1.24
WW-1694, 1695	3/18/2002	Gr. Beta	1.79 ± 0.59	1.53 ± 0.50	1.66 ± 0.39
SO-1715, 1716	3/19/2002	Cs-137	0.03 ± 0.01	0.02 ± 0.01	0.03 ± 0.01
SO-1715, 1716	3/19/2002	Gr. Beta	18.50 ± 1.70	19.10 ± 1.70	18.80 ± 1.20
DW-10302, 10303	3/20/2002	Gr. Alpha	2.30 ± 1.40	3.30 ± 1.60	2.80 ± 1.06
W-1758, 1759	3/25/2002	Gr. Alpha	2.50 ± 0.70	2.30 ± 0.60	2.40 ± 0.46
W-1758, 1759	3/25/2002	Gr. Beta	4.10 ± 1.20	2.50 ± 1.10	3.30 ± 0.81

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

Lab Code	Date	Analysis	Concentration (pCi/L) ^a		Averaged Result
			First Result	Second Result	
MI-1926, 1927	3/26/2002	K-40	1414.00 ± 115.00	1316.00 ± 128.00	1365.00 ± 86.04
MI-1926, 1927	3/26/2002	Sr-90	2.30 ± 0.70	2.40 ± 0.70	2.35 ± 0.49
SWU-2010, 2011	3/26/2002	Gr. Beta	2.90 ± 0.60	2.20 ± 0.50	2.55 ± 0.39
DW-10376, 10377	3/27/2002	Gr. Beta	10.50 ± 1.30	10.10 ± 1.50	10.30 ± 0.99
AP-2479, 2480	3/28/2002	Be-7	0.064 ± 0.023	0.068 ± 0.014	0.066 ± 0.013
DW-10395, 10396	3/29/2002	Gr. Alpha	10.20 ± 2.10	14.60 ± 2.40	12.40 ± 1.59
LW-2181, 2182	3/31/2002	Gr. Beta	2.98 ± 0.68	1.99 ± 0.70	2.48 ± 0.49
LW-2181, 2182	3/31/2002	H-3	2694.43 ± 156.53	2688.84 ± 156.40	2691.64 ± 110.64
CW-2437, 2438	3/31/2002	Gr. Beta	1.09 ± 0.61	1.14 ± 0.58	1.11 ± 0.42
CW-2437, 2438	3/31/2002	H-3	6456.70 ± 229.20	6292.80 ± 226.52	6374.75 ± 161.12
MI-1947, 1948	4/1/2002	K-40	1421.40 ± 130.90	1256.80 ± 104.20	1339.10 ± 83.65
AP-2458, 2459	4/1/2002	Be-7	0.077 ± 0.011	0.081 ± 0.010	0.079 ± 0.008
DW-10409, 10410	4/1/2002	Gr. Alpha	39.30 ± 4.00	35.30 ± 3.60	37.30 ± 2.69
MI-2052, 2053	4/3/2002	K-40	1283.70 ± 103.20	1434.80 ± 147.90	1359.25 ± 90.17
MI-2052, 2053	4/3/2002	Sr-90	0.81 ± 0.36	0.75 ± 0.35	0.78 ± 0.25
AP-2711, 2712	4/3/2002	Be-7	0.071 ± 0.01	0.07 ± 0.01	0.07 ± 0.01
W-938, 939	4/9/2002	Ni-63	1.73 ± 0.10	1.82 ± 0.10	1.78 ± 0.07
SS-2202, 2203	4/9/2002	Gr. Beta	5.83 ± 1.16	5.52 ± 1.19	5.67 ± 0.83
