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

Subject: 2000 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 15 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 P. Reister, Regulatory Assurance Manager, at (815) 234-5441, extension 2280.

Respectfully,



Richard P. Lopriore
Site Vice President
Byron Nuclear Generating Station

RPL/DAT/ba/dpk

Attachment

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

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BYRON STATION
ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING
REPORT

2000

APRIL 2001

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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 1120 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 $4.52\text{E-}03$ 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 2000.

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

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

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

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

A total of 2.36E+00 curies of fission and activation gases was released with a maximum quarterly release rate of 3.10E+00 $\mu\text{Ci/sec}$, for both units.

A total of 1.54E-06 curies of I-131 and I-133 was released during the year with a maximum quarterly average release rate of 1.94E-07 $\mu\text{Ci/sec}$.

A total of 5.22E-06 curies of beta emitters was released as airborne particulate matter with a maximum quarterly average release rate of 3.08E-07 $\mu\text{Ci/sec}$. Alpha-emitting radionuclides were below detectable limits.

A total of 3.09E+00 curies of tritium was released with a maximum average quarterly release rate of 1.32E-01 $\mu\text{Ci/sec}$.

1.2 Liquids Released to Rock River

A total of 9.20E+06 liters of radioactive liquid waste (prior to dilution) containing 2.17E-01 curies (excluding tritium, noble gases and alpha) were discharged from the station. These wastes were released at a maximum quarterly average concentration of 1.55E-08 $\mu\text{Ci/ml}$. A total of 2.31E+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 to Barnwell, South Carolina; Oak Ridge, Tennessee; Wampum, Pennsylvania and Richland, Washington. For detail, refer to Byron Station 2000 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 $8.85\text{E-}06$ 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 $6.29\text{E-}06$ mrem (Table 3.4-1). The maximum gamma air dose was $1.23\text{E-}05$ mrad (Table 3.1-1) based on measured effluents and average meteorological data, and $1.10\text{E-}05$ mrad based on concurrent meteorological data (Table 3.4-1).

3.1.1.2 Beta Air and Skin Dose Rates

The range of beta particles in air is relatively small (on the order of a few meters or less); consequently, plumes of gaseous effluents may be considered "infinite" for the purpose of calculating the dose from beta radiation incident on the skin. However, the actual dose to sensitive skin tissues is difficult to calculate due to the effect of the beta particle energies, thickness of inert skin and clothing covering sensitive tissues. For purposes of this report the skin is taken to have a thickness of 7.0 mg/cm^2 and an occupancy factor of 1.0 is used. The skin dose from beta and gamma radiation for the year, based on measured effluents and average meteorological data, was $2.25\text{E-}05$ mrem (Table 3.1-1). The skin dose based on concurrent meteorological data was $1.73\text{E-}05$ mrem (Table 3.4-1).

The air concentrations of radioactive noble gases at the offsite receptor locations are given in Figure 3.1-2. The maximum offsite beta air dose for the year, based on measured effluents and average meteorological data, was $3.77\text{E-}05$ mrad (Table 3.1-1). The beta air dose based on concurrent meteorological data was $2.11\text{E-}05$ mrad (Table 3.4-1).

3.1.2 Radioactive Iodine

The human thyroid exhibits a significant capacity to concentrate ingested or inhaled iodine. The minimal levels of radioiodine, I-131, released during routine operation of the station may be made available to man resulting in a dose to the thyroid. The principal pathway of interest for this radionuclide is ingestion of radioiodine in milk. Calculations made for 2000 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 $3.20\text{E}+00 \text{ pCi/m}^3$ 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 $3.30\text{E}-03 \text{ mrem}$ 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 $2.39\text{E}-07 \text{ pCi/m}^3$ (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 ComEd Offsite Dose Calculation Manual. The maximum whole body dose for the year was $4.60\text{E}-03 \text{ mrem}$ (child) and no organ dose exceeded $5.00\text{E}-03 \text{ mrem}$ (Table 3.2-1 [adult]).

3.3 Assessment of Dose to Member of Public

During the period January to December, 2000, Byron Station did not exceed these limits as shown in Table 3.1-1 and Table 3.2-1 (based on yearly average meteorological data), and as shown in Figure 3.1-1 (based on concurrent meteorological data), and as shown in Table 3.3-1:

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

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

- 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 99.6% during 2000 (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 $\text{CaSO}_4:\text{Tm}$ thermoluminescent dosimeters (TLDs). Each location consists of 2 TLD sets. The quarterly average external radiation dose for the year was 16.1 mR at the indicator locations and 13.2 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 14.4 mR and was similar to that measured in 1985 (14.4 mR), 1986 (14.9 mR), 1987 (15.3 mR), 1988 (15.2 mR), 1989 (14.6 mR), 1990 (14.5 mR), 1991 (14.3 mR), 1992 (13.6 mR),

1993 (14.2 mR), 1994 (14.9 mR), 1995 (14.9 mR), 1996 (15.4 mR), 1997 (13.8 mR), 1998 (14.7 mR) and 1999 (13.9 mR). These differences are not statistically significant.

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 0.009 to 0.058 pCi/m^3 and averaged 0.025 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) and 1999 (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 August and analyzed for gamma-emitting nuclides. In addition, broad leaf vegetables were analyzed for Iodine-131. 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 1999.

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 1999.

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 3.4 pCi/L , ranging from 1.9 to 4.5 pCi/L ; BY-29 (Byron, Upstream) gross beta averaged 3.0 pCi/L , ranging from 1.0 to 4.6 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 1999.

At Oregon Pool of Rock River, Downstream (BY-12) tritium averaged 1,465 pCi/L, ranging from 95 to 3,704 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 1999.

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 1999.

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 1999, 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

Milk location BY-26, Glenn Hazzard Dairy, asked to be removed from the program in May, 2000. New location BY-26-1 (Dennis Herbert) was added to the program in June, 2000.

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 14, 2000. 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 14, 2000.

Results of the nearest residence census are presented 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 2000.

Byron

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, 2000 THROUGH DECEMBER, 2000

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

UNITS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
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A. FISSION AND ACTIVATION GAS RELEASES

1. Total Release Activity:	Ci	1.44E-01	1.76E-01	3.19E-01	5.91E-01
2. Maximum Release Rate for Quarter:	uCi/sec	2.06E+00	1.77E+00	3.10E+00	1.23E+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	1.54E-06
2. Average I-131 Release Rate:	uCi/sec	0.00E+00	0.00E+00	0.00E+00	1.94E-07

C. PARTICULATE (>8 day half-life) RELEASES **

1. Total Particulate Activity:	Ci	<LLD	<LLD	9.91E-07	1.78E-06
2. Average Particulate Release Rate:	uCi/sec	0.00E+00	0.00E+00	1.25E-07	2.24E-07
3. Gross Alpha Activity for Quarter:	Ci	<LLD	<LLD	<LLD	<LLD

D. TRITIUM RELEASES **

1. Total Tritium Activity:	Ci	1.53E-01	1.73E-01	1.88E-01	3.31E-01
2. Average Tritium Release Rate:	uCi/sec	1.95E-02	2.20E-02	2.36E-02	4.16E-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, 2000 THROUGH DECEMBER, 2000

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	1.15E-01	2.05E-01	2.39E-01	5.75E-01
2. Maximum Release Rate for Quarter:	uCi/sec	2.06E+00	1.77E+00	3.10E+00	1.06E+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	<LLD	<LLD	2.45E-06
2. Average Particulate Release Rate:	uCi/sec	0.00E+00	0.00E+00	0.00E+00	3.08E-07
3. Gross Alpha Activity for Quarter:	Ci	<LLD	<LLD	<LLD	<LLD

D. TRITIUM RELEASES **

1. Total Tritium Activity:	Ci	3.85E-01	4.32E-01	1.05E+00	3.80E-01
2. Average Tritium Release Rate:	uCi/sec	4.90E-02	5.49E-02	1.32E-01	4.78E-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, 2000 THROUGH DECEMBER, 2000

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

UNITS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
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L. FISSION AND ACTIVATION PRODUCT RELEASES

1. Total Activity Released:
2. Average Concentration
Released For Quarter:

CI	5.19E-02	1.49E-02	4.38E-03	3.71E-02
uCi/ml	1.55E-08	4.52E-09	1.28E-09	1.19E-08

3. % of 10CFR50 Limits

- a. Quarterly Whole Body
(1.5 mrem):
b. Quarterly Any Organ
(5.0 mrem):
c. Annual Whole Body
(3.0 mrem):
d. Annual Any Organ
(10.0 mrem):

%	0.04	0.05	0.04	0.02
%	0.02	0.01	0.01	0.01
%	0.02	0.04	0.06	0.08
%	0.01	0.01	0.02	0.02

M. TRITIUM

1. Total Activity Released:
2. Average Concentration
Released For Quarter:
3. % of Tech Spec Limit
(1.00E-2 uCi/ml):

CI	2.87E+02	3.62E+02	3.33E+02	1.75E+02
uCi/ml	8.60E-05	1.10E-04	9.71E-05	5.60E-05
%	0.86	1.10	0.97	0.56

N. DISSOLVED NOBLE GASES

1. Total Activity Released:
2. Average Concentration
Released For Quarter:
3. % of Tech. Reqt. Manual Limit
(2.00E-4 uCi/ml):

CI	1.33E-03	2.82E-04	1.28E-03	6.37E-03
uCi/ml	3.97E-10	8.54E-11	3.75E-10	2.04E-09
%	0.00	0.00	0.00	0.00

O. GROSS ALPHA

1. Total Activity Released:
2. Average Concentration
Released For Quarter:

CI	<LLD	<LLD	<LLD	<LLD
uCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**P. VOLUME OF WASTE
RELEASED PER UNIT:**

liters	7.61E+05	8.07E+05	1.58E+06	1.45E+06
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**Q. VOLUME OF DILUTION
WATER PER UNIT:**

liters	3.34E+09	3.30E+09	3.43E+09	3.13E+09
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Table 1.2-1 (continued)

BYRON NUCLEAR POWER STATION
UNIT 2 DOCKET NUMBER STN-50-455
RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY, 2000 THROUGH DECEMBER, 2000

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

UNITS	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
-------	-------------	-------------	-------------	-------------

L. FISSION AND ACTIVATION PRODUCT RELEASES

1. Total Activity Released:
2. Average Concentration
Released For Quarter:

Cl	5.19E-02	1.49E-02	4.38E-03	3.71E-02
uCi/ml	1.55E-08	4.52E-09	1.28E-09	1.19E-08

3. % of 10CFR50 Limits

- a. Quarterly Whole Body
(1.5 mrem):
b. Quarterly Any Organ
(5.0 mrem):
c. Annual Whole Body
(3.0 mrem):
d. Annual Any Organ
(10.0 mrem):

%	0.04	0.05	0.04	0.02
%	0.02	0.01	0.01	0.01
%	0.02	0.04	0.06	0.08
%	0.01	0.01	0.02	0.02

M. TRITIUM

1. Total Activity Released:
2. Average Concentration
Released For Quarter:
3. % of Tech Spec Limit
(1.00E-2 uCi/ml):

Cl	2.87E+02	3.62E+02	3.33E+02	1.75E+02
uCi/ml	8.60E-05	1.10E-04	9.71E-05	5.80E-05
%	0.86	1.10	0.97	0.56

N. DISSOLVED NOBLE GASES

1. Total Activity Released:
2. Average Concentration
Released For Quarter:
3. % of Tech. Reqt. Manual Limit
(2.00E-4 uCi/ml):

Cl	1.33E-03	2.82E-04	1.28E-03	6.37E-03
uCi/ml	3.97E-10	8.54E-11	3.75E-10	2.04E-09
%	0.00	0.00	0.00	0.00

O. GROSS ALPHA

1. Total Activity Released:
2. Average Concentration
Released For Quarter:

Cl	<LLD	<LLD	<LLD	<LLD
uCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**P. VOLUME OF WASTE
RELEASED PER UNIT:**

liters	7.61E+05	8.07E+05	1.58E+06	1.45E+06
--------	----------	----------	----------	----------

**Q. VOLUME OF DILUTION
WATER PER UNIT:**

liters	3.34E+09	3.30E+09	3.43E+09	3.13E+09
--------	----------	----------	----------	----------

Figure 3.1-1

Estimated Cumulative Gamma Dose (in mrem)
from the Byron Station for the period
January-December 2000

Isopleth Labels

Small figure - multiply by 10^{-7}

Large figure - multiply by 10^{-8}

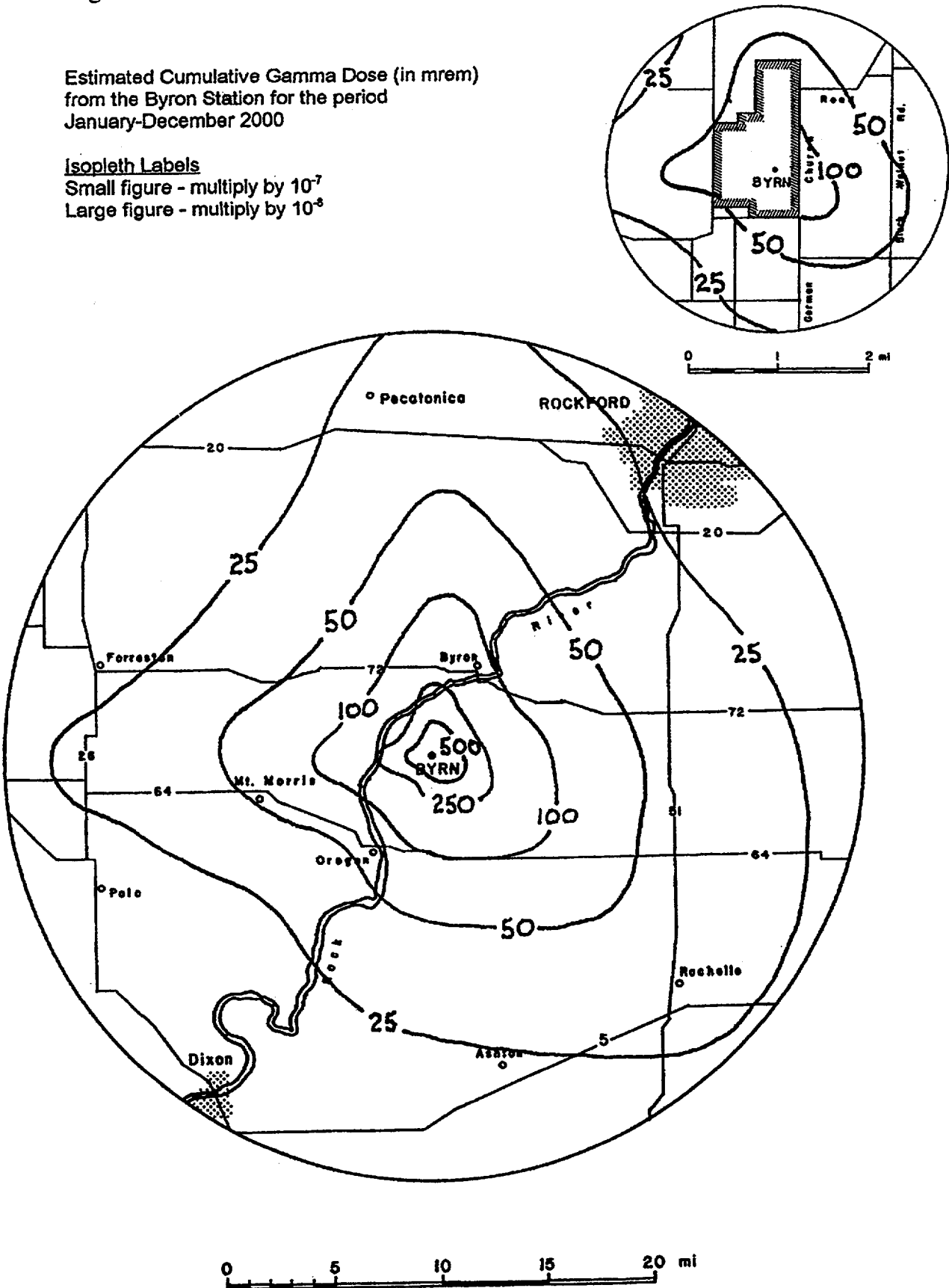


Figure 3.1-2

Estimated Total Concentrations (in pCi/m³)
of Noble Gases from the Byron Station
for the period January-December 2000

Isopleth Labels

Small figure - multiply by 10⁻³

Large figure - multiply by 10⁻⁴

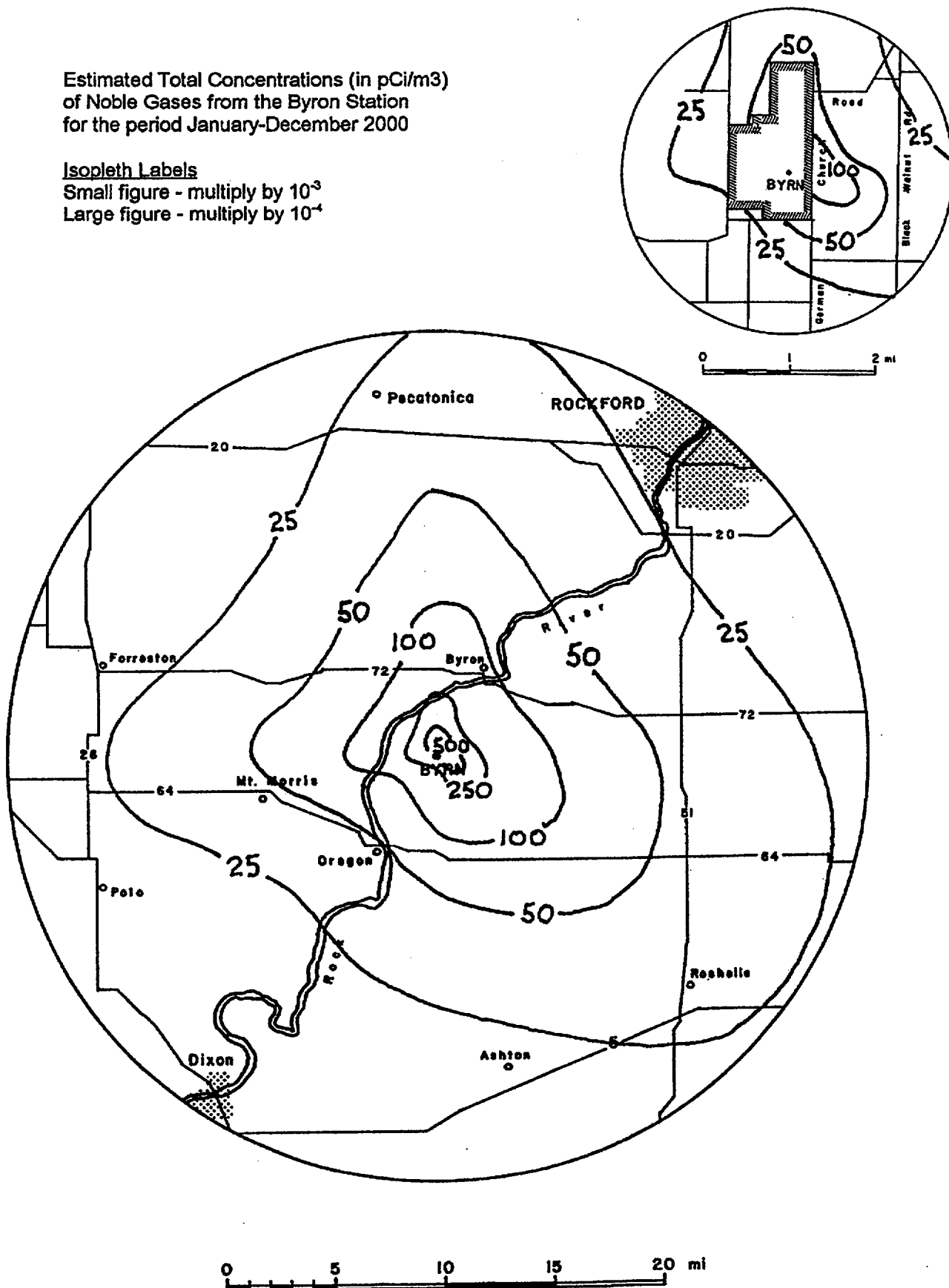


Figure 3.1-3

Estimated Total Concentrations (in pCi/m³)
of Iodines from the Byron Station for
the period January-December 2000

Isopleth Labels

Small figure - multiply by 10⁻²

Large figure - multiply by 10⁻³

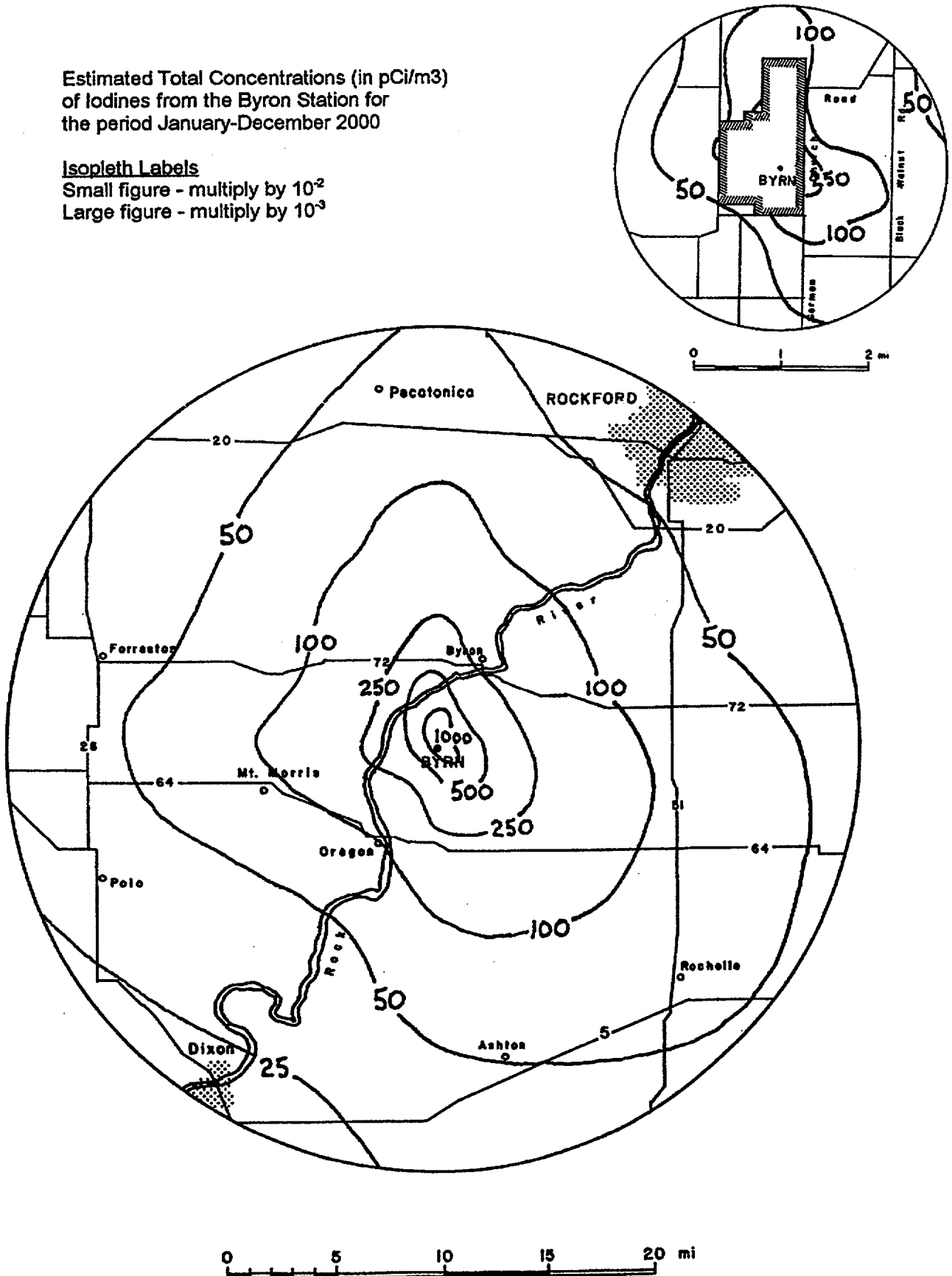


Figure 3.1-4

Estimated Total Concentrations (in pCi/m³)
of Particulates from the Byron Station
for the period January-December 2000

Isopleth Labels

Small figure - multiply by 10⁻⁹

Large figure - multiply by 10⁻¹⁰

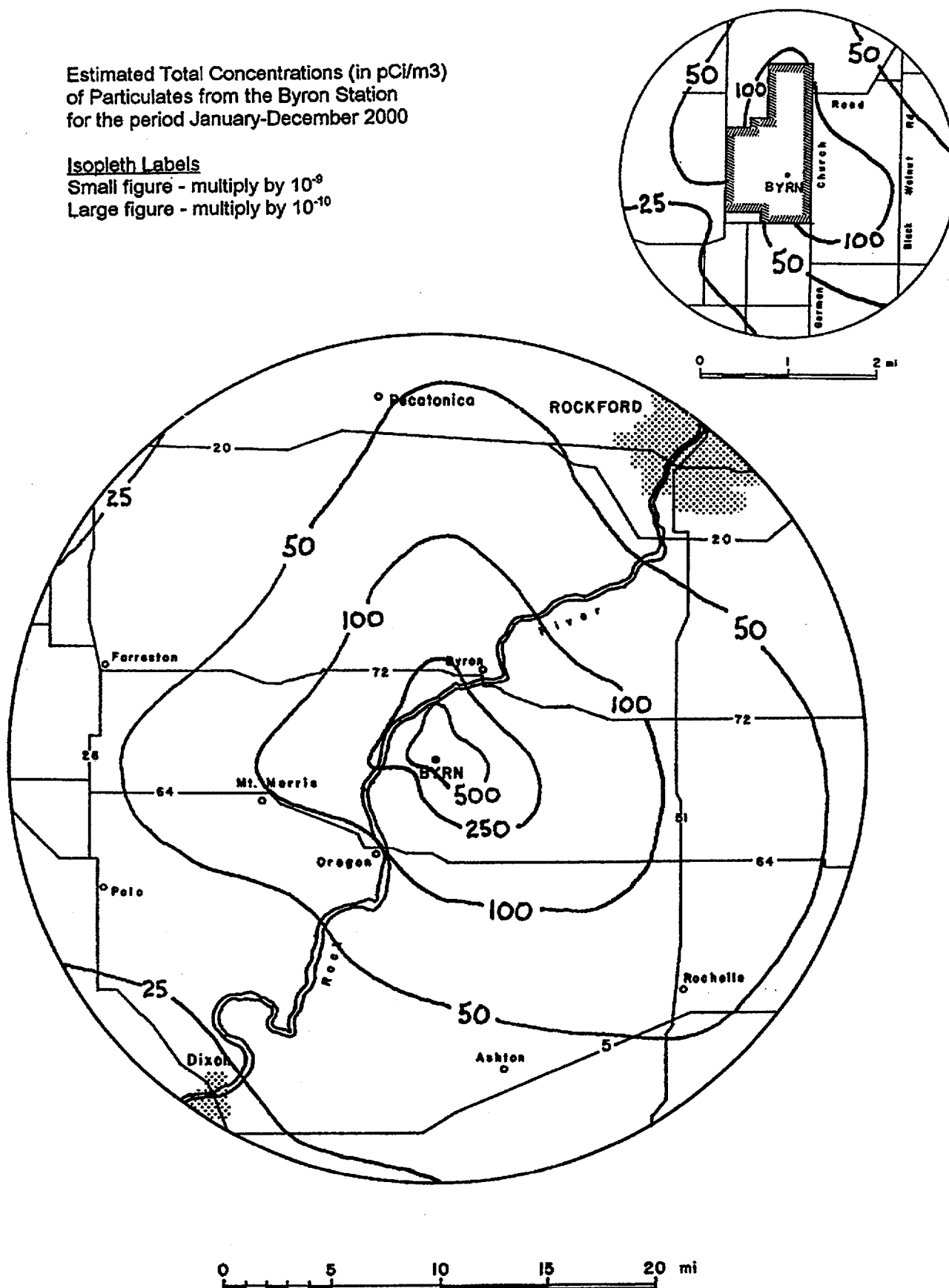


Table 3.1-1

BYRON STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/10/01
 INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	5.43E-07	9.18E-07	2.69E-06	2.27E-06	6.42E-06
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	2.17E-06	2.74E-06	5.78E-06	8.96E-06	1.97E-05
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	3.82E-07	6.59E-07	1.97E-06	1.60E-06	4.61E-06
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	1.07E-06	1.61E-06	4.59E-06	4.50E-06	1.18E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	6.73E-05	7.62E-05	8.28E-05	1.64E-04	3.90E-04
(MREM)	(NE)	(NE)	(NE)	(NE)	(NE)

THYROID	LIVER	LUNG	THYROID	THYROID
	THYROID			
	KIDNEY			
	LUNG			
	GI_LLI			

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
 INFANT RECEPTOR

----- % OF 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
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	0.00

THYROID	LIVER	LUNG	THYROID	THYROID
	THYROID			
	KIDNEY			
	LUNG			
	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 ONE

ACTUAL 2000

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/10/01

CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	5.43E-07 (SSE)	9.18E-07 (SSE)	2.69E-06 (SSE)	2.27E-06 (SSE)	6.42E-06 (SSE)
BETA AIR (MRAD)	2.17E-06 (SSE)	2.74E-06 (SSE)	5.78E-06 (SSE)	8.96E-06 (SSE)	1.97E-05 (SSE)
TOT. BODY (MREM)	3.82E-07 (SSE)	6.59E-07 (SSE)	1.97E-06 (SSE)	1.60E-06 (SSE)	4.61E-06 (SSE)
SKIN (MREM)	1.07E-06 (SSE)	1.61E-06 (SSE)	4.59E-06 (SSE)	4.50E-06 (SSE)	1.18E-05 (SSE)
ORGAN (MREM)	4.74E-05 (NE)	2.29E-04 (SSE)	3.25E-04 (SSE)	1.68E-04 (S)	7.24E-04 (SE)

THYROID	LIVER	GI_LLI	THYROID	THYROID
	THYROID			
	KIDNEY			
	LUNG			
	GI_LLI			

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I

CHILD RECEPTOR

----- % OF 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
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	0.00

THYROID	LIVER	GI_LLI	THYROID	THYROID
	THYROID			
	KIDNEY			
	LUNG			
	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 ONE

ACTUAL 2000

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/10/01

TEENAGER RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	5.43E-07	9.18E-07	2.69E-06	2.27E-06	6.42E-06
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	2.17E-06	2.74E-06	5.78E-06	8.96E-06	1.97E-05
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	3.82E-07	6.59E-07	1.97E-06	1.60E-06	4.61E-06
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	1.07E-06	1.61E-06	4.59E-06	4.50E-06	1.18E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	3.10E-05	1.50E-04	2.12E-04	1.20E-04	4.80E-04
(MREM)	(NE)	(SSE)	(SSE)	(S)	(SE)

THYROID	LIVER	GI_LLI	THYROID	THYROID
	THYROID			
	KIDNEY			
	LUNG			
	GI_LLI			

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
TEENAGER RECEPTOR

----- % OF 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
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	0.00

THYROID	LIVER	GI_LLI	THYROID	THYROID
	THYROID			
	KIDNEY			
	LUNG			
	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 ONE

ACTUAL 2000

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/10/01

ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	5.43E-07 (SSE)	9.18E-07 (SSE)	2.69E-06 (SSE)	2.27E-06 (SSE)	6.42E-06 (SSE)
BETA AIR (MRAD)	2.17E-06 (SSE)	2.74E-06 (SSE)	5.78E-06 (SSE)	8.96E-06 (SSE)	1.97E-05 (SSE)
TOT. BODY (MREM)	3.82E-07 (SSE)	6.59E-07 (SSE)	1.97E-06 (SSE)	1.60E-06 (SSE)	4.61E-06 (SSE)
SKIN (MREM)	1.07E-06 (SSE)	1.61E-06 (SSE)	4.59E-06 (SSE)	4.50E-06 (SSE)	1.18E-05 (SSE)
ORGAN (MREM)	4.30E-05 (S)	1.38E-04 (S)	1.89E-04 (SE)	1.44E-04 (S)	5.08E-04 (S)

THYROID	LIVER	GI_LLI	THYROID	THYROID
	THYROID			
	KIDNEY			
	LUNG			
	GI_LLI			

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF 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
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	0.00

