



Nuclear

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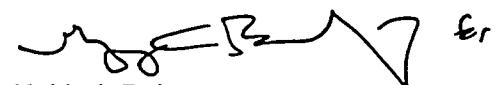
Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Subject: 2004 Annual Radiological Environmental Operating Report

Attached is the 2004 Annual Radiological Environmental Operating Report for Braidwood Station. This report is being submitted in accordance with Technical Specification 5.6.2, "Annual Radiological Environmental Operating Report." This report contains information associated with the station's radiological environmental and meteorological monitoring programs. This information is consistent with the objectives described in the Offsite Dose Calculation Manual and 10 CFR 50, Appendix I, "Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion 'As Low as is Reasonably Achievable' for Radioactive Material In Light-Water-Cooled Nuclear Power Reactor Effluents," Sections IV.B.1, IV.B.2, and IV.B.3. Technical Specification 5.6.2 requires the Annual Radiological Environmental Operating Report to be submitted by May 15 of each year.

If you have any questions regarding this information, please contact Mr. Dale Ambler, Regulatory Assurance Manager, at (815) 417-2800.

Respectfully,


Keith J. Polson
Site Vice President
Braidwood Station

Attachment

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JF25

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BRAIDWOOD STATION
ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING
REPORT

2004

MAY 2005

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
SUMMARY	2
1.0 EFFLUENTS	
1.1 Gaseous Effluents to the Atmosphere	3
1.2 Liquids Released to Kankakee River	3
2.0 SOLID RADIOACTIVE WASTE.....	3
3.0 DOSE TO MAN	
3.1 Gaseous Effluent Pathways	3
3.1.1 Noble Gases.....	4
3.1.1.1 Gamma Dose.....	4
3.1.1.2 Beta Air and Skin Dose.....	4
3.1.2 Radioactive Iodine.....	4
3.1.2.1 Dose to Infant's Thyroid.....	5
3.2 Liquid Effluent Pathways.....	5
3.3 Assessment of Dose to Member of Public	5
4.0 SITE METEOROLOGY	6
5.0 ENVIRONMENTAL MONITORING	6
5.1 Gamma Radiation.....	6
5.2 Airborne I-131 and Particulate Radioactivity	6
5.3 Terrestrial Radioactivity	7
5.4 Aquatic Radioactivity.....	7
5.5 Milk.....	8
5.6 Sample Collections	8
5.7 Program Modifications	8
6.0 ANALYTICAL PROCEDURES.....	8
7.0 MILCH ANIMALS AND NEAREST LIVESTOCK CENSUS	8
8.0 NEAREST RESIDENCES CENSUS	9
9.0 INTERLABORATORY COMPARISON PROGRAM RESULTS.....	9
10.0 ERRATA DATA	9

TABLE OF CONTENTS (continued)

	<u>Page</u>
APPENDIX I - DATA TABLES AND FIGURES.....	I-1
Station Releases	
Table 1.1-1 Gaseous Effluents	I-2
Table 1.2-1 Liquid Effluents	I-4
Table 3.1-1 Maximum Doses Resulting from Airborne Releases	I-6
Table 3.2-1 Maximum Doses Resulting from Liquid Effluents	I-10
Table 3.3-1 10CFR20 Assessment Compliance	I-12
Table 3.4-1 Maximum Doses Resulting from Airborne Releases Based on Concurrent Meteorological Data.....	I-14
Environmental Monitoring	
Figure 5.0-1 Inner Ring TLD Locations.....	I-16
Figure 5.0-2 Fixed Air Sampling and Outer Ring TLD Locations	I-17
Figure 5.0-3 Ingestion and Waterborne Exposure Pathway Sample Locations	I-18
Table 5.0-1 Radiological Environmental Monitoring Locations.....	I-19
Table 5.0-2 Radiological Environmental Monitoring Program Sampling Locations, Sample Collection and Analyses.....	I-20
Table 5.0-3 - Table 5.0-6 Radiological Environmental Monitoring Program Quarterly Summary.....	I-26
APPENDIX II - METEOROLOGICAL DATA.....	II-1
APPENDIX III - 2004 REMP SAMPLE RESULTS	III-1
APPENDIX IV - INTERLABORATORY COMPARISON PROGRAM RESULTS	IV-1
APPENDIX V - ERRATA DATA (If applicable).....	V-1

INTRODUCTION

Braidwood Station, a two-unit PWR station, is located in Will County, Illinois, fifteen (15) miles south-southwest of Joliet, Illinois. Each reactor is designed to have a capacity of 3586.6 thermal megawatts. Unit No. 1 went critical on May 29, 1987, and unit No. 2 went critical on March 8, 1988. The station has been designed to keep releases to the environment at levels below those specified in the regulations.

Liquid effluents from Braidwood Station are released to the Kankakee 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 grab samples of noble gases and tritium, 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 effluent and meteorological data.

Environmental monitoring is conducted by sampling at indicator and control (background) locations in the vicinity of the Braidwood Station to measure changes in radiation or radioactivity levels that may be attributable to station operations. If significant changes attributable to Braidwood 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 most critical pathways at this site; however, an environmental monitoring program is conducted which includes these and other pathways.

SUMMARY

Calculations based on gaseous and liquid effluents, Kankakee River flow and meteorological data indicate that public dose due to radioactive material attributable to Braidwood 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 Braidwood Station calculated for the maximally-exposed individual for the period is 9.74E+00 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.

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

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

A total of 6.88E+02 curies of fission and activation gases were released with a maximum quarterly average release rate of 3.76E+01 $\mu\text{Ci/sec}$ at Unit 1 and 4.16E+01 $\mu\text{Ci/sec}$ at Unit 2.

A total of 1.03E-02 curies of I-131 were released with a maximum quarterly release rate of 3.51E-04 $\mu\text{Ci/sec}$ at Unit 1 and 8.50E-04 $\mu\text{Ci/sec}$ at Unit 2.

A total of 9.23E-06 curies of beta-gamma emitters were released as airborne particulate matter with a maximum quarterly average release rate of 1.32E-07 $\mu\text{Ci/sec}$ at Unit 1 and 8.63E-07 at Unit 2. Alpha-emitting radionuclides were less than the LLD for the year.

A total of 6.15E+01 curies of tritium was released with a maximum quarterly average release rate of 2.07E+00 $\mu\text{Ci/sec}$ at Unit 1 and 2.04E+00 $\mu\text{Ci/sec}$ at Unit 2.

1.2 Liquids Released to Kankakee River

A total of 1.04E+07 liters of radioactive liquid waste (prior to dilution) containing 4.95E-02 curies (excluding tritium, noble gases, and alpha) was discharged from the station. These wastes were released at a maximum quarterly average concentration of 3.10E-09 $\mu\text{Ci/ml}$. Alpha-emitting radionuclides were less than the LLD for the year. A total of 2.54E+03 curies of tritium was released from the station. Monthly release activities and principal radionuclides in liquid effluents are given in Table 1.2-1.

2.0 SOLID RADIOACTIVE WASTE

Solid radioactive wastes were shipped by truck to the Envirocare of Utah disposal facility; the Barnwell, South Carolina disposal facility and various waste processors. For detail, refer to the Braidwood Station 2004 Radioactive Effluent Release Report.

3.0 DOSE TO MAN

3.1 Gaseous Effluent Pathways

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

Isopleth figures and any references to them were removed from the report in 2004 due to a Change Management decision between the station and the Met Tower contractor. Associated information for iodine and particulate concentrations in air under previous

sections 3.1.2.1 and 3.1.3 has also been removed. Subsequent sections have been renumbered accordingly.

3.1.1 Noble Gases

3.1.1.1 Gamma Dose

Offsite gamma air and total body doses are shown in Table 3.1-1 and were calculated based on measured effluents and average meteorological data. Based on measured effluents and average meteorological data, the maximum total body dose to an individual would be 2.30E-02 mrem for the year (Table 3.1-1), with an occupancy or shielding factor of 0.7 used. The maximum total body dose based on measured effluents and concurrent meteorological data would be 2.33E-03 mrem (Table 3.4-1). The maximum gamma air dose was 6.53E-03 mrad (Table 3.1-1) based on measured effluents and average meteorological data and 4.49E-03 mrad based on concurrent meteorological data (Table 3.4-1).

3.1.1.2 Beta Air and Skin Dose

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 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 was 1.41E-02 mrem based on concurrent meteorological data (Table 3.4-1). The maximum offsite beta air dose for the year was 2.89E-02 mrad (Table 3.1-1) based on measured effluents and average meteorological data and 3.23E-02 mrad based on concurrent meteorological data (Table 3.4-1).

3.1.2 Radioactive Iodine

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

3.1.2.1 Dose to Thyroid

The hypothetical thyroid dose to 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 did not exceed 9.51E+00 mrem during the year (Table 3.1-1 [infant]).

3.2 Liquid Effluent Pathways

The three principal pathways through the aquatic environment for potential doses to man from liquid waste are the 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 tracts, thyroid, bone, skin; specific parameters for use in the equations are given in the Exelon Offsite Dose Calculation Manual. The maximum whole body dose for the year was 8.86E-02 mrem and no organ dose exceeded 9.88E-02 mrem (Table 3.2-1 [child]).

3.3 Assessment of Dose to Member of Public

During the period January to December, 2004, Braidwood Station did not exceed the following limits as shown in Table 3.1-1 and Table 3.2-1 (based on annual average meteorological data), Figure 3.1-1 (based on concurrent meteorological data), and Table 3.3-1:

- The RETS limits on dose or dose commitment to an individual due to radioactive materials in liquid effluents from each reactor unit (1.5 mrem to the whole body or 5 mrem to any organ during any calendar quarter; 3 mrem to the whole body or 10 mrem to any organ during any calendar year).
- The RETS limits on air dose in noble gases released in gaseous effluents to a member of the public from each reactor unit (5 mrad for gamma radiation or 10 mrad for beta radiation during any calendar quarter; 10 mrads 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 eight days in gaseous effluents released from each reactor

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

- 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 203' level and wind speed class by atmospheric stability class determined from the temperature difference between 199' and 30' levels. Data recovery for these measurements was 99.4% during 2004 (Table 3.4-1).

5.0 ENVIRONMENTAL MONITORING

Table 5.0-1 provides an outline of the Radiological Environmental Monitoring Program (REMP) as required in current Technical Standards. Table 5.0-2 lists the sampling locations, sampling collection frequencies and analyses performed. Sampling locations are shown in Figures 5.0-1 to 5.0-4. Concentrations of radioactivity in various media are summarized in Tables 5.0-3 through 5.0-6. Tables listing all data are presented in Appendix III.

Specific findings for various environmental media are discussed below.

5.1 Gamma Radiation

External radiation dose was measured using CaF₂ thermoluminescent dosimeters (TLDs). Each location consists of 2 TLD sets. The quarterly average external radiation dose for the year was 24.3 mR at the indicator locations and 23.9 mR at the control locations. TLD results are listed in Section 6.0 of Appendix III and locations are shown in Figures 5.0-1 and 5.0-2.

Quarterly external radiation dose at indicator air sampling locations averaged 24.1 mR. Previous measurements are as follows: 1985 (12.0 mR), 1986 (12.6 mR), 1987 (14.4 mR), 1988 (13.6 mR), 1989 (13.5 mR), 1990 (14.6 mR), 1991 (14.2 mR), 1992 (13.9 mR), 1993 (14.1 mR), 1994 (13.7 mR), 1995 (12.3 mR), 1996 (13.1 mR), 1997 (13.6 mR), 1998 (14.5 mR), 1999 (13.9 mR), 2000 (14.7 mR), 2001 (19.1 mR), 2002 (20.2 mR) and 2003 (20.2 mR). A different style of TLD was used starting in 2001, which accounts for the higher indicated dose.

5.2 Airborne I-131 and Particulate Radioactivity

Airborne I-131 concentration remained below the LLD of 0.07 pCi/m³ throughout the year in all samples. Locations are shown in Figure 5.0-2.

Gross beta concentrations ranged from 0.010 to 0.045 pCi/m³ and averaged 0.024 pCi/m³ and was similar to the average concentration in 1985 (0.028 pCi/m³), 1986

(0.034 pCi/m³, except for the period from May 16 through June 6 when it was influenced by the nuclear reactor accident at Chernobyl), 1987 (0.027 pCi/m³), 1988 (0.031 pCi/m³), 1989 (0.028 pCi/m³), and similar to 1990 (0.024 pCi/m³), 1991 (0.022 pCi/m³), 1992 (0.022 pCi/m³), 1993 (0.022 pCi/m³), 1994 (0.021 pCi/m³), 1995 (0.023 pCi/m³), 1996 (0.022 pCi/m³), 1997 (0.023 pCi/m³), 1998 (0.025 pCi/m³), 1999 (0.027 pCi/m³), 2000 (0.028 pCi/m³), 2001 (0.027 pCi/m³), 2002 (0.028 pCi/m³) and 2003 (0.026 pCi/m³).

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

5.3 Terrestrial Radioactivity

Vegetables were collected in August and analyzed for I-131 and gamma-emitting nuclides. I-131 and gamma-emitting nuclides were below the limits of detection indicating that there was no measurable amount of radioactivity attributable to the station releases.

5.4 Aquatic Radioactivity

Well water was collected quarterly from one nearsite well (BD-13) and four farsite wells (BD-34, BD-35, BD-36, BD-37) and was analyzed for tritium and gamma-emitting nuclides. Tritium levels at BD-13, BD-34, BD-35 and BD-37 remained below the LLD level of 200 pCi/L. Tritium levels at BD-36 averaged 438 pCi/L with a first quarter high of 494 pCi/L. All gamma-emitters were below the LLD. These results are similar to those obtained since 1991 when tritium well water sampling was initiated.

Weekly surface water samples from BD-10 (Kankakee River, Downstream) and BD-25 (Kankakee River, Upstream) were composited monthly and analyzed for gamma-emitting nuclides and gross beta activity. Quarterly composites were analyzed for tritium. Public water samples from BD-22 (Wilmington) were also composited monthly and analyzed for gamma-emitting nuclides, gross beta and tritium. Weekly composite samples from BD-22 are analyzed for tritium to provide information and trending. These samples and analyses are not required by the ODCM or REMP program.

Cs-134 and Cs-137 concentrations were below the LLD level of 15 pCi/L and 18 pCi/L, respectively, in all samples.

Gross beta concentrations at BD-10 averaged 3.3 pCi/L with a range of 2.2-4.8 pCi/L; concentrations at BD-25 averaged 5.8 pCi/L with a range of 2.7-9.3 pCi/L. Gross beta concentrations at BD-22 averaged 2.7 pCi/L with a range of 1.5-3.7 pCi/L.

Tritium concentrations at BD-10 and BD-25 remained below the LLD level of 200 pCi/L in all samples. Tritium concentrations in public water samples (BD-22) averaged 853 pCi/L with a range of 42-3,144 pCi/L. These values are less than the

reportable level of 20,000 pCi/L for drinking water, and are attributable to plant operation. These results were consistent with plant effluent releases and river flow dilution.

Sediment samples were collected twice a year, in May and October, from two indicator locations (BD-10 and BD-41) and analyzed for gamma-emitters. Cs-134 and Cs-137 concentrations were below the lower limit of detection (0.15 and 0.18 pCi/g dry weight, respectively) in all samples. These values are similar to those obtained in 1986 through 2003.

Levels of gamma radioactivity in fish were measured and all samples were below the LLD for the year.

Water, fish and sediment locations are shown in Figure 5.0-3.

5.5 Milk

Milk samples were collected monthly from November through April and biweekly from May through October and analyzed for I-131 and gamma-emitting nuclides. Milk locations are shown in Figure 5.0-3.

I-131 concentration was below the LLD level of 1.0 pCi/L in all samples.

Cs-134, Cs-137 and Ba/La-140 were below the LLD level of 15, 18 and 15 pCi/L, respectively. These results are identical to those obtained in 1986 through 2002.

5.6 Sample Collections

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

5.7 Program Modifications

There were no changes to the program in 2004.

6.0 ANALYTICAL PROCEDURES

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

7.0 MILCH ANIMALS AND NEAREST LIVESTOCK CENSUS

A census of milch animals and nearest cattle was 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 A. Lewis on August 30, 2004.

Results of the milch animal and nearest cattle census are presented in Section 5.0 of Appendix III on pages 39 and 40.

8.0 NEAREST RESIDENCE CENSUS

A census of the nearest residences within a 6.2-mile radius was conducted by A. Lewis on August 30, 2004.

Results of the nearest residence census are presented in Section 5.0 of Appendix III on page 41.

9.0 INTERLABORATORY COMPARISON PROGRAM RESULTS

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

10.0 ERRATA DATA

Errata data, if any, is presented in Appendix V.

There is no errata data for 2004.