SS-2202, 2203	4/9/2002	K-40	5.75 ± 0.48	6.11 ± 0.51	5.93 ± 0.35
F-2307, 2308	4/10/2002	K-40	2.75 ± 0.27	2.49 ± 0.32	2.62 ± 0.21
DW-10476, 10477	4/12/2002	Gr. Alpha	5.10 ± 1.30	3.90 ± 1.60	4.50 ± 1.03
W-2244, 2245	4/15/2002	Gr. Beta	1.70 ± 1.10	1.60 ± 1.00	1.65 ± 0.74
DW-10509, 10510	4/17/2002	Gr. Alpha	6.00 ± 2.00	7.30 ± 1.80	6.65 ± 1.35
SW-2690, 2691	4/24/2002	Gr. Beta	2.25 ± 0.68	2.15 ± 0.59	2.20 ± 0.45
SO-2903, 2904	4/24/2002	Be-7	1.22 ± 0.57	0.78 ± 0.43	1.00 ± 0.36
SO-2903, 2904	4/24/2002	Cs-137	0.13 ± 0.05	0.09 ± 0.05	0.11 ± 0.04
SO-2903, 2904	4/24/2002	K-40	21.06 ± 1.48	19.91 ± 1.16	20.48 ± 0.94
DW-10562, 10563	4/24/2002	Gr. Alpha	2.17 ± 1.13	3.25 ± 1.54	2.71 ± 0.96
DW-10578, 10579	4/29/2002	Gr. Alpha	8.20 ± 2.20	7.40 ± 2.00	7.80 ± 1.49
SO-2861, 2862	4/30/2002	Cs-137	236.40 ± 46.00	200.70 ± 52.60	218.55 ± 34.94
SO-2861, 2862	4/30/2002	K-40	10191.00 ± 784.60	11025.00 ± 941.30	10608.00 ± 612.71
SL-2819, 2820	5/1/2002	Be-7	805.70 ± 301.50	860.73 ± 164.80	833.22 ± 171.80
SL-2819, 2820	5/1/2002	Gr. Beta	5566.00 ± 124.00	5359.00 ± 122.00	5462.50 ± 86.98
SL-2819, 2820	5/1/2002	K-40	5524.00 ± 632.90	5277.50 ± 431.40	5400.75 ± 382.97
SL-2840, 2841	5/1/2002	Be-7	1010.00 ± 352.10	872.95 ± 181.70	941.48 ± 198.11
SL-2840, 2841	5/1/2002	Gr. Beta	4399.00 ± 221.80	4593.00 ± 276.00	4496.00 ± 177.04
SL-2840, 2841	5/1/2002	K-40	2422.80 ± 352.10	2254.10 ± 371.40	2338.45 ± 255.89
MI-2971, 2972	5/5/2002	K-40	1338.90 ± 83.44	1345.80 ± 100.90	1342.35 ± 65.47
MI-2971, 2972	5/5/2002	Sr-90	0.83 ± 0.47	1.65 ± 0.46	1.24 ± 0.33
DW-10603, 10604	5/6/2002	Gr. Alpha	6.30 ± 1.70	5.50 ± 1.60	5.90 ± 1.17
SS-3037, 3038	5/9/2002	K-40	11585.00 ± 749.00	11612.00 ± 787.00	11598.50 ± 543.22
MI-3124, 3125	5/13/2002	K-40	1329.50 ± 103.80	1373.00 ± 107.40	1351.25 ± 74.68
MI-3208, 3209	5/14/2002	K-40	1494.60 ± 158.40	1462.60 ± 182.50	1478.60 ± 120.83
LW-3250, 3251	5/15/2002	Gr. Beta	3.14 ± 0.55	3.28 ± 0.63	3.21 ± 0.42

