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United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

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

Subject: 2001 Annual Radiological Environmental Operating Report

In accordance with Technical Specification 5.6.2, "Annual Radiological Environmental Operating Report," we are submitting the Annual Radiological Environmental Operating Report for Byron Station. This report is required to be submitted to the NRC by May 15th of each year. Enclosed are two copies of this report. This report contains the results of the radiological environmental and meteorological monitoring programs. The Radioactive Effluent Release Report was submitted under separate cover.

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

Respectfully,

Richard P. Lopriore
Site Vice President
Byron Nuclear Generating Station

RPL/DAT/lld

Attachment

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Byron Station
NRC Project Manager – NRR – Byron Station (w/o enclosure)
Office of Nuclear Facility Safety / Illinois Department of Nuclear Safety
U. S. Environmental Protection Agency, Air and Radiation Division – Region V

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BYRON STATION

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

2001

MAY 2002

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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 1165 MW net. 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 6.04E-03 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 2001.

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

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

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

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

A total of 1.75E+00 curies of fission and activation gases were released with a maximum quarterly release rate of 4.27E+00 μCi/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 μCi/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 μCi/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 μCi/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 μCi/ml. A total of 1.21E+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

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 6.07E-06 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 7.68E-06 mrem (Table 3.4-1). The maximum gamma air dose was 8.48E-05 mrad (Table 3.1-1) based on measured effluents and average meteorological data, and 5.99E-06 mrad based on concurrent meteorological data (Table 3.4-1).

3.1.1.2 Beta Air and Skin Dose Rates

The range of beta particles in air is relatively small (on the order of a few meters or less); consequently, plumes of gaseous effluents may be considered "infinite" for the purpose of calculating the dose from beta radiation incident on the skin. However, the actual dose to sensitive skin tissues is difficult to calculate due to the effect of the beta particle energies, thickness of inert skin and clothing covering sensitive tissues. For purposes of this report the skin is taken to have a thickness of 7.0 mg/cm^2 and an occupancy factor of 1.0 is used. The skin dose from beta and gamma radiation for the year, based on measured effluents and average meteorological data, was 1.58E-05 mrem (Table 3.1-1). The skin dose based on concurrent meteorological data was 1.45E-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 2.76E-05 mrad (Table 3.1-1). The beta air dose based on concurrent meteorological data was 9.49E-06 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 2001 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 3.66E-07 pCi/m^3 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 4.13E-03 mrem during the year (Table 3.1-1 [child]).

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 2.97E-01 pCi/m^3 (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 4.84E-03 mrem (child) and no organ dose exceeded 6.56E-03 mrem (Table 3.2-1 [adult]).

3.3 Assessment of Dose to Member of Public

During the period January to December, 2001, 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 Radiological Effluent Technical Standards (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;

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

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 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 99.8% during 2001 (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) processed by an off-site vendor. Previous year data had been acquired using $CaSO_4$ dosimeters processed in-house. Each location consists of 2 TLD sets. The quarterly average external radiation dose for the year was 19.9 mR at the indicator locations and 17.1 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 19.2 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) and 2000 (14.4 mR). These differences are not statistically significant and may be attributed to the different style of TLD used to measure gamma radiation.

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 0.004 to 0.054 pCi/m^3 and averaged 0.024 pCi/m^3, which is slightly lower than 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) and 2000 (0.025 pCi/m^3).

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

5.3 Terrestrial Radioactivity

Vegetables were collected in the third quarter and analyzed for iodine-131 and gamma-emitting nuclides. All nuclides were below the limits of detection, indicating that there was no measurable amount of radioactivity attributable to the station releases. Identical results were obtained during the period 1985 through 2000.

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 2000.

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 3.3 pCi/L, ranging from

1.7 to 4.1 pCi/L; BY-29 (Byron, Upstream) gross beta averaged 3.3 pCi/L, ranging from 2.0 to 5.8 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 2000.

At Oregon Pool of Rock River, Downstream (BY-12) tritium averaged 2,373 pCi/L, ranging from 1,708 to 3,618 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 2000.

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 2000.

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 2000, 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

New well water location, BY-14-1, 3200 German Church Road, replaced former location, BY-14, ComEd Offsite Well, in August of 2001.

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 27, 2001. Results of the milch animal and nearest cattle census are presented on pages 40-41 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 27, 2001.

Results of the nearest residence census are presented on page 42 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 2001.

APPENDIX I

DATA TABLES AND FIGURES

Table 1.1-1

BYRON NUCLEAR POWER STATION
UNIT 1 DOCKET NUMBER STN-50-454
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2001 THROUGH DECEMBER, 2001

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	UNITS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
A. FISSION AND ACTIVATION GAS RELEASES					
1. Total Release Activity:	Ci	2.18E-01	2.68E-01	1.23E-01	3.04E-01
2. Maximum Release Rate for Quarter:	uCi/sec	4.27E+00	1.56E+00	1.56E+00	3.74E+00
3. % of Tech. Spec. Limits *					
a. Whole Body (500 mrem/yr):	%	0.00	0.00	0.00	0.00
b. Skin (3000 mrem/yr):	%	0.00	0.00	0.00	0.00
4. % of 10CFR50 Limits					
a. Gamma Quarterly (5 mrad):	%	0.00	0.00	0.00	0.00
b. Beta Quarterly (10 mrad):	%	0.00	0.00	0.00	0.00
c. Gamma Annual (10 mrad):	%	0.00	0.00	0.00	0.00
d. Beta Annual (20 mrad):	%	0.00	0.00	0.00	0.00
B. IODINE RELEASES					
1. Total I-131 Activity:	Ci	<LLD	<LLD	<LLD	<LLD
2. Average I-131 Release Rate:	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C. PARTICULATE (>8 day half-life) RELEASES					
1. Total Particulate Activity:	Ci	<LLD	6.96E-06	<LLD	<LLD
2. Average Particulate Release Rate:	uCi/sec	0.00E+00	8.85E-07	0.00E+00	0.00E+00
3. Gross Alpha Activity for Quarter:	Ci	<LLD	<LLD	<LLD	<LLD
D. TRITIUM RELEASES					
1. Total Tritium Activity:	Ci	8.00E-01	2.46E-01	4.98E-01	6.99E-01
2. Average Tritium Release Rate:	uCi/sec	1.03E-01	3.12E-02	6.27E-02	8.79E-02

* % of Tech. Spec. limits is based on the maximum release rate for the period considered.

Table 1.1-1 (continued)

BYRON NUCLEAR POWER STATION
UNIT 2 DOCKET NUMBER STN-50-455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2001 THROUGH DECEMBER, 2001

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	UNITS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
A. FISSION AND ACTIVATION GAS RELEASES					
1. Total Release Activity:	Ci	2.18E-01	2.73E-01	9.13E-02	2.55E-01
2. Maximum Release Rate for Quarter:	uCi/sec	4.27E+00	1.22E+00	9.84E-01	3.74E+00
3. % of Tech. Spec. Limits:*					
a. Whole Body (500 mrem/yr):	%	0.00	0.00	0.00	0.00
b. Skin (3000 mrem/yr):	%	0.00	0.00	0.00	0.00
4. % of 10CFR50 Limits					
a. Gamma Quarterly (5 mrad):	%	0.00	0.00	0.00	0.00
b. Beta Quarterly (10 mrad):	%	0.00	0.00	0.00	0.00
c. Gamma Annual (10 mrad):	%	0.00	0.00	0.00	0.00
d. Beta Annual (20 mrad):	%	0.00	0.00	0.00	0.00
B. IODINE RELEASES					
1. Total I-131 Activity:	Ci	<LLD	<LLD	<LLD	<LLD
2. Average I-131 Release Rate:	uCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C. PARTICULATE (>8 day half-life) RELEASES					
1. Total Particulate Activity:	Ci	<LLD	1.18E-06	1.36E-06	1.78E-07
2. Average Particulate Release Rate:	uCi/sec	0.00E+00	1.50E-07	1.71E-07	2.24E-08
3. Gross Alpha Activity for Quarter:	Ci	<LLD	<LLD	<LLD	<LLD
D. TRITIUM RELEASES					
1. Total Tritium Activity:	Ci	2.84E+00	7.26E-01	4.16E-01	5.99E-01
2. Average Tritium Release Rate:	uCi/sec	3.65E-01	9.23E-02	5.23E-02	7.53E-02

* % of Tech. Spec. limits is based on the maximum release rate for the period considered.

Table 1.2-1

BYRON NUCLEAR POWER STATION
UNIT 1 DOCKET NUMBER STN-50-454
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2001 THROUGH DECEMBER, 2001

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

L. FISSION AND ACTIVATION PRODUCT RELEASES

1. Total Activity Released:	Ci	1.66E-02	3.37E-02	5.54E-02	3.68E-02
2. Average Concentration Released For Quarter:	uCi/ml	5.18E-09	1.04E-08	1.51E-08	1.12E-08
3. % of 10CFR50 Limits					
a. Quarterly Whole Body (1.5 mrem):	%	4.00E-02	3.00E-02	4.00E-02	5.00E-02
b. Quarterly Any Organ (5.0 mrem):	%	1.00E-02	2.00E-02	2.00E-02	2.00E-02
c. Annual Whole Body (3.0 mrem):	%	2.00E-02	2.00E-02	2.00E-02	3.00E-02
d. Annual Any Organ (10.0 mrem):	%	0.00E+00	1.00E-02	1.00E-02	1.00E-02

	UNITS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
M. TRITIUM					
1. Total Activity Released:	Ci	3.03E+02	1.95E+02	3.22E+02	3.85E+02
2. Average Concentration Released For Quarter:	uCi/ml	9.47E-05	6.04E-05	8.75E-05	1.17E-04
3. % of Tech Spec Limit (1.00E-2 uCi/ml):	%	0.95	0.60	0.88	1.17
N. DISSOLVED NOBLE GASES					
1. Total Activity Released:	Ci	2.64E-03	5.10E-03	8.91E-05	6.86E-04
2. Average Concentration Released For Quarter:	uCi/ml	8.24E-10	1.58E-09	2.42E-11	2.09E-10
3. % of Tech. Reqt. Manual Limit (2.00E-4 uCi/ml):	%	4.12E-04	7.90E-04	1.21E-05	1.04E-04
O. GROSS ALPHA					
1. Total Activity Released:	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Average Concentration Released For Quarter:	uCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00
P. VOLUME OF WASTE RELEASED PER UNIT:	liters	1.23E+06	1.47E+06	1.44E+06	1.70E+06
Q. VOLUME OF DILUTION WATER PER UNIT:	liters	3.20E+09	3.23E+09	3.68E+09	3.29E+09

Table 1.2-1 (continued)

BYRON NUCLEAR POWER STATION
UNIT 2 DOCKET NUMBER STN-50-455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2001 THROUGH DECEMBER, 2001

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

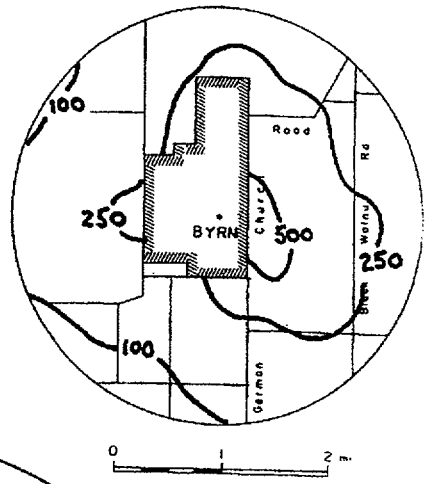
L. FISSION AND ACTIVATION PRODUCT RELEASES					
1. Total Activity Released:	Ci	1.66E-02	3.37E-02	5.54E-02	3.68E-02
2. Average Concentration Released For Quarter:	uCi/ml	5.18E-09	1.04E-08	1.51E-08	1.12E-08
3. % of 10CFR50 Limits					
a. Quarterly Whole Body (1.5 mrem):	%	4.00E-02	3.00E-02	4.00E-02	5.00E-02
b. Quarterly Any Organ (5.0 mrem):	%	1.00E-02	2.00E-02	2.00E-02	2.00E-02
c. Annual Whole Body (3.0 mrem):	%	2.00E-02	2.00E-02	2.00E-02	3.00E-02
d. Annual Any Organ (10.0 mrem):	%	0.00E+00	1.00E-02	1.00E-02	1.00E-02

	UNITS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
M. TRITIUM					
1. Total Activity Released:	Ci	3.03E+02	1.95E+02	3.22E+02	3.85E+02
2. Average Concentration Released For Quarter:	uCi/ml	9.47E-05	6.04E-05	8.75E-05	1.17E-04
3. % of Tech Spec Limit (1.00E-2 uCi/ml):	%	0.95	0.60	0.88	1.17
N. DISSOLVED NOBLE GASES					
1. Total Activity Released:	Ci	2.64E-03	5.10E-03	8.91E-05	6.86E-04
2. Average Concentration Released For Quarter:	uCi/ml	8.24E-10	1.58E-09	2.42E-11	2.09E-10
3. % of Tech. Reqt. Manual Limit (2.00E-4 uCi/ml):	%	4.12E-04	7.90E-04	1.21E-05	1.04E-04
O. GROSS ALPHA					
1. Total Activity Released:	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Average Concentration Released For Quarter:	uCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00
P. VOLUME OF WASTE RELEASED PER UNIT:	liters	1.23E+06	1.47E+06	1.44E+06	1.70E+06
Q. VOLUME OF DILUTION WATER PER UNIT:	liters	3.20E+09	3.23E+09	3.68E+09	3.29E+09

Figure 3.1-1

Estimated Cumulative Gamma Dose (in mrem)
from the Byron Station for the period
January-December 2001

Isopleth Labels
Small figure - multiply by 10^{-8}
Large figure - multiply by 10^{-8}



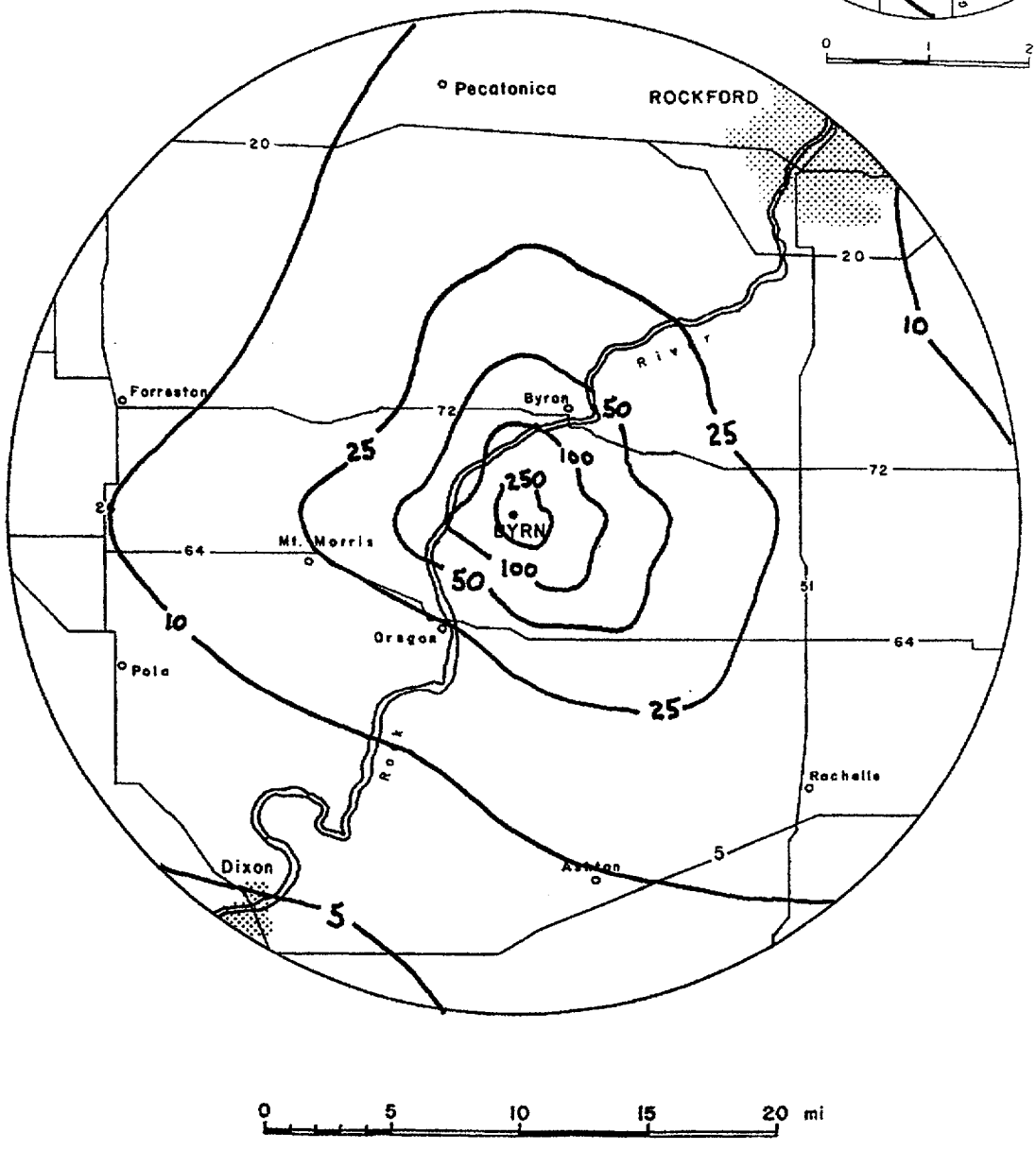
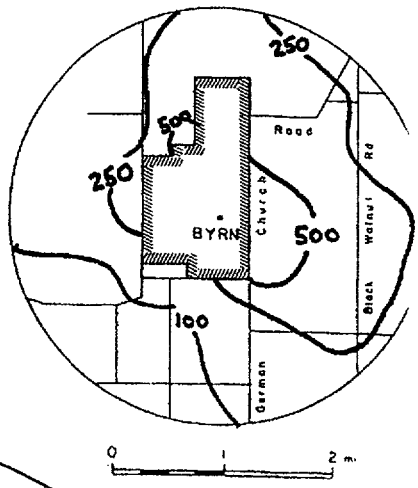


Figure 3.1-2

Estimated Total Concentrations (in pCi/m3)
of Noble Gases from the Byron Station
for the period January-December 2001

Isopleth Labels
Small figure - multiply by 10^{-4}
Large figure - multiply by 10^{-4}



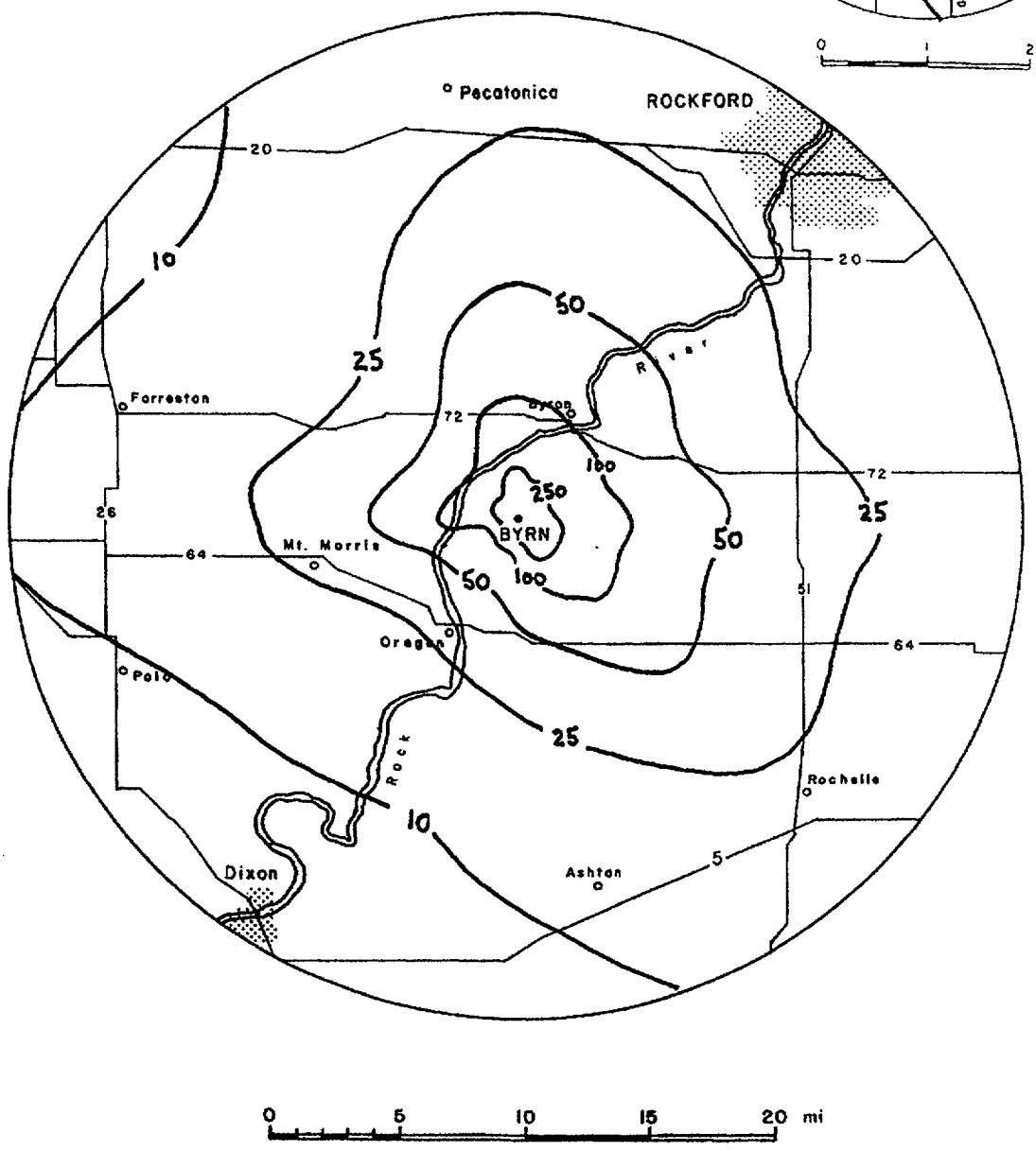
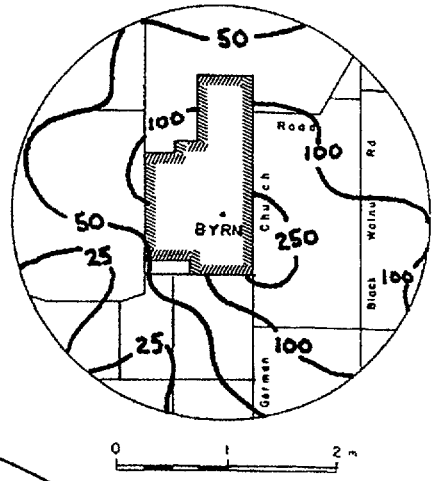


Figure 3.1-3

Estimated Total Concentrations (in pCi/m3)
of Iodines from the Byron Station for
the period January-December 2001

Isopleth Labels
Small figure - multiply by 10^{-9}
Large figure - multiply by 10^{-9}



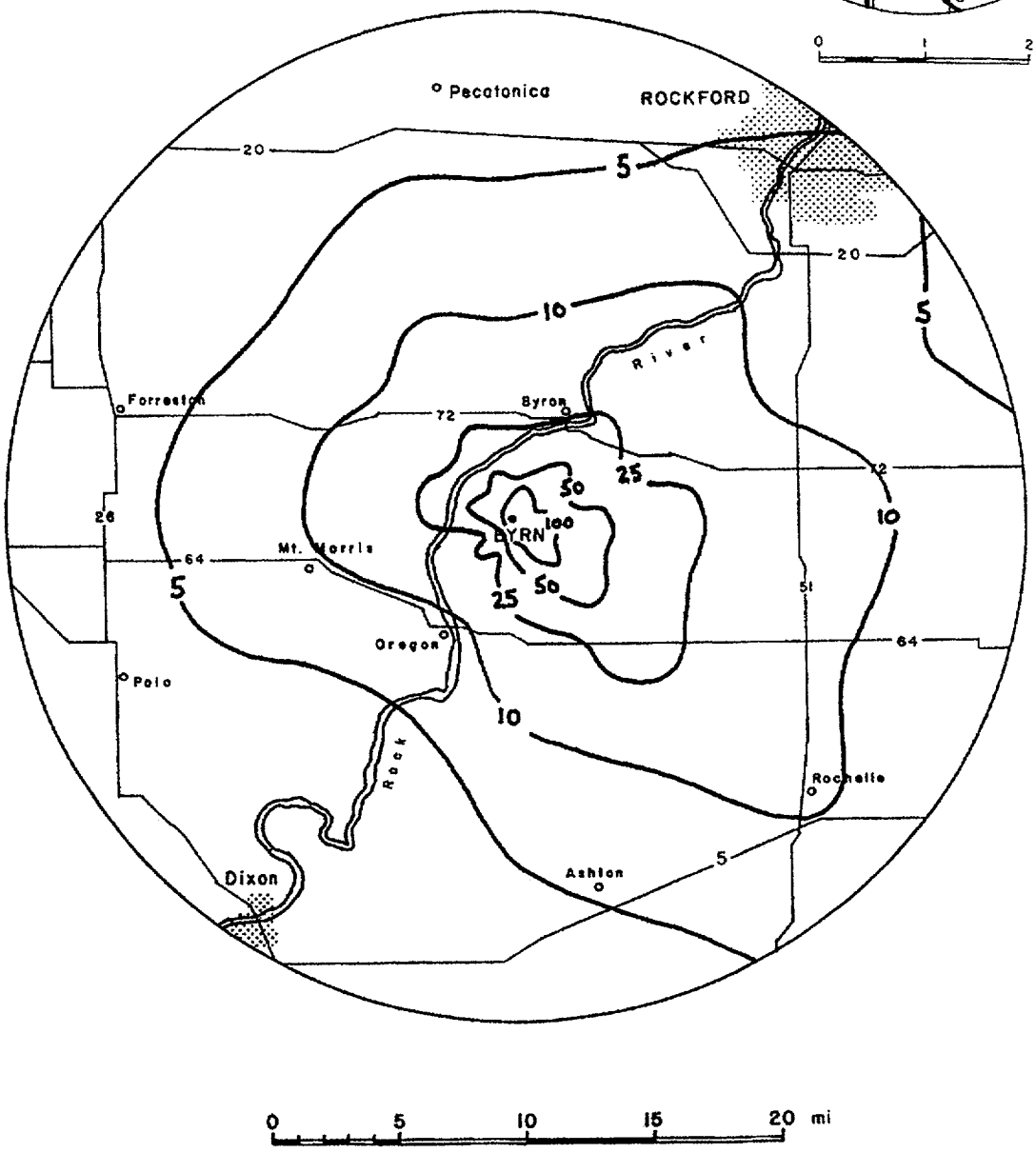
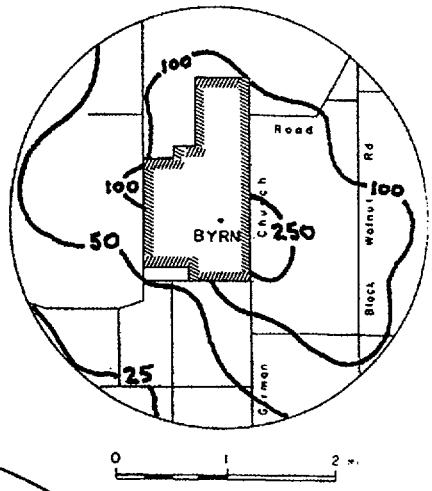
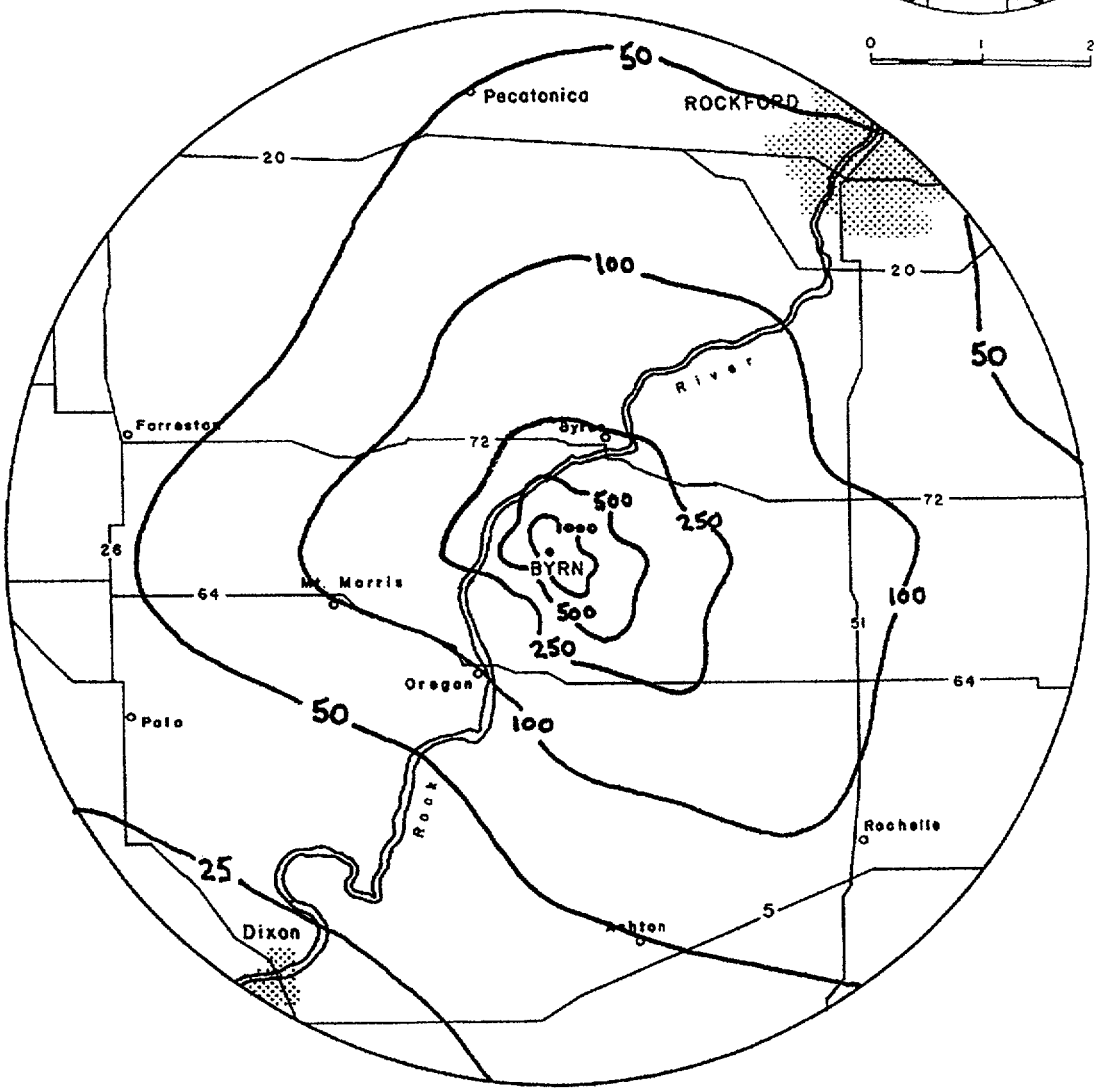


Figure 3.1-4

Estimated Total Concentrations (in pCi/m3)
of Particulates from the Byron Station
for the period January-December 2001

Isopleth Labels
Small figure - multiply by 10^{-3}
Large figure - multiply by 10^{-4}