THYROID	LIVER	GI_LLI	THYROID	THYROID
	THYROID			
	KIDNEY			
	LUNG			
	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 2000

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/10/01

INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	4.30E-07	9.18E-07	1.98E-06	2.58E-06	5.91E-06
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	1.73E-06	3.16E-06	4.25E-06	8.86E-06	1.80E-05
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	3.02E-07	6.53E-07	1.45E-06	1.84E-06	4.24E-06
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	8.45E-07	1.71E-06	3.33E-06	4.80E-06	1.07E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	1.69E-04	1.90E-04	4.62E-04	1.67E-04	9.88E-04
(MREM)	(NE)	(NE)	(NE)	(NE)	(NE)
	LIVER	LIVER	THYROID	LUNG	THYROID
	THYROID	THYROID			
	KIDNEY	KIDNEY			
	LUNG	LUNG			
	GI_LLI	GI_LLI			

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I

INFANT RECEPTOR

----- % OF 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
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	LIVER	THYROID	LUNG		THYROID
		THYROID	THYROID				
		KIDNEY	KIDNEY				
		LUNG	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 2000

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/10/01

CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	4.30E-07 (SSE)	9.18E-07 (SSE)	1.98E-06 (SSE)	2.58E-06 (SSE)	5.91E-06 (SSE)
BETA AIR (MRAD)	1.73E-06 (SSE)	3.16E-06 (SSE)	4.25E-06 (SSE)	8.86E-06 (SSE)	1.80E-05 (SSE)
TOT. BODY (MREM)	3.02E-07 (SSE)	6.53E-07 (SSE)	1.45E-06 (SSE)	1.84E-06 (SSE)	4.24E-06 (SSE)
SKIN (MREM)	8.45E-07 (SSE)	1.71E-06 (SSE)	3.33E-06 (SSE)	4.80E-06 (SSE)	1.07E-05 (SSE)
ORGAN (MREM)	1.19E-04 (NE)	5.14E-04 (SSE)	1.81E-03 (SSE)	2.26E-04 (S)	2.58E-03 (SSE)
	LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	THYROID	GI_LLI	THYROID

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
CHILD RECEPTOR

----- % OF 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
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	0.01	0.02	0.00	15.0	0.02
		LIVER THYROID KIDNEY LUNG GI_LLI	LIVER THYROID KIDNEY LUNG GI_LLI	THYROID	GI_LLI		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 2000

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/10/01

TEENAGER RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	4.30E-07	9.18E-07	1.98E-06	2.58E-06	5.91E-06
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	1.73E-06	3.16E-06	4.25E-06	8.86E-06	1.80E-05
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	3.02E-07	6.53E-07	1.45E-06	1.84E-06	4.24E-06
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	8.45E-07	1.71E-06	3.33E-06	4.80E-06	1.07E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	7.76E-05	3.36E-04	1.18E-03	1.59E-04	1.69E-03
(MREM)	(NE)	(SSE)	(SSE)	(S)	(SE)
	LIVER	LIVER	THYROID	GI_LLI	GI_LLI
	THYROID	THYROID			
	KIDNEY	KIDNEY			
	LUNG	LUNG			
	GI_LLI	GI_LLI			

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I

TEENAGER RECEPTOR

----- % OF 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
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	0.02	0.00	15.0	0.01
		LIVER	LIVER	THYROID	GI_LLI		GI_LLI
		THYROID	THYROID				
		KIDNEY	KIDNEY				
		LUNG	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 2000

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/10/01
ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	4.30E-07	9.18E-07	1.98E-06	2.58E-06	5.91E-06
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
BETA AIR	1.73E-06	3.16E-06	4.25E-06	8.86E-06	1.80E-05
(MRAD)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
TOT. BODY	3.02E-07	6.53E-07	1.45E-06	1.84E-06	4.24E-06
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
SKIN	8.45E-07	1.71E-06	3.33E-06	4.80E-06	1.07E-05
(MREM)	(SSE)	(SSE)	(SSE)	(SSE)	(SSE)
ORGAN	1.08E-04	3.21E-04	1.05E-03	1.83E-04	1.63E-03
(MREM)	(S)	(S)	(SE)	(S)	(S)
	LIVER	LIVER	THYROID	GI_LLI	GI_LLI
	THYROID	THYROID			
	KIDNEY	KIDNEY			
	LUNG	LUNG			
	GI_LLI	GI_LLI			

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

----- % OF 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
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	LIVER	THYROID	GI_LLI		GI_LLI
		THYROID	THYROID				
		KIDNEY	KIDNEY				
		LUNG	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 3.2-1

BYRON STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/28/01
 INFANT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	4.95E-04	6.23E-04	5.73E-04	3.03E-04	1.99E-03
BODY					
INTERNAL	4.96E-04	6.23E-04	5.73E-04	3.03E-04	2.00E-03
ORGAN					
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF 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
TOTAL BODY (MREM)	1.5	0.03	0.04	0.04	0.02	3.0	0.07
CRIT. ORGAN (MREM)	5.0	0.01	0.01	0.01	0.01	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 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/28/01
 CHILD RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	5.77E-04	7.10E-04	6.54E-04	3.59E-04	2.30E-03
BODY					
INTERNAL	6.67E-04	7.17E-04	6.61E-04	4.20E-04	2.46E-03
ORGAN					
	GI_LLI	GI_LLI	LIVER	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF 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
TOTAL BODY (MREM)	1.5	0.04	0.05	0.04	0.02	3.0	0.08
CRIT. ORGAN (MREM)	5.0	0.01	0.01	0.01	0.01	10.0	0.02
		GI_LLI	GI_LLI	LIVER	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 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/28/01
 TEENAGER RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	3.48E-04	4.25E-04	3.95E-04	2.18E-04	1.39E-03
BODY					
INTERNAL	5.83E-04	4.47E-04	4.02E-04	3.91E-04	1.82E-03
ORGAN					
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF 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
TOTAL BODY (MREM)	1.5	0.02	0.03	0.03	0.01	3.0	0.05
CRIT. ORGAN (MREM)	5.0	0.01	0.01	0.01	0.01	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 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/28/01
 ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	4.81E-04	5.93E-04	5.53E-04	2.98E-04	1.93E-03
BODY					
INTERNAL	7.85E-04	6.21E-04	5.62E-04	5.31E-04	2.50E-03
ORGAN					
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF 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
TOTAL BODY (MREM)	1.5	0.03	0.04	0.04	0.02	3.0	0.06
CRIT. ORGAN (MREM)	5.0	0.02	0.01	0.01	0.01	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 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/28/01
 INFANT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	4.95E-04	6.23E-04	5.73E-04	3.03E-04	1.99E-03
BODY					
INTERNAL	4.96E-04	6.23E-04	5.73E-04	3.03E-04	2.00E-03
ORGAN					
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF 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
TOTAL BODY (MREM)	1.5	0.03	0.04	0.04	0.02	3.0	0.07
CRIT. ORGAN (MREM)	5.0	0.01	0.01	0.01	0.01	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 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/28/01
 CHILD RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	5.77E-04	7.10E-04	6.54E-04	3.59E-04	2.30E-03
BODY					
INTERNAL	6.67E-04	7.17E-04	6.61E-04	4.20E-04	2.46E-03
ORGAN					
	GI_LLI	GI_LLI	LIVER	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF 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
TOTAL BODY (MREM)	1.5	0.04	0.05	0.04	0.02	3.0	0.08
CRIT. ORGAN (MREM)	5.0	0.01	0.01	0.01	0.01	10.0	0.02
		GI_LLI	GI_LLI	LIVER	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 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/28/01
 TEENAGER RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	3.48E-04	4.25E-04	3.95E-04	2.18E-04	1.39E-03
BODY					
INTERNAL	5.83E-04	4.47E-04	4.02E-04	3.91E-04	1.82E-03
ORGAN					
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF 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
TOTAL BODY (MREM)	1.5	0.02	0.03	0.03	0.01	3.0	0.05
CRIT. ORGAN (MREM)	5.0	0.01	0.01	0.01	0.01	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 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/28/01
 ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	4.81E-04	5.93E-04	5.53E-04	2.98E-04	1.93E-03
INTERNAL ORGAN	7.85E-04	6.21E-04	5.62E-04	5.31E-04	2.50E-03
	GI_LLI	GI_LLI	GI_LLI	GI_LLI	GI_LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF 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
TOTAL BODY (MREM)	1.5	0.03	0.04	0.04	0.02	3.0	0.06
CRIT. ORGAN (MREM)	5.0	0.02	0.01	0.01	0.01	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 3.3-1

BYRON STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/28/01

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

Total Effective Dose Equivalent, mrem/yr	1.79E-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	4.32E-04	4.89E-04	4.96E-04	3.79E-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 01/01/00 TO 12/31/00

CALCULATED 02/28/01

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

		Dose (mrem)	Limit (mrem)	% of Limit
Whole Body (DDE)	Plume	4.61E-06		
	Skyshine	0.00E+00		
	Ground	8.51E-07		
	Total	5.46E-06	25.0	0.00
Organ Dose (CDE)	Thyroid	1.63E-03	75.0	0.00
	Gonads	1.64E-03	25.0	0.01
	Breast	1.60E-03	25.0	0.01
	Lung	1.60E-03	25.0	0.01
	Marrow	1.81E-03	25.0	0.01
	Bone	3.87E-03	25.0	0.02
	Remainder	1.88E-03	25.0	0.01
	CEDE	1.79E-03		
	TEDE	1.79E-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 01/01/00 TO 12/31/00

CALCULATED 02/28/01

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

Total Effective Dose Equivalent, mrem/yr	2.73E-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	4.87E-04	6.41E-04	1.19E-03	4.15E-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 01/01/00 TO 12/31/00

CALCULATED 02/28/01

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

		Dose (mrem)	Limit (mrem)	% of Limit
Whole Body (DDE)	Plume	4.24E-06		
	Skyshine	0.00E+00		
	Ground	1.16E-07		
	Total	4.36E-06	25.0	0.00
Organ Dose (CDE)	Thyroid	2.56E-03	75.0	0.00
	Gonads	2.58E-03	25.0	0.01
	Breast	2.54E-03	25.0	0.01
	Lung	2.54E-03	25.0	0.01
	Marrow	2.75E-03	25.0	0.01
	Bone	4.81E-03	25.0	0.02
	Remainder	2.82E-03	25.0	0.01
	CEDE	2.73E-03		
	TEDE	2.73E-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: 2000

TYPE OF DOSE	CURRENT PERIOD	CURRENT QUARTER	THIRD QUARTER	SECOND QUARTER	FIRST QUARTER	ANNUAL
GAMMA AIR (mrad)	2.970E-06(ESE)	2.970E-06(ESE)	2.480E-06(SSE)	7.950E-07(SE)	1.200E-07(ESE)	5.324E-06(SE)
BETA AIR (mrad)	7.730E-06(ESE)	7.730E-06(ESE)	2.670E-06(NNW)	1.160E-06(ESE)	4.000E-07(NNW)	1.015E-05(ESE)
WHOLE BODY (mrem)	1.770E-06(SE)	1.770E-06(SE)	1.330E-06(SSE)	4.160E-07(SE)	6.510E-08(S)	3.321E-06(SE)
SKIN (mrem)	4.650E-06(SE)	4.650E-06(SE)	3.480E-06(SSE)	1.180E-06(NNE)	2.060E-07(S)	8.745E-06(SE)
ORGAN (mrem)	3.430E-07(ESE)	3.430E-07(ESE)	2.050E-08(NNW)	0.000E+00(N)	2.590E-07(NNW)	5.540E-07(ESE)
CRITICAL PERS-ORG	CH-TH	CH-TH	TA-LN	AD-BN	CH-TH	CH-TH

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP. I	
	QUARTERLY OBJECTIVE	% OF APP. I	YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	.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		(CH-TH)		(CH-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

Date of calculation: 4/17/2001

Table 3.4-1 (continued)

BYRON STATION - UNIT 2

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

CURRENT PERIOD OF RELEASE: October 1 - December 31 YEAR: 2000

TYPE OF DOSE	CURRENT PERIOD	CURRENT QUARTER	THIRD QUARTER	SECOND QUARTER	FIRST QUARTER	ANNUAL
GAMMA AIR (mrad)	3.410E-06(ESE)	3.410E-06(ESE)	1.990E-06(SSE)	9.700E-07(SE)	2.030E-07(ESE)	5.696E-06(ESE)
BETA AIR (mrad)	7.620E-06(ESE)	7.620E-06(ESE)	2.480E-06(NNW)	1.850E-06(ESE)	6.940E-07(NNW)	1.090E-05(ESE)
WHOLE BODY (mrem)	1.540E-06(SE)	1.540E-06(SE)	1.060E-06(S)	4.930E-07(NNE)	1.090E-07(S)	2.967E-06(SE)
SKIN (mrem)	4.580E-06(SE)	4.580E-06(SE)	2.750E-06(SSE)	1.520E-06(NNE)	3.430E-07(S)	8.529E-06(SE)
ORGAN (mrem)	4.520E-08(ESE)	4.520E-08(ESE)	8.250E-08(NNW)	0.000E+00(N)	0.000E+00(N)	8.250E-08(NNW)
CRITICAL PERS-ORG	TA-LN	TA-LN	CH-TH	AD-BN	AD-BN	CH-TH

COMPLIANCE STATUS

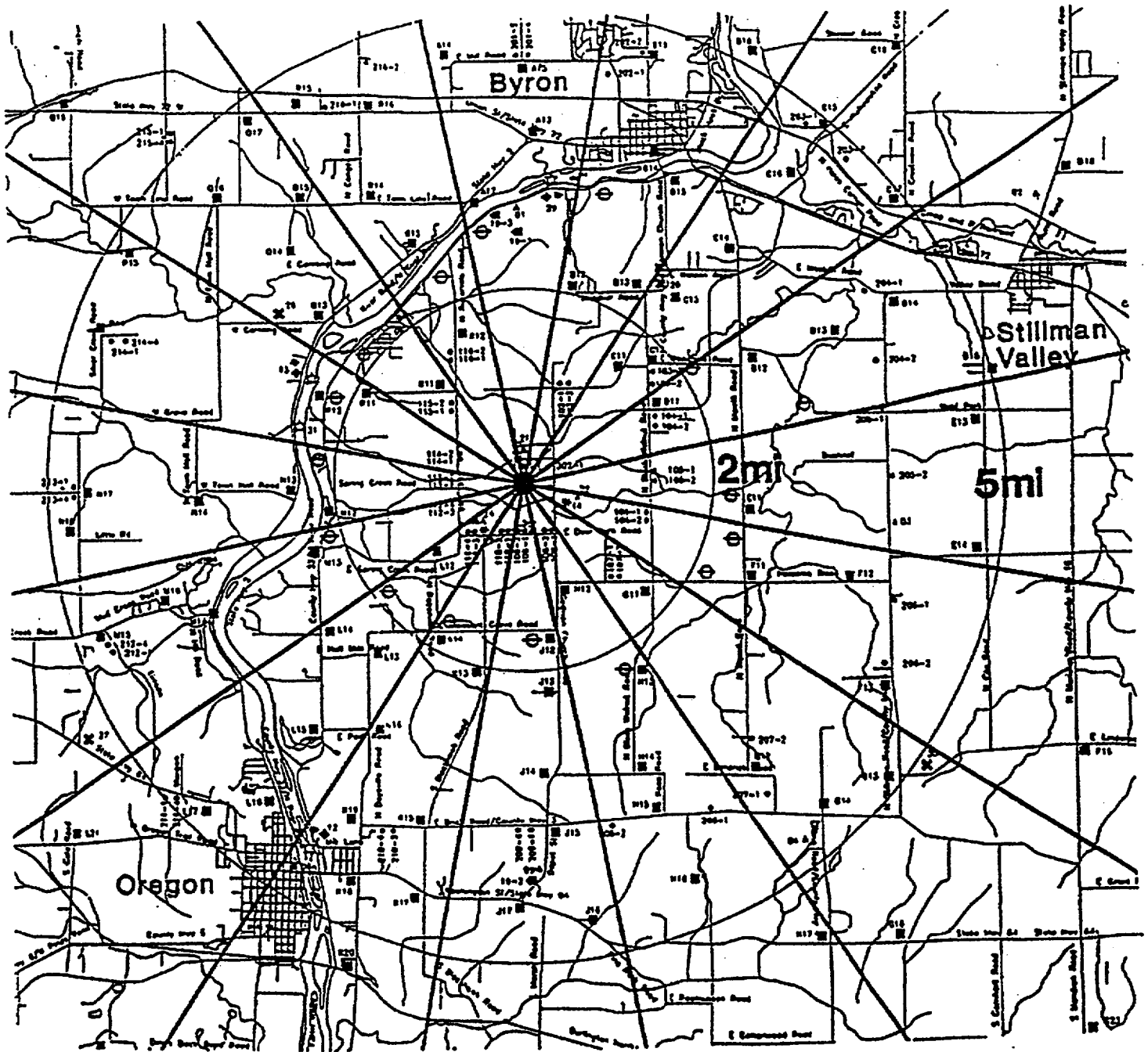
TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP. I	
	QUARTERLY OBJECTIVE	% OF APP. I	YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	.00	10.0	.00
BETA AIR (mrad)	10.0	.00	20.0	.00
WHOLE BODY (mrem)	2.5	.00	5.0	.00
SKIN (mrem)	7.5	.00	15.0	.00
ORGAN (mrem)	7.5	.00	15.0	.00
CRITICAL PERSON-ORGAN		(TA-LN)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

Date of calculation: 4/17/2001

Maximum Offsite Values (pCi/m3)	
Iodine	3.20E+00
Particulate Matter	2.39E-07
Data Recovery (priority parameters)	99.6%

Figure 5.0-1



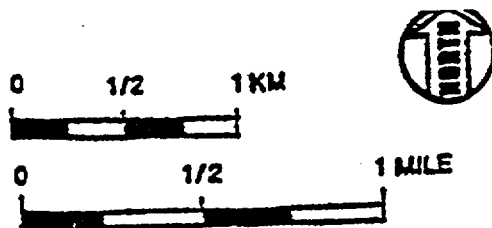
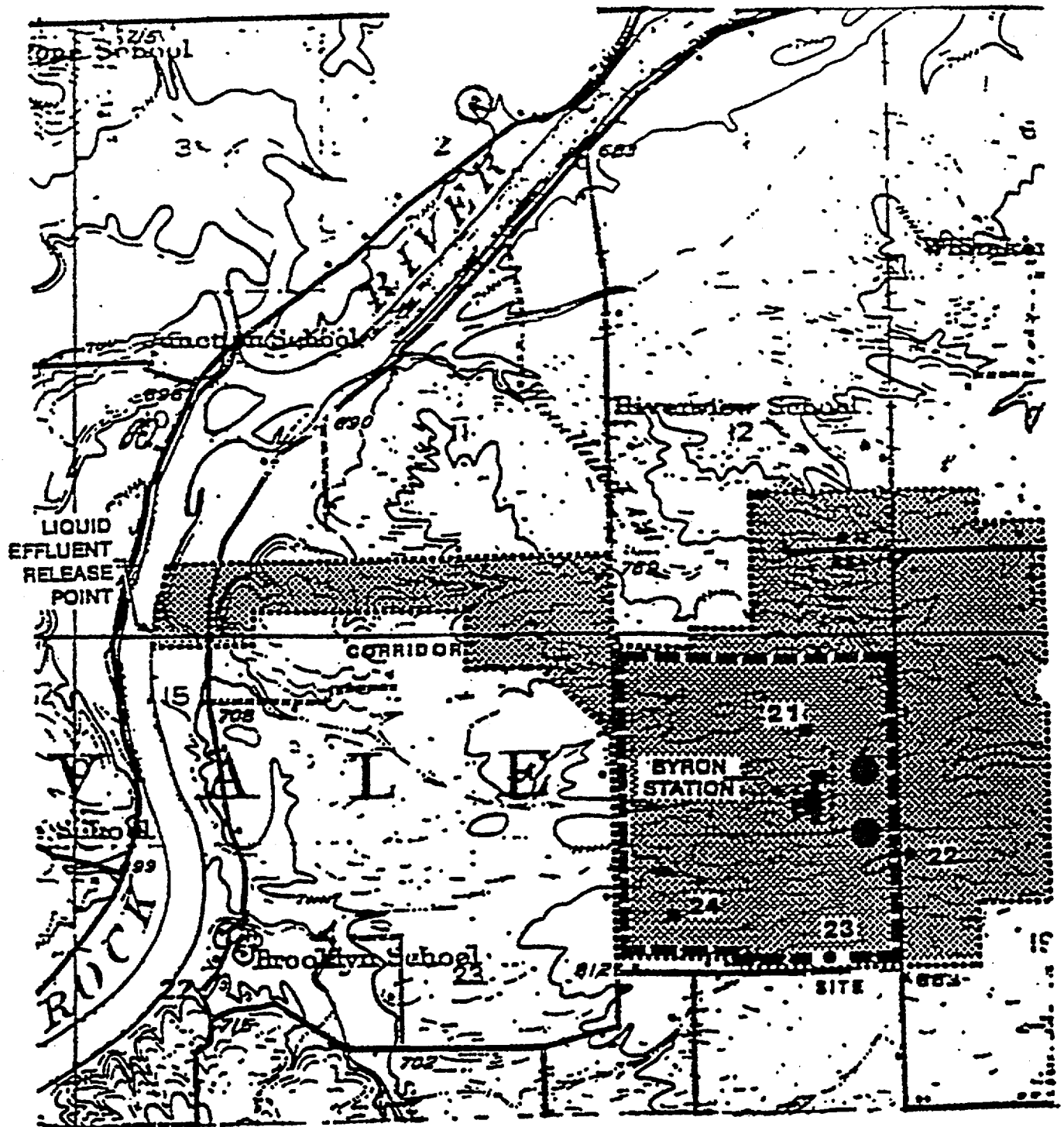
• TLD Location



BYRON STATION

INNER AND OUTER RING TLD LOCATIONS

Figure 5.0-2



• Air Sampling Location

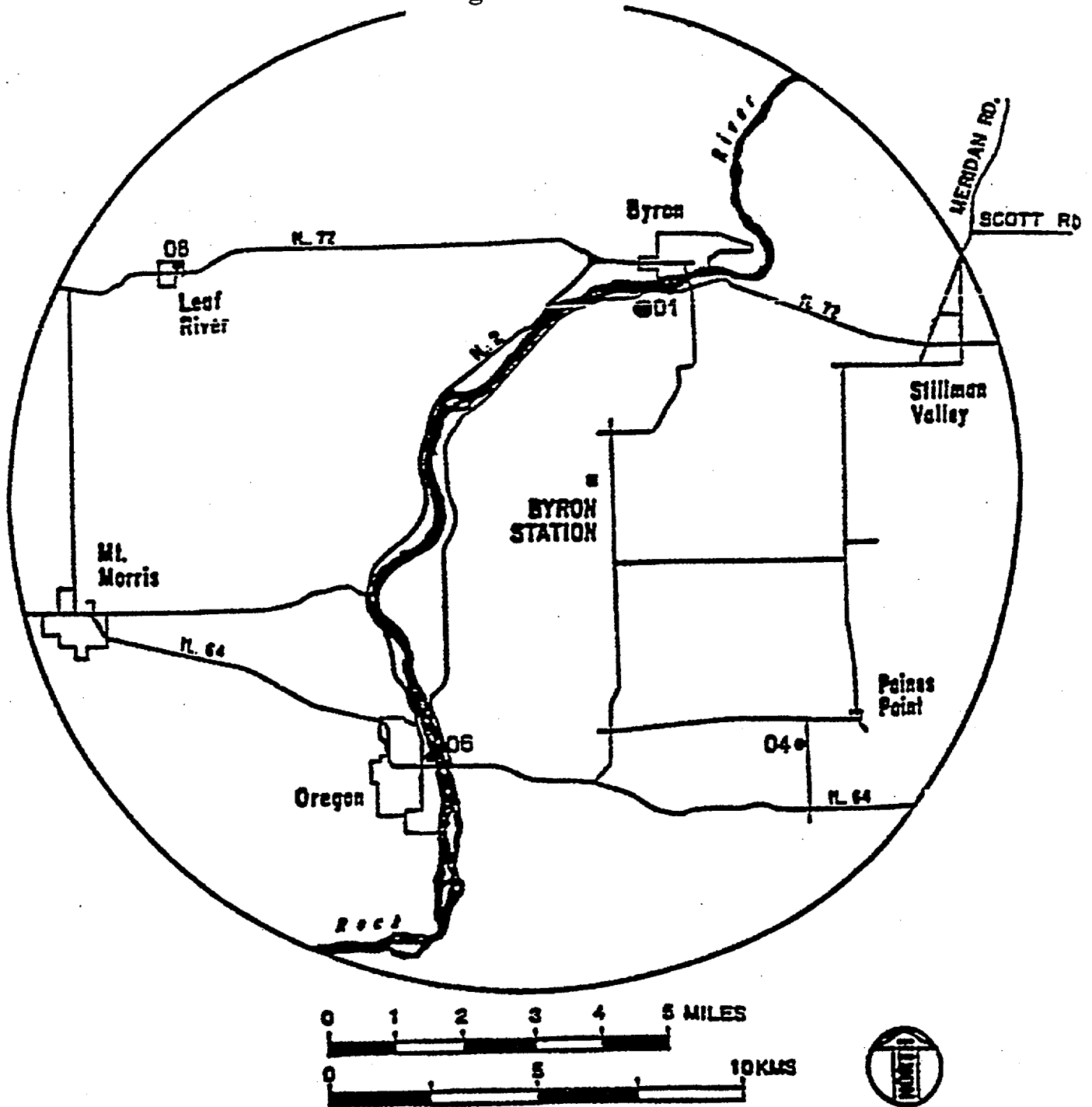
I-33

Byron Station

Onsite Air Sampler Locations

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

Figure 5.0-3

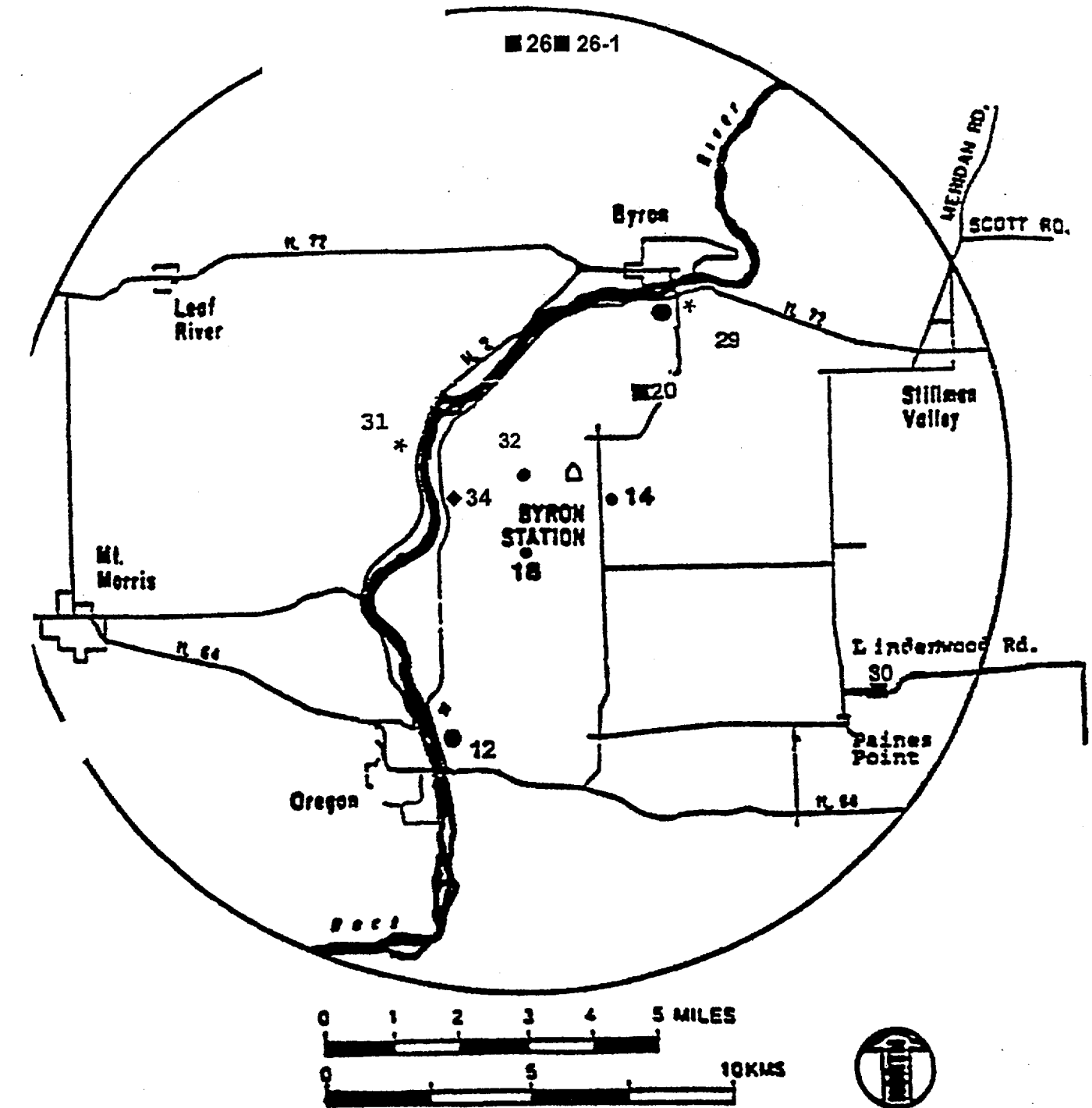


● Air Sampling Location

■ Byron Station

Byron Station
Offsite Air Sampling Locations
By-01 Byron
BY-04 Paynes Point
BY-06 Oregon
BY-08 Leaf River

Figure 5.0-4



- * Fish
- Milk
- ◆ Sediment
- Water
- △ Byron Station

Byron Station

Ingestion and Waterborne Exposure Pathway

- BY-12 Oregon Pool of Rock River, Downstream
- BY-14 ComEd Offsite Well
- BY-18 McCoy Farmstead
- BY-20 K. Reeverts Dairy Farm
- BY-26 Glenn Hazzard's Dairy
- 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-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	Glen Hazzard's Dairy ^a	.	.	.	.	✓	.	.	.
BY-26-1	Dennis Herbert ^b	.	.	.	.	✓	.	.	.
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 Dairy requested removal from program in May, 2000.^b Replaced Glenn Hazzard dairy in June, 2000.

TABLE 5.0-2

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

1. AIR SAMPLERS

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

2. TLDs

a. Same as No. 1.

b. Special TLD Locations

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

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

TABLE 5.0-2 (continued)

BYRON STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

2. TLDs

b. Special TLD Locations (continued)

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

3. MILK

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
BY-20	K. Reeverts Dairy Farm	2.0	NE	C
BY-26 (C)	Glen Hazzard's Dairy Farm ^b	12.0	N	A
BY-26-1	Dennis Herbert ^c	12.0	N	A
BY-30	Don Roos Dairy	5.3	SE	G

^a Control (background) locations are denoted by a "C" after site code. All other locations are indicators.^b Dairy requested removal from program in May, 2000.^c Replaced Glenn Hazzard dairy in June, 2000.