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

Lab Code	Date	Analysis	Concentration (pCi/L) ^a		Averaged Result
			First Result	Second Result	
CF-3292, 3293	5/20/2002	K-40	1.33 ± 0.99	1.14 ± 0.91	1.23 ± 0.67
MI-3376, 3377	5/26/2002	K-40	1333.30 ± 159.40	1090.70 ± 143.40	1212.00 ± 107.21
MI-3418, 3419	5/28/2002	K-40	1423.70 ± 121.30	1443.30 ± 164.30	1433.50 ± 102.11
SWT-3461, 3462	5/28/2002	Gr. Beta	2.65 ± 0.54	3.28 ± 0.60	2.97 ± 0.40
SO-3503, 3504	5/29/2002	Cs-137	0.17 ± 0.04	0.18 ± 0.05	0.18 ± 0.03
SO-3503, 3504	5/29/2002	Gr. Beta	27.72 ± 2.26	25.45 ± 2.03	26.58 ± 1.52
SO-3503, 3504	5/29/2002	K-40	20.24 ± 1.19	20.54 ± 1.24	20.39 ± 0.86
SL-3545, 3546	6/3/2002	Gr. Beta	4436.00 ± 90.00	4281.00 ± 89.00	4358.50 ± 63.29
SL-3545, 3546	6/3/2002	K-40	4684.20 ± 734.40	5242.50 ± 884.50	4963.35 ± 574.82
DW-10754, 10755	6/6/2002	Sr-90	0.50 ± 0.30	0.60 ± 0.30	0.55 ± 0.21
SW-3777, 3778	6/11/2002	Gr. Alpha	4.42 ± 1.50	2.97 ± 1.40	3.70 ± 1.02
SW-3777, 3778	6/11/2002	Gr. Beta	7.57 ± 1.22	6.83 ± 1.16	7.20 ± 0.84
MI-3798, 3799	6/11/2002	K-40	1433.40 ± 124.20	1401.20 ± 96.96	1417.30 ± 78.78
LW-3924, 3925	6/13/2002	Gr. Beta	3.05 ± 0.59	3.38 ± 0.72	3.21 ± 0.46
MI-3966, 3967	6/18/2002	K-40	1245.20 ± 109.20	1340.20 ± 121.90	1292.70 ± 81.83
MI-3966, 3967	6/18/2002	Sr-90	2.38 ± 0.51	2.63 ± 0.52	2.51 ± 0.36
MI-3987, 3988	6/19/2002	Sr-90	0.98 ± 0.35	0.97 ± 0.35	0.98 ± 0.25
MI-4095, 4096	6/25/2002	K-40	1256.10 ± 138.20	1199.00 ± 128.30	1227.55 ± 94.29
SWU-4221, 4222	6/25/2002	Gr. Beta	6.89 ± 1.97	5.38 ± 1.93	6.13 ± 1.38
LW-4179, 4180	6/27/2002	Gr. Beta	2.37 ± 0.58	2.00 ± 0.62	2.19 ± 0.42
G-4329, 4330	7/1/2002	Be-7	1394.80 ± 538.40	1098.10 ± 437.40	1246.45 ± 346.84
G-4329, 4330	7/1/2002	Gr. Beta	8.10 ± 0.27	8.00 ± 0.25	8.05 ± 0.18
G-4329, 4330	7/1/2002	K-40	7758.20 ± 1100.00	8399.80 ± 929.30	8079.00 ± 720.00
SL-4337, 4338	7/1/2002	Be-7	1480.90 ± 223.80	1726.40 ± 552.60	1603.65 ± 298.10
SL-4337, 4338	7/1/2002	Cs-137	32.30 ± 14.70	50.97 ± 27.10	41.64 ± 15.42
SL-4337, 4338	7/1/2002	Gr. Beta	5262.40 ± 522.10	5432.40 ± 540.00	5347.40 ± 375.56
SL-4337, 4338	7/1/2002	K-40	2249.00 ± 381.90	2989.90 ± 509.60	2619.45 ± 318.41
AP-4864, 4865	7/1/2002	Be-7	0.085 ± 0.009	0.085 ± 0.006	0.085 ± 0.006
MI-4359, 4360	7/2/2002	K-40	1390.10 ± 168.30	1567.40 ± 194.30	1478.75 ± 128.53
AP-4569, 4570	7/2/2002	Be-7	0.068 ± 0.016	0.086 ± 0.018	0.077 ± 0.012
AP-4843, 4844	7/2/2002	Be-7	0.077 ± 0.016	0.090 ± 0.020	0.084 ± 0.013
AP-4789, 4790	7/3/2002	Be-7	0.080 ± 0.013	0.078 ± 0.015	0.079 ± 0.010
SWU-4810, 4811	7/3/2002	Gr. Beta	2.40 ± 0.84	2.47 ± 0.88	2.43 ± 0.61
MI-4548, 4549	7/9/2002	K-40	1511.80 ± 127.00	1446.80 ± 101.80	1479.30 ± 81.38
DW-4737, 4738	7/12/2002	I-131	0.52 ± 0.20	0.49 ± 0.29	0.51 ± 0.18
MI-4632, 4633	7/15/2002	K-40	1198.40 ± 114.10	1371.30 ± 146.90	1284.85 ± 93.00
MI-5054, 5055	7/30/2002	K-40	1428.80 ± 105.60	1344.30 ± 106.40	1386.55 ± 74.95
G-5075, 5076	7/30/2002	Gr. Beta	7.11 ± 0.07	6.99 ± 0.07	7.05 ± 0.05
SWU-5124, 5125	7/30/2002	Gr. Beta	1.75 ± 0.84	1.90 ± 0.78	1.82 ± 0.57
G-5151, 5152	7/31/2002	Be-7	1.82 ± 0.30	2.05 ± 0.32	1.93 ± 0.22
G-5151, 5152	7/31/2002	K-40	5.13 ± 0.66	5.72 ± 0.70	5.42 ± 0.48
MI-5103, 5104	8/2/2002	K-40	1415.90 ± 70.57	1423.80 ± 129.20	1419.85 ± 73.61
LW-5434, 5435	8/5/2002	Gr. Beta	2.77 ± 0.35	2.26 ± 0.35	2.52 ± 0.25
MI-5215, 5216	8/7/2002	K-40	1361.10 ± 111.90	1358.30 ± 115.80	1359.70 ± 80.52