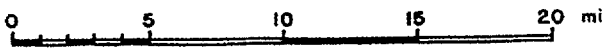


Table 3.1-1

BYRON STATION UNIT ONE

ACTUAL 2001
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	8.65E-07 (SSE)	1.23E-06 (SSE)	8.39E-07 (SSE)	1.70E-06 (SSE)	4.63E-06 (SSE)
BETA AIR (MRAD)	3.34E-06 (SSE)	4.13E-06 (SSE)	2.03E-06 (SSE)	4.99E-06 (SSE)	1.45E-05 (SSE)
TOT. BODY (MREM)	6.11E-07 (SSE)	8.76E-07 (SSE)	6.10E-07 (SSE)	1.22E-06 (SSE)	3.32E-06 (SSE)
SKIN (MREM)	1.71E-06 (SSE)	2.24E-06 (SSE)	1.40E-06 (SSE)	3.14E-06 (SSE)	8.50E-06 (SSE)
ORGAN (MREM)	3.51E-04 (NE)	1.10E-04 (NE)	2.20E-04 (NE)	3.07E-04 (NE)	9.88E-04 (NE)
	LIVER THYROID KIDNEY LUNG GI_LLI	LUNG	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	LUNG

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.01
		LIVER THYROID KIDNEY LUNG GI_LLI	LUNG	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI		LUNG

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

BYRON STATION UNIT ONE

ACTUAL 2001
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	8.65E-07 (SSE)	1.23E-06 (SSE)	8.39E-07 (SSE)	1.70E-06 (SSE)	4.63E-06 (SSE)
BETA AIR (MRAD)	3.34E-06 (SSE)	4.13E-06 (SSE)	2.03E-06 (SSE)	4.99E-06 (SSE)	1.45E-05 (SSE)
TOT. BODY (MREM)	6.11E-07 (SSE)	8.76E-07 (SSE)	6.10E-07 (SSE)	1.22E-06 (SSE)	3.32E-06 (SSE)
SKIN (MREM)	1.71E-06 (SSE)	2.24E-06 (SSE)	1.40E-06 (SSE)	3.14E-06 (SSE)	8.50E-06 (SSE)
ORGAN (MREM)	2.47E-04 (NE)	2.56E-04 (SSE)	8.64E-04 (SSE)	3.40E-04 (S)	1.53E-03 (SE)
	LIVER THYROID KIDNEY LUNG GI_LLI	LUNG	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	LUNG

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10CFR 50 APP. I
CHILD RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.00	0.01	0.00	15.0	0.01
		LIVER THYROID KIDNEY LUNG GI_LLI	LUNG	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI		LUNG

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

BYRON STATION UNIT ONE

ACTUAL 2001
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
TEENAGER RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	8.65E-07 (SSE)	1.23E-06 (SSE)	8.39E-07 (SSE)	1.70E-06 (SSE)	4.63E-06 (SSE)
BETA AIR (MRAD)	3.34E-06 (SSE)	4.13E-06 (SSE)	2.03E-06 (SSE)	4.99E-06 (SSE)	1.45E-05 (SSE)
TOT. BODY (MREM)	6.11E-07 (SSE)	8.76E-07 (SSE)	6.10E-07 (SSE)	1.22E-06 (SSE)	3.32E-06 (SSE)
SKIN (MREM)	1.71E-06 (SSE)	2.24E-06 (SSE)	1.40E-06 (SSE)	3.14E-06 (SSE)	8.50E-06 (SSE)
ORGAN (MREM)	1.61E-04 (NE)	1.70E-04 (SE)	5.63E-04 (SSE)	2.44E-04 (S)	1.04E-03 (S)
	LIVER THYROID KIDNEY LUNG GI_LLI	LUNG	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	LUNG

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10CFR 50 APP. I
TEENAGER RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.00	0.01	0.00	15.0	0.01
		LIVER THYROID KIDNEY LUNG GI_LLI	LUNG	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI		LUNG

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

BYRON STATION UNIT ONE

ACTUAL 2001
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	8.65E-07 (SSE)	1.23E-06 (SSE)	8.39E-07 (SSE)	1.70E-06 (SSE)	4.63E-06 (SSE)
BETA AIR (MRAD)	3.34E-06 (SSE)	4.13E-06 (SSE)	2.03E-06 (SSE)	4.99E-06 (SSE)	1.45E-05 (SSE)
TOT. BODY (MREM)	6.11E-07 (SSE)	8.76E-07 (SSE)	6.10E-07 (SSE)	1.22E-06 (SSE)	3.32E-06 (SSE)
SKIN (MREM)	1.71E-06 (SSE)	2.24E-06 (SSE)	1.40E-06 (SSE)	3.14E-06 (SSE)	8.50E-06 (SSE)
ORGAN (MREM)	2.24E-04 (S)	1.69E-04 (S)	5.02E-04 (SE)	2.93E-04 (S)	1.17E-03 (S)
	LIVER THYROID KIDNEY LUNG GI_LLI	GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.00	0.00	0.01	0.00	15.0	0.01
		LIVER THYROID KIDNEY LUNG GI_LLI	GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

BYRON STATION UNIT TWO

ACTUAL 2001
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.35E-06 (SSE)	1.01E-06 (SSE)	3.38E-07 (SSE)	1.16E-06 (SSE)	3.85E-06 (SSE)
BETA AIR (MRAD)	3.57E-06 (SSE)	4.08E-06 (SSE)	1.37E-06 (SSE)	4.10E-06 (SSE)	1.31E-05 (SSE)
TOT. BODY (MREM)	9.74E-07 (SSE)	7.13E-07 (SSE)	2.38E-07 (SSE)	8.24E-07 (SSE)	2.75E-06 (SSE)
SKIN (MREM)	2.34E-06 (SSE)	1.98E-06 (SSE)	6.73E-07 (SSE)	2.33E-06 (SSE)	7.33E-06 (SSE)
ORGAN (MREM)	1.24E-03 (NE)	3.24E-04 (NE)	1.85E-04 (NE)	3.20E-04 (NE)	2.07E-03 (NE)
	THYROID	LUNG	LUNG	LUNG	THYROID

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.02	0.00	0.00	0.00	15.0	0.01
		THYROID	LUNG	LUNG	LUNG		THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

BYRON STATION UNIT TWO

ACTUAL 2001
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.35E-06 (SSE)	1.01E-06 (SSE)	3.38E-07 (SSE)	1.16E-06 (SSE)	3.85E-06 (SSE)
BETA AIR (MRAD)	3.57E-06 (SSE)	4.08E-06 (SSE)	1.37E-06 (SSE)	4.10E-06 (SSE)	1.31E-05 (SSE)
TOT. BODY (MREM)	9.74E-07 (SSE)	7.13E-07 (SSE)	2.38E-07 (SSE)	8.24E-07 (SSE)	2.75E-06 (SSE)
SKIN (MREM)	2.34E-06 (SSE)	1.98E-06 (SSE)	6.73E-07 (SSE)	2.33E-06 (SSE)	7.33E-06 (SSE)
ORGAN (MREM)	8.77E-04 (NE)	7.59E-04 (SSE)	7.25E-04 (SSE)	6.65E-04 (SE)	2.60E-03 (S)
	THYROID	LUNG	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10CFR 50 APP. I
CHILD RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.01	0.01	0.01	0.01	15.0	0.02
		THYROID	LUNG	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

BYRON STATION UNIT TWO

ACTUAL 2001
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
TEENAGER RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.35E-06 (SSE)	1.01E-06 (SSE)	3.38E-07 (SSE)	1.16E-06 (SSE)	3.85E-06 (SSE)
BETA AIR (MRAD)	3.57E-06 (SSE)	4.08E-06 (SSE)	1.37E-06 (SSE)	4.10E-06 (SSE)	1.31E-05 (SSE)
TOT. BODY (MREM)	9.74E-07 (SSE)	7.13E-07 (SSE)	2.38E-07 (SSE)	8.24E-07 (SSE)	2.75E-06 (SSE)
SKIN (MREM)	2.34E-06 (SSE)	1.98E-06 (SSE)	6.73E-07 (SSE)	2.33E-06 (SSE)	7.33E-06 (SSE)
ORGAN (MREM)	5.72E-04 (NE)	5.02E-04 (SE)	4.74E-04 (SSE)	4.40E-04 (SE)	1.85E-03 (S)
	THYROID	LUNG	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10CFR 50 APP. I
TEENAGER RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.01	0.01	0.01	0.01	15.0	0.01
		THYROID	LUNG	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

BYRON STATION UNIT TWO

ACTUAL 2001
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.35E-06 (SSE)	1.01E-06 (SSE)	3.38E-07 (SSE)	1.16E-06 (SSE)	3.85E-06 (SSE)
BETA AIR (MRAD)	3.57E-06 (SSE)	4.08E-06 (SSE)	1.37E-06 (SSE)	4.10E-06 (SSE)	1.31E-05 (SSE)
TOT. BODY (MREM)	9.74E-07 (SSE)	7.13E-07 (SSE)	2.38E-07 (SSE)	8.24E-07 (SSE)	2.75E-06 (SSE)
SKIN (MREM)	2.34E-06 (SSE)	1.98E-06 (SSE)	6.73E-07 (SSE)	2.33E-06 (SSE)	7.33E-06 (SSE)
ORGAN (MREM)	7.95E-04 (S)	4.98E-04 (S)	4.23E-04 (SE)	4.54E-04 (S)	2.15E-03 (S)
	THYROID	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
GAMMA AIR (MRAD)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.00	0.00	0.00	0.00	5.0	0.00
SKIN (MREM)	7.5	0.00	0.00	0.00	0.00	15.0	0.00
ORGAN (MREM)	7.5	0.01	0.01	0.01	0.01	15.0	0.01
		THYROID	GI_LLI	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1

BYRON STATION UNIT ONE

ACTUAL 2001
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
INFANT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	5.23E-04	3.36E-04	5.55E-04	6.63E-04	2.08E-03
INTERNAL ORGAN	5.23E-04	3.37E-04	5.55E-04	6.64E-04	2.08E-03
	GI_LLI	THYROID	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
TOTAL BODY (MREM)	1.5	0.03	0.02	0.04	0.04	3.0	0.07
CRIT. ORGAN(MREM)	5.0	0.01	0.01	0.01	0.01	10.0	0.02
		GI_LLI	THYROID	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

BYRON STATION UNIT ONE

ACTUAL 2001
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
CHILD RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	6.00E-04	4.02E-04	6.37E-04	7.77E-04	2.42E-03
INTERNAL ORGAN	6.25E-04	5.23E-04	7.13E-04	9.06E-04	2.77E-03
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
TOTAL BODY (MREM)	1.5	0.04	0.03	0.04	0.05	3.0	0.08
CRIT. ORGAN (MREM)	5.0	0.01	0.01	0.01	0.02	10.0	0.03
		GI_LLI	GI_LLI	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

BYRON STATION UNIT ONE

ACTUAL 2001
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
TEENAGER RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	3.61E-04	2.44E-04	3.83E-04	4.69E-04	1.46E-03
INTERNAL ORGAN	4.36E-04	5.66E-04	5.99E-04	8.10E-04	2.41E-03
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
TOTAL BODY (MREM)	1.5	0.02	0.02	0.03	0.03	3.0	0.05
CRIT. ORGAN(MREM)	5.0	0.01	0.01	0.01	0.02	10.0	0.02
		GI_LLI	GI_LLI	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

BYRON STATION UNIT ONE

ACTUAL 2001
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	5.01E-04	3.34E-04	5.31E-04	6.46E-04	2.01E-03
INTERNAL ORGAN	6.07E-04	7.53E-04	8.38E-04	1.09E-03	3.28E-03
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
TOTAL BODY (MREM)	1.5	0.03	0.02	0.04	0.04	3.0	0.07
CRIT. ORGAN(MREM)	5.0	0.01	0.02	0.02	0.02	10.0	0.03
		GI_LLI	GI_LLI	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

BYRON STATION UNIT TWO

ACTUAL 2001
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
INFANT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	5.23E-04	3.36E-04	5.55E-04	6.63E-04	2.08E-03
INTERNAL ORGAN	5.23E-04	3.37E-04	5.55E-04	6.64E-04	2.08E-03
	GI_LLI	THYROID	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
TOTAL BODY (MREM)	1.5	0.03	0.02	0.04	0.04	3.0	0.07
CRIT. ORGAN(MREM)	5.0	0.01	0.01	0.01	0.01	10.0	0.02
		GI_LLI	THYROID	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

BYRON STATION UNIT TWO

ACTUAL 2001
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
CHILD RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	6.00E-04	4.02E-04	6.37E-04	7.77E-04	2.42E-03
INTERNAL ORGAN	6.25E-04	5.23E-04	7.13E-04	9.06E-04	2.77E-03
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
TOTAL BODY (MREM)	1.5	0.04	0.03	0.04	0.05	3.0	0.08
CRIT. ORGAN(MREM)	5.0	0.01	0.01	0.01	0.02	10.0	0.03
		GI_LLI	GI_LLI	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

BYRON STATION UNIT TWO

ACTUAL 2001
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
TEENAGER RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	3.61E-04	2.44E-04	3.83E-04	4.69E-04	1.46E-03
INTERNAL ORGAN	4.36E-04	5.66E-04	5.99E-04	8.10E-04	2.41E-03
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
TOTAL BODY (MREM)	1.5	0.02	0.02	0.03	0.03	3.0	0.05
CRIT. ORGAN(MREM)	5.0	0.01	0.01	0.01	0.02	10.0	0.02
		GI_LLI	GI_LLI	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

BYRON STATION UNIT TWO

ACTUAL 2001
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/01 TO 12/31/01 CALCULATED 03/24/02
ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	5.01E-04	3.34E-04	5.31E-04	6.46E-04	2.01E-03
INTERNAL ORGAN	6.07E-04	7.53E-04	8.38E-04	1.09E-03	3.28E-03
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2001

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
TOTAL BODY (MREM)	1.5	0.03	0.02	0.04	0.04	3.0	0.07
CRIT. ORGAN (MREM)	5.0	0.01	0.02	0.02	0.02	10.0	0.03
		GI_LLI	GI_LLI	GI_LLI	GI_LLI		GI_LLI

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.3-1

BYRON STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/01 TO 12/31/01

CALCULATED 03/24/02

1. 10 CFR 20.1301 (a)(1) Compliance

Total Effective Dose Eqivalent,	mrem/yr	2.60E-03
10 CFR 20.1301 (a)(1) limit	mrem/yr	100.0
	% of limit	0.00

Compliance Summary - 10CFR20

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	% of Limit
TEDE	5.30E-04	4.86E-04	7.91E-04	7.98E-04	0.00

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.3-1 (continued)

BYRON STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/01 TO 12/31/01

CALCULATED 03/24/02

2. 10 CFR 20.1301 (d)/40 CFR 190 Compliance

		Dose (mrem)	Limit (mrem)	% of Limit
Whole Body	Plume	3.32E-06		
(DDE)	Skyshine	0.00E+00		
	Ground	4.65E-06		
	Total	7.97E-06	25.0	0.00
Organ Dose	Thyroid	2.30E-03	75.0	0.00
(CDE)	Gonads	2.32E-03	25.0	0.01
	Breast	2.24E-03	25.0	0.01
	Lung	2.23E-03	25.0	0.01
	Marrow	2.62E-03	25.0	0.01
	Bone	6.34E-03	25.0	0.03
	Remainder	2.79E-03	25.0	0.01
	CEDE	2.60E-03		
	TEDE	2.60E-03	100.0	0.00

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.3-1 (continued)

BYRON STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/01 TO 12/31/01

CALCULATED 03/24/02

1. 10 CFR 20.1301 (a)(1) Compliance

Total Effective Dose Eqivalent,	mrem/yr	3.44E-03
10 CFR 20.1301 (a)(1) limit	mrem/yr	100.0
	% of limit	0.00

Compliance Summary - 10CFR20

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	% of Limit
TEDE	1.02E-03	7.61E-04	7.28E-04	9.30E-04	0.00

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.3-1 (continued)

BYRON STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/01 TO 12/31/01

CALCULATED 03/24/02

2. 10 CFR 20.1301 (d)/40 CFR 190 Compliance

		Dose (mrem)	Limit (mrem)	% of Limit
Whole Body	Plume	2.75E-06		
(DDE)	Skyshine	0.00E+00		
	Ground	7.53E-06		
	Total	1.03E-05	25.0	0.00
Organ Dose	Thyroid	3.13E-03	75.0	0.00
(CDE)	Gonads	3.16E-03	25.0	0.01
	Breast	3.07E-03	25.0	0.01
	Lung	3.07E-03	25.0	0.01
	Marrow	3.46E-03	25.0	0.01
	Bone	7.18E-03	25.0	0.03
	Remainder	3.63E-03	25.0	0.01
	CEDE	3.43E-03		
	TEDE	3.44E-03	100.0	0.00

RESULTS BASED UPON: ODCM ANNEX REVISION 1.3 MARCH 1996
ODCM SOFTWARE VERSION 1.1 January 1995
ODCM DATABASE VERSION 1.1 January 1995

Table 3.4-1

BYRON STATION - UNIT 1

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

CURRENT PERIOD OF RELEASE: October 1 - December 31 YEAR: 2001

TYPE OF DOSE	CURRENT PERIOD	CURRENT QUARTER	THIRD QUARTER	SECOND QUARTER	FIRST QUARTER	ANNUAL
GAMMA AIR (mrad)	1.070E-06(E)	1.070E-06(E)	6.400E-07(S)	8.470E-07(W)	8.540E-07(SE)	3.029E-06(SE)
BETA AIR (mrad)	1.270E-06(ESE)	1.270E-06(ESE)	6.730E-07(NNW)	2.080E-06(NNW)	1.800E-06(SE)	4.857E-06(NNW)
WHOLE BODY (mrem)	4.810E-07(SE)	4.810E-07(SE)	4.180E-07(S)	3.180E-06(NE)	4.310E-07(SE)	4.024E-06(SE)
SKIN (mrem)	1.360E-06(SE)	1.360E-06(SE)	1.090E-06(S)	4.410E-06(NE)	1.360E-06(SE)	7.503E-06(SE)
ORGAN (mrem)	1.140E-05(ESE)	1.140E-05(ESE)	9.440E-06(NNW)	3.890E-06(NNW)	1.520E-05(SE)	3.199E-05(ESE)
CRITICAL PERS-ORG	TA-LV	TA-LV	TA-LV	CH-TB	TA-LV	TA-LN

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I QUARTERLY OBJECTIVE	% OF APP. I	10 CFR 50 APP.I YEARLY OBJECTIVE	% OF APP I
GAMMA AIR (mrad)	5.0	.00	10.0	.00
BETA AIR (mrad)	10.0	.00	20.0	.00
WHOLE BODY (mrem)	2.5	.00	5.0	.00
SKIN (mrem)	7.5	.00	15.0	.00
ORGAN (mrem)	7.5	.00	15.0	.00
CRITICAL PERSON-ORGAN		(TA-LV)		(TA-LN)

CRITICAL ORGANS: BN=BONE. LV=LIVER. TB=TOTAL BODY. TH=THYROID. KD=KIDNEY. LN=LUNG. GI=GI-LLI
CRITICAL PERSON: AD=ADULT. TA=TEENAGER. CH=CHILD. IN=INFANT

Date of calculation: 4/18/2002

Table 3.4-1 (continued)

BYRON STATION - UNIT 2

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

CURRENT PERIOD OF RELEASE: October 1 - December 31 YEAR: 2001

TYPE OF DOSE	CURRENT PERIOD	CURRENT QUARTER	THIRD QUARTER	SECOND QUARTER	FIRST QUARTER	ANNUAL
GAMMA AIR (mrad)	5.560E-07(E)	5.560E-07(E)	1.050E-07(NNW)	6.100E-07(W)	1.820E-06(SE)	2.957E-06(SE)
BETA AIR (mrad)	1.050E-06(ESE)	1.050E-06(ESE)	3.710E-07(NNW)	1.960E-06(NNW)	2.190E-06(SE)	4.632E-06(SE)
WHOLE BODY (mrem)	6.020E-07(SE)	6.020E-07(SE)	8.540E-08(SSE)	2.230E-06(NE)	9.770E-07(SE)	3.652E-06(SE)
SKIN (mrem)	1.220E-06(SE)	1.220E-06(SE)	2.110E-07(SSE)	3.160E-06(NE)	2.660E-06(SE)	7.009E-06(SE)
ORGAN (mrem)	9.780E-06(ESE)	9.780E-06(ESE)	7.910E-06(NNW)	1.010E-05(NNW)	5.410E-05(SE)	7.297E-05(SE)
CRITICAL PERS-ORG	TA-LN	TA-LN	TA-LN	TA-LN	TA-TH	TA-TH

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I QUARTERLY OBJECTIVE	% OF APP I	10 CFR 50 APP.I YEARLY OBJECTIVE	% OF APP I
GAMMA AIR (mrad)	5.0	.00	10.0	.00
BETA AIR (mrad)	10.0	.00	20.0	.00
WHOLE BODY (mrem)	2.5	.00	5.0	.00
SKIN (mrem)	7.5	.00	15.0	.00
ORGAN (mrem)	7.5	.00	15.0	.00
CRITICAL PERSON-ORGAN		(TA-LN)		(TA-TH)

CRITICAL ORGANS: BN=BONE, LV=LIVER, TB=TOTAL BODY, TH=THYROID, KD=KIDNEY, LN=LUNG, GI=GI-LLI
CRITICAL PERSON: AD=ADULT, TA=TEENAGER, CH=CHILD, IN=INFANT

Maximum Offsite
(Values (pCi/m3)

Iodine	3.66E-07
Particulate Matter	2.97E-01
Data Recovery (priority parameters)	99.8%

Date of calculation: 4/18/2002

Figure 5.0-1

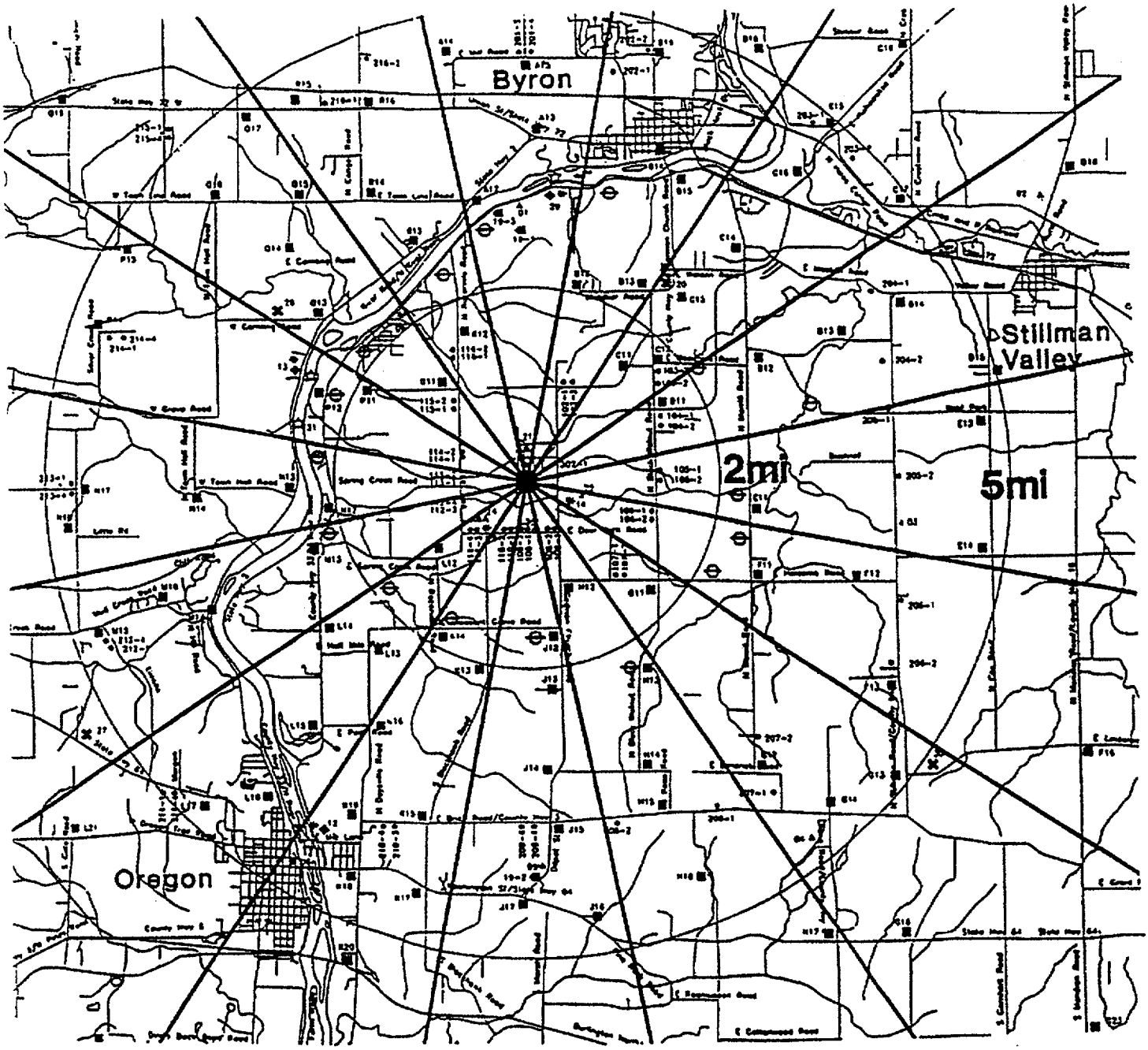
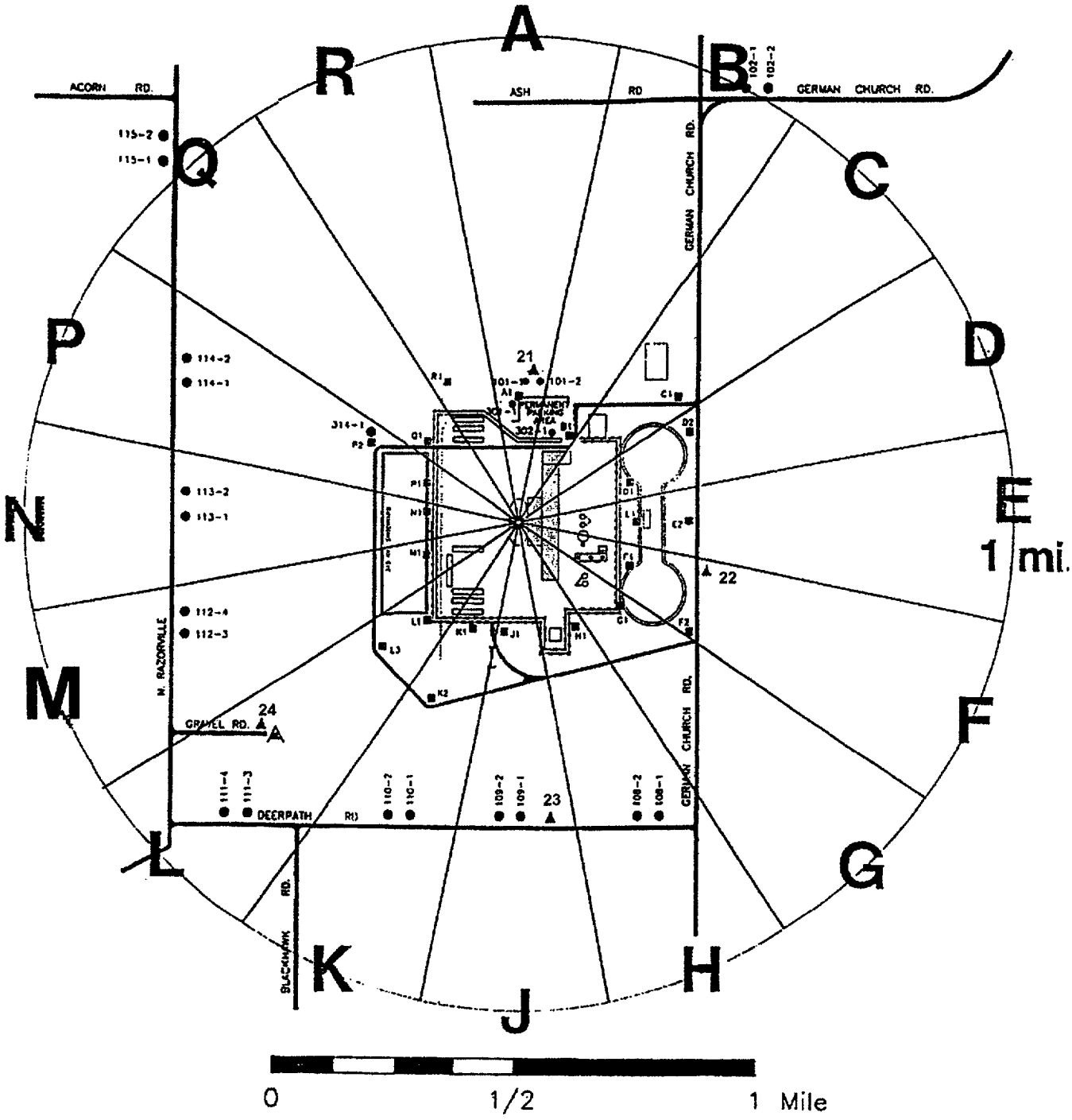

Byron
Stillman Valley
2mi
5mi
Oregon
TLD Location
N
BYRON STATION
INNER AND OUTER RING TLD LOCATIONS