BRAIDWOOD

APPENDIX I

DATA TABLES AND FIGURES

Table 1.1-1

BRAIDWOOD NUCLEAR POWER STATION
 ANNUAL EFFLUENT REPORT FOR 2004
 GAS RELEASES
 UNIT 1 (Docket Number 50-456)
 SUMMATION OF ALL RELEASES

Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error%
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A. Fission and Activation Gas Releases

1. Total Release Activity	Ci	7.77E+00	3.38E+00	1.24E+01	2.99E+02	7.59
2. Average Release Rate	uCi/sec	9.88E-01	4.30E-01	1.56E+00	3.76E+01	
3. Percent of ODCM Limit	%	1.59E-03	4.20E-04	1.77E-03	5.07E-02	

B. Iodine Releases

1. Total I-131 Activity	Ci	1.63E-05	1.87E-04	3.62E-04	2.79E-03	33.20
2. Average Release Rate	uCi/sec	2.07E-06	2.38E-05	4.55E-05	3.51E-04	
3. Percent of ODCM Limit	%	2.08E-01	1.18E+00	1.35E+00	3.41E+01	

C. Particulate (> 8 day half-life) Releases

1. Gross Activity	Ci	<LLD	<LLD	<LLD	1.05E-06	19.80
2. Average Release Rate	uCi/sec	0.00E+00	0.00E+00	0.00E+00	1.32E-07	
3. Percent of ODCM Limit	%	N/A	N/A	N/A	3.41E+01	
4. Gross Alpha Activity	Ci	<LLD	<LLD	<LLD	<LLD	

D. Tritium Releases

1. Total Release Activity	Ci	1.53E+01	1.63E+01	2.41E-01	2.88E-01	8.07
2. Average Release Rate	uCi/sec	1.95E+00	2.07E+00	3.03E-02	3.62E-02	
3. Percent of ODCM Limit	%	2.08E-01	1.18E+00	1.35E+00	3.41E+01	

E. Iodine, Particulate (> 8 day half-life) and Tritium

1. Percent of ODCM Limit	%	2.08E-01	1.18E+00	1.35E+00	3.41E+01
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Note: LLD Values are included in Appendix A of this report.

Table 1.1-1 (continued)

**BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2004
GAS RELEASES
UNIT 2 (Docket Number 50-457)
SUMMATION OF ALL RELEASES**

Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error%
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A. Fission and Activation Gas Releases

1. Total Activity Released	Cl	8.01E-01	3.12E+01	2.89E+00	3.31E+02	7.59
2. Average Release Rate	uCi/sec	1.02E-01	3.97E+00	3.64E-01	4.16E+01	
3. Percent of ODCM Limit	%	1.05E-03	1.67E-02	2.28E-04	5.83E-02	

B. Iodine Releases

1. Total I-131 Activity	Cl	6.13E-07	6.20E-05	1.32E-04	6.76E-03	33.20
2. Average Release Rate	uCi/sec	7.80E-08	7.89E-06	1.66E-05	8.50E-04	
3. Percent of ODCM Limit	%	2.76E-02	6.12E-01	5.49E-01	8.88E+01	

C. Particulate (> 8 day half-life) Releases

1. Gross Activity	Cl	<LLD	1.32E-06	<LLD	6.86E-06	19.80
2. Average Release Rate	uCi/sec	0.00E+00	1.68E-07	0.00E+00	8.63E-07	
3. Percent of ODCM Limit	%	NA	6.12E-01	NA	8.88E+01	
4. Gross Alpha Activity	Cl	<LLD	<LLD	<LLD	<LLD	

D. Tritium Releases

1. Total Release Activity	Cl	8.03E+00	1.60E+01	4.27E+00	1.07E+00	8.07
2. Average Release Rate	uCi/sec	1.02E+00	2.04E+00	5.37E-01	1.35E-01	
3. Percent of ODCM Limit	%	2.76E-02	6.12E-01	5.49E-01	8.88E+01	

E. Iodine, Particulate (> 8 day half-life), and Tritium

1. Percent of ODCM Limit	%	2.76E-02	6.12E-01	5.49E-01	8.88E+01
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Note: LLD Values are included in Appendix A of this report.

Table 1.2-1

BRAIDWOOD NUCLEAR POWER STATION
 ANNUAL EFFLUENT REPORT FOR 2004
 LIQUID RELEASES
 UNIT 1 (Docket Number 50-456)
 SUMMATION OF ALL RELEASES

Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error %
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A. Fission and Activation Products

1. Total Activity Released	Ci	3.06E-03	6.55E-04	5.14E-03	1.59E-02	2.64
2. Average Concentration Released	uCi/ml	6.72E-10	1.57E-10	9.57E-10	3.10E-09	
3. Percent of Limit	%	*	*	*	*	

B. Tritium

1. Total Activity Released	Ci	2.07E+02	6.58E+01	7.18E+02	2.80E+02	5.85
2. Average Concentration Released	uCi/ml	4.55E-05	1.58E-05	1.34E-04	5.47E-05	
3. % of Limit (1E-2 μ Ci/ml)	%	4.55E-01	1.58E-01	1.34E+00	5.47E-01	

C. Dissolved Noble Gases

1. Total Activity Released	Ci	1.86E-03	0.00E+00	7.94E-02	1.51E-02	2.64
2. Average Concentration Released	uCi/ml	4.08E-10	0.00E+00	1.48E-08	2.95E-09	
3. % of Limit (2E-4 μ Ci/ml)	%	2.04E-04	0.00E+00	7.39E-03	1.47E-03	

D. Gross Alpha

1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	14.7
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	

E. Volume of Releases

1. Volume of Liquid Waste to Discharge	liters	1.00E+06	7.89E+05	1.85E+06	1.57E+06
2. Volume of Dilution Water	liters	4.55E+09	4.17E+09	5.37E+09	5.12E+09

Note: LLD Values are included in Appendix A of this report.

* This limit is equal to 10 times the concentration values in Appendix B, Table 2, Column 2 to 10CFR20.1001-20.2402.

Table 1.2-1 (continued)

BRAIDWOOD NUCLEAR POWER STATION
 ANNUAL EFFLUENT REPORT FOR 2004
 LIQUID RELEASES
 UNIT 2 (Docket Number 60-457)
 SUMMATION OF ALL RELEASES

Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error %
-------	---------	---------	---------	---------	--------------------

A. Fission and Activation Products

1. Total Activity Released	Ci	3.06E-03	6.55E-04	5.14E-03	1.59E-02	2.64
2. Average Concentration Released	uCi/ml	6.72E-10	1.57E-10	9.57E-10	3.10E-09	
3. Percent of Limit	%	*	*	*	*	

B. Tritium

1. Total Activity Released	Ci	2.07E+02	6.58E+01	7.18E+02	2.80E+02	5.85
2. Average Concentration Released	uCi/ml	4.55E-05	1.58E-05	1.34E-04	5.47E-05	
3. Percent of Limit (1E-2 µCi/ml)	%	4.55E-01	1.58E-01	1.34E+00	5.47E-01	

C. Dissolved Noble Gases

1. Total Activity Released	Ci	1.86E-03	0.00E+00	7.94E-02	1.51E-02	2.64
2. Average Concentration Released	uCi/ml	4.09E-10	0.00E+00	1.48E-08	2.95E-09	
3. Percent of Limit (2E-4 µCi/ml)	%	2.04E-04	0.00E+00	7.39E-02	1.47E-03	

D. Gross Alpha

1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	14.7
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	

E. Volume of Releases

1. Volume of Liquid Waste to Discharge	liters	1.00E+06	7.89E+05	1.85E+06	1.57E+06
2. Volume of Dilution Water	liters	4.55E+09	4.17E+09	5.37E+09	5.12E+09

Note: LLD Values are included in Appendix A of this report.

* This limit is equal to 10 times the concentration values in Appendix B, Table 2, Column 2 to 10CFR20.1001-20.2402.

Table 3.1-1

RETDAS v3.6.3 <BRA>

VSSI

**GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)**

Release ID.....: 1 All Gas Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date....: 01/01/2005 00:00
 Period Duration (min): 5.270E+05
 Coefficient Type....: Historical
 Unit.....: 1
 Receptor.....: 5 Composite Crit. Receptor - IP
 Distance (meters)....: 0.0
 Compass Point.....: 0.0

--- MAXIMUM PERIOD DOSE TO LIMIT (Any Organ) -----

Dose	Age	Dose	Limit	Admin	Admin %	T.Spec	T.Spec %	
Period	Group	Organ	(mrem)	Period	Limit	of Limit	Limit	
Strt->End	INFANT	THYROID	2.76E+00	31-day	2.25E-01	1.23E+03	3.00E-01	9.20E+02
Ortr->End	INFANT	THYROID	2.76E+00	Quarter	5.63E+00	4.91E+01	7.50E+00	3.68E+01
Year->End	INFANT	THYROID	2.76E+00	Annual	1.13E+01	2.45E+01	1.50E+01	1.84E+01

Critical Pathway.....: 3 Grs/Goat/Milk (GMILK)
 Major Contributors.....: 0.0 % or greater to total
 Nuclide Percentage

 H-3 1.93E-01
 TC-99M 3.42E-09
 I-131 9.97E+01
 I-132 9.24E-05
 I-133 2.87E-01

--- MAXIMUM PERIOD DOSE TO LIMIT (Tot Body) -----

Dose	Age	Dose	Limit	Admin	Admin %	T.Spec	T.Spec %	
Period	Group	Organ	(mrem)	Period	Limit	of Limit	Limit	
Strt->End	INFANT	TBODY	9.04E-03	31-day	1.50E-01	6.02E+00	2.00E-01	4.52E+00
Ortr->End	INFANT	TBODY	9.04E-03	Quarter	5.25E+00	1.72E-01	7.50E+00	1.20E-01
Year->End	INFANT	TBODY	9.04E-03	Annual	1.05E+01	8.61E-02	1.50E+01	6.02E-02

Critical Pathway.....: 3 Grs/Goat/Milk (GMILK)
 Major Contributors.....: 0.0 % or greater to total
 Nuclide Percentage

 H-3 5.90E+01
 TC-99M 1.05E-06
 I-131 4.10E+01
 I-132 2.84E-03
 I-133 1.52E-01

Date/Time: 04/19/2005 06:12 retdasID: Retdas

Table 3.1-1 (continued)

RETDAS v3.6.3 <BRA>

VSSI

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+05
 Coefficient Type.....: Historical
 Unit.....: 1
 Receptor.....: 4 Composite Crit. Receptor - NG
 Distance (meters)....: 0.0
 Compass Point.....: 0.0

==== MAXIMUM PERIOD NG DOSE TO LIMIT (Gamma) =====
 Dose Dose Limit Admin Admin % T.Spec T.Spec %
 Period Dose Type (mrad) Period Limit of Limit Limit of Limit
 ----- ----- ----- ----- ----- ----- -----
 Strt->End Gamma 2.72E-03 31-day 1.50E-01 1.82E+00 2.00E-01 1.36E+00
 Qrtr->End Gamma 2.72E-03 Quarter 3.75E+00 7.26E-02 5.00E+00 5.45E-02
 Year->End Gamma 2.72E-03 Annual 7.50E+00 3.63E-02 1.00E+01 2.72E-02
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
AR-41	9.00E-01
KR-85M	7.92E-02
KR-85	9.55E-02
XE-133M	6.45E-01
KR-88	2.61E-01
XE-131M	2.10E-01
XE-135M	2.00E-02
XE-135	8.22E+00
XE-133	8.96E+01

==== MAXIMUM PERIOD NG DOSE TO LIMIT (Beta) =====
 Dose Dose Limit Admin Admin % T.Spec T.Spec %
 Period Dose Type (mrad) Period Limit of Limit Limit of Limit
 ----- ----- ----- ----- ----- ----- -----
 Strt->End Beta 1.30E-02 31-day 3.00E-01 4.33E+00 4.00E-01 3.25E+00
 Qrtr->End Beta 1.30E-02 Quarter 7.50E+00 1.73E-01 1.00E+01 1.30E-01
 Year->End Beta 1.30E-02 Annual 1.50E+01 8.67E-02 2.00E+01 6.50E-02
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
AR-41	1.08E-01
KR-85M	4.33E-02
KR-85	3.70E+00
XE-133M	9.98E-01
KR-88	1.72E-02
XE-131M	5.10E-01
XE-135M	1.50E-03
XE-135	3.60E+00
XE-133	9.10E+01

Date/Time: 04/19/2005 06:12 retdasID: Retdas

Table 3.1-1 (continued)

RETDAS v3.6.3 <BRA>

VSSI

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date.....: 01/01/2005 00:00
 Period Duration (min): 5.270E+05
 Coefficient Type.....: Historical
 Unit.....: 2
 Receptor.....: 5 Composite Crit. Receptor - IP
 Distance (meters)....: 0.0
 Compass Point.....: 0.0

--- MAXIMUM PERIOD DOSE TO LIMIT (Any Organ) -----

Dose	Age	Dose	Limit	Admin	Admin %	T.Spec	T.Spec %	
Period	Group	Organ	(mrem)	Period	Limit	of Limit	Limit	
Strt->End	INFANT	THYROID	6.75E+00	31-day	2.25E-01	3.00E+03	3.00E-01	2.25E+03
Qrtr->End	INFANT	THYROID	6.75E+00	Quarter	5.63E+00	1.20E+02	7.50E+00	9.00E+01
Year->End	INFANT	THYROID	6.75E+00	Annual	1.13E+01	6.00E+01	1.50E+01	4.50E+01

Critical Pathway.....: 3 Grs/Goat/Milk (GMILK)
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	7.23E-02
I-131	9.98E+01
I-132	1.35E-05
I-133	2.06E-01
ND-147	2.28E-07

--- MAXIMUM PERIOD DOSE TO LIMIT (Tot Body)) -----

Dose	Age	Dose	Limit	Admin	Admin %	T.Spec	T.Spec %	
Period	Group	Organ	(mrem)	Period	Limit	of Limit	Limit	
Strt->End	INFANT	TBODY	1.40E-02	31-day	1.50E-01	9.30E+00	2.00E-01	6.98E+00
Qrtr->End	INFANT	TBODY	1.40E-02	Quarter	5.25E+00	2.66E-01	7.50E+00	1.86E-01
Year->End	INFANT	TBODY	1.40E-02	Annual	1.05E+01	1.33E-01	1.50E+01	9.30E-02

Critical Pathway.....: 3 Grs/Goat/Milk (GMILK)
 Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	3.50E+01
I-131	6.49E+01
I-132	6.60E-04
I-133	1.72E-01
ND-147	1.11E-04

Date/Time: 04/19/2005 06:13 retdasID: Retdas

Table 3.1-1 (continued)

RETDAS v3.6.3 <BRA>

VSSI

GASEOUS RELEASE AND DOSE SUMMARY REPORT - BY UNIT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2004 00:00
Period End Date.....: 01/01/2005 00:00
Period Duration (min): 5.270E+05
Coefficient Type.....: Historical
Unit.....: 2
Receptor.....: 4 Composite Crit. Receptor - NG
Distance (meters)....: 0.0
Compass Point.....: 0.0

*** MAXIMUM PERIOD NG DOSE TO LIMIT (Gamma) ***

Dose Period	Dose Type	Dose (mrad)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	Gamma	3.81E-03	31-day	1.50E-01	2.54E+00	2.00E-01	1.91E+00
Ortr->End	Gamma	3.81E-03	Quarter	3.75E+00	1.02E-01	5.00E+00	7.62E-02
Year->End	Gamma	3.81E-03	Annual	7.50E+00	5.08E-02	1.00E+01	3.81E-02
Major Contributors.....: 0.0 % or greater to total							
Nuclide	Percentage						
AR-41		1.33E+00					
KR-85M		2.18E+01					
KR-85		6.61E-02					
XE-133M		3.83E-01					
KR-88		1.87E-01					
XE-131M		1.33E-01					
XE-135M		1.43E-02					
XE-135		9.94E+00					
XE-133		6.62E+01					

*** MAXIMUM PERIOD NG DOSE TO LIMIT (Beta) ***

Dose Period	Dose Type	Dose (mrad)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	Beta	1.59E-02	31-day	3.00E-01	5.29E+00	4.00E-01	3.96E+00
Ortr->End	Beta	1.59E-02	Quarter	7.50E+00	2.11E-01	1.00E+01	1.59E-01
Year->End	Beta	1.59E-02	Annual	1.50E+01	1.06E-01	2.00E+01	7.93E-02
Major Contributors.....: 0.0 % or greater to total							
Nuclide	Percentage						
AR-41		1.83E-01					
KR-85M		1.37E+01					
KR-85		2.94E+00					
XE-133M		6.79E-01					
KR-88		1.41E-02					
XE-131M		3.72E-01					
XE-135M		1.23E-03					
XE-135		4.99E+00					
XE-133		7.71E+01					