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

4. VEGETABLES

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
BY-Quad 1	D. White	3.0	N	A
BY-Quad 2	3485 German Church Road	0.6	SSE	H
BY-Quad 3	E. Thurm	3.6	S	S
BY-Quad 4	D.L. Hardisty	2.5	NNW	R
BY-Control (C)	Walt Mueller	15.6	N	A

5. GROUND/WELL WATER

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
BY-14	ComEd Offsite Well	0.5	ESE	F
BY-18	McCoy Farmstead	0.7	SW	L
BY-32	Ron Wolford Well	1.8	W	N

6. SURFACE WATER

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

7. FISH

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

8. SEDIMENTS

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
BY-12	Oregon Pool of Rock River, Downstream	4.5	SSW	K
BY-34	Rock River, Downstream	0.6	W	N

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

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

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

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

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
4. TLDs (continued)					
	Outer Ring		Quarterly	Gamma	Quarterly
	BY-213-1,4				
	214-1,4				
	215-1,4				
	216-1,2				
5. Milk	BY-20	K. Reevert's Dairy	Biweekly:	I-131	Biweekly:
	BY-26 (C)	G. Hazzard's Dairy ^b	May-October	Gamma Isot.	May-October
	BY-26-1	Dennis Herbert ^c			
	BY-30	D. Roos Dairy	Monthly:		Monthly:
			November-April		November-April
6. Vegetables	Quad 1	D. White	Annually - two varieties	Gamma Isot.	Annually
	Quad 2	3485 German Church Road	from each location as available at harvest.	I-131	Annually, on broad leaf vegetation.
	Quad 3	E. Thurm			
	Quad 4	D. L. Hardisty			
	Control	W. Mueller			
7. Ground/Well Water	BY-14	ComEd Offsite	Quarterly	Gamma Isot.	Quarterly
	BY-18	McCoy Farm		Tritium	
	BY-32	Wolford Well			
8. Surface Water	BY-12	Oregon Pool of Rock River Downstream	Weekly	Gross Beta Gamma Isot. Tritium	Monthly composite. Monthly composite. Quarterly composite.
	BY-29 (C)	Byron, Upstream			
9. Fish (at least two species)	BY-29 (C)	Byron, Upstream	Two times/year	Gamma Isot.	Two times/year on edible portions only.
	BY-31	Byron, Discharge			
10. Sediments	BY-12	Oregon Pool of Rock River Downstream	Semiannually	Gamma Isot.	Semiannually
	BY-34	Rock River Downstream			
11. Land Use Census					
	Milch Animals				
	a. Site Boundary to 2 miles	-	a. Enumeration by a door to door or equivalent counting technique.		Annually during grazing season.
	b. 2 miles to 6.2 miles	-	b. Using referenced information from county agricultural agents or other reliable sources.		

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

^b Dairy requested removal from program in May, 2000.

^c Replaced Glenn Hazzard dairy in June, 2000.

TABLE 5.0-2 (continued)

BYRON STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

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

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

Table 5.0-3

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Byron Nuclear Power StationDocket No. 50-454, 50-455Location of Facility: Ogle, IllinoisReporting Period: 1st Quarter 2000

(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)	BY-23 ^b , Byron Nearsite	0.030 (13/13)	0
	Gamma Spec.	5		(0.016-0.059)	South, 0.6 mi. S, Sector J	(0.017-0.055)	
	Cs-134		0.01	<LLD	-	-	0
	Cs-137		0.01	<LLD	-	-	0
	Other Gammas		0.01-0.04	<LLD	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131	30	0.07	<LLD	-	-	0
Milk (pCi/L)	I-131	9	5	<LLD	-	-	0
	Gamma Spec.	9					
	Cs-134		15	<LLD	-	-	0
	Cs-137		18	<LLD	-	-	0
	Ba/La-140		15	<LLD	-	-	0
	Other Gammas		15-30	<LLD	-	-	0
Surface Water (pCi/L)	Gross Beta	6	4	4.4 (1/3)	BY-12, Oregon Pool of Rock River,	4.4 (1/3)	0
	Gamma Spec.	6			4.5 mi. SSW, Sector K		
	Cs-134		15	<LLD	-	-	0
	Cs-137		18	<LLD	-	-	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	0
	Tritium	2	200	<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	16.0 (78/78) (11.5-18.6)	BY-107-1 1.4 mi. SE, Sector G	18.6 (1/1) 14.8 (2/2) (14.8-14.8)	0

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

Table 5.0-4

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Byron Nuclear Power StationDocket No. 50-454, 50-455Location of Facility: Ogle, IllinoisReporting Period: 2nd Quarter 2000

(County, State)

(County, State)								
Sample Type (Units)	Type and Number of Analyses		LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Air Particulates (pCi/m ³)	Gross Beta	65	0.01	0.018 (49/52) (0.010-0.026)	BY-22 ^b , Nearsite ESE 0.4 mi. ESE, Sector F	0.018 (13/13) (0.010-0.026)	0.017 (13/13) (0.010-0.021)	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	16	0.5/5.0 ^c	<LLD	-	-	<LLD	0
	Gamma Spec.	16						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba/La-140		15	<LLD	-	-	<LLD	0
	Other Gammas		15-30	<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Gamma Spec.	8						
	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
Sediments (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-22, BY-23 and BY-24 had identical means of 0.018 pCi/m³. Only BY-22 is detailed in this summary.^c 0.5 pCi/L (May-October); 5.0 pCi/L (November-April).

Table 5.0-4 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: BYron Nuclear Power StationDocket No. 50-454, 50-455Location of Facility: Ogle, IllinoisReporting Period: 2nd Quarter 2000

(County, State)

County, State

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results		
Surface Water (pCi/L)	Gross Beta	6	4	4.3 (2/3) (4.1-4.5)	BY-12, Oregon Pool of Rock River, Downstream 4.5 mi. SSW, Sector K	4.3 (2/3) (4.1-4.5)	4.2 (1/3)	0	
	Gamma Spec.	6							
	Cs-134		15	<LLD		-	-	<LLD	0
	Cs-137		18	<LLD		-	-	<LLD	0
	Other ODCM- Required Gammas		15-30	<LLD		-	-	<LLD	0
	Tritium	2	200	3,704 (1/1)	BY-12, Oregon Pool of Rock River, Downstream 4.5 mi. SSW, Sector K	3,704 (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	16.5 (78/78) (11.9-20.0)	BY-216-1 4.6 mi. NNW, Sector R	20.0 (1/1)	13.1 (2/2) (13.0-13.1)	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 StationDocket No. 50-454, 50-455Location of Facility: Ogle, IllinoisReporting Period: 3rd Quarter 2000

(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	0.023 (52/52) (0.012-0.043)	BY-22 ^b , Nearsite ESE 0.4 mi. ESE, Sector F	0.023 (13/13) (0.015-0.041)	0.022 (13/13) (0.015-0.038)	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		15-30	<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	4.3 (1/3)	BY-29, Byron, Upstream of Intake	4.6 (1/3)	4.6 (1/3)	0
	Gamma Spec.	6			3.0 mi. N, Sector A			
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	1,267 (1/1)	BY-12, Oregon Pool of Rock River, 4.5 mi. SSW, Sector K	1,267 (1/1)	<LLD	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.^b Locations BY-22 and BY-23 had identical means of 0.023 pCi/m³. Only BY-22 is detailed in this summary.

Table 5.0-5 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Byron Nuclear Power StationDocket No. 50-454, 50-455Location of Facility: Ogle, IllinoisReporting Period: 3rd Quarter 2000

(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	15.9 (78/78) (10.7-19.3)	BY-105-2 1.3 mi. E, Sector E	19.3 (1/1)	12.4 (2/2) (12.1-12.6)	0

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

Table 5.0-6

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Byron Nuclear Power StationDocket No. 50-454, 50-455Location of Facility: Ogle, IllinoisReporting Period: 4th Quarter 2000

(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	BY-08, Leaf River, 6.8 mi. WNW, Sector P	0.034 (13/13) (0.020-0.056)	0.034 (13/13) (0.020-0.056)	0
	Gamma Spec.	5	0.031 (52/52) (0.017-0.052)				
	Cs-134		<LLD				
	Cs-137		<LLD				
	Other Gammas		<LLD				
Airborne Iodine (pCi/m ³)	I-131	35	0.07	-	-	<LLD	0
Milk (pCi/L)	I-131	15	0.5/5.0 ^b	-	-	<LLD	0
	Gamma Spec.	15		-	-	<LLD	0
	Cs-134		<LLD	-	-	<LLD	0
	Cs-137		<LLD	-	-	<LLD	0
	Ba/La-140		<LLD	-	-	<LLD	0
	Other Gammas		<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Gamma Spec.	10		-	-	<LLD	0
	Cs-134		0.10	-	-	<LLD	0
	Cs-137		0.10	-	-	<LLD	0
	Other ODCM- Required Gammas		0.13-0.26	-	-	<LLD	0
	Other Gammas		0.20-0.30	-	-	<LLD	0
Sediments (pCi/g wet)	Gamma Spec.	2		-	-	None	0
	Cs-134		0.15	-	-	None	0
	Cs-137		0.18	-	-	None	0
	Other Gammas		0.10-0.60	-	-	None	0
Surface Water (pCi/L)	Gross Beta	6	4	BY-12, Oregon Pool of Rock River 4.5 mi. SSW, Sector K	4.2 (1/1)	<LLD	0
	Gamma Spec.	6					
	Cs-134		15				
	Cs-137		18				
	Other ODCM- Required Gammas		15-30				
	Tritium	2	200	BY-12, Oregon Pool of Rock River 4.5 mi. SSW, Sector K	793 (1/1)	<LLD	1

^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 StationDocket No. 50-454, 50-455Location of Facility: Ogle, Illinois
(County, State)Reporting Period: 4th Quarter 2000

(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	5	200	<LLD	-	-	None	0
	Gamma Spec.	5						
	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	15.9 (78/78) (11.2-19.1)	By-216-1 4.6 mi. NNW, Sector R	19.1 (1/1)	12.6 (2/2) (12.3-12.8)	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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	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	2	0	0	2
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	2	0	0	2

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	1	0	0	0	1
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	2	0	0	2
S	0	0	0	2	0	0	2
SSW	0	0	0	0	0	0	0
SW	0	0	0	1	1	0	2
WSW	0	0	1	1	0	0	2
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	2	6	1	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: JANUARY-MARCH 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	30	52	29	0	115
NNE	1	3	15	18	6	1	44
NE	0	2	5	18	10	3	38
ENE	1	2	4	25	13	2	47
E	1	1	16	14	2	0	34
ESE	1	2	10	5	10	3	31
SE	2	3	8	23	7	0	43
SSE	2	5	9	13	18	12	59
S	3	11	6	12	17	9	58
SSW	0	6	7	23	14	6	56
SW	0	7	12	15	12	2	48
WSW	2	7	11	14	20	9	63
W	2	10	16	20	34	12	94
WNW	2	10	9	19	26	9	75
NW	4	7	6	16	17	1	51
NNW	2	4	13	34	25	2	80
VARIABLE	0	0	0	0	0	0	0
TOTAL	23	84	177	321	260	71	936

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	13	14	4	0	35
NNE	2	1	4	6	5	3	21
NE	1	4	12	13	10	3	43
ENE	2	4	7	13	11	0	37
E	1	4	10	9	3	0	27
ESE	1	2	4	2	7	1	17
SE	1	7	15	7	15	6	51
SSE	1	3	6	10	11	28	59
S	1	1	13	32	36	16	99
SSW	0	3	14	26	35	13	91
SW	4	1	11	33	10	5	64
WSW	1	3	14	43	9	5	75
W	4	3	14	40	16	0	77
WNW	3	3	18	28	10	6	68
NW	2	13	15	39	17	0	86
NNW	2	4	12	20	8	0	46
VARIABLE	0	0	0	0	0	0	0
TOTAL	26	60	182	335	207	86	896

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	3	4	8	0	0	16
NNE	0	1	3	2	1	0	7
NE	0	2	1	4	0	0	7
ENE	0	2	1	0	0	0	3
E	0	7	5	1	1	0	14
ESE	0	1	4	6	9	1	21
SE	0	0	4	10	6	0	20
SSE	0	0	2	4	1	3	10
S	0	0	3	3	21	2	29
SSW	0	1	0	7	8	2	18
SW	0	1	8	5	1	0	15
WSW	0	0	3	6	2	0	11
W	0	1	6	8	0	0	15
WNW	0	0	7	16	2	0	25
NW	0	0	12	18	0	0	30
NNW	2	0	8	5	0	0	15
VARIABLE	0	0	0	0	0	0	0
TOTAL	3	19	71	103	52	8	256

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	0	0	0	0	2
NNE	0	1	0	0	1	0	2
NE	1	5	1	3	0	0	10
ENE	3	1	0	0	0	0	4
E	0	1	2	0	0	0	3
ESE	0	1	1	4	2	1	9
SE	0	0	1	2	0	0	3
SSE	0	0	3	6	1	0	10
S	0	0	0	3	5	0	8
SSW	0	0	0	5	2	3	10
SW	0	1	0	1	0	0	2
WSW	0	0	1	1	0	0	2
W	0	1	3	2	0	0	6
WNW	1	0	1	1	0	0	3
NW	0	0	1	3	0	0	4
NNW	0	1	4	1	0	0	6
VARIABLE	0	0	0	0	0	0	0
TOTAL	5	14	18	32	11	4	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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	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	1	0	1
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	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	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: APRIL-JUNE 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	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	1	0	1	2
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	1	0	1	2

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	1	0	0	1
SE	0	1	0	0	0	0	1
SSE	0	1	0	0	0	1	2
S	0	0	0	4	0	0	4
SSW	0	0	0	0	4	0	4
SW	0	0	0	4	1	1	6
WSW	0	0	0	0	0	0	0
W	0	0	0	1	0	0	1
WNW	0	0	0	0	0	0	0
NW	0	0	1	0	1	0	2
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	2	1	10	6	2	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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	10	11	13	15	15	65
NNE	0	7	22	26	11	3	69
NE	0	6	6	14	9	7	42
ENE	2	6	1	23	5	3	40
E	3	7	21	23	2	0	56
ESE	0	3	7	4	2	0	16
SE	2	5	7	3	1	0	18
SSE	0	6	7	10	8	5	36
S	4	9	28	27	12	8	88
SSW	0	20	34	39	24	4	121
SW	2	17	25	31	9	4	88
WSW	1	5	12	24	6	0	48
W	3	19	9	12	5	16	64
WNW	6	6	9	16	31	13	81
NW	2	6	17	33	16	2	76
NNW	1	17	19	14	8	1	60
VARIABLE	0	0	0	0	0	0	0
TOTAL	27	149	235	312	164	81	968

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	3	10	5	1	3	23
NNE	0	8	3	13	11	2	37
NE	0	3	7	13	5	0	28
ENE	2	6	10	17	12	2	49
E	0	8	20	25	16	1	70
ESE	0	4	7	18	12	6	47
SE	0	1	10	19	11	1	42
SSE	1	3	8	18	19	1	50
S	0	5	10	47	24	3	89
SSW	0	8	20	56	37	3	124
SW	3	4	10	16	13	1	47
WSW	0	2	6	13	17	1	39
W	0	4	15	12	11	9	51
WNW	0	8	22	14	7	7	58
NW	1	4	30	32	4	0	71
NNW	0	2	7	12	4	0	25
VARIABLE	0	0	0	0	0	0	0
TOTAL	8	73	195	330	204	40	850

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	2	2	0	0	7
NNE	2	0	3	4	0	0	9
NE	0	2	3	3	3	0	11
ENE	0	3	0	1	0	0	4
E	0	2	6	0	0	0	8
ESE	0	4	3	12	3	0	22
SE	0	1	2	4	2	0	9
SSE	0	1	1	2	15	1	20
S	0	0	6	12	12	0	30
SSW	0	0	5	16	8	0	29
SW	0	1	4	5	2	0	12
WSW	1	1	4	2	0	0	8
W	0	1	7	3	0	0	11
WNW	0	6	17	6	0	0	29
NW	2	6	9	2	0	0	19
NNW	0	1	7	4	0	0	12
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	31	79	78	45	1	240

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	5	2	0	0	11
NNE	1	0	2	1	0	0	4
NE	0	1	2	0	0	0	3
ENE	0	2	0	0	0	0	2
E	0	0	0	1	0	0	1
ESE	0	0	3	1	0	0	4
SE	1	1	4	1	0	0	7
SSE	0	0	1	1	0	0	2
S	0	0	2	0	5	0	7
SSW	1	0	2	5	2	0	10
SW	0	1	5	5	0	0	11
WSW	0	4	4	2	0	0	10
W	0	1	4	1	0	0	6
WNW	0	1	2	2	0	0	5
NW	1	3	2	1	0	0	7
NNW	0	4	7	0	0	0	11
VARIABLE	0	0	0	0	0	0	0
TOTAL	4	22	45	23	7	0	101

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 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	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: JULY-SEPTEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	1	0	0	1
ENE	0	0	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	1	0	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: 0

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	1	0	0	1
ENE	0	0	1	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	2	1	0	0	3
SSE	0	0	0	2	0	0	2
S	0	0	0	4	0	0	4
SSW	0	0	0	0	0	0	0
SW	0	0	0	2	3	0	5
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	1	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	3	11	3	0	17

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: JULY-SEPTEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	10	31	21	3	0	66
NNE	1	2	22	24	0	0	49
NE	2	8	3	12	9	0	34
ENE	5	15	9	14	0	0	43
E	6	21	26	15	0	1	69
ESE	4	23	12	9	0	0	48
SE	1	7	14	25	3	0	50
SSE	1	6	20	16	1	3	47
S	1	13	27	29	2	0	72
SSW	0	5	19	40	7	0	71
SW	0	4	10	21	5	0	40
WSW	1	7	14	16	3	0	41
W	3	11	17	10	0	0	41
WNW	0	16	22	3	0	0	41
NW	1	14	30	13	0	0	58
NNW	1	18	25	10	4	0	58
VARIABLE	0	0	0	0	0	0	0
TOTAL	28	180	301	278	37	4	828

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 27
Hours of missing stability measurements in all stability classes: 0

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	11	5	0	0	20
NNE	1	3	24	13	0	0	41
NE	2	3	6	11	3	0	25
ENE	1	6	10	30	6	0	53
E	2	19	30	32	4	0	87
ESE	0	3	18	20	4	3	48
SE	0	5	10	19	10	1	45
SSE	0	3	5	14	8	3	33
S	0	3	16	41	28	4	92
SSW	2	2	17	45	31	0	97
SW	0	6	9	23	10	0	48
WSW	0	9	32	6	4	0	51
W	1	8	12	15	4	0	40
WNW	1	7	19	5	1	0	33
NW	1	11	14	6	1	0	33
NNW	1	8	9	22	2	0	42
VARIABLE	0	0	0	0	0	0	0
TOTAL	12	100	242	307	116	11	788

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 31
Hours of missing stability measurements in all stability classes: 0

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	3	7	7	0	0	18
NNE	0	4	6	7	0	0	17
NE	0	4	2	0	0	0	6
ENE	1	3	0	3	0	0	7
E	4	2	7	2	4	0	19
ESE	1	1	1	10	7	0	20
SE	0	2	11	9	10	0	32
SSE	0	3	9	7	11	3	33
S	1	3	13	23	29	0	69
SSW	0	1	11	19	12	0	43
SW	0	6	8	15	5	0	34
WSW	0	3	4	9	0	0	16
W	0	2	3	0	0	0	5
WNW	1	4	6	1	0	0	12
NW	1	6	11	1	0	0	19
NNW	0	4	8	22	0	0	34
VARIABLE	0	0	0	0	0	0	0
TOTAL	10	51	107	135	78	3	384

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

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	2	7	4	0	0	0	13
NNE	0	3	4	1	1	0	9
NE	1	0	0	1	0	0	2
ENE	1	0	0	0	0	0	1
E	1	0	0	1	0	0	2
ESE	0	1	0	2	3	0	6
SE	0	0	0	4	4	2	10
SSE	2	1	1	4	1	1	10
S	0	2	3	12	10	1	28
SSW	1	0	4	0	4	0	9
SW	0	2	3	3	2	0	10
WSW	1	0	1	2	0	0	4
W	1	2	0	0	0	0	3
WNW	0	2	0	0	0	0	2
NW	2	7	1	0	0	0	10
NNW	0	7	4	0	0	0	11
VARIABLE	0	0	0	0	0	0	0
TOTAL	12	34	25	30	25	4	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: 0

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	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: 58

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	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: 58

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	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: 58

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	3	8	9	10	3	0	33
NNE	0	5	11	7	1	0	24
NE	4	2	12	7	3	0	28
ENE	0	3	2	2	1	0	8
E	3	2	12	4	0	0	21
ESE	1	2	4	3	2	1	13
SE	0	6	6	13	2	0	27
SSE	1	6	15	15	7	2	46
S	4	6	7	3	8	0	28
SSW	0	5	8	11	14	0	38
SW	1	4	23	35	10	0	73
WSW	0	3	28	29	7	2	69
W	0	6	17	32	19	7	81
WNW	0	13	23	36	13	2	87
NW	0	11	15	27	10	0	63
NNW	3	1	11	16	0	0	31
VARIABLE	0	0	0	0	0	0	0
TOTAL	20	83	203	250	100	14	670

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 58

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	14	27	7	3	56
NNE	3	3	15	28	5	1	55
NE	2	3	4	12	5	0	26
ENE	8	7	10	23	2	0	50
E	1	9	16	19	4	0	49
ESE	2	5	9	5	5	13	39
SE	0	3	13	20	26	11	73
SSE	1	3	4	32	20	10	70
S	1	1	17	24	39	0	82
SSW	1	6	14	27	39	4	91
SW	0	1	19	23	7	1	51
WSW	2	7	33	25	10	0	77
W	2	4	27	52	31	3	119
WNW	0	11	14	73	8	3	109
NW	2	11	23	55	9	0	100
NNW	0	5	16	38	13	3	75
VARIABLE	0	0	0	0	0	0	0
TOTAL	26	83	248	483	230	52	1122

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: 58

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	3	3	0	0	8
NNE	0	1	4	0	0	0	5
NE	1	1	2	8	2	0	14
ENE	2	1	0	0	0	0	3
E	2	2	7	2	0	0	13
ESE	2	2	3	2	2	1	12
SE	0	0	1	2	11	0	14
SSE	0	0	5	3	1	0	9
S	0	1	3	3	2	0	9
SSW	0	0	3	9	7	0	19
SW	1	0	10	9	0	0	20
WSW	0	3	7	7	0	0	17
W	0	2	7	13	4	0	26
WNW	1	1	5	15	0	1	23
NW	0	2	5	13	0	0	20
NNW	0	4	8	5	0	0	17
VARIABLE	0	0	0	0	0	0	0
TOTAL	9	22	73	94	29	2	229

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: 58

BYRON NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

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

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	2	0	0	4
NNE	1	1	4	2	0	0	8
NE	0	1	5	0	0	0	6
ENE	0	6	0	0	0	0	6
E	1	5	0	0	0	0	6
ESE	0	1	2	3	2	0	8
SE	1	1	1	5	0	0	8
SSE	0	1	1	1	0	0	3
S	0	4	2	0	5	0	11
SSW	0	0	2	6	10	0	18
SW	0	2	2	5	0	0	9
WSW	0	1	5	14	1	0	21
W	0	0	3	1	1	0	5
WNW	0	0	3	6	0	0	9
NW	0	0	1	2	0	0	3
NNW	0	0	3	0	0	0	3
VARIABLE	0	0	0	0	0	0	0
TOTAL	3	23	36	47	19	0	128

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: 58

APPENDIX III

2000 REMP SAMPLE RESULTS

BYRON

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BYRON

1.0 INTRODUCTION

The following constitutes the current, 2000 Monthly Progress Report for the Radiological Environmental Monitoring Program conducted at the Byron Station, Byron, Illinois. Results of completed analyses are presented in the attached tables. Missing entries indicate analyses that are not completed and the results will appear in subsequent reports.

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

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

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

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

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

TLD data is provided by Commonwealth Edison Company.

Deviations from Scheduled Sampling and Corrective Actions Taken

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

Unusual Environmental Measurements

None for 2000.

BYRON

2.0 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Expected Collection Date	Reason
SW	BY-12	01-04-00	No sample, river frozen.
SW	BY-29	01-04-00	No sample, river frozen.
SW	BY-12	01-25-00	No sample; river frozen.
SW	BY-29	01-25-00	No sample; river frozen.
SW	BY-12	02-01-00	No sample; river frozen.
SW	BY-29	02-01-00	No sample; river frozen.
SW	BY-12	02-08-00	No sample; river frozen.
SW	BY-29	02-08-00	No sample; river frozen.
SW	BY-12	02-15-00	No sample; river frozen.
SW	BY-29	02-15-00	No sample; river frozen.
SW	BY-29	02-22-00	No sample; river frozen.
TLD	Other	04-04-00	TLDs BY-105-1 and 105-2 were found "destroyed" during quarterly exchange; placed new 2nd quarter TLDs.
MI	BY-26	05-16-00	Dairy requested withdrawal from program after May 2, 2000 collection.
TLD	Other	10-03-00	TLD BY-103-2 found missing during quarterly exchange; placed new 4th quarter TLD.
SW	BY-12	12-13-00	No sample; river frozen.
SW	BY-29	12-13-00	No sample; river frozen.
SW	BY-12	12-19-00	No sample; river frozen.
SW	BY-29	12-19-00	No sample; river frozen.
SW	BY-29	12-26-00	No sample; river frozen.

BYRON

3.0 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
A	BY-08	01-04-00	Low reading of 147.5 due to power outage in town of Leaf River.
TLD	Other	03-06-00	TLD BY-105-2 found missing; placed spare #E0006554.
A/I	BY-24	07-11-00	FL _A reading of 80 CFH due to malfunctioning flowmeter; removed pump for repair; placed spare pump #102.
A/I	BY-01	11-28-00	Pump making "unusual noise;" collector replaced pump.

BYRON

Table 1. Airborne Particulates and Iodine Cartridges
Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange
ODCM-
Required LLDs: Gross Beta = 0.01, I-131 = 0.07 pCi/m³
Units: 10⁻² pCi/m³

BY-08 (C) Leaf River							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-04-00	250 ^b	3.5 ± 0.4; 0.8	-	07-06-00	368	2.0 ± 0.3; 0.4	-
01-11-00	284	2.9 ± 0.4; 0.6	0.1 ± 0.5; 0.5	07-11-00	201	1.6 ± 0.4; 0.5	0.3 ± 0.3; 0.3
01-18-00	282	2.9 ± 0.4; 0.7	-	07-18-00	290	1.7 ± 0.3; 0.4	-
01-25-00	290	5.5 ± 0.5; 1.1	0.2 ± 0.4; 0.4	07-25-00	281	1.5 ± 0.3; 0.4	-0.7 ± 0.4; 0.4
02-01-00	279	2.9 ± 0.4; 0.7	-	08-01-00	286	2.4 ± 0.3; 0.6	-
02-08-00	285	4.0 ± 0.4; 0.8	-0.1 ± 0.5; 0.5	08-08-00	284	1.8 ± 0.4; 0.5	-0.2 ± 0.4; 0.4
02-15-00	286	3.8 ± 0.4; 0.8	-	08-15-00	285	2.5 ± 0.4; 0.6	-
02-22-00	291	3.7 ± 0.4; 0.8	-0.2 ± 0.4; 0.4	08-22-00	284	2.0 ± 0.3; 0.5	-0.0 ± 0.4; 0.4
02-29-00	279	2.2 ± 0.3; 0.5	-	08-29-00	286	3.8 ± 0.4; 0.8	-
03-06-00	232	2.3 ± 0.4; 0.6	0.3 ± 0.6; 0.6	09-05-00	284	3.3 ± 0.4; 0.7	0.7 ± 0.4; 0.4
03-14-00	336	2.0 ± 0.3; 0.5	-	09-12-00	286	2.1 ± 0.4; 0.5	-
03-21-00	284	2.1 ± 0.3; 0.5	-0.4 ± 0.5; 0.5	09-19-00	285	2.5 ± 0.4; 0.6	-0.2 ± 0.5; 0.5
03-28-00	274	1.8 ± 0.4; 0.5	-	09-25-00	242	1.7 ± 0.4; 0.5	-
1st Qtr. Mean±s.d.		3.0±1.0	-0.0±0.3	3rd Qtr. Mean±s.d.		2.2±0.7	-0.0±0.5
04-04-00	285	1.7 ± 0.3; 0.4	0.7 ± 0.4; 0.4	10-03-00	327	2.2 ± 0.3; 0.5	1.3 ± 0.4; 0.5
04-11-00	286	1.5 ± 0.3; 0.4	-	10-10-00	286	2.0 ± 0.3; 0.5	-
04-18-00	284	1.7 ± 0.3; 0.4	-0.2 ± 0.5; 0.5	10-17-00	284	4.2 ± 0.5; 0.9	-0.1 ± 0.3; 0.3
04-25-00	284	2.1 ± 0.3; 0.5	-	10-24-00	285	5.6 ± 0.5; 1.1	-
05-02-00	284	2.1 ± 0.3; 0.5	0.0 ± 0.3; 0.3	10-31-00	286	3.4 ± 0.4; 0.7	0.1 ± 0.4; 0.4
05-09-00	287	2.0 ± 0.3; 0.5	-	11-07-00	285	2.9 ± 0.4; 0.6	-
05-17-00	324	1.6 ± 0.3; 0.4	-0.3 ± 0.4; 0.4	11-14-00	286	2.2 ± 0.3; 0.5	0.4 ± 0.4; 0.4
05-23-00	245	2.0 ± 0.4; 0.5	-	11-21-00	286	3.6 ± 0.4; 0.8	-
05-30-00	286	1.3 ± 0.3; 0.4	0.7 ± 0.4; 0.4	11-28-00	288	4.8 ± 0.5; 1.0	-0.4 ± 0.4; 0.4
06-06-00	282	1.4 ± 0.4; 0.4	-	12-05-00	281	2.1 ± 0.4; 0.5	-
06-13-00	287	1.7 ± 0.3; 0.5	-0.4 ± 0.4; 0.4	12-13-00	333	2.8 ± 0.3; 0.6	0.6 ± 0.4; 0.4
06-20-00	287	1.0 ± 0.3; 0.4	-	12-19-00	243	4.7 ± 0.5; 1.0	-
06-27-00	283	1.7 ± 0.3; 0.4	-0.3 ± 0.4; 0.4	12-27-00	326	4.0 ± 0.4; 0.8	-0.9 ± 0.5; 0.6
2nd Qtr. Mean±s.d.		1.7±0.3	0.1±0.5	4th Qtr. Mean±s.d.		3.4±1.2	0.1±0.7

^a Volume based on two week collection period.

^b Volume low due to power outage in town of Leaf River.

BYRON

Table 1. Airborne Particulates and Iodine Cartridges
Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange
ODCM-
Required LLDs: Gross Beta = 0.01, I-131 = 0.07 pCi/m³
Units: 10⁻² pCi/m³

BY-21 Byron Nearsite N							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-04-00	287	3.2 ± 0.4; 0.7	-	07-06-00	368	2.2 ± 0.3; 0.5	-
01-11-00	284	3.6 ± 0.4; 0.8	-0.4 ± 0.4; 0.4	07-11-00	202	1.7 ± 0.4; 0.5	-0.5 ± 0.3; 0.3
01-18-00	283	2.5 ± 0.4; 0.6	-	07-18-00	283	1.9 ± 0.3; 0.5	-
01-25-00	288	4.9 ± 0.4; 1.0	-0.0 ± 0.4; 0.4	07-25-00	288	1.5 ± 0.3; 0.4	0.3 ± 0.4; 0.4
02-01-00	281	2.7 ± 0.4; 0.6	-	08-01-00	286	2.8 ± 0.4; 0.6	-
02-08-00	284	3.1 ± 0.4; 0.7	0.4 ± 0.4; 0.4	08-08-00	283	2.2 ± 0.4; 0.5	0.2 ± 0.3; 0.3
02-15-00	286	3.2 ± 0.4; 0.7	-	08-15-00	287	2.4 ± 0.4; 0.6	-
02-22-00	290	3.7 ± 0.4; 0.8	-0.3 ± 0.5; 0.5	08-22-00	284	2.2 ± 0.3; 0.5	0.3 ± 0.4; 0.4
02-29-00	278	2.3 ± 0.3; 0.5	-	08-29-00	282	3.9 ± 0.4; 0.8	-
03-06-00	245	2.0 ± 0.4; 0.6	-0.2 ± 0.6; 0.6	09-05-00	283	3.0 ± 0.4; 0.6	0.3 ± 0.4; 0.4
03-14-00	336	2.0 ± 0.3; 0.5	-	09-12-00	287	2.0 ± 0.4; 0.5	-
03-21-00	284	1.9 ± 0.3; 0.5	0.0 ± 0.5; 0.5	09-19-00	285	2.2 ± 0.4; 0.5	0.1 ± 0.5; 0.5
03-28-00	274	1.6 ± 0.4; 0.5	-	09-25-00	241	1.2 ± 0.4; 0.4	-
1st Qtr. Mean±s.d.		2.8±0.9	-0.1±0.3	3rd Qtr. Mean±s.d.		2.2±0.7	0.1±0.3
04-04-00	284	1.5 ± 0.3; 0.4	0.0 ± 0.3; 0.3	10-03-00	328	2.4 ± 0.4; 0.6	-0.6 ± 0.4; 0.4
04-11-00	286	1.3 ± 0.3; 0.4	-	10-10-00	287	1.7 ± 0.3; 0.4	-
04-18-00	285	1.6 ± 0.3; 0.4	-0.4 ± 0.5; 0.5	10-17-00	283	3.1 ± 0.4; 0.7	-0.2 ± 0.4; 0.4
04-25-00	283	2.0 ± 0.3; 0.5	-	10-24-00	286	4.6 ± 0.5; 0.9	-
05-02-00	285	1.9 ± 0.3; 0.5	0.1 ± 0.4; 0.4	10-31-00	286	3.8 ± 0.4; 0.8	0.2 ± 0.5; 0.5
05-09-00	287	2.2 ± 0.3; 0.5	-	11-07-00	287	2.6 ± 0.4; 0.6	-
05-17-00	323	2.1 ± 0.3; 0.5	-0.1 ± 0.4; 0.4	11-14-00	285	1.7 ± 0.3; 0.4	0.2 ± 0.4; 0.4
05-23-00	245	1.8 ± 0.4; 0.5	-	11-21-00	285	3.5 ± 0.4; 0.7	-
05-30-00	286	1.1 ± 0.3; 0.4	0.4 ± 0.5; 0.5	11-28-00	288	4.1 ± 0.4; 0.9	0.2 ± 0.5; 0.5
06-06-00	284	1.2 ± 0.3; 0.4	-	12-05-00	282	1.9 ± 0.4; 0.5	-
06-13-00	286	1.6 ± 0.3; 0.4	0.2 ± 0.4; 0.4	12-13-00	328	2.9 ± 0.3; 0.6	0.1 ± 0.4; 0.4
06-20-00	287	0.9 ± 0.3; 0.3	-	12-19-00	243	4.1 ± 0.4; 0.9	-
06-27-00	283	1.7 ± 0.3; 0.4	-0.2 ± 0.5; 0.5	12-27-00	327	2.9 ± 0.3; 0.6	-0.4 ± 0.5; 0.5
2nd Qtr. Mean±s.d.		1.6±0.4	0.0±0.3	4th Qtr. Mean±s.d.		3.0±0.9	-0.1±0.3

^a Volume based on two week collection period.