Figure 5.0-2

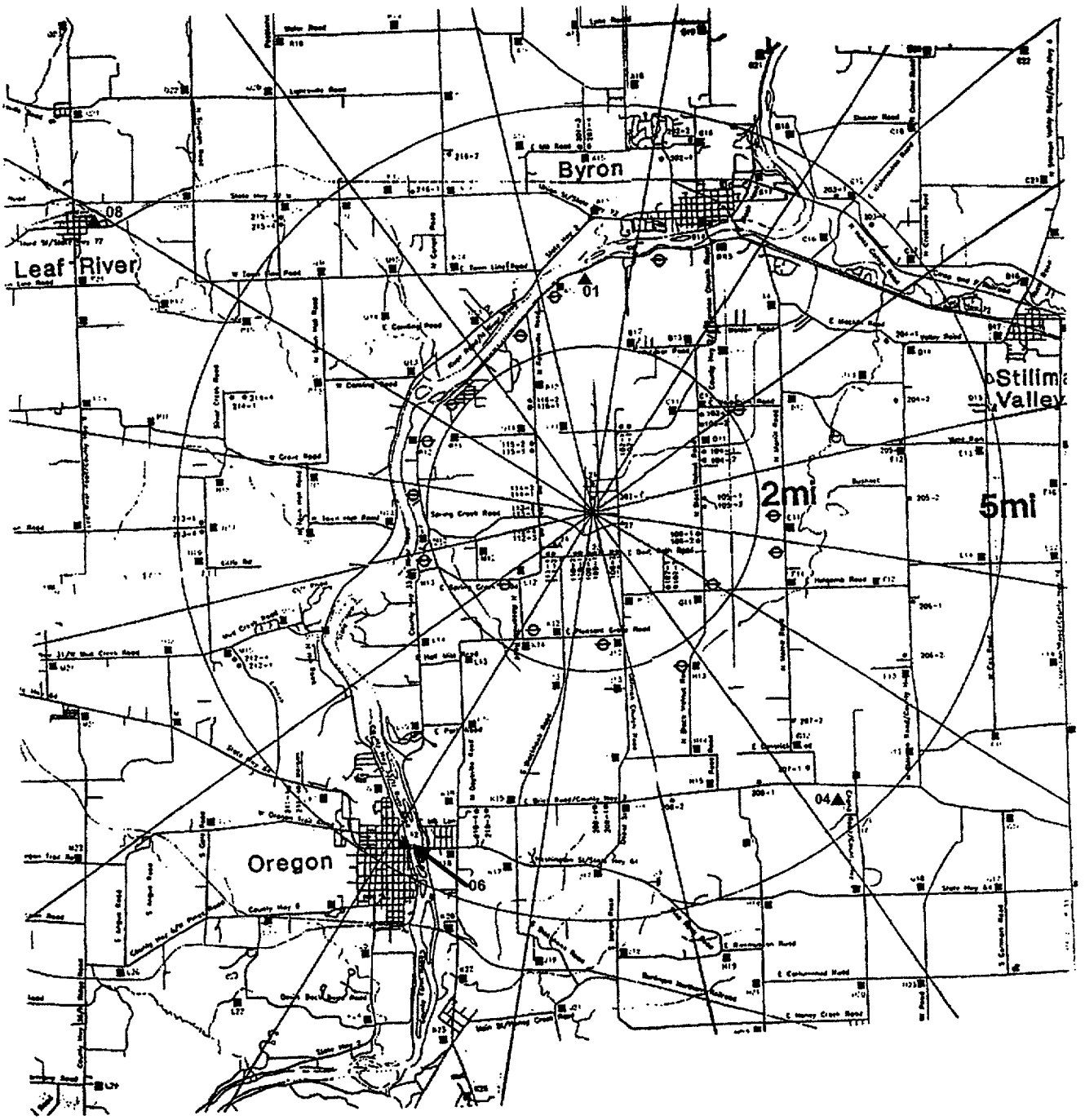


Byron Station

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

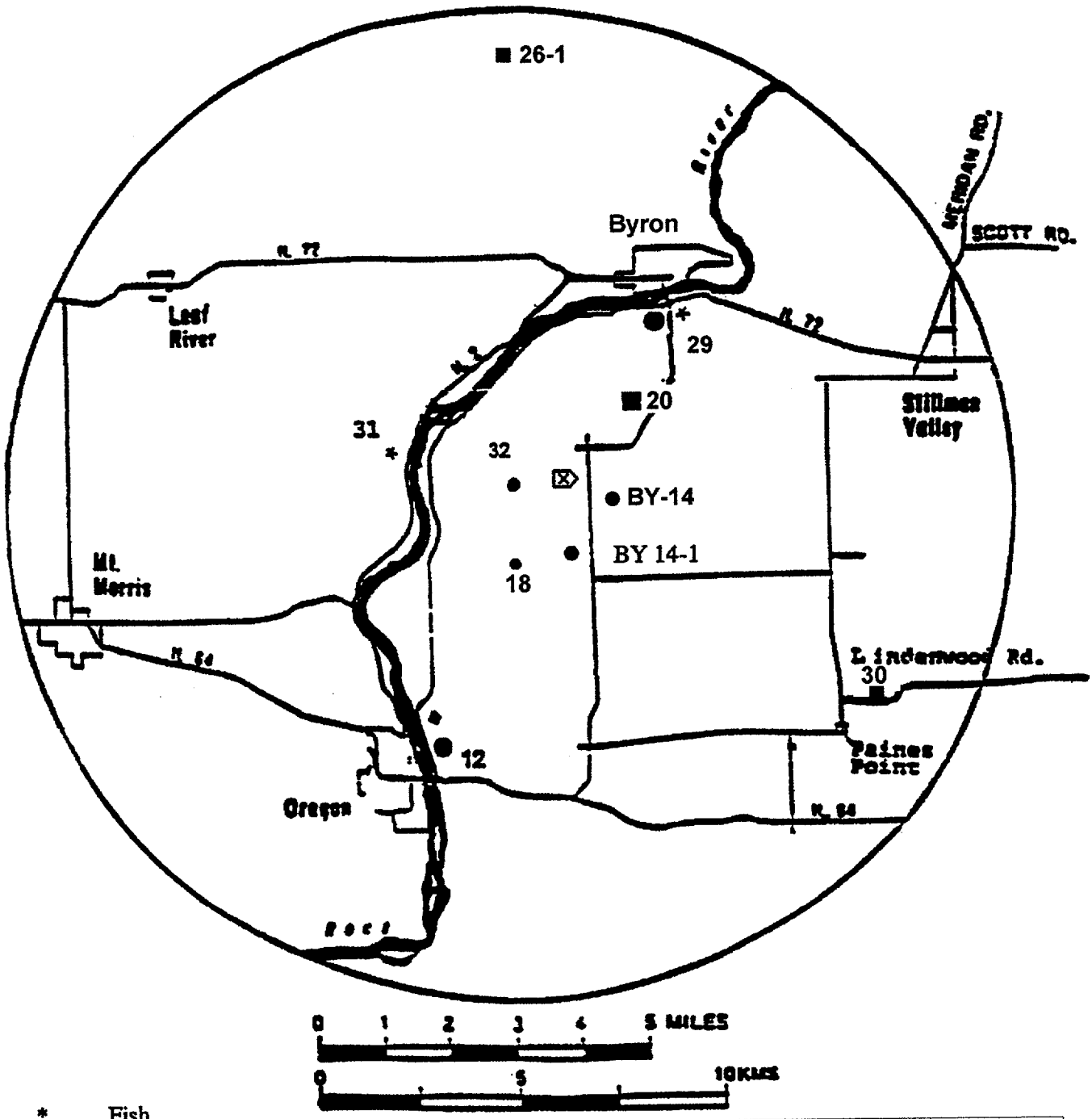


Byron Station

Offsite Air Sampling Locations

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

Figure 5.0-4



* Fish
■ Milk
◆ Sediment
● Water
⊠ Byron Station

Byron Station

Ingestion and Waterborne Exposure Pathway Sample Locations

BY-12	Oregon Pool of Rock River, Downstream
BY-14	ComEd Offsite Well
BY-14-1	3200 North 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 ComEd Offsite Well	.	.	.	.	.	.	.	✔
BY-14-1 3200 German Church Road[a]	.	.	.	.	.	.	.	✔
BY-18 McCoy Farmstead	.	.	.	.	.	.	.	✔
BY-Quad 1 D. White	.	.	.	✔	.	.	.	.
BY-Quad 2 3485 German Church Road	.	.	.	✔	.	.	.	.
BY-Quad 3 German Church 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 Wolford	.	.	.	.	.	.	.	✔
BY-34 Rock River Downstream	.	.	.	.	.	✔	.	.

CENSUS
Dairy
Residence
Cattle

[a] Replaced ComEd Offsite Well, BY-14, in August of 2001.

TABLE 5.0-2

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

1. AIR SAMPLERS

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

2. TLDs

a. Same as No. 1.

b. Special TLD Locations

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

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

TABLE 5.0-2 (continued)

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

2. TLDs

b. Special TLD Locations (continued)

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

3. MILK

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-20	K. Reeverts Dairy Farm	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

Site Code[a]	Location	Distance (miles)	Direction	Sector
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

Site Code[a]	Location	Distance (miles)	Direction	Sector
BY-14	ComEd Offsite Well	0.5	ESE	F
BY-14-1	3200 North German Church Road[b]	1.0	SSE	H
BY-18	McCoy Farmstead	0.7	SW	L
BY-32	Ron Wolford Well	1.8	W	N

6. SURFACE WATER

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

7. FISH

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

8. SEDIMENTS

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

[a] Control (background) locations are denoted by a "C" after site code. All other locations are indicators.
[b] Replaced ComEd Offsite Well, BY-14, in August of 2001.

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

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

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

TABLE 5.0-2 (continued)

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location Code[a]	Location Site	Collection Frequency	Type of Analysis	Frequency of Analysis
4. TLDs (continued)					
	Outer Ring		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: May-October Monthly: November-April	I-131 Gamma Isot.	Biweekly: May-October Monthly: November-April
	BY-26 (C)	G. Hazzard's Dairy			
	BY-30	D. Roos Dairy			
6. Vegetables	Quad 1	D. White	Annually - two varieties from each location as available at harvest.	Gamma Isot. I-131	Annually Annually, on broad leaf vegetation.
	Quad 2	3485 German Church Road			
	Quad 3	E. Thurm			
	Quad 4	D. L. Hardisty			
	Control	W. Mueller			
7. Ground/Well Water	BY-14	ComEd Offsite	Quarterly	Gamma Isot. Tritium	Quarterly
	BY-14-1[b]	3200 North German Church Road			
	BY-18	McCoy Farm			
	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.	
c. At dairies listed in Item 5.			-	c. Inquire as to feeding practices: 1. Pasture only.	Annually during grazing season.

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

[b] Replaced ComEd Offsite Well, BY-14, in August of 2001.

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location Code[a]	Location Site	Collection Frequency	Type of Analysis	Frequency of Analysis
13. Land Use Census (continued)				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%.	
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 2001
(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 64	0.01	0.025 (51/52) (0.013-0.042)	BY-08, Leaf River, 6.8 mi. WNW, Sector P	0.028 (13/13) (0.018-0.047)	0.028 (13/13) (0.018-0.047)	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	<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	3,618 (1/1)	BY-12, Oregon Pool of Rock River, 4.5 mi. SSW, Sector K	3,618 (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	19 (78/78) (16-24)	BY-105-1[b] 1.3 mi. E Sector E	24 (1/1)	16 (2/2) (16-16)	0

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

[b] BY-105-1, BY-105-2, BY-107-1 and BY-212-1 had identical means of 24 mR. Only BY-105-1 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 2001
(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	0.020 (44/52) (0.013-0.029)	BY-21[b], Nearsite N 0.3 mi. N, Sector A	0.021 (11/13) (0.018-0.029)	0.020 (12/13) (0.010-0.029)	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 18	0.5/5.0[c]	<LLD	-	-	<LLD	0
	Gamma Spec. 18						
	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. 10						
	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] Locations BY-21 and BY-22 had identical means of 0.021 pCi/m^3. Only BY-21 is detailed in this summary.

[c] 0.5 pCi/L. (May-October); 5.0 pCi/L. (November-April).

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 2001
(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Surface Water (pCi/L)	Gross Beta 6	4	<LLD	-	-	<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	1,708 (1/1)	BY-12, Oregon Pool of Rock River, Downstream 4.5 mi. SSW, Sector K	1,708 (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	20.8 (78/78) (16-26)	BY-107-1 1.4 mi. SE Sector G	26 (1/1)	20.5 (2/2) (20-21)	0

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

Table 5.0-5

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Byron Nuclear Power Station Docket No. 50-454, 50-455
Location of Facility Ogle, Illinois Reporting Period 3rd Quarter 2001
(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) (0.014-0.032)	BY-08, Leaf River 6.8 mi. WNW, Sector P	0.026 (13/13) (0.017-0.038)	0.026 (13/13) (0.017-0.038)	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 18	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 18						
	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 11	0.06	<LLD	-	-	<LLD	0
	Gamma Spec. 11						
	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	4.1 (1/3)	BY-29, Byron, Upstream of Intake 3.0 mi. N, Sector A	4.3 (1/3)	4.3 (1/3)	0
	Gamma Spec. 6						
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas	15-30	<LLD	-	-	<LLD	0
	Tritium 2	200	1,828(1/1)	BY-12 Oregon Pool of Rock River, 4.5 mi SSW, Sector K	1,828 (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 2001
(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	17.7 (78/78) (12-21)	BY-22-2[b], 0.4 mi ESE, Sector F	21 (1/1)	14 (2/2) (14-14)	0

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

[b] Locations BY-22-2, 102-1, 107-1, 108-1, 110-2, 204-2, 208-1, 209-1, 215-4, 216-1 had identical means of 21 mR. Only BY-22-2 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 2001
(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	0.029 (52/52) (0.017-0.054)	BY-08, Leaf River 6.8 mi WNW, Sector P	0.030 (13/13) (0.021-0.051)	0.030 (13/13) (0.021-0.051)	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 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. 9						
	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 2001
(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean[a] Range	Location with Highest Quarterly Mean	Highest Mean[a] Range	Control Locations Mean[a] Range	Number of Non-routine Results
Surface Water (pCi/L)	Gross Beta 6	4	<LLD	BY-29, Byron, Upstream of Intake 0.9 mi N, Sector A	5.3 (2/3) (4.8-5.8)	5.3 (2/3) (4.8-5.8)	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	2,337 (1/1)	BY-12, Oregon Pool of Rock River, 4.5 mi SSW, Sector K	2,337 (1/1)	<LLD	0
Well Water (pCi/L)	Gamma Spec. 3						
	Cs-134	15	<LLD	-	-	None	0
	Cs-137	18	<LLD	-	-	None	0
	Other ODCM-Required Gammas	15-30	<LLD	-	-	None	0
	Tritium 3	200	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 80	9.7	21.7 (78/78) (15-28)	BY-102-1, 0.9 mi. NNE, Sector B	28 (1/1)	18 (2/2) (17-19)	0

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

BYRON

APPENDIX II

METEOROLOGICAL DATA

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2001

STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	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	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

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 POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2001

STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	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	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

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 POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2001

STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	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	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	1	0	1
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	1	0	1

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 POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2001

STABILITY CLASS - NEUTRAL (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	1	6	20	33	0	0	60
NNE	1	8	9	4	11	2	35
NE	1	10	6	0	4	3	24
ENE	3	12	0	0	0	0	15
E	4	7	5	5	1	0	22
ESE	2	13	10	8	4	0	37
SE	0	7	10	10	5	0	32
SSE	1	3	17	16	1	0	38
S	0	3	7	22	5	0	37
SSW	1	11	15	13	7	0	47
SW	0	6	18	19	4	0	47
WSW	1	2	16	30	6	3	58
W	0	7	37	71	30	10	155
WNW	1	12	33	65	20	1	132
NW	0	14	43	48	54	3	162
NNW	1	6	31	26	4	0	68
VARIABLE	0	0	0	0	0	0	0
TOTAL	17	127	277	370	156	22	969

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 28
Hours of missing stability measurements in all stability classes: 1

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2001

STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	1	17	18	2	0	38
NNE	1	2	5	2	1	0	11
NE	0	2	0	5	0	17	24
ENE	2	6	4	7	0	0	19
E	0	5	19	10	6	0	40
ESE	0	2	4	16	14	7	43
SE	2	2	4	9	9	13	39
SSE	1	2	3	22	11	6	45
S	2	1	14	14	16	4	51
SSW	1	5	12	28	11	10	67
SW	1	13	30	36	33	4	117
WSW	0	9	21	35	8	1	74
W	1	7	42	47	10	0	107
WNW	3	6	29	28	9	0	75
NW	2	11	39	65	8	0	125
NNW	1	4	24	29	5	0	63
VARIABLE	0	0	0	0	0	0	0
TOTAL	17	78	267	371	143	62	938

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 9
Hours of missing stability measurements in all stability classes: 1

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2001

STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	2	5	4	2	0	13
NNE	0	4	2	1	0	0	7
NE	0	3	1	1	0	0	5
ENE	2	2	1	0	0	0	5
E	1	2	3	0	0	0	6
ESE	0	1	0	4	4	0	9
SE	1	0	4	5	0	0	10
SSE	1	0	0	2	3	0	6
S	0	0	1	6	9	1	17
SSW	0	0	3	2	1	0	6
SW	0	1	5	1	3	0	10
WSW	0	2	4	0	0	0	6
W	0	3	3	1	0	0	7
WNW	0	1	5	1	0	0	7
NW	0	0	5	4	0	0	9
NNW	0	0	5	2	0	0	7
VARIABLE	0	0	0	0	0	0	0
TOTAL	5	21	47	34	22	1	130

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 POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2001

STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	2	4	2	0	0	8
NNE	1	4	2	1	0	0	8
NE	4	9	0	0	0	0	13
ENE	5	1	2	0	0	0	8
E	0	1	1	0	0	0	2
ESE	0	1	0	0	0	0	1
SE	1	0	2	2	0	0	5
SSE	0	2	1	2	0	0	5
S	0	0	0	1	0	0	1
SSW	0	0	1	1	0	0	2
SW	0	0	1	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	1	0	0	1
WNW	0	0	2	3	0	0	5
NW	0	1	5	10	0	0	16
NNW	1	2	3	2	0	0	8
VARIABLE	0	0	0	0	0	0	0
TOTAL	12	23	24	25	0	0	84

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 POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2001

STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	2	0	2
S	0	0	0	2	3	0	5
SSW	0	0	0	1	1	0	2
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	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	3	6	0	9

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 POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2001

STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
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	0	0	0	1	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	1	2	0	3
SSW	0	0	0	2	0	0	2
SW	0	0	0	2	0	0	2
WSW	0	0	0	0	0	0	0
W	0	0	2	0	2	0	4
WNW	0	0	1	3	1	0	5
NW	0	0	1	0	0	0	1
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	7	8	6	0	21

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 POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2001

STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	10	0	1	0	11
NNE	0	0	0	1	0	0	1
NE	0	0	1	3	0	0	4
ENE	0	0	0	4	4	0	8
E	0	0	1	2	1	0	4
ESE	0	0	0	0	2	0	2
SE	0	0	0	3	0	0	3
SSE	0	0	0	2	3	0	5
S	0	0	1	3	2	1	7
SSW	0	0	4	2	0	0	6
SW	0	1	4	8	6	2	21
WSW	0	0	0	5	0	1	6
W	0	0	2	2	1	1	6
WNW	0	2	4	5	1	0	12
NW	0	0	0	3	0	0	3
NNW	0	1	1	1	0	0	3
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	4	28	44	21	5	102

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 POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2001

STABILITY CLASS - NEUTRAL (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	18	11	14	6	0	49
NNE	1	4	16	14	3	0	38
NE	3	7	19	13	6	0	48
ENE	2	18	28	23	11	2	84
E	4	12	48	27	4	0	95
ESE	3	5	5	10	5	1	29
SE	2	7	10	10	7	2	38
SSE	0	3	12	14	21	7	57
S	2	14	33	33	23	3	108
SSW	0	8	24	35	20	16	103
SW	1	8	23	26	24	17	99
WSW	1	4	9	19	6	19	58
W	0	8	16	12	4	16	56
WNW	3	11	15	15	11	10	65
NW	2	14	21	20	9	0	66
NNW	0	25	16	6	3	0	50
VARIABLE	0	0	0	0	0	0	0
TOTAL	24	166	306	291	163	93	1043

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 10
Hours of missing stability measurements in all stability classes: 1

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2001

STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	1	4	5	5	0	0	15
NNE	0	4	3	3	6	0	16
NE	1	4	8	8	3	0	24
ENE	1	7	4	13	7	0	32
E	0	7	15	25	8	0	55
ESE	0	3	2	9	23	5	42
SE	0	1	5	11	11	3	31
SSE	3	3	5	6	21	10	48
S	0	1	9	19	40	18	87
SSW	0	3	16	20	30	11	80
SW	0	2	13	27	13	6	61
WSW	0	2	9	20	9	3	43
W	0	1	8	18	6	1	34
WNW	0	2	10	15	10	0	37
NW	0	2	21	18	1	0	42
NNW	1	4	12	7	3	0	27
VARIABLE	0	0	0	0	0	0	0
TOTAL	7	50	145	224	191	57	674

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 7
Hours of missing stability measurements in all stability classes: 1

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2001

STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	1	1	3	0	0	5
NNE	0	3	5	4	0	0	12
NE	0	1	1	4	0	0	6
ENE	0	0	0	0	0	0	0
E	0	1	7	8	5	0	21
ESE	1	1	1	7	4	0	14
SE	1	0	1	3	5	0	10
SSE	0	1	3	6	2	0	12
S	1	2	11	17	16	2	49
SSW	1	2	12	15	2	0	32
SW	0	3	9	22	4	0	38
WSW	0	2	7	12	0	0	21
W	0	0	1	6	0	0	7
WNW	0	3	6	0	0	0	9
NW	0	4	5	2	0	0	11
NNW	1	3	10	0	0	0	14
VARIABLE	0	0	0	0	0	0	0
TOTAL	5	27	80	109	38	2	261

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 POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2001

STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	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	2	0	2
SE	0	0	0	1	0	0	1
SSE	0	2	0	1	2	0	5
S	0	0	1	3	2	0	6
SSW	0	1	7	3	2	0	13
SW	0	2	0	0	0	0	2
WSW	0	0	3	1	0	0	4
W	0	2	5	4	0	0	11
WNW	0	0	4	0	0	0	4
NW	0	1	0	3	0	0	4
NNW	0	1	2	0	0	0	3
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	9	23	16	8	0	56

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 POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2001

STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	1	0	0	1
NNE	0	0	2	1	0	0	3
NE	0	0	0	0	0	0	0
ENE	0	0	1	1	0	0	2
E	0	0	0	0	0	0	0
ESE	0	0	0	2	0	0	2
SE	0	0	0	2	0	0	2
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	2	0	0	2
SW	0	0	0	2	1	0	3
WSW	1	0	0	2	0	0	3
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	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	0	4	13	1	0	19

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 POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2001

STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	2	5	3	0	10
NNE	0	0	0	1	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	0	2	0	0	0	2
E	0	0	0	1	0	0	1
ESE	0	0	0	2	0	0	2
SE	0	0	1	2	0	0	3
SSE	0	0	2	1	0	0	3
S	0	0	4	1	1	0	6
SSW	0	0	5	2	0	0	7
SW	0	2	3	1	0	0	6
WSW	0	0	6	3	1	0	10
W	0	0	2	0	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	2	2	0	0	4
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	2	29	21	5	0	57

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 POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2001

STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	8	5	3	0	16
NNE	0	0	5	2	0	0	7
NE	0	0	3	1	0	0	4
ENE	0	0	1	0	0	0	1
E	0	2	0	1	0	0	3
ESE	0	2	1	1	0	0	4
SE	0	2	3	0	0	0	5
SSE	0	0	2	0	0	0	2
S	0	3	4	7	0	0	14
SSW	0	1	9	2	1	0	13
SW	0	2	7	1	1	0	11
WSW	0	2	11	1	0	0	14
W	0	2	6	2	0	0	10
WNW	0	0	2	1	0	0	3
NW	0	3	1	1	0	0	5
NNW	0	0	5	1	0	0	6
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	19	68	26	5	0	118

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 POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2001

STABILITY CLASS - NEUTRAL (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	3	4	20	19	15	1	62
NNE	4	7	19	18	2	0	50
NE	1	6	13	23	0	0	43
ENE	2	4	5	11	2	1	25
E	1	10	32	12	0	1	56
ESE	3	19	15	4	0	0	41
SE	4	20	13	5	2	0	44
SSE	2	8	19	18	8	0	55
S	2	7	21	18	5	0	53
SSW	0	12	35	17	7	2	73
SW	2	17	35	18	3	0	75
WSW	2	19	25	20	3	0	69
W	3	11	21	8	3	0	46
WNW	1	11	11	14	2	0	39
NW	3	10	7	32	2	0	54
NNW	4	8	25	9	2	0	48
VARIABLE	0	0	0	0	0	0	0
TOTAL	37	173	316	246	56	5	833

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 POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2001

STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	8	15	25	0	0	48
NNE	1	4	10	7	0	0	22
NE	2	7	7	7	2	0	25
ENE	2	8	4	17	7	0	38
E	2	14	32	9	3	0	60
ESE	1	4	12	11	1	0	29
SE	0	1	8	11	10	0	30
SSE	2	3	3	18	13	1	40
S	0	5	13	24	13	3	58
SSW	1	6	13	18	2	0	40
SW	1	4	19	20	0	0	44
WSW	0	13	26	13	0	0	52
W	2	10	30	6	0	0	48
WNW	4	6	22	15	0	0	47
NW	2	0	14	5	1	0	22
NNW	0	5	21	22	1	0	49
VARIABLE	0	0	0	0	0	0	0
TOTAL	20	98	249	228	53	4	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: 5

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2001

STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	1	4	9	10	1	0	25
NNE	1	0	4	9	1	0	15
NE	1	0	1	6	0	0	8
ENE	2	5	6	2	1	0	16
E	0	5	12	7	2	0	26
ESE	0	1	5	16	7	0	29
SE	0	1	6	6	5	0	18
SSE	2	1	4	9	8	1	25
S	2	5	7	28	6	0	48
SSW	1	3	9	27	5	0	45
SW	1	6	6	20	0	0	33
WSW	1	2	6	7	0	0	16
W	2	2	7	5	0	0	16
WNW	1	3	8	8	0	0	20
NW	1	4	5	5	0	0	15
NNW	0	4	12	7	0	0	23
VARIABLE	0	0	0	0	0	0	0
TOTAL	16	46	107	172	36	1	378

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 POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2001

STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	3	3	0	0	0	6
NNE	1	1	1	0	0	0	3
NE	1	4	1	0	0	0	6
ENE	2	0	0	1	0	0	3
E	0	2	1	0	1	0	4
ESE	0	0	3	1	4	0	8
SE	0	1	4	10	3	0	18
SSE	0	2	5	3	6	0	16
S	1	3	3	7	6	0	20
SSW	1	4	2	3	0	0	10
SW	0	1	3	1	0	0	5
WSW	1	2	5	3	0	0	11
W	1	0	5	3	0	0	9
WNW	3	0	5	4	0	0	12
NW	2	0	6	0	1	0	9
NNW	0	1	2	2	1	0	6
VARIABLE	0	0	0	0	0	0	0
TOTAL	13	24	49	38	22	0	146

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2001

STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	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	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

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 POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2001

STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	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	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

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 POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2001

STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	1	0	1
SSW	0	0	0	0	1	0	1
SW	0	0	0	0	2	1	3
WSW	0	0	0	0	0	0	0
W	0	0	1	3	0	0	4
WNW	0	0	0	2	1	0	3
NW	0	0	0	0	1	0	1
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	1	5	6	1	13

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 POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2001

STABILITY CLASS - NEUTRAL (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	1	8	17	4	0	0	30
NNE	2	6	11	5	0	0	24
NE	1	1	4	4	6	0	16
ENE	1	5	3	9	1	0	19
E	2	11	7	9	1	0	30
ESE	1	5	4	8	5	1	24
SE	0	2	4	13	14	7	40
SSE	2	4	15	24	14	6	65
S	5	3	18	18	30	21	95
SSW	1	9	26	27	32	25	120
SW	0	7	22	43	19	0	91
WSW	3	10	29	43	21	6	112
W	1	14	40	87	31	34	207
WNW	1	10	16	46	38	19	130
NW	0	12	13	45	19	2	91
NNW	2	5	22	10	8	3	50
VARIABLE	0	0	0	0	0	0	0
TOTAL	23	112	251	395	239	124	1144

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 POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2001

STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	2	5	8	1	0	16
NNE	1	1	6	4	1	0	13
NE	1	4	4	4	2	0	15
ENE	2	3	2	4	3	0	14
E	0	5	9	16	0	0	30
ESE	1	0	0	1	1	3	6
SE	0	1	8	4	9	16	38
SSE	0	4	1	12	15	10	42
S	0	7	9	19	44	21	100
SSW	0	6	11	54	59	4	134
SW	0	4	16	35	38	3	96
WSW	1	5	17	27	5	0	55
W	0	6	18	36	5	1	66
WNW	0	4	17	17	8	0	46
NW	1	3	20	31	1	0	56
NNW	0	2	11	15	0	0	28
VARIABLE	0	0	0	0	0	0	0
TOTAL	7	57	154	287	192	58	755

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 POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2001

STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	0	0	8	0	0	0	8
NNE	0	0	1	2	0	0	3
NE	0	2	0	2	0	0	4
ENE	0	1	0	0	0	0	1
E	0	1	1	3	0	0	5
ESE	0	1	0	3	5	0	9
SE	0	0	1	2	6	0	9
SSE	0	1	2	2	1	2	8
S	0	0	5	7	19	1	32
SSW	0	0	1	23	19	0	43
SW	0	0	5	14	2	0	21
WSW	0	0	5	9	0	0	14
W	0	0	8	6	0	0	14
WNW	0	0	4	11	1	0	16
NW	0	1	6	3	0	0	10
NNW	0	0	5	2	0	0	7
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	7	52	89	53	3	204

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 POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2001

STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 250-30 FT)
WINDS MEASURED AT 250 FEET

WIND DIRECTION	WIND SPEED (in mph) 0.9-3	4-7	8-12	13-18	19-24	> 24	TOTAL
N	2	0	1	0	0	0	3
NNE	0	0	1	0	0	0	1
NE	0	1	0	0	0	0	1
ENE	1	0	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	2	2	0	0	4
SE	1	1	1	3	0	0	6
SSE	0	2	2	2	0	0	6
S	1	0	4	3	2	0	10
SSW	1	1	4	14	2	0	22
SW	0	1	1	0	0	0	2
WSW	0	1	1	2	0	0	4
W	1	1	3	2	1	0	8
WNW	0	1	1	7	0	0	9
NW	0	3	4	4	0	0	11
NNW	0	2	2	0	0	0	4
VARIABLE	0	0	0	0	0	0	0
TOTAL	7	14	27	39	5	0	92

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

APPENDIX III

2001 REMP SAMPLE RESULTS

TABLE OF CONTENTS

LIST OF TABLES

1.0 INTRODUCTION

The following constitutes the current 2001 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±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
None for 2001.			

2.0 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Expected Collection Date	Reason
SW	BY-29	01-02-01	No sample; water frozen.
SW	BY-29	01-09-01	No sample; water frozen.
SW	BY-29	01-16-01	No sample; water frozen.
A/I	BY-21	01-23-01	No sample; pump #109 found not running; placed pump #128; air particulate and air iodine for week invalid.
SW	BY-29	01-23-01	No sample; water frozen.
SW	BY-29	01-30-01	No sample; water frozen.
SW	BY-29	02-06-01	No sample; water frozen.
SW	BY-29	02-13-01	No sample; water frozen.

3.0 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
A	BY-08	01-16-01	Pump #128 removed due to low vacuum reading (17 inches Hg); placed pump #106.
A/I	BY-21	02-20-01	Collector removed pump #128 because of low vacuum; placed pump #102.
A/I	BY-Gasket Exchange	04-03-01	Collector gaskets lost in mail; could not exchange on 04-03-01. New gaskets were sent and collector exchanged on 04-10-01.
A	BY-22	06-06-01	Pump motor running; vacuum and flowrate readings zero. Collector replaced pump.
WW	BY-14	07-10-01	Collector unable to obtain sample; pump would not produce water. Will try to collect next collection period.
WW	BY-14	07-17-01	Collector could not obtain well water; pump not working.
WW	BY-14	07-24-01	Collector could not obtain well water; pump not working.
WW	BY-14	07-31-01	Collector could not obtain well water; pump not working.
WW	BY-14	08-07-01	Collector could not obtain well water; pump not working.
WW	BY-14	08-14-01	Collector could not obtain well water; pump not working. NOTE: New location (BY-14-1) found 08-21-01.
A/I	BY-21	10-30-01	High meter reading of 191.0 believed due to timer "reset" during pump rewiring; used 159.8 hrs for calculations.
A/I	BY-22	10-30-01	Low meter reading of 110.9 believed due to timer "reset" during pump rewiring; used 159.8 hrs for calculations.