Date/Time: 04/19/2005 06:13 retdasID: Retdas

Table 3.2-1

RETDAS v3.6.3 <BRA>

VSSI

**LIQUID RELEASE AND DOSE SUMMARY REPORT
----- (PERIOD BASIS - BY UNIT) -----**

Release ID.....: 1 All Liquid Release Types
 Period Start Date....: 01/01/2004 00:00
 Period End Date....: 01/01/2005 00:00
 Period Duration (mins): 5.270E+05
 Unit.....: 1
 Receptor.....: 0 Liquid Receptor

--- MAXIMUM PERIOD DOSE TO LIMIT (Any Organ) -----

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	LIVER	4.94E-02	31-day	1.50E-01	3.29E+01	2.00E-01	2.47E+01
Qrtr->End	CHILD	LIVER	4.94E-02	Quarter	3.75E+00	1.32E+00	5.00E+00	9.88E-01
Year->End	CHILD	LIVER	4.94E-02	Annual	7.50E+00	6.59E-01	1.00E+01	4.94E-01

Critical Pathway.....: 0 Potable Water (PWtr)
 Major Contributors.....: 0.0 % or greater to total

Nuclide Percentage

H-3	8.69E+01
CR-51	0.00E+00
MN-54	2.01E-01
FE-59	8.99E-03
CO-58	3.99E-02
CO-60	7.88E-02
ZN-65	1.64E-02
ZR-95	5.65E-08
NB-95	3.60E-04
TC-99M	2.96E-09
TE-125M	1.27E-01
TE-132	2.96E-03
I-131	5.71E-03
I-132	7.59E-05
CS-134	8.36E+00
CS-137	4.29E+00
BA-139	1.30E-09
LA-140	1.82E-07
NP-239	8.79E-09

--- MAXIMUM PERIOD DOSE TO LIMIT (Tot Body) -----

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	TBODY	4.43E-02	31-day	4.50E-02	9.85E+01	6.00E-02	7.39E+01
Qrtr->End	CHILD	TBODY	4.43E-02	Quarter	1.13E+00	3.94E+00	1.50E+00	2.96E+00
Year->End	CHILD	TBODY	4.43E-02	Annual	2.25E+00	1.97E+00	3.00E+00	1.48E+00

Critical Pathway.....: 0 Potable Water (PWtr)

Date/Time: 04/19/2005 06:08 retdasID: Retdas

Table 3.2-1 (continued)

RETDAS v3.6.3 <BRA>

VSSI

LIQUID RELEASE AND DOSE SUMMARY REPORT
----- (PERIOD BASIS - BY UNIT) -----

Release ID.....: 1 All Liquid Release Types
Period Start Date....: 01/01/2004 00:00
Period End Date....: 01/01/2005 00:00
Period Duration (mins): 5.270E+05
Unit.....: 2
Receptor.....: 0 Liquid Receptor

--- MAXIMUM PERIOD DOSE TO LIMIT (Any Organ) -----

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	LIVER	4.94E-02	31-day	1.50E-01	3.29E+01	2.00E-01	2.47E+01
Qrtr->End	CHILD	LIVER	4.94E-02	Quarter	3.75E+00	1.32E+00	5.00E+00	9.88E-01
Year->End	CHILD	LIVER	4.94E-02	Annual	7.50E+00	6.59E-01	1.00E+01	4.94E-01

Critical Pathway.....: 0 Potable Water (PWtr)
Major Contributors.....: 0.0 % or greater to total

Nuclide	Percentage
H-3	8.69E+01
CR-51	0.00E+00
MN-54	2.01E-01
FE-59	8.99E-03
CO-58	3.99E-02
CO-60	7.88E-02
ZN-65	1.64E-02
ZR-95	5.65E-08
NB-95	3.60E-04
TC-99M	2.96E-09
TE-125M	1.27E-01
TE-132	2.96E-03
I-131	5.71E-03
I-132	7.59E-05
CS-134	8.36E+00
CS-137	4.29E+00
BA-139	1.30E-09
LA-140	1.82E-07
NP-239	8.79E-09

--- MAXIMUM PERIOD DOSE TO LIMIT (Tot Body) -----

Dose Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	TBODY	4.43E-02	31-day	4.50E-02	9.85E+01	6.00E-02	7.39E+01
Qrtr->End	CHILD	TBODY	4.43E-02	Quarter	1.13E+00	3.94E+00	1.50E+00	2.96E+00
Year->End	CHILD	TBODY	4.43E-02	Annual	2.25E+00	1.97E+00	3.00E+00	1.48E+00

Critical Pathway.....: 0 Potable Water (PWtr)

Date/Time: 04/19/2005 06:10 retdasID: Retdas

Table 3.3-1

Braidwood Nuclear Station

Unit 1

10 CFR 20 Compliance Assessment

**Period of Assessment: 1/1/04 through 12/31/04
Calculated 5/4/05**

10 CFR 20.1301(a)(1) Compliance

Total Effective Dose Equivalent (TEDE)	mrem/year	2.87
10 CFR 20.1301(a)(1) limit	mrem/year	100.00
	% of limit	2.87

Compliance Summary

	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	Total
TEDE (mrem)	4.23E-02	1.11E-01	1.29E-01	2.59E+00	2.87E+00

Table 3.3-1 (continued)

Braidwood Nuclear Station

Unit 2

10 CFR 20 Compliance Assessment

Period of Assessment: 1/1/04 through 12/31/04
Calculated 5/4/05

10 CFR 20.1301(a)(1) Compliance

Total Effective Dose Equivalent (TEDE)	mrem/year	6.87
10 CFR 20.1301(a)(1) limit	mrem/year	100.00
	% of limit	6.87

Compliance Summary

	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	Total
TEDE (mrem)	2.85E-02	7.20E-02	6.83E-02	6.70E+00	6.87E+00

Table 3.4-1

Braidwood Station - Unit 1

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2004

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	6.830E-05(WSW)	1.740E-05(N)	1.290E-04(NNW)	2.740E-04(NNW)	4.698E-04(NNW)
BETA AIR (mrad)	3.800E-04(NNW)	2.220E-04(N)	1.380E-03(NNW)	1.840E-03(NNW)	3.431E-03(NNW)
WHOLE BODY (mrem)	2.990E-05(NNW)	9.680E-06(SW)	6.240E-05(NNW)	1.680E-04(NNW)	2.638E-04(NNW)
SKIN (mrem)	1.590E-04(NNW)	8.800E-05(N)	4.980E-04(NNW)	1.290E-03(NNW)	1.944E-03(NNW)
ORGAN (mrem)	4.420E-04(NNW)	5.430E-04(N)	1.270E-04(NNW)	1.320E-03(NNW)	2.090E-03(NNW)
CRITICAL PERSON	Teenager	Teenager	Child	Child	Child
CRITICAL ORGAN	Thyroid	Thyroid	Thyroid	Thyroid	Thyroid

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP.I	
	QUARTERLY OBJECTIVE	% OF APP. I	YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	0.01	10.0	0.00
BETA AIR (mrad)	10.0	0.02	20.0	0.02
WHOLE BODY (mrem)	2.5	0.01	5.0	0.01
SKIN (mrem)	7.5	0.02	15.0	0.01
ORGAN (mrem)	7.5	0.02	15.0	0.01
CRITICAL PERSON	Child		Child	
CRITICAL ORGAN	Thyroid		Thyroid	

Calculation used release data from the following:

Unit 1 - Vent

Date of calculation: 4/18/2005

Table 3.4-1 (continued)

Braidwood Station - Unit 2

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2004

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	3.740E-05(WSW)	6.720E-04(WSW)	1.690E-05(NNW)	3.530E-03(NNW)	4.022E-03(NNW)
BETA AIR (mrad)	6.140E-05(NNW)	2.930E-03(N)	4.210E-04(NNW)	2.650E-02(NNW)	2.886E-02(NNW)
WHOLE BODY (mrem)	1.710E-05(NNW)	4.370E-04(SW)	8.020E-06(NNW)	1.800E-03(NNW)	2.070E-03(NNW)
SKIN (mrem)	5.830E-05(NNW)	1.960E-03(N)	1.890E-04(NNW)	1.040E-02(NNW)	1.215E-02(NNW)
ORGAN (mrem)	2.300E-04(NNW)	5.140E-04(N)	4.490E-05(NNW)	3.490E-03(NNW)	4.012E-03(NNW)
CRITICAL PERSON	Teenager	Teenager	Child	Child	Child
CRITICAL ORGAN	Liver	Thyroid	Thyroid	Thyroid	Thyroid

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP.I	
	QUARTERLY OBJECTIVE	% OF APP. I	YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	0.07	10.0	0.04
BETA AIR (mrad)	10.0	0.26	20.0	0.14
WHOLE BODY (mrem)	2.5	0.07	5.0	0.04
SKIN (mrem)	7.5	0.14	15.0	0.08
ORGAN (mrem)	7.5	0.05	15.0	0.03
CRITICAL PERSON			Child	
CRITICAL ORGAN		Thyroid	Thyroid	

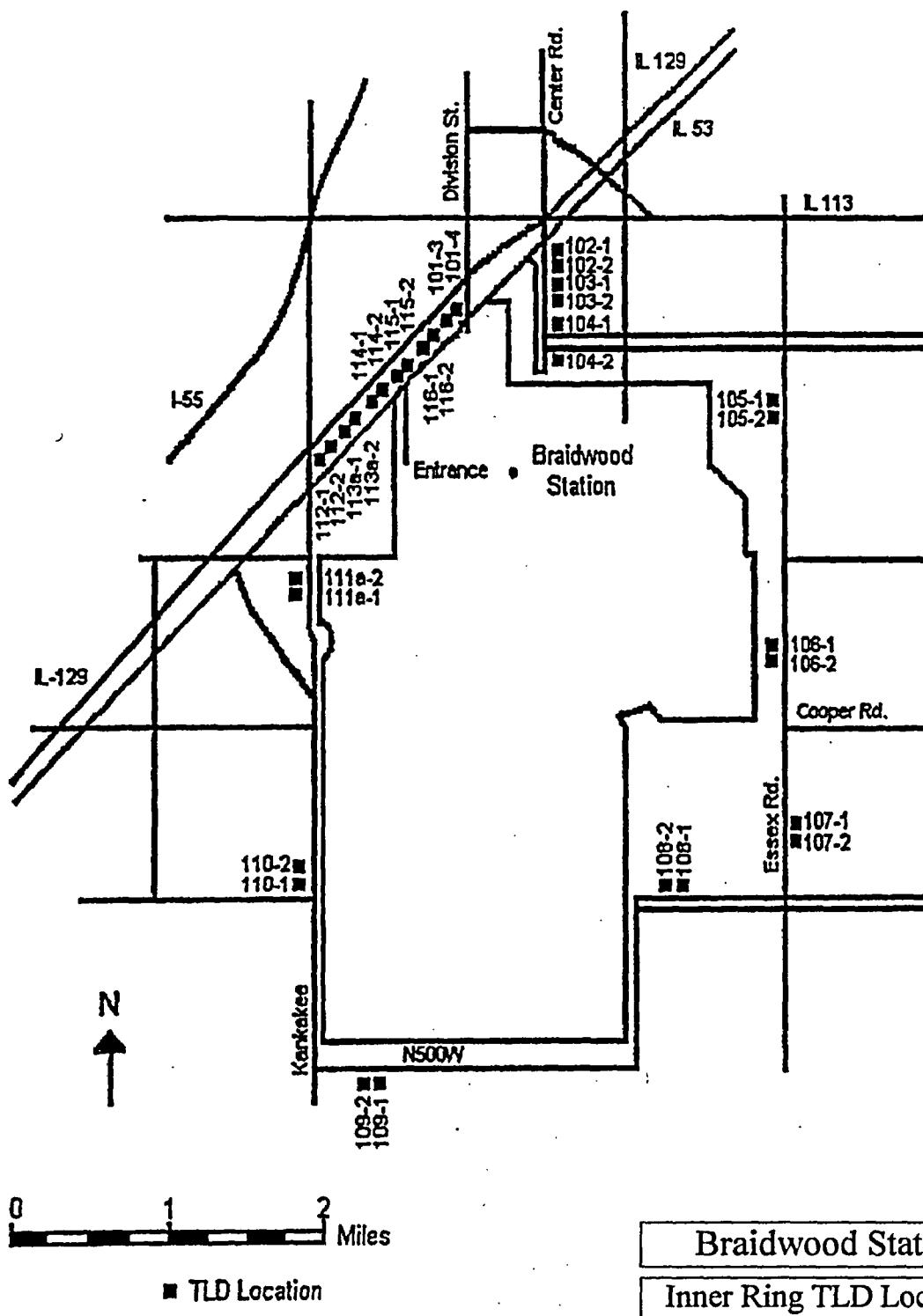
Calculation used release data from the following:
Unit 2 - Vent