BYRON

Table 1. Airborne Particulates and Iodine Cartridges
 Collection: Airborne Particulates: Continuous; weekly exchange
 Iodine Cartridges: Continuous, biweekly exchange
 ODCM-
 Required LLDs: Gross Beta = 0.01, I-131 = 0.07 pCi/m³
 Units: 10⁻² pCi/m³

BY-22 Byron Nearsite ESE							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-04-00	287	3.1 ± 0.4; 0.7	-	07-06-00	368	1.9 ± 0.3; 0.4	-
01-11-00	284	3.6 ± 0.4; 0.8	0.1 ± 0.4; 0.4	07-11-00	202	1.8 ± 0.4; 0.5	0.2 ± 0.4; 0.4
01-18-00	285	2.9 ± 0.4; 0.7	-	07-18-00	283	1.8 ± 0.3; 0.5	-
01-25-00	288	4.9 ± 0.4; 1.0	0.1 ± 0.5; 0.5	07-25-00	288	1.5 ± 0.3; 0.4	-0.2 ± 0.4; 0.4
02-01-00	281	2.3 ± 0.4; 0.6	-	08-01-00	285	3.0 ± 0.4; 0.6	-
02-08-00	284	2.8 ± 0.4; 0.6	-0.1 ± 0.5; 0.5	08-08-00	283	1.8 ± 0.4; 0.5	-0.1 ± 0.4; 0.4
02-15-00	286	3.6 ± 0.4; 0.8	-	08-15-00	287	2.1 ± 0.4; 0.5	-
02-22-00	290	3.7 ± 0.4; 0.8	-0.6 ± 0.5; 0.5	08-22-00	284	2.0 ± 0.3; 0.5	0.2 ± 0.3; 0.3
02-29-00	278	2.6 ± 0.4; 0.6	-	08-29-00	287	4.1 ± 0.4; 0.8	-
03-06-00	245	2.0 ± 0.4; 0.5	-0.5 ± 0.5; 0.5	09-05-00	283	3.4 ± 0.4; 0.7	0.0 ± 0.5; 0.5
03-14-00	336	2.3 ± 0.3; 0.5	-	09-12-00	287	1.7 ± 0.4; 0.5	-
03-21-00	284	2.1 ± 0.3; 0.5	0.7 ± 0.4; 0.4	09-19-00	285	2.5 ± 0.4; 0.6	-0.0 ± 0.5; 0.5
03-28-00	274	2.0 ± 0.4; 0.5	-	09-25-00	241	1.6 ± 0.4; 0.5	-
1st Qtr. Mean±s.d.		2.9±0.9	-0.0±0.5	3rd Qtr. Mean±s.d.		2.3±0.8	0.0±0.2
04-04-00	284	1.9 ± 0.3; 0.5	-0.1 ± 0.4; 0.4	10-03-00	328	2.8 ± 0.4; 0.6	0.1 ± 0.4; 0.4
04-11-00	286	1.6 ± 0.3; 0.4	-	10-10-00	284	2.0 ± 0.3; 0.5	-
04-18-00	285	1.9 ± 0.3; 0.5	-0.2 ± 0.5; 0.5	10-17-00	283	3.4 ± 0.4; 0.7	-0.6 ± 0.4; 0.4
04-25-00	283	2.2 ± 0.3; 0.5	-	10-24-00	286	5.2 ± 0.5; 1.1	-
05-02-00	285	2.6 ± 0.4; 0.6	0.1 ± 0.5; 0.5	10-31-00	286	3.1 ± 0.4; 0.7	0.2 ± 0.5; 0.5
05-09-00	287	2.1 ± 0.3; 0.5	-	11-07-00	287	3.0 ± 0.4; 0.7	-
05-17-00	323	1.9 ± 0.3; 0.4	-0.1 ± 0.4; 0.4	11-14-00	285	2.3 ± 0.3; 0.5	-0.5 ± 0.5; 0.5
05-23-00	245	1.8 ± 0.4; 0.5	-	11-21-00	285	3.6 ± 0.4; 0.8	-
05-30-00	286	1.7 ± 0.4; 0.5	-0.2 ± 0.5; 0.5	11-28-00	288	4.2 ± 0.5; 0.9	0.4 ± 0.4; 0.4
06-06-00	284	1.3 ± 0.4; 0.4	-	12-05-00	282	2.7 ± 0.4; 0.6	-
06-13-00	286	1.4 ± 0.3; 0.4	0.6 ± 0.4; 0.4	12-13-00	328	2.6 ± 0.3; 0.6	0.3 ± 0.4; 0.4
06-20-00	287	1.0 ± 0.3; 0.4	-	12-19-00	243	3.8 ± 0.4; 0.8	-
06-27-00	283	2.0 ± 0.3; 0.5	0.2 ± 0.5; 0.5	12-27-00	327	3.1 ± 0.3; 0.6	-0.8 ± 0.5; 0.5
2nd Qtr. Mean±s.d.		1.8±0.4	0.1±0.3	4th Qtr. Mean±s.d.		3.2±0.9	-0.1±0.5

^a Volume based on two week collection period.

BYRON

Table 1. Airborne Particulates and Iodine Cartridges
Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange
ODCM-
Required LLDs: Gross Beta = 0.01, I-131 = 0.07 pCi/m³
Units: 10⁻² pCi/m³

BY-23 Byron Nearsite S							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-04-00	288	3.0 ± 0.4; 0.7	-	07-06-00	368	2.0 ± 0.3; 0.4	-
01-11-00	284	3.7 ± 0.4; 0.8	-0.8 ± 0.5; 0.6	07-11-00	203	1.9 ± 0.4; 0.5	0.1 ± 0.4; 0.4
01-18-00	285	2.8 ± 0.4; 0.7	-	07-18-00	283	1.9 ± 0.3; 0.5	-
01-25-00	288	5.5 ± 0.5; 1.1	0.6 ± 0.5; 0.5	07-25-00	288	1.5 ± 0.3; 0.4	0.5 ± 0.4; 0.4
02-01-00	281	2.7 ± 0.4; 0.6	-	08-01-00	290	2.7 ± 0.3; 0.6	-
02-08-00	284	3.4 ± 0.4; 0.7	0.3 ± 0.5; 0.5	08-08-00	283	2.2 ± 0.4; 0.5	0.3 ± 0.3; 0.3
02-15-00	286	3.4 ± 0.4; 0.7	-	08-15-00	287	2.1 ± 0.4; 0.5	-
02-22-00	290	3.8 ± 0.4; 0.8	-0.1 ± 0.5; 0.5	08-22-00	284	2.0 ± 0.3; 0.5	0.2 ± 0.4; 0.4
02-29-00	278	2.2 ± 0.3; 0.5	-	08-29-00	287	3.7 ± 0.4; 0.8	-
03-06-00	245	2.4 ± 0.4; 0.6	-0.8 ± 0.5; 0.5	09-05-00	283	3.0 ± 0.4; 0.6	-0.1 ± 0.4; 0.4
03-14-00	341	2.2 ± 0.3; 0.5	-	09-12-00	287	2.2 ± 0.4; 0.5	-
03-21-00	284	1.8 ± 0.3; 0.5	0.5 ± 0.4; 0.4	09-19-00	285	3.1 ± 0.4; 0.7	0.3 ± 0.5; 0.5
03-28-00	279	1.7 ± 0.4; 0.5	-	09-25-00	245	1.7 ± 0.4; 0.5	-
1st Qtr. Mean±s.d.		3.0±1.0	-0.0±0.6	3rd Qtr. Mean±s.d.		2.3±0.6	0.2±0.2
04-04-00	285	1.8 ± 0.3; 0.5	-0.4 ± 0.4; 0.4	10-03-00	328	2.8 ± 0.4; 0.6	0.5 ± 0.5; 0.5
04-11-00	286	1.5 ± 0.3; 0.4	-	10-10-00	284	2.1 ± 0.3; 0.5	-
04-18-00	285	1.7 ± 0.3; 0.4	0.5 ± 0.5; 0.5	10-17-00	283	3.7 ± 0.4; 0.8	-0.1 ± 0.3; 0.3
04-25-00	283	2.0 ± 0.3; 0.5	-	10-24-00	286	5.0 ± 0.5; 1.0	-
05-02-00	285	2.3 ± 0.3; 0.5	-0.4 ± 0.4; 0.4	10-31-00	286	2.9 ± 0.4; 0.6	-0.2 ± 0.4; 0.4
05-09-00	287	2.2 ± 0.3; 0.5	-	11-07-00	287	2.7 ± 0.4; 0.6	-
05-17-00	323	1.9 ± 0.3; 0.5	0.2 ± 0.4; 0.4	11-14-00	285	1.8 ± 0.3; 0.4	-0.0 ± 0.5; 0.5
05-23-00	245	1.8 ± 0.4; 0.5	-	11-21-00	290	3.2 ± 0.4; 0.7	-
05-30-00	286	1.9 ± 0.4; 0.5	-0.3 ± 0.6; 0.6	11-28-00	288	4.1 ± 0.4; 0.9	-0.4 ± 0.4; 0.4
06-06-00	284	1.3 ± 0.4; 0.4	-	12-05-00	282	1.9 ± 0.4; 0.5	-
06-13-00	286	2.0 ± 0.3; 0.5	-0.0 ± 0.4; 0.4	12-13-00	328	2.5 ± 0.3; 0.6	-0.5 ± 0.4; 0.4
06-20-00	287	0.8 ± 0.3; 0.3	-	12-19-00	243	3.8 ± 0.4; 0.8	-
06-27-00	284	1.9 ± 0.3; 0.5	0.3 ± 0.5; 0.5	12-27-00	327	3.4 ± 0.3; 0.7	-0.2 ± 0.5; 0.5
2nd Qtr. Mean±s.d.		1.8±0.4	-0.0±0.4	4th Qtr. Mean±s.d.		3.1±0.9	-0.1±0.3

^a Volume based on two week collection period.

BYRON

Table 1. Airborne Particulates and Iodine Cartridges
Collection: Airborne Particulates: Continuous; weekly exchange
Iodine Cartridges: Continuous, biweekly exchange
ODCM-
Required LLDs: Gross Beta = 0.01, I-131 = 0.07 pCi/m³
Units: 10⁻² pCi/m³

BY-24 Byron Nearsite SW							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-04-00	288	3.0 ± 0.4; 0.6	-	07-06-00	368	2.1 ± 0.3; 0.5	-
01-11-00	284	3.7 ± 0.4; 0.8	0.3 ± 0.5; 0.5	07-11-00	200 ^b	2.9 ± 0.5; 0.7	-0.9 ± 0.4; 0.5
01-18-00	285	2.8 ± 0.4; 0.6	-	07-18-00	277	1.9 ± 0.3; 0.5	-
01-25-00	289	5.9 ± 0.5; 1.2	-0.2 ± 0.4; 0.4	07-25-00	288	1.3 ± 0.3; 0.4	-0.2 ± 0.4; 0.4
02-01-00	281	2.4 ± 0.4; 0.6	-	08-01-00	285	2.2 ± 0.3; 0.5	-
02-08-00	284	3.5 ± 0.4; 0.7	-0.2 ± 0.5; 0.5	08-08-00	283	1.8 ± 0.4; 0.5	-0.3 ± 0.3; 0.3
02-15-00	286	3.8 ± 0.4; 0.8	-	08-15-00	287	2.1 ± 0.4; 0.5	-
02-22-00	290	3.8 ± 0.4; 0.8	0.5 ± 0.4; 0.4	08-22-00	284	1.8 ± 0.3; 0.4	0.4 ± 0.4; 0.4
02-29-00	279	2.1 ± 0.3; 0.5	-	08-29-00	287	4.3 ± 0.4; 0.9	-
03-06-00	245	2.1 ± 0.4; 0.6	-0.3 ± 0.6; 0.6	09-05-00	283	2.9 ± 0.4; 0.6	-0.0 ± 0.4; 0.4
03-14-00	336	2.3 ± 0.3; 0.5	-	09-12-00	287	2.0 ± 0.4; 0.5	-
03-21-00	284	2.0 ± 0.3; 0.5	0.1 ± 0.4; 0.4	09-19-00	285	2.3 ± 0.4; 0.6	0.1 ± 0.4; 0.4
03-28-00	274	1.8 ± 0.4; 0.5	-	09-25-00	241	1.6 ± 0.4; 0.5	-
1st Qtr. Mean±s.d.		3.0±1.1	0.0±0.3	3rd Qtr. Mean±s.d.		2.2±0.8	-0.2±0.4
04-04-00	285	1.7 ± 0.3; 0.4	-0.0 ± 0.3; 0.3	10-03-00	328	2.9 ± 0.4; 0.6	1.0 ± 0.4; 0.4
04-11-00	286	1.8 ± 0.3; 0.5	-	10-10-00	284	2.0 ± 0.3; 0.5	-
04-18-00	285	1.8 ± 0.3; 0.5	0.3 ± 0.4; 0.4	10-17-00	283	3.0 ± 0.4; 0.7	-0.2 ± 0.3; 0.3
04-25-00	283	2.2 ± 0.3; 0.5	-	10-24-00	286	4.7 ± 0.5; 1.0	-
05-02-00	286	2.5 ± 0.4; 0.6	0.5 ± 0.4; 0.4	10-31-00	286	3.0 ± 0.4; 0.6	0.3 ± 0.5; 0.5
05-09-00	287	1.8 ± 0.3; 0.4	-	11-07-00	287	2.2 ± 0.3; 0.5	-
05-17-00	323	1.9 ± 0.3; 0.5	0.6 ± 0.4; 0.4	11-14-00	285	2.0 ± 0.3; 0.5	-0.3 ± 0.5; 0.5
05-23-00	245	2.1 ± 0.4; 0.6	-	11-21-00	285	3.6 ± 0.4; 0.8	-
05-30-00	286	1.6 ± 0.4; 0.5	-0.4 ± 0.5; 0.5	11-28-00	288	4.4 ± 0.5; 0.9	0.6 ± 0.5; 0.5
06-06-00	284	1.3 ± 0.4; 0.4	-	12-05-00	282	2.3 ± 0.4; 0.6	-
06-13-00	286	2.0 ± 0.3; 0.5	0.4 ± 0.4; 0.4	12-13-00	328	2.7 ± 0.3; 0.6	-0.2 ± 0.4; 0.4
06-20-00	287	0.8 ± 0.3; 0.3	-	12-19-00	243	4.5 ± 0.5; 0.9	-
06-27-00	284	1.6 ± 0.3; 0.4	0.0 ± 0.5; 0.5	12-27-00	323	3.4 ± 0.3; 0.7	0.2 ± 0.4; 0.4
2nd Qtr. Mean±s.d.		1.8±0.4	0.2±0.3	4th Qtr. Mean±s.d.		3.1±1.0	0.2±0.5

^a Volume based on two week collection period.

^b FL_A reading of 80 CFH due to malfunctioning flowmeter; removed pump for repair. Used FL_A of replacement pump of 58 CFH.

BYRON

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections

ODCM-

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

Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01; Ba/La-140 = 0.025; pCi/m³

Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

BY-08 (C) Leaf River

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2634	BYAP-5427	BYAP-8371	BYAP-10844
Volume	3,658	3,710	3,669	3,802
Mn-54	2.1 ± 4.4; 4.5	-1.3 ± 3.4; 3.5	1.9 ± 4.2; 4.2	3.4 ± 4.2; 4.2
Fe-59	-4.6 ± 8.3; 8.4	10.0 ± 6.9; 7.1	-13.4 ± 11.2; 11.5	-3.0 ± 15.3; 15.3
Co-58	-1.8 ± 4.1; 4.2	2.1 ± 4.0; 4.1	-3.2 ± 4.7; 4.7	0.5 ± 4.9; 4.9
Co-60	0.8 ± 6.2; 6.2	-2.0 ± 5.4; 5.4	9.9 ± 5.1; 5.4	10.6 ± 7.5; 7.8
Zn-65	-6.5 ± 13.7; 13.7	0.8 ± 8.7; 8.7	-4.5 ± 12.2; 12.2	5.0 ± 9.6; 9.6
Zr/Nb-95	4.4 ± 5.1; 5.2	-4.7 ± 4.0; 4.1	-4.4 ± 4.2; 4.3	6.6 ± 5.2; 5.3
Cs-134	3.0 ± 5.0; 5.1	2.7 ± 5.1; 5.1	-2.6 ± 5.4; 5.4	-2.9 ± 5.6; 5.6
Cs-137	2.0 ± 4.8; 4.8	4.4 ± 3.7; 3.8	-0.6 ± 4.8; 4.8	7.6 ± 5.7; 5.9
Ba/La-140	6.8 ± 4.8; 5.0	1.8 ± 6.4; 6.4	-7.6 ± 3.4; 3.7	-130.3 ± 12.2; 26.2

BY-21 Byron Nearsite N

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2635	BYAP-5428	BYAP-8372	BYAP-10845,6
Volume	3,708	3,710	3,665	3,799
Mn-54	3.6 ± 3.8; 3.9	3.1 ± 5.2; 5.2	-2.1 ± 5.3; 5.3	0.1 ± 4.8; 4.8
Fe-59	6.4 ± 6.5; 6.6	1.0 ± 7.0; 7.0	-10.9 ± 11.5; 11.7	10.3 ± 7.9; 8.1
Co-58	1.9 ± 3.2; 3.2	-3.9 ± 4.5; 4.6	-3.2 ± 4.7; 4.7	-1.6 ± 4.5; 4.5
Co-60	-3.4 ± 4.6; 4.6	4.3 ± 5.6; 5.6	9.3 ± 4.4; 4.7	-1.8 ± 5.4; 5.4
Zn-65	6.0 ± 9.2; 9.2	3.6 ± 8.7; 8.7	-7.4 ± 10.8; 10.9	-1.1 ± 11.5; 11.5
Zr/Nb-95	-6.3 ± 4.2; 4.3	-3.1 ± 5.2; 5.2	-2.3 ± 4.9; 4.9	1.1 ± 4.8; 4.8
Cs-134	2.2 ± 4.7; 4.8	1.6 ± 4.1; 4.1	-2.4 ± 4.7; 4.8	3.7 ± 4.9; 4.9
Cs-137	1.1 ± 3.3; 3.3	-1.0 ± 4.9; 5.0	-1.6 ± 5.4; 5.4	2.7 ± 5.2; 5.2
Ba/La-140	-7.4 ± 5.0; 5.2	15.5 ± 4.9; 5.6	-7.7 ± 3.4; 3.7	-39.2 ± 6.8; 9.7

BYRON

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections

ODCM-

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

Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01;
Ba/La-140 = 0.025; pCi/m³

Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

BY-22 Byron Nearsite ESE

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2636	BYAP-5429	BYAP-8373	BYAP-10847
Volume	3,711	3,710	3,670	3,797
Mn-54	2.7 ± 4.7; 4.7	-1.8 ± 3.9; 4.0	5.6 ± 3.7; 3.8	-7.9 ± 6.7; 6.9
Fe-59	-3.7 ± 9.5; 9.6	-1.6 ± 7.3; 7.3	25.5 ± 10.7; 11.6	27.4 ± 11.3; 12.3
Co-58	-0.7 ± 3.9; 4.0	-2.3 ± 3.9; 3.9	-7.9 ± 4.7; 4.9	1.5 ± 5.1; 5.1
Co-60	-2.9 ± 6.0; 6.0	-0.3 ± 4.0; 4.0	1.3 ± 4.0; 4.0	13.3 ± 6.8; 7.2
Zn-65	3.2 ± 8.9; 8.9	-0.6 ± 10.3; 10.3	-10.2 ± 11.1; 11.3	-2.0 ± 10.6; 10.6
Zr/Nb-95	-1.0 ± 4.0; 4.0	1.4 ± 3.5; 3.5	4.0 ± 7.0; 7.1	8.1 ± 5.4; 5.6
Cs-134	0.2 ± 5.0; 5.0	-3.2 ± 4.6; 4.6	3.9 ± 4.0; 4.1	-2.3 ± 6.6; 6.6
Cs-137	1.1 ± 4.1; 4.1	1.6 ± 4.4; 4.4	-6.6 ± 5.3; 5.4	1.6 ± 5.1; 5.1
Ba/La-140	-21.6 ± 5.8; 7.0	-44.6 ± 5.8; 9.8	-63.6 ± 5.9; 12.8	11.1 ± 7.1; 7.3

BY-23 Byron Nearsite S

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2637	BYAP-5430	BYAP-8374	BYAP-10848
Volume	3,720	3,710	3,679	3,803
Mn-54	-0.1 ± 4.1; 4.1	-1.3 ± 5.3; 5.3	3.8 ± 4.9; 4.9	3.0 ± 6.6; 6.7
Fe-59	0.2 ± 6.4; 6.4	-11.6 ± 10.0; 10.2	8.8 ± 12.2; 12.3	-15.9 ± 17.1; 17.3
Co-58	0.4 ± 3.2; 3.2	6.0 ± 4.5; 4.6	8.2 ± 4.0; 4.3	-7.1 ± 5.8; 5.9
Co-60	-2.0 ± 4.5; 4.5	4.0 ± 6.9; 6.9	7.8 ± 5.4; 5.6	1.3 ± 6.6; 6.6
Zn-65	-5.0 ± 7.8; 7.8	7.7 ± 13.3; 13.3	-10.2 ± 9.1; 9.3	2.0 ± 11.7; 11.7
Zr/Nb-95	-4.8 ± 3.6; 3.7	-24.2 ± 11.5; 12.2	3.0 ± 4.2; 4.3	0.2 ± 5.9; 5.9
Cs-134	-1.1 ± 4.7; 4.7	-3.0 ± 5.4; 5.5	-1.5 ± 4.9; 4.9	-9.1 ± 7.9; 8.1
Cs-137	-1.6 ± 4.0; 4.0	3.8 ± 6.0; 6.0	2.7 ± 5.3; 5.3	-1.8 ± 5.6; 5.6
Ba/La-140	-7.4 ± 4.9; 5.1	-18.7 ± 6.5; 7.3	24.2 ± 6.1; 7.5	-44.5 ± 8.0; 11.3

BYRON

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections

ODCM-

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

Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01;
Ba/La-140 = 0.025; pCi/m³

Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

BY-24 Byron Nearsite SW

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BYAP-2638	BYAP-5432	BYAP-8375	BYAP-10849
Volume	3,711	3,711	3,662	3,795
Mn-54	-1.2 ± 3.7; 3.7	-2.6 ± 3.3; 3.3	0.6 ± 4.7; 4.7	3.8 ± 5.3; 5.3
Fe-59	-5.2 ± 5.7; 5.8	-1.4 ± 5.7; 5.7	-18.1 ± 12.4; 12.8	19.0 ± 14.7; 15.1
Co-58	-1.7 ± 2.9; 2.9	-4.7 ± 2.5; 2.6	-1.8 ± 4.0; 4.0	-2.4 ± 7.6; 7.6
Co-60	-2.2 ± 6.0; 6.0	2.2 ± 3.3; 3.4	3.7 ± 5.8; 5.9	6.0 ± 7.8; 7.9
Zn-65	3.7 ± 6.8; 6.9	-6.9 ± 7.6; 7.7	-4.0 ± 9.4; 9.4	13.9 ± 14.3; 14.5
Zr/Nb-95	-4.3 ± 3.7; 3.8	-0.2 ± 2.8; 2.8	5.9 ± 3.6; 3.7	-2.7 ± 5.6; 5.6
Cs-134	0.8 ± 4.1; 4.1	2.6 ± 3.0; 3.0	4.6 ± 4.9; 5.0	0.9 ± 7.3; 7.3
Cs-137	0.8 ± 3.4; 3.4	0.6 ± 3.2; 3.2	-0.1 ± 4.4; 4.4	-2.2 ± 7.2; 7.2
Ba/La-140	11.9 ± 4.7; 5.2	16.3 ± 3.9; 4.8	-72.1 ± 6.9; 14.6	-29.1 ± 5.4; 7.5

BYRON

Table 3. Milk

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

Sample Description and Concentration

BY-20 K. Reeverts Dairy Farm

Date Collected	01-04-00	02-01-00	03-06-00	04-04-00
Lab Code	BYMI-55	BYMI-571	BYMI-1233	BYMI-1982
I-131	0.17 ± 0.17; 0.17	-0.15 ± 0.15; 0.15	0.15 ± 0.23; 0.23	-0.01 ± 0.19; 0.19
Mn-54	-0.6 ± 2.0; 2.0	0.7 ± 2.1; 2.1	-0.5 ± 2.2; 2.2	1.8 ± 3.1; 3.1
Fe-59	1.4 ± 4.7; 4.7	-3.3 ± 5.7; 5.7	-4.1 ± 5.2; 5.2	-8.0 ± 6.9; 7.0
Co-58	-0.6 ± 2.1; 2.1	2.1 ± 2.4; 2.4	-1.7 ± 2.3; 2.3	0.2 ± 3.1; 3.1
Co-60	1.0 ± 2.5; 2.5	0.6 ± 2.7; 2.7	0.9 ± 2.5; 2.5	1.9 ± 3.1; 3.1
Zn-65	0.6 ± 4.9; 4.9	2.4 ± 6.3; 6.4	-10.8 ± 6.0; 6.2	-2.5 ± 8.1; 8.1
Zr/Nb-95	1.6 ± 2.0; 2.0	0.1 ± 2.4; 2.4	-1.8 ± 2.5; 2.5	2.4 ± 3.5; 3.5
Cs-134	1.9 ± 2.7; 2.7	0.2 ± 3.1; 3.1	1.5 ± 2.3; 2.3	-1.1 ± 3.5; 3.5
Cs-137	1.0 ± 2.3; 2.3	0.4 ± 2.9; 2.9	1.3 ± 2.2; 2.3	0.7 ± 3.3; 3.3
Ba/La-140	-2.0 ± 1.9; 1.9	4.4 ± 2.4; 2.4	-0.5 ± 1.9; 1.9	1.8 ± 3.1; 3.1
Date Collected	05-02-00	05-16-00	05-30-00	06-13-00
Lab Code	BYMI-2903	BYMI-3444	BYMI-3647	BYMI-3939
I-131	-0.21 ± 0.21; 0.21	0.15 ± 0.22; 0.22	0.03 ± 0.21; 0.21	-0.31 ± 0.24; 0.24
Mn-54	-0.0 ± 1.4; 1.4	2.1 ± 3.5; 3.6	0.7 ± 1.7; 1.7	2.0 ± 2.8; 2.8
Fe-59	-1.5 ± 3.3; 3.3	-2.9 ± 9.0; 9.0	5.5 ± 3.4; 3.4	-0.4 ± 6.5; 6.5
Co-58	0.1 ± 1.4; 1.4	-3.9 ± 3.7; 3.7	1.2 ± 1.5; 1.5	1.5 ± 3.3; 3.3
Co-60	1.2 ± 1.5; 1.5	-2.0 ± 4.6; 4.6	0.3 ± 1.8; 1.8	-0.7 ± 3.8; 3.8
Zn-65	5.8 ± 3.3; 3.4	1.0 ± 9.9; 9.9	1.6 ± 4.0; 4.0	-1.0 ± 7.2; 7.2
Zr/Nb-95	-1.1 ± 1.5; 1.5	1.3 ± 3.7; 3.7	0.3 ± 1.8; 1.8	-0.2 ± 2.8; 2.8
Cs-134	-1.9 ± 2.0; 2.0	2.1 ± 3.8; 3.8	0.3 ± 1.9; 1.9	-0.3 ± 3.4; 3.4
Cs-137	0.3 ± 1.6; 1.6	-2.3 ± 3.0; 3.1	-0.7 ± 1.3; 1.3	1.7 ± 2.5; 2.6
Ba/La-140	-0.5 ± 1.5; 1.5	2.7 ± 3.5; 3.5	1.6 ± 1.5; 1.5	0.3 ± 3.4; 3.4

BYRON

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

Sample Description and Concentration

BY-20 K. Reeverts Dairy Farm

Date Collected	06-27-00	07-11-00	07-25-00	08-08-00
Lab Code	BYMI-4344	BYMI-4884	BYMI-5341	BYMI-5773
I-131	0.10 ± 0.17; 0.17	0.15 ± 0.20; 0.20	-0.02 ± 0.16; 0.16	-0.19 ± 0.18; 0.19
Mn-54	2.6 ± 3.5; 3.5	1.2 ± 1.6; 1.6	1.3 ± 2.1; 2.1	1.2 ± 4.1; 4.1
Fe-59	-3.3 ± 6.7; 6.7	3.7 ± 3.2; 3.2	-3.8 ± 4.5; 4.6	0.7 ± 7.2; 7.2
Co-58	-0.4 ± 3.7; 3.7	-0.8 ± 1.6; 1.6	-1.0 ± 2.0; 2.0	-2.1 ± 3.5; 3.5
Co-60	1.9 ± 4.2; 4.2	0.5 ± 2.0; 2.0	-1.1 ± 2.8; 2.9	2.3 ± 4.8; 4.8
Zn-65	-1.1 ± 8.2; 8.2	6.0 ± 3.9; 4.0	2.1 ± 5.3; 5.3	5.6 ± 7.8; 7.8
Zr/Nb-95	-3.0 ± 3.6; 3.6	-0.5 ± 1.9; 1.9	-0.6 ± 2.1; 2.1	-3.8 ± 4.2; 4.3
Cs-134	0.3 ± 4.8; 4.8	0.8 ± 1.9; 1.9	-1.3 ± 2.3; 2.3	-0.2 ± 4.8; 4.8
Cs-137	-0.8 ± 3.8; 3.8	-0.7 ± 1.7; 1.7	-1.0 ± 2.3; 2.3	3.9 ± 4.2; 4.2
Ba/La-140	1.0 ± 3.6; 3.7	-2.6 ± 1.5; 1.5	-2.6 ± 1.8; 1.9	-0.4 ± 3.5; 3.5
Date Collected	08-22-00	09-05-00	09-19-00	10-03-00
Lab Code	BYMI-6054	BYMI-6412	BYMI-6853	BYMI-7314
I-131	0.01 ± 0.22; 0.22	-0.03 ± 0.18; 0.18	0.09 ± 0.15; 0.15	-0.06 ± 0.15; 0.15
Mn-54	0.3 ± 3.7; 3.7	-0.1 ± 1.9; 1.9	0.1 ± 0.6; 0.6	-0.7 ± 1.6; 1.6
Fe-59	1.9 ± 7.4; 7.4	-1.1 ± 4.9; 4.9	-0.5 ± 1.4; 1.4	-1.8 ± 3.9; 3.9
Co-58	1.0 ± 4.1; 4.1	1.3 ± 1.9; 1.9	1.1 ± 0.6; 0.6	0.8 ± 1.7; 1.7
Co-60	-0.6 ± 3.8; 3.8	0.4 ± 2.6; 2.6	0.9 ± 0.7; 0.7	1.6 ± 2.1; 2.1
Zn-65	2.3 ± 7.8; 7.8	-2.9 ± 4.9; 4.9	1.2 ± 1.6; 1.6	0.4 ± 4.0; 4.0
Zr/Nb-95	0.1 ± 3.8; 3.8	0.3 ± 1.9; 1.9	-0.6 ± 0.6; 0.6	-0.9 ± 1.6; 1.6
Cs-134	-0.2 ± 4.6; 4.6	1.4 ± 2.5; 2.5	-0.4 ± 0.7; 0.7	-1.4 ± 1.9; 1.9
Cs-137	-1.2 ± 3.6; 3.6	0.9 ± 2.3; 2.3	0.9 ± 0.7; 0.7	1.1 ± 1.7; 1.7
Ba/La-140	-2.6 ± 3.9; 3.9	0.4 ± 2.2; 2.2	-6.8 ± 0.6; 1.1	0.2 ± 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-20 K. Reeverts Dairy Farm