Table 1. Airborne Particulates and Iodine Cartridges

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

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

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

BY-08 (C) Leaf River

Date Collected	Volume (m^3)	Gross Beta	I-131[a]
01-02-01	244	2.8 ± 0.4; 0.7	-
01-09-01	280	3.5 ± 0.4; 0.8	-0.8 ± 0.5; 0.6
01-16-01	281	2.6 ± 0.4; 0.7	-
01-23-01	291	4.7 ± 0.5; 0.7	0.0 ± 0.5; 0.5
01-30-01	292	1.8 ± 0.4; 0.7	-
02-06-01	284	2.3 ± 0.4; 0.6	-0.1 ± 0.5; 0.5
02-13-01	282	2.0 ± 0.3; 0.5	-
02-20-01	282	4.3 ± 0.5; 0.9	0.7 ± 0.4; 0.4
02-27-01	285	2.9 ± 0.4; 0.7	-
03-06-01	284	2.5 ± 0.4; 0.6	0.5 ± 0.5; 0.5
03-13-01	286	2.2 ± 0.3; 0.5	-
03-20-01	284	2.1 ± 0.3; 0.5	-0.3 ± 0.5; 0.5
03-27-01	284	2.2 ± 0.3; 0.5	-
1st Qtr. Mean±s.d.		2.8 ±0.9	0.0± 0.5
04-03-01	284	2.0 ± 0.4; 0.5	-0.5 ± 0.5; 0.5
04-10-01	286	1.6 ± 0.3; 0.4	-
04-17-01	283	1.8 ± 0.3; 0.4	-0.1 ± 0.5; 0.5
04-24-01	285	2.2 ± 0.4; 0.5	-
05-01-01	286	2.9 ± 0.3; 0.6	-0.0 ± 0.4; 0.4
05-08-01	283	2.3 ± 0.4; 0.6	-
05-15-01	286	2.4 ± 0.3; 0.5	0.4 ± 0.5; 0.5
05-22-01	286	2.0 ± 0.3; 0.5	-
05-29-01	283	1.0 ± 0.3; 0.3	-0.4 ± 0.5; 0.5
06-06-01	327	0.9 ± 0.2; 0.3	-
06-11-01	203	1.9 ± 0.4; 0.5	0.2 ± 0.4; 0.4
06-19-01	327	2.6 ± 0.3; 0.6	-
06-26-01	285	2.1 ± 0.3; 0.5	-0.1 ± 0.5; 0.5
2nd Qtr. Mean±s.d.		2.0 ±0.6	-0.1± 0.3
07-03-01	283	2.5 ± 0.4; 0.6	-
07-10-01	287	2.4 ± 0.3; 0.5	0.1 ± 0.4; 0.4
07-17-01	284	2.3 ± 0.3; 0.5	-
07-24-01	285	2.8 ± 0.4; 0.6	-0.1 ± 0.4; 0.4
07-31-01	284	2.7 ± 0.3; 0.6	-
08-07-01	290	2.5 ± 0.4; 0.6	-0.1 ± 0.4; 0.4
08-14-01	283	3.2 ± 0.4; 0.7	-
08-21-01	285	2.0 ± 0.3; 0.5	0.0 ± 0.4; 0.4
08-28-01	283	3.8 ± 0.4; 0.8	-
09-04-01	286	2.8 ± 0.4; 0.6	0.3 ± 0.4; 0.4
09-11-01	285	1.7 ± 0.3; 0.5	-
09-18-01	285	2.2 ± 0.4; 0.5	0.4 ± 0.4; 0.4
09-25-01	291	2.4 ± 0.3; 0.5	-
3rd Qtr. Mean±s.d.		2.6 ±0.5	0.1± 0.2
10-02-01	279	2.1 ± 0.4; 0.5	0.1 ± 0.5; 0.5
10-09-01	284	3.1 ± 0.4; 0.7	-
10-16-01	286	2.2 ± 0.3; 0.5	0.3 ± 0.4; 0.4
10-23-01	295	2.9 ± 0.4; 0.7	-
10-30-01	278	2.3 ± 0.4; 0.6	0.9 ± 0.4; 0.5
11-06-01	283	2.6 ± 0.4; 0.6	-
11-13-01	284	3.3 ± 0.4; 0.7	-0.2 ± 0.5; 0.5
11-20-01	285	5.1 ± 0.5; 1.0	-
11-27-01	290	2.7 ± 0.3; 0.6	0.2 ± 0.4; 0.4
12-04-01	282	2.7 ± 0.4; 0.6	-
12-11-01	285	3.7 ± 0.4; 0.8	0.1 ± 0.5; 0.5
12-18-01	285	3.6 ± 0.4; 0.7	-
12-26-01	325	2.8 ± 0.4; 0.6	0.4 ± 0.4; 0.4
4th Qtr. Mean±s.d.		3.0 ±0.8	0.3± 0.4

[a] Volume based on two week collection period.

Table 1. Airborne Particulates and Iodine Cartridges

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

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

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

BY-21 Byron Nearsite N

Date Collected	Volume (m^3)	Gross Beta	I-131[a]
01-02-01	243	2.3 ± 0.4; 0.6	-
01-09-01	285	2.9 ± 0.4; 0.7	-0.6 ± 0.5; 0.5
01-16-01	285	2.1 ± 0.4; 0.6	-
01-23-01	NS[b]	-	-
01-30-01	288	2.1 ± 0.4; 0.6	-
02-06-01	284	2.7 ± 0.4; 0.6	-0.3 ± 0.5; 0.5
02-13-01	285	2.1 ± 0.3; 0.5	-
02-20-01	284	4.0 ± 0.5; 0.8	0.3 ± 0.4; 0.4
02-27-01	280	2.7 ± 0.4; 0.6	-
03-06-01	289	2.1 ± 0.4; 0.5	0.1 ± 0.3; 0.3
03-13-01	289	1.3 ± 0.3; 0.4	-
03-20-01	291	1.8 ± 0.3; 0.5	-0.4 ± 0.5; 0.5
03-27-01	288	2.0 ± 0.3; 0.5	-
1st Qtr. Mean±s.d.		2.3 ±0.7	-0.2± 0.4
04-03-01	285	2.1 ± 0.4; 0.5	0.6 ± 0.5; 0.5
04-10-01	282	1.8 ± 0.4; 0.5	-
04-17-01	283	2.9 ± 0.4; 0.6	0.6 ± 0.4; 0.5
04-24-01	287	2.3 ± 0.4; 0.6	-
05-01-01	285	2.6 ± 0.3; 0.6	-0.1 ± 0.5; 0.5
05-08-01	283	2.0 ± 0.4; 0.5	-
05-15-01	286	2.1 ± 0.3; 0.5	0.6 ± 0.4; 0.4
05-22-01	288	1.9 ± 0.3; 0.5	-
05-29-01	282	0.8 ± 0.3; 0.3	0.1 ± 0.5; 0.5
06-06-01	328	0.7 ± 0.2; 0.3	-
06-11-01	202	1.8 ± 0.4; 0.5	-0.7 ± 0.5; 0.5
06-19-01	326	2.4 ± 0.3; 0.6	-
06-26-01	286	1.8 ± 0.3; 0.4	-0.3 ± 0.4; 0.4
2nd Qtr. Mean±s.d.		1.9 ±0.6	0.1± 0.5
07-03-01	284	2.8 ± 0.4; 0.6	-
07-10-01	286	2.5 ± 0.3; 0.6	-0.7 ± 0.5; 0.5
07-17-01	284	2.2 ± 0.3; 0.5	-
07-24-01	286	3.0 ± 0.4; 0.7	0.1 ± 0.4; 0.4
07-31-01	284	2.4 ± 0.3; 0.5	-
08-07-01	285	2.7 ± 0.4; 0.6	0.3 ± 0.4; 0.4
08-14-01	288	2.7 ± 0.3; 0.6	-
08-21-01	285	2.3 ± 0.4; 0.5	0.0 ± 0.5; 0.5
08-28-01	282	2.9 ± 0.3; 0.6	-
09-04-01	286	2.5 ± 0.4; 0.6	-0.2 ± 0.4; 0.4
09-11-01	285	1.7 ± 0.3; 0.5	-
09-18-01	284	2.4 ± 0.4; 0.6	-0.4 ± 0.4; 0.4
09-25-01	291	2.2 ± 0.3; 0.5	-
3rd Qtr. Mean±s.d.		2.5 ±0.3	-0.1± 0.4
10-02-01	279	2.1 ± 0.4; 0.5	-0.7 ± 0.5; 0.6
10-09-01	286	2.7 ± 0.4; 0.6	-
10-16-01	286	2.2 ± 0.3; 0.5	0.4 ± 0.4; 0.4
10-23-01	295	1.7 ± 0.3; 0.5	-
10-30-01	324[c]	1.8 ± 0.3; 0.5	-0.3 ± 0.4; 0.4
11-06-01	288	2.3 ± 0.4; 0.5	-
11-13-01	283	2.7 ± 0.4; 0.6	0.0 ± 0.5; 0.5
11-20-01	284	5.4 ± 0.5; 1.1	-
11-27-01	292	3.2 ± 0.4; 0.7	-0.2 ± 0.4; 0.4
12-04-01	282	2.5 ± 0.4; 0.6	-
12-11-01	285	3.7 ± 0.4; 0.8	0.4 ± 0.5; 0.5
12-18-01	283	2.4 ± 0.3; 0.5	-
12-26-01	326	2.7 ± 0.4; 0.6	0.4 ± 0.5; 0.5
4th Qtr. Mean±s.d.		2.7 ±1.0	0.0± 0.4

[a] Volume based on two week collection period.

[b] Pump found not running; samples for week invalid.

[c] High meter reading of 191.0 hrs. believed due to timer "reset" during pump rewiring; used 159.8 hrs. for calculations.

Table 1. Airborne Particulates and Iodine Cartridges

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

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

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

BY-22 Byron Nearsite ESE

Date Collected	Volume (m^3)	Gross Beta	I-131[a]
01-02-01	243	1.6 ± 0.4; 0.5	-
01-09-01	285	3.5 ± 0.4; 0.8	0.2 ± 0.5; 0.5
01-16-01	285	2.6 ± 0.4; 0.5	-
01-23-01	285	4.1 ± 0.4; 0.5	-0.3 ± 0.4; 0.4
01-30-01	288	2.0 ± 0.4; 0.5	-
02-06-01	285	2.5 ± 0.4; 0.6	0.5 ± 0.5; 0.5
02-13-01	285	2.3 ± 0.4; 0.5	-
02-20-01	284	3.4 ± 0.4; 0.8	0.2 ± 0.3; 0.3
02-27-01	284	2.7 ± 0.4; 0.6	-
03-06-01	285	2.3 ± 0.4; 0.6	-0.2 ± 0.5; 0.5
03-13-01	284	1.9 ± 0.3; 0.5	-
03-20-01	286	2.0 ± 0.3; 0.5	-0.2 ± 0.5; 0.5
03-27-01	283	2.5 ± 0.3; 0.6	-
1st Qtr. Mean±s.d.		2.6 ±0.7	0.0± 0.3
04-03-01	285	2.1 ± 0.4; 0.5	-0.1 ± 0.4; 0.4
04-10-01	285	1.7 ± 0.3; 0.5	-
04-17-01	283	1.3 ± 0.3; 0.4	0.2 ± 0.4; 0.4
04-24-01	287	2.4 ± 0.4; 0.6	-
05-01-01	285	2.8 ± 0.3; 0.6	0.1 ± 0.4; 0.4
05-08-01	283	2.3 ± 0.4; 0.6	-
05-15-01	286	2.4 ± 0.3; 0.5	0.2 ± 0.4; 0.4
05-22-01	288	2.1 ± 0.3; 0.5	-
05-29-01	282	0.8 ± 0.3; 0.3	0.2 ± 0.6; 0.6
06-06-01	328[b]	0.4 ± 0.2; 0.2	-
06-11-01	199	1.9 ± 0.4; 0.5	-0.9 ± 0.5; 0.5
06-19-01	321	2.8 ± 0.4; 0.6	-
06-26-01	286	1.8 ± 0.3; 0.4	-0.1 ± 0.4; 0.4
2nd Qtr. Mean±s.d.		1.9 ±0.7	-0.1± 0.4
07-03-01	284	2.6 ± 0.4; 0.6	-
07-10-01	286	2.3 ± 0.3; 0.5	-0.4 ± 0.5; 0.5
07-17-01	284	2.0 ± 0.3; 0.5	-
07-24-01	286	2.9 ± 0.4; 0.7	-0.1 ± 0.5; 0.5
07-31-01	284	2.6 ± 0.3; 0.6	-
08-07-01	286	3.2 ± 0.4; 0.7	-0.1 ± 0.5; 0.5
08-14-01	287	2.5 ± 0.3; 0.6	-
08-21-01	285	1.8 ± 0.3; 0.5	-0.7 ± 0.5; 0.5
08-28-01	282	3.2 ± 0.4; 0.7	-
09-04-01	287	2.1 ± 0.4; 0.5	0.1 ± 0.5; 0.5
09-11-01	285	1.4 ± 0.3; 0.4	-
09-18-01	284	2.3 ± 0.4; 0.6	-0.2 ± 0.4; 0.4
09-25-01	291	2.3 ± 0.3; 0.5	-
3rd Qtr. Mean±s.d.		2.4 ±0.5	-0.2± 0.3
10-02-01	280	2.2 ± 0.4; 0.5	-0.4 ± 0.5; 0.5
10-09-01	286	3.0 ± 0.4; 0.7	-
10-16-01	287	2.3 ± 0.3; 0.5	-0.6 ± 0.5; 0.5
10-23-01	295	2.1 ± 0.4; 0.5	-
10-30-01	273[c]	2.2 ± 0.4; 0.5	-0.6 ± 0.4; 0.4
11-06-01	288	2.1 ± 0.4; 0.5	-
11-13-01	283	2.7 ± 0.4; 0.6	-0.0 ± 0.4; 0.4
11-20-01	284	5.1 ± 0.5; 1.0	-
11-27-01	292	2.8 ± 0.3; 0.6	0.3 ± 0.4; 0.4
12-04-01	282	3.1 ± 0.4; 0.7	-
12-11-01	285	3.9 ± 0.4; 0.8	-0.2 ± 0.5; 0.5
12-18-01	283	3.5 ± 0.4; 0.7	-
12-26-01	326	2.6 ± 0.3; 0.6	0.3 ± 0.5; 0.5
4th Qtr. Mean±s.d.		2.9 ±0.9	-0.2± 0.4

[a] Volume based on two week collection period.

[b] Pump running; vacuum and flowrate readings zero. Collector replaced pump.

[c] Low meter reading of 110.9 hrs. believed due to timer "reset" during pump rewiring; used 159.8 hrs. for calculations.

Table 1. Airborne Particulates and Iodine Cartridges

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

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

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

BY-23 Byron Nearsite S

Date Collected	Volume (m^3)	Gross Beta	I-131[a]
01-02-01	243	2.3 ± 0.4; 0.6	-
01-09-01	285	2.8 ± 0.4; 0.7	0.3 ± 0.4; 0.4
01-16-01	285	2.7 ± 0.4; 0.6	-
01-23-01	285	4.2 ± 0.4; 0.6	-0.1 ± 0.5; 0.5
01-30-01	288	2.2 ± 0.4; 0.6	-
02-06-01	285	2.2 ± 0.4; 0.5	0.6 ± 0.4; 0.4
02-13-01	284	2.1 ± 0.3; 0.5	-
02-20-01	284	3.6 ± 0.4; 0.8	0.1 ± 0.4; 0.4
02-27-01	284	2.9 ± 0.4; 0.7	-
03-06-01	285	2.8 ± 0.4; 0.6	-0.8 ± 0.5; 0.5
03-13-01	284	1.7 ± 0.3; 0.4	-
03-20-01	286	1.8 ± 0.3; 0.5	-0.2 ± 0.4; 0.4
03-27-01	283	2.3 ± 0.3; 0.5	-
1st Qtr. Mean±s.d.		2.6 ±0.7	-0.0± 0.5
04-03-01	286	1.8 ± 0.3; 0.5	-0.0 ± 0.5; 0.5
04-10-01	285	1.7 ± 0.3; 0.5	-
04-17-01	283	1.5 ± 0.3; 0.4	0.3 ± 0.5; 0.5
04-24-01	286	2.2 ± 0.4; 0.5	-
05-01-01	285	2.7 ± 0.3; 0.6	-0.4 ± 0.5; 0.5
05-08-01	283	1.7 ± 0.3; 0.5	-
05-15-01	286	1.9 ± 0.3; 0.5	-0.0 ± 0.4; 0.4
05-22-01	287	2.0 ± 0.3; 0.5	-
05-29-01	282	0.8 ± 0.3; 0.3	0.3 ± 0.4; 0.4
06-06-01	328	0.8 ± 0.2; 0.3	-
06-11-01	202	1.6 ± 0.4; 0.5	-0.2 ± 0.5; 0.5
06-19-01	326	2.5 ± 0.3; 0.6	-
06-26-01	291	1.9 ± 0.3; 0.4	0.2 ± 0.4; 0.4
2nd Qtr. Mean±s.d.		1.8 ±0.6	0.0± 0.3
07-03-01	284	2.4 ± 0.4; 0.6	-
07-10-01	286	2.2 ± 0.3; 0.5	0.4 ± 0.5; 0.5
07-17-01	284	1.9 ± 0.3; 0.5	-
07-24-01	286	2.6 ± 0.4; 0.6	-0.0 ± 0.5; 0.5
07-31-01	284	2.1 ± 0.3; 0.5	-
08-07-01	288	2.6 ± 0.4; 0.6	-0.0 ± 0.4; 0.4
08-14-01	285	2.4 ± 0.3; 0.5	-
08-21-01	285	2.0 ± 0.3; 0.5	-0.1 ± 0.4; 0.4
08-28-01	282	2.7 ± 0.3; 0.6	-
09-04-01	287	1.9 ± 0.4; 0.5	0.3 ± 0.5; 0.5
09-11-01	285	1.4 ± 0.3; 0.4	-
09-18-01	285	2.2 ± 0.4; 0.5	-0.1 ± 0.4; 0.4
09-25-01	291	2.3 ± 0.3; 0.5	-
3rd Qtr. Mean±s.d.		2.2 ±0.3	0.1± 0.2
10-02-01	280	1.9 ± 0.4; 0.5	0.3 ± 0.4; 0.4
10-09-01	286	2.9 ± 0.4; 0.6	-
10-16-01	285	2.3 ± 0.3; 0.5	0.3 ± 0.5; 0.5
10-23-01	295	2.2 ± 0.4; 0.5	-
10-30-01	279	2.8 ± 0.4; 0.6	-0.2 ± 0.5; 0.5
11-06-01	293	2.6 ± 0.4; 0.6	-
11-13-01	288	2.5 ± 0.4; 0.6	-0.2 ± 0.4; 0.4
11-20-01	289	4.7 ± 0.5; 1.0	-
11-27-01	297	2.8 ± 0.3; 0.6	0.4 ± 0.4; 0.4
12-04-01	287	2.6 ± 0.4; 0.6	-
12-11-01	290	3.9 ± 0.4; 0.8	0.3 ± 0.4; 0.4
12-18-01	283	3.9 ± 0.4; 0.8	-
12-26-01	327	3.2 ± 0.4; 0.7	-0.1 ± 0.4; 0.4
4th Qtr. Mean±s.d.		2.9 ±0.8	0.1± 0.3

[a] Volume based on two week collection period.

Table 1. Airborne Particulates and Iodine Cartridges

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

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

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

BY-24 Byron Nearsite SW

Date Collected	Volume (m^3)	Gross Beta	I-131[a]
01-02-01	245	2.4 ± 0.4; 0.6	-
01-09-01	285	3.5 ± 0.4; 0.8	-0.2 ± 0.5; 0.5
01-16-01	285	2.4 ± 0.4; 0.6	-
01-23-01	285	4.1 ± 0.4; 0.6	0.7 ± 0.5; 0.5
01-30-01	288	2.0 ± 0.4; 0.6	-
02-06-01	285	2.8 ± 0.4; 0.6	-0.4 ± 0.5; 0.5
02-13-01	284	2.1 ± 0.3; 0.5	-
02-20-01	284	3.4 ± 0.4; 0.7	0.1 ± 0.4; 0.4
02-27-01	284	2.9 ± 0.4; 0.7	-
03-06-01	285	2.7 ± 0.4; 0.6	0.6 ± 0.5; 0.5
03-13-01	284	2.1 ± 0.3; 0.5	-
03-20-01	286	1.9 ± 0.3; 0.5	-0.2 ± 0.5; 0.5
03-27-01	283	2.3 ± 0.3; 0.5	-
1st Qtr. Mean±s.d.		2.7 ±0.7	0.1± 0.5
04-03-01	286	2.0 ± 0.4; 0.5	-1.0 ± 0.5; 0.5
04-10-01	285	1.6 ± 0.3; 0.4	-
04-17-01	283	1.3 ± 0.3; 0.4	-0.1 ± 0.5; 0.5
04-24-01	286	2.1 ± 0.4; 0.5	-
05-01-01	285	2.6 ± 0.3; 0.6	-0.3 ± 0.5; 0.5
05-08-01	283	1.8 ± 0.4; 0.5	-
05-15-01	286	2.2 ± 0.3; 0.5	0.1 ± 0.4; 0.4
05-22-01	287	1.6 ± 0.3; 0.4	-
05-29-01	282	0.9 ± 0.3; 0.3	-0.1 ± 0.4; 0.4
06-06-01	328	0.7 ± 0.2; 0.3	-
06-11-01	202	1.8 ± 0.4; 0.5	0.2 ± 0.4; 0.4
06-19-01	326	2.4 ± 0.3; 0.5	-
06-26-01	286	2.1 ± 0.3; 0.5	0.1 ± 0.4; 0.4
2nd Qtr. Mean±s.d.		1.8 ±0.5	-0.2± 0.4
07-03-01	284	2.6 ± 0.4; 0.6	-
07-10-01	281	2.2 ± 0.3; 0.5	-0.2 ± 0.5; 0.5
07-17-01	284	2.2 ± 0.3; 0.5	-
07-24-01	286	2.5 ± 0.4; 0.6	-0.2 ± 0.4; 0.4
07-31-01	284	2.7 ± 0.3; 0.6	-
08-07-01	288	2.8 ± 0.4; 0.6	0.5 ± 0.4; 0.4
08-14-01	285	2.4 ± 0.3; 0.5	-
08-21-01	285	1.8 ± 0.3; 0.5	-0.3 ± 0.5; 0.5
08-28-01	282	3.1 ± 0.4; 0.7	-
09-04-01	287	1.9 ± 0.4; 0.5	0.5 ± 0.4; 0.4
09-11-01	285	1.7 ± 0.3; 0.4	-
09-18-01	285	2.2 ± 0.4; 0.5	0.1 ± 0.4; 0.4
09-25-01	291	2.4 ± 0.3; 0.5	-
3rd Qtr. Mean±s.d.		2.3 ±0.4	0.0± 0.4
10-02-01	280	2.4 ± 0.4; 0.6	-0.5 ± 0.5; 0.5
10-09-01	286	3.0 ± 0.4; 0.7	-
10-16-01	285	2.6 ± 0.3; 0.6	-0.2 ± 0.5; 0.5
10-23-01	295	2.1 ± 0.4; 0.5	-
10-30-01	275	2.4 ± 0.4; 0.6	0.5 ± 0.5; 0.5
11-06-01	288	2.2 ± 0.4; 0.5	-
11-13-01	283	2.5 ± 0.4; 0.6	0.1 ± 0.4; 0.4
11-20-01	284	5.3 ± 0.5; 1.1	-
11-27-01	292	2.8 ± 0.3; 0.6	0.3 ± 0.4; 0.4
12-04-01	282	2.5 ± 0.4; 0.6	-
12-11-01	285	3.7 ± 0.4; 0.8	-1.0 ± 0.5; 0.5
12-18-01	283	3.4 ± 0.4; 0.7	-
12-26-01	327	3.2 ± 0.4; 0.7	-0.1 ± 0.4; 0.4
4th Qtr. Mean±s.d.		2.9 ±0.9	-0.1± 0.5

[a] Volume based on two week collection period.

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
ODCM-
Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m^3
Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01; Ba/La-140 = 0.025; pCi/m^3
Units: 10^{-4} pCi/m^3

Sample Description and Concentration

BY-08 (C) Leaf River

2001 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-3194	BYAP-6606	BYAP-9900	BYAP-11951
Volume	3,666	3,711	3,718	3,749
Mn-54	-4.6 ± 6.9; 6.9	1.2 ± 5.7; 5.7	-5.8 ± 7.2; 7.3	-4.1 ± 6.1; 6.1
Fe-59	35.8 ± 13.6; 15.0	10.9 ± 9.3; 9.5	-17.4 ± 14.1; 14.4	23.5 ± 8.9; 9.8
Co-58	2.7 ± 4.6; 4.7	-7.3 ± 5.9; 6.1	1.6 ± 5.2; 5.2	4.2 ± 6.8; 6.9
Co-60	4.9 ± 4.3; 4.4	6.8 ± 7.3; 7.4	2.7 ± 9.5; 9.5	6.7 ± 7.3; 7.4
Zn-65	12.2 ± 8.8; 9.0	2.0 ± 11.4; 11.4	11.2 ± 16.2; 16.4	2.0 ± 11.3; 11.3
Zr/Nb-95	-17.4 ± 6.1; 6.9	-8.2 ± 10.3; 10.4	-19.7 ± 7.4; 8.2	2.8 ± 6.7; 6.8
Cs-134	-0.7 ± 7.2; 7.2	6.4 ± 5.4; 5.5	2.0 ± 6.1; 6.1	-4.0 ± 7.0; 7.1
Cs-137	1.5 ± 6.5; 6.5	6.2 ± 6.8; 6.9	-1.3 ± 6.5; 6.5	4.2 ± 6.3; 6.4
Ba/La-140	20.9 ± 7.8; 8.6	25.1 ± 7.7; 8.9	53.8 ± 10.9; 14.5	9.6 ± 7.2; 7.3

BY-21 Byron Nearsite N

2001 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-3195	BYAP-6607,8	BYAP-9901	BYAP-11952,3
Volume	3,397	3,709	3,717	3,800
Mn-54	0.8 ± 8.3; 8.3	-2.7 ± 5.0; 5.1	8.4 ± 4.6; 4.8	-1.5 ± 5.1; 5.1
Fe-59	-8.0 ± 16.3; 16.3	3.9 ± 6.7; 6.7	-1.6 ± 6.8; 6.8	-5.0 ± 8.7; 8.7
Co-58	-0.7 ± 6.1; 6.1	-0.8 ± 4.2; 4.2	-11.9 ± 6.5; 6.8	2.7 ± 2.9; 2.9
Co-60	3.5 ± 8.0; 8.0	-2.4 ± 4.6; 4.6	5.7 ± 7.0; 7.1	-1.0 ± 6.5; 6.5
Zn-65	5.5 ± 10.7; 10.8	-13.2 ± 9.3; 9.6	-1.0 ± 13.7; 13.7	-6.9 ± 10.1; 10.2
Zr/Nb-95	-6.4 ± 7.2; 7.3	-0.4 ± 3.8; 3.8	2.6 ± 13.4; 13.4	2.6 ± 8.7; 8.7
Cs-134	3.4 ± 4.8; 4.9	-0.5 ± 4.2; 4.2	-6.8 ± 7.9; 8.0	2.7 ± 4.6; 4.7
Cs-137	-0.7 ± 7.2; 7.2	-2.5 ± 3.7; 3.7	-16.0 ± 7.4; 7.9	-1.2 ± 4.3; 4.3
Ba/La-140	-53.4 ± 8.4; 12.7	-3.3 ± 4.7; 4.7	12.3 ± 7.2; 7.5	-37.7 ± 5.6; 8.8

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
ODCM-
Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m^3
Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01; Ba/La-140 = 0.025; pCi/m^3
Units: 10^{-4} pCi/m^3

Sample Description and Concentration

BY-22 Byron Nearsite ESE

2001 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-3196	BYAP-6609	BYAP-9902	BYAP-11954
Volume	3,667	3,703	3,718	3,750
Mn-54	-0.8 ± 6.1; 6.1	0.8 ± 6.4; 6.4	-0.4 ± 5.3; 5.3	3.8 ± 5.3; 5.4
Fe-59	8.9 ± 6.8; 7.0	10.9 ± 9.3; 9.5	17.5 ± 10.2; 10.7	-25.0 ± 16.2; 16.8
Co-58	-0.5 ± 4.9; 4.9	-8.5 ± 6.4; 6.5	-15.4 ± 7.2; 7.7	-9.3 ± 6.7; 6.9
Co-60	9.0 ± 7.5; 7.6	-2.8 ± 8.2; 8.3	1.3 ± 5.6; 5.7	0.2 ± 5.2; 5.2
Zn-65	4.1 ± 12.6; 12.7	-4.1 ± 15.3; 15.3	2.0 ± 16.1; 16.1	6.0 ± 6.1; 6.2
Zr/Nb-95	15.3 ± 5.0; 5.7	-4.1 ± 12.5; 12.5	1.8 ± 6.1; 6.2	-19.1 ± 6.8; 7.6
Cs-134	-2.9 ± 4.9; 4.9	2.0 ± 6.1; 6.2	-4.9 ± 6.9; 7.0	-5.9 ± 8.1; 8.1
Cs-137	0.1 ± 6.3; 6.3	-1.2 ± 5.9; 5.9	1.5 ± 5.9; 5.9	-0.8 ± 7.1; 7.1
Ba/La-140	-146.9 ± 11.6; 28.6	-87.4 ± 6.7; 16.9	12.3 ± 7.2; 7.5	-13.5 ± 6.0; 6.5

BY-23 Byron Nearsite S

2001 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-3197,8	BYAP-6610	BYAP-9903	BYAP-11955
Volume	3,668	3,717	3,718	3,785
Mn-54	-1.3 ± 3.9; 4.0	0.8 ± 6.2; 6.2	1.5 ± 6.5; 6.5	2.6 ± 7.3; 7.3
Fe-59	9.8 ± 11.1; 11.2	-37.4 ± 13.4; 15.0	11.1 ± 9.3; 9.5	-7.3 ± 11.1; 11.1
Co-58	-3.3 ± 4.2; 4.3	-6.4 ± 6.6; 6.7	5.8 ± 5.9; 5.9	-8.2 ± 6.8; 7.0
Co-60	1.8 ± 4.3; 4.3	7.0 ± 9.0; 9.1	5.5 ± 4.8; 4.9	2.3 ± 5.9; 5.9
Zn-65	-6.6 ± 8.5; 8.5	-3.0 ± 13.2; 13.2	-4.1 ± 15.3; 15.3	-15.8 ± 16.4; 16.7
Zr/Nb-95	-2.6 ± 3.9; 3.9	2.3 ± 4.9; 4.9	0.3 ± 6.0; 6.0	-9.3 ± 7.6; 7.8
Cs-134	-2.0 ± 4.3; 4.3	-1.5 ± 6.9; 6.9	1.4 ± 5.0; 5.0	9.1 ± 7.6; 7.8
Cs-137	-0.9 ± 3.3; 3.3	-0.7 ± 6.6; 6.6	3.2 ± 4.0; 4.0	2.2 ± 5.9; 5.9
Ba/La-140	-52.6 ± 4.9; 10.6	-2.3 ± 6.7; 6.7	-32.1 ± 5.5; 7.9	9.5 ± 7.1; 7.3

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
ODCM-Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m^3
Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01; Ba/La-140 = 0.025; pCi/m^3
Units: 10^{-4} pCi/m^3

Sample Description and Concentration

BY-24 Byron Nearsite SW

2001 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-3199	BYAP-6611	BYAP-9904	BYAP-11956
Volume	3,670	3,712	3,714	3,750
Mn-54	-3.8 ± 7.1; 7.1	2.7 ± 6.0; 6.0	6.5 ± 5.1; 5.2	-5.3 ± 6.6; 6.6
Fe-59	17.9 ± 9.7; 10.2	7.8 ± 8.7; 8.8	6.4 ± 11.1; 11.1	-7.4 ± 11.2; 11.2
Co-58	-5.2 ± 6.9; 7.0	-7.1 ± 5.2; 5.4	6.0 ± 5.1; 5.2	1.7 ± 4.3; 4.3
Co-60	2.3 ± 7.2; 7.2	7.7 ± 5.6; 5.8	1.5 ± 7.7; 7.7	2.4 ± 6.0; 6.0
Zn-65	-12.2 ± 17.7; 17.9	-3.1 ± 13.2; 13.2	8.2 ± 13.4; 13.5	-7.0 ± 12.0; 12.1
Zr/Nb-95	-2.6 ± 5.8; 5.8	-8.0 ± 7.0; 7.1	-1.0 ± 5.3; 5.3	-18.9 ± 6.4; 7.2
Cs-134	7.0 ± 7.3; 7.4	0.5 ± 4.8; 4.8	0.3 ± 6.6; 6.6	6.2 ± 6.2; 6.3
Cs-137	-0.7 ± 6.7; 6.7	-5.4 ± 6.2; 6.2	0.4 ± 7.9; 7.9	2.8 ± 6.1; 6.1
Ba/La-140	57.5 ± 6.0; 11.9	-46.1 ± 8.2; 11.6	-99.0 ± 11.5; 21.0	21.3 ± 7.6; 8.5