Data Recovery
(priority parameters) 99.4%

Date of calculation: 4/18/2005

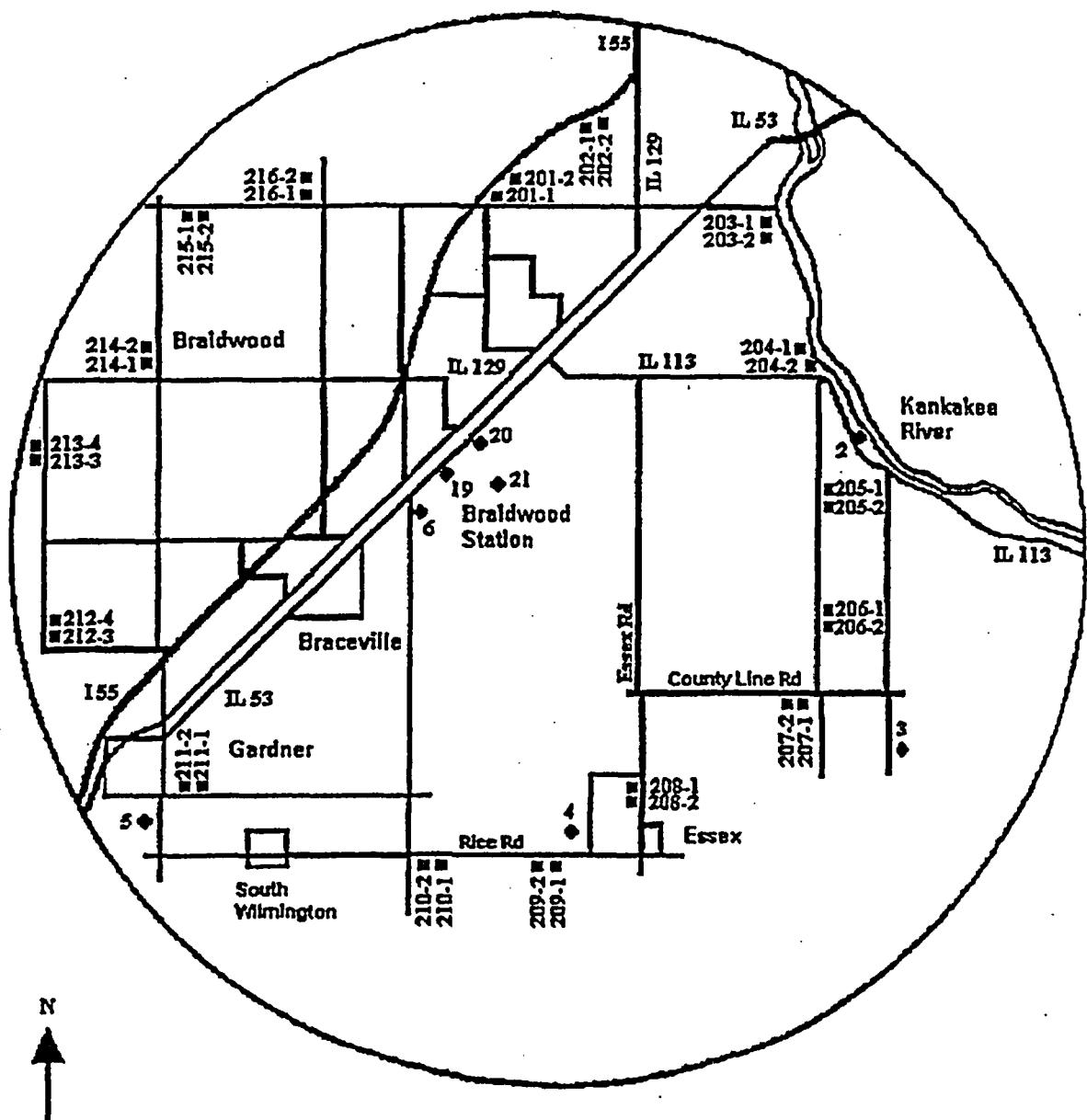
BRAIDWOOD

Figure 5.0-1



BRAIDWOOD

Figure 5.0-2



- TLD Locations
- Air Sampling Locations

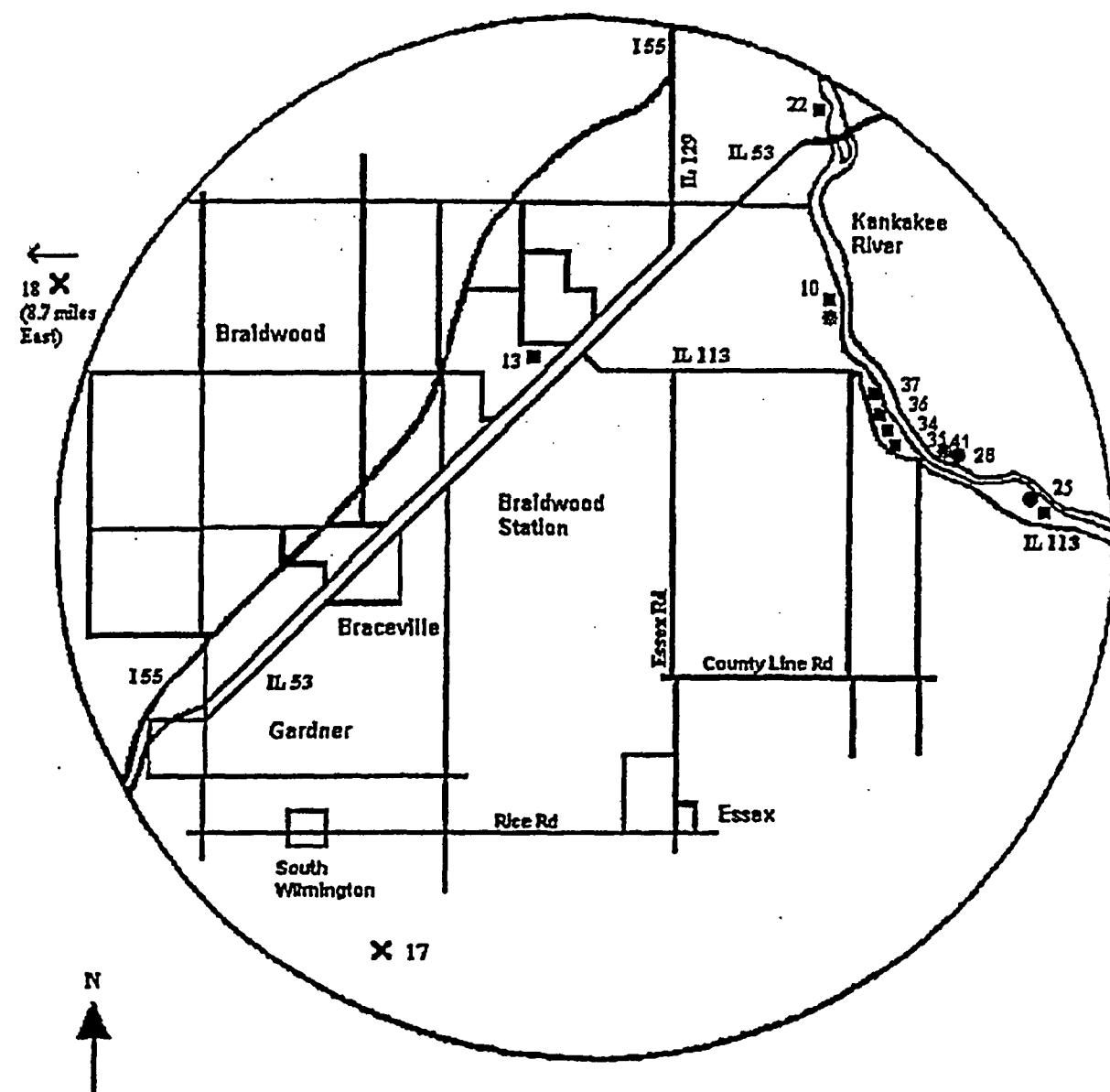
Braidwood Station

Fixed Air Sampling
And
Outer Ring TLD Locations

BD-02	Custer Park
BD-03	County Line Road
BD-04	Essex
BD-05	Gardner
BD-06	Godley
BD-19	Nearsite NW
BD-20	Nearsite N
BD-21	Nearsite NE

BRAIDWOOD

Figure 5.0-3



- Water ✶ Sediment
- Fish ✕ Milk

Braidwood Station

Ingestion and Waterborne Exposure Pathway Sample Locations

- | | |
|-------|----------------------------|
| BD-10 | Kankakee River, Downstream |
| BD-13 | Braidwood City Hall Well |
| BD-17 | Halpin's Dairy |
| BD-18 | Biros Farm |
| BD-22 | Wilmington |
| BD-25 | Kankakee River, Upstream |
| BD-28 | Kankakee River, Discharge |
| BD-34 | Gibson Well |
| BD-35 | Joly Well |
| BD-36 | Hutton Well |
| BD-37 | Nurczyk |
| BD-41 | Kankakee River, Downstream |

TABLE 5.0-1

**Braidwood Station
Radiological Environmental Monitoring
Locations**

	Air Sampling	TLD	Fish	Public Water	Milk	Sediments	Surface Water	Vegetables	Ground/Well Water
BD-02 Custer Park	✓		✓
BD-03 County Line Road	✓	✓	✓
BD-04 Essex	✓	✓	✓
BD-05 Gardner	✓	✓	✓
BD-06 Godley	✓	✓	✓
BD-10 Kankakee River, Downstream	✓	.	.
BD-13 Braidwood City Hall	✓	.
BD-Quad 1
BD-Quad 2
BD-Quad 3	✓	.
BD-Quad 4	✓	.
BD-Control	✓	.
BD-17 Halpin's Dairy	✓	.	.	.
BD-18 Biros Farm	✓
BD-19 Nearsite NW	.	✓	✓
BD-20 Nearsite N	.	✓	✓
BD-21 Nearsite NE	.	✓	✓
BD-22 Wilmington
BD-25 Kankakee River, Upstream
BD-28 Kankakee River, Discharge	.	.	✓	.	.	.	✓	.	.
BD-34 Gibson Well
BD-35 Joly Well
BD-36 Hutton Well
BD-37 Nurczyk Well	✓	.

CENSUS

Dairy

Residence

Cattle

TABLE 5.0-2
BRAIDWOOD STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

1. AIR SAMPLERS

<u>Site Code</u>	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
BD-02	Custer Park	5.0	E	E
BD-03 (C)	County Line Road	6.2	ESE	F
BD-04	Essex	4.8	SSE	H
BD-05	Gardner	5.5	SW	L
BD-06	Godley	0.5	WSW	M
BD-19	Nearsite NW	0.3	NW	Q
BD-20	Nearsite N	0.6	N	A
BD-21	Nearsite NE	0.5	NE	C

2. TLDs

a. Same as No. 1.

b. Special TLD Locations

<u>Site Code</u>	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
Inner Ring			
BD-101-3,4	0.5	N	A
BD-102-1,2	1.1	NNE	B
BD-103-1,2	1.0	NE	C
BD-104-1,2	0.7	ENE	D
BD-105-1,2	2.2	E	E
BD-106-1,2	2.5	ESE	F
BD-107-1,2	3.2	SE	G
BD-108-1,2	3.2	SSE	H
BD-109-1,2	3.8	S	J
BD-110-1,2	2.8	SSW	K
BD-111a-1,2	1.4	SW	L
BD-112-1,2	0.7	WSW	M
BD-113a-1,2	0.5	W	N
BD-114-1,2	0.4	WNW	P
BD-115-1,2	0.3	NW	Q
BD-116-1	0.4	NNW	R
BD-116-2	0.5	NNW	R

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

TABLE 5.0-2 (continued)

BRAIDWOOD STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

2. TLDs

b. Special TLD Locations (continued)

<u>Site Code</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Outer Ring			
BD-201-1,2	4.2	N	A
BD-202-1,2	4.8	NNE	B
BD-203-1,2	4.9	NE	C
BD-204-1,2	4.3	ENE	D
BD-205-1,2	4.0	E	E
BD-206-1,2	4.5	ESE	F
BD-207-1,2	4.5	SE	G
BD-208-1,2	4.5	SSE	H
BD-209-1,2	4.8	S	J
BD-210-1,2	5.3	SSW	K
BD-211-1,2	4.8	SW	L
BD-212-3,4	5.0	WSW	M
BD-213-3,4	4.8	W	N
BD-214-1,2	4.3	WNW	P
BD-215-1,2	4.5	NW	Q
BD-216-1,2	4.0	NNW	R

3. MILK

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (mile)</u>	<u>Direction</u>	<u>Sector</u>
BD-17	Halpin's Dairy	5.5	SSW	K
BD-18 (C)	Biros Farm	8.7	W	N

4. VEGETABLES

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Quad 1	Clark Farm	3.8	ENE	D
Quad 2	W.F. Soltwisch	4.5	SSE	H
Quad 3	Terri Schultz	4.8	SSW	K
Quad 4	Bruce Sinkular	1.9	NNW	R
Control (C)	Gorman Farm	9.0	NE	C

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

TABLE 5.0-2 (continued)

BRAIDWOOD STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

5. PUBLIC WATER

<u>Site Code</u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
BD-22	Wilmington	6.0	NE	C

6. GROUND/WELL WATER

<u>Site Code</u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
BD-13	Braidwood City Hall Well	1.7	NNE	B
BD-34	Gibson Well	4.7	E	E
BD-35	Joly Well	4.7	E	E
BD-36	Hutton Well	4.7	E	E
BD-37	Nurczyk Well	4.7	E	E

7. SURFACE WATER

<u>Site Code</u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
BD-10	Kankakee River, Downstream	5.4	NE	C
BD-25 (C)	Kankakee River, Upstream	9.6	E	E

8. FISH

<u>Site Code</u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
BD-25 (C)	Kankakee River, Upstream	9.6	E	E
BD-28	Kankakee River, Discharge	5.4	E	E

9. SHORELINE SEDIMENTS

<u>Site Code</u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
BD-10	Kankakee River, Downstream	5.4	NE	C
BD-41	Kankakee River, Downstream	5.2	E	E

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

TABLE 5.0-2 (continued)

BRAIDWOOD STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location Code ^a	Site	Collection Frequency	Type of Analysis	Frequency of Analysis
1. Airborne Particulates	Onsite, Nearfield and Control		Filter exchange weekly	Gross Beta Gamma Isot.	Weekly Quarterly Composite (or if weekly gross beta in a sample exceeds 5X the average concentration of preceding calendar quarter).
	BD-03 (C)	County Line Road			
	BD-06	Godley			
	BD-19	Nearsite NW			
	BD-20	Nearsite N			
	BD-21	Nearsite NE			
	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.
	BD-02	Custer Park			
	BD-04	Essex			
	BD-05	Gardner			
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. BD-101-3,4 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				
	111a-1,2				
	112-1,2				
	113a-1,2				
	114-1,2				
	115-1,2				
	116-1,2				
	c. BD-201-1,2 Outer Ring				
	202-1,2				
	203-1,2				
	204-1,2				
	205-1,2				
	206-1,2				
	207-1,2				
	208-1,2				
	209-1,2				
	210-1,2				
	211-1,2				
	212-3,4				

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

TABLE 5.0-2 (continued)

BRAIDWOOD STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Code ^a	Location Site	Collection Frequency	Type of Analysis	Frequency of Analysis
4. TLDs (continued)					
Outer Ring					
	BD-213-3,4				
	214-1,2				
	215-1,2				
	216-1,2				
5. Milk	BD-17	Halpin's Dairy	Biweekly:	I-131	Biweekly:
	BD-18 (C)	Biros Farm	May-October Monthly: November-April	Gamma Isot.	May-October Monthly: November-April
6. Vegetables	Quad 1	Clark Farm	Annually - two varieties	Gamma Isot.	Annually
	Quad 2	W.F. Soltwisch	from each location as available at harvest.	I-131	Annually
	Quad 3	Terri Schultz			
	Quad 4	Bruce Sinkular			
	Control	Gorman Farm			
7. Public Water	BD-22	Wilmington	Weekly	Gross Beta Gamma Isot. Tritium	Monthly composite. Monthly composite. Monthly composite.
8. Ground/Well Water	BD-13	City Hall	Quarterly	Gamma Isot.	Quarterly
	BD-34	Gibson Well		Tritium	
	BD-35	Joly Well			
	BD-36	Hutton Well			
	BD-37	Nurczyk Well			
9. Surface Water	BD-10	Kankakee River, Downstream	Weekly	Gross Beta Gamma Isot. Tritium	Monthly composite. Monthly composite. Quarterly composite.
	BD-25 (C)	Kankakee River, Upstream			
10. Fish (at least two species)	BD-25 (C)	Kankakee River, Upstream	Two times/year	Gamma Isot.	Two times/year on edible portions only.
	BD-28	Kankakee River, Discharge			
11. Sediments	BD-10	Kankakee River, Downstream	Semiannually	Gamma Isot.	Semiannually
	BD-41	Kankakee River, Downstream			
12. 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.

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

TABLE 5.0-2 (continued)

BRAIDWOOD STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media		Location Code*	Collection Frequency	Type of Analysis	Frequency of Analysis
		Site			
12. Land Use	b. Census (continued)	b. 2 miles to 6.2 miles	-	b. Using referenced information from county agricultural agents or other reliable sources.	
	c. At dairies listed in Item 5.			c. Inquire as to feeding practices: 1. Pasture only. 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.

* 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 Braidwood Nuclear Power Station Docket No. 50-456, 50-457
 Location of Facility Will, Illinois Reporting Period 1st Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results	
Air Particulates (pCi/m ³)	Gross Beta	65	0.01	0.027 (52/52) (0.010-0.045)	BD-06 ^b , Godley 0.5 mi. WSW, Sector M	0.028 (13/13) (0.016-0.043)	0.028 (13/13) (0.018-0.039)	0
	Gamma Spec.	5		<LLD	-	-	<LLD	0
	Cs-134		0.05	<LLD	-	-	<LLD	0
	Cs-137		0.06	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131	35	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131	6	1	<LLD	-	-	<LLD	0
	Gamma Spec.	6		<LLD	-	-	<LLD	0
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba-140		60	<LLD	-	-	<LLD	0
	La-140		15	<LLD	-	-	<LLD	0
	Other Gammas		10-15	<LLD	-	-	<LLD	0
Surface Water (pCi/L)	Gross Beta	6	4	<LLD	BD-25, Kankakee River, Upstream, 9.6 mi. E, Sector E	6.4 (3/3) (4.3-9.3)	6.4 (2/3) (4.3-9.3)	0
	Gamma Spec.	6		<LLD	-	-	<LLD	0
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas		15-60	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	-	<LLD	0
Well Water (pCi/L)	Tritium	5	200	494 (1/5)	BD-36 Hutton Well, 4.7 mi. E, Sector E	494 (1/1)	None	0
	Gamma Spec.	5		<LLD	-	-	None	0
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Other ODCM-Required Gammas		15-60	<LLD	-	-	None	0

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

^b Locations BD-06, BD-20 and BD-03 (C) had identical means of 0.028 pCi/m³. BD-06 and BD-03 (C) are detailed in this summary.