Date Collected	10-17-00	10-31-00	11-07-00	12-05-00
Lab Code	BYMI-8025	BYMI-8521	BYMI-8792	BYMI-9507
I-131	-0.14 ± 0.14; 0.14	0.11 ± 0.18; 0.18	0.03 ± 0.15; 0.15	0.06 ± 0.25; 0.25
Mn-54	0.1 ± 4.3; 4.3	-1.3 ± 2.1; 2.1	1.7 ± 1.5; 1.5	-1.9 ± 2.7; 2.7
Fe-59	-3.4 ± 9.0; 9.0	0.7 ± 5.4; 5.4	-4.3 ± 3.0; 3.1	-0.1 ± 5.7; 5.7
Co-58	2.3 ± 3.6; 3.6	1.6 ± 2.2; 2.2	-0.2 ± 1.4; 1.4	1.2 ± 2.5; 2.5
Co-60	2.5 ± 5.9; 5.9	-0.8 ± 3.0; 3.0	0.3 ± 1.7; 1.7	2.4 ± 3.4; 3.4
Zn-65	-0.4 ± 9.0; 9.0	0.6 ± 5.9; 5.9	-2.4 ± 3.6; 3.6	-1.2 ± 7.4; 7.4
Zr/Nb-95	-3.5 ± 4.5; 4.5	-2.2 ± 2.3; 2.3	1.8 ± 1.6; 1.6	-2.5 ± 2.5; 2.5
Cs-134	-1.1 ± 4.9; 4.9	0.1 ± 2.1; 2.1	2.2 ± 1.7; 1.7	-0.5 ± 3.2; 3.2
Cs-137	-0.1 ± 3.9; 3.9	1.0 ± 2.3; 2.3	0.9 ± 1.3; 1.3	0.3 ± 2.2; 2.2
Ba/La-140	2.0 ± 5.3; 5.4	-1.3 ± 1.7; 1.7	0.9 ± 1.5; 1.5	-3.2 ± 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-26 (C) Glenn Hazzard's Dairy Farm

Date Collected	01-04-00	02-01-00	03-06-00	04-04-00
Lab Code	BYMI-56	BYMI-572	BYMI-1234	BYMI-1983
I-131	0.06 ± 0.16; 0.16	0.02 ± 0.18; 0.18	0.10 ± 0.21; 0.21	0.21 ± 0.21; 0.21
Mn-54	1.1 ± 2.3; 2.3	0.4 ± 1.8; 1.8	-0.5 ± 3.2; 3.2	-1.3 ± 2.1; 2.1
Fe-59	2.6 ± 5.3; 5.3	-2.3 ± 4.3; 4.3	-1.9 ± 7.6; 7.6	-2.3 ± 4.1; 4.1
Co-58	1.9 ± 2.4; 2.4	-0.2 ± 1.7; 1.7	0.6 ± 2.9; 2.9	-1.3 ± 2.4; 2.4
Co-60	-0.3 ± 2.5; 2.5	-0.6 ± 2.0; 2.0	2.2 ± 3.5; 3.5	0.8 ± 2.7; 2.7
Zn-65	-2.1 ± 6.4; 6.4	-1.5 ± 5.5; 5.5	0.5 ± 8.0; 8.0	-1.6 ± 5.9; 5.9
Zr/Nb-95	0.5 ± 2.2; 2.2	-0.3 ± 1.9; 1.9	0.4 ± 3.2; 3.2	-2.1 ± 4.7; 4.7
Cs-134	2.2 ± 2.5; 2.5	-1.7 ± 2.2; 2.2	-3.2 ± 3.7; 3.7	-2.8 ± 2.9; 2.9
Cs-137	1.1 ± 2.9; 2.9	0.7 ± 2.2; 2.2	-2.4 ± 3.2; 3.3	0.7 ± 2.1; 2.1
Ba/La-140	1.2 ± 2.2; 2.3	-1.1 ± 1.7; 1.7	2.2 ± 3.6; 3.6	-4.4 ± 2.5; 2.5
Date Collected	05-02-00	05-16-00		
Lab Code	BYMI-2904	NS ^a		
I-131	-0.07 ± 0.21; 0.21	-		
Mn-54	-1.3 ± 3.7; 3.7	-		
Fe-59	-5.6 ± 8.1; 8.2	-		
Co-58	-2.8 ± 3.9; 3.9	-		
Co-60	-2.0 ± 3.5; 3.5	-		
Zn-65	-5.6 ± 9.0; 9.0	-		
Zr/Nb-95	1.5 ± 3.4; 3.4	-		
Cs-134	-0.1 ± 3.8; 3.8	-		
Cs-137	-2.9 ± 4.0; 4.0	-		
Ba/La-140	-4.2 ± 3.7; 3.8	-		

^a NS = No sample; dairy requested removal from program on May 2, 2000.

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	06-13-00	06-27-00	07-11-00	07-25-00
Lab Code	BYMI-3940 ^a	BYMI-4345	BYMI-4885	BYMI-5342
I-131	0.13 ± 0.23; 0.23	0.09 ± 0.18; 0.18	0.06 ± 0.18; 0.18	0.18 ± 0.20; 0.20
Mn-54	0.5 ± 2.8; 2.8	-0.5 ± 3.5; 3.5	-1.5 ± 3.3; 3.4	0.3 ± 3.3; 3.3
Fe-59	3.0 ± 6.3; 6.3	-3.5 ± 8.1; 8.1	3.0 ± 7.3; 7.3	-1.1 ± 9.1; 9.1
Co-58	-0.2 ± 3.1; 3.1	1.3 ± 2.8; 2.8	4.1 ± 3.0; 3.1	1.3 ± 2.7; 2.7
Co-60	-0.5 ± 4.0; 4.0	2.6 ± 3.8; 3.9	-1.9 ± 3.2; 3.2	-1.6 ± 3.8; 3.8
Zn-65	3.6 ± 6.1; 6.1	-0.8 ± 8.7; 8.7	-7.7 ± 6.3; 6.4	-2.5 ± 10.4; 10.4
Zr/Nb-95	-0.5 ± 3.0; 3.0	-1.3 ± 3.2; 3.2	-0.5 ± 3.2; 3.2	1.0 ± 3.4; 3.4
Cs-134	-0.7 ± 3.5; 3.5	-4.1 ± 4.2; 4.2	0.2 ± 3.7; 3.7	-0.3 ± 4.6; 4.6
Cs-137	0.7 ± 3.3; 3.3	-2.2 ± 3.7; 3.7	1.9 ± 2.6; 2.6	-0.2 ± 3.0; 3.0
Ba/La-140	-2.2 ± 3.5; 3.6	-6.4 ± 3.6; 3.7	5.1 ± 2.4; 2.5	1.5 ± 2.9; 3.0
Date Collected	08-08-00	08-22-00	09-05-00	09-19-00
Lab Code	BYMI-5774	BYMI-6055	BYMI-6413	BYMI-6854
I-131	-0.18 ± 0.21; 0.21	0.02 ± 0.19; 0.19	-0.07 ± 0.19; 0.19	0.05 ± 0.15; 0.15
Mn-54	-0.4 ± 1.6; 1.6	-3.1 ± 4.6; 4.6	0.1 ± 2.2; 2.2	0.9 ± 2.9; 2.9
Fe-59	1.2 ± 3.9; 3.9	2.9 ± 7.6; 7.6	2.2 ± 3.9; 3.9	3.2 ± 6.9; 6.9
Co-58	0.3 ± 1.9; 1.9	0.1 ± 3.3; 3.3	-1.2 ± 1.9; 1.9	-0.3 ± 2.9; 2.9
Co-60	0.6 ± 2.2; 2.2	4.1 ± 2.9; 3.0	2.4 ± 2.1; 2.1	-1.0 ± 4.0; 4.0
Zn-65	1.2 ± 4.3; 4.3	-1.3 ± 10.7; 10.7	2.5 ± 4.6; 4.6	0.8 ± 7.1; 7.1
Zr/Nb-95	-0.3 ± 1.8; 1.8	-3.3 ± 3.2; 3.2	0.4 ± 1.8; 1.8	-1.5 ± 3.4; 3.4
Cs-134	-0.3 ± 2.3; 2.3	-1.2 ± 3.8; 3.8	0.9 ± 2.2; 2.2	2.5 ± 3.4; 3.4
Cs-137	1.5 ± 1.8; 1.8	-0.8 ± 3.7; 3.7	1.8 ± 1.8; 1.8	1.5 ± 3.0; 3.0
Ba/La-140	-1.0 ± 1.2; 1.2	-6.4 ± 4.7; 4.8	0.3 ± 1.7; 1.7	-0.3 ± 3.7; 3.7

^a Dairy replaces BY-26, Glenn Hazzard Dairy.

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	10-03-00	10-17-00	10-31-00	11-07-00
Lab Code	BYMI-7315	BYMI-8026	BYMI-8523	BYMI-8793
I-131	0.01 ± 0.16; 0.16	-0.01 ± 0.14; 0.14	0.07 ± 0.17; 0.17	-0.11 ± 0.18; 0.18
Mn-54	-1.3 ± 2.0; 2.0	0.2 ± 3.2; 3.2	1.1 ± 1.6; 1.6	2.4 ± 2.2; 2.2
Fe-59	0.5 ± 5.0; 5.0	-7.3 ± 6.7; 6.8	-3.6 ± 4.1; 4.1	-2.5 ± 4.9; 4.9
Co-58	-1.3 ± 2.1; 2.1	-1.0 ± 3.7; 3.7	-0.4 ± 1.8; 1.8	0.1 ± 2.0; 2.0
Co-60	0.2 ± 2.3; 2.3	3.4 ± 4.2; 4.2	1.6 ± 1.8; 1.8	1.1 ± 2.2; 2.2
Zn-65	-2.2 ± 6.0; 6.0	1.7 ± 7.2; 7.2	0.4 ± 3.8; 3.8	-0.7 ± 6.2; 6.2
Zr/Nb-95	0.7 ± 2.1; 2.1	0.3 ± 4.0; 4.0	3.6 ± 2.6; 2.6	-1.6 ± 2.2; 2.2
Cs-134	0.4 ± 1.9; 1.9	0.1 ± 3.9; 3.9	0.1 ± 2.0; 2.0	-0.1 ± 2.3; 2.3
Cs-137	0.9 ± 2.1; 2.1	1.7 ± 3.8; 3.8	-0.3 ± 1.7; 1.7	-0.3 ± 2.3; 2.3
Ba/La-140	1.9 ± 1.9; 1.9	-1.9 ± 3.9; 4.0	0.2 ± 2.0; 2.0	-0.4 ± 1.9; 1.9

Date Collected	12-05-00
Lab Code	BYMI-9508
I-131	0.03 ± 0.23; 0.23
Mn-54	4.1 ± 3.9; 3.9
Fe-59	3.5 ± 7.9; 7.9
Co-58	0.1 ± 3.8; 3.8
Co-60	-4.9 ± 3.9; 4.0
Zn-65	-4.1 ± 8.1; 8.1
Zr/Nb-95	-0.2 ± 4.2; 4.2
Cs-134	3.0 ± 4.1; 4.1
Cs-137	4.0 ± 5.8; 5.8
Ba/La-140	-3.7 ± 3.8; 3.8

BYRON

Table 3 .	Milk	
Collection:	Biweekly (May - October)	
	Monthly (November - April)	
ODCM-	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April),	
Required LLDs:	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	01-04-00	02-01-00	03-06-00	04-04-00
Lab Code	BYMI-57	BYMI-573	BYMI-1235	BYMI-1984
I-131	0.18 ± 0.23; 0.23	-0.08 ± 0.17; 0.17	-0.04 ± 0.19; 0.19	0.15 ± 0.19; 0.19
Mn-54	-0.4 ± 2.2; 2.2	-0.9 ± 2.0; 2.0	1.8 ± 2.0; 2.0	-0.7 ± 3.4; 3.4
Fe-59	-5.6 ± 5.4; 5.5	1.9 ± 4.1; 4.1	-2.5 ± 4.5; 4.6	-4.5 ± 7.1; 7.1
Co-58	-0.4 ± 2.1; 2.1	-0.1 ± 2.2; 2.2	-0.5 ± 1.9; 1.9	1.3 ± 2.6; 2.6
Co-60	0.4 ± 2.2; 2.2	1.2 ± 1.9; 1.9	0.3 ± 2.2; 2.2	0.7 ± 3.4; 3.4
Zn-65	-0.9 ± 5.2; 5.2	-2.9 ± 4.9; 4.9	-11.1 ± 5.5; 5.7	-1.4 ± 8.9; 8.9
Zr/Nb-95	1.7 ± 2.1; 2.1	0.7 ± 2.1; 2.1	-1.6 ± 2.2; 2.2	0.4 ± 2.6; 2.6
Cs-134	0.2 ± 2.3; 2.3	-1.4 ± 2.4; 2.4	0.5 ± 2.6; 2.6	0.6 ± 3.5; 3.5
Cs-137	0.4 ± 2.3; 2.3	-2.9 ± 2.3; 2.4	-0.9 ± 2.2; 2.2	1.8 ± 3.5; 3.5
Ba/La-140	2.7 ± 2.0; 2.0	-2.1 ± 2.0; 2.0	0.5 ± 1.8; 1.8	1.0 ± 3.1; 3.1
Date Collected	05-02-00	05-16-00	05-30-00	06-13-00
Lab Code	BYMI-2905	BYMI-3445	BYMI-3648	BYMI-3941
I-131	-0.18 ± 0.21; 0.21	0.01 ± 0.17; 0.17	-0.01 ± 0.16; 0.16	-0.03 ± 0.24; 0.24
Mn-54	-0.8 ± 1.7; 1.7	6.5 ± 3.4; 3.5	-0.1 ± 3.6; 3.6	2.0 ± 4.2; 4.2
Fe-59	0.8 ± 5.6; 5.6	2.2 ± 7.3; 7.3	6.4 ± 6.3; 6.4	-3.6 ± 8.6; 8.7
Co-58	0.3 ± 1.8; 1.8	2.7 ± 3.6; 3.6	3.0 ± 3.3; 3.4	0.8 ± 3.1; 3.1
Co-60	-0.1 ± 2.3; 2.3	-4.6 ± 5.0; 5.0	1.6 ± 3.2; 3.2	-0.8 ± 5.2; 5.2
Zn-65	-2.3 ± 6.5; 6.5	-3.2 ± 8.8; 8.8	4.8 ± 7.9; 7.9	1.7 ± 9.4; 9.4
Zr/Nb-95	-4.1 ± 2.2; 2.3	-0.8 ± 3.6; 3.6	2.5 ± 3.7; 3.7	0.1 ± 3.1; 3.1
Cs-134	-0.3 ± 2.2; 2.2	-2.6 ± 4.4; 4.4	0.2 ± 3.5; 3.5	-2.3 ± 3.8; 3.8
Cs-137	-0.8 ± 2.2; 2.2	3.4 ± 3.2; 3.2	2.6 ± 3.7; 3.8	-3.0 ± 4.0; 4.0
Ba/La-140	-1.5 ± 1.5; 1.5	-3.1 ± 2.8; 2.8	0.7 ± 3.3; 3.3	-1.3 ± 3.8; 3.8

BYRON

Table 3.	Milk	
Collection:	Biweekly (May - October)	
	Monthly (November - April)	
ODCM-	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April),	
Required LLDs:	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	06-27-00	07-11-00	07-25-00	08-08-00
Lab Code	BYMI-4346	BYMI-4886	BYMI-5343	BYMI-5775
I-131	0.14 ± 0.17; 0.17	0.15 ± 0.19; 0.19	0.01 ± 0.17; 0.17	-0.05 ± 0.21; 0.21
Mn-54	0.7 ± 2.7; 2.7	0.3 ± 1.0; 1.0	0.3 ± 3.7; 3.7	3.4 ± 3.9; 3.9
Fe-59	0.2 ± 5.8; 5.8	0.8 ± 2.4; 2.4	6.6 ± 7.8; 7.9	1.7 ± 8.1; 8.1
Co-58	-1.0 ± 2.5; 2.5	0.7 ± 0.9; 0.9	-2.1 ± 3.4; 3.5	-1.0 ± 3.8; 3.8
Co-60	0.6 ± 2.1; 2.1	0.5 ± 1.1; 1.1	-0.9 ± 4.5; 4.5	2.7 ± 3.9; 3.9
Zn-65	-4.7 ± 7.8; 7.8	-2.3 ± 2.5; 2.5	7.0 ± 9.4; 9.4	2.9 ± 9.8; 9.8
Zr/Nb-95	-2.9 ± 2.7; 2.7	-0.7 ± 1.0; 1.0	-0.0 ± 3.6; 3.6	0.4 ± 3.1; 3.1
Cs-134	-1.2 ± 2.8; 2.8	1.5 ± 1.1; 1.1	-0.7 ± 4.2; 4.2	1.5 ± 2.8; 2.8
Cs-137	-3.3 ± 3.0; 3.0	-0.1 ± 1.0; 1.0	-0.4 ± 4.1; 4.1	-2.3 ± 3.3; 3.3
Ba/La-140	1.5 ± 2.1; 2.1	1.1 ± 0.8; 0.8	-4.4 ± 4.5; 4.5	-1.5 ± 3.7; 3.7
Date Collected	08-22-00	09-05-00	09-19-00	10-03-00
Lab Code	BYMI-6056	BYMI-6414	BYMI-6855	BYMI-7316
I-131	-0.10 ± 0.20; 0.20	0.03 ± 0.20; 0.20	0.08 ± 0.16; 0.16	0.10 ± 0.17; 0.17
Mn-54	0.5 ± 2.1; 2.1	-0.0 ± 2.5; 2.5	1.6 ± 2.3; 2.3	1.7 ± 1.7; 1.7
Fe-59	1.9 ± 4.3; 4.3	0.4 ± 4.5; 4.5	0.7 ± 5.8; 5.8	-0.9 ± 3.9; 3.9
Co-58	-0.5 ± 2.2; 2.2	0.7 ± 2.2; 2.2	-1.8 ± 2.5; 2.5	-0.1 ± 1.9; 1.9
Co-60	-1.4 ± 2.4; 2.4	-0.1 ± 3.0; 3.0	0.9 ± 2.2; 2.2	0.8 ± 2.0; 2.0
Zn-65	-2.8 ± 5.3; 5.4	5.3 ± 5.1; 5.2	2.4 ± 6.9; 7.0	0.4 ± 3.8; 3.8
Zr/Nb-95	0.3 ± 2.3; 2.3	-1.5 ± 2.6; 2.6	-1.8 ± 2.6; 2.6	2.2 ± 1.7; 1.8
Cs-134	0.6 ± 2.3; 2.3	2.5 ± 2.7; 2.7	-2.8 ± 2.8; 2.8	1.5 ± 2.1; 2.1
Cs-137	0.4 ± 2.1; 2.1	0.2 ± 2.3; 2.3	2.2 ± 2.7; 2.7	0.8 ± 1.7; 1.7
Ba/La-140	-4.3 ± 2.4; 2.5	0.4 ± 2.2; 2.2	1.3 ± 2.2; 2.2	1.1 ± 1.5; 1.5

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-30 Don Roos Dairy

Date Collected	10-17-00	10-31-00	11-07-00	12-05-00
Lab Code	BYMI-8027	BYMI-8524	BYMI-8794	BYMI-9509
I-131	-0.04 ± 0.14; 0.14	-0.08 ± 0.17; 0.17	-0.18 ± 0.20; 0.20	0.12 ± 0.19; 0.19
Mn-54	3.7 ± 6.0; 6.1	-0.3 ± 2.2; 2.2	0.3 ± 1.8; 1.8	1.6 ± 2.1; 2.1
Fe-59	4.8 ± 11.9; 11.9	0.8 ± 5.3; 5.3	-1.5 ± 3.8; 3.9	-0.7 ± 5.1; 5.1
Co-58	-1.1 ± 5.0; 5.0	0.9 ± 2.0; 2.0	0.6 ± 1.8; 1.8	-0.5 ± 2.0; 2.0
Co-60	-0.7 ± 6.0; 6.0	-0.7 ± 2.6; 2.6	0.6 ± 2.1; 2.1	0.2 ± 2.8; 2.8
Zn-65	-4.3 ± 10.2; 10.2	-5.4 ± 6.0; 6.0	-1.4 ± 4.2; 4.2	-4.8 ± 5.8; 5.9
Zr/Nb-95	1.8 ± 4.2; 4.2	-0.2 ± 2.4; 2.4	1.3 ± 2.1; 2.1	-0.8 ± 2.2; 2.2
Cs-134	-0.5 ± 5.6; 5.6	-0.6 ± 2.0; 2.0	0.1 ± 2.1; 2.1	1.3 ± 2.6; 2.6
Cs-137	-2.7 ± 4.4; 4.5	0.5 ± 2.1; 2.1	1.7 ± 1.9; 1.9	0.2 ± 2.4; 2.4
Ba/La-140	2.8 ± 4.2; 4.2	-1.1 ± 2.3; 2.3	-1.5 ± 2.3; 2.3	-1.4 ± 1.8; 1.8

BYRON

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-

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

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

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

Sample Description and Concentration

BY-29 (C) Byron, Upstream

Date Collected	05-02-00	05-02-00	05-02-00	05-02-00
Lab Code	BYF-2818	BYF-2819	BYF-2820	BYF-2821
Type	Freshwater Drum	Shorthead Redhorse	Bigmouth Buffalo	River Carpsucker
Mn-54	0.2 ± 0.7; 0.7	-0.2 ± 0.7; 0.7	-0.3 ± 0.6; 0.6	0.1 ± 0.7; 0.7
Fe-59	0.3 ± 1.4; 1.4	-0.2 ± 1.7; 1.7	-0.4 ± 1.5; 1.5	0.8 ± 1.7; 1.7
Co-58	0.4 ± 0.8; 0.8	-0.5 ± 0.9; 0.9	-0.4 ± 0.7; 0.7	0.0 ± 0.8; 0.8
Co-60	-0.6 ± 0.7; 0.7	-1.2 ± 0.9; 0.9	-0.4 ± 1.0; 1.0	0.6 ± 1.0; 1.0
Zn-65	-0.6 ± 2.1; 2.1	1.0 ± 1.7; 1.7	1.3 ± 1.6; 1.6	-0.4 ± 1.9; 1.9
Zr/Nb-95	-1.2 ± 0.7; 0.7	1.2 ± 0.8; 0.8	-0.2 ± 0.7; 0.7	-1.1 ± 0.8; 0.8
Cs-134	0.7 ± 0.9; 0.9	-0.8 ± 0.8; 0.9	-0.2 ± 0.8; 0.8	-0.6 ± 0.8; 0.8
Cs-137	0.1 ± 0.7; 0.7	0.2 ± 0.7; 0.7	1.2 ± 0.9; 0.9	0.5 ± 0.7; 0.7
Ba/La-140	1.8 ± 0.5; 0.6	-1.0 ± 0.9; 0.9	-1.2 ± 0.5; 0.5	-2.5 ± 1.0; 1.0
Date Collected	10-24-00	10-24-00	10-24-00	10-24-00
Lab Code	BYF-8264	BYF-8265	BYF-8266	BYF-8267
Type	Carp	Silver Redhorse	Shorthead Redhorse	Bigmouth Buffalo
Mn-54	-0.1 ± 0.8; 0.8	-0.3 ± 0.8; 0.8	-0.1 ± 0.6; 0.6	-0.0 ± 0.8; 0.8
Fe-59	0.6 ± 1.7; 1.7	-1.8 ± 1.9; 1.9	0.1 ± 1.3; 1.3	0.0 ± 1.7; 1.7
Co-58	-0.2 ± 0.7; 0.7	0.3 ± 0.7; 0.7	-0.0 ± 0.6; 0.6	-0.3 ± 0.6; 0.6
Co-60	0.2 ± 0.6; 0.6	0.4 ± 0.9; 0.9	0.1 ± 0.7; 0.7	-0.2 ± 1.0; 1.0
Zn-65	-0.1 ± 1.6; 1.6	-2.7 ± 2.1; 2.1	0.5 ± 1.6; 1.6	-2.0 ± 2.2; 2.2
Zr/Nb-95	-0.0 ± 0.8; 0.8	-0.6 ± 0.7; 0.7	0.1 ± 0.5; 0.5	0.1 ± 0.8; 0.8
Cs-134	-0.1 ± 0.9; 0.9	-0.4 ± 0.8; 0.8	-0.6 ± 0.7; 0.7	0.2 ± 0.8; 0.8
Cs-137	0.7 ± 0.8; 0.8	0.2 ± 0.7; 0.7	-0.0 ± 0.5; 0.5	1.2 ± 0.8; 0.8
Ba/La-140	-0.9 ± 0.8; 0.9	-0.1 ± 0.8; 0.8	-0.2 ± 0.6; 0.6	0.2 ± 0.7; 0.7

BYRON

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-

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

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

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

Sample Description and Concentration

BY-29 (C) Byron, Upstream

Date

Collected 10-24-00

Lab Code

BYF-8268

Type

Freshwater Drum

Mn-54 -0.4 ± 1.2 ; 1.2Fe-59 -0.6 ± 2.3 ; 2.3Co-58 -0.7 ± 1.0 ; 1.0Co-60 0.3 ± 1.4 ; 1.4Zn-65 -1.5 ± 3.1 ; 3.1Zr/Nb-95 0.4 ± 1.2 ; 1.2Cs-134 1.0 ± 1.2 ; 1.2Cs-137 -0.4 ± 0.9 ; 0.9Ba/La-140 -0.5 ± 1.2 ; 1.2

BYRON

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-

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

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

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

Sample Description and Concentration

BY-31 Byron Discharge

Date Collected	05-02-00	05-02-00	05-02-00	05-02-00
Lab Code	BYF-2822	BYF-2823	BYF-2824	BYF-2825
Type	Freshwater Drum	River Carpsucker	Golden Redhorse	Carp
Mn-54	-0.3 ± 0.5; 0.5	0.2 ± 0.5; 0.5	0.3 ± 0.7; 0.7	-0.1 ± 0.4; 0.4
Fe-59	-1.1 ± 1.3; 1.3	1.0 ± 0.7; 0.7	-0.1 ± 1.7; 1.7	0.1 ± 1.2; 1.2
Co-58	0.0 ± 0.4; 0.4	-0.4 ± 0.4; 0.4	-0.3 ± 0.6; 0.6	-0.2 ± 0.5; 0.5
Co-60	0.6 ± 0.6; 0.6	0.6 ± 0.6; 0.6	0.5 ± 0.9; 0.9	0.8 ± 0.6; 0.6
Zn-65	-1.8 ± 1.3; 1.3	-0.5 ± 1.0; 1.0	-0.2 ± 1.8; 1.8	-0.8 ± 1.1; 1.1
Zr/Nb-95	-0.3 ± 0.5; 0.5	-0.6 ± 0.5; 0.5	0.7 ± 0.7; 0.7	0.1 ± 0.5; 0.5
Cs-134	0.2 ± 0.6; 0.6	0.5 ± 0.5; 0.5	0.6 ± 0.9; 0.9	0.2 ± 0.5; 0.5
Cs-137	0.1 ± 0.5; 0.5	-0.6 ± 0.5; 0.5	-0.5 ± 0.8; 0.8	-0.0 ± 0.5; 0.5
Ba/La-140	-1.3 ± 0.6; 0.6	-0.1 ± 0.4; 0.4	0.6 ± 0.8; 0.8	2.0 ± 0.4; 0.5
Date Collected	10-24-00	10-24-00	10-24-00	10-24-00
Lab Code	BYF-8269	BYF-8270	BYF-8271	BYF-8272
Type	Golden Redhorse	Carp	Quillback	Silver Redhorse
Mn-54	-0.4 ± 0.6; 0.6	-0.6 ± 0.7; 0.7	0.2 ± 0.7; 0.7	0.3 ± 0.7; 0.7
Fe-59	1.3 ± 1.2; 1.2	0.3 ± 1.4; 1.4	0.1 ± 1.5; 1.5	-1.0 ± 1.4; 1.4
Co-58	-0.2 ± 0.5; 0.5	0.1 ± 0.7; 0.7	-0.3 ± 0.7; 0.7	-0.4 ± 0.6; 0.6
Co-60	-0.5 ± 0.8; 0.8	-0.7 ± 0.9; 0.9	1.3 ± 0.8; 0.8	0.5 ± 0.9; 0.9
Zn-65	-0.1 ± 1.2; 1.2	0.6 ± 2.0; 2.0	0.3 ± 1.8; 1.8	-0.3 ± 1.7; 1.7
Zr/Nb-95	0.6 ± 0.6; 0.6	-0.1 ± 0.7; 0.7	0.3 ± 0.7; 0.7	0.2 ± 0.6; 0.6
Cs-134	0.3 ± 0.7; 0.7	0.2 ± 0.9; 0.9	-0.4 ± 0.9; 0.9	0.0 ± 0.7; 0.7
Cs-137	0.0 ± 0.5; 0.5	-0.1 ± 0.7; 0.7	-0.0 ± 0.7; 0.7	0.4 ± 0.6; 0.6
Ba/La-140	-1.3 ± 0.6; 0.6	-0.9 ± 0.7; 0.7	0.6 ± 0.6; 0.6	-1.8 ± 0.6; 0.7

BYRON

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-

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

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

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

Sample Description and Concentration

BY-31 Byron, Discharge

Date

Collected

10-24-00

Lab Code

BYF-8273,4

Type

Freshwater Drum

Mn-54

 -0.0 ± 0.5 ; 0.5

Fe-59

 -0.8 ± 0.9 ; 0.9

Co-58

 0.1 ± 0.4 ; 0.4

Co-60

 -0.2 ± 0.6 ; 0.6

Zn-65

 0.4 ± 1.1 ; 1.1

Zr/Nb-95

 0.1 ± 0.4 ; 0.4

Cs-134

 -0.1 ± 0.5 ; 0.5

Cs-137

 0.4 ± 0.5 ; 0.5

Ba/La-140

 -0.4 ± 0.5 ; 0.5

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 = 0.10; Fe-59 = 0.60; Co-58; Co-60 = 0.10; Zn-65 = 0.60; Zr/Nb-95 = 0.20
Ba/La-140 = 0.60 pCi/g dry weight

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

Sample Description and Concentration

BY-12 Oregon Pool of Rock River

Date Collected	05-09-00	10-10-00
Lab Code	BYBS-3277	BYBS-7741
Mn-54	0.5 ± 0.6 ; 0.6	0.0 ± 1.2 ; 1.2
Fe-59	-3.3 ± 1.5 ; 1.5	-0.6 ± 2.6 ; 2.6
Co-58	0.7 ± 0.5 ; 0.6	-0.3 ± 1.1 ; 1.1
Co-60	0.7 ± 0.9 ; 0.9	-0.7 ± 1.6 ; 1.6
Zn-65	0.3 ± 1.6 ; 1.6	0.9 ± 3.2 ; 3.2
Zr/Nb-95	-2.2 ± 0.6 ; 0.7	-1.8 ± 1.1 ; 1.1
Cs-134	1.3 ± 0.8 ; 0.8	0.1 ± 1.4 ; 1.4
Cs-137	3.0 ± 1.6 ; 1.6	1.6 ± 1.3 ; 1.4
Ba/La-140	-1.8 ± 0.7 ; 0.7	-2.8 ± 1.2 ; 1.3

BY-34 Rock River, Downstream

Date Collected	05-09-00	10-10-00
Lab Code	BYBS-3278	BYBS-7742
Mn-54	-0.5 ± 0.5 ; 0.6	0.1 ± 1.1 ; 1.1
Fe-59	-2.2 ± 1.2 ; 1.3	2.3 ± 2.3 ; 2.4
Co-58	1.0 ± 0.4 ; 0.4	0.4 ± 1.0 ; 1.0
Co-60	-0.3 ± 0.6 ; 0.6	-1.0 ± 1.2 ; 1.2
Zn-65	2.4 ± 1.1 ; 1.1	0.8 ± 2.8 ; 2.8
Zr/Nb-95	-0.8 ± 0.6 ; 0.6	-1.3 ± 1.3 ; 1.3
Cs-134	0.8 ± 0.6 ; 0.6	1.8 ± 1.4 ; 1.4
Cs-137	0.3 ± 0.5 ; 0.5	3.1 ± 1.5 ; 1.5
Ba/La-140	-0.2 ± 0.6 ; 0.6	1.4 ± 1.2 ; 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 weightUnits: 10^{-2} pCi/g wet weight

Sample Description and Concentration

BY-Control 14784 Berglund Road

Date Collected	08-15-00	08-15-00
Lab Code	BYVE-5964 ^a	BYVE-5965 ^a
Type	Carrots	Cabbage
I-131	0.21 ± 0.58; 0.58	0.04 ± 0.56; 0.56
Mn-54	0.3 ± 0.6; 0.6	0.2 ± 0.6; 0.6
Fe-59	-0.5 ± 1.3; 1.3	0.9 ± 1.2; 1.2
Co-58	0.4 ± 0.6; 0.6	-0.0 ± 0.5; 0.5
Co-60	-0.2 ± 0.7; 0.7	-0.3 ± 0.9; 0.9
Zn-65	-0.3 ± 1.7; 1.7	0.8 ± 1.4; 1.4
Zr/Nb-95	0.1 ± 0.6; 0.6	-0.3 ± 0.6; 0.6
Cs-134	-0.5 ± 0.7; 0.7	0.0 ± 0.7; 0.7
Cs-137	-0.3 ± 0.5; 0.5	0.5 ± 0.7; 0.7
Ba/La-140	-0.3 ± 0.6; 0.6	0.3 ± 0.8; 0.8

BY-Quad 1 7083 N. River Road

Date Collected	08-15-00	08-15-00
Lab Code	BYVE-5954 ^a	BYVE-5956 ^a
Type	Cabbage	Beets
I-131	0.53 ± 0.77; 0.78	0.06 ± 0.35; 0.35
Mn-54	-0.3 ± 0.9; 0.9	0.0 ± 0.4; 0.4
Fe-59	-0.4 ± 2.0; 2.0	0.2 ± 1.3; 1.3
Co-58	-0.6 ± 1.0; 1.0	0.2 ± 0.3; 0.3
Co-60	0.6 ± 1.0; 1.0	-0.1 ± 0.6; 0.6
Zn-65	-1.8 ± 2.0; 2.0	-0.8 ± 1.0; 1.1
Zr/Nb-95	-0.8 ± 0.9; 0.9	-0.4 ± 0.4; 0.4
Cs-134	-0.5 ± 1.1; 1.1	0.2 ± 0.5; 0.5
Cs-137	0.5 ± 0.8; 0.8	-0.2 ± 0.4; 0.4
Ba/La-140	-0.7 ± 0.8; 0.8	-0.2 ± 0.5; 0.5

^a ODCM-required. Carrots, beets = root vegetation; cabbage = broad leaf.