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	01-02-01	02-06-01	03-06-01	04-03-01
Lab Code	BYMI-1	BYMI-887	BYMI-1581	BYMI-2437
I-131	-0.04 ± 0.14; 0.14	-0.14 ± 0.20; 0.20	0.12 ± 0.15; 0.15	-0.17 ± 0.16; 0.17
Mn-54	1.8 ± 3.1; 3.1	-0.5 ± 3.2; 3.2	2.8 ± 2.0; 2.0	0.2 ± 3.1; 3.1
Fe-59	4.1 ± 6.1; 6.1	1.2 ± 6.5; 6.5	-2.4 ± 5.3; 5.3	0.5 ± 6.8; 6.8
Co-58	1.1 ± 3.1; 3.1	0.2 ± 2.2; 2.2	0.3 ± 2.0; 2.0	1.0 ± 3.0; 3.0
Co-60	-1.5 ± 3.9; 3.9	2.1 ± 3.4; 3.4	0.5 ± 1.9; 1.9	1.5 ± 3.8; 3.8
Zn-65	-2.2 ± 7.9; 7.9	-6.0 ± 7.5; 7.6	0.2 ± 4.9; 4.9	4.6 ± 8.8; 8.9
Zr/Nb-95	-2.5 ± 3.0; 3.0	-0.1 ± 3.3; 3.3	1.8 ± 2.2; 2.3	-2.9 ± 5.9; 5.9
Cs-134	1.5 ± 4.0; 4.0	-0.6 ± 3.6; 3.6	-0.7 ± 2.4; 2.4	-1.8 ± 4.4; 4.4
Cs-137	1.8 ± 3.3; 3.3	2.5 ± 2.1; 2.1	-0.9 ± 2.6; 2.6	0.4 ± 2.9; 2.9
Ba/La-140	5.2 ± 3.8; 3.9	-1.7 ± 3.3; 3.3	-5.0 ± 1.6; 1.8	-7.1 ± 3.1; 3.2

Date Collected	05-01-01	05-15-01	05-29-01	06-12-01
Lab Code	BYMI-3411	BYMI-3911,2	BYMI-4257,8	BYMI-4862
I-131	-0.03 ± 0.20; 0.20	-0.19 ± 0.25; 0.25	-0.04 ± 0.22; 0.22	-0.24 ± 0.18; 0.19
Mn-54	0.3 ± 1.9; 1.9	-0.1 ± 2.5; 2.5	-0.9 ± 1.3; 1.3	0.4 ± 3.8; 3.8
Fe-59	-1.9 ± 5.0; 5.0	0.2 ± 5.4; 5.4	0.6 ± 3.1; 3.1	-4.5 ± 8.1; 8.1
Co-58	0.3 ± 2.1; 2.1	0.2 ± 2.7; 2.7	-0.5 ± 1.3; 1.3	-3.3 ± 3.6; 3.6
Co-60	-4.3 ± 2.7; 2.7	2.3 ± 2.4; 2.4	0.5 ± 1.7; 1.7	3.6 ± 3.9; 3.9
Zn-65	-1.9 ± 4.5; 4.5	-1.9 ± 6.1; 6.1	-0.7 ± 3.1; 3.1	1.4 ± 8.6; 8.6
Zr/Nb-95	-1.1 ± 2.0; 2.0	-3.3 ± 2.5; 2.6	0.1 ± 1.3; 1.3	-3.4 ± 3.5; 3.5
Cs-134	1.3 ± 2.4; 2.5	-0.6 ± 2.9; 2.9	-0.0 ± 1.4; 1.4	2.5 ± 4.5; 4.6
Cs-137	0.2 ± 2.0; 2.0	0.3 ± 2.3; 2.3	0.8 ± 1.4; 1.4	1.4 ± 4.3; 4.3
Ba/La-140	-2.3 ± 1.9; 1.9	-1.0 ± 2.4; 2.4	-2.3 ± 1.4; 1.4	0.4 ± 3.3; 3.3

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	06-26-01	07-10-01	07-24-01	08-07-01
Lab Code	BYMI-5255	BYMI-5774	BYMI-6378	BYMI-6918
I-131	-0.06 ± 0.17; 0.17	-0.12 ± 0.19; 0.20	-0.01 ± 0.14; 0.14	0.08 ± 0.15; 0.15
Mn-54	0.7 ± 4.0; 4.0	2.0 ± 2.3; 2.3	-1.0 ± 2.3; 2.3	1.3 ± 3.9; 3.9
Fe-59	-4.1 ± 7.9; 7.9	-4.5 ± 5.2; 5.3	-3.0 ± 4.4; 4.4	4.2 ± 6.9; 6.9
Co-58	1.8 ± 3.5; 3.5	-0.2 ± 2.0; 2.0	1.9 ± 2.2; 2.2	-1.3 ± 3.9; 3.9
Co-60	5.9 ± 4.7; 4.8	-2.5 ± 2.2; 2.3	0.2 ± 2.2; 2.2	-2.5 ± 5.4; 5.4
Zn-65	9.3 ± 9.4; 9.5	-2.8 ± 5.8; 5.8	0.4 ± 5.0; 5.0	10.8 ± 8.9; 9.0
Zr/Nb-95	0.5 ± 3.7; 3.7	-3.8 ± 2.2; 2.2	-4.9 ± 4.8; 4.9	-1.7 ± 3.6; 3.6
Cs-134	2.8 ± 4.0; 4.0	2.0 ± 2.3; 2.3	1.2 ± 1.9; 1.9	1.2 ± 3.9; 3.9
Cs-137	1.3 ± 3.7; 3.7	1.5 ± 2.4; 2.4	1.6 ± 2.5; 2.5	2.4 ± 3.5; 3.6
Ba/La-140	1.6 ± 3.4; 3.4	-2.9 ± 2.4; 2.4	1.5 ± 1.3; 1.3	-6.7 ± 4.0; 4.1

Date Collected	08-21-01	09-04-01	09-18-01	10-02-01
Lab Code	BYMI-7230	BYMI-7705	BYMI-8108	BYMI-8565
I-131	-0.04 ± 0.12; 0.12	-0.14 ± 0.12; 0.13	0.00 ± 0.21; 0.21	0.08 ± 0.13; 0.13
Mn-54	0.6 ± 4.0; 4.0	0.0 ± 3.1; 3.1	3.7 ± 4.6; 4.7	0.8 ± 1.4; 1.4
Fe-59	1.9 ± 8.7; 8.7	1.0 ± 6.6; 6.6	-4.7 ± 8.5; 8.5	-0.2 ± 3.3; 3.3
Co-58	2.2 ± 4.1; 4.1	1.1 ± 3.4; 3.4	0.5 ± 4.0; 4.0	-0.8 ± 1.4; 1.4
Co-60	1.1 ± 5.1; 5.1	-0.6 ± 3.3; 3.3	-5.1 ± 5.9; 5.9	-1.0 ± 1.6; 1.6
Zn-65	0.4 ± 11.0; 11.0	-1.9 ± 8.1; 8.1	3.6 ± 11.1; 11.1	-6.1 ± 3.7; 3.8
Zr/Nb-95	-0.5 ± 3.8; 3.8	-2.2 ± 3.2; 3.2	-4.2 ± 4.6; 4.6	-3.9 ± 1.4; 1.5
Cs-134	1.1 ± 4.3; 4.3	0.2 ± 3.6; 3.6	-0.3 ± 4.2; 4.2	-0.2 ± 1.7; 1.7
Cs-137	-2.5 ± 4.4; 4.4	-0.2 ± 3.4; 3.4	3.5 ± 4.4; 4.4	0.1 ± 1.6; 1.6
Ba/La-140	-1.7 ± 5.0; 5.0	2.2 ± 3.2; 3.2	-7.6 ± 5.0; 5.2	-5.8 ± 1.3; 1.6

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	10-16-01	10-30-01	11-06-01	12-04-01
Lab Code	BYMI-9296,7	BYMI-9897	BYMI-10161	BYMI-10792
I-131	-0.15 ± 0.17; 0.17	-0.08 ± 0.20; 0.20	0.07 ± 0.19; 0.19	-0.01 ± 0.14; 0.14
Mn-54	-0.6 ± 1.7; 1.7	-0.2 ± 2.7; 2.7	-0.1 ± 2.1; 2.1	-6.2 ± 4.2; 4.3
Fe-59	4.8 ± 3.8; 3.9	-4.5 ± 5.8; 5.8	6.9 ± 3.9; 4.0	-4.8 ± 8.1; 8.2
Co-58	0.4 ± 1.7; 1.7	-0.8 ± 2.6; 2.6	1.1 ± 2.0; 2.0	-1.1 ± 3.9; 3.9
Co-60	0.0 ± 2.1; 2.1	0.3 ± 3.6; 3.6	0.2 ± 2.4; 2.4	0.5 ± 4.1; 4.1
Zn-65	0.2 ± 4.2; 4.2	-0.6 ± 7.2; 7.2	-0.7 ± 4.4; 4.4	3.8 ± 10.6; 10.6
Zr/Nb-95	-0.9 ± 1.7; 1.7	2.7 ± 3.2; 3.2	-3.4 ± 4.1; 4.2	-2.9 ± 4.0; 4.0
Cs-134	0.4 ± 2.2; 2.2	-0.2 ± 3.6; 3.6	1.1 ± 1.9; 1.9	-1.2 ± 4.6; 4.6
Cs-137	0.9 ± 1.7; 1.7	0.1 ± 2.7; 2.7	1.9 ± 2.0; 2.0	1.7 ± 3.6; 3.6
Ba/La-140	-5.0 ± 1.6; 1.8	-4.6 ± 2.8; 2.9	-4.0 ± 1.8; 1.9	0.5 ± 3.9; 3.9

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	01-02-01	02-06-01	03-06-01	04-03-01
Lab Code	BYMI-2	BYMI-888	BYMI-1582	BYMI-2438
I-131	0.09 ± 0.15; 0.15	0.11 ± 0.18; 0.18	0.05 ± 0.11; 0.11	-0.00 ± 0.16; 0.16
Mn-54	1.6 ± 2.3; 2.3	0.2 ± 1.7; 1.7	-0.3 ± 1.9; 1.9	-1.5 ± 2.1; 2.1
Fe-59	-3.3 ± 6.1; 6.2	-1.4 ± 4.5; 4.5	-0.9 ± 4.1; 4.1	2.2 ± 6.3; 6.3
Co-58	1.0 ± 2.6; 2.6	-0.2 ± 1.9; 1.9	0.6 ± 1.8; 1.8	-1.5 ± 1.7; 1.7
Co-60	1.8 ± 3.3; 3.4	0.2 ± 1.9; 1.9	-1.0 ± 2.3; 2.3	0.4 ± 2.2; 2.2
Zn-65	6.8 ± 6.9; 7.0	2.3 ± 5.9; 5.9	3.0 ± 4.0; 4.0	0.8 ± 5.4; 5.4
Zr/Nb-95	1.8 ± 2.8; 2.8	-0.7 ± 2.2; 2.2	-1.5 ± 1.9; 1.9	-4.0 ± 2.2; 2.3
Cs-134	-0.4 ± 3.2; 3.2	1.5 ± 2.0; 2.0	0.5 ± 2.0; 2.0	1.0 ± 2.6; 2.6
Cs-137	-0.9 ± 2.4; 2.5	-1.8 ± 2.2; 2.2	1.2 ± 2.0; 2.0	1.1 ± 2.3; 2.3
Ba/La-140	-2.0 ± 2.4; 2.4	-1.2 ± 2.0; 2.0	-2.2 ± 1.6; 1.7	1.8 ± 2.4; 2.4

Date Collected	05-01-01	05-15-01	05-29-01	06-12-01
Lab Code	BYMI-3412	BYMI-3913	BYMI-4259	BYMI-4863
I-131	0.08 ± 0.19; 0.19	0.02 ± 0.23; 0.23	-0.09 ± 0.18; 0.18	-0.14 ± 0.21; 0.21
Mn-54	1.5 ± 1.8; 1.8	0.2 ± 1.6; 1.6	-1.8 ± 3.4; 3.4	1.7 ± 3.8; 3.8
Fe-59	-2.4 ± 3.9; 3.9	5.5 ± 3.9; 4.0	-5.4 ± 7.9; 7.9	2.1 ± 7.8; 7.8
Co-58	0.3 ± 1.6; 1.6	1.7 ± 2.0; 2.1	-0.5 ± 3.7; 3.7	0.3 ± 3.9; 3.9
Co-60	-1.0 ± 2.5; 2.5	3.0 ± 2.1; 2.2	3.1 ± 4.0; 4.0	1.8 ± 4.8; 4.8
Zn-65	1.8 ± 4.7; 4.7	-3.4 ± 5.3; 5.3	7.0 ± 8.7; 8.8	-1.1 ± 9.2; 9.2
Zr/Nb-95	-0.4 ± 2.3; 2.3	2.4 ± 2.2; 2.2	0.1 ± 3.4; 3.4	-2.8 ± 3.9; 3.9
Cs-134	0.1 ± 2.3; 2.3	-0.2 ± 2.3; 2.3	-0.8 ± 3.8; 3.8	-3.7 ± 4.7; 4.7
Cs-137	-0.1 ± 2.2; 2.2	1.6 ± 2.0; 2.0	0.8 ± 3.2; 3.2	0.9 ± 3.6; 3.6
Ba/La-140	1.5 ± 1.7; 1.7	-2.4 ± 2.1; 2.1	0.8 ± 2.9; 2.9	-5.5 ± 3.9; 4.0

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	06-26-01	07-10-01	07-24-01	08-07-01
Lab Code	BYMI-5256	BYMI-5775	BYMI-6379	BYMI-6919
I-131	-0.05 ± 0.17; 0.17	-0.13 ± 0.19; 0.19	0.01 ± 0.15; 0.15	-0.02 ± 0.16; 0.16
Mn-54	0.7 ± 3.2; 3.2	0.2 ± 2.2; 2.2	-0.8 ± 2.2; 2.2	2.1 ± 2.1; 2.1
Fe-59	9.2 ± 7.0; 7.1	-8.1 ± 5.2; 5.3	0.7 ± 4.1; 4.1	-4.7 ± 5.5; 5.6
Co-58	0.6 ± 3.4; 3.4	-1.5 ± 2.3; 2.3	0.2 ± 2.0; 2.0	-2.0 ± 2.1; 2.1
Co-60	-0.6 ± 4.4; 4.4	-1.1 ± 2.4; 2.4	-0.7 ± 2.5; 2.5	0.1 ± 2.2; 2.2
Zn-65	1.5 ± 7.0; 7.0	-1.8 ± 6.3; 6.3	3.5 ± 4.8; 4.8	1.5 ± 6.5; 6.5
Zr/Nb-95	2.2 ± 3.7; 3.7	-4.0 ± 2.4; 2.4	2.0 ± 2.2; 2.2	-6.6 ± 2.5; 2.7
Cs-134	1.6 ± 4.0; 4.0	-0.3 ± 2.5; 2.5	0.7 ± 2.6; 2.6	1.3 ± 2.8; 2.8
Cs-137	-3.2 ± 4.1; 4.2	-0.2 ± 2.6; 2.6	0.4 ± 2.5; 2.5	0.1 ± 2.3; 2.3
Ba/La-140	-3.2 ± 2.8; 2.9	-2.8 ± 1.3; 1.4	-2.1 ± 1.9; 1.9	8.8 ± 2.1; 2.4

Date Collected	08-21-01	09-04-01	09-18-01	10-02-01
Lab Code	BYMI-7231	BYMI-7706,7	BYMI-8109	BYMI-8566
I-131	-0.07 ± 0.11; 0.11	-0.02 ± 0.17; 0.17	0.02 ± 0.21; 0.21	0.04 ± 0.14; 0.14
Mn-54	-0.7 ± 3.6; 3.6	-1.3 ± 2.4; 2.4	1.9 ± 2.2; 2.2	1.4 ± 1.4; 1.5
Fe-59	5.0 ± 8.9; 8.9	1.5 ± 5.1; 5.1	-1.2 ± 4.8; 4.8	5.7 ± 3.3; 3.3
Co-58	1.1 ± 3.3; 3.3	2.4 ± 2.2; 2.2	-0.2 ± 2.1; 2.1	0.8 ± 1.4; 1.4
Co-60	1.4 ± 3.4; 3.4	2.4 ± 2.6; 2.6	-0.7 ± 2.4; 2.4	1.6 ± 1.7; 1.8
Zn-65	-5.8 ± 9.7; 9.7	-2.2 ± 5.7; 5.7	-1.4 ± 5.4; 5.4	-0.0 ± 3.2; 3.2
Zr/Nb-95	-0.9 ± 3.6; 3.6	4.6 ± 2.5; 2.6	-0.9 ± 2.4; 2.4	1.3 ± 1.6; 1.6
Cs-134	-6.3 ± 4.4; 4.5	-0.6 ± 3.0; 3.0	1.4 ± 2.3; 2.4	0.1 ± 1.7; 1.7
Cs-137	-1.3 ± 4.1; 4.1	-0.5 ± 2.6; 2.6	0.9 ± 2.4; 2.4	0.9 ± 1.6; 1.6
Ba/La-140	3.4 ± 4.3; 4.3	0.4 ± 2.8; 2.8	1.1 ± 2.1; 2.1	-1.2 ± 1.6; 1.6

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	10-16-01	10-30-01	11-06-01	12-04-01
Lab Code	BYMI-9298	BYMI-9898	BYMI-10162	BYMI-10793
I-131	0.07 ± 0.20; 0.20	0.08 ± 0.19; 0.20	-0.05 ± 0.17; 0.17	-0.04 ± 0.18; 0.18
Mn-54	0.1 ± 1.4; 1.4	-0.2 ± 1.3; 1.3	1.4 ± 1.5; 1.5	1.1 ± 3.9; 3.9
Fe-59	1.1 ± 2.7; 2.7	-2.8 ± 2.7; 2.7	-2.9 ± 3.3; 3.3	0.5 ± 8.1; 8.1
Co-58	0.7 ± 1.3; 1.3	-0.4 ± 1.2; 1.2	-0.8 ± 1.4; 1.4	0.7 ± 3.2; 3.2
Co-60	1.6 ± 1.6; 1.6	0.1 ± 1.5; 1.5	0.8 ± 1.7; 1.7	-2.3 ± 4.6; 4.6
Zn-65	-1.7 ± 3.4; 3.4	-2.5 ± 2.9; 3.0	1.0 ± 4.2; 4.2	-3.2 ± 9.7; 9.7
Zr/Nb-95	-2.3 ± 1.4; 1.5	-0.5 ± 1.4; 1.4	-2.4 ± 1.6; 1.6	-1.3 ± 4.0; 4.0
Cs-134	1.1 ± 1.5; 1.5	-0.9 ± 1.5; 1.5	1.2 ± 1.7; 1.7	0.4 ± 4.6; 4.6
Cs-137	0.9 ± 1.6; 1.6	0.2 ± 1.5; 1.5	-1.7 ± 1.8; 1.9	0.7 ± 4.4; 4.4
Ba/La-140	-11.9 ± 1.5; 2.2	-3.0 ± 1.2; 1.3	3.4 ± 1.5; 1.6	-8.6 ± 3.7; 3.9

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-30 Don Roos Dairy

Date Collected	01-02-01	02-06-01	03-06-01	04-03-01
Lab Code	BYMI-3	BYMI-889	BYMI-1583	BYMI-2439
I-131	-0.11 ± 0.14; 0.14	-0.03 ± 0.17; 0.17	0.01 ± 0.11; 0.11	0.13 ± 0.20; 0.21
Mn-54	2.0 ± 2.4; 2.4	-1.4 ± 2.1; 2.1	0.5 ± 2.1; 2.1	-0.9 ± 2.1; 2.1
Fe-59	-1.1 ± 5.2; 5.2	1.3 ± 3.6; 3.6	3.9 ± 4.6; 4.6	-1.8 ± 4.7; 4.7
Co-58	0.6 ± 2.3; 2.3	-0.6 ± 1.6; 1.6	-2.0 ± 2.0; 2.0	-0.7 ± 2.1; 2.1
Co-60	-1.4 ± 2.0; 2.0	0.3 ± 1.9; 1.9	0.6 ± 2.4; 2.4	0.6 ± 2.2; 2.2
Zn-65	-2.7 ± 5.3; 5.3	-0.2 ± 4.6; 4.6	2.0 ± 5.1; 5.2	-4.0 ± 5.0; 5.0
Zr/Nb-95	-1.5 ± 2.7; 2.7	-2.0 ± 3.6; 3.6	-1.5 ± 2.3; 2.3	1.4 ± 2.1; 2.2
Cs-134	-0.7 ± 2.5; 2.5	-0.1 ± 2.1; 2.1	-2.9 ± 2.2; 2.2	0.6 ± 2.4; 2.4
Cs-137	-0.5 ± 1.8; 1.8	0.7 ± 1.6; 1.6	1.3 ± 2.3; 2.3	-1.1 ± 1.9; 1.9
Ba/La-140	-0.3 ± 1.9; 1.9	0.9 ± 1.5; 1.5	2.0 ± 1.5; 1.5	-0.5 ± 2.1; 2.1

Date Collected	05-01-01	05-15-01	05-29-01	06-12-01
Lab Code	BYMI-3413	BYMI-3914	BYMI-4260	BYMI-4864,5
I-131	0.10 ± 0.18; 0.18	-0.00 ± 0.19; 0.19	-0.17 ± 0.16; 0.16	-0.28 ± 0.18; 0.19
Mn-54	-0.4 ± 2.3; 2.3	-0.6 ± 2.5; 2.5	0.4 ± 3.4; 3.4	1.2 ± 2.1; 2.1
Fe-59	-2.1 ± 5.3; 5.3	-0.4 ± 5.9; 5.9	-0.2 ± 6.0; 6.0	-0.3 ± 2.5; 2.5
Co-58	-0.1 ± 2.3; 2.3	1.8 ± 2.3; 2.4	-1.4 ± 3.0; 3.0	-0.8 ± 2.0; 2.0
Co-60	-0.8 ± 2.0; 2.0	2.2 ± 2.5; 2.5	-3.1 ± 3.1; 3.1	-0.9 ± 2.3; 2.3
Zn-65	-1.9 ± 5.9; 5.9	0.4 ± 6.4; 6.4	1.9 ± 6.9; 6.9	4.7 ± 4.5; 4.5
Zr/Nb-95	-0.2 ± 2.4; 2.4	1.9 ± 2.6; 2.6	-0.4 ± 3.4; 3.4	-0.3 ± 2.0; 2.0
Cs-134	-2.5 ± 2.4; 2.4	1.2 ± 2.7; 2.7	1.3 ± 3.6; 3.6	-0.9 ± 2.4; 2.4
Cs-137	-0.3 ± 2.3; 2.3	2.4 ± 2.8; 2.8	-3.1 ± 3.3; 3.3	0.4 ± 2.1; 2.1
Ba/La-140	-2.0 ± 2.5; 2.5	-2.8 ± 2.2; 2.3	2.2 ± 2.9; 2.9	-0.6 ± 1.7; 1.7

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	06-26-01	07-10-01	07-24-01	08-07-01
Lab Code	BYMI-5257	BYMI-5776	BYMI-6380	BYMI-6920
I-131	-0.05 ± 0.17; 0.17	-0.11 ± 0.21; 0.21	0.03 ± 0.15; 0.15	0.03 ± 0.15; 0.15
Mn-54	0.1 ± 2.6; 2.6	-1.1 ± 1.8; 1.8	-1.0 ± 1.8; 1.8	1.8 ± 2.0; 2.0
Fe-59	2.1 ± 6.5; 6.5	-1.1 ± 4.1; 4.1	0.9 ± 4.5; 4.5	8.0 ± 5.3; 5.4
Co-58	-3.2 ± 2.8; 2.9	-0.9 ± 1.8; 1.8	-1.1 ± 1.9; 1.9	-1.6 ± 1.9; 2.0
Co-60	-0.8 ± 3.4; 3.4	-0.2 ± 2.2; 2.2	-1.0 ± 2.1; 2.1	-1.4 ± 2.6; 2.6
Zn-65	-8.2 ± 6.9; 7.0	-1.0 ± 5.1; 5.1	-5.7 ± 5.0; 5.1	1.0 ± 5.8; 5.8
Zr/Nb-95	-1.9 ± 2.3; 2.3	2.8 ± 1.8; 1.8	-1.0 ± 1.8; 1.8	0.5 ± 2.3; 2.3
Cs-134	1.5 ± 2.6; 2.6	-0.2 ± 2.2; 2.2	0.1 ± 2.2; 2.2	-2.7 ± 2.6; 2.7
Cs-137	0.3 ± 3.0; 3.0	0.5 ± 2.0; 2.0	0.1 ± 1.9; 1.9	0.8 ± 2.5; 2.5
Ba/La-140	4.5 ± 2.6; 2.7	-6.9 ± 2.3; 2.5	-8.3 ± 1.8; 2.2	5.4 ± 1.9; 2.1

Date Collected	08-21-01	09-04-01	09-18-01	10-02-01
Lab Code	BYMI-7232	BYMI-7708	BYMI-8110	BYMI-8567
I-131	-0.09 ± 0.12; 0.12	-0.08 ± 0.14; 0.14	-0.04 ± 0.17; 0.17	-0.06 ± 0.13; 0.13
Mn-54	3.9 ± 4.6; 4.6	0.7 ± 2.2; 2.2	0.2 ± 1.9; 1.9	1.7 ± 1.5; 1.5
Fe-59	-12.8 ± 10.9; 11.0	2.9 ± 5.1; 5.2	1.6 ± 3.6; 3.6	3.2 ± 3.9; 3.9
Co-58	-1.0 ± 4.3; 4.3	1.3 ± 2.1; 2.2	-0.1 ± 1.9; 1.9	-0.5 ± 1.5; 1.5
Co-60	1.4 ± 6.2; 6.2	-1.6 ± 2.2; 2.2	2.3 ± 2.3; 2.3	-0.8 ± 2.2; 2.2
Zn-65	-15.4 ± 12.0; 12.2	-3.4 ± 5.8; 5.8	-1.1 ± 4.2; 4.2	-2.0 ± 4.1; 4.1
Zr/Nb-95	-7.2 ± 5.6; 5.7	-1.2 ± 2.4; 2.4	-0.8 ± 1.9; 1.9	0.2 ± 1.7; 1.7
Cs-134	-4.5 ± 5.2; 5.2	0.6 ± 2.5; 2.5	-1.0 ± 2.1; 2.1	-1.7 ± 1.9; 1.9
Cs-137	0.8 ± 4.5; 4.5	1.2 ± 2.5; 2.5	1.1 ± 1.9; 1.9	1.4 ± 1.9; 1.9
Ba/La-140	5.1 ± 5.5; 5.5	-3.6 ± 2.3; 2.3	-1.0 ± 2.1; 2.1	11.0 ± 1.6; 2.2

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	10-16-01	10-30-01	11-06-01	12-04-01
Lab Code	BYMI-9299	BYMI-9899	BYMI-10163	BYMI-10794
I-131	-0.03 ± 0.18; 0.18	0.04 ± 0.19; 0.19	0.03 ± 0.19; 0.19	-0.24 ± 0.20; 0.20
Mn-54	-2.4 ± 3.0; 3.0	-1.3 ± 2.9; 2.9	0.5 ± 0.9; 0.9	0.3 ± 3.5; 3.5
Fe-59	6.0 ± 5.8; 5.8	0.5 ± 6.2; 6.2	-2.5 ± 2.0; 2.1	-3.2 ± 6.8; 6.9
Co-58	1.2 ± 2.4; 2.5	2.5 ± 2.7; 2.8	-0.2 ± 0.8; 0.8	1.1 ± 3.1; 3.1
Co-60	0.2 ± 3.2; 3.2	-1.9 ± 3.0; 3.0	-0.3 ± 0.9; 0.9	0.4 ± 3.5; 3.5
Zn-65	-2.6 ± 6.3; 6.3	-3.0 ± 5.3; 5.3	-0.5 ± 2.2; 2.2	2.4 ± 8.4; 8.4
Zr/Nb-95	1.7 ± 2.7; 2.7	-4.0 ± 4.6; 4.6	-1.1 ± 0.8; 0.9	-0.2 ± 3.0; 3.0
Cs-134	-1.0 ± 3.0; 3.0	-0.6 ± 3.1; 3.1	0.1 ± 1.0; 1.0	0.2 ± 4.3; 4.3
Cs-137	-0.8 ± 3.2; 3.2	-1.7 ± 2.9; 2.9	0.8 ± 1.0; 1.0	1.6 ± 3.6; 3.6
Ba/La-140	11.0 ± 2.8; 3.1	-1.1 ± 2.1; 2.1	4.3 ± 0.8; 1.0	-4.8 ± 4.1; 4.1

Table 4. Fish, Edible Portions

Collection: Semiannually

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

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

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

Sample Description and Concentration

BY-29 (C) Byron, Upstream

Date Collected	05-23-01	05-23-01	05-23-01	05-23-01
Lab Code	BYF-4104	BYF-4105	BYF-4106	BYF-4107
Type	Carp	Silver Redhorse	Golden Redhorse	Freshwater Drum
Mn-54	0.2 ± 0.9; 0.9	-0.1 ± 1.0; 1.0	-0.0 ± 0.8; 0.8	0.2 ± 1.0; 1.0
Fe-59	0.3 ± 2.3; 2.3	1.5 ± 1.8; 1.8	-1.1 ± 1.8; 1.8	-1.3 ± 2.3; 2.3
Co-58	-0.4 ± 0.7; 0.7	0.4 ± 0.8; 0.8	0.1 ± 0.7; 0.7	0.3 ± 0.9; 0.9
Co-60	-0.1 ± 1.0; 1.0	0.8 ± 1.0; 1.0	-0.6 ± 0.8; 0.8	1.0 ± 1.3; 1.3
Zn-65	0.3 ± 2.0; 2.0	1.3 ± 2.3; 2.3	-0.3 ± 1.7; 1.7	-1.8 ± 3.1; 3.1
Zr/Nb-95	0.5 ± 0.8; 0.8	-0.5 ± 0.9; 0.9	-0.5 ± 0.7; 0.7	0.9 ± 1.0; 1.0
Cs-134	0.2 ± 0.9; 0.9	0.1 ± 1.0; 1.0	-0.3 ± 0.9; 0.9	0.7 ± 1.0; 1.0
Cs-137	-0.1 ± 0.6; 0.6	-0.1 ± 0.9; 0.9	-0.1 ± 0.8; 0.8	0.6 ± 1.1; 1.1
Ba/La-140	1.2 ± 0.6; 0.6	-0.3 ± 1.2; 1.2	1.0 ± 0.8; 0.9	-3.6 ± 1.4; 1.5

Date Collected	05-23-01	10-18-01	10-18-01	10-18-01
Lab Code	BYF-4108	BYF-9391	BYF-9392	BYF-9393
Type	Channel Catfish	Freshwater Drum	Carp	Golden Redhorse
Mn-54	0.4 ± 0.8; 0.8	-0.1 ± 0.9; 0.9	0.2 ± 0.8; 0.8	-0.0 ± 0.6; 0.6
Fe-59	-0.1 ± 1.7; 1.7	1.8 ± 2.2; 2.3	-1.7 ± 1.9; 1.9	0.2 ± 1.8; 1.8
Co-58	0.1 ± 0.7; 0.7	-0.4 ± 0.8; 0.8	-0.2 ± 0.8; 0.8	0.5 ± 0.7; 0.7
Co-60	-0.7 ± 1.1; 1.1	-0.0 ± 1.0; 1.0	-0.5 ± 0.9; 0.9	1.0 ± 0.7; 0.8
Zn-65	-1.6 ± 1.5; 1.5	2.3 ± 2.3; 2.3	-1.3 ± 2.2; 2.2	-0.6 ± 1.9; 1.9
Zr/Nb-95	-1.2 ± 0.9; 0.9	0.6 ± 0.9; 0.9	-0.7 ± 0.8; 0.8	-0.6 ± 0.7; 0.7
Cs-134	0.2 ± 0.8; 0.8	-0.3 ± 1.0; 1.0	0.3 ± 0.9; 0.9	-0.4 ± 0.7; 0.7
Cs-137	0.4 ± 0.7; 0.7	0.1 ± 0.8; 0.8	0.2 ± 0.9; 0.9	0.1 ± 0.6; 0.6
Ba/La-140	0.3 ± 1.1; 1.1	-0.3 ± 0.9; 0.9	0.5 ± 1.0; 1.0	-0.8 ± 0.6; 0.6