Table 5.0-3 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Braidwood Nuclear Power Station Docket No. 50-456, 50-457
 Location of Facility Will, Illinois Reporting Period 1st Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Public Water (pCi/L)	Gross Beta	3	4	<LLD	-	-	None 0
	Tritium	3	200	345 (3/3) (219-432)	BD-22, Wilmington, 6.0 mi NE, Sector C	345 (3/3) (219-432)	None 0
	Gamma Spec.	3					
	Cs-134	15	<LLD	-	-	None 0	
	Cs-137	18	<LLD	-	-	None 0	
Other ODCM-Required Gammas		15-60	<LLD	-	-	None 0	
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	80	9.7	22.6 (78/78) (19.0-29.0)	BD-211-1 4.8 mi. SW, Sector L	29.0 (1/1)	24.0 (2/2) (24.0-24.0) 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 Braidwood Nuclear Power Station Docket No. 50-456, 50-457
 Location of Facility Will, Illinois Reporting Period 2nd Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results	
Air Particulates (pCi/m ³)	Gross Beta	65	0.01	0.018 (51/51) (0.010-0.031)	BD-20, Nearsite N 0.6 mi N, Sector A	0.020 (13/13) (0.012-0.031)	0.019 (13/13) (0.012-0.028)	0
	Gamma Spec.	5	0.01	<LLD	-	-	<LLD	0
	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	10	1	<LLD	-	-	<LLD	0
	Gamma Spec.	10		<LLD	-	-	<LLD	0
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba-140		60	<LLD	-	-	<LLD	0
	La-140		15	<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Other ODCM- Required Gammas		0.13-0.26	<LLD	-	-	<LLD	0
	Other Gammas		0.20-0.30	<LLD	-	-	<LLD	0
	Gamma Spec.	4		<LLD	-	-	<LLD	0
	Cs-134		0.13	<LLD	-	-	<LLD	0
	Cs-137		0.15	<LLD	-	-	<LLD	0
Bottom Sediments (pCi/g dry)	Gamma Spec.	2		<LLD	-	-	None	0
	Cs-134		0.15	<LLD	-	-	None	0
	Cs-137		0.18	<LLD	-	-		

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

Table 5.0-4 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Braidwood Nuclear Power Station Docket No. 50-456, 50-457
 Location of Facility Will, Illinois Reporting Period 2nd Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Surface Water (pCi/L)	Gross Beta	6	4	4.8 (1/1)	BD-25, Kankakee River, Upstream 9.6 mi. E, Sector E	5.5 (3/3) (4.2-6.9)	5.5 (3/3) (4.2-6.9) 0
	Gamma Spec.	6		-	-	<LLD	0
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas	15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	<LLD	0
Well Water (pCi/L)	Tritium	5	200	396 (1/5)	BD-36, Hutton Well 4.7 mi. E, Sector E	396 (1/1)	None 0
	Gamma Spec.	5		-	-	None	0
	Cs-134	15	<LLD	-	-	None	0
	Cs-137	18	<LLD	-	-	None	0
	Other ODCM-Required Gammas	15-30	<LLD	-	-	None	0
Public Water (pCi/L)	Gross Beta	3	4	<LLD	-	-	None 0
	Tritium	3	200	<LLD	-	-	None 0
	Gamma Spec.	3		-	-	None	0
	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/Quart.)	Gamma Dose	80	9.7	23.5 (78/78) (21.0-30.0)	BD-209-1, 4.8 mi. S, Sector J	30.0 (1/1)	22.5 (2/2) (22.0-23.0) 0

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

Table 5.0-5
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Braidwood Nuclear Power Station Docket No. 50-456, 50-457
 Location of Facility Will, Illinois Reporting Period 3rd Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results	
Air Particulates (pCi/m ³)	Gross Beta	70	0.01	0.023 (56/56) (0.013-0.035)	BD-19 ^b , Nearsite, NW 0.3 mi NW, Sector Q	0.024 (14/14) (0.017-0.035)	0.024 (14/14) (0.015-0.043)	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	14	1	<LLD	-	-	<LLD	0
	Gamma Spec.	14						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba-140		60	<LLD	-	-	<LLD	0
	La-140		15	<LLD	-	-	<LLD	0
	Other Gammas		10-15					
Vegetation (pCi/g wet)	I-131	10	0.06	<LLD	-	-	<LLD	0
	Gamma Spec.	10						
	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)	BD-25 Kankakee River, Upstream, 9.6 mi E, Sector E	6.4 (2/3) (5.0-7.7)	6.4 (2/3) (5.0-7.7)	0
	Gamma Spec.	6						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas		15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	-	<LLD	0

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

^b Locations BD-03 (C) and BD-19 had identical means of 0.024 pCi/m³. Both are detailed in this summary.

Table 5.0-5 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Braidwood Nuclear Power Station Docket No. 50-456, 50-457
 Location of Facility Will, Illinois Reporting Period 3rd Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Well Water (pCi/L)	Tritium 5	200	485 (1/5)	BD-36 Hutton Well 4.7 mi. E, Sector E	-	485 (1/1)	None	0
	Gamma Spec. 5		<LLD				None	0
	Cs-134	15	<LLD				None	0
	Cs-137	18	<LLD				None	0
	Other ODCM-Required Gammas	15-30	<LLD				None	0
Public Water (pCi/L)	Gross Beta 3	4	<LLD	BD-22, Wilmington, 6.0 mi NE, Sector C	-	1,911 (3/3) (685-3,144)	None	0
	Tritium 3	200	1,911 (3/3) (685-3,144)				None	0
	Gamma Spec. 3		<LLD				None	0
	Cs-134	15	<LLD				None	0
	Cs-137	18	<LLD				None	0
	Other ODCM-Required Gammas	15-30	<LLD				None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 80	9.7	25.7 (78/78) (22.0-31.0)	BD-109-1 3.8 mi. S, Sector J	-	31.0 (1/1)	24.0 (2/2) (24.0-24.0)	0

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

^b Locations BD-109-1, 209-1 and 209-2 had identical means of 31 mR. Only BD-109-1 is detailed in this summary.

Table 5.0-6
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Braidwood Nuclear Power Station Docket No. 50-456, 50-457
 Location of Facility Will, Illinois Reporting Period 4th Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results	
Air Particulates (pCi/m ³)	Gross Beta	65	0.01	0.028 (52/52) (0.013-0.038)	BD19 ^b , Nearsite NW, 0.3 mi. NW, Sector Q	0.028 (13/13) (0.016-0.036)	0.027 (13/13) (0.015-0.040)	0
	Gamma Spec.	5		<LLD	-	-	<LLD	0
	Cs-134		0.05	<LLD	-	-	<LLD	0
	Cs-137		0.06	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131	35	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131	8	1	<LLD	-	-	<LLD	0
	Gamma Spec.	8		<LLD	-	-	<LLD	0
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba-140		60	<LLD	-	-	<LLD	0
	La-140		15	<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Other ODCM- Required Gammas		0.13-0.26	<LLD	-	-	<LLD	0
	Other Gammas		0.20-0.30	<LLD	-	-	<LLD	0
	Gamma Spec.	4		<LLD	-	-	<LLD	0
	Cs-134		0.13	<LLD	-	-	<LLD	0
	Cs-137		0.15	<LLD	-	-	<LLD	0
Bottom Sediments (pCi/g dry)	Other Gammas			<LLD	-	-	<LLD	0
	Gamma Spec.	2		<LLD	-	-	None	0
	Cs-134		0.15	<LLD	-	-	None	0
	Cs-137		0.18	<LLD	-	-	None	0
Bottom Sediments (pCi/g dry)	Other Gammas		0.10-0.60	<LLD	-	-	None	0

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

^b BD-19 and BD-20 had identical means of 0.028 pCi/m³. Only BD-19 is detailed in this summary.

Table 5.0-6 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Braidwood Nuclear Power Station Docket No. 50-456, 50-457
 Location of Facility Will, Illinois Reporting Period 4th Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Surface Water (pCi/L)	Gross Beta	6	4	4.0 (1/3)	BD-25, Kankakee River Upstream, 9.6 mi. E, Sector E	7.3 (2/3) (6.3-8.3)	7.3 (2/3) (6.3-8.3) 0
	Gamma Spec.	6	<LLD	-	-	<LLD	0
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas	15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	<LLD	0
Well Water (pCi/L)	Gamma Spec.	5	<LLD	-	-	None	0
	Cs-134	15	<LLD	-	-	None	0
	Cs-137	18	<LLD	-	-	None	0
	Other ODCM-Required Gammas	15-30	<LLD	-	-	None	0
	Tritium	5	200	376 (1/5)	BD-36, Hutton Well, 4.7 mi. E, Sector E	376 (1/1)	None 0
Public Water (pCi/L)	Gross Beta	3	4	<LLD	-	-	None 0
	Gamma Spec.	3	<LLD	-	-	None	0
	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.)	Tritium	3	200	1,554 (2/3) (364-2,743)	BD-22, Wilmington, 6.0 mi NE, Sector C	1,554 (2/3) (364-2,743)	None 0
	Gamma Dose	80	9.7	25.3 (78/78) (22.0-30.0)	BD209-2 ^b 4.8 mi S, Sector J	30.0 (1/1)	25.0 (2/2) (25.0-25.0) 0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.^b BD-209-2 and BD-211-1 had identical means of 30 mR. Only BD-209-2 is detailed in this summary.

BRAIDWOOD

APPENDIX II

METEOROLOGICAL DATA

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	5	0	0	0	5
NE	0	0	3	0	0	0	3
ENE	0	7	2	0	0	0	9
E	0	2	0	0	0	0	2
ESE	0	5	1	0	0	0	6
SE	0	2	4	0	0	0	6
SSE	0	0	5	6	0	0	11
S	0	0	3	6	3	0	12
SSW	0	0	18	5	0	0	23
SW	0	2	7	3	0	0	12
WSW	0	2	7	5	0	0	14
W	1	8	21	1	4	0	35
WNW	0	8	27	1	0	0	36
NW	0	4	15	4	0	0	23
NNW	0	1	13	0	0	0	14
Variable	0	0	0	0	0	0	0
Total	1	41	133	31	7	0	213

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

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	1	0	0	0	2
NNE	0	0	1	0	0	0	1
NE	0	1	3	0	0	0	4
ENE	0	5	2	0	0	0	7
E	0	2	0	0	0	0	2
ESE	0	5	2	0	0	0	7
SE	0	2	0	0	0	0	2
SSE	0	0	1	1	0	0	2
S	0	1	1	3	1	0	6
SSW	0	2	4	4	0	0	10
SW	0	1	4	2	0	0	7
WSW	1	2	4	2	0	0	9
W	0	2	9	2	1	0	14
WNW	0	3	6	1	2	0	12
NW	1	1	4	0	0	0	6
NNW	0	4	1	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	2	32	43	16	4	0	97

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

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	0	2	0	0	0	2
NE	0	0	2	0	0	0	2
ENE	0	3	2	0	0	0	5
E	0	1	0	0	0	0	1
ESE	0	2	0	0	0	0	2
SE	0	1	1	0	0	0	2
SSE	0	1	2	0	0	0	3
S	0	1	0	6	0	0	7
SSW	0	0	1	2	0	0	3
SW	0	1	5	1	0	0	7
WSW	0	3	4	2	0	1	10
W	1	0	3	0	1	0	5
WNW	0	1	7	3	0	0	11
NW	1	6	2	0	0	0	9
NNW	0	0	5	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	2	21	36	14	1	1	75

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

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	20	11	4	0	0	38
NNE	1	18	18	1	0	0	38
NE	3	24	51	1	0	0	79
ENE	7	43	40	0	0	0	90
E	6	27	8	0	0	0	41
ESE	1	42	19	0	0	0	62
SE	1	15	19	1	0	0	36
SSE	1	15	18	12	0	0	46
S	1	12	21	20	0	0	54
SSW	0	9	21	28	7	2	67
SW	0	6	28	15	0	1	50
WSW	0	10	25	7	1	0	43
W	3	20	42	24	4	0	93
WNW	4	45	47	16	9	0	121
NW	7	28	22	6	0	0	63
NNW	4	24	50	11	2	0	91
Variable	0	0	0	0	0	0	0
Total	42	358	440	146	23	3	1012

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

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	6	7	0	0	0	0	13
NNE	4	12	0	0	0	0	16
NE	1	8	1	0	0	0	10
ENE	20	21	4	1	0	0	46
E	13	9	0	0	0	0	22
ESE	12	13	2	0	0	0	27
SE	9	16	31	0	0	0	56
SSE	1	20	28	5	0	0	54
S	1	19	28	11	0	0	59
SSW	1	6	23	20	2	0	52
SW	0	25	33	7	0	0	65
WSW	5	21	30	1	0	0	57
W	5	30	25	3	0	0	63
WNW	12	37	6	1	1	0	57
NW	6	25	7	0	0	0	38
NNW	6	8	3	1	0	0	18
Variable	0	0	0	0	0	0	0
Total	102	277	221	50	3	0	653

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	3	0	0	0	0	0	3
ENE	5	0	0	0	0	0	5
E	6	0	0	0	0	0	6
ESE	5	5	0	0	0	0	10
SE	1	3	0	0	0	0	4
SSE	1	1	0	0	0	0	2
S	1	1	0	0	0	0	2
SSW	3	1	0	0	0	0	4
SW	1	2	1	0	0	0	4
WSW	3	11	0	0	0	0	14
W	8	3	0	0	0	0	11
WNW	10	0	0	0	0	0	10
NW	5	0	0	0	0	0	5
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	53	27	1	0	0	0	81

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

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

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

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

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
-----	-----	-----	-----	-----	-----	-----	-----
N	0	0	0	2	0	0	2
NNE	0	0	2	3	0	0	5
NE	0	0	0	4	0	0	4
ENE	0	0	6	1	0	0	7
E	0	0	2	1	0	0	3
ESE	0	2	5	2	0	0	9
SE	0	0	2	1	0	0	3
SSE	0	0	0	8	3	0	11
S	0	0	2	1	6	5	14
SSW	0	0	3	15	3	0	21
SW	0	2	0	8	2	0	12
WSW	0	1	4	6	3	0	14
W	1	5	11	11	0	4	32
WNW	0	3	14	17	3	1	38
NW	0	3	8	10	8	1	30
NNW	0	0	0	8	0	0	8
Variable	0	0	0	0	0	0	0
Total	1	16	59	98	28	11	213

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: 2

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	3	0	0	0	3
NNE	0	1	0	1	0	0	2
NE	0	0	1	1	0	0	2
ENE	0	1	6	0	0	0	7
E	0	2	1	0	0	0	3
ESE	0	2	2	2	0	0	6
SE	0	2	0	1	0	0	3
SSE	0	0	0	0	1	0	1
S	0	1	1	1	2	1	6
SSW	0	1	1	5	3	1	11
SW	1	1	1	2	2	0	7
WSW	1	1	3	2	2	0	9
W	0	1	1	5	0	2	9
WNW	0	3	2	7	2	3	17
NW	0	1	1	2	1	0	5
NNW	0	0	4	2	0	0	6
Variable	0	0	0	0	0	0	0
Total	2	17	27	31	13	7	97

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: 2

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	1	1	0	0	2
NE	0	1	1	2	1	0	5
ENE	0	1	0	1	0	0	2
E	0	0	1	0	0	0	1
ESE	0	1	1	0	0	0	2
SE	0	0	1	1	0	0	2
SSE	0	1	0	1	1	0	3
S	0	0	1	0	4	2	7
SSW	0	0	1	0	1	1	3
SW	0	1	1	4	1	0	7
WSW	0	0	3	4	1	1	9
W	1	1	1	1	0	1	5
WNW	0	0	4	4	3	1	12
NW	0	2	4	2	0	0	8
NNW	0	2	3	2	0	0	7
Variable	0	0	0	0	0	0	0
Total	1	10	23	23	12	6	75

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: 2

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	6	19	5	3	0	35
NNE	1	7	20	12	3	0	43
NE	1	12	19	45	7	0	84
ENE	1	11	34	22	2	0	70
E	1	5	21	15	5	0	47
ESE	0	4	19	37	4	0	64
SE	0	5	12	14	2	0	33
SSE	0	7	11	15	11	3	47
S	0	1	9	14	19	7	50
SSW	0	1	19	21	28	15	84
SW	0	1	14	10	13	2	40
WSW	0	4	8	18	9	1	40
W	3	6	16	27	19	6	77
WNW	0	7	40	44	14	27	132
NW	1	9	27	22	11	6	76
NNW	1	10	30	38	11	3	93
Variable	0	0	0	0	0	0	0
Total	11	96	318	359	161	70	1015

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: 2

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	11	0	0	0	16
NNE	1	3	12	1	0	0	17
NE	1	3	10	5	1	0	20
ENE	1	13	17	2	2	0	35
E	0	3	4	6	0	0	13
ESE	0	1	11	11	1	0	24
SE	1	8	11	15	16	0	51
SSE	0	7	15	22	7	1	52
S	0	4	7	38	22	1	72
SSW	0	3	9	14	36	7	69
SW	1	3	18	16	14	0	52
WSW	0	2	11	35	3	0	51
W	0	2	8	34	11	0	55
WNW	0	7	21	33	2	1	64
NW	1	6	22	25	2	0	56
NNW	0	5	10	2	0	0	17
Variable	0	0	0	0	0	0	0
Total	7	74	197	259	117	10	664

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: 2

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	2	0	0	0	0	2
NE	0	1	0	0	0	0	1
ENE	1	5	2	0	0	0	8
E	0	2	4	1	0	0	7
ESE	1	0	3	2	0	0	6
SE	0	0	7	2	0	0	9
SSE	0	2	2	0	0	0	4
S	0	3	0	1	0	0	4
SSW	1	2	1	0	0	0	4
SW	1	2	0	1	0	0	4
WSW	0	2	5	3	0	0	10
W	0	2	3	7	0	0	12
WNW	0	1	6	0	0	0	7
NW	0	2	9	1	0	0	12
NNW	0	6	1	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	4	33	43	18	0	0	98