BYRON

Table 6. Vegetation

Collection: Annually

ODCM-

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

Other LLDs: Mn-54 = 0.05; Fe-59 = 0.10; Co-58, Co-60, Zn-65 = 0.05; Zr/Nb-95 = 0.01;
Ba/La-140 = 0.02 pCi/g wet weightUnits: 10^{-2} pCi/g wet weight

Sample Description and Concentration

BY-Quad 2 3485 German Church Road

Date Collected	08-15-00	08-15-00
Lab Code	BYVE-5957 ^a	BYVE-5958 ^a
Type	Rhubarb leaves	Potatoes
I-131	0.23 ± 0.50; 0.51	0.48 ± 0.46; 0.47
Mn-54	0.1 ± 0.7; 0.7	0.0 ± 0.5; 0.5
Fe-59	0.2 ± 1.8; 1.8	-0.2 ± 1.5; 1.5
Co-58	0.4 ± 0.8; 0.8	0.4 ± 0.5; 0.5
Co-60	-0.6 ± 1.0; 1.0	-0.1 ± 0.7; 0.7
Zn-65	0.6 ± 2.0; 2.0	0.3 ± 1.6; 1.6
Zr/Nb-95	0.0 ± 0.9; 0.9	0.1 ± 0.5; 0.5
Cs-134	0.0 ± 0.8; 0.8	-0.4 ± 0.7; 0.7
Cs-137	0.4 ± 0.8; 0.8	0.5 ± 0.6; 0.6
Ba/La-140	-0.2 ± 0.6; 0.6	0.2 ± 0.5; 0.5

BY-Quad 3 1417 Brick Road

Date Collected	08-15-00	08-15-00
Lab Code	BYVE-5959 ^a	BYVE-5960 ^a
Type	Potatoes	Cabbage
I-131	0.22 ± 0.59; 0.59	0.27 ± 0.35; 0.35
Mn-54	-0.0 ± 0.9; 0.9	-0.1 ± 0.4; 0.4
Fe-59	-0.2 ± 1.9; 1.9	0.8 ± 0.8; 0.8
Co-58	0.2 ± 0.6; 0.6	0.0 ± 0.4; 0.4
Co-60	0.1 ± 0.9; 0.9	0.1 ± 0.4; 0.4
Zn-65	0.6 ± 2.3; 2.3	0.5 ± 1.0; 1.0
Zr/Nb-95	0.2 ± 0.7; 0.7	-0.0 ± 0.4; 0.4
Cs-134	-0.2 ± 0.9; 0.9	0.4 ± 0.4; 0.4
Cs-137	0.3 ± 0.7; 0.7	-0.1 ± 0.3; 0.3
Ba/La-140	-0.2 ± 0.7; 0.7	0.2 ± 0.3; 0.3

^a ODCM-required. Potatoes = root vegetation; rhubarb leaves, cabbage = broad leaf.

BYRON

Table 6.	Vegetation
Collection:	Annually
ODCM-	
Required LLDs:	I-131 = 0.06, Cs-134 = 0.06, Cs-137 = 0.08 pCi/g wet weight
Other LLDs:	Mn-54 = 0.05; Fe-59 = 0.10; Co-58, Co-60, Zn-65 = 0.05; Zr/Nb-95 = 0.01; Ba/La-140 = 0.02 pCi/g wet weight
Units:	10^{-2} pCi/g wet weight

Sample Description and Concentration

<u>BY-Quad 4 6170 Razorville Road</u>		
Date Collected	08-15-00	08-15-00
Lab Code	BYVE-5961 ^a	BYVE-5962 ^a
Type	Cauliflower leaves	Lettuce
I-131	0.21 ± 0.51; 0.51	-0.28 ± 0.65; 0.65
Mn-54	-0.2 ± 0.6; 0.6	0.2 ± 0.8; 0.8
Fe-59	0.1 ± 1.5; 1.5	-0.4 ± 1.9; 1.9
Co-58	-0.4 ± 0.6; 0.6	0.6 ± 0.7; 0.7
Co-60	0.5 ± 0.8; 0.8	1.7 ± 1.0; 1.0
Zn-65	-2.4 ± 1.8; 1.8	-0.2 ± 2.0; 2.0
Zr/Nb-95	-0.1 ± 0.7; 0.7	-0.8 ± 0.8; 0.8
Cs-134	-0.0 ± 0.6; 0.6	-0.0 ± 0.9; 0.9
Cs-137	-0.5 ± 0.7; 0.7	0.4 ± 0.9; 0.9
Ba/La-140	-0.3 ± 0.6; 0.6	-0.9 ± 0.8; 0.9
Date Collected	08-15-00	
Lab Code	BYVE-5963 ^a	
Type	Potatoes	
I-131	1.08 ± 0.70; 0.71	
Mn-54	-0.1 ± 0.7; 0.7	
Fe-59	-0.7 ± 1.8; 1.8	
Co-58	-0.1 ± 0.7; 0.7	
Co-60	0.8 ± 0.9; 0.9	
Zn-65	1.3 ± 1.6; 1.6	
Zr/Nb-95	0.3 ± 0.8; 0.8	
Cs-134	-0.2 ± 0.7; 0.7	
Cs-137	0.2 ± 0.7; 0.7	
Ba/La-140	-0.8 ± 0.7; 0.7	

^a ODCM-required. Potatoes = root vegetation; cauliflower leaves, lettuce = broad leaf.

BYRON

Table 7.	Surface Water
Collection:	Monthly composites of weekly collections
ODCM-Required LLDs:	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30, Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-12 Oregon Pool of Rock River, Downstream

2000 Collection Period	January	February	March
Lab Code	BYSW-727 ^a	BYSW-1076 ^a	BYSW-2420
Gross Beta	1.9 ± 1.9; 1.9	4.4 ± 1.6; 1.7	3.0 ± 2.1; 2.1
Mn-54	0.3 ± 2.4; 2.4	-1.3 ± 2.5; 2.5	0.5 ± 1.6; 1.6
Fe-59	-2.4 ± 5.0; 5.0	2.3 ± 5.6; 5.6	-6.4 ± 3.2; 3.3
Co-58	1.2 ± 2.3; 2.3	-0.1 ± 2.5; 2.5	1.7 ± 1.5; 1.5
Co-60	0.8 ± 2.2; 2.3	-3.4 ± 3.2; 3.3	0.1 ± 1.4; 1.4
Zn-65	0.6 ± 5.2; 5.2	-0.8 ± 5.2; 5.2	0.8 ± 4.2; 4.2
Zr/Nb-95	-2.3 ± 2.3; 2.4	-2.2 ± 2.3; 2.3	1.6 ± 1.7; 1.7
Cs-134	2.4 ± 2.1; 2.2	1.8 ± 3.0; 3.0	-0.7 ± 1.6; 1.6
Cs-137	0.2 ± 2.8; 2.8	2.3 ± 2.5; 2.5	0.4 ± 2.1; 2.1
Ba/La-140	-4.4 ± 2.9; 3.0	-0.7 ± 3.1; 3.1	-2.3 ± 1.8; 1.8
2000 Collection Period	April	May	June
Lab Code	BYSW-3048	BYSW-3993	BYSW-4375,6
Gross Beta	4.1 ± 1.5; 1.7	3.0 ± 1.3; 1.4	4.5 ± 1.1; 1.2
Mn-54	0.8 ± 1.0; 1.0	0.8 ± 2.6; 2.6	0.1 ± 1.0; 1.0
Fe-59	-4.2 ± 1.9; 2.0	2.6 ± 3.0; 3.0	-1.7 ± 2.0; 2.1
Co-58	-0.8 ± 0.9; 0.9	-0.6 ± 2.3; 2.3	0.8 ± 1.0; 1.0
Co-60	0.6 ± 1.1; 1.1	0.6 ± 2.3; 2.3	-0.3 ± 1.0; 1.0
Zn-65	-0.3 ± 1.9; 1.9	-0.1 ± 4.2; 4.2	1.0 ± 2.0; 2.0
Zr/Nb-95	-0.0 ± 1.0; 1.0	0.4 ± 2.0; 2.0	0.7 ± 1.0; 1.0
Cs-134	1.4 ± 1.1; 1.2	3.5 ± 2.8; 2.8	1.1 ± 1.3; 1.3
Cs-137	0.2 ± 0.9; 0.9	-1.5 ± 2.2; 2.2	-0.3 ± 1.1; 1.1
Ba/La-140	-6.8 ± 1.3; 1.6	-1.9 ± 2.5; 2.5	3.1 ± 1.3; 1.3

BYRON

Table 7.	Surface Water
Collection:	Monthly composites of weekly collections
ODCM-	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
Required LLDs:	Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-12 Oregon Pool of Rock River, Downstream

2000 Collection Period	July	August	September
Lab Code	BYSW-5912	BYSW-6642	BYSW-7589
Gross Beta	3.3 ± 1.5; 1.6	3.1 ± 1.0; 1.2	4.3 ± 1.0; 1.2
Mn-54	0.1 ± 1.4; 1.4	-1.0 ± 2.4; 2.4	1.3 ± 1.6; 1.6
Fe-59	-2.4 ± 2.4; 2.4	1.4 ± 4.9; 4.9	-0.3 ± 3.5; 3.5
Co-58	0.9 ± 1.4; 1.4	-1.6 ± 2.7; 2.7	-1.9 ± 2.1; 2.1
Co-60	0.1 ± 1.4; 1.4	0.9 ± 2.8; 2.8	-1.4 ± 2.0; 2.0
Zn-65	-0.8 ± 2.9; 2.9	0.2 ± 5.1; 5.1	-1.8 ± 4.9; 4.9
Zr/Nb-95	0.2 ± 1.3; 1.3	-3.3 ± 2.8; 2.8	-3.1 ± 2.1; 2.1
Cs-134	-0.2 ± 1.7; 1.7	-0.0 ± 2.6; 2.6	0.3 ± 1.9; 1.9
Cs-137	0.1 ± 1.2; 1.2	0.7 ± 2.7; 2.7	-0.5 ± 2.1; 2.1
Ba/La-140	1.2 ± 1.8; 1.8	6.2 ± 2.2; 2.4	1.3 ± 1.3; 1.3
2000 Collection Period	October	November	December
Lab Code	BYSW-8836	BYSW-9988	BYSW-10879 ^a
Gross Beta	4.2 ± 1.6; 1.7	2.0 ± 1.5; 1.5	3.1 ± 1.2; 1.2
Mn-54	1.5 ± 2.3; 2.3	-0.1 ± 0.9; 0.9	0.2 ± 1.7; 1.7
Fe-59	0.6 ± 4.1; 4.1	0.9 ± 1.8; 1.8	1.5 ± 3.2; 3.2
Co-58	0.3 ± 2.3; 2.3	-0.0 ± 0.9; 0.9	0.6 ± 1.6; 1.6
Co-60	-0.9 ± 2.5; 2.5	0.2 ± 0.9; 0.9	0.9 ± 1.5; 1.5
Zn-65	-1.4 ± 4.2; 4.2	-0.1 ± 2.1; 2.1	-0.2 ± 3.9; 3.9
Zr/Nb-95	1.6 ± 2.4; 2.4	-1.5 ± 1.0; 1.0	-12.6 ± 4.3; 4.7
Cs-134	-0.8 ± 2.6; 2.6	0.2 ± 1.0; 1.0	1.7 ± 1.7; 1.7
Cs-137	0.4 ± 2.2; 2.2	-0.3 ± 1.1; 1.1	-1.0 ± 1.7; 1.7
Ba/La-140	-4.3 ± 2.3; 2.3	-2.5 ± 0.9; 1.0	-1.4 ± 2.1; 2.1

^a Results reflect two collections for month; river frozen.

BYRON

Table 7.	Surface Water
Collection:	Monthly composites of weekly collections
ODCM-	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
Required LLDs:	Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration

BY-29 (C) Byron, Upstream

2000 Collection Period	January	February	March
Lab Code	BYSW-728,9 ^a	BYSW-1075 ^b	BYSW-2421
Gross Beta	1.9 ± 1.3; 1.4	3.2 ± 1.6; 1.6	1.0 ± 2.0; 2.0
Mn-54	0.2 ± 1.0; 1.0	0.7 ± 2.6; 2.6	0.1 ± 1.9; 1.9
Fe-59	2.6 ± 2.2; 2.2	3.9 ± 5.6; 5.7	1.0 ± 4.6; 4.6
Co-58	-0.2 ± 1.1; 1.1	0.2 ± 2.7; 2.7	-1.0 ± 2.0; 2.1
Co-60	0.7 ± 1.2; 1.2	1.8 ± 2.6; 2.6	2.2 ± 2.3; 2.3
Zn-65	-2.3 ± 2.3; 2.4	-0.4 ± 5.1; 5.1	-3.1 ± 3.9; 3.9
Zr/Nb-95	1.2 ± 1.1; 1.1	-2.9 ± 3.3; 3.3	-2.5 ± 2.5; 2.5
Cs-134	1.0 ± 1.2; 1.2	0.6 ± 3.2; 3.2	0.5 ± 3.1; 3.1
Cs-137	0.3 ± 1.2; 1.2	1.0 ± 2.5; 2.5	-1.2 ± 2.3; 2.3
Ba/La-140	1.5 ± 1.4; 1.4	-1.3 ± 4.5; 4.5	2.4 ± 2.2; 2.2
2000 Collection Period	April	May	June
Lab Code	BYSW-3049	BYSW-3994	BYSW-4377
Gross Beta	2.7 ± 1.4; 1.5	2.7 ± 1.5; 1.5	4.2 ± 1.5; 1.6
Mn-54	-0.5 ± 0.8; 0.8	-0.7 ± 1.3; 1.3	1.5 ± 2.2; 2.2
Fe-59	-0.2 ± 1.6; 1.6	-0.9 ± 2.1; 2.1	-5.3 ± 4.3; 4.4
Co-58	0.1 ± 0.8; 0.8	-0.4 ± 1.6; 1.6	-1.2 ± 1.9; 2.0
Co-60	0.2 ± 0.8; 0.8	-0.5 ± 1.8; 1.8	1.1 ± 2.2; 2.2
Zn-65	-2.2 ± 2.0; 2.0	1.1 ± 2.8; 2.8	1.3 ± 4.8; 4.8
Zr/Nb-95	0.3 ± 0.9; 0.9	-2.0 ± 1.5; 1.5	0.2 ± 2.1; 2.1
Cs-134	0.1 ± 0.8; 0.8	0.3 ± 1.8; 1.8	0.7 ± 2.5; 2.5
Cs-137	0.2 ± 0.9; 0.9	-0.9 ± 1.3; 1.3	-0.8 ± 2.1; 2.2
Ba/La-140	-2.0 ± 1.0; 1.0	-2.7 ± 1.7; 1.7	-8.4 ± 2.8; 3.0

BYRON

Table 7.	Surface Water
Collection:	Monthly composites of weekly collections
ODCM-	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
Required LLDs:	Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration				
<u>BY-29 (C) Byron, Upstream</u>				
2000				
Collection Period	July	August	September	
Lab Code	BYSW-5913	BYSW-6643	BYSW-7590	
Gross Beta	3.7 ± 1.5; 1.6	3.2 ± 1.2; 1.3	4.6 ± 1.0; 1.2	
Mn-54	0.0 ± 0.6; 0.6	-0.1 ± 2.6; 2.6	1.3 ± 1.7; 1.7	
Fe-59	-0.7 ± 1.1; 1.1	3.1 ± 4.4; 4.5	2.4 ± 3.0; 3.1	
Co-58	-0.2 ± 0.6; 0.6	1.2 ± 2.4; 2.4	-1.3 ± 1.6; 1.6	
Co-60	0.7 ± 0.6; 0.6	-1.4 ± 2.8; 2.8	-2.0 ± 2.0; 2.0	
Zn-65	-0.1 ± 1.2; 1.2	-0.3 ± 5.7; 5.7	-0.1 ± 3.1; 3.1	
Zr/Nb-95	-0.4 ± 0.6; 0.6	0.7 ± 2.4; 2.4	1.4 ± 1.8; 1.8	
Cs-134	0.2 ± 0.7; 0.7	-1.9 ± 2.7; 2.7	0.7 ± 1.9; 1.9	
Cs-137	0.4 ± 0.6; 0.6	3.7 ± 2.8; 2.9	-0.7 ± 1.9; 1.9	
Ba/La-140	-1.5 ± 0.7; 0.8	-4.4 ± 3.4; 3.5	-5.0 ± 2.2; 2.3	
2000				
Collection Period	October	November	December	
Lab Code	BYSW-8837	BYSW-9989	BYSW-9511 ^c	
Gross Beta	3.0 ± 1.4; 1.5	3.0 ± 1.4; 1.5	2.6 ± 1.4; 1.4	
Mn-54	1.2 ± 1.6; 1.6	0.1 ± 0.8; 0.8	0.2 ± 0.3; 0.3	
Fe-59	-0.1 ± 3.0; 3.0	-2.1 ± 1.7; 1.7	-0.8 ± 0.6; 0.6	
Co-58	-0.2 ± 1.6; 1.6	-0.6 ± 0.8; 0.8	0.3 ± 0.3; 0.3	
Co-60	1.0 ± 1.6; 1.6	0.6 ± 0.8; 0.8	-0.0 ± 0.3; 0.3	
Zn-65	2.3 ± 2.6; 2.6	0.0 ± 1.5; 1.5	-1.7 ± 0.6; 0.7	
Zr/Nb-95	0.2 ± 1.5; 1.5	-1.6 ± 0.9; 0.9	-1.7 ± 0.3; 0.4	
Cs-134	0.1 ± 1.9; 1.9	-0.3 ± 0.9; 0.9	0.0 ± 0.3; 0.3	
Cs-137	0.9 ± 1.5; 1.5	0.2 ± 0.8; 0.8	0.2 ± 0.3; 0.3	
Ba/La-140	-5.9 ± 1.9; 2.1	-0.9 ± 1.0; 1.0	-7.4 ± 0.4; 1.1	

^a Results reflect two collections for month; river frozen.

^b One sample only (02-29-2000) for month; river frozen.

^c One sample only (12-05-2000) for month; river frozen.

BYRON

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

2000 Collection Period	<u>Sample Description and Concentration</u>	
	Lab Code	Tritium

BY-12 Oregon Pool of Rock River, Downstream

1st Quarter	BYSW- 1815	95 ± 82; 83
2nd Quarter	BYSW- 4378 ^a	3,704 ± 191; 539
3rd Quarter	BYSW- 7591	1,267 ± 124; 213
4th Quarter	BYSW- 10752	793 ± 120; 161

BY-29 (C) Byron, Upstream

1st Quarter	BYSW- 1816	-1 ± 89; 89
2nd Quarter	BYSW- 4379	103 ± 93; 94
3rd Quarter	BYSW- 7592	-11 ± 78; 78
4th Quarter	BYSW- 10753	39 ± 91; 91

^a Sample repeated with a result of 3,528±191 pCi/L.

BYRON

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

Sample Description and Concentration

BY-14 ComEd Offsite Well

Date Collected	01-04-00	04-04-00	07-11-00	10-10-00
Lab Code	BYWW-63	BYWW-2003	BYWW-4887	BYWW-7853
H-3	2 ± 78; 78	48 ± 91; 91	54 ± 88; 89	53 ± 81; 81
Mn-54	0.1 ± 2.8; 2.8	0.1 ± 1.6; 1.6	0.4 ± 1.4; 1.4	1.3 ± 2.3; 2.4
Fe-59	1.6 ± 4.9; 4.9	0.3 ± 3.5; 3.5	0.9 ± 3.0; 3.0	-0.3 ± 4.3; 4.3
Co-58	-0.2 ± 2.6; 2.6	-0.7 ± 1.7; 1.7	0.5 ± 1.4; 1.4	-0.2 ± 2.1; 2.1
Co-60	2.2 ± 3.2; 3.2	-0.7 ± 2.0; 2.0	0.6 ± 1.9; 1.9	0.2 ± 2.7; 2.7
Zn-65	3.9 ± 5.4; 5.4	-1.4 ± 3.3; 3.3	-2.1 ± 3.3; 3.3	0.6 ± 5.5; 5.5
Zr/Nb-95	3.2 ± 2.6; 2.6	-3.5 ± 1.8; 1.9	1.3 ± 1.5; 1.5	-2.5 ± 2.5; 2.6
Cs-134	1.7 ± 3.1; 3.1	0.0 ± 2.2; 2.2	-1.4 ± 1.7; 1.7	-2.5 ± 2.9; 2.9
Cs-137	1.9 ± 2.7; 2.7	0.3 ± 1.5; 1.5	0.3 ± 1.6; 1.6	1.6 ± 2.4; 2.5
Ba/La-140	9.0 ± 3.4; 3.6	1.0 ± 1.9; 2.0	-3.8 ± 2.1; 2.2	-1.7 ± 3.2; 3.2

BY-18 McCoy Farmstead

Date Collected	01-04-00	04-04-00	07-11-00	10-10-00
Lab Code	BYWW-64	BYWW-2004	BYWW-4888	BYWW-7854
H-3	124 ± 84; 86	132 ± 84; 86	28 ± 87; 87	-12 ± 78; 78
Mn-54	-0.9 ± 1.8; 1.8	-0.7 ± 2.0; 2.0	1.4 ± 1.4; 1.4	0.7 ± 1.3; 1.3
Fe-59	-3.3 ± 4.1; 4.1	2.1 ± 4.0; 4.1	-5.2 ± 2.4; 2.5	-1.0 ± 2.5; 2.5
Co-58	0.3 ± 2.0; 2.0	2.7 ± 1.7; 1.7	-0.3 ± 1.3; 1.3	0.5 ± 1.2; 1.2
Co-60	1.3 ± 1.8; 1.8	0.3 ± 1.8; 1.8	0.8 ± 1.7; 1.7	-0.2 ± 1.2; 1.2
Zn-65	-10.0 ± 5.3; 5.4	4.1 ± 3.7; 3.8	-1.5 ± 2.8; 2.9	1.0 ± 2.7; 2.7
Zr/Nb-95	-0.3 ± 2.2; 2.2	-0.1 ± 2.0; 2.0	-0.3 ± 1.6; 1.6	-0.2 ± 3.0; 3.0
Cs-134	0.6 ± 2.6; 2.6	0.5 ± 1.9; 1.9	-0.0 ± 1.5; 1.5	0.2 ± 1.4; 1.4
Cs-137	3.2 ± 2.2; 2.2	0.2 ± 2.0; 2.0	0.2 ± 1.3; 1.3	-0.0 ± 1.2; 1.2
Ba/La-140	3.3 ± 2.1; 2.2	2.0 ± 2.2; 2.2	3.3 ± 1.9; 1.9	0.3 ± 1.1; 1.1

BYRON

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

Sample Description and Concentration

BY-32 Ron Wolford

Date Collected	01-04-00	04-04-00	07-11-00	10-10-00
Lab Code	BYWW-65,6	BYWW-2005	BYWW-4889	BYWW-7855
H-3	157 ± 60; 62	134 ± 94; 96	28 ± 87; 87	140 ± 95; 97
Mn-54	-0.1 ± 1.5; 1.5	-0.5 ± 1.7; 1.7	1.4 ± 1.8; 1.8	-0.0 ± 2.0; 2.0
Fe-59	-1.1 ± 2.8; 2.8	0.4 ± 3.7; 3.7	-0.6 ± 3.1; 3.1	-2.2 ± 4.4; 4.4
Co-58	1.0 ± 1.3; 1.3	-0.2 ± 1.9; 1.9	0.7 ± 1.6; 1.6	0.2 ± 2.2; 2.2
Co-60	-0.0 ± 1.3; 1.3	-1.2 ± 1.9; 1.9	-1.5 ± 1.7; 1.8	-0.4 ± 2.5; 2.5
Zn-65	-1.9 ± 3.7; 3.7	-0.1 ± 3.8; 3.8	1.5 ± 3.4; 3.4	-0.8 ± 5.0; 5.0
Zr/Nb-95	-0.6 ± 1.4; 1.5	-0.8 ± 2.0; 2.0	-1.7 ± 1.8; 1.8	0.4 ± 2.3; 2.3
Cs-134	0.1 ± 1.6; 1.6	-1.0 ± 2.4; 2.4	1.8 ± 2.0; 2.1	-1.0 ± 2.2; 2.2
Cs-137	-0.9 ± 1.5; 1.5	0.1 ± 1.9; 1.9	0.6 ± 1.8; 1.8	0.4 ± 2.0; 2.0
Ba/La-140	0.1 ± 1.6; 1.6	-1.6 ± 1.7; 1.7	5.6 ± 1.7; 1.9	1.6 ± 3.5; 3.5

BYRON

MILCH ANIMALS, NEAREST LIVESTOCK, AND
NEAREST RESIDENCES CENSUSES

BYRON

MILCH ANIMALS CENSUS, 2000

BY-26-1 Dennis Herbert
 11.0 miles, Sector A

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 14, 2000

BYRON

NEAREST LIVESTOCK CENSUS, 2000

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

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>
A	N	3.0 miles
B	NNE	1.5 miles
C	NE	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 14, 2000

BYRON

NEAREST RESIDENCE CENSUS, 2000

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

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>
A	N	2.7 miles
B	NNE	1.0 miles
C	NE	1.2 miles
D	ENE	1.3 miles
E	E	1.3 miles
F	ESE	1.5 miles
G	SE	0.8 miles
H	SSE	0.6 miles
J	S	0.5 miles
K	SSW	0.6 miles
L	SW	0.8 miles
M	WSW	1.7 miles
N	W	1.8 miles
P	WNW	0.8 miles
Q	NW	1.0 miles
R	NNW	1.3 miles

Census conducted by W. Mueller on August 14, 2000

BYRON

4.0 TLD DATA*

*TLD Data provided by Commonwealth Edison Company.