Table 4. Fish, Edible Portions

Collection: Semiannually

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

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

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

Sample Description and Concentration	
	BY-29 (C) Byron, Upstream
Date Collected	10-18-01
Lab Code	BYF-9394
Type	River Carpsucker
Mn-54	-0.2 ± 0.9; 0.9
Fe-59	0.4 ± 2.1; 2.1
Co-58	0.2 ± 0.8; 0.8
Co-60	0.7 ± 1.0; 1.0
Zn-65	0.1 ± 2.0; 2.0
Zr/Nb-95	-1.6 ± 0.8; 0.8
Cs-134	0.7 ± 0.9; 0.9
Cs-137	-0.2 ± 0.9; 0.9
Ba/La-140	1.9 ± 1.0; 1.1

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	05-23-01	05-23-01	05-23-01	05-23-01
Lab Code	BYF-4109	BYF-4110	BYF-4111	BYF-4112
Type	Channel Catfish	Carp	Bigmouth Buffalo	Silver Redhorse
Mn-54	0.2 ± 0.7; 0.7	0.5 ± 0.8; 0.8	0.1 ± 0.7; 0.7	-0.1 ± 0.8; 0.8
Fe-59	-0.2 ± 1.7; 1.7	1.2 ± 1.9; 1.9	-0.1 ± 1.7; 1.7	-1.0 ± 1.8; 1.8
Co-58	0.0 ± 0.8; 0.8	0.8 ± 0.9; 0.9	0.1 ± 0.7; 0.7	-0.6 ± 0.7; 0.7
Co-60	1.1 ± 0.9; 0.9	0.1 ± 1.1; 1.1	0.5 ± 0.7; 0.8	-0.1 ± 1.1; 1.1
Zn-65	0.2 ± 1.9; 1.9	0.1 ± 1.9; 1.9	-0.6 ± 2.2; 2.2	0.3 ± 1.8; 1.8
Zr/Nb-95	-0.0 ± 0.7; 0.7	-0.4 ± 0.9; 0.9	0.7 ± 0.6; 0.6	0.9 ± 0.7; 0.7
Cs-134	0.4 ± 0.8; 0.8	-0.5 ± 1.2; 1.2	0.1 ± 0.7; 0.7	0.4 ± 0.8; 0.8
Cs-137	0.3 ± 0.7; 0.7	0.1 ± 0.8; 0.8	-0.4 ± 0.8; 0.8	0.0 ± 0.7; 0.7
Ba/La-140	0.7 ± 0.4; 0.4	-1.5 ± 1.0; 1.0	0.2 ± 0.7; 0.7	-0.8 ± 0.8; 0.9

Date Collected	05-23-01	10-18-01	10-18-01	10-18-01
Lab Code	BYF-4113	BYF-9395	BYF-9396	BYF-9397
Type	River Carpsucker	Bigmouth Buffalo	Carp	River Carpsucker
Mn-54	0.2 ± 0.7; 0.7	0.8 ± 0.6; 0.6	0.7 ± 0.8; 0.8	0.1 ± 0.8; 0.8
Fe-59	0.7 ± 1.4; 1.4	1.0 ± 1.6; 1.6	0.9 ± 2.2; 2.2	-0.3 ± 2.0; 2.0
Co-58	0.1 ± 0.6; 0.6	0.5 ± 0.5; 0.5	-0.2 ± 1.0; 1.0	0.1 ± 0.6; 0.6
Co-60	-0.1 ± 0.8; 0.8	-0.7 ± 0.7; 0.7	0.2 ± 1.2; 1.2	-0.8 ± 0.9; 0.9
Zn-65	-0.8 ± 2.0; 2.0	0.7 ± 1.6; 1.6	-0.3 ± 2.4; 2.4	1.7 ± 1.7; 1.8
Zr/Nb-95	-0.8 ± 0.7; 0.7	0.5 ± 0.6; 0.6	-2.5 ± 1.7; 1.7	0.3 ± 0.7; 0.7
Cs-134	0.6 ± 0.7; 0.7	0.2 ± 0.7; 0.7	0.6 ± 1.0; 1.0	0.3 ± 0.8; 0.8
Cs-137	0.6 ± 0.6; 0.6	-0.1 ± 0.7; 0.7	-0.4 ± 0.8; 0.8	-0.3 ± 0.9; 0.9
Ba/La-140	0.6 ± 0.6; 0.6	0.3 ± 0.6; 0.6	-3.9 ± 1.3; 1.4	-3.2 ± 1.0; 1.0

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	10-18-01	10-18-01
Lab Code	BYF-9398	BYF-9399
Type	Smallmouth Buffalo	Smallmouth Bass
Mn-54	-0.3 ± 0.8; 0.8	0.5 ± 0.7; 0.7
Fe-59	-0.8 ± 2.1; 2.1	-0.5 ± 1.8; 1.8
Co-58	-0.1 ± 0.8; 0.8	0.2 ± 0.7; 0.7
Co-60	0.1 ± 1.0; 1.0	0.3 ± 0.9; 0.9
Zn-65	-2.5 ± 2.4; 2.4	0.6 ± 2.0; 2.0
Zr/Nb-95	0.3 ± 0.8; 0.8	-1.9 ± 0.7; 0.7
Cs-134	-0.1 ± 0.9; 0.9	-0.8 ± 1.0; 1.0
Cs-137	0.7 ± 1.0; 1.0	-0.2 ± 0.7; 0.7
Ba/La-140	0.3 ± 0.7; 0.7	-0.8 ± 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

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

Sample Description and Concentration

BY-12 Oregon Pool of Rock River

Date Collected	05-22-01	10-09-01
Lab Code	BYBS-4118	BYBS-8999
Mn-54	-0.1 ± 0.6; 0.6	0.4 ± 0.8; 0.8
Fe-59	-0.6 ± 1.2; 1.2	-0.1 ± 2.0; 2.0
Co-58	-0.3 ± 0.5; 0.5	0.2 ± 0.8; 0.8
Co-60	0.1 ± 0.6; 0.6	0.7 ± 1.1; 1.1
Zn-65	-0.3 ± 1.3; 1.3	-1.5 ± 2.2; 2.2
Zr/Nb-95	-1.1 ± 0.6; 0.7	0.6 ± 0.8; 0.8
Cs-134	0.9 ± 0.8; 0.8	0.9 ± 1.0; 1.0
Cs-137	0.9 ± 0.6; 0.7	1.2 ± 0.9; 0.9
Ba/La-140	-4.9 ± 0.7; 0.9	-18.7 ± 1.1; 2.8

BY-34 Rock River, Downstream

Date Collected	05-22-01	10-09-01
Lab Code	BYBS-4119	BYBS-9000
Mn-54	0.2 ± 0.9; 0.9	0.4 ± 0.9; 0.9
Fe-59	2.0 ± 2.1; 2.1	1.1 ± 1.8; 1.8
Co-58	0.3 ± 0.7; 0.7	0.3 ± 0.6; 0.6
Co-60	0.1 ± 1.1; 1.1	0.5 ± 0.8; 0.8
Zn-65	-2.4 ± 2.8; 2.8	1.7 ± 1.5; 1.5
Zr/Nb-95	-1.1 ± 0.8; 0.9	0.0 ± 0.8; 0.8
Cs-134	0.5 ± 0.9; 0.9	0.5 ± 0.9; 0.9
Cs-137	0.2 ± 0.9; 0.9	0.4 ± 0.9; 0.9
Ba/La-140	-3.0 ± 1.1; 1.2	3.7 ± 1.1; 1.2

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	07-24-01	07-24-01
Lab Code	BYVE-6391	BYVE-6392
Type	Rhubarb leaves	Beets
Mn-54	0.4 ± 0.8; 0.8	-0.3 ± 0.7; 0.7
Fe-59	-0.2 ± 2.1; 2.1	-0.1 ± 1.3; 1.3
Co-58	-0.8 ± 0.9; 0.9	0.6 ± 0.7; 0.7
Co-60	-0.1 ± 0.9; 0.9	-0.6 ± 0.8; 0.8
Zn-65	-0.9 ± 2.5; 2.5	-0.1 ± 1.9; 1.9
Zr/Nb-95	-0.3 ± 0.8; 0.8	-0.9 ± 0.7; 0.7
I-131	-0.4 ± 0.6; 0.6	-0.1 ± 0.6; 0.6
Cs-134	0.8 ± 1.0; 1.0	0.9 ± 0.7; 0.7
Cs-137	0.3 ± 0.8; 0.8	-0.3 ± 0.6; 0.6
Ba/La-140	-0.8 ± 1.0; 1.0	-0.6 ± 0.5; 0.5
	BY-Quad 1 7083 N. River Road	
Date Collected	07-24-01	07-24-01
Lab Code	BYVE-6394	BYVE-6393
Type	Cabbage	Potatoes
Mn-54	1.1 ± 0.8; 0.8	0.5 ± 0.7; 0.7
Fe-59	-1.4 ± 1.4; 1.4	-0.1 ± 2.0; 2.0
Co-58	0.0 ± 0.7; 0.7	0.5 ± 0.7; 0.7
Co-60	-0.7 ± 1.0; 1.0	-0.3 ± 1.0; 1.0
Zn-65	0.8 ± 1.8; 1.8	0.4 ± 2.1; 2.1
Zr/Nb-95	-1.0 ± 0.7; 0.7	-0.8 ± 0.7; 0.7
I-131	-1.0 ± 0.8; 0.8	0.2 ± 0.6; 0.6
Cs-134	0.1 ± 0.9; 0.9	-0.4 ± 0.9; 0.9
Cs-137	0.7 ± 0.8; 0.8	1.0 ± 0.9; 0.9
Ba/La-140	-0.8 ± 1.0; 1.0	0.1 ± 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

BY-Quad 2 5671 East Brick Road

Date Collected	07-31-01	07-31-01
Lab Code	BYVE-6710	BYVE-6711
Type	Turnips	Cabbage
Mn-54	0.4 ± 0.6; 0.6	-0.8 ± 0.6; 0.7
Fe-59	0.2 ± 1.4; 1.4	-0.6 ± 1.3; 1.3
Co-58	-0.2 ± 0.7; 0.7	-0.4 ± 0.6; 0.6
Co-60	0.7 ± 0.7; 0.7	0.1 ± 0.7; 0.7
Zn-65	-0.5 ± 1.6; 1.6	0.8 ± 1.3; 1.3
Zr/Nb-95	0.3 ± 0.6; 0.6	-0.3 ± 0.6; 0.6
I-131	0.1 ± 0.5; 0.5	0.7 ± 0.6; 0.6
Cs-134	0.1 ± 0.8; 0.8	0.2 ± 0.7; 0.7
Cs-137	0.5 ± 0.7; 0.7	-0.4 ± 0.7; 0.7
Ba/La-140	0.3 ± 0.6; 0.6	0.4 ± 0.7; 0.7

BY-Quad 3 1417 Brick Road

Date Collected	07-31-01	07-31-01
Lab Code	BYVE-6713	BYVE-6712
Type	Beet greens	Beets
Mn-54	-0.1 ± 1.0; 1.0	-0.1 ± 1.1; 1.1
Fe-59	0.2 ± 2.5; 2.5	2.6 ± 3.3; 3.4
Co-58	0.5 ± 0.9; 0.9	0.9 ± 1.1; 1.1
Co-60	-0.2 ± 1.2; 1.2	0.2 ± 1.2; 1.2
Zn-65	-0.5 ± 2.8; 2.8	1.4 ± 3.6; 3.6
Zr/Nb-95	-0.8 ± 1.0; 1.0	-0.5 ± 2.3; 2.3
I-131	-0.9 ± 0.7; 0.7	-0.9 ± 0.9; 0.9
Cs-134	0.2 ± 1.0; 1.0	-0.0 ± 1.4; 1.4
Cs-137	0.7 ± 1.1; 1.1	0.1 ± 1.1; 1.1
Ba/La-140	0.1 ± 0.9; 0.9	0.5 ± 1.3; 1.3

BYRON

Table 6. Vegetation

Collection: Annually

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

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

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

Sample Description and Concentration

BY-Quad 4 6170 Razorville Road

Date Collected	07-31-01	07-31-01
Lab Code	BYVE-6714	BYVE-6715
Type	Carrots	Potatoes
Mn-54	0.7 ± 2.1; 2.1	0.0 ± 0.8; 0.8
Fe-59	-1.9 ± 5.2; 5.2	-0.3 ± 1.6; 1.6
Co-58	-0.7 ± 2.1; 2.1	-0.4 ± 0.8; 0.8
Co-60	1.4 ± 3.6; 3.6	-0.1 ± 1.0; 1.0
Zn-65	-5.5 ± 6.6; 6.6	2.3 ± 2.0; 2.1
Zr/Nb-95	-1.0 ± 2.1; 2.1	-0.1 ± 0.8; 0.8
I-131	-2.1 ± 1.5; 1.5	0.9 ± 0.6; 0.6
Cs-134	-1.0 ± 2.4; 2.4	-0.0 ± 0.9; 0.9
Cs-137	0.7 ± 2.4; 2.4	0.3 ± 0.8; 0.8
Ba/La-140	-0.1 ± 3.5; 3.5	-0.9 ± 0.9; 0.9

Date Collected	07-31-01
Lab Code	BYVE-6716
Type	Cauliflower
Mn-54	-0.1 ± 1.5; 1.5
Fe-59	-1.3 ± 2.9; 2.9
Co-58	0.4 ± 1.2; 1.2
Co-60	-0.1 ± 1.6; 1.6
Zn-65	-0.5 ± 3.0; 3.0
Zr/Nb-95	0.4 ± 1.2; 1.2
I-131	-0.1 ± 1.0; 1.0
Cs-134	0.6 ± 1.3; 1.3
Cs-137	0.6 ± 1.2; 1.2
Ba/La-140	0.2 ± 1.5; 1.5

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

2001 Collection Period	January	February	March
Lab Code	BYSW-1162	BYSW-1706	BYSW-2324
Gross Beta	1.7 ± 1.2 ; 1.2	3.1 ± 1.6 ; 1.6	3.5 ± 1.6 ; 1.7
Mn-54	0.9 ± 0.9; 0.9	0.4 ± 1.1; 1.1	0.2 ± 1.5; 1.5
Fe-59	1.1 ± 1.8; 1.8	-0.2 ± 2.2; 2.2	0.2 ± 2.7; 2.7
Co-58	0.4 ± 1.0; 1.0	0.0 ± 1.1; 1.1	0.8 ± 1.6; 1.6
Co-60	1.2 ± 1.2; 1.2	-0.1 ± 1.2; 1.2	-1.6 ± 1.8; 1.9
Zn-65	0.9 ± 1.9; 1.9	0.3 ± 2.3; 2.3	0.4 ± 2.1; 2.1
Zr/Nb-95	0.5 ± 1.0; 1.0	0.1 ± 2.7; 2.7	1.1 ± 1.8; 1.8
Cs-134	-0.8 ± 1.1; 1.1	-0.5 ± 1.3; 1.3	0.9 ± 1.7; 1.7
Cs-137	-0.3 ± 0.9; 0.9	-0.8 ± 1.1; 1.2	-0.1 ± 1.7; 1.7
Ba/La-140	-0.8 ± 1.3; 1.3	0.5 ± 1.0; 1.0	1.2 ± 1.9; 1.9

2001 Collection Period	April	May	June
Lab Code	BYSW-3756	BYSW-4579	BYSW-5550
Gross Beta	3.2 ± 1.5 ; 1.6	3.3 ± 1.1 ; 1.2	3.3 ± 1.4 ; 1.5
Mn-54	-0.1 ± 1.2; 1.2	-0.3 ± 3.5; 3.5	0.3 ± 1.7; 1.7
Fe-59	-5.1 ± 2.4; 2.5	2.3 ± 5.7; 5.7	0.7 ± 4.5; 4.5
Co-58	-0.9 ± 1.2; 1.2	0.9 ± 3.1; 3.1	1.7 ± 1.5; 1.5
Co-60	-0.1 ± 1.1; 1.1	-1.3 ± 3.6; 3.6	-0.6 ± 1.7; 1.7
Zn-65	1.9 ± 2.6; 2.6	1.8 ± 4.7; 4.8	-0.2 ± 2.9; 2.9
Zr/Nb-95	1.0 ± 1.3; 1.3	-2.2 ± 3.2; 3.2	-2.6 ± 1.5; 1.6
Cs-134	0.8 ± 1.4; 1.4	2.0 ± 3.6; 3.6	-0.6 ± 1.4; 1.4
Cs-137	0.7 ± 1.3; 1.3	2.1 ± 3.4; 3.4	1.8 ± 1.9; 2.0
Ba/La-140	0.6 ± 1.3; 1.3	6.8 ± 3.2; 3.3	-8.4 ± 2.4; 2.7

Table 7. Surface Water

Collection:	Monthly composites of weekly collections
ODCM-Required LLDs:	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr/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

2001 Collection Period	July	August	September
Lab Code	BYSW-6818	BYSW-7439	BYSW-8668
Gross Beta	3.1 ± 0.8 ; 1.0	3.1 ± 1.2 ; 1.3	4.1 ± 1.7 ; 1.8
Mn-54	-0.2 ± 0.7; 0.7	-0.7 ± 1.6; 1.6	-0.1 ± 0.9; 0.9
Fe-59	-0.9 ± 1.5; 1.5	-0.7 ± 2.7; 2.7	-1.2 ± 1.8; 1.8
Co-58	-0.2 ± 0.7; 0.7	-1.4 ± 1.5; 1.5	0.3 ± 0.9; 0.9
Co-60	-0.1 ± 0.7; 0.7	-0.7 ± 1.7; 1.7	0.8 ± 1.0; 1.0
Zn-65	-5.5 ± 1.9; 2.1	-3.0 ± 3.0; 3.0	-1.7 ± 2.1; 2.1
Zr/Nb-95	-2.4 ± 1.6; 1.6	1.7 ± 1.4; 1.4	1.2 ± 0.9; 1.0
Cs-134	0.3 ± 0.8; 0.8	1.2 ± 1.7; 1.7	-0.2 ± 1.0; 1.0
Cs-137	-0.4 ± 0.8; 0.8	0.2 ± 1.6; 1.6	-1.2 ± 1.1; 1.1
Ba/La-140	3.3 ± 1.0; 1.1	0.4 ± 1.8; 1.8	1.0 ± 1.0; 1.1

2001 Collection Period	October	November	December
Lab Code	BYSW-10073	BYSW-10944	BYSW-11451
Gross Beta	3.7 ± 1.3 ; 1.4	3.4 ± 1.1 ; 1.2	3.9 ± 1.2 ; 1.4
Mn-54	-0.4 ± 0.6; 0.6	-1.1 ± 2.9; 2.9	1.5 ± 3.4; 3.4
Fe-59	-0.4 ± 1.2; 1.2	6.6 ± 5.7; 5.7	-9.3 ± 6.4; 6.5
Co-58	0.1 ± 0.6; 0.6	-2.1 ± 2.8; 2.8	-1.6 ± 3.3; 3.3
Co-60	-0.0 ± 0.6; 0.6	-1.2 ± 3.7; 3.7	-1.8 ± 3.4; 3.4
Zn-65	-1.6 ± 1.4; 1.4	-4.6 ± 5.8; 5.8	-1.9 ± 7.2; 7.2
Zr/Nb-95	-1.1 ± 0.6; 0.7	4.0 ± 2.9; 2.9	2.8 ± 2.8; 2.8
Cs-134	0.8 ± 0.7; 0.7	1.8 ± 3.3; 3.3	1.4 ± 4.0; 4.0
Cs-137	0.3 ± 0.7; 0.7	-0.1 ± 3.0; 3.0	-1.6 ± 3.1; 3.1
Ba/La-140	2.8 ± 0.7; 0.8	-4.0 ± 2.8; 2.9	-3.2 ± 4.2; 4.2

Table 7. Surface Water

Collection:	Monthly composites of weekly collections
ODCM-Required LLDs:	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr/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

2001 Collection Period	January	February	March
Lab Code	NS [a]	BYSW-1707 [b]	BYSW-2325
Gross Beta	-	2.6 ± 1.4 ; 1.5	2.0 ± 1.4 ; 1.4
Mn-54	-	0.7 ± 1.0; 1.0	1.6 ± 1.7; 1.7
Fe-59	-	2.5 ± 1.6; 1.7	-1.1 ± 3.6; 3.6
Co-58	-	-0.6 ± 1.0; 1.0	-0.7 ± 1.7; 1.7
Co-60	-	0.2 ± 0.9; 0.9	1.2 ± 2.1; 2.1
Zn-65	-	0.5 ± 2.0; 2.0	2.8 ± 3.4; 3.5
Zr/Nb-95	-	-0.3 ± 0.9; 0.9	-1.8 ± 3.1; 3.1
Cs-134	-	-0.8 ± 1.2; 1.2	1.7 ± 1.9; 1.9
Cs-137	-	-0.7 ± 1.0; 1.0	-0.3 ± 1.7; 1.7
Ba/La-140	-	-0.9 ± 1.4; 1.4	2.5 ± 2.1; 2.1

2001 Collection Period	April	May	June
Lab Code	BYSW-3757	BYSW-4580	BYSW-5551
Gross Beta	2.3 ± 1.5 ; 1.5	2.5 ± 1.1 ; 1.2	2.7 ± 1.3 ; 1.4
Mn-54	0.5 ± 1.1; 1.1	1.8 ± 3.1; 3.1	0.6 ± 1.7; 1.7
Fe-59	-1.5 ± 1.7; 1.7	-3.8 ± 5.7; 5.7	-1.1 ± 3.8; 3.8
Co-58	0.1 ± 1.0; 1.0	1.8 ± 2.7; 2.7	1.3 ± 1.5; 1.5
Co-60	-0.5 ± 1.2; 1.2	5.2 ± 3.8; 3.9	-0.1 ± 1.6; 1.6
Zn-65	1.1 ± 1.9; 2.0	2.4 ± 5.0; 5.0	1.8 ± 3.2; 3.2
Zr/Nb-95	0.0 ± 1.0; 1.0	-3.3 ± 3.3; 3.3	-0.1 ± 1.6; 1.6
Cs-134	0.9 ± 1.0; 1.0	1.4 ± 3.3; 3.3	0.4 ± 1.8; 1.8
Cs-137	0.1 ± 1.1; 1.1	0.3 ± 2.7; 2.7	0.6 ± 1.9; 1.9
Ba/La-140	0.4 ± 1.2; 1.2	-5.9 ± 3.9; 4.0	2.6 ± 1.8; 1.8

[a] "NS" = No sample; water frozen.

[b] Results reflect two samples for month; water frozen on 02-06-01 and 02-13-01.

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

2001 Collection Period	July	August	September
Lab Code	BYSW-6819	BYSW-7440	BYSW-8669
Gross Beta	3.3 ± 0.9 ; 1.0	4.3 ± 1.2 ; 1.3	3.4 ± 1.5 ; 1.6
Mn-54	-0.3 ± 1.1; 1.1	0.5 ± 1.3; 1.3	-0.7 ± 0.8; 0.8
Fe-59	-1.9 ± 2.1; 2.1	-3.1 ± 2.6; 2.7	0.5 ± 1.5; 1.5
Co-58	0.6 ± 1.1; 1.1	0.8 ± 1.3; 1.3	0.5 ± 0.8; 0.8
Co-60	0.8 ± 1.4; 1.4	-0.3 ± 1.5; 1.5	-0.2 ± 0.8; 0.8
Zn-65	-0.1 ± 2.1; 2.1	1.2 ± 2.7; 2.7	-0.3 ± 1.5; 1.5
Zr/Nb-95	-1.0 ± 1.3; 1.3	0.4 ± 1.3; 1.3	-0.7 ± 0.8; 0.8
Cs-134	0.2 ± 1.4; 1.4	1.9 ± 1.7; 1.7	0.5 ± 0.9; 0.9
Cs-137	0.9 ± 1.4; 1.4	-0.8 ± 1.6; 1.6	-0.3 ± 1.0; 1.0
Ba/La-140	-2.2 ± 1.3; 1.4	0.1 ± 1.5; 1.5	-2.5 ± 1.0; 1.1

2001 Collection Period	October	November	December
Lab Code	BYSW-10074	BYSW-10945	BYSW-11452
Gross Beta	4.8 ± 1.4 ; 1.6	5.8 ± 1.3 ; 1.6	2.2 ± 1.0 ; 1.1
Mn-54	-0.1 ± 1.3; 1.3	1.5 ± 3.0; 3.0	-2.0 ± 2.8; 2.9
Fe-59	-1.7 ± 2.2; 2.2	2.2 ± 5.5; 5.5	-5.1 ± 5.2; 5.3
Co-58	-0.3 ± 1.1; 1.1	4.4 ± 2.9; 3.0	-2.1 ± 2.8; 2.8
Co-60	-1.0 ± 1.4; 1.4	0.7 ± 3.4; 3.4	2.0 ± 2.8; 2.8
Zn-65	-1.1 ± 2.3; 2.3	-3.5 ± 4.8; 4.9	-2.3 ± 5.3; 5.3
Zr/Nb-95	-2.4 ± 1.3; 1.4	-1.1 ± 2.9; 2.9	2.7 ± 2.9; 2.9
Cs-134	0.5 ± 1.3; 1.3	-2.5 ± 3.1; 3.2	-0.7 ± 3.2; 3.2
Cs-137	-0.4 ± 1.4; 1.4	0.4 ± 3.0; 3.0	0.8 ± 3.7; 3.7
Ba/La-140	-7.4 ± 1.6; 1.9	-1.8 ± 3.6; 3.6	-2.3 ± 3.8; 3.8

Table 7. Surface Water

Collection: Quarterly composites of weekly collections

ODCM-Required LLD: H-3 = 200 pCi/L

Units: pCi/L

2001 Collection Period	Sample Description and Concentration	
	Lab Code	Tritium
	BY-12 Oregon Pool of Rock River, Downstream	
1st Quarter	BYSW- 2327	3,618 ± 183; 525
2nd Quarter	BYSW- 5552	1,708 ± 133; 267
3rd Quarter	BYSW- 8670	1,828 ± 142; 286
4th Quarter	BYSW- 11457	2,337 ± 156; 354
	BY-29 (C) Byron, Upstream	
1st Quarter	BYSW- 2326	82 ± 84; 85
2nd Quarter	BYSW- 5553	36 ± 76; 76
3rd Quarter	BYSW- 8671	21 ± 81; 82
4th Quarter	BYSW- 11458	8 ± 82; 82

Table 8. Well Water

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

Sample Description and Concentration

BY-14 ComEd Offsite Well

Date Collected	01-09-01	04-10-01	08-21-01	10-09-01
Lab Code	BYWW-233	BYWW-2671	BYWW-7243 [a]	BYWW-9021 [b]
H-3	-50 ± 78; 79	75 ± 83; 84	77 ± 77; 77	113 ± 82; 83
Mn-54	1.4 ± 1.6; 1.6	-2.2 ± 1.8; 1.9	1.9 ± 4.2; 4.2	0.4 ± 1.2; 1.2
Fe-59	-0.6 ± 3.8; 3.8	1.1 ± 3.3; 3.3	1.5 ± 7.5; 7.5	-3.1 ± 3.1; 3.1
Co-58	-1.5 ± 1.6; 1.6	1.2 ± 1.8; 1.8	-0.2 ± 3.8; 3.8	-0.2 ± 1.5; 1.5
Co-60	0.3 ± 1.7; 1.7	2.1 ± 2.0; 2.1	3.4 ± 3.8; 3.8	-0.9 ± 2.1; 2.1
Zn-65	-2.0 ± 3.5; 3.5	0.4 ± 2.9; 2.9	-1.5 ± 8.7; 8.7	1.5 ± 3.0; 3.0
Zr/Nb-95	1.2 ± 1.6; 1.6	-0.8 ± 1.7; 1.7	-0.5 ± 3.6; 3.6	-0.8 ± 1.6; 1.6
Cs-134	0.2 ± 1.7; 1.7	0.7 ± 2.2; 2.2	-0.5 ± 4.3; 4.3	1.0 ± 1.5; 1.5
Cs-137	-0.6 ± 1.7; 1.7	0.5 ± 2.0; 2.0	-0.1 ± 3.9; 3.9	-0.5 ± 1.6; 1.6
Ba/La-140	-1.1 ± 1.7; 1.7	3.3 ± 1.4; 1.5	-4.8 ± 5.3; 5.3	-1.1 ± 1.8; 1.8

BY-18 McCoy Farmstead

Date Collected	01-09-01	04-10-01	07-10-01	10-09-01
Lab Code	BYWW-234	BYWW-2672	BYWW-5907	BYWW-9022
H-3	9 ± 81; 81	58 ± 83; 83	-2 ± 73; 73	138 ± 83; 85
Mn-54	0.7 ± 2.6; 2.6	-0.6 ± 3.8; 3.8	0.1 ± 1.3; 1.3	1.5 ± 1.3; 1.3
Fe-59	-0.4 ± 4.2; 4.2	-1.6 ± 6.4; 6.4	1.1 ± 2.1; 2.1	3.2 ± 2.7; 2.8
Co-58	1.3 ± 2.5; 2.6	2.4 ± 3.3; 3.3	-2.0 ± 1.2; 1.3	1.2 ± 1.6; 1.6
Co-60	1.9 ± 2.7; 2.7	1.6 ± 3.2; 3.2	0.1 ± 1.4; 1.4	-0.8 ± 1.5; 1.5
Zn-65	1.9 ± 4.7; 4.7	0.6 ± 6.8; 6.8	3.0 ± 2.8; 2.8	0.9 ± 3.2; 3.2
Zr/Nb-95	0.8 ± 2.5; 2.6	-1.1 ± 3.3; 3.3	-1.0 ± 1.2; 1.2	-1.5 ± 1.7; 1.7
Cs-134	1.2 ± 3.0; 3.0	5.8 ± 3.6; 3.7	-1.9 ± 1.5; 1.5	0.5 ± 1.6; 1.6
Cs-137	1.3 ± 2.8; 2.8	2.7 ± 3.2; 3.3	0.4 ± 1.5; 1.5	-2.5 ± 1.8; 1.9
Ba/La-140	-5.0 ± 2.9; 3.0	10.6 ± 3.2; 3.6	0.6 ± 1.6; 1.6	1.1 ± 1.7; 1.7

Unable to collect as scheduled due to pump malfunction; new location (BY-14-1) found as of 08-21-01 - 3200 German Church Road (North).

[b] Collected from new location BY-14-1.