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 5

Hours of missing stability measurements in all stability classes: 2

Braidwood Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

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

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	13	5	0	0	24
NNE	0	6	16	4	0	0	26
NE	3	14	4	4	0	0	25
ENE	1	7	2	0	0	0	10
E	0	8	0	0	0	0	8
ESE	0	3	1	0	0	0	4
SE	0	9	3	0	0	0	12
SSE	1	12	3	0	0	0	16
S	0	12	10	4	0	0	26
SSW	0	7	12	16	5	0	40
SW	0	4	28	24	2	0	58
WSW	0	8	21	5	0	0	34
W	1	13	18	1	3	0	36
WNW	1	26	12	8	0	0	47
NW	0	19	8	3	0	0	30
NNW	0	18	18	3	0	0	39
Variable	0	0	0	0	0	0	0
Total	7	172	169	77	10	0	435

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

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	6	4	0	0	0	11
NNE	0	3	2	0	0	0	5
NE	0	3	4	1	0	0	8
ENE	1	1	1	0	0	0	3
E	0	3	1	0	0	0	4
ESE	1	4	0	0	0	0	5
SE	0	2	1	0	0	0	3
SSE	0	1	0	0	0	0	1
S	0	2	1	1	0	0	4
SSW	0	0	1	6	2	0	9
SW	0	1	9	12	0	0	22
WSW	1	1	3	6	0	0	11
W	0	8	3	1	0	0	12
WNW	0	2	0	0	0	0	2
NW	0	1	1	0	0	0	2
NNW	1	3	3	1	0	0	8
Variable	0	0	0	0	0	0	0
Total	5	41	34	28	2	0	110

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 0

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	2	4	1	0	0	7
NE	0	5	1	1	0	0	7
ENE	0	8	2	0	0	0	10
E	1	4	0	0	0	0	5
ESE	0	1	1	0	0	0	2
SE	0	4	1	0	0	0	5
SSE	0	2	1	0	0	0	3
S	1	1	3	2	0	0	7
SSW	0	2	4	3	1	0	10
SW	0	1	6	3	0	0	10
WSW	1	3	3	4	0	0	11
W	0	3	2	1	0	0	6
WNW	0	2	4	2	0	0	8
NW	0	1	1	1	0	0	3
NNW	0	1	1	3	2	0	7
Variable	0	0	0	0	0	0	0
Total	3	40	36	21	3	0	103

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

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	16	18	1	0	0	39
NNE	4	32	24	3	0	0	63
NE	7	34	34	4	0	0	79
ENE	4	31	16	1	0	0	52
E	2	15	1	0	0	0	18
ESE	3	11	5	0	0	0	19
SE	4	17	12	2	0	0	35
SSE	2	17	10	0	0	0	29
S	1	11	19	4	0	0	35
SSW	0	12	18	16	6	0	52
SW	0	20	46	34	0	0	100
WSW	0	21	14	5	0	0	40
W	1	9	4	7	0	0	21
WNW	2	11	10	1	0	0	24
NW	1	11	1	0	0	0	13
NNW	2	19	13	0	2	0	36
Variable	0	0	0	0	0	0	0
Total	37	287	245	78	8	0	655

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

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	6	12	11	3	0	0	32
NNE	6	19	6	0	0	0	31
NE	7	14	5	1	0	0	27
ENE	14	26	1	0	0	0	41
E	27	13	0	0	0	0	40
ESE	12	12	2	0	0	0	26
SE	2	16	11	0	0	0	29
SSE	0	36	16	0	0	0	52
S	1	31	50	8	1	0	91
SSW	1	17	31	17	14	0	80
SW	5	15	39	3	0	0	62
WSW	7	27	5	1	0	0	40
W	9	9	7	0	0	0	25
WNW	16	13	3	0	0	0	32
NW	6	7	1	0	0	0	14
NNW	6	14	4	1	1	0	26
Variable	0	0	0	0	0	0	0
Total	125	281	192	34	16	0	648

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

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)

Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	1	0	0	0	0	4
NNE	3	2	0	0	0	0	5
NE	3	1	0	0	0	0	4
ENE	5	1	0	0	0	0	6
E	8	1	0	0	0	0	9
ESE	9	4	0	0	0	0	13
SE	2	1	0	0	0	0	3
SSE	0	3	0	0	0	0	3
S	1	6	0	0	0	0	7
SSW	1	6	5	0	0	0	12
SW	3	0	0	0	0	0	3
WSW	5	6	1	0	0	0	12
W	9	4	0	0	0	0	13
WNW	8	2	0	0	0	0	10
NW	10	3	0	0	0	0	13
NNW	6	0	0	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	76	41	6	0	0	0	123

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

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	1	0	0	0	0	0	1
NE	1	0	0	0	0	0	1
ENE	2	0	0	0	0	0	2
E	2	1	0	0	0	0	3
ESE	3	0	0	0	0	0	3
SE	0	2	0	0	0	0	2
SSE	0	0	0	0	0	0	0
S	2	0	0	0	0	0	2
SSW	2	1	0	0	0	0	3
SW	3	0	0	0	0	0	3
WSW	5	6	0	0	0	0	11
W	13	10	0	0	0	0	23
WNW	5	1	0	0	0	0	6
NW	2	0	0	0	0	0	2
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	42	21	0	0	0	0	63

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

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	7	11	5	0	25
NNE	0	3	17	3	3	0	26
NE	1	10	6	2	4	0	23
ENE	1	4	3	1	0	0	9
E	0	1	6	0	0	0	7
ESE	0	2	3	2	0	0	7
SE	0	5	8	2	0	0	15
SSE	0	9	3	0	0	0	12
S	0	6	7	7	7	1	28
SSW	0	6	4	10	13	12	45
SW	0	3	10	17	16	4	50
WSW	1	4	12	16	2	1	36
W	0	2	19	7	1	3	32
WNW	1	12	24	5	4	4	50
NW	0	10	16	8	5	1	40
NNW	0	10	13	6	1	0	30
Variable	0	0	0	0	0	0	0
Total	4	89	158	97	61	26	435

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: 2

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	6	2	1	0	0	10
NNE	0	4	4	0	0	0	8
NE	1	1	3	2	1	0	8
ENE	0	0	1	0	0	0	1
E	0	3	2	0	0	0	5
ESE	0	1	2	0	0	0	3
SE	0	2	1	1	0	0	4
SSE	0	0	1	0	0	0	1
S	0	1	0	1	1	1	4
SSW	0	1	1	0	5	3	10
SW	1	0	4	5	10	1	21
WSW	0	1	2	2	6	0	11
W	0	2	9	0	1	0	12
WNW	0	1	1	0	0	0	2
NW	0	1	0	2	1	0	4
NNW	0	1	4	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	3	25	37	15	25	5	110

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 2

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	2	0	0	3
NNE	0	0	2	4	1	0	7
NE	0	3	1	1	1	0	6
ENE	0	6	6	0	1	0	13
E	1	1	0	0	0	0	2
ESE	0	0	2	1	0	0	3
SE	0	0	4	2	0	0	6
SSE	0	1	0	0	0	0	1
S	0	1	1	3	2	2	9
SSW	0	1	1	3	2	1	8
SW	0	1	2	4	3	0	10
WSW	0	1	2	3	4	0	10
W	0	1	5	0	1	0	7
WNW	0	0	3	1	3	1	8
NW	0	0	2	2	2	0	6
NNW	0	0	0	0	2	2	4
Variable	0	0	0	0	0	0	0
Total	1	17	31	26	22	6	103

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: 2

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	5	25	9	0	0	42
NNE	1	11	30	17	2	1	62
NE	1	11	27	35	6	0	80
ENE	0	13	19	17	1	0	50
E	0	6	5	4	0	0	15
ESE	0	6	6	9	0	0	21
SE	1	2	10	5	11	1	30
SSE	0	2	9	11	1	0	23
S	0	3	9	16	3	4	35
SSW	0	3	9	25	30	7	74
SW	1	2	27	26	26	3	85
WSW	0	1	14	12	8	0	35
W	0	4	8	6	6	1	25
WNW	0	2	6	12	3	1	24
NW	0	4	11	4	0	0	19
NNW	1	5	19	8	0	2	35
Variable	0	0	0	0	0	0	0
Total	8	80	234	216	97	20	655

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: 2

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	3	14	14	3	0	36
NNE	2	4	16	5	0	0	27
NE	1	5	20	9	0	1	36
ENE	3	9	23	1	0	0	36
E	0	10	30	6	0	0	46
ESE	0	4	7	6	1	0	18
SE	1	5	13	8	6	0	33
SSE	0	2	21	12	6	0	41
S	0	1	15	50	26	1	93
SSW	0	3	7	39	23	19	91
SW	1	5	16	32	6	1	61
WSW	0	5	18	8	1	0	32
W	0	3	17	6	2	0	28
WNW	0	2	19	4	3	0	28
NW	1	3	13	3	1	0	21
NNW	0	2	20	6	1	1	30
Variable	0	0	0	0	0	0	0
Total	11	66	269	209	79	23	657

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: 2

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	3	8	1	0	0	15
NNE	1	5	2	1	0	0	9
NE	0	6	1	0	0	0	7
ENE	0	6	0	0	0	0	6
E	0	4	6	0	0	0	10
ESE	0	4	7	1	0	0	12
SE	0	3	5	2	0	0	10
SSE	0	1	1	0	0	0	2
S	0	0	1	2	0	0	3
SSW	0	1	5	2	2	0	10
SW	1	2	2	5	2	0	12
WSW	0	2	2	2	0	0	6
W	0	1	5	5	0	0	11
WNW	0	2	7	4	0	0	13
NW	0	3	8	1	0	0	12
NNW	0	1	5	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	5	44	65	26	4	0	144

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 0

Hours of missing stability measurements in all stability classes: 2

Braidwood Nuclear Station

Period of Record: April - June 2004
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	1	0	0	0	2
NNE	1	1	0	0	0	0	2
NE	0	2	0	0	0	0	2
ENE	0	5	0	0	0	0	5
E	0	0	1	1	0	0	2
ESE	0	1	1	0	0	0	2
SE	0	0	2	0	0	0	2
SSE	0	0	0	1	0	0	1
S	0	0	0	1	0	0	1
SSW	0	0	0	0	0	0	0
SW	0	2	2	0	0	0	4
WSW	2	3	3	2	0	0	10
W	0	3	4	10	0	0	17
WNW	0	3	4	6	0	0	13
NW	0	4	2	0	0	0	6
NNW	2	2	0	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	5	27	20	21	0	0	73

Hours of calm in this stability class: 0

Hours of missing wind measurements in this stability class: 3

Hours of missing stability measurements in all stability classes: 2

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	8	10	0	0	0	20
NNE	0	12	21	10	0	0	43
NE	0	29	20	0	0	0	49
ENE	0	10	1	0	0	0	11
E	0	6	0	0	0	0	6
ESE	1	17	0	0	0	0	18
SE	7	19	5	0	0	0	31
SSE	6	23	9	0	0	0	38
S	3	33	22	0	0	0	58
SSW	5	20	17	4	0	0	46
SW	3	12	31	1	0	0	47
WSW	1	13	11	1	0	0	26
W	3	32	16	1	0	0	52
WNW	3	27	4	0	0	0	34
NW	2	17	4	0	0	0	23
NNW	2	14	8	0	0	0	24
Variable	0	0	0	0	0	0	0
Total	38	292	179	17	0	0	526

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

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	2	0	0	0	3
NNE	1	11	3	1	0	0	16
NE	1	8	3	0	0	0	12
ENE	1	1	0	0	0	0	2
E	1	2	0	0	0	0	3
ESE	0	3	0	0	0	0	3
SE	0	2	3	0	0	0	5
SSE	0	3	1	0	0	0	4
S	1	2	1	0	0	0	4
SSW	0	2	1	1	0	0	4
SW	2	5	6	0	0	0	13
WSW	0	2	0	0	0	0	2
W	1	4	6	0	0	0	11
WNW	2	0	1	0	0	0	3
NW	1	3	0	0	0	0	4
NNW	0	6	3	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	11	55	30	2	0	0	98

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

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)							Total
	1-3	4-7	8-12	13-18	19-24	> 24		
N	0	4	1	0	0	0		5
NNE	2	8	0	1	0	0		11
NE	0	3	3	0	0	0		6
ENE	1	3	1	0	0	0		5
E	3	5	0	0	0	0		8
ESE	1	5	0	0	0	0		6
SE	3	3	0	0	0	0		6
SSE	1	6	1	0	0	0		8
S	0	3	1	0	0	0		4
SSW	0	0	4	2	0	0		6
SW	0	3	2	0	0	0		5
WSW	0	0	5	0	0	0		5
W	2	1	4	0	0	0		7
WNW	0	5	2	0	0	0		7
NW	2	0	0	0	0	0		2
NNW	1	6	0	0	0	0		7
Variable	0	0	0	0	0	0		0
Total	16	55	24	3	0	0		98

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

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	13	16	0	0	0	31
NNE	4	15	19	1	0	0	39
NE	2	23	1	0	0	0	26
ENE	6	14	0	0	0	0	20
E	6	10	0	0	0	0	16
ESE	4	7	1	0	0	0	12
SE	3	10	3	0	0	0	16
SSE	4	28	6	0	0	0	38
S	3	15	12	1	0	0	31
SSW	0	7	11	0	0	0	18
SW	1	16	11	1	0	0	29
WSW	1	11	17	0	0	0	29
W	1	25	12	0	0	0	38
WNW	3	4	6	0	0	0	13
NW	4	4	1	0	0	0	9
NNW	1	7	1	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	45	209	117	3	0	0	374

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

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	22	3	0	0	0	27
NNE	5	38	16	0	0	0	59
NE	11	4	1	0	0	0	16
ENE	19	3	0	0	0	0	22
E	27	3	0	0	0	0	30
ESE	15	11	0	0	0	0	26
SE	10	24	1	0	0	0	35
SSE	10	39	14	0	0	0	63
S	7	62	33	0	0	0	102
SSW	4	20	26	0	0	0	50
SW	1	17	8	0	0	0	26
WSW	3	30	0	0	0	0	33
W	12	26	4	0	0	0	42
WNW	17	7	1	0	0	0	25
NW	10	8	1	0	0	0	19
NNW	5	16	0	0	0	0	21
Variable	0	0	0	0	0	0	0
Total	158	330	108	0	0	0	596

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

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	4	0	0	0	0	7
NNE	1	4	0	0	0	0	5
NE	5	0	0	0	0	0	5
ENE	12	0	0	0	0	0	12
E	22	0	0	0	0	0	22
ESE	36	2	0	0	0	0	38
SE	10	17	0	0	0	0	27
SSE	15	21	1	0	0	0	37
S	4	9	0	0	0	0	13
SSW	3	7	0	0	0	0	10
SW	3	5	0	0	0	0	8
WSW	7	12	0	0	0	0	19
W	14	5	0	0	0	0	19
WNW	22	1	0	0	0	0	23
NW	13	2	0	0	0	0	15
NNW	3	3	0	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	173	92	1	0	0	0	266

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

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	6	0	0	0	0	0	6
NNE	1	0	0	0	0	0	1
NE	3	0	0	0	0	0	3
ENE	3	0	0	0	0	0	3
E	14	0	0	0	0	0	14
ESE	10	2	0	0	0	0	12
SE	3	1	0	0	0	0	4
SSE	3	0	0	0	0	0	3
S	0	0	0	0	0	0	0
SSW	1	0	0	0	0	0	1
SW	3	0	0	0	0	0	3
WSW	3	2	0	0	0	0	5
W	12	0	0	0	0	0	12
WNW	13	0	0	0	0	0	13
NW	3	1	0	0	0	0	4
NNW	6	0	0	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	84	6	0	0	0	0	90

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

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	12	1	0	0	19
NNE	2	7	9	13	10	0	41
NE	0	9	27	15	0	0	51
ENE	0	7	5	1	0	0	13
E	1	2	5	0	0	0	8
ESE	1	12	6	0	0	0	19
SE	1	14	13	6	1	0	35
SSE	3	10	17	2	1	0	33
S	2	18	30	13	2	0	65
SSW	4	8	23	13	0	3	51
SW	1	3	15	16	0	0	35
WSW	1	9	8	7	0	0	25
W	2	22	13	10	0	0	47
WNW	0	17	12	6	0	0	35
NW	3	14	10	3	0	0	30
NNW	0	11	5	3	0	0	19
Variable	0	0	0	0	0	0	0
Total	21	169	210	109	14	3	526