Date: 25-JAN-01

Environmental Site Report V4 for Byron

Page: 1

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2000	Quarter 2 2000	Quarter 3 2000	Quarter 4 2000
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I. INDICATOR LOCATIONS

a. Air Samplers

BY-01-1	BYRON	13.6	13.2	12.2	13.2
BY-01-2	BYRON	12.8	14.1	12.1	12.2
BY-04-1	PAYNES PT.	16.8	17.0	16.3	16.3
BY-04-2	PAYNES PT.	17.2	16.5	16.0	16.7
BY-06-1	OREGON	13.0	12.9	12.2	12.5
BY-06-2	OREGON	13.2	13.5	11.7	13.0
BY-21-1	NEARSITE N	11.5	12.8	10.8	17.9
BY-21-2	NEARSITE N	11.6	11.9	10.7	11.2
BY-22-1	NEARSITE ESE	17.3	17.2	16.5	11.8
BY-22-2	NEARSITE ESE	17.1	16.9	16.2	15.9
BY-23-1	NEARSITE S	15.0	15.4	15.6	15.7
BY-23-2	NEARSITE S	16.0	16.3	16.0	15.3
BY-24-1	NEARSITE SW	14.6	16.1	13.9	13.8
BY-24-2	NEARSITE SW	15.1	15.1	14.6	13.7

Air Sampler Mean \pm S.D.	14.6 \pm 2.1	14.9 \pm 1.8	13.9 \pm 2.2	14.2 \pm 2.1
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Annual Air Sampler Mean \pm S.D.				14.4 \pm 2.0
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b. Inner Ring (100 Series)

BY-101-1	11.1	11.9	10.7	11.3
BY-101-2	11.6	11.9	10.7	11.3
BY-102-1	17.4	19.2	18.1	17.3
BY-102-2	17.0	18.4	18.8	17.7
BY-103-1	15.6	16.4	15.5	15.7
BY-103-2	16.1	16.4	16.2 *	16.9
BY-104-1	16.4	17.3	16.6	16.8
BY-104-2	16.9	17.9	16.9	18.0
BY-105-1	16.8 *	18.3	18.4	16.8
BY-105-2	17.2 *	18.2	19.3	18.6
BY-106-1	17.2	18.4	18.1	17.3
BY-106-2	17.1	17.2	16.2	16.5
BY-107-1	18.6	18.9	17.9	18.9
BY-107-2	17.6	18.1	18.8	18.1
BY-108-1	17.7	17.9	17.1	17.1
BY-108-2	15.9	16.1	15.6	16.3
BY-109-1	16.3	16.1	16.2	15.1
BY-109-2	15.6	16.1	15.4	15.1
BY-110-1	15.5	16.3	14.1	14.4

Site	Description	Quarter 1 2000	Quarter 2 2000	Quarter 3 2000	Quarter 4 2000
b. Inner Ring (100 Series)					
BY-110-2		16.0	16.3	15.1	15.9
BY-111-3		17.2	17.2	16.9	17.7
BY-111-4		16.2	16.4	16.2	15.5
BY-112-3		16.9	16.8	16.8	15.9
BY-112-4		16.1	15.9	15.3	16.1
BY-113-1		16.3	16.7	16.6	15.8
BY-113-2		14.3	14.1	13.3	13.5
BY-114-1		14.1	14.6	13.1	13.0
BY-114-2		15.8	15.4	15.8	15.2
BY-115-1		16.3	17.0	16.6	15.7
BY-115-2		14.9	15.5	14.8	15.1
BY-116-1		14.7	14.1	14.3	14.7
BY-116-2		14.5	14.8	14.3	14.2
Inner Ring Mean \pm S.D.		16.0 \pm 1.6	16.4 \pm 1.8	15.9 \pm 2.1	15.9 \pm 1.9
Annual Inner Ring Mean \pm S.D.		16.0 \pm 1.8			

c. Outer Ring (200 Series)

BY-201-3	16.0	16.9	16.8	15.3
BY-201-4	15.9	16.6	16.5	16.2
BY-202-1	14.8	15.1	14.5	14.6
BY-202-2	17.7	18.3	17.4	17.9
BY-203-1	12.5	12.8	12.4	12.6
BY-203-2	15.5	15.1	15.4	15.8
BY-204-1	14.2	14.2	13.6	13.4
BY-204-2	17.5	18.1	17.1	17.7
BY-205-1	17.3	18.5	17.7	17.7
BY-205-2	15.5	16.4	15.6	16.1
BY-206-1	17.3	18.7	16.7	16.0
BY-206-2	16.7	18.2	17.1	16.4
BY-207-1	17.4	18.5	17.8	17.8
BY-207-2	16.8	17.7	17.2	16.6
BY-208-1	17.0	18.3	18.9	18.6
BY-208-2	17.0	17.9	17.5	16.6
BY-209-1	17.2	18.2	17.5	16.9
BY-209-4	16.1	17.7	17.0	16.7
BY-210-3	17.9	17.1	16.1	15.8
BY-210-4	16.0	16.8	16.5	15.4
BY-211-1	16.7	16.8	16.0	17.1
BY-211-4	17.1	17.5	16.8	16.6
BY-212-1	17.2	17.8	18.1	18.0
BY-212-4	18.0	18.6	18.7	18.3
BY-213-1	16.9	18.2	17.3	17.2
BY-213-4	17.3	19.0	17.9	17.4
BY-214-1	17.0	16.5	16.9	16.4
BY-214-4	16.4	16.8	16.9	17.3
BY-215-1	17.1	18.9	17.8	18.0
BY-215-4	18.0	17.8	18.0	18.2
BY-216-1	18.5	20.0	17.9	19.1

Site	Quarter 1 2000	Quarter 2 2000	Quarter 3 2000	Quarter 4 2000
c. Outer Ring (200 Series)				
BY-216-2	16.5	16.7	16.5	15.1
Outer Ring Mean \pm S.D.	16.7 \pm 1.2	17.4 \pm 1.5	16.8 \pm 1.4	16.6 \pm 1.4
Annual Outer Ring Mean \pm S.D.				16.9 \pm 1.4
INDICATOR LOCATION MEAN \pm S.D.	16.0 \pm 1.7	16.5 \pm 1.9	15.9 \pm 2.1	15.9 \pm 1.9
Annual INDICATOR LOCATION MEAN \pm S.D.				16.1 \pm 1.9

II. CONTROL LOCATIONS

BY-08-1	LEAF RIVER	14.8	13.1	12.1	12.8
BY-08-2	LEAF RIVER	14.8	13.0	12.6	12.3
CONTROL LOCATION Mean \pm S.D.		14.8 \pm 0.0	13.1 \pm 0.1	12.4 \pm 0.4	12.6 \pm 0.4
Annual CONTROL LOCATION Mean \pm S.D.					13.2 \pm 1.0

III. SPECIAL INTEREST LOCATIONS

BY-301-1	OSGSP	12.3	12.2	11.4	11.9
BY-302-1	PARKING LOT	15.9	16.3	14.7	16.7
BY-314-1	RESTRICTED AREA FENCE/WEST OF DAM	13.1	13.6	17.1	13.3
SPECIAL INTEREST LOCATION Mean \pm S.D.		13.8 \pm 1.9	14.0 \pm 2.1	14.4 \pm 2.9	14.0 \pm 2.5
Annual SPECIAL INTEREST LOCATION Mean \pm S.D.					14.0 \pm 2.0

COMMENTS: "*" Indicates lost dosimeter. A portion of the Dose was estimated.

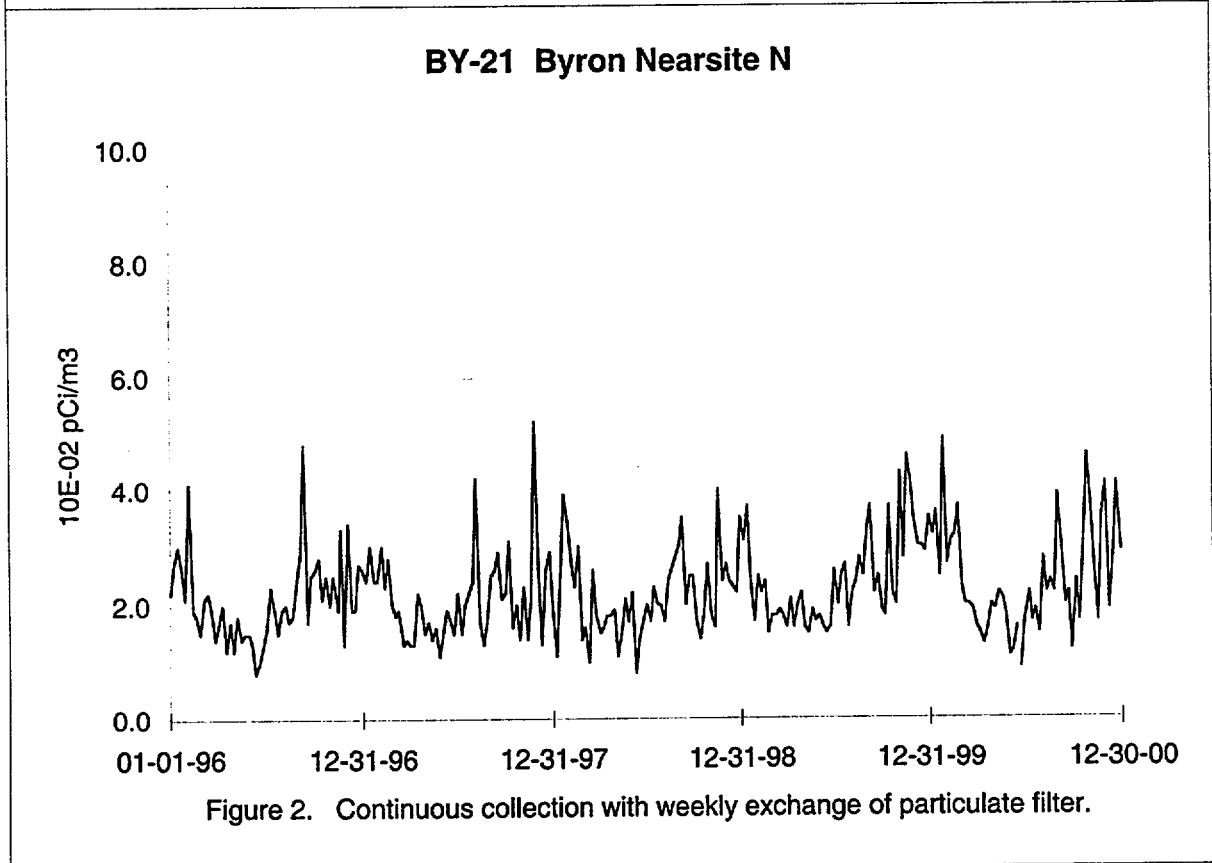
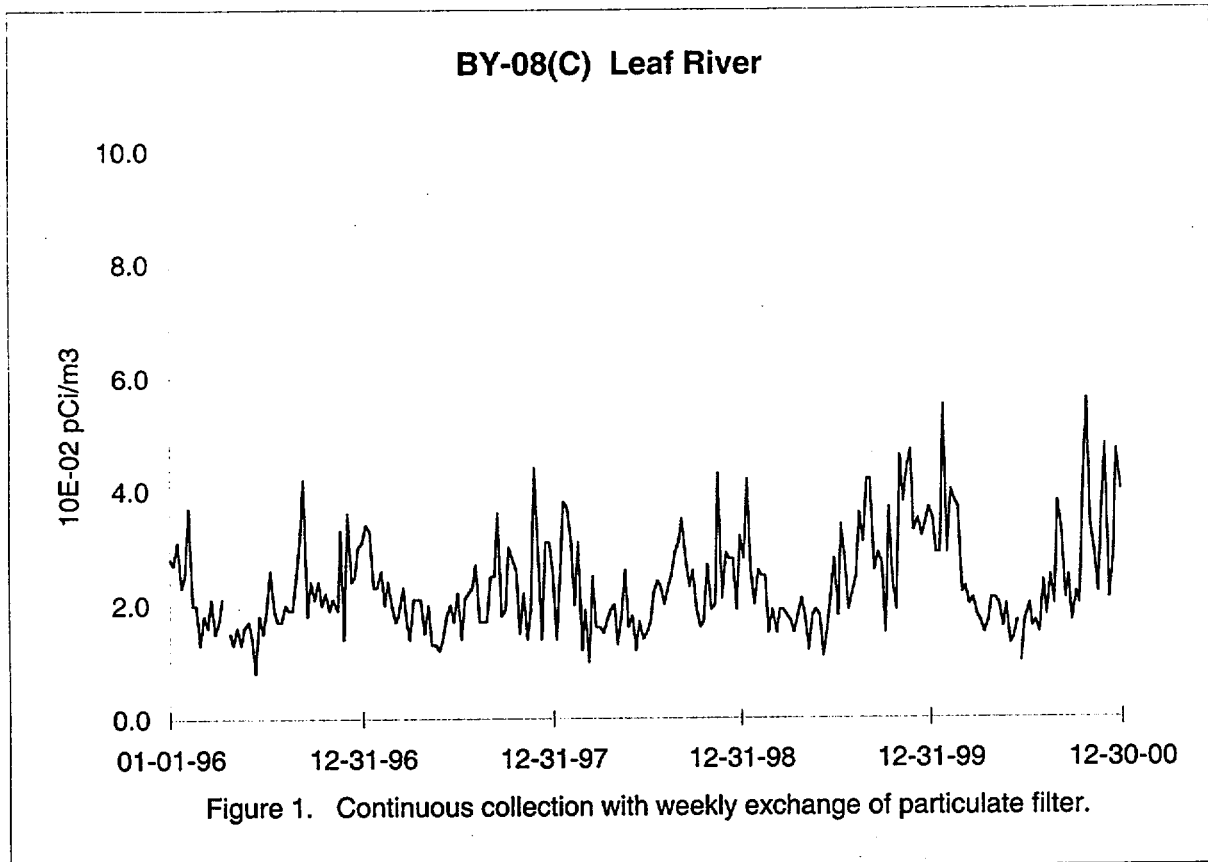
"#" Indicates edited dosimeter. The original Dose was replaced with an estimated value.

"n" (n=2..9) Indicates dose is average of n values. A "+" means more than 9 values.

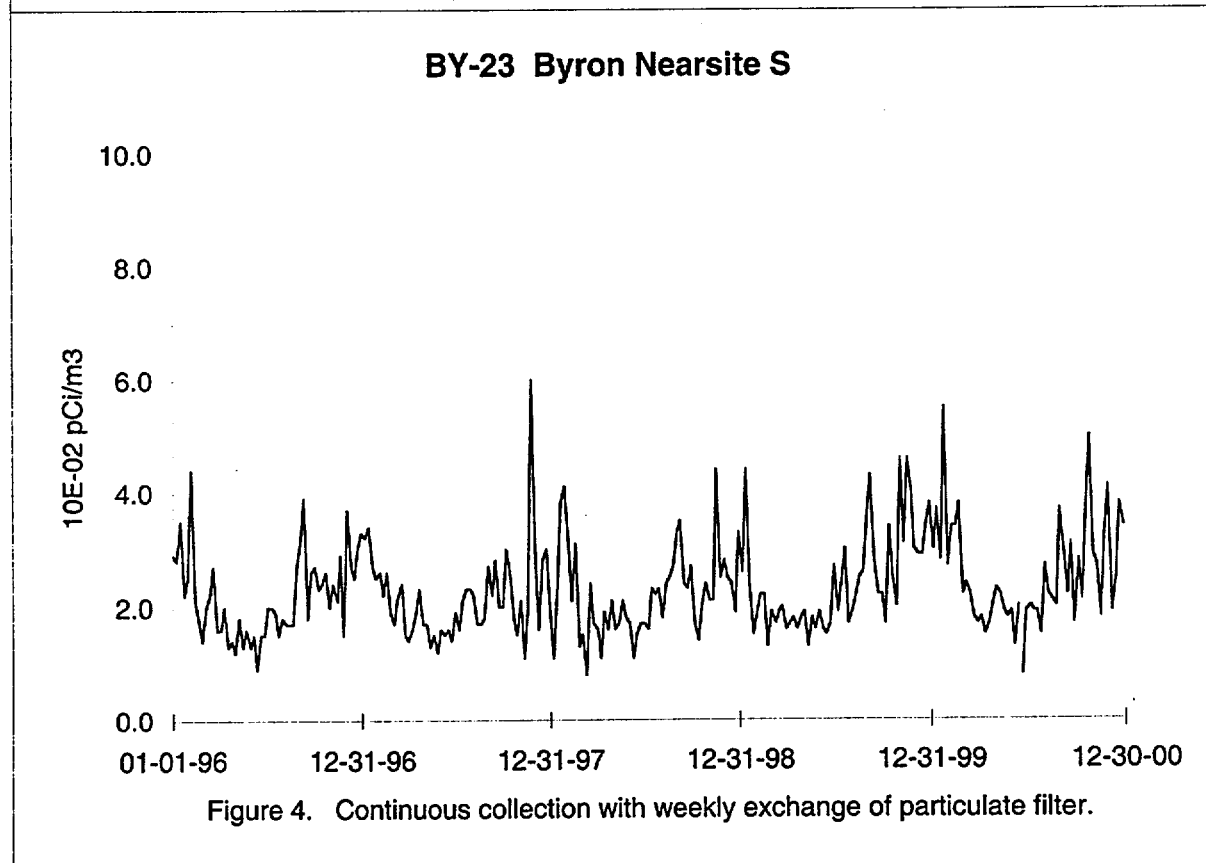
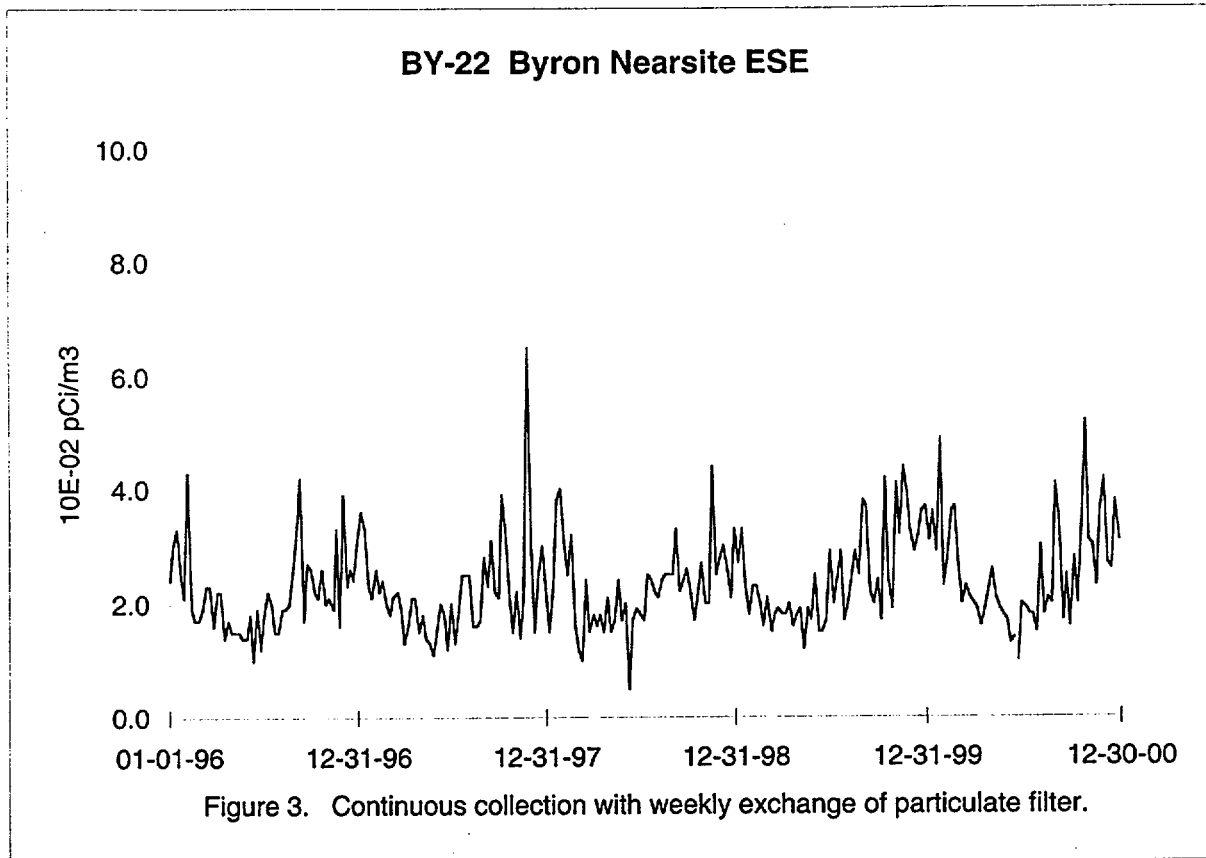
BYRON

5.0 GRAPHS OF DATA TRENDS

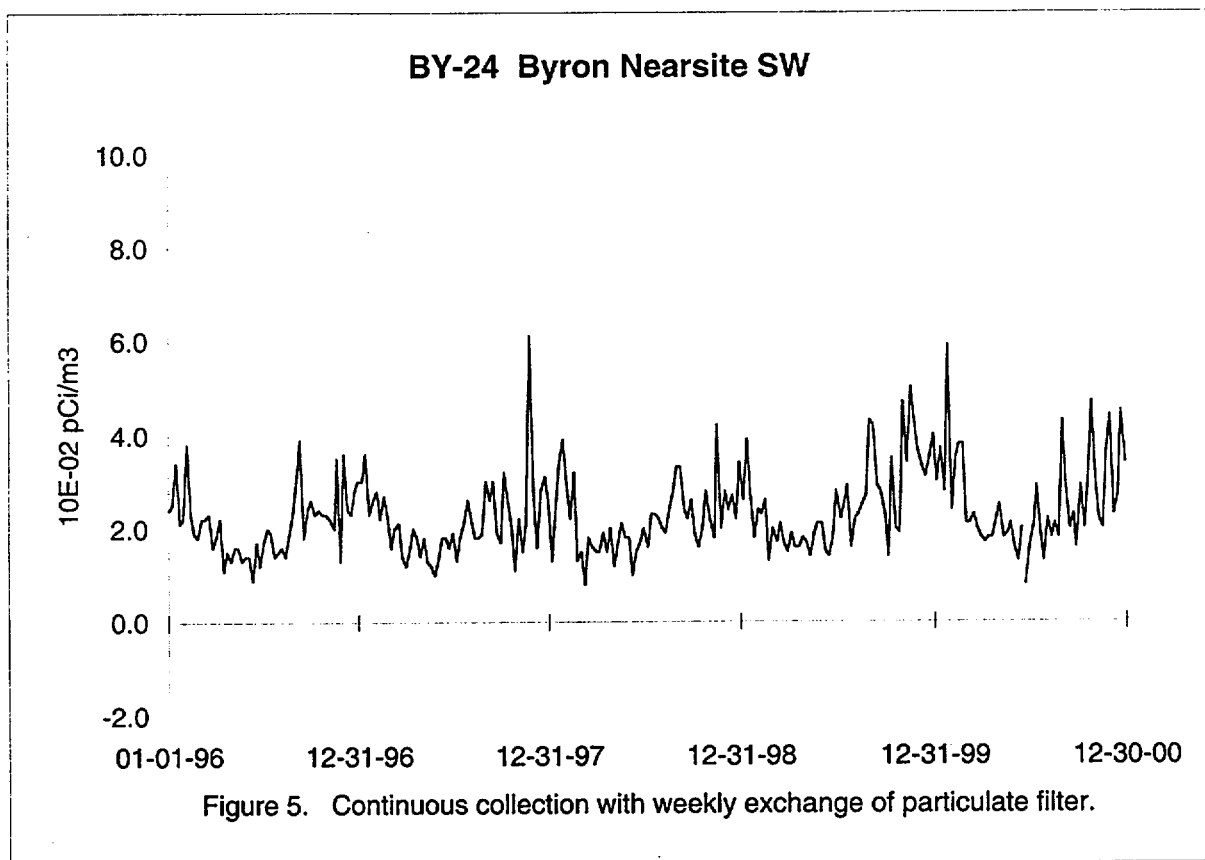
Air Particulates - Gross Beta



Air Particulates - Gross Beta



Air Particulates - Gross Beta



Surface Water - Gross Beta

BY-12 Oregon Pool of Rock River, Downstream

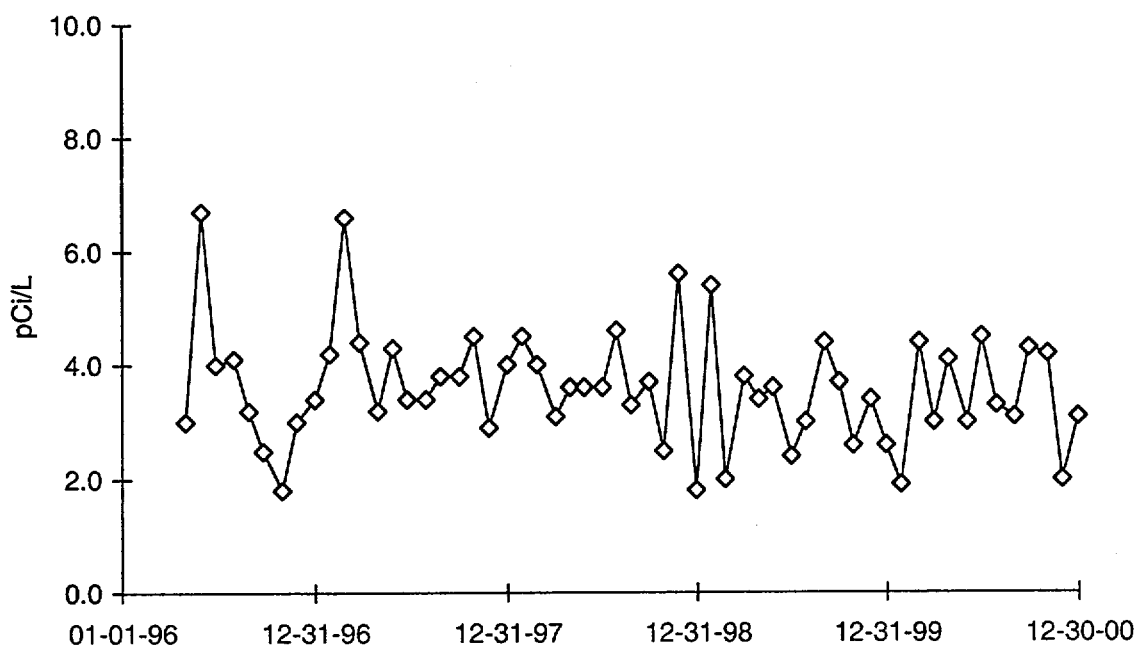


Figure 6. Monthly composites of weekly collections.

BY-29 (C) Byron, Upstream

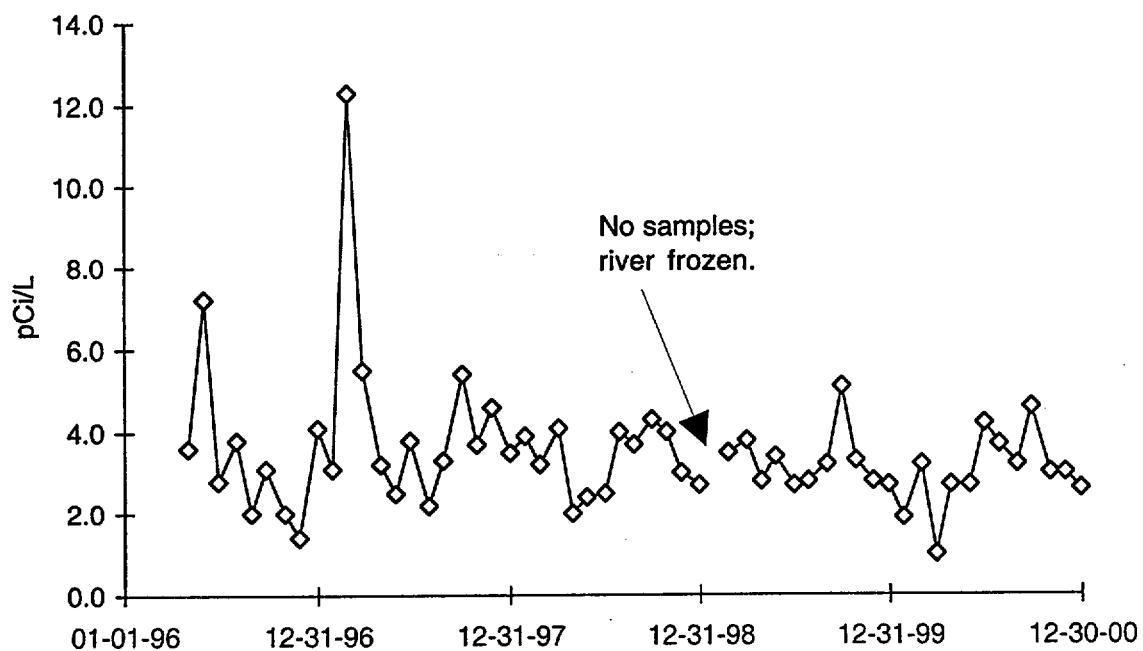
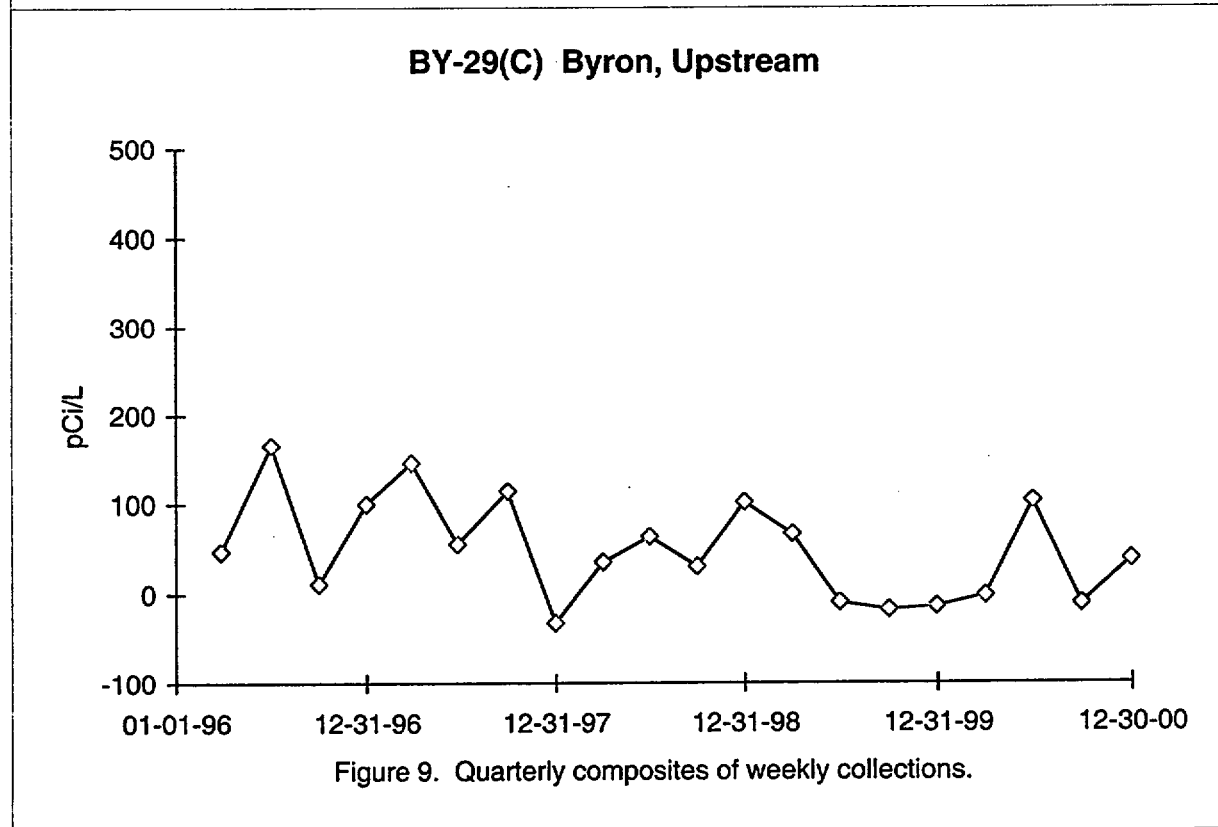
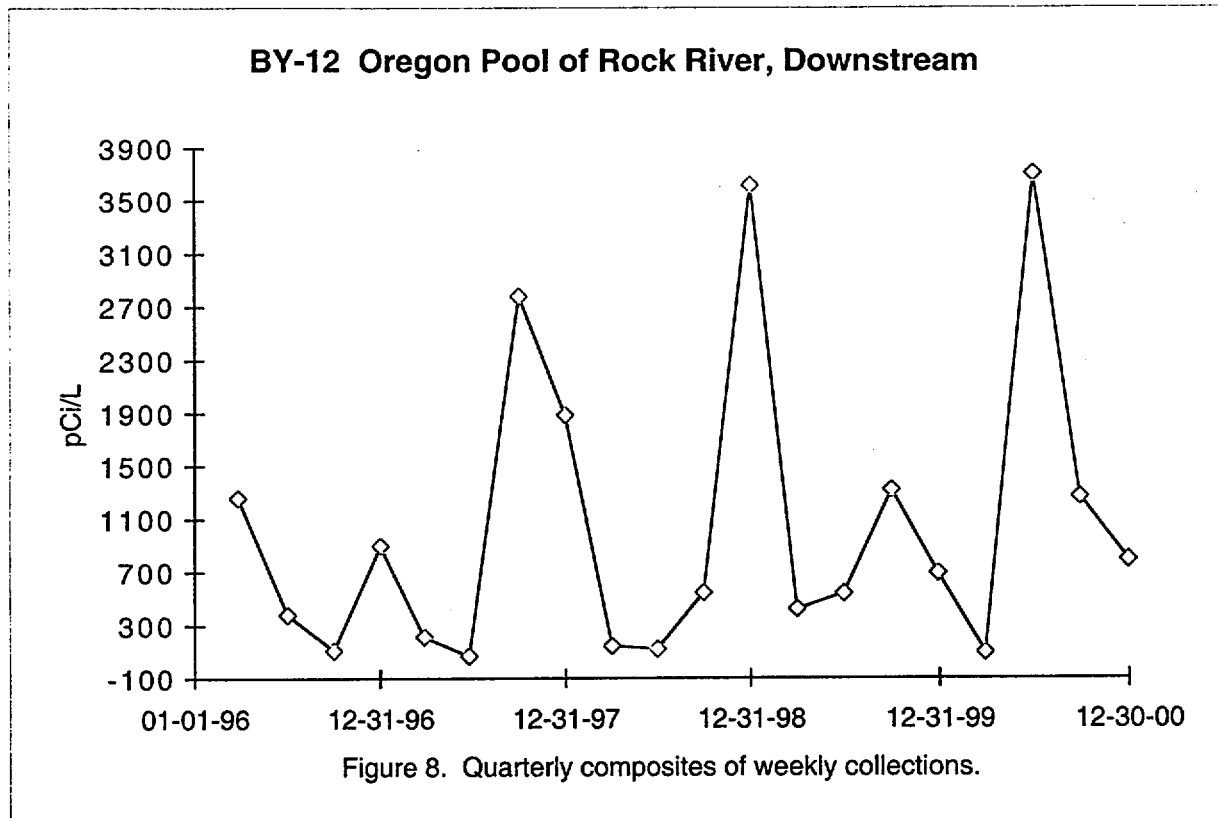


Figure 7. Monthly composites of weekly collections.