Table 8. Well Water

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

Sample Description and Concentration

BY-32 Ron Wolford

Date Collected	01-09-01	04-10-01	07-10-01	10-09-01
Lab Code	BYWW-235	BYWW-2673	BYWW-5908	BYWW-9023
H-3	56 ± 83; 84	77 ± 84; 84	81 ± 77; 78	138 ± 83; 85
Mn-54	-0.1 ± 1.5; 1.5	-0.1 ± 2.1; 2.1	-0.5 ± 1.3; 1.3	-0.6 ± 1.7; 1.7
Fe-59	2.0 ± 2.6; 2.6	2.0 ± 5.1; 5.2	-2.0 ± 2.5; 2.5	-0.6 ± 4.0; 4.0
Co-58	0.5 ± 1.5; 1.5	1.2 ± 2.3; 2.3	0.4 ± 1.0; 1.0	1.7 ± 1.8; 1.8
Co-60	-1.0 ± 1.4; 1.4	0.9 ± 1.8; 1.8	1.0 ± 1.2; 1.2	0.2 ± 2.1; 2.1
Zn-65	5.0 ± 3.0; 3.1	-3.3 ± 5.2; 5.2	-1.1 ± 2.9; 2.9	-2.8 ± 4.1; 4.1
Zr/Nb-95	-0.4 ± 1.4; 1.4	-3.4 ± 2.5; 2.5	-3.5 ± 1.4; 1.5	1.4 ± 2.0; 2.0
Cs-134	0.7 ± 1.6; 1.6	-0.5 ± 2.3; 2.3	-0.6 ± 1.4; 1.4	0.6 ± 2.2; 2.2
Cs-137	0.7 ± 1.4; 1.4	-3.0 ± 2.6; 2.7	-0.1 ± 1.4; 1.4	-0.7 ± 1.7; 1.7
Ba/La-140	-4.8 ± 1.8; 1.9	-12.0 ± 3.3; 3.7	-17.9 ± 1.5; 3.0	-11.0 ± 2.3; 2.8

MILCH ANIMALS, NEAREST LIVESTOCK, AND NEAREST RESIDENCES CENSUSES

BYRON

MILCH ANIMALS CENSUS, 2001

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 27, 2001

BYRON

NEAREST LIVESTOCK CENSUS, 2001

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

Sector	Direction	Distance
A	N	3.0 miles
B	NNE	1.5 miles
C	NE	0.4 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 27, 2001

BYRON

NEAREST RESIDENCE CENSUS, 2001

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

Sector	Direction	Distance
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 27, 2001

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 2001	Quarter 2 2001	Quarter 3 2001	Quarter 4 2001
I. INDICATOR LOCATIONS					
a. Air Samplers					
BY-01-1	BYRON	17.0	17.0	15.0	18.0
BY-01-2	BYRON	19.0	17.0	14.0	16.0
BY-04-1	PAYNES PT.	19.0	24.0	17.0	24.0
BY-04-2	PAYNES PT.	18.0	23.0	18.0	24.0
BY-06-1	OREGON	20.0	19.0	13.0	18.0
BY-06-2	OREGON	17.0	21.0	14.0	17.0
BY-21-1	NEARSITE N	17.0	19.0	13.0	18.0
BY-21-2	NEARSITE N	16.0	17.0	17.0	18.0
BY-22-1	NEARSITE ESE	20.0	22.0	17.0	24.0
BY-22-2	NEARSITE ESE	20.0	25.0	21.0	27.0
BY-23-1	NEARSITE S	19.0	20.0	20.0	24.0
BY-23-2	NEARSITE S	19.0	23.0	16.0	23.0
BY-24-1	NEARSITE SW	19.0	22.0	15.0	21.0
BY-24-2	NEARSITE SW	19.0	23.0	18.0	22.0
	Air Sampler Mean ± S. D.	18.5 ±1.3	20.9 ±2.7	16.3 ±2.5	21.0 ±3.4
	Annual Air Sampler Mean ± S.D.				19.2 ±3.2
b. Inner Ring (100 Series)					
BY-101-1		16.0	18.0	12.0	15.0
BY-101-2		18.0	18.0	14.0	16.0
BY-102-1		22.0	21.0	20.0	28.0
BY-102-2		22.0	22.0	21.0	26.0
BY-103-1		21.0	20.0	18.0	23.0
BY-103-2		22.0	24.0	19.0	24.0
BY-104-1		22.0	24.0	20.0	25.0
BY-104-2		23.0	25.0	18.0	24.0
BY-105-1		24.0	20.0	16.0	24.0
BY-105-2		24.0	23.0	19.0	21.0
BY-106-1		23.0	21.0	17.0	24.0
BY-106-2		21.0	23.0	16.0	23.0
BY-107-1		24.0	26.0	21.0	26.0
BY-107-2		19.0	25.0	20.0	25.0
BY-108-1		18.0	25.0	21.0	21.0
BY-108-2		19.0	19.0	20.0	22.0
BY-109-1		18.0	23.0	19.0	22.0
BY-109-2		18.0	24.0	16.0	22.0
BY-110-1		18.0	22.0	17.0	21.0
BY-110-2		18.0	20.0	21.0	23.0
BY-111-3		19.0	21.0	20.0	23.0
BY-111-4		18.0	20.0	18.0	22.0

Exelon Nuclear
Environmental Site Report for Byron

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2001	Quarter 2 2001	Quarter 3 2001	Quarter 4 2001
b. Inner Ring (100 Series)					
BY-112-3		19.0	20.0	19.0	24.0
BY-112-4		18.0	20.0	18.0	19.0
BY-113-1		19.0	20.0	18.0	23.0
BY-113-2		17.0	18.0	14.0	18.0
BY-114-1		18.0	19.0	15.0	19.0
BY-114-2		18.0	20.0	17.0	19.0
BY-115-1		18.0	19.0	16.0	21.0
BY-115-2		16.0	18.0	18.0	18.0
BY-116-1		17.0	18.0	17.0	19.0
BY-116-2		17.0	19.0	18.0	17.0
	Inner Ring Mean ± S.D.	19.5 ±2.4	21.1 ±2.4	17.9 ±2.2	21.8 ±3.1
	Annual Inner Ring Mean ± S.D.				20.1 ±2.9
c. Outer Ring (200 Series)					
BY-201-3		18.0	19.0	18.0	20.0
BY-201-4		18.0	19.0	18.0	19.0
BY-202-1		17.0	18.0	16.0	21.0
BY-202-2		19.0	21.0	19.0	20.0
BY-203-1		16.0	16.0	15.0	17.0
BY-203-2		18.0	19.0	20.0	20.0
BY-204-1		20.0	19.0	17.0	20.0
BY-204-2		23.0	21.0	21.0	23.0
BY-205-1		23.0	22.0	20.0	25.0
BY-205-2		22.0	21.0	19.0	21.0
BY-206-1		23.0	21.0	20.0	24.0
BY-206-2		18.0	20.0	16.0	20.0
BY-207-1		18.0	21.0	20.0	27.0
BY-207-2		19.0	21.0	19.0	20.0
BY-208-1		19.0	21.0	21.0	22.0
BY-208-2		18.0	21.0	19.0	25.0
BY-209-1		19.0	20.0	21.0	26.0
BY-209-4		22.0	20.0	17.0	21.0
BY-210-3		22.0	20.0	16.0	22.0
BY-210-4		18.0	20.0	15.0	21.0
BY-211-1		23.0	19.0	17.0	21.0
BY-211-4		23.0	20.0	17.0	22.0
BY-212-1		24.0	21.0	17.0	21.0
BY-212-4		20.0	22.0	17.0	24.0
BY-213-1		18.0	21.0	17.0	23.0
BY-213-4		18.0	21.0	17.0	24.0
BY-214-1		19.0	21.0	16.0	23.0
BY-214-4		19.0	20.0	17.0	20.0

Exelon Nuclear
Environmental Site Report for Byron

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2001	Quarter 2 2001	Quarter 3 2001	Quarter 4 2001
Outer Ring (200 Series)					
BY-215-1		20.0	23.0	17.0	22.0
BY-215-4		20.0	22.0	21.0	24.0
BY-216-1		19.0	24.0	21.0	22.0
BY-216-2		18.0	20.0	17.0	19.0
	Outer Ring Mean ± S.D.	19.7 ±2.1	20.4 ±1.5	18.1 ±1.9	21.8 ±2.2
	Annual Outer Ring Mean ± S.D.				20.0 ±2.4
	INDICATOR LOCATION MEAN ± S.D.	19.4 ±2.2	20.8 ±2.1	17.7 ±2.2	21.7 ±2.8
	Annual INDICATOR MEAN ± S.D.				19.9 ±2.8
II. CONTROL LOCATIONS					
BY-08-1	LEAF RIVER	16.0	20.0	14.0	17.0
BY-08-2	LEAF RIVER	16.0	21.0	14.0	19.0
	CONTROL LOCATION MEAN ± S.D.	16.0 ±0.0	20.5 ±0.7	14.0 ±0.0	18.0 ±1.4
	Annual CONTROL LOCATION MEAN ± S.D.				17.1 ±0.0

5.0 GRAPHS OF DATA TRENDS

Air Particulates - Gross Beta

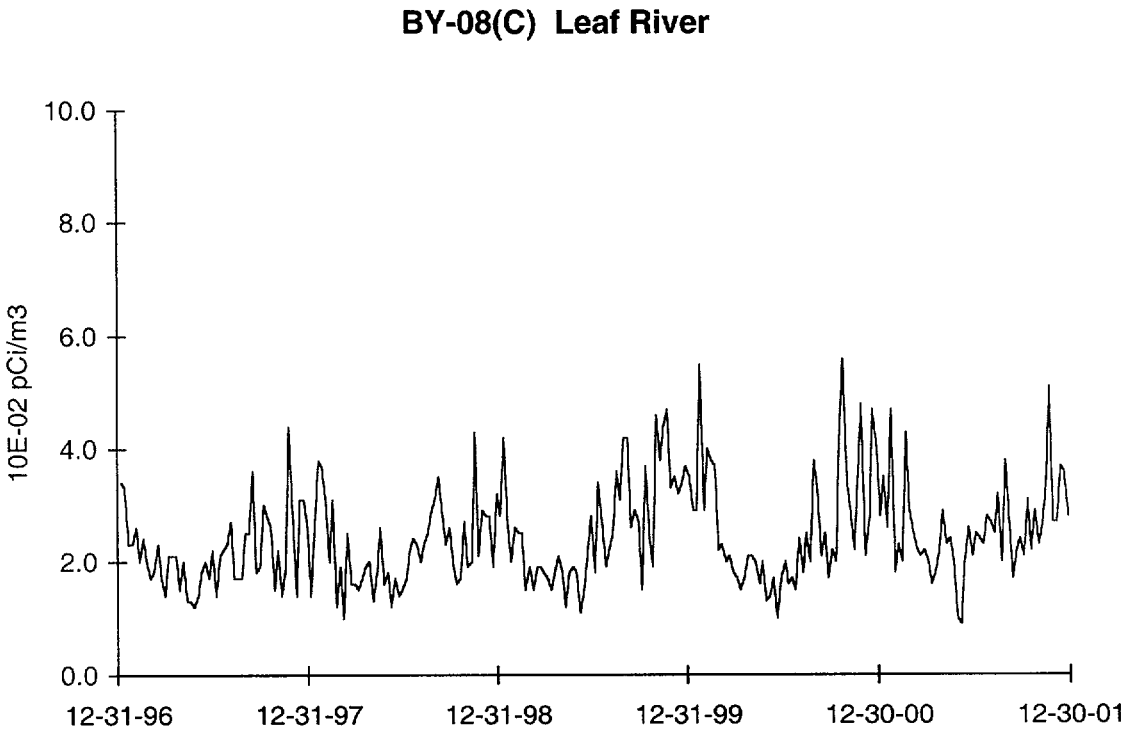


Figure 1. Continuous collection with weekly exchange of particulate filter.

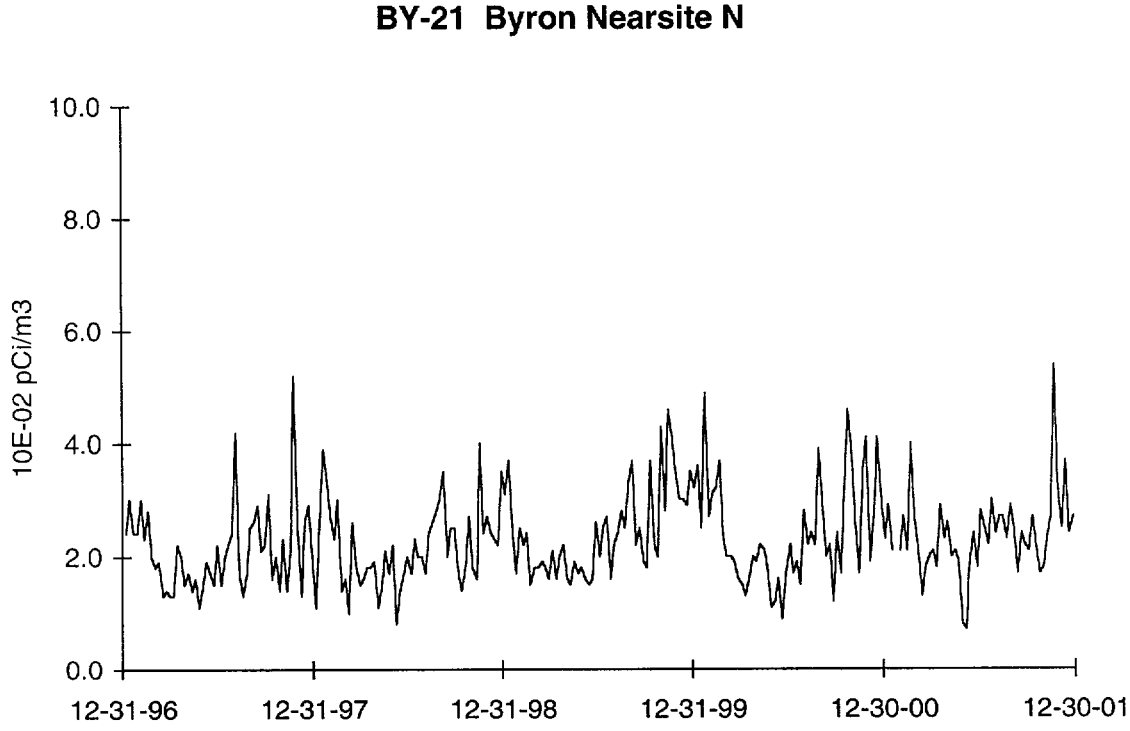


Figure 2. Continuous collection with weekly exchange of particulate filter.

Air Particulates - Gross Beta

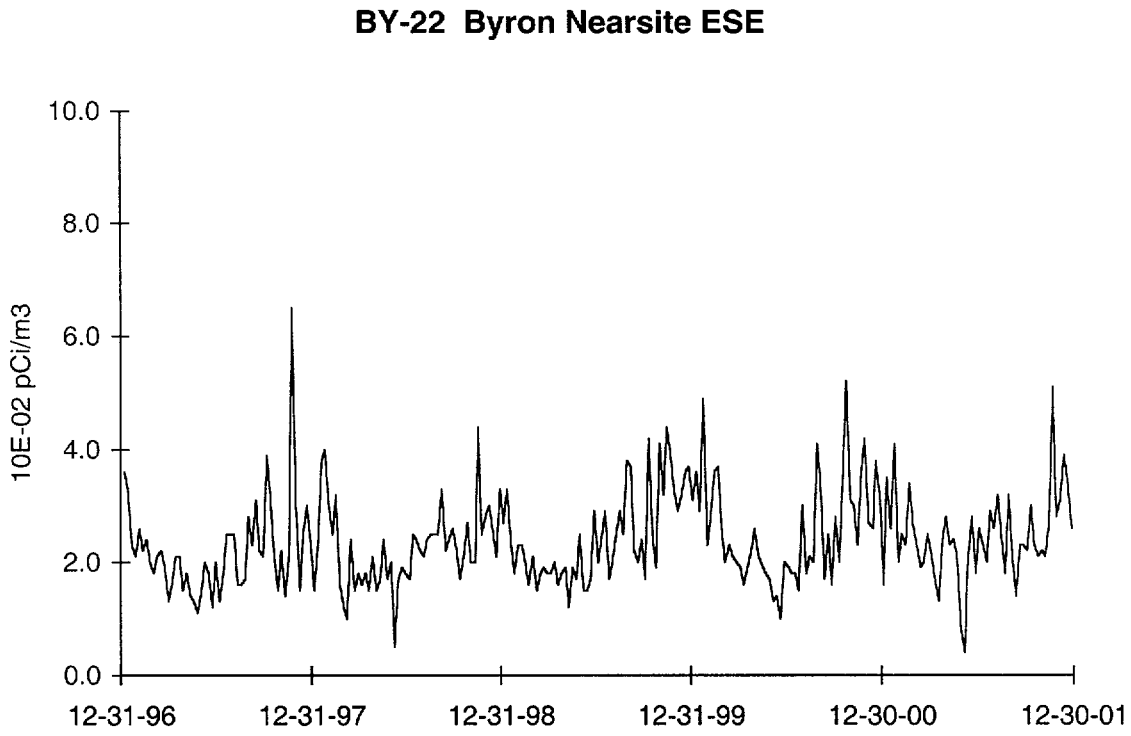


Figure 3. Continuous collection with weekly exchange of particulate filter.

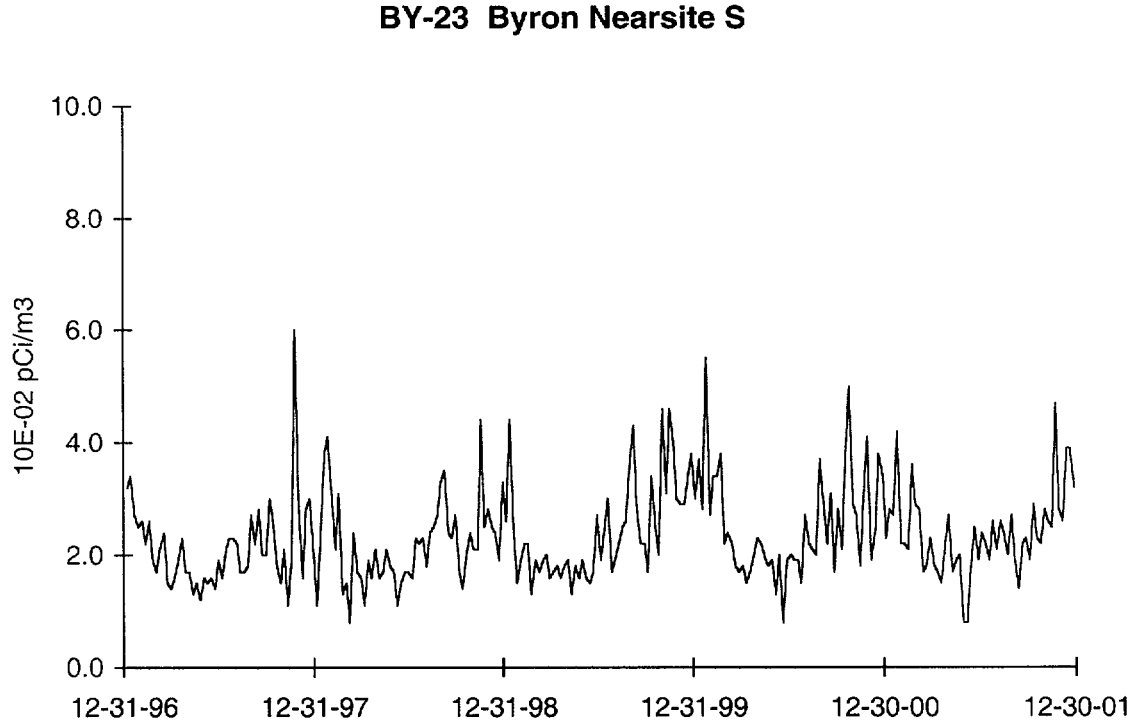


Figure 4. Continuous collection with weekly exchange of particulate filter.

Air Particulates - Gross Beta

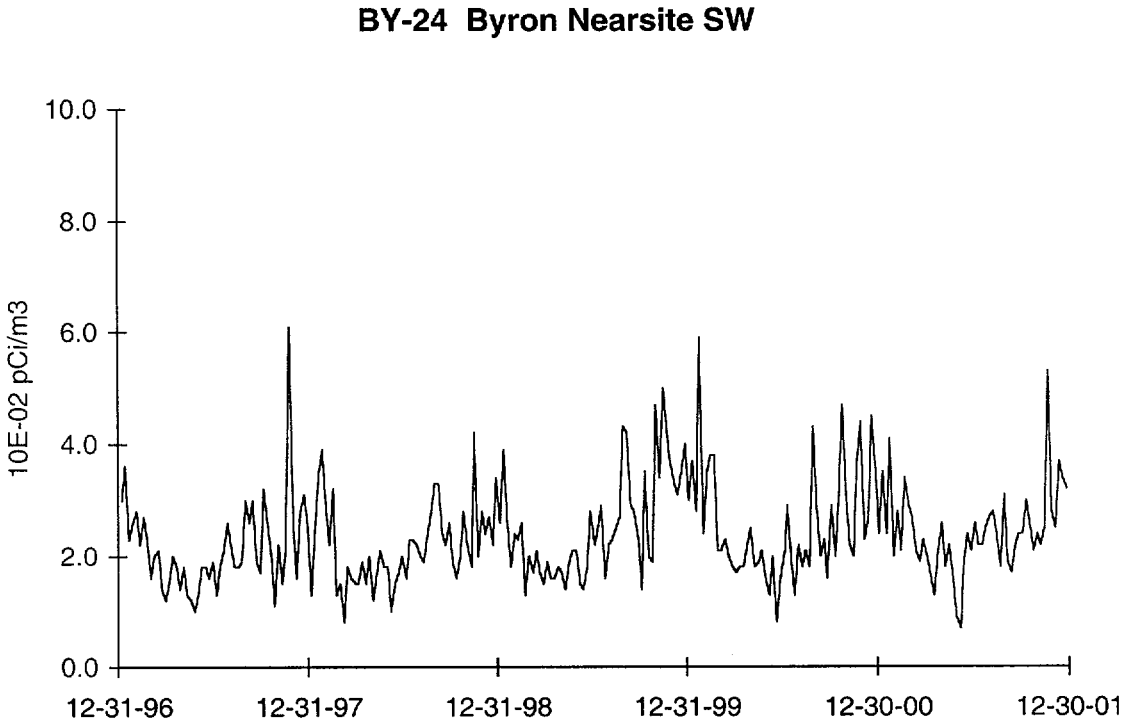


Figure 5. Continuous collection with weekly exchange of particulate filter.

Surface Water - Gross Beta

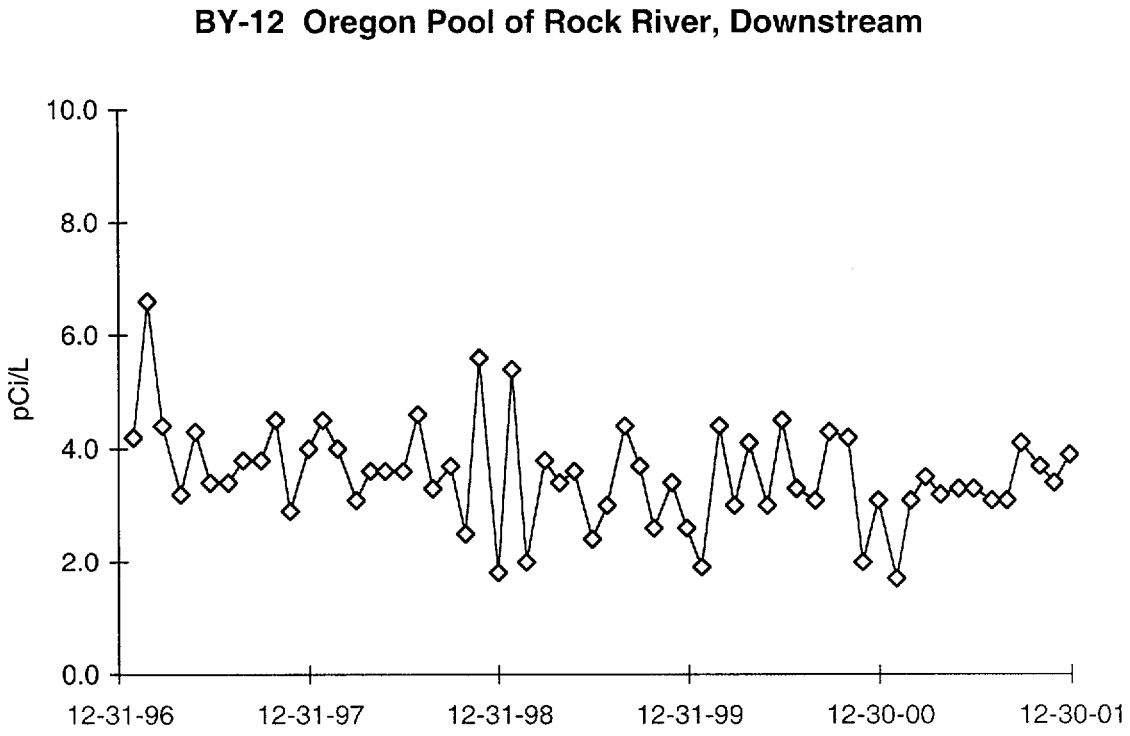


Figure 6. Monthly composites of weekly collections.

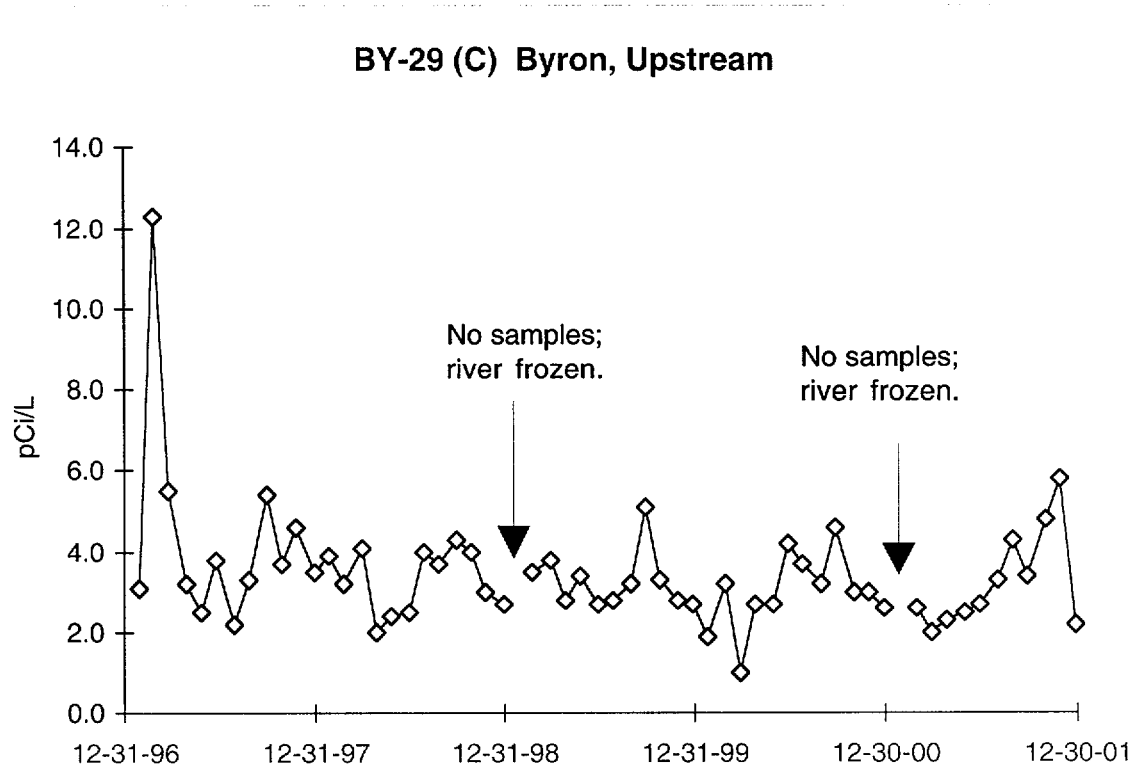


Figure 7. Monthly composites of weekly collections.

BY-12 Oregon Pool of Rock River, Downstream

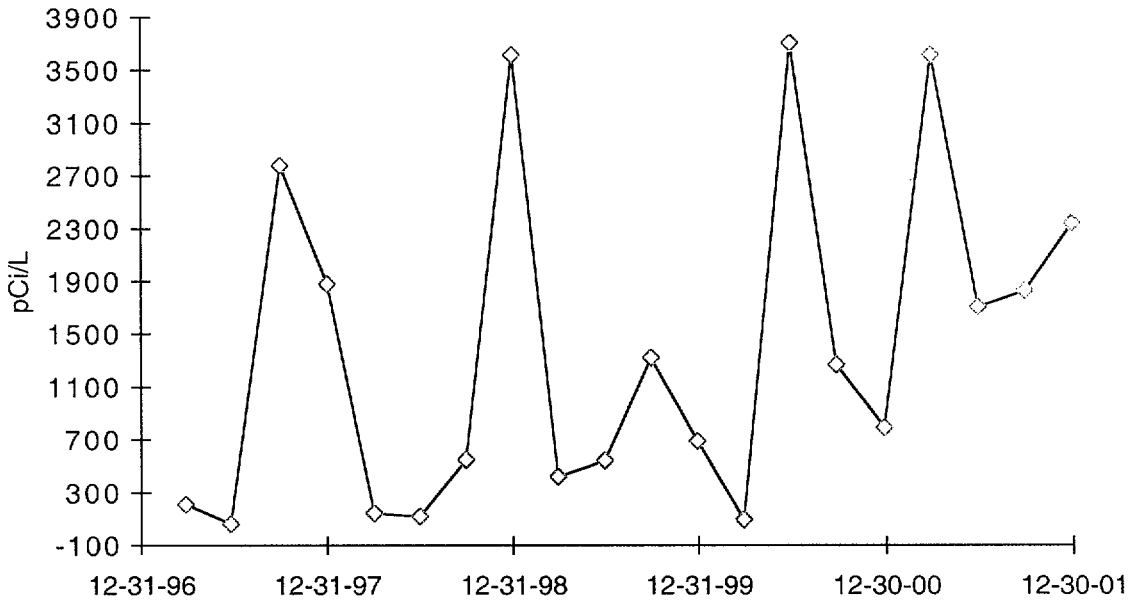


Figure 8. Quarterly composites of weekly collections.

BY-29(C) Byron, Upstream

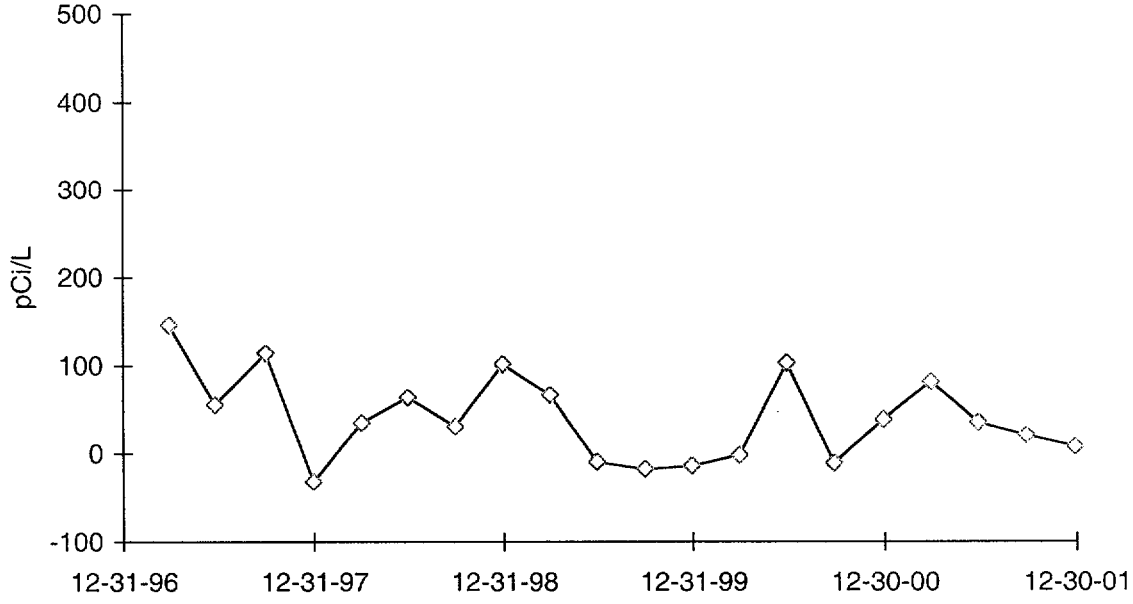


Figure 9. Quarterly composites of weekly collections.