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

Lab Code	Date	Analysis	Concentration (pCi/L) ^a		Averaged Result
			First Result	Second Result	
MI-5355, 5356	8/13/2002	K-40	1405.00 ± 165.80	1549.30 ± 114.40	1477.15 ± 100.72
F-5413, 5414	8/15/2002	Gr. Beta	2.37 ± 0.10	2.55 ± 0.10	2.46 ± 0.07
F-5413, 5414	8/15/2002	K-40	1.47 ± 0.32	1.73 ± 0.43	1.60 ± 0.27
MI-5603, 5604	8/26/2002	I-131	0.64 ± 0.34	0.52 ± 0.36	0.58 ± 0.25
MI-5603, 5604	8/26/2002	K-40	1353.60 ± 83.13	1261.40 ± 117.80	1307.50 ± 72.09
MI-5578, 5579	8/27/2002	K-40	1301.50 ± 161.70	1381.60 ± 111.20	1341.55 ± 98.12
VE-5682, 5683	8/28/2002	Be-7	0.29 ± 0.10	0.25 ± 0.11	0.27 ± 0.08
VE-5682, 5683	8/28/2002	Gr. Beta	3.79 ± 0.08	3.80 ± 0.08	3.79 ± 0.06
VE-5682, 5683	8/28/2002	K-40	3.06 ± 0.29	3.31 ± 0.42	3.18 ± 0.25
WW-6188, 6189	8/31/2002	Gr. Beta	2.70 ± 0.57	2.30 ± 0.57	2.50 ± 0.41
SL-5724, 5725	9/3/2002	Be-7	0.92 ± 0.19	1.04 ± 0.23	0.98 ± 0.15
SL-5724, 5725	9/3/2002	Cs-137	0.05 ± 0.02	0.05 ± 0.02	0.05 ± 0.01
SL-5724, 5725	9/3/2002	K-40	2.09 ± 0.31	2.28 ± 0.48	2.19 ± 0.29
MI-5877, 5878	9/9/2002	K-40	1340.70 ± 165.00	1168.50 ± 172.50	1254.60 ± 119.35
MI-6157, 6158	9/19/2002	K-40	1372.10 ± 115.10	1136.50 ± 222.70	1254.30 ± 125.34
MI-6258, 6259	9/24/2002	K-40	1328.60 ± 201.00	1312.60 ± 118.60	1320.60 ± 116.69
LW-6278, 6279	9/30/2002	Gr. Beta	2.15 ± 0.51	1.70 ± 0.50	1.93 ± 0.36
MI-6385, 6386	10/1/2002	K-40	1297.10 ± 168.90	1310.10 ± 128.30	1303.60 ± 106.05
BS-6453, 6454	10/1/2002	Cs-137	0.43 ± 0.03	0.44 ± 0.03	0.44 ± 0.02
BS-6453, 6454	10/1/2002	K-40	16.50 ± 0.51	16.80 ± 0.61	16.65 ± 0.40
SO-6478, 6479	10/1/2002	Cs-137	0.074 ± 0.016	0.070 ± 0.016	0.072 ± 0.011
SO-6478, 6479	10/1/2002	Gr. Alpha	8.01 ± 4.36	7.55 ± 4.57	7.78 ± 3.16
SO-6478, 6479	10/1/2002	Gr. Beta	30.41 ± 4.07	33.04 ± 4.28	31.73 ± 2.95
SO-6478, 6479	10/1/2002	K-40	19.82 ± 0.53	20.39 ± 0.58	20.10 ± 0.39
SO-6478, 6479	10/1/2002	Sr-90	0.087 ± 0.017	0.094 ± 0.020	0.091 ± 0.013
AP-6641, 6642	10/1/2002	Be-7	0.070 ± 0.016	0.080 ± 0.015	0.075 ± 0.011
MI-6544, 6545	10/2/2002	K-40	1331.60 ± 125.20	1326.50 ± 171.60	1329.05 ± 106.21
AP-6857, 6858	10/3/2002	Be-7	0.062 ± 0.015	0.071 ± 0.015	0.066 ± 0.010
AP-6857, 6858	10/3/2002	Be-7	0.062 ± 0.015	0.071 ± 0.015	0.066 ± 0.010
AP-6857, 6858	10/3/2002	Be-7	0.062 ± 0.015	0.071 ± 0.015	0.066 ± 0.010
BS-6620, 6621	10/7/2002	Co-60	0.090 ± 0.020	0.11 ± 0.02	0.10 ± 0.01
BS-6620, 6621	10/7/2002	Cs-137	0.62 ± 0.04	0.63 ± 0.03	0.62 ± 0.02
BS-6620, 6621	10/7/2002	K-40	11.38 ± 0.48	10.78 ± 0.52	11.08 ± 0.35
MI-6651, 6652	10/8/2002	K-40	1565.50 ± 141.00	1640.60 ± 189.20	1603.05 ± 117.98
G-6760, 6761	10/9/2002	Be-7	2.17 ± 0.49	2.31 ± 0.34	2.24 ± 0.30
G-6760, 6761	10/9/2002	K-40	6.24 ± 1.00	6.61 ± 0.60	6.42 ± 0.58
SWU-7054, 7055	10/10/2002	Gr. Beta	3.09 ± 0.57	2.06 ± 0.52	2.57 ± 0.39
U-7126, 7127	10/11/2002	Gr. Beta	2.61 ± 1.24	2.61 ± 1.08	2.61 ± 0.82
XW-7768, 7769	10/14/2002	Cs-137	2.25 ± 0.25	2.09 ± 0.18	2.17 ± 0.15
XW-7768, 7769	10/14/2002	H-3	2.63 ± 0.10	2.64 ± 0.10	2.64 ± 0.07
F-7148, 7149	10/15/2002	K-40	2.57 ± 0.28	2.98 ± 0.44	2.77 ± 0.26
BS-7337, 7338	10/23/2002	Co-60	0.083 ± 0.025	0.073 ± 0.031	0.078 ± 0.020
BS-7337, 7338	10/23/2002	Cs-137	0.082 ± 0.019	0.11 ± 0.04	0.10 ± 0.02
BS-7337, 7338	10/23/2002	Gr. Beta	12.54 ± 2.34	12.99 ± 2.22	12.77 ± 1.61
SO-7407, 7408	10/29/2002	Cs-137	0.14 ± 0.03	0.15 ± 0.03	0.15 ± 0.02
SO-7407, 7408	10/29/2002	Gr. Beta	16.73 ± 2.21	16.62 ± 2.27	16.67 ± 1.58
SO-7407, 7408	10/29/2002	K-40	12.05 ± 0.61	12.27 ± 0.81	12.16 ± 0.51