Surface Water-Tritium



Well Water-Tritium

BY-14 ComEd Offsite Well

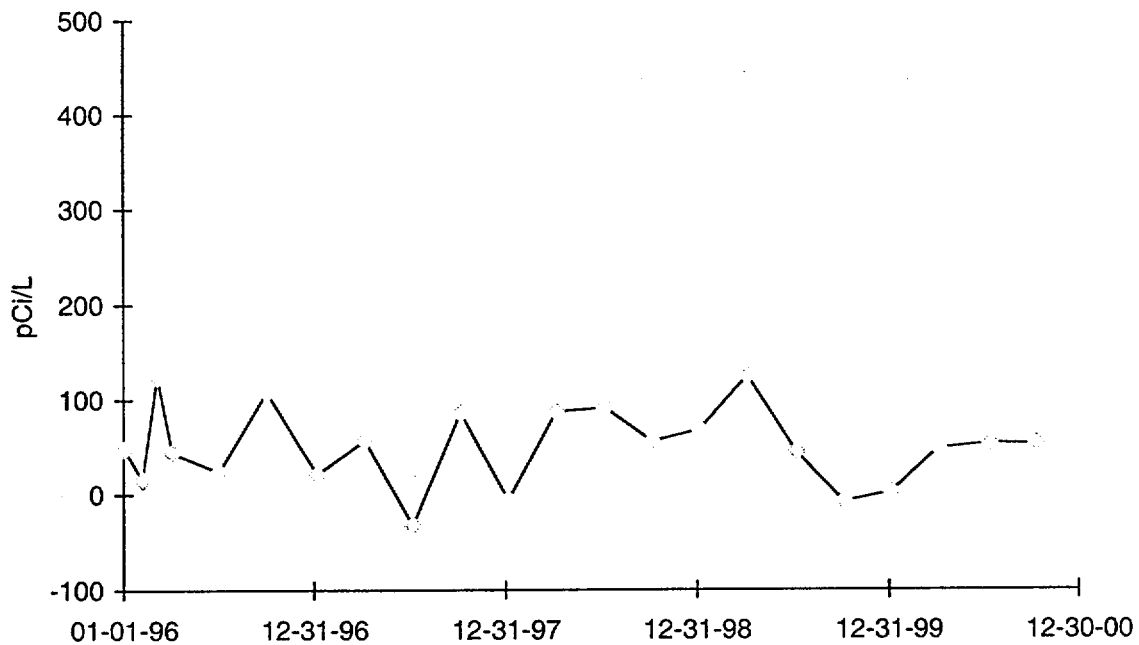


Figure 10. Quarterly collections.

BY-18 McCoy Farmstead Well

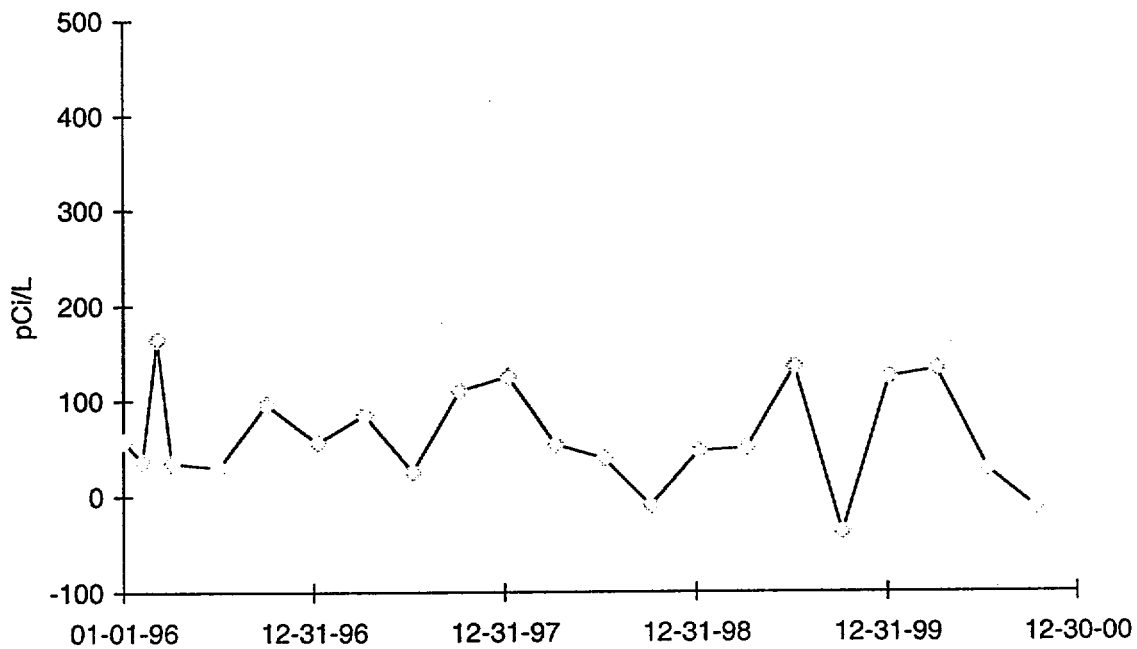
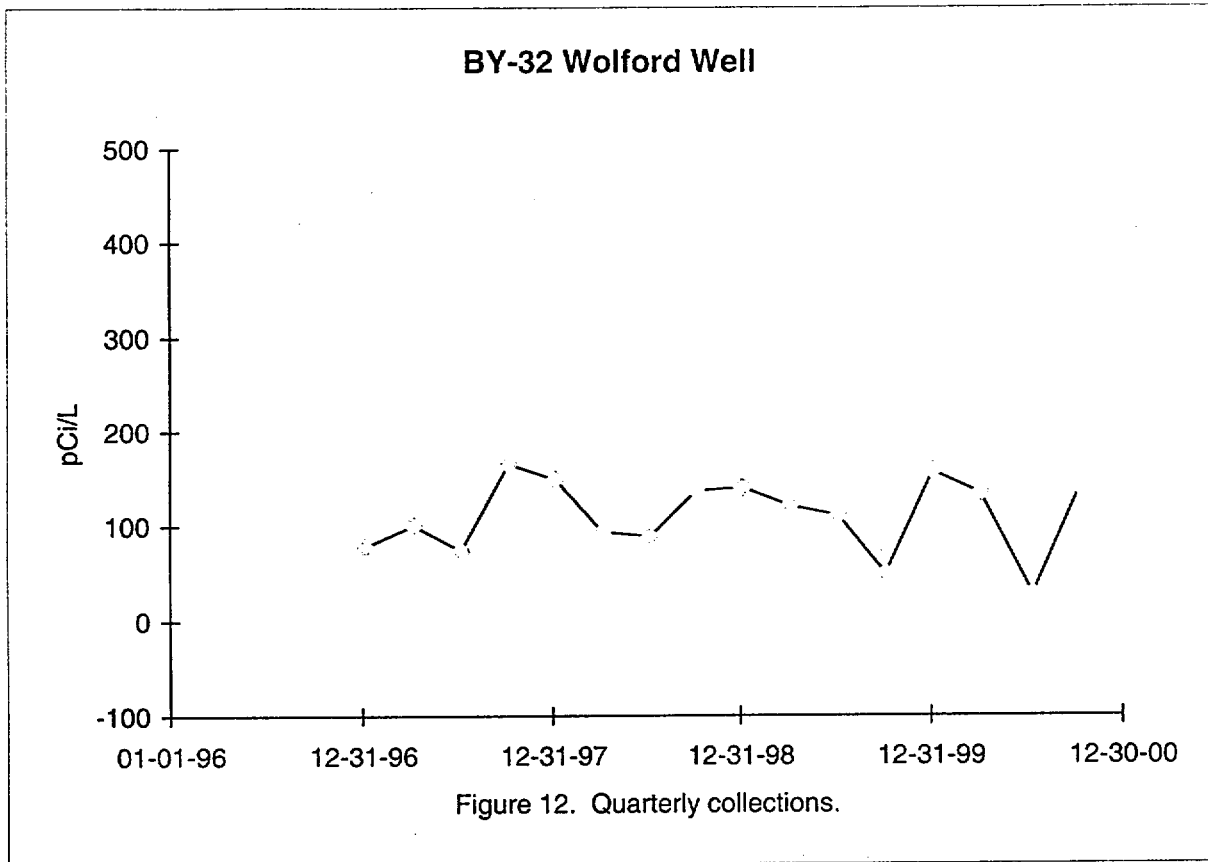


Figure 11. Quarterly collections.

Well Water-Tritium



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, 2000 through December, 2000

Appendix IV

Interlaboratory Comparison Program Results

Environmental Incorporated Midwest Laboratory (formerly Teledyne Brown Engineering Environmental Services, Midwest Laboratory, Teledyne Isotopes and Hazelton Environmental Services) 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, 2000. 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.

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

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 1s, N=1	Control Limits	Laboratory Results ± 2 Sigma ^d
STW-863	Water	Jan, 2000	Gr. Alpha	25.4 ± 6.4	14.5 - 36.3	39.3 ± 5.2; 7.1
			The analysis was repeated and recalculated with Am-241 efficiency; result of reanalysis 29.32 ± 5.79 pCi/L. Internal spike program results do not indicate a problem.			
STW-863	Water	Jan, 2000	Gr. Beta	42.1 ± 4.2	33.4 - 50.8	40.7 ± 1.2; 6.4
STW-866	Water	Jan, 2000	Sr-89	22.5 ± 5.0	13.8 - 31.2	17.1 ± 2.2; 2.8
STW-866	Water	Jan, 2000	Sr-90	9.6 ± 5.0	0.9 - 18.3	8.1 ± 0.6; 1.0
STW-868	Water	Feb, 2000	Ra-226	8.3 ± 1.2	6.1 - 10.4	7.6 ± 0.5; 0.9
STW-868	Water	Feb, 2000	Ra-228	2.3 ± 0.6	1.3 - 3.2	5.6 ± 1.0; 1.1
			Result of reanalysis: 6.34 ± 0.94. Activity confirmed by gamma spectroscopy (6.00 ± 1.42 pCi/L).			
STW-868	Water	Feb, 2000	Uranium	6.1 ± 3.0	0.9 - 11.3	5.4 ± 0.2; 0.6
STW-869	Water	Mar, 2000	H-3	23800.0 ± 2380.0	19800.0 - 27800.0	23500.0 ± 306.0; 3210.6
STW-867	Water	Mar, 2000	Gr. Alpha	58.4 ± 5.8	33.3 - 83.5	83.6 ± 5.8; 11.7
			Results were recalculated with Am-241 efficiency; 57.80 ± 5.73 pCi/L. Refer to STW-863.			
STW-867	Water	Mar, 2000	Gr. Beta	16.8 ± 1.7	8.1 - 25.5	15.4 ± 0.9; 2.5
STW-876	Water	Mar, 2000	I-131	19.9 ± 2.0	14.7 - 25.1	18.7 ± 0.6; 2.0
STW-877	Water	Apr, 2000	Gr. Alpha	54.0 ± 13.5	30.8 - 77.2	52.3 ± 2.3; 6.8
STW-877	Water	Apr, 2000	Ra-226	18.6 ± 2.8	13.8 - 23.4	17.5 ± 1.1; 2.1
STW-877	Water	Apr, 2000	Ra-228	3.6 ± 0.9	2.0 - 5.1	3.7 ± 0.4; 0.6
STW-878	Water	Apr, 2000	Co-60	16.9 ± 5.0	8.2 - 25.6	19.2 ± 0.6; 2.8
STW-878	Water	Apr, 2000	Cs-134	86.4 ± 5.0	77.7 - 95.1	81.0 ± 1.3; 11.7
STW-878	Water	Apr, 2000	Cs-137	123.0 ± 6.2	112.0 - 134.0	119.0 ± 2.6; 17.3
STW-878	Water	Apr, 2000	Gr. Beta	289.0 ± 43.4	214.0 - 364.0	276.0 ± 9.6; 43.6
STW-878	Water	Apr, 2000	Sr-89	50.7 ± 5.0	42.0 - 59.4	32.3 ± 3.3; 4.6
STW-878	Water	Apr, 2000	Sr-90	32.8 ± 5.0	24.1 - 41.5	11.3 ± 1.0; 1.5
			An error was found in calculation. Result of recalculation: Sr-89, 55.5 ± 7.2 pCi/L / Sr-90, 30.7 ± 3.0 pCi/L. Results of reanalysis: Sr-89, 47.4 ± 14.5 pCi/L / Sr-90, 33.0 ± 1.35 pCi/L. Both results are within limits.			
STW-879	Water	Jun, 2000	Ba-133	25.5 ± 5.0	16.8 - 34.2	22.4 ± 2.1; 3.8

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 1s, N=1	Control Limits	Laboratory Results ± 2 Sigma ^d
STW-879	Water	Jun, 2000	Co-60	65.6 ± 5.0	56.9 - 74.3	69.9 ± 3.7; 10.7
STW-879	Water	Jun, 2000	Cs-134	13.8 ± 5.0	5.1 - 22.5	13.5 ± 0.8; 2.1
STW-879	Water	Jun, 2000	Cs-137	238.0 ± 11.9	217.0 - 259.0	232.0 ± 7.8; 34.3
STW-879	Water	Jun, 2000	Zn-65	54.6 ± 5.5	45.3 - 63.9	50.9 ± 3.8; 8.2
STW-880	Water	Jun, 2000	Ra-226	3.0 ± 0.5	2.2 - 3.8	2.8 ± 0.2; 0.3
STW-880	Water	Jun, 2000	Ra-228	13.0 ± 3.3	7.4 - 18.6	10.0 ± 0.9; 1.4
STW-880	Water	Jun, 2000	Uranium	63.4 ± 6.3	52.6 - 74.2	57.0 ± 4.4; 7.2
STW-883	Water	Jul, 2000	Gr. Alpha	7.2 ± 5.0	0.0 - 15.9	6.9 ± 1.1; 1.4
STW-883	Water	Jul, 2000	Gr. Beta	87.5 ± 10.0	70.2 - 105.0	88.8 ± 9.8; 16.8
STW-884	Water	Aug, 2000	H-3	8320.0 ± 832.0	6910.0 - 9730.0	8740.0 ± 174.0; 1201.3
STW-891	Water	Sep, 2000	Ra-226	18.9 ± 2.8	14.0 - 23.8	17.9 ± 1.3; 2.2
STW-891	Water	Sep, 2000	Ra-228	6.2 ± 1.6	3.5 - 8.8	5.7 ± 0.5; 0.8
STW-891	Water	Sep, 2000	Uranium	11.9 ± 3.0	6.7 - 17.1	10.3 ± 0.1; 1.0
STW-892	Water	Oct, 2000	I-131	15.9 ± 1.6	10.7 - 21.1	16.9 ± 0.3; 1.7
STW-892	Water	Oct, 2000	I-131(g)	15.9 ± 1.6	10.7 - 21.1	17.1 ± 5.4; 6.0
STW-893	Water	Oct, 2000	Gr. Alpha	74.4 ± 18.6	42.2 - 107.0	66.3 ± 5.3; 9.7
STW-893	Water	Oct, 2000	Ra-226	10.5 ± 1.6	7.8 - 13.2	10.1 ± 1.0; 1.4
STW-893	Water	Oct, 2000	Ra-228	19.4 ± 4.9	11.0 - 27.8	21.2 ± 0.5; 2.2
STW-893	Water	Oct, 2000	Uranium	44.5 ± 4.5	36.8 - 52.2	41.4 ± 1.9; 4.6
STW-894	Water	Oct, 2000	Co-60	91.1 ± 5.0	82.4 - 99.8	93.4 ± 1.6; 13.5
STW-894	Water	Oct, 2000	Cs-134	59.8 ± 5.0	51.1 - 68.5	54.8 ± 0.3; 7.9
STW-894	Water	Oct, 2000	Cs-137	45.0 ± 5.0	36.3 - 53.7	45.5 ± 2.3; 7.0
STW-894	Water	Oct, 2000	Gr. Beta	256.0 ± 38.4	189.0 - 323.0	209.0 ± 7.9; 33.1
STW-894	Water	Oct, 2000	Sr-89	41.3 ± 5.0	32.6 - 50.0	32.8 ± 3.0; 4.4
STW-894	Water	Oct, 2000	Sr-90	18.0 ± 5.0	9.3 - 26.7	16.0 ± 2.4; 2.9
STW-895	Water	Nov, 2000	Gr. Alpha	60.3 ± 15.1	34.4 - 86.2	50.3 ± 2.6; 6.7
STW-895	Water	Nov, 2000	Gr. Beta	25.5 ± 5.0	16.8 - 34.2	28.6 ± 1.3; 4.6

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 1s, N=1	Control Limits	Laboratory Results ± 2 Sigma ^d
STW-896	Water	Nov, 2000	Ba-133	82.2 ± 8.2	68.0 - 96.4	78.0 ± 2.0; 11.4
STW-896	Water	Nov, 2000	Co-60	27.8 ± 5.0	19.1 - 36.5	30.8 ± 1.7; 4.7
STW-896	Water	Nov, 2000	Cs-134	76.0 ± 5.0	67.3 - 84.7	67.2 ± 3.3; 10.2
The mean value for Cs-134 of all participating laboratories was 70.7 pCi/L. Other gamma emitters are within limits, the counting efficiency is not suspect. Library values were reviewed and found to be correct.						
STW-896	Water	Nov, 2000	Cs-137	106.0 ± 5.3	96.8 - 115.0	109.0 ± 1.0; 15.7
STW-896	Water	Nov, 2000	Zn-65	79.0 ± 7.9	65.3 - 92.7	81.5 ± 7.4; 13.9

^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, results are given as the mean ± 2 standard deviations for three determinations. The numbers after the semi-colon are the Total Propagated Uncertainty of 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-882	SOIL	Jan, 2000	Am-241	61.1	42.8 - 79.4	64.9 ± 6.5; 9.2
STSO-882	SOIL	Jan, 2000	Co-57	949.0	664.3 - 1,233.7	721.1 ± 83.8; 110.6
The MAPEP soil sample (STSO-882), as received, did not closely match a standard gamma geometry. The results for gamma-emitting isotopes are reanalyses, with a reduced sample size.						
STSO-882	SOIL	Jan, 2000	Co-60	1,180.0	826.0 - 1,534.0	1,264.4 ± 78.6; 148.9
STSO-882	SOIL	Jan, 2000	Cs-134	1,047.0	732.9 - 1,361.1	969.3 ± 76.9; 123.7
STSO-882	SOIL	Jan, 2000	Cs-137	930.0	651.0 - 1,209.0	944.0 ± 92.0; 131.8
STSO-882	SOIL	Jan, 2000	K-40	652.0	456.4 - 847.6	811.7 ± 79.9; 113.9
STSO-882	SOIL	Jan, 2000	Mn-54	1,023.0	716.1 - 1,329.9	1,103.3 ± 64.2; 127.6
STSO-882	SOIL	Jan, 2000	Ni-63	960.0	672.0 - 1,248.0	711.0 ± 71.1; 100.6
STSO-882	SOIL	Jan, 2000	Pu-239/40	74.4	52.1 - 96.7	67.9 ± 6.8; 9.6
STSO-882	SOIL	Jan, 2000	Sr-90	304.0	212.8 - 395.2	345.0 ± 34.5; 48.8
STSO-882	SOIL	Jan, 2000	U-233/4	90.0	63.0 - 117.0	62.9 ± 6.3; 8.9
Incomplete dissolution of the sample is suspected.						
Results of reanalysis: U-233/234, 67.3 ± 3.3 pCi/g, U-238, 68.1 ± 8.9 pCi/g.						
STSO-882	SOIL	Jan, 2000	U-238	93.0	65.1 - 120.9	63.2 ± 6.3; 8.9
STSO-882	SOIL	Jan, 2000	Zn-65	1,540.0	1,078.0 - 2,002.0	1,544.3 ± 61.5; 166.2

^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 Unless otherwise indicated, laboratory results are given as the mean ± 1 standard deviations for three determinations.

^d Results are presented as the known values, 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		Control Limits ^c
				Teledyne Result ^c	EML Result ^d	
STSO-870	Soil	Mar, 2000	Ac-228	98.3 ± 7.1; 12.1	97.6 ± 4.2	0.8 - 1.4
STSO-870	Soil	Mar, 2000	Bi-212	98.5 ± 15.1; 18.0	106.0 ± 7.0	0.8 - 1.4
STSO-870	Soil	Mar, 2000	Bi-214	88.0 ± 3.8; 9.6	86.7 ± 3.8	0.8 - 1.4
STSO-870	Soil	Mar, 2000	Cs-137	324.0 ± 5.0; 32.8	339.0 ± 9.3	0.7 - 1.4
STSO-870	Soil	Mar, 2000	K-40	872.0 ± 34.0; 93.6	811.0 ± 29.0	0.7 - 1.6
STSO-870	Soil	Mar, 2000	Pb-212	93.7 ± 2.7; 9.8	97.3 ± 4.6	0.8 - 1.3
STSO-870	Soil	Mar, 2000	Pb-214	100.1 ± 3.7; 10.7	86.5 ± 6.8	0.8 - 1.3
STSO-870	Soil	Mar, 2000	Pu-238	19.8 ± 3.0; 3.6	18.6 ± 0.5	0.2 - 2.0
STSO-870	Soil	Mar, 2000	Pu-239/40	8.1 ± 1.7; 1.9	7.0 ± 0.3	0.6 - 2.0
STSO-870	Soil	Mar, 2000	Sr-90	13.6 ± 3.1; 3.4	20.2 ± 0.2	0.6 - 3.0
STVE-871	Vegetation	Mar, 2000	Am-241	9.8 ± 0.9; 1.3	10.4 ± 1.4	0.6 - 2.9
STVE-871	Vegetation	Mar, 2000	Co-60	46.5 ± 2.1; 6.7	52.8 ± 1.0	0.6 - 1.5
STVE-871	Vegetation	Mar, 2000	Cs-137	1,872.0 ± 46.0; 258.7	1,380.0 ± 20.0	0.8 - 1.5
STVE-871	Vegetation	Mar, 2000	K-40	506.4 ± 28.0; 57.9	521.0 ± 20.0	0.5 - 1.5
STVE-871	Vegetation	Mar, 2000	Pu-239/40	14.3 ± 1.5; 2.1	15.5 ± 2.1	0.6 - 2.0
STVE-871	Vegetation	Mar, 2000	Sr-90	1,198.0 ± 85.0; 146.9	1,780.0 ± 17.8	0.5 - 1.4
STAP-872	Air Filter	Mar, 2000	Co-57	5.9 ± 0.1; 0.6	5.3 ± 0.2	0.6 - 1.3
STAP-872	Air Filter	Mar, 2000	Co-60	5.9 ± 0.1; 0.6	5.3 ± 0.3	0.7 - 1.3
STAP-872	Air Filter	Mar, 2000	Cs-137	7.5 ± 0.1; 0.8	6.1 ± 0.3	0.7 - 1.3
STAP-872	Air Filter	Mar, 2000	Gr. Alpha	3.3 ± 0.1; 0.3	3.0 ± 0.3	0.8 - 1.6
STAP-872	Air Filter	Mar, 2000	Gr. Beta	2.7 ± 0.1; 0.3	2.4 ± 0.2	0.8 - 1.9
STAP-872	Air Filter	Mar, 2000	Mn-54	31.8 ± 0.3; 3.2	27.2 ± 0.8	0.8 - 1.3
STAP-872	Air Filter	Mar, 2000	Pu-238	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.6 - 1.6
STAP-872	Air Filter	Mar, 2000	Pu-239/40	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.7 - 1.6
STAP-872	Air Filter	Mar, 2000	Ru-106	3.5 ± 1.0; 1.1	2.0 ± 1.9	0.5 - 1.6
Result within activity ± error margin.						
STAP-872	Air Filter	Mar, 2000	Sr-90	0.3 ± 0.2; 0.2	0.2 ± 0.0	0.6 - 2.3
STAP-872	Air Filter	Mar, 2000	Uranium	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.8 - 2.9
STW-874	Water	Mar, 2000	Am-241	1.7 ± 0.2; 0.3	2.0 ± 0.2	0.7 - 1.6
STW-874	Water	Mar, 2000	Co-60	51.0 ± 1.2; 7.4	48.9 ± 1.8	0.9 - 1.2
STW-874	Water	Mar, 2000	Cs-137	108.6 ± 1.8; 15.7	103.0 ± 4.0	0.9 - 1.2
STW-874	Water	Mar, 2000	Fe-55	33.0 ± 1.2; 3.5	33.1 ± 0.7	0.3 - 1.6
STW-874	Water	Mar, 2000	Gr. Alpha	1,217.0 ± 35.0; 152.5	1,700.0 ± 170.0	0.6 - 1.3
STW-874	Water	Mar, 2000	Gr. Beta	792.0 ± 25.0; 124.5	690.0 ± 70.0	0.8 - 1.7
STW-874	Water	Mar, 2000	H-3	147.0 ± 26.0; 32.8	79.4 ± 2.5	0.7 - 1.9
STW-874	Water	Mar, 2000	Ni-63	101.0 ± 6.0; 11.7	112.0 ± 11.0	0.8 - 1.3
STW-874	Water	Mar, 2000	Pu-238	0.8 ± 0.2; 0.2	0.9 ± 0.0	0.7 - 1.3
STW-874	Water	Mar, 2000	Pu-239/40	1.0 ± 0.1; 0.1	0.9 ± 0.0	0.6 - 1.4

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

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/L ^b		Control Limits ^e
				Teledyne Result ^c	EML Result ^d	
STW-874	Water	Mar, 2000	Sr-90	4.5 ± 1.0; 1.1	3.4 ± 0.1	0.7 - 1.4
STW-874	Water	Mar, 2000	Uranium	0.3 ± 0.0; 0.0	1.0 ± 0.1	0.4 - 1.5
Result reported was for U-234. Result for U (total); 0.58 ± 0.02 pCi/L.						
STSO-885	Soil	Sep, 2000	Ac-228	78.0 ± 1.5; 7.9	80.2 ± 3.6	0.8 - 1.4
STSO-885	Soil	Sep, 2000	Bi-212	73.0 ± 3.3; 8.0	80.5 ± 6.6	0.8 - 1.4
STSO-885	Soil	Sep, 2000	Bi-214	91.0 ± 4.0; 9.9	83.3 ± 4.2	0.8 - 1.4
STSO-885	Soil	Sep, 2000	Cs-137	925.7 ± 14.2; 93.7	1,020.0 ± 51.0	0.7 - 1.4
STSO-885	Soil	Sep, 2000	K-40	713.6 ± 7.1; 71.7	713.0 ± 38.0	0.7 - 1.6
STSO-885	Soil	Sep, 2000	Pb-212	66.1 ± 4.3; 7.9	79.3 ± 4.3	0.8 - 1.4
STSO-885	Soil	Sep, 2000	Pb-214	100.1 ± 3.7; 10.7	86.3 ± 4.3	0.8 - 1.4
STSO-885	Soil	Sep, 2000	Pu-239/40	18.4 ± 0.4; 1.9	16.8 ± 0.3	0.6 - 2.0
STSO-885	Soil	Sep, 2000	Sr-90	39.9 ± 5.3; 6.6	50.4 ± 2.0	0.6 - 3.0
STSO-885	Soil	Sep, 2000	Th-234	154.7 ± 9.3; 18.1	148.0 ± 10.0	0.8 - 1.4
STSO-885	Soil	Sep, 2000	Uranium	254.3 ± 13.0; 28.6	327.0 ± 11.0	0.3 - 1.5
STW-886	Water	Sep, 2000	Am-241	1.3 ± 0.2; 0.2	1.2 ± 0.0	0.7 - 1.6
STW-886	Water	Sep, 2000	Co-60	71.9 ± 7.2; 12.6	73.7 ± 2.9	0.9 - 1.2
STW-886	Water	Sep, 2000	Cs-137	62.7 ± 6.3; 11.0	67.0 ± 3.5	0.9 - 1.3
STW-886	Water	Sep, 2000	H-3	92.3 ± 8.9; 15.4	91.3 ± 0.3	0.7 - 1.9
STW-886	Water	Sep, 2000	Pu-238	0.7 ± 0.1; 0.1	0.8 ± 0.0	0.7 - 1.3
STW-886	Water	Sep, 2000	Pu-239/40	0.6 ± 0.1; 0.1	0.6 ± 1.0	0.6 - 1.4
STW-886	Water	Sep, 2000	Sr-90	4.6 ± 0.4; 0.6	4.5 ± 0.1	0.7 - 1.7
STW-886	Water	Sep, 2000	Uranium	0.8 ± 0.1; 0.1	0.9 ± 0.0	0.4 - 1.5
STW-887	Water	Sep, 2000	Gr. Alpha	1,113.7 ± 17.9; 137.0	1,070.0 ± 100.0	0.6 - 1.3
STW-887	Water	Sep, 2000	Gr. Beta	1,129.4 ± 16.7; 174.7	950.0 ± 90.0	0.8 - 1.7
STAP-888	Air Filter	Sep, 2000	Am-241	0.1 ± 0.0; 0.0	0.0 ± 0.0	0.6 - 1.9
STAP-888	Air Filter	Sep, 2000	Co-57	16.5 ± 0.6; 1.8	14.5 ± 0.5	0.6 - 1.3
STAP-888	Air Filter	Sep, 2000	Co-60	9.2 ± 0.4; 1.0	8.4 ± 0.5	0.7 - 1.3
STAP-888	Air Filter	Sep, 2000	Cs-137	8.8 ± 0.5; 1.0	7.4 ± 0.4	0.7 - 1.3
STAP-888	Air Filter	Sep, 2000	Mn-54	50.2 ± 2.3; 5.5	43.2 ± 1.3	0.8 - 1.4
STAP-888	Air Filter	Sep, 2000	Pu-238	0.0 ± 0.0; 0.0	0.0 ± 0.0	0.6 - 1.6
STAP-888	Air Filter	Sep, 2000	Pu-239/40	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.7 - 1.6
STAP-888	Air Filter	Sep, 2000	Sr-90	3.3 ± 0.1; 0.3	1.6 ± 0.1	0.6 - 2.3
STAP-888	Air Filter	Sep, 2000	U-233/4	0.0 ± 0.0; 0.0	0.0 ± 0.0	0.8 - 2.9
STAP-888	Air Filter	Sep, 2000	U-238	0.0 ± 0.0; 0.0	0.0 ± 0.0	0.8 - 2.6
Result within activity ± error margin.						
STAP-888	Air Filter	Sep, 2000	Uranium	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.8 - 2.9
STAP-889	Air Filter	Sep, 2000	Gr. Alpha	2.8 ± 0.0; 0.3	2.4 ± 0.2	0.8 - 1.6
STAP-889	Air Filter	Sep, 2000	Gr. Beta	2.1 ± 0.0; 0.2	1.5 ± 0.2	0.8 - 1.9

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

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/L ^b		Control Limits ^e
				Teledyne Result ^c	EML Result ^d	
STVE-890	Vegetation	Sep, 2000	Am-241	5.9 ± 1.2; 1.3	5.6 ± 0.7	0.6 - 2.9
STVE-890	Vegetation	Sep, 2000	Cm-244	3.2 ± 0.1; 0.3	3.6 ± 0.3	0.4 - 1.9
STVE-890	Vegetation	Sep, 2000	Co-60	29.4 ± 0.4; 4.0	32.8 ± 1.3	0.6 - 1.5
STVE-890	Vegetation	Sep, 2000	Cs-137	739.3 ± 23.0; 103.1	867.0 ± 44.0	0.8 - 1.5
STVE-890	Vegetation	Sep, 2000	K-40	597.5 ± 49.3; 77.5	639.0 ± 34.0	0.5 - 1.5
STVE-890	Vegetation	Sep, 2000	Pu-239/40	4.5 ± 0.2; 0.5	9.6 ± 0.8	0.6 - 2.0
No reason for deviation was found with original result. The result of reanalysis; 12.1 ± 1.1 Bq/kg.						
STVE-890	Vegetation	Sep, 2000	Sr-90	1,201.5 ± 117.3; 167.9	1,150.0 ± 94.0	0.5 - 1.4

^a The Environmental Measurements Laboratory provides the following nuclear species : Air Filters, Soil, Tissue, Vegetation and Water. Teledyne does not participate in the Tissue program.

^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. The results of elemental Uranium are reported in ug/filter⁻¹, g, or ml.

^c Teledyne results are reported as the mean of three determinations±standard deviation;total promulgated uncertainty.

^d The EML result listed is the mean of replicate determinations for each nuclide±the standard error of the mean.

^e 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.