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: 24

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	2	0	0	0	4
NNE	1	8	6	2	1	0	18
NE	0	1	6	2	1	0	10
ENE	0	2	1	0	0	0	3
E	0	2	1	0	0	0	3
ESE	0	2	1	0	0	0	3
SE	0	1	1	3	0	0	5
SSE	1	2	1	2	1	0	7
S	0	0	1	1	0	0	2
SSW	1	2	1	1	0	1	6
SW	0	2	4	5	0	0	11
WSW	0	0	2	0	0	0	2
W	0	1	2	5	0	0	8
WNW	1	0	0	2	0	0	3
NW	1	4	0	0	0	0	5
NNW	0	3	4	1	0	0	8
Variable	0	0	0	0	0	0	0
Total	5	32	33	24	3	1	98

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: 24

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	1	0	0	0	5
NNE	1	7	1	0	1	0	10
NE	1	1	2	2	1	0	7
ENE	1	2	4	1	0	0	8
E	0	3	1	0	0	0	4
ESE	1	3	3	0	0	0	7
SE	0	2	2	1	0	0	5
SSE	0	5	2	1	0	0	8
S	0	0	4	2	0	0	6
SSW	0	0	1	2	2	1	6
SW	0	1	2	1	0	0	4
WSW	0	0	1	2	0	0	3
W	1	1	2	5	0	0	9
WNW	0	0	5	1	0	0	6
NW	0	3	2	0	0	0	5
NNW	0	1	4	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	5	33	37	18	4	1	98

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: 24

Braidwood Nuclear Station

Period of Record: July - September 2004

Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	16	6	0	0	28
NNE	3	7	9	14	0	0	33
NE	1	10	20	8	0	0	39
ENE	2	9	8	0	0	0	19
E	1	5	11	0	0	0	17
ESE	0	3	6	1	0	0	10
SE	1	4	8	5	0	0	18
SSE	1	13	7	12	1	0	34
S	0	8	13	12	2	0	35
SSW	1	2	5	11	2	0	21
SW	1	4	15	5	1	0	26
WSW	0	1	17	10	0	0	28
W	0	3	20	9	0	0	32
WNW	1	2	5	10	0	0	18
NW	2	5	3	1	0	0	11
NNW	0	4	3	1	0	0	8
Variable	0	0	0	0	0	0	0
Total	14	86	166	105	6	0	377

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: 24

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	16	6	0	0	24
NNE	1	2	26	25	0	0	54
NE	0	4	19	3	0	0	26
ENE	1	12	16	0	0	0	29
E	0	5	23	0	0	0	28
ESE	2	5	6	6	0	0	19
SE	1	3	22	8	0	0	34
SSE	0	9	23	20	4	0	56
S	3	4	41	41	10	0	99
SSW	1	6	30	39	7	0	83
SW	1	2	9	8	0	0	20
WSW	1	3	26	3	0	0	33
W	0	4	22	7	0	0	33
WNW	0	3	14	4	0	0	21
NW	0	6	16	3	0	0	25
NNW	3	4	16	1	0	0	24
Variable	0	0	0	0	0	0	0
Total	14	74	325	174	21	0	608

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: 24

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	5	6	1	0	0	12
NNE	0	5	6	3	0	0	14
NE	1	4	6	0	0	0	11
ENE	1	3	7	0	0	0	11
E	4	2	15	7	0	0	28
ESE	0	5	7	16	0	0	28
SE	0	4	22	6	0	0	32
SSE	0	9	7	7	0	0	23
S	1	7	20	4	0	0	32
SSW	0	6	14	2	0	0	22
SW	2	5	1	4	0	0	12
WSW	0	1	5	2	0	0	8
W	2	3	11	5	0	0	21
WNW	0	3	7	2	0	0	12
NW	1	8	17	2	0	0	28
NNW	0	5	8	0	0	0	13
Variable	0	0	0	0	0	0	0
Total	12	75	159	61	0	0	307

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: 24

Braidwood Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)							Total
	1-3	4-7	8-12	13-18	19-24	> 24	-----	
N	3	3	5	0	0	0	-----	11
NNE	1	2	2	0	0	0	-----	5
NE	2	0	5	0	0	0	-----	7
ENE	2	2	3	0	0	0	-----	7
E	3	1	5	1	0	0	-----	10
ESE	2	3	5	5	0	0	-----	15
SE	1	5	6	0	0	0	-----	12
SSE	0	5	3	0	0	0	-----	8
S	3	10	4	0	0	0	-----	17
SSW	4	6	4	0	0	0	-----	14
SW	3	10	2	0	0	0	-----	15
WSW	0	2	3	0	0	0	-----	5
W	2	4	5	1	0	0	-----	12
WNW	1	0	5	0	0	0	-----	6
NW	2	3	10	1	0	0	-----	16
NNW	0	3	3	1	0	0	-----	7
Variable	0	0	0	0	0	0	-----	0
Total	29	59	70	9	0	0	-----	167

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: 24

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	1	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	1	1	0	0	0	2
ENE	0	3	0	0	0	0	3
E	0	7	3	0	0	0	10
ESE	0	3	0	0	0	0	3
SE	0	0	0	0	0	0	0
SSE	0	0	2	0	0	0	2
S	0	3	6	0	1	0	10
SSW	0	13	3	2	0	0	18
SW	0	1	5	3	0	0	9
WSW	0	1	3	2	0	0	6
W	0	8	15	0	0	0	23
WNW	0	6	3	0	0	0	9
NW	0	6	3	1	0	0	10
NNW	0	5	10	4	0	0	19
Variable	0	0	0	0	0	0	0
Total	0	57	56	13	1	0	127

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

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

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

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

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	1	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	2	3	0	0	0	5
ENE	0	7	0	0	0	0	7
E	0	5	0	0	0	0	5
ESE	0	1	0	0	0	0	1
SE	0	1	2	0	0	0	3
SSE	0	3	1	0	0	0	4
S	0	0	6	1	1	0	8
SSW	2	0	2	2	0	0	6
SW	0	1	3	2	0	0	6
WSW	0	3	6	0	0	0	9
W	0	1	5	4	0	0	10
WNW	0	3	1	1	0	0	5
NW	0	2	0	3	0	0	5
NNW	1	4	4	1	0	0	10
Variable	0	0	0	0	0	0	0
Total	3	34	34	14	1	0	86

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

Braidwood Nuclear Station

Period of Record: October - December 2004

Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	8	17	5	1	0	32
NNE	5	26	6	5	1	0	43
NE	7	42	11	5	0	0	65
ENE	11	60	12	0	0	0	83
E	10	21	3	0	0	0	34
ESE	3	10	0	0	0	0	13
SE	2	17	7	0	0	0	26
SSE	2	19	40	2	0	0	63
S	1	14	36	22	1	0	74
SSW	1	3	29	20	1	0	54
SW	0	17	48	22	1	0	88
WSW	0	17	19	3	4	0	43
W	4	16	30	25	2	0	77
WNW	0	24	37	18	8	0	87
NW	3	21	26	8	0	0	58
NNW	2	13	47	22	0	0	84
Variable	0	0	0	0	0	0	0
Total	52	328	368	157	19	0	924

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

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	8	8	2	0	0	0	18
NNE	4	17	7	1	0	0	29
NE	11	19	0	6	0	0	36
ENE	19	11	0	0	0	0	30
E	19	14	0	0	0	0	33
ESE	8	14	1	0	0	0	23
SE	3	23	8	0	0	0	34
SSE	5	25	39	0	0	0	69
S	5	18	31	13	0	0	67
SSW	0	12	20	11	2	0	45
SW	1	21	45	10	2	0	79
WSW	5	41	16	0	0	0	62
W	7	25	16	1	0	0	49
WNW	7	27	7	0	0	0	41
NW	20	19	3	0	0	0	42
NNW	3	27	10	0	0	0	40
Variable	0	0	0	0	0	0	0
Total	125	321	205	42	4	0	697

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

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	9	3	0	0	0	0	12
NNE	3	2	0	0	0	0	5
NE	7	0	0	0	0	0	7
ENE	15	0	0	0	0	0	15
E	10	0	0	0	0	0	10
ESE	11	3	0	0	0	0	14
SE	3	6	0	0	0	0	9
SSE	4	9	0	0	0	0	13
S	2	5	0	0	0	0	7
SSW	2	5	7	0	0	0	14
SW	1	1	5	0	0	0	7
WSW	3	8	0	0	0	0	11
W	6	5	0	0	0	0	11
WNW	11	7	0	0	0	0	18
NW	7	2	0	0	0	0	9
NNW	5	0	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	99	56	12	0	0	0	167

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

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	0	0	0	0	0	2
NNE	1	0	0	0	0	0	1
NE	3	0	0	0	0	0	3
ENE	5	0	0	0	0	0	5
E	12	0	0	0	0	0	12
ESE	2	0	0	0	0	0	2
SE	2	2	0	0	0	0	4
SSE	7	3	0	0	0	0	10
S	2	0	0	0	0	0	2
SSW	4	2	0	0	0	0	6
SW	1	0	0	0	0	0	1
WSW	2	0	0	0	0	0	2
W	7	5	0	0	0	0	12
WNW	2	0	0	0	0	0	2
NW	2	0	0	0	0	0	2
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	55	12	0	0	0	0	67

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

Braidwood Nuclear Station

Period of Record: October - December 2004

Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	0	1	0	0	1
ENE	0	0	4	0	0	0	4
E	0	4	4	4	0	0	12
ESE	0	0	1	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	1	4	0	0	5
S	0	2	2	2	1	1	8
SSW	0	11	2	0	5	0	18
SW	0	1	0	5	2	0	8
WSW	0	1	2	2	2	0	7
W	0	1	13	2	0	0	16
WNW	0	3	10	1	0	0	14
NW	0	2	5	2	2	0	11
NNW	0	1	8	7	3	0	19
Variable	0	0	0	0	0	0	0
Total	0	26	54	30	15	1	126

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: 23

Braidwood Nuclear Station

Period of Record: October - December 2004

Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	1	1	0	0	4
NNE	0	0	1	0	0	0	1
NE	0	0	0	2	0	0	2
ENE	0	0	2	0	0	0	2
E	0	0	5	0	0	0	5
ESE	0	0	1	1	0	0	2
SE	0	0	1	0	0	0	1
SSE	0	0	6	0	0	0	6
S	0	1	2	1	0	2	6
SSW	0	0	1	0	1	3	5
SW	0	0	0	1	1	0	2
WSW	0	1	4	0	3	0	8
W	0	0	2	4	2	0	8
WNW	0	4	4	0	0	0	8
NW	0	1	2	1	0	1	5
NNW	0	0	5	0	2	0	7
Variable	0	0	0	0	0	0	0
Total	0	9	37	11	9	6	72

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: 23

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	2	3	0	0	5
ENE	0	1	2	0	0	0	3
E	0	0	7	1	0	0	8
ESE	0	0	2	0	0	0	2
SE	0	0	1	3	0	0	4
SSE	0	0	4	0	0	0	4
S	1	0	1	5	0	2	9
SSW	1	0	0	1	2	0	4
SW	0	0	2	2	2	0	6
WSW	0	1	9	0	0	0	10
W	0	1	1	2	4	0	8
WNW	0	1	2	2	1	0	6
NW	0	1	1	0	1	2	5
NNW	1	1	4	3	1	0	10
Variable	0	0	0	0	0	0	0
Total	3	6	40	22	11	4	86

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: 23

Braidwood Nuclear Station

Period of Record: October - December 2004

Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	5	12	13	6	1	38
NNE	0	8	9	5	1	1	24
NE	0	16	34	8	10	3	71
ENE	1	25	40	15	0	0	81
E	0	16	21	7	2	0	46
ESE	1	3	12	4	0	0	20
SE	0	4	6	14	0	0	24
SSE	0	6	20	26	4	0	56
S	1	2	13	32	19	10	77
SSW	0	3	4	29	25	13	74
SW	0	3	16	28	18	1	66
WSW	0	6	21	10	5	5	47
W	2	7	8	16	18	6	57
WNW	2	1	18	37	21	17	96
NW	1	3	20	23	9	7	63
NNW	1	4	14	41	20	4	84
Variable	0	0	0	0	0	0	0
Total	10	112	268	308	158	68	924

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: 23

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)							Total
	1-3	4-7	8-12	13-18	19-24	> 24		
N	2	9	14	3	0	0		28
NNE	1	3	9	7	2	0		22
NE	0	4	23	9	2	3		41
ENE	2	12	11	2	2	0		29
E	0	1	21	10	0	0		32
ESE	2	2	13	11	1	0		29
SE	0	4	7	21	4	0		36
SSE	2	4	14	23	9	0		52
S	0	4	14	36	17	3		74
SSW	0	1	9	28	20	12		70
SW	0	4	14	29	13	3		63
WSW	0	4	16	28	0	0		48
W	1	2	18	26	3	0		50
WNW	1	6	5	28	4	0		44
NW	2	4	11	21	1	0		39
NNW	2	14	25	10	0	0		51
Variable	0	0	0	0	0	0		0
Total	15	78	224	292	78	21		708

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: 23

Braidwood Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
 Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	7	0	0	0	13
NNE	1	1	7	0	0	0	9
NE	3	1	5	5	0	0	14
ENE	0	1	7	0	0	0	8
E	2	0	10	3	0	0	15
ESE	0	0	2	5	0	0	7
SE	0	3	3	4	0	0	10
SSE	4	3	8	1	0	0	16
S	1	2	8	4	0	0	15
SSW	0	1	6	7	0	0	14
SW	0	1	1	4	7	0	13
WSW	0	1	1	4	0	0	6
W	0	1	4	3	0	0	8
WNW	0	1	2	6	0	0	9
NW	1	0	7	2	0	0	10
NNW	2	1	12	0	0	0	15
Variable	0	0	0	0	0	0	0
Total	14	23	90	48	7	0	182

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: 23

Braidwood Nuclear Station

Period of Record: October - December 2004

Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	1	1	0	0	3
NNE	0	4	4	0	0	0	8
NE	0	1	0	0	0	0	1
ENE	0	3	2	0	0	0	5
E	0	3	2	2	0	0	7
ESE	0	1	4	0	0	0	5
SE	0	3	2	2	0	0	7
SSE	1	3	1	1	0	0	6
S	0	0	4	2	0	0	6
SSW	1	2	2	0	0	0	5
SW	1	1	2	0	0	0	4
WSW	0	1	5	0	0	0	6
W	0	1	2	2	0	0	5
WNW	1	0	3	4	0	0	8
NW	0	0	2	1	0	0	3
NNW	0	1	2	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	5	24	38	15	0	0	82

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: 23

BRAIDWOOD

APPENDIX III

2004 REMP SAMPLE RESULTS

BRAIDWOOD

TABLE OF CONTENTS

List of Tables	III-3
1.0 INTRODUCTION	III-4
2.0 LISTING OF MISSED SAMPLES	III-5
3.0 LISTING OF SAMPLE ANOMALIES	III-6
4.0 2004 ANALYSIS DATA TABLES.....	III-7
5.0 2004 LAND USE CENSUS	III-38
6.0 TLD DATA.....	III-42
7.0 GRAPHS OF DATA TRENDS.....	III-46

BRAIDWOOD

LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Airborne Particulates and Iodine-131	III-8
2	Airborne Particulates, Quarterly Composites	III-13
3	Milk	III-16
4	Fish, Edible Portions	III-22
5	Bottom Sediments	III-24
6	Vegetables	III-25
7	Surface Water	III-28
8	Well Water	III-33
9	Public Water	III-36

BRAIDWOOD

1.0 INTRODUCTION

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

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

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

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

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

TLD data is provided by Exelon Generation Company.

Deviations from Scheduled Sampling and Corrective Actions Taken

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

Unusual Environmental Measurements

None for 2004

Sample Type	Location Code	Collection Date	Comments

BRAIDWOOD

2.0 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Expected Collection Date	Reason
A/I	BD-19	04-22-04	Low reading of 35.8 due to blown fuse. Collector replaced fuse. Runtime not enough for viable air particulate sample. Charcoal cartridge volume based on one week plus 35.8 hours.

BRAIDWOOD

3.0 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
A/I	BD-03	01-01-04	No apparent reason for low reading of 180.4 hours.
WW	BD-37	01-08-04	No sample; no one home; will check next week. (Sample collected 01-15-04.)
A	BD-19	02-05-04	Filter light; filter head covered with snow.
WW	BD-37	04-08-04	No sample; no one home; will check next week. (Sample collected 04-15-04.)
A/I	BD-20	07-01-04	No electricity; ComEd working on line. Used FL_A of 60 for volume calculation.
A/I	BD-21	07-01-04	No electricity; ComEd working on line. Used FL_A of 60 for volume calculation.
A	BD-03	08-05-04	Low meter reading of 157.2 hrs. possibly due to storms in area.
A/I	BD-21	08-13-04	Backup collector denied access on 08-12-04; returned on 08-13-04 to collect sample.
A	BD-21	08-19-04	Low reading of 143.9 hours due to 6-day runtime.