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

Lab Code	Date	Analysis	Concentration (pCi/L) ^a		Averaged Result
			First Result	Second Result	
MI-7428, 7429	10/29/2002	K-40	1542.60 ± 213.00	1355.80 ± 185.70	1449.20 ± 141.29
pw-7621, 7622	10/30/2002	Gr. Beta	2.22 ± 0.92	2.08 ± 0.83	2.15 ± 0.62
TD-7653, 7654	10/31/2002	H-3	11122.00 ± 387.00	11259.00 ± 390.00	11190.50 ± 274.71
SW-7569, 7570	11/5/2002	Gr. Beta	15.90 ± 1.25	16.24 ± 1.27	16.07 ± 0.89
SW-7569, 7570	11/5/2002	K-40	14.79 ± 1.48	14.79 ± 1.48	14.79 ± 1.05
SO-8010, 8011	11/7/2002	Cs-137	0.11 ± 0.02	0.11 ± 0.03	0.11 ± 0.02
SO-8010, 8011	11/7/2002	K-40	6.91 ± 0.54	7.21 ± 0.54	7.06 ± 0.38
VE-7747, 7748	11/11/2002	Gr. Beta	3.59 ± 0.05	3.25 ± 0.05	3.42 ± 0.03
VE-7747, 7748	11/11/2002	K-40	3.17 ± 0.36	3.26 ± 0.46	3.22 ± 0.29
MI-7789, 7790	11/13/2002	K-40	1319.30 ± 167.60	1301.20 ± 140.70	1310.25 ± 109.41
DW-8082, 8083	11/29/2002	I-131	0.83 ± 0.24	0.98 ± 0.22	0.90 ± 0.16
SW-8054, 8055	12/2/2002	Gr. Beta	2.60 ± 0.46	2.21 ± 0.39	2.41 ± 0.30
SW-8054, 8055	12/2/2002	K-40	1.44 ± 0.14	1.43 ± 0.14	1.44 ± 0.10
MI-8105, 8106	12/4/2002	K-40	1300.60 ± 111.30	1315.40 ± 108.90	1308.00 ± 77.86
TD-8298, 8299	12/5/2002	H-3	355.00 ± 94.00	469.00 ± 99.00	412.00 ± 68.26
MI-8396, 8397	12/17/2002	K-40	1409.20 ± 117.30	1449.60 ± 108.60	1429.40 ± 79.93
SWT-8654, 8655	12/30/2002	Gr. Beta	1.63 ± 0.50	1.40 ± 0.47	1.51 ± 0.34
AP-8783, 8784	12/31/2002	Be-7	0.044 ± 0.009	0.042 ± 0.008	0.043 ± 0.006

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).