Well Water-Tritium

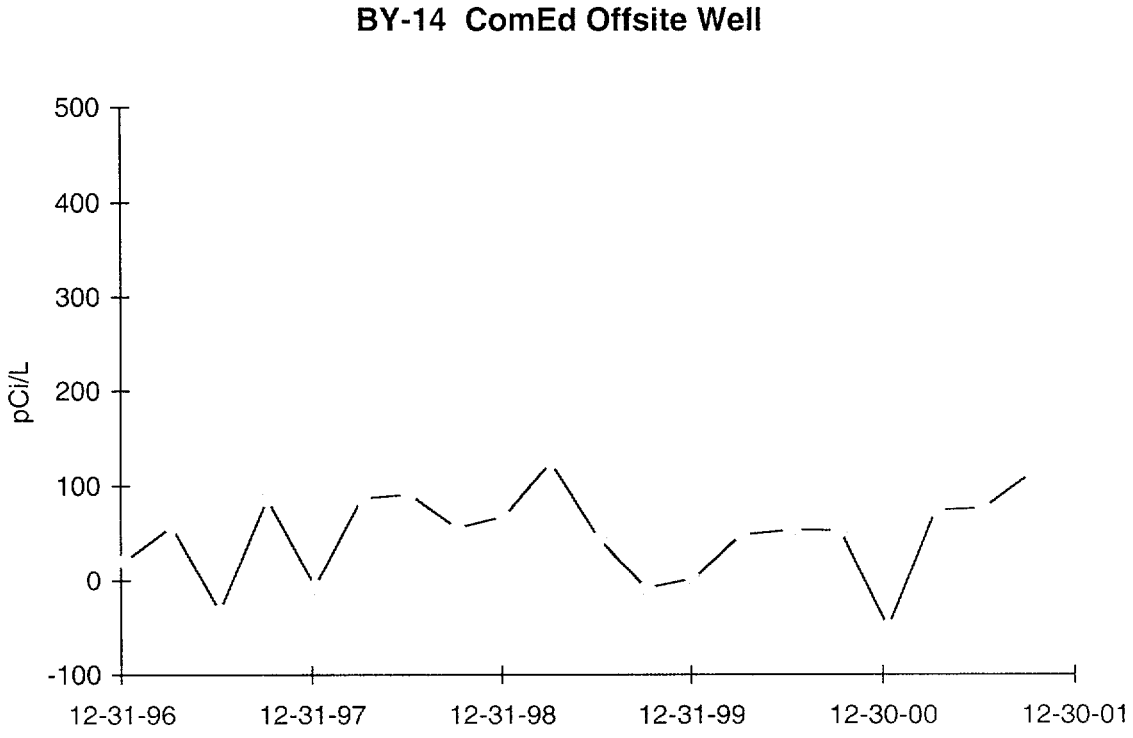


Figure 10. Quarterly collections.

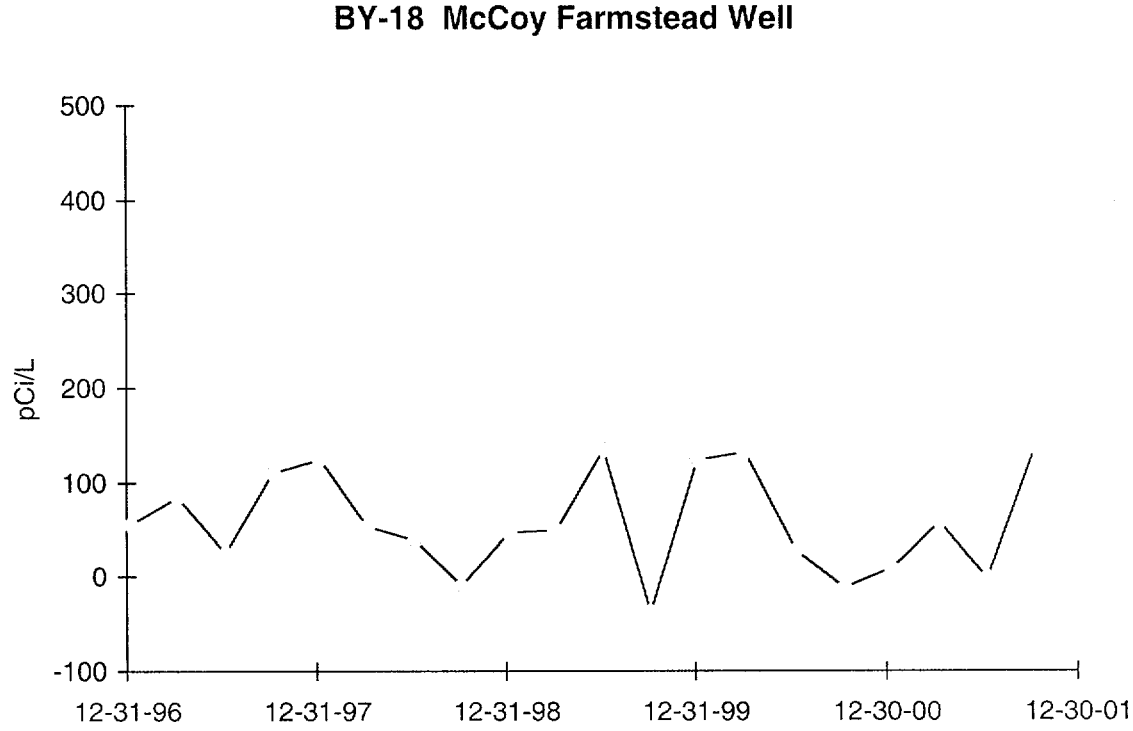


Figure 11. Quarterly collections.

Well Water-Tritium

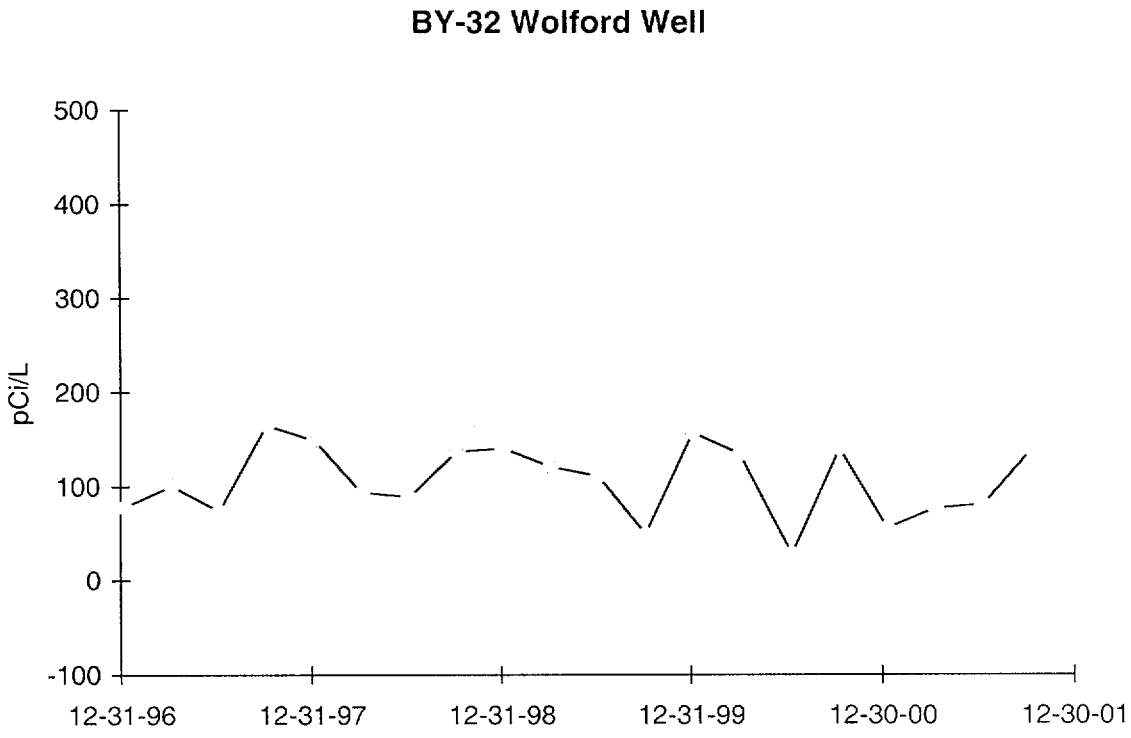


Figure 12. Quarterly collections.

APPENDIX IV

INTERLABORATORY COMPARISON PROGRAM RESULTS

NOTE: Environmental Incorporated Midwest Laboratory participates in intercomparison studies administered by Environmental Resource Associates which serve as a replacement for studies previously conducted by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada. The results are reported annually in Appendix IV. Also reported are results of mixed analyte and Environmental Measurements Laboratory performance evaluation programs.

January, 2001 through December, 2001

Appendix IV

Interlaboratory Comparison Program Results

Enviromental Incorporated 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 (e.g., milk or water) 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 the laboratory's analytical procedures and to alert it to 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.

The results in Table IV-1 were obtained through participation in the environmental sample crosscheck program for milk, water, air filters, and food samples through December 31, 2001. This program was conducted by Environmental Resource Associates and serves to replace studies formerly conducted by the U.S. Environmental Protection Agency Office of Research and Development, National Exposure Research Laboratory Characterization Research Division-Las Vegas, Nevada.

Table IV-2 lists results of the mixed analyte performance evaluation program.

Table IV-3 lists results of the Environmental Measurement Laboratory Quality Assessment Program.

Table IV-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA), comparison of ERA and Environmental, Inc. Midwest Laboratory results.[a]

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L[b]		
				ERA Result[c]	Control Limits	Laboratory results[d]
STW-897	Water	Jan, 2001	Gr. Alpha	45.7±11.4	25.9 - 65.5	31.9±2.1;4.4
STW-897	Water	Jan, 2001	Gr. Beta	16.7±5.0	8.0 - 25.4	25.3±2.7;4.7
STW-900	Water	Feb, 2001	I-131	28.3±3.0	23.1 - 33.5	27.2±0.8;2.8
STW-902	Water	Feb, 2001	Ra-226	4.7±0.7	3.4 - 5.9	4.0±0.1;0.4
STW-902	Water	Feb, 2001	Ra-228	14.4±3.6	8.2 - 20.6	13.8±0.4;1.4
STW-902	Water	Feb, 2001	Uranium	20.4±3.0	15.2 - 25.6	17.0±0.3;1.7
STW-903	Water	Mar, 2001	H-3	17800.0±1780.0	14700.0 - 20900.0	17400.0±69.7;2367.4
STW-917	Water	Apr, 2001	Gr. Alpha	56.0±14.0	31.8 - 80.2	57.4±3.5;7.8
STW-917	Water	Apr, 2001	Ra-226	17.7±2.7	13.1 - 22.3	13.5±0.4;1.4
STW-917	Water	Apr, 2001	Ra-228	8.1±2.0	4.6 - 11.6	10.1±0.6;1.2
STW-917	Water	Apr, 2001	Uranium	15.6±3.0	10.4 - 20.8	14.2±0.2;1.4
STW-918	Water	Apr, 2001	Co-60	26.4±5.0	17.7 - 35.1	27.9±1.4;4.2
STW-918	Water	Apr, 2001	Cs-134	16.9±5.0	8.2 - 25.6	16.0±0.4;2.3
STW-918	Water	Apr, 2001	Cs-137	186.0±9.3	170.0 - 202.0	195.4±1.5;28.2
STW-918	Water	Apr, 2001	Gr. Beta	340.0±51.0	252.0 - 428.0	343.0±1.7;52.9
STW-918	Water	Apr, 2001	Sr-89	64.1±5.0	55.5 - 72.8	62.8±5.7;8.5
STW-918	Water	Apr, 2001	Sr-90	33.8±5.0	25.1 - 42.5	34.2±1.6;3.8
STW-919	Water	Jun, 2001	Ba-133	36.0±5.0	27.3 - 44.7	37.8±1.2;5.6
STW-919	Water	Jun, 2001	Co-60	46.8±5.0	38.1 - 55.5	49.9±0.7;7.2
STW-919	Water	Jun, 2001	Cs-134	15.9±5.0	7.2 - 24.6	16.0±1.4;2.7
STW-919	Water	Jun, 2001	Cs-137	197.0±9.9	180.0 - 214.0	208.0±1.7;30.0
STW-919	Water	Jun, 2001	Zn-65	36.2±5.0	27.5 - 44.9	37.8±0.7;5.5
STW-920	Water	Jun, 2001	Ra-226	15.4±2.3	11.4 - 19.4	14.6±0.4;1.5
STW-920	Water	Jun, 2001	Ra-228	4.5±1.1	2.6 - 6.5	6.2±0.2;0.7
STW-920	Water	Jun, 2001	Uranium	55.7±5.6	46.1 - 65.3	49.0±1.0;5.0

Table IV-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA), comparison of ERA and Environmental, Inc. Midwest Laboratory results.[a]

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L[b] ERA Result[c]	Control Limits	Laboratory results[d]
STW-921	Water	Jul, 2001	Sr-89	31.2±5.0	22.5 - 39.9	19.8±1.5;2.5
		Delay in processing may have attributed to deviation. Result of reanalysis; Sr-89, 35.3 ± 4.4 pCi/L. Sr-90, 25.0 ± 2.8 pCi/L.				
STW-921	Water	Jul, 2001	Sr-90	25.9±5.0	17.2 - 34.6	26.3±1.1;2.9
STW-922	Water	Jul, 2001	Gr. Alpha	17.8±5.0	9.1 - 26.5	23.3±1.9;3.4
STW-922	Water	Jul, 2001	Gr. Beta	53.0±10.0	35.7 - 70.3	48.5±4.6;8.8
STW-924	Water	Aug, 2001	H-3	2730.0±356.0	2110.0 - 3350.0	2680.0±41.9;366.9
STW-931	Water	Sep, 2001	Ra-226	10.8±1.6	8.0 - 13.6	10.9±0.2;1.1
STW-931	Water	Sep, 2001	Ra-228	9.0±2.2	5.1 - 12.8	9.7±1.1;1.5
STW-931	Water	Sep, 2001	Uranium	13.1±3.0	7.9 - 18.3	11.2±0.1;1.1
STW-932	Water	Oct, 2001	I-131	7.7±2.0	4.2 - 11.2	7.7±0.3;0.8
STW-933	Water	Oct, 2001	Gr. Alpha	97.5±24.4	55.3 - 140.0	82.2±4.0;10.8
STW-933	Water	Oct, 2001	Ra-226	10.8±1.6	8.0 - 13.6	9.5±1.2;1.5
STW-933	Water	Oct, 2001	Ra-228	15.6±3.9	8.9 - 22.4	17.0±0.8;1.9
STW-933	Water	Oct, 2001	Uranium	37.2±3.7	30.7 - 43.6	32.2±1.4;3.5
STW-934	Water	Oct, 2001	Co-60	78.4±5.0	69.7 - 87.1	82.4±0.9;11.9
STW-934	Water	Oct, 2001	Cs-134	54.1±5.0	45.4 - 62.8	52.2±1.3;7.6
STW-934	Water	Oct, 2001	Cs-137	37.9±5.0	26.3 - 43.7	39.4±0.6;5.7
STW-934	Water	Oct, 2001	Gr. Beta	192.0±28.8	142.0 - 242.0	166.0±7.1;26.5
STW-934	Water	Oct, 2001	Sr-89	16.7±5.0	8.0 - 25.4	12.8±0.8;1.5
STW-934	Water	Oct, 2001	Sr-90	7.7±5.0	-1.0 - 16.4	6.8±0.7;0.9
STW-935	Water	Oct, 2001	Gr. Alpha	64.0±16.0	36.5 - 91.5	63.5±2.5;8.1
STW-935	Water	Oct, 2001	Gr. Beta	21.5±5.0	12.8 - 30.2	26.0±1.2;4.2
STW-938	Water	Nov, 2001	Ba-133	69.3±6.9	57.5 - 81.1	66.7±1.2;9.7
STW-938	Water	Nov, 2001	Co-60	59.7±5.0	51.0 - 68.4	59.3±0.6;8.6
STW-938	Water	Nov, 2001	Cs-134	93.9±5.0	85.2 - 103.0	86.7±1.5;12.6
STW-938	Water	Nov, 2001	Cs-137	42.0±5.0	33.3 - 50.7	45.0±1.0;6.6

Table IV-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA), comparison of ERA and Environmental, Inc. Midwest Laboratory results.[a]

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L[b] ERA Result[c]	Control Limits	Laboratory results[d]
STW-938	Water	Nov, 2001	Zn-65	77.3±7.7	63.9 - 90.7	80.7±0.6;11.6

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

[b] All results are in pCi/L, except for elemental potassium (K) data in milk, which are in mg/L; air filter samples, which are in pCi/Filter.

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

[d] Unless otherwise indicated, the result is given as the mean ± standard deviation for three determinations. The number after the semi-colon reflect Total Propagated Uncertainty for the result.

Table IV-2. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP) [a].

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/kg[b] MAPEP Result[d] 1s, N=1	Control Limits	Laboratory results ± Standard Deviation[c]
STSO-923	SOIL	Jan, 2001	Am-241		0.0 - 2.6	
Included in the testing series as a "false positive". No activity expected. Result of analysis; < 0.8 Bq/L.						
STSO-923	SOIL	Jan, 2001	Co-57	103.0 ± 10.3	72.1 - 133.9	100.2 ± 3.5 ; 10.6
STSO-923	SOIL	Jan, 2001	Co-60	1,270.0 ± 127.0	889.0 - 1,651.0	1,285.1 ± 5.3 ; 128.6
STSO-923	SOIL	Jan, 2001	Cs-134	91.1 ± 9.1	63.8 - 118.4	81.1 ± 1.8 ; 8.3
STSO-923	SOIL	Jan, 2001	Cs-137	1,240.0 ± 124.0	868.0 - 1,612.0	1,210.6 ± 6.6 ; 121.2
STSO-923	SOIL	Jan, 2001	K-40	652.0 ± 65.2	456.4 - 847.6	732.6 ± 21.2 ; 76.3
STSO-923	SOIL	Jan, 2001	Mn-54	203.0 ± 20.3	142.1 - 263.9	212.6 ± 6.7 ; 22.3
STSO-923	SOIL	Jan, 2001	Pu-238	115.0 ± 11.5	80.5 - 149.5	110.7 ± 7.2 ; 13.2
STSO-923	SOIL	Jan, 2001	Pu-239/40	83.4 ± 8.3	58.4 - 108.4	79.6 ± 5.9 ; 9.9
STSO-923	SOIL	Jan, 2001	Sr-90	209.0 ± 20.9	146.3 - 271.7	159.8 ± 9.5 ; 18.6
STSO-923	SOIL	Jan, 2001	U-233/4	60.0 ± 6.0	42.0 - 78.0	45.0 ± 3.9 ; 6.0
STSO-923	SOIL	Jan, 2001	U-238	191.0 ± 19.1	133.7 - 248.3	165.6 ± 7.4 ; 18.1
STSO-923	SOIL	Jan, 2001	Zn-65	382.0 ± 38.2	267.4 - 496.6	428.5 ± 10.9 ; 44.2

[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.

Table IV-3. Environmental Measurements Laboratory Quality Assessment Program (EML)[a].

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/L[b] Laboratory Result[c]	EML Result[d]	Control Limits[e]
STSO-904	Soil	Mar, 2001	Ac-228	45.6 ± 4.0; 6.1	42.7 ± 1.7	0.8 - 1.5
STSO-904	Soil	Mar, 2001	Am-241	14.4 ± 0.5; 1.5	14.8 ± 0.5	0.6 - 2.6
STSO-904	Soil	Mar, 2001	Bi-212	53.2 ± 3.1; 6.2	42.0 ± 4.1	0.5 - 1.2
Naturally-occurring radium and thorium daughters are present in the shield background, and a probable cause of the higher bias seen for isotopes of lead and bismuth.						
STSO-904	Soil	Mar, 2001	Bi-214	42.1 ± 7.7; 8.8	32.6 ± 1.4	0.8 - 1.5
STSO-904	Soil	Mar, 2001	Cs-137	1,772.6 ± 79.8; 194.4	1,740.0 ± 90.0	0.8 - 1.3
STSO-904	Soil	Mar, 2001	K-40	583.8 ± 52.6; 78.6	468.0 ± 25.0	0.8 - 1.4
STSO-904	Soil	Mar, 2001	Pb-212	46.6 ± 8.5; 9.7	41.5 ± 2.2	0.7 - 1.4
STSO-904	Soil	Mar, 2001	Pb-214	45.3 ± 8.6; 9.7	34.3 ± 1.6	0.8 - 1.5
STSO-904	Soil	Mar, 2001	Pu-239/40	26.0 ± 0.8; 2.7	25.6 ± 0.7	0.7 - 1.3
STSO-904	Soil	Mar, 2001	Sr-90	55.6 ± 2.2; 6.0	69.0 ± 5.7	0.6 - 3.9
STW-905	Water	Mar, 2001	Am-241	2.2 ± 0.1; 0.3	1.7 ± 0.1	0.8 - 1.5
STW-905	Water	Mar, 2001	Co-60	97.0 ± 0.8; 14.0	98.2 ± 3.6	0.8 - 1.2
STW-905	Water	Mar, 2001	Cs-137	70.1 ± 4.0; 10.9	73.0 ± 3.7	0.8 - 1.2
STW-905	Water	Mar, 2001	H-3	76.5 ± 5.5; 11.8	79.3 ± 2.0	0.7 - 2.3
STW-905	Water	Mar, 2001	Pu-238	1.7 ± 0.1; 0.2	1.6 ± 0.1	0.7 - 1.2
STW-905	Water	Mar, 2001	Pu-239/40	1.7 ± 0.1; 0.2	1.6 ± 0.1	0.8 - 1.3
STW-905	Water	Mar, 2001	Sr-90	3.9 ± 0.1; 0.4	4.4 ± 0.2	0.6 - 1.5
STW-905	Water	Mar, 2001	U-233/4	0.9 ± 0.1; 0.1	1.0 ± 0.1	0.8 - 1.4
STW-905	Water	Mar, 2001	U-238	0.9 ± 0.1; 0.1	1.0 ± 0.0	0.8 - 1.3
STW-906	Water	Mar, 2001	Gr. Alpha	1,724.6 ± 141.7; 253.7	1,900.0 ± 190.0	0.6 - 1.3
STW-906	Water	Mar, 2001	Gr. Beta	1,246.4 ± 31.1; 194.4	1,297.0 ± 100.0	0.6 - 1.5
STAP-907	Air Filter	Mar, 2001	Am-241	0.5 ± 0.0; 0.1	0.5 ± 0.0	0.7 - 2.4
STAP-907	Air Filter	Mar, 2001	Co-60	20.1 ± 0.2; 2.0	19.4 ± 0.5	0.8 - 1.3
STAP-907	Air Filter	Mar, 2001	Cs-134	2.7 ± 0.2; 0.3	2.8 ± 0.2	0.7 - 1.2
STAP-907	Air Filter	Mar, 2001	Cs-137	9.9 ± 0.2; 1.0	8.8 ± 0.3	0.8 - 1.4
STAP-907	Air Filter	Mar, 2001	Mn-54	7.3 ± 0.2; 0.8	6.5 ± 0.3	0.8 - 1.4
STAP-907	Air Filter	Mar, 2001	Pu-238	0.2 ± 0.0; 0.0	0.2 ± 0.0	0.7 - 1.4
STAP-907	Air Filter	Mar, 2001	Pu-239/40	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.7 - 1.3
STAP-907	Air Filter	Mar, 2001	Sr-90	7.4 ± 0.2; 0.8	7.1 ± 0.2	0.6 - 2.1
STAP-907	Air Filter	Mar, 2001	U-233/4	0.1 ± 0.0; 0.0	0.0 ± 0.0	0.8 - 1.9
STAP-907	Air Filter	Mar, 2001	U-238	0.1 ± 0.0; 0.0	0.0 ± 0.0	0.8 - 1.6
STAP-908	Air Filter	Mar, 2001	Gr. Alpha	2.7 ± 0.0; 0.3	4.0 ± 0.3	0.6 - 1.5
STAP-908	Air Filter	Mar, 2001	Gr. Beta	2.3 ± 0.0; 0.2	2.6 ± 0.2	0.8 - 1.5

Table IV-3. Environmental Measurements Laboratory Quality Assessment Program (EML)[a].

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/L[b] Laboratory Result[c]	EML Result[d]	Control Limits[e]
STVE-909	Vegetation	Mar, 2001	Am-241	6.1 ± 0.2; 0.6	6.2 ± 0.3	0.7 - 2.3
STVE-909	Vegetation	Mar, 2001	Cm-244	3.5 ± 0.5; 0.6	3.7 ± 0.3	0.6 - 1.6
STVE-909	Vegetation	Mar, 2001	Co-60	28.5 ± 2.1; 4.4	30.4 ± 1.2	0.8 - 1.5
STVE-909	Vegetation	Mar, 2001	Cs-137	795.5 ± 76.4; 132.4	842.0 ± 42.0	0.8 - 1.4
STVE-909	Vegetation	Mar, 2001	K-40	592.6 ± 42.5; 72.9	603.0 ± 32.0	0.8 - 1.4
STVE-909	Vegetation	Mar, 2001	Pu-239/40	8.5 ± 0.6; 1.0	9.6 ± 1.3	0.7 - 1.5
STVE-909	Vegetation	Mar, 2001	Sr-90	1,239.6 ± 130.0; 179.6	1,330.0 ± 70.0	0.5 - 1.2
STW-925	Water	Sep, 2001	Am-241	0.7 ± 0.1; 0.1	0.8 ± 0.0	0.8 - 1.5
STW-925	Water	Sep, 2001	Co-60	206.7 ± 4.7; 30.1	209.0 ± 7.6	0.8 - 1.2
STW-925	Water	Sep, 2001	Cs-137	46.6 ± 0.8; 6.8	45.1 ± 2.5	0.8 - 1.2
STW-925	Water	Sep, 2001	H-3	254.1 ± 3.6; 34.7	207.0 ± 2.7	0.7 - 2.3
STW-925	Water	Sep, 2001	Ni-63	50.9 ± 3.0; 5.9	45.3 ± 4.5	0.7 - 1.3
STW-925	Water	Sep, 2001	Pu-238	1.1 ± 0.1; 0.1	1.1 ± 0.1	0.7 - 1.2
STW-925	Water	Sep, 2001	Pu-239/40	1.6 ± 0.1; 0.2	1.6 ± 0.1	0.8 - 1.3
STW-925	Water	Sep, 2001	Sr-90	4.1 ± 0.3; 0.5	3.7 ± 0.4	0.6 - 1.5
STW-925	Water	Sep, 2001	Uranium	2.2 ± 0.2; 0.3	2.4 ± 0.1	0.7 - 1.4
STW-926	Water	Sep, 2001	Gr. Alpha	1,220.0 ± 32.0; 152.2	1,150.0 ± 115.0	0.6 - 1.3
STW-926	Water	Sep, 2001	Gr. Beta	8,461.0 ± 206.0; 1,319.2	7,970.0 ± 800.0	0.6 - 1.5
STSO-927	Soil	Sep, 2001	Ac-228	68.1 ± 1.4; 7.0	59.6 ± 2.1	0.8 - 1.5
STSO-927	Soil	Sep, 2001	Am-241	5.2 ± 1.3; 1.4	4.4 ± 0.3	0.6 - 2.6
STSO-927	Soil	Sep, 2001	Bi-212	65.1 ± 1.6; 6.7	62.1 ± 5.2	0.5 - 1.2
STSO-927	Soil	Sep, 2001	Bi-214	47.3 ± 4.7; 6.7	36.9 ± 1.5	0.8 - 1.5
STSO-927	Soil	Sep, 2001	Cs-137	659.2 ± 10.8; 66.8	612.3 ± 30.6	0.8 - 1.3
STSO-927	Soil	Sep, 2001	K-40	737.7 ± 16.6; 75.6	623.3 ± 33.0	0.8 - 1.4
STSO-927	Soil	Sep, 2001	Pb-212	64.7 ± 3.8; 7.5	58.3 ± 3.1	0.7 - 1.4
STSO-927	Soil	Sep, 2001	Pb-214	53.7 ± 7.7; 9.4	39.7 ± 1.7	0.8 - 1.5
STSO-927	Soil	Sep, 2001	Pu-239/40	9.3 ± 2.9; 3.0	8.9 ± 0.3	0.7 - 1.3
STSO-927	Soil	Sep, 2001	Sr-90	27.4 ± 6.3; 6.9	30.6 ± 1.1	0.6 - 3.9
STSO-927	Soil	Sep, 2001	Uranium	155.6 ± 7.8; 17.4	194.2 ± 3.8	0.6 - 1.4
STVE-928	Vegetation	Sep, 2001	Am-241	7.0 ± 0.3; 0.8	6.9 ± 0.4	0.7 - 2.3
STVE-928	Vegetation	Sep, 2001	Cm-244	4.3 ± 0.8; 0.9	4.3 ± 1.0	0.6 - 1.6
STVE-928	Vegetation	Sep, 2001	Co-60	40.2 ± 0.9; 5.5	35.3 ± 1.4	0.8 - 1.5
STVE-928	Vegetation	Sep, 2001	Cs-137	1,184.0 ± 2.8; 161.0	1,030.0 ± 51.8	0.8 - 1.4
STVE-928	Vegetation	Sep, 2001	K-40	1,023.0 ± 44.1; 111.4	898.7 ± 48.2	0.8 - 1.4
STVE-928	Vegetation	Sep, 2001	Pu-239/40	8.9 ± 1.4; 1.7	11.0 ± 0.4	0.7 - 1.5

Table IV-3. Environmental Measurements Laboratory Quality Assessment Program (EML)[a].

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/L[b] Laboratory Result[c]	EML Result[d]	Control Limits[e]
STVE-928	Vegetation	Sep, 2001	Sr-90	1,364.0 ± 18.4; 137.6	1,612.8 ± 48.6	0.5 - 1.2
STAP-929	Air Filter	Sep, 2001	Am-241	0.1 ± 30.0; 30.0	0.1 ± 0.0	0.7 - 2.4
STAP-929	Air Filter	Sep, 2001	Co-60	16.9 ± 0.3; 1.7	17.5 ± 0.5	0.8 - 1.3
STAP-929	Air Filter	Sep, 2001	Cs-134	11.8 ± 0.2; 1.2	13.0 ± 0.4	0.7 - 1.2
STAP-929	Air Filter	Sep, 2001	Cs-137	18.3 ± 0.3; 1.9	17.1 ± 0.6	0.8 - 1.4
STAP-929	Air Filter	Sep, 2001	Mn-54	85.4 ± 1.3; 8.6	81.2 ± 4.8	0.8 - 1.4
STAP-929	Air Filter	Sep, 2001	Pu-238	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.7 - 1.4
STAP-929	Air Filter	Sep, 2001	Pu-239/40	0.2 ± 0.0; 0.0	0.2 ± 0.0	0.7 - 1.3
STAP-929	Air Filter	Sep, 2001	Sr-90	3.1 ± 0.1; 0.3	3.5 ± 0.2	0.6 - 2.1
STAP-929	Air Filter	Sep, 2001	Uranium	0.2 ± 0.1; 0.1	0.2 ± 0.0	0.8 - 2.5
STAP-930	Air Filter	Sep, 2001	Gr. Alpha	6.3 ± 0.1; 0.6	5.4 ± 0.5	0.6 - 1.5
STAP-930	Air Filter	Sep, 2001	Gr. Beta	13.8 ± 0.1; 1.4	12.8 ± 1.3	0.8 - 1.5

[a] The Environmental Measurements Laboratory provides the following nuclear species : Air Filters, Soil, Vegetation and Water.

[b] Results are reported in Bq/L with the following exceptions: Air Filter results are reported in Bq/Filter, Soil results are reported in Bq/Kg, Vegetation results are reported in Bq/Kg.

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

[d]The control limits are reported by EML as the ratio of Reported Value / EML value and are established from percentiles of historic data distributions (1982-1992). The evaluation of this historic data and the development of the control limits is presented in DOE report EML-564.