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
STW-939	water	12/01/01	Am-241	1.25 ± 0.0	1.19 ± 0.0	0.83 - 1.6
STW-939	water	12/01/01	Co-57	138.9 ± 0.5	143 ± 14.3	100.1 - 185.9
STW-939	water	12/01/01	Co-60	139.1 ± 0.5	141 ± 14.1	98.7 - 183.3
STW-939	water	12/01/01	Cs-134	25.16 ± 0.2	28.5 ± 0.3	19.95 - 37.1
STW-939	water	12/01/01	Cs-137	279.96 ± 0.9	286 ± 28.6	200.2 - 371.8
STW-939 ^d	water	12/01/01	Fe-55	19.68 ± 23.2	9.2 ± 0.9	6.44 - 12.0
STW-939	water	12/01/01	Mn-54	253.64 ± 0.9	246 ± 0.2	172.2 - 319.8
STW-939	water	12/01/01	Ni-63	65.88 ± 1.9	88.3 ± 8.8	61.81 - 114.8
STW-939 ^e	water	12/01/01	Pu-238	0.060 ± 0.01	0.0 ± 0.0	-
STW-939	water	12/01/01	Pu-239/40	2.79 ± 0.0	2.99 ± 0.3	2.09 - 3.9
STW-939	water	12/01/01	Sr-90	4.88 ± 0.3	4.8 ± 0.5	3.36 - 6.2
STW-939	water	12/01/01	U-233/4	0.89 ± 0.0	0.98 ± 0.1	0.69 - 1.3
STW-939	water	12/01/01	U-238	6.75 ± 0.0	7.8 ± 0.8	5.46 - 10.1
STW-939	water	12/01/01	Zn-65	70.6 ± 1.1	67.3 ± 6.7	47.11 - 87.5
STSO-955	soil	10/16/02	Am-241	40.54 ± 2.7	43.5 ± 4.4	30.45 - 56.6
STSO-955	soil	10/16/02	Co-57	210.58 ± 2.0	246 ± 24.6	172.2 - 319.8
STSO-955	soil	10/16/02	Co-60	84.38 ± 0.9	87.5 ± 8.8	61.25 - 113.8
STSO-955	soil	10/16/02	Cs-134	692.6 ± 2.1	862 ± 86.0	603.4 - 1120.6
STSO-955	soil	10/16/02	Cs-137	96.98 ± 1.7	111 ± 11.1	77.7 - 144.3
STSO-955	soil	10/16/02	Fe-55	1714.6 ± 299.6	1870 ± 187.0	1309 - 2431.0
STSO-955	soil	10/16/02	Mn-54	509.74 ± 3.4	546 ± 54.6	382.2 - 709.8
STSO-955	soil	10/16/02	Ni-63	890.6 ± 22.4	1180 ± 118.0	826 - 1534.0
STSO-955	soil	10/16/02	Pu-238	34.04 ± 6.0	33.3 ± 3.3	23.31 - 43.3
STSO-955	soil	10/16/02	Pu-239/40	68.7 ± 3.7	72.9 ± 7.3	51.03 - 94.8
STSO-955 ^e	soil	10/16/02	Sr-90	1.5 ± 3.0	0.0 ± 0.0	-
STSO-955	soil	10/16/02	U-233/4	166.33 ± 3.8	229 ± 22.9	160.3 - 297.7
STSO-955	soil	10/16/02	U-238	169.76 ± 3.8	220 ± 22.0	154 - 286.0
STSO-955	soil	10/16/02	Zn-65	783.59 ± 6.4	809 ± 80.9	566.3 - 1051.7

^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 Known activity below the laboratory LLD. The sample was recounted for 2000 minutes; result : 11.52 ± 5.55 Bq /L

^e Included in the testing series as a "false positive". No activity expected.

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-945	Water	03/01/02	Am-241	1.68 ± 0.14	1.47	0.79 - 1.41
STW-945	Water	03/01/02	Co-60	349.20 ± 2.60	347.33	0.80 - 1.20
STW-945	Water	03/01/02	Cs-134	3.40 ± 0.60	3.36	0.80 - 1.30
STW-945	Water	03/01/02	Cs-137	57.20 ± 1.70	56.07	0.80 - 1.22
STW-945	Water	03/01/02	Pu-238	0.45 ± 0.11	0.49	0.74 - 1.20
STW-945	Water	03/01/02	Pu-239/40	4.47 ± 0.28	4.22	0.79 - 1.20
STW-945	Water	03/01/02	Sr-90	7.40 ± 1.30	7.58	0.69 - 1.34
STW-945	Water	03/01/02	Uranium	3.27 ± 0.43	2.84	0.75 - 1.33
STW-946	Water	03/01/02	Gr. Alpha	265.40 ± 7.70	375.00	0.58 - 1.29
STW-946	Water	03/01/02	Gr. Beta	930.60 ± 12.00	1030.00	0.61 - 1.43
STW-946	Water	03/01/02	H-3	226.30 ± 32.70	283.70	0.78 - 2.45
STSO-947	Soil	03/01/02	Ac-228	55.00 ± 5.50	51.17	0.80 - 1.38
STSO-947	Soil	03/01/02	Am-241	8.30 ± 3.30	10.93	0.65 - 2.28
STSO-947	Soil	03/01/02	Bi-212	49.20 ± 12.40	53.43	0.50 - 1.34
STSO-947	Soil	03/01/02	Bi-214	46.60 ± 3.10	53.93	0.78 - 1.42
STSO-947	Soil	03/01/02	Cs-137	1401.60 ± 9.10	1326.67	0.80 - 1.25
STSO-947	Soil	03/01/02	K-40	613.10 ± 28.10	621.67	0.80 - 1.32
STSO-947	Soil	03/01/02	Pb-212	51.60 ± 2.60	51.10	0.78 - 1.32
STSO-947	Soil	03/01/02	Pb-214	52.00 ± 3.60	54.37	0.76 - 1.46
STSO-947	Soil	03/01/02	Pu-239/40	14.70 ± 3.50	19.10	0.71 - 1.30
STSO-947	Soil	03/01/02	Sr-90	52.10 ± 6.30	53.76	0.67 - 2.90
STSO-947	Soil	03/01/02	Th-234	122.40 ± 6.30	89.30	0.63 - 2.35
STSO-947	Soil	03/01/02	Uranium	143.40 ± 9.40	194.77	0.71 - 1.32
STVE-948	Vegetation	03/01/02	Am-241	3.10 ± 2.20	2.23	0.73 - 2.02
STVE-948	Vegetation	03/01/02	Cm-244	0.90 ± 0.80	1.32	0.61 - 1.59
STVE-948	Vegetation	03/01/02	Co-60	13.50 ± 2.10	11.23	0.80 - 1.44
STVE-948	Vegetation	03/01/02	Cs-137	350.40 ± 6.30	313.67	0.80 - 1.31
STVE-948	Vegetation	03/01/02	K-40	940.80 ± 45.60	864.33	0.79 - 1.39
STVE-948 ^d	Vegetation	03/01/02	Pu-239/40	16.90 ± 0.70	3.54	0.69 - 1.31
STVE-948	Vegetation	03/01/02	Sr-90	543.40 ± 24.90	586.28	0.55 - 1.21
STAP-949	Air Filter	03/01/02	Am-241	0.09 ± 0.05	0.09	0.70 - 2.34
STAP-949	Air Filter	03/01/02	Co-60	30.10 ± 0.30	30.52	0.80 - 1.26
STAP-949	Air Filter	03/01/02	Cs-137	29.90 ± 0.30	28.23	0.80 - 1.32
STAP-949	Air Filter	03/01/02	Mn-54	40.40 ± 0.40	38.53	0.80 - 1.35
STAP-949	Air Filter	03/01/02	Pu-238	0.05 ± 0.02	0.06	0.67 - 1.33
STAP-949	Air Filter	03/01/02	Pu-239/40	0.15 ± 0.02	0.19	0.73 - 1.26
STAP-949	Air Filter	03/01/02	Sr-90	3.40 ± 0.40	4.83	0.53 - 1.84
STAP-949	Air Filter	03/01/02	Uranium	0.80 ± 0.20	0.61	0.79 - 2.10
STAP-950	Air Filter	03/01/02	Gr. Alpha	0.43 ± 0.04	0.53	0.73 - 1.43
STAP-950	Air Filter	03/01/02	Gr. Beta	1.34 ± 0.05	1.30	0.76 - 1.36
STW-959	Water	09/01/02	Am-241	3.00 ± 0.10	3.04	0.79 - 1.41
STW-959	Water	09/01/02	Co-60	258.40 ± 2.30	268.67	0.80 - 1.20
STW-959	Water	09/01/02	Cs-134	50.80 ± 3.30	60.20	0.80 - 1.30
STW-959	Water	09/01/02	Cs-137	80.10 ± 0.30	81.43	0.80 - 1.22
STW-959	Water	09/01/02	Cs-137	80.10 ± 0.30	81.43	0.80 - 1.22
STW-959	Water	09/01/02	Am-241	3.00 ± 0.10	3.04	0.79 - 1.41

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

Lab Code	Type	Date	Analysis	Concentration ^b		
				Laboratory results	EML Result ^c	Control Limits ^d
STW-959	Water	09/01/02	Am-241	3.00 ± 0.10	3.04	0.79 - 1.41
STW-959	Water	09/01/02	Co-60	258.40 ± 2.30	268.67	0.80 - 1.20
STW-959	Water	09/01/02	Cs-134	50.80 ± 3.30	60.20	0.80 - 1.30
STW-959	Water	09/01/02	Cs-137	80.10 ± 0.30	81.43	0.80 - 1.22
STW-959	Water	09/01/02	H-3	271.90 ± 20.90	227.30	0.78 - 2.45
STW-959	Water	09/01/02	Pu-238	4.40 ± 0.20	4.33	0.74 - 1.20
STW-959	Water	09/01/02	Pu-239/40	2.10 ± 0.10	2.07	0.79 - 1.20
STW-959	Water	09/01/02	Sr-90	9.70 ± 0.20	8.69	0.69 - 1.34
STW-959	Water	09/01/02	Uranium	5.60 ± 0.10	6.84	0.75 - 1.33
STW-960	Water	09/01/02	Gr. Alpha	204.90 ± 3.20	210.00	0.58 - 1.29
STW-960	Water	09/01/02	Gr. Beta	852.00 ± 26.50	900.00	0.61 - 1.43
STSO-961	Soil	09/01/02	Ac-228	47.60 ± 1.90	42.30	0.80 - 1.38
STSO-961	Soil	09/01/02	Am-241	7.80 ± 1.40	6.77	0.65 - 2.28
STSO-961	Soil	09/01/02	Bi-212	45.60 ± 1.70	45.93	0.50 - 1.34
STSO-961 ^e	Soil	09/01/02	Bi-214	48.80 ± 4.90	33.63	0.78 - 1.42
STSO-961	Soil	09/01/02	Cs-137	819.60 ± 16.60	829.33	0.80 - 1.25
STSO-961	Soil	09/01/02	K-40	705.30 ± 31.40	637.67	0.80 - 1.32
STSO-961	Soil	09/01/02	Pb-212	48.60 ± 3.40	43.43	0.78 - 1.32
STSO-961	Soil	09/01/02	Pb-214	51.10 ± 5.10	35.20	0.76 - 1.46
STSO-961 ^f	Soil	09/01/02	Pu-239/40	20.20 ± 0.80	12.90	0.71 - 1.30
STSO-961	Soil	09/01/02	Sr-90	38.50 ± 0.10	41.16	0.67 - 2.90
STSO-961 ^g	Soil	09/01/02	Uranium	58.90 ± 0.70	87.21	0.71 - 1.32
STVE-962	Vegetation	09/01/02	Am-241	2.10 ± 0.30	2.25	0.73 - 2.02
STVE-962	Vegetation	09/01/02	Cm-244	1.00 ± 0.30	1.25	0.61 - 1.59
STVE-962	Vegetation	09/01/02	Co-60	11.80 ± 1.50	9.66	0.80 - 1.44
STVE-962	Vegetation	09/01/02	Cs-137	340.30 ± 16.80	300.67	0.80 - 1.31
STVE-962	Vegetation	09/01/02	K-40	1646.00 ± 74.40	1480.00	0.79 - 1.39
STVE-962	Vegetation	09/01/02	Pu-239/40	3.00 ± 0.30	3.43	0.69 - 1.31
STVE-962	Vegetation	09/01/02	Sr-90	345.60 ± 97.80	476.26	0.55 - 1.21
STAP-963 ^h	Air Filter	09/01/02	Am-241	0.20 ± 0.01	0.19	0.70 - 2.34
STAP-963	Air Filter	09/01/02	Co-60	24.90 ± 0.60	23.00	0.80 - 1.26
STAP-963	Air Filter	09/01/02	Cs-137	38.00 ± 1.30	32.50	0.80 - 1.32
STAP-963	Air Filter	09/01/02	Mn-54	60.80 ± 1.90	52.20	0.80 - 1.35
STAP-963 ^h	Air Filter	09/01/02	Pu-238	0.11 ± 0.02	0.12	0.67 - 1.33
STAP-963 ^h	Air Filter	09/01/02	Pu-239/40	0.21 ± 0.01	0.21	0.73 - 1.26
STAP-963	Air Filter	09/01/02	Sr-90	5.20 ± 0.20	5.56	0.53 - 1.84
STAP-963 ^h	Air Filter	09/01/02	Uranium	0.41 ± 0.04	0.47	0.79 - 2.10
STAP-964	Air Filter	09/01/02	Gr. Alpha	0.40 ± 0.10	0.29	0.73 - 1.43
STAP-964	Air Filter	09/01/02	Gr. Beta	0.80 ± 0.10	0.87	0.76 - 1.36

^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 An error was found in the conversion from pCi/g to Bq/kg. Corrected result : 2.84 ± 0.59 Bq/kg.^e Naturally-occurring radium daughters are present in the shield background, and a probable cause of the higher bias seen for isotopes of lead and bismuth.^f Reporting error. The average result of the triplicate analyses was 14.1 ± 5.7 Bq/kg.^g The analysis was repeated in duplicate; result of reanalysis, 87.05 ± 7.64 Bq/kg.^h STAP-963, Calculations for the transuranics analyses (Am-241, Uranium, Pu-238, -239/40) were not converted to Bq/total filter. The data listed is the result of recalculation.

ERRATA DATA

Byron Station

Annual Radiological Environmental Operating Report

2001

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 1.75E+00 curies of fission and activation gases were released with a maximum quarterly release rate of 4.27E+00 $\mu\text{Ci/sec}$, for both units.

A total of 0.00E+00 curies of I-131 were released during the year with a maximum quarterly average release rate of 0.00E+00 $\mu\text{Ci/sec}$.

A total of 9.68E-06 curies of beta emitters were released as airborne particulate matter with a maximum quarterly average release rate of 8.85E-07 $\mu\text{Ci/sec}$. Alpha-emitting radionuclides were below detectable limits.

A total of 6.82E+00 curies of tritium were released with a maximum average quarterly release rate of 3.65E-01 $\mu\text{Ci/sec}$.

1.2 Liquids Released to Rock River

A total of 1.17E+07 liters of radioactive liquid waste (prior to dilution) containing 2.85E-01 curies (excluding tritium, noble gases and alpha) were discharged from the station. These wastes were released at a maximum quarterly average concentration of 1.51E-08 $\mu\text{Ci/ml}$. A total of 2.41E+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 the Barnwell disposal facility or to waste processors. For detail, refer to Byron Station 2001 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.

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