BRAIDWOOD

4.0 2004 ANALYSES DATA TABLES

BRAIDWOOD

Table 1. Airborne Particulates and Iodine Cartridges

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

BD-03 (C) County Line Road							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-01-04	306 ^b	3.3 ± 0.4 ; 0.7	0.1 ± 0.3 ; 0.3	07-01-04	280	2.4 ± 0.3 ; 0.6	-0.6 ± 0.4 ; 0.4
01-08-04	291	3.6 ± 0.4 ; 0.8	-	07-08-04	290	2.4 ± 0.4 ; 0.6	-
01-15-04	282	3.3 ± 0.4 ; 0.7	0.1 ± 0.3 ; 0.3	07-15-04	283	1.5 ± 0.3 ; 0.4	-0.1 ± 0.4 ; 0.4
01-22-04	285	2.8 ± 0.3 ; 0.6	-	07-22-04	283	2.7 ± 0.4 ; 0.6	-
01-28-04	245	2.4 ± 0.4 ; 0.6	-0.1 ± 0.4 ; 0.4	07-29-04	287	1.9 ± 0.3 ; 0.5	-0.7 ± 0.3 ; 0.4
02-05-04	329	2.9 ± 0.4 ; 0.6	-	08-05-04	267 ^c	3.1 ± 0.4 ; 0.7	-
02-12-04	285	3.9 ± 0.4 ; 0.8	0.6 ± 0.4 ; 0.4	08-12-04	292	1.6 ± 0.3 ; 0.4	0.3 ± 0.4 ; 0.4
02-19-04	284	2.9 ± 0.4 ; 0.6	-	08-19-04	285	1.8 ± 0.4 ; 0.5	-
02-26-04	285	2.8 ± 0.3 ; 0.6	-0.5 ± 0.3 ; 0.3	08-26-04	280	2.3 ± 0.4 ; 0.5	-0.3 ± 0.3 ; 0.3
03-04-04	287	2.1 ± 0.3 ; 0.5	-	09-02-04	284	1.5 ± 0.3 ; 0.4	-
03-11-04	282	2.8 ± 0.3 ; 0.6	0.7 ± 0.3 ; 0.3	09-09-04	288	2.7 ± 0.4 ; 0.6	0.1 ± 0.3 ; 0.3
03-17-04	244	2.0 ± 0.4 ; 0.5	-	09-16-04	283	2.5 ± 0.4 ; 0.6	-
03-25-04	325	1.8 ± 0.3 ; 0.5	0.1 ± 0.3 ; 0.3	09-23-04	286	3.3 ± 0.4 ; 0.7	0.9 ± 0.3 ; 0.4
1st Qtr. Mean±s.d.	2.8 ± 0.6	0.1 ± 0.4		09-30-04	288 ^d	2.0 ± 0.3 ; 0.9	-
04-01-04	284	1.5 ± 0.3 ; 0.4	-	3rd Qtr. Mean±s.d.	2.3 ± 0.6	-0.1 ± 0.6	
04-08-04	288	2.4 ± 0.4 ; 0.6	0.1 ± 0.4 ; 0.4	10-06-04	236	2.1 ± 0.4 ; 0.5	-0.4 ± 0.4 ; 0.4
04-15-04	282	1.8 ± 0.4 ; 0.5	-	10-14-04	329	2.6 ± 0.3 ; 0.6	-
04-22-04	284	2.5 ± 0.4 ; 0.6	0.1 ± 0.4 ; 0.4	10-21-04	293	1.5 ± 0.3 ; 0.4	0.0 ± 0.3 ; 0.3
04-29-04	283	2.0 ± 0.4 ; 0.5	-	10-28-04	275	2.8 ± 0.4 ; 0.6	-
05-06-04	289	2.3 ± 0.3 ; 0.5	0.2 ± 0.4 ; 0.4	11-04-04	287	2.1 ± 0.4 ; 0.5	0.2 ± 0.3 ; 0.3
05-13-04	287	2.8 ± 0.3 ; 0.6	-	11-11-04	284	2.7 ± 0.4 ; 0.6	-
05-20-04	282	1.3 ± 0.3 ; 0.4	0.5 ± 0.3 ; 0.3	11-18-04	285	2.7 ± 0.4 ; 0.6	-1.0 ± 0.4 ; 0.4
05-27-04	284	1.5 ± 0.3 ; 0.4	-	11-24-04	245	3.4 ± 0.4 ; 0.7	-
06-03-04	286	1.2 ± 0.3 ; 0.3	-0.6 ± 0.3 ; 0.3	12-02-04	326	2.3 ± 0.3 ; 0.5	1.2 ± 0.3 ; 0.4
06-10-04	283	2.4 ± 0.4 ; 0.6	-	12-09-04	285	3.7 ± 0.4 ; 0.8	-
06-17-04	287	1.6 ± 0.3 ; 0.4	-0.6 ± 0.3 ; 0.3	12-16-04	288	3.3 ± 0.4 ; 0.7	-1.1 ± 0.3 ; 0.4
06-24-04	285	1.5 ± 0.3 ; 0.4	-	12-23-04	280	2.7 ± 0.3 ; 0.6	-
2nd Qtr. Mean±s.d.	1.9 ± 0.5	-0.0 ± 0.4		12-30-04	284	4.0 ± 0.4 ; 0.8	-0.2 ± 0.4 ; 0.4
				4th Qtr. Mean±s.d.	2.7 ± 0.7	-0.2 ± 0.8	

^a Volume based on two week collection period.^b Volume low; no apparent reason for low meter reading of 180.4 hours (8-day runtime).^c Volume low, possibly due to storms in area.^d Corrected result; typographical error found in calculations (number of sample counts = 342/previous calculation used 642).

BRAIDWOOD

Table 1. Airborne Particulates and Iodine Cartridges

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

BD-06 Godley							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-01-04	325	2.8 ± 0.3 ; 0.6	0.1 ± 0.3 ; 0.3	07-01-04	282	2.3 ± 0.3 ; 0.5	1.3 ± 0.3 ; 0.4
01-08-04	291	3.8 ± 0.4 ; 0.8	-	07-08-04	290	2.0 ± 0.4 ; 0.5	-
01-15-04	282	3.2 ± 0.4 ; 0.7	-1.0 ± 0.4 ; 0.4	07-15-04	283	1.4 ± 0.3 ; 0.4	-0.6 ± 0.4 ; 0.4
01-22-04	285	2.3 ± 0.3 ; 0.5	-	07-22-04	283	2.6 ± 0.4 ; 0.6	-
01-28-04	242	2.0 ± 0.4 ; 0.5	0.1 ± 0.3 ; 0.3	07-29-04	292	1.9 ± 0.3 ; 0.5	0.6 ± 0.3 ; 0.3
02-05-04	329	4.3 ± 0.4 ; 0.9	-	08-05-04	285	3.0 ± 0.4 ; 0.7	-
02-12-04	285	3.8 ± 0.4 ; 0.8	0.5 ± 0.3 ; 0.3	08-12-04	291	1.8 ± 0.3 ; 0.5	0.1 ± 0.4 ; 0.4
02-19-04	284	2.8 ± 0.4 ; 0.6	-	08-19-04	285	2.4 ± 0.4 ; 0.6	-
02-26-04	285	2.8 ± 0.4 ; 0.6	-0.6 ± 0.4 ; 0.4	08-26-04	280	2.0 ± 0.4 ; 0.5	0.2 ± 0.4 ; 0.4
03-04-04	287	1.9 ± 0.3 ; 0.5	-	09-02-04	284	1.6 ± 0.4 ; 0.5	-
03-11-04	282	2.9 ± 0.4 ; 0.6	0.1 ± 0.3 ; 0.3	09-09-04	288	3.2 ± 0.4 ; 0.7	-0.0 ± 0.3 ; 0.3
03-17-04	244	1.6 ± 0.4 ; 0.5	-	09-16-04	283	2.5 ± 0.4 ; 0.6	-
03-25-04	325	2.2 ± 0.3 ; 0.5	-0.4 ± 0.3 ; 0.3	09-23-04	291	2.8 ± 0.4 ; 0.6	-0.6 ± 0.4 ; 0.4
1st Qtr. Mean±s.d.	2.8 ± 0.8	-0.2 ± 0.5		09-30-04	288	1.9 ± 0.3 ; 0.5	-
04-01-04	280	1.4 ± 0.3 ; 0.4	-	3rd Qtr. Mean±s.d.	2.2 ± 0.5	0.1 ± 0.7	
04-08-04	288	2.0 ± 0.3 ; 0.5	-0.5 ± 0.3 ; 0.3	10-06-04	232	2.2 ± 0.4 ; 0.6	0.2 ± 0.4 ; 0.4
04-15-04	281	1.6 ± 0.3 ; 0.5	-	10-14-04	329	2.9 ± 0.3 ; 0.6	-
04-22-04	284	2.3 ± 0.4 ; 0.6	-0.1 ± 0.3 ; 0.3	10-21-04	293	1.3 ± 0.3 ; 0.4	-0.0 ± 0.3 ; 0.3
04-29-04	283	2.1 ± 0.4 ; 0.5	-	10-28-04	275	3.1 ± 0.4 ; 0.7	-
05-06-04	289	2.1 ± 0.3 ; 0.5	-0.1 ± 0.3 ; 0.3	11-04-04	287	2.0 ± 0.3 ; 0.5	0.6 ± 0.3 ; 0.3
05-13-04	286	2.7 ± 0.3 ; 0.6	-	11-11-04	284	2.8 ± 0.4 ; 0.6	-
05-20-04	282	1.3 ± 0.3 ; 0.4	-0.5 ± 0.3 ; 0.3	11-18-04	285	2.2 ± 0.4 ; 0.5	0.2 ± 0.3 ; 0.3
05-27-04	284	1.5 ± 0.3 ; 0.4	-	11-24-04	245	3.4 ± 0.4 ; 0.7	-
06-03-04	286	1.1 ± 0.3 ; 0.3	-0.1 ± 0.3 ; 0.3	12-02-04	326	2.3 ± 0.3 ; 0.5	-0.5 ± 0.3 ; 0.3
06-10-04	283	2.4 ± 0.4 ; 0.6	-	12-09-04	285	3.6 ± 0.4 ; 0.8	-
06-17-04	287	1.5 ± 0.3 ; 0.4	0.1 ± 0.3 ; 0.3	12-16-04	293	3.3 ± 0.4 ; 0.7	1.0 ± 0.3 ; 0.4
06-24-04	284	1.5 ± 0.3 ; 0.4	-	12-23-04	280	2.6 ± 0.3 ; 0.6	-
2nd Qtr. Mean±s.d.	1.8 ± 0.5	-0.2 ± 0.3		12-30-04	284	3.6 ± 0.4 ; 0.8	-1.0 ± 0.3 ; 0.4
				4th Qtr. Mean±s.d.	2.7 ± 0.7	0.1 ± 0.7	

^a Volume based on two week collection period.

BRAIDWOOD

Table 1. Airborne Particulates and Iodine Cartridges

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

BD-19 Nearsite, NW							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-01-04	325	3.3 ± 0.3 ; 0.7	0.8 ± 0.3 ; 0.3	07-01-04	282	2.3 ± 0.3 ; 0.5	0.1 ± 0.4 ; 0.4
01-08-04	291	3.7 ± 0.4 ; 0.8	-	07-08-04	290	2.4 ± 0.4 ; 0.6	-
01-15-04	282	3.5 ± 0.4 ; 0.7	-0.1 ± 0.3 ; 0.3	07-15-04	283	1.7 ± 0.3 ; 0.5	-0.8 ± 0.3 ; 0.4
01-22-04	285	3.0 ± 0.4 ; 0.6	-	07-22-04	283	2.9 ± 0.4 ; 0.7	-
01-28-04	246	2.5 ± 0.4 ; 0.6	0.0 ± 0.3 ; 0.3	07-29-04	287	2.2 ± 0.3 ; 0.5	0.3 ± 0.3 ; 0.3
02-05-04	329 ^b	1.0 ± 0.3 ; 0.3	-	08-05-04	285	3.5 ± 0.4 ; 0.8	-
02-12-04	285	3.5 ± 0.4 ; 0.8	-0.0 ± 0.3 ; 0.3	08-12-04	291	2.4 ± 0.4 ; 0.6	-0.1 ± 0.3 ; 0.3
02-19-04	284	2.4 ± 0.4 ; 0.6	-	08-19-04	285	2.3 ± 0.4 ; 0.6	-
02-26-04	285	2.7 ± 0.3 ; 0.6	0.6 ± 0.3 ; 0.3	08-26-04	280	2.3 ± 0.4 ; 0.5	0.8 ± 0.3 ; 0.3
03-04-04	282	2.2 ± 0.3 ; 0.5	-	09-02-04	284	1.8 ± 0.4 ; 0.5	-
03-11-04	282	2.5 ± 0.3 ; 0.6	0.7 ± 0.3 ; 0.3	09-09-04	288	3.2 ± 0.4 ; 0.7	-0.6 ± 0.4 ; 0.4
03-17-04	244	2.0 ± 0.4 ; 0.5	-	09-16-04	283	2.4 ± 0.4 ; 0.6	-
03-25-04	325	1.8 ± 0.3 ; 0.5	0.5 ± 0.3 ; 0.3	09-23-04	291	2.7 ± 0.4 ; 0.6	-0.1 ± 0.4 ; 0.4
1st Qtr. Mean±s.d.	2.6 ± 0.8	0.3 ± 0.4		09-30-04	288	1.9 ± 0.3 ; 0.5	-
04-01-04	284	1.7 ± 0.3 ; 0.4	-	3rd Qtr. Mean±s.d.	2.4 ± 0.5	-0.1 ± 0.6	
04-08-04	293	2.1 ± 0.4 ; 0.5	0.2 ± 0.3 ; 0.3	10-06-04	236	2.1 ± 0.4 ; 0.5	0.3 ± 0.4 ; 0.4
04-15-04	279	1.7 ± 0.4 ; 0.5	-	10-14-04	318	3.2 ± 0.3 ; 0.7	-
04-22-04	334 ^c	-	0.2 ± 0.5 ; 0.5	10-21-04	293	1.6 ± 0.3 ; 0.4	-0.7 ± 0.3 ; 0.3
04-29-04	281	1.6 ± 0.4 ; 0.5	-	10-28-04	275	3.3 ± 0.4 ; 0.7	-
05-06-04	290	2.3 ± 0.3 ; 0.5	0.5 ± 0.3 ; 0.3	11-04-04	287	2.2 ± 0.4 ; 0.5	0.7 ± 0.3 ; 0.3
05-13-04	285	2.6 ± 0.3 ; 0.6	-	11-11-04	284	2.9 ± 0.4 ; 0.7	-
05-20-04	292	1.1 ± 0.3 ; 0.3	0.6 ± 0.3 ; 0.3	11-18-04	285	2.9 ± 0.4 ; 0.7	-0.2 ± 0.3 ; 0.3
05-27-04	284	1.4 ± 0.3 ; 0.4	-	11-24-04	245	3.0 ± 0.4 ; 0.7	-
06-03-04	286	1.3 ± 0.3 ; 0.4	-1.7 ± 0.4 ; 0.5	12-02-04	326	2.1 ± 0.3 ; 0.5	0.1 ± 0.3 ; 0.3
06-10-04	283	2.3 ± 0.4 ; 0.5	-	12-09-04	285	3.4 ± 0.4 ; 0.7	-
06-17-04	287	1.6 ± 0.3 ; 0.4	-0.2 ± 0.4 ; 0.4	12-16-04	293	3.5 ± 0.4 ; 0.7	0.7 ± 0.3 ; 0.4
06-24-04	284	1.8 ± 0.4 ; 0.5	-	12-23-04	280	3.0 ± 0.4 ; 0.6	-
2nd Qtr. Mean±s.d.	1.8 ± 0.5	-0.0 ± 0.9		12-30-04	284	3.6 ± 0.4 ; 0.8	0.5 ± 0.3 ; 0.3
4th Qtr. Mean±s.d.	2.8 ± 0.6	0.2 ± 0.5					

^a Volume based on two week collection period.^b Filter light; filter head covered with snow.^c Two-week volume (279 m³ + 61 m³) for charcoal cartridge; not enough runtime (35.8 hours) for viable air particulate.

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Table 1. Airborne Particulates and Iodine Cartridges

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

BD-20 Nearsite, N							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-01-04	325	3.3 ± 0.3 ; 0.7	0.3 ± 0.3 ; 0.3	07-01-04	277 ^b	2.6 ± 0.4 ; 0.6	-0.0 ± 0.4 ; 0.4
01-08-04	291	3.8 ± 0.4 ; 0.8	-	07-08-04	283	2.1 ± 0.4 ; 0.5	-
01-15-04	282	3.2 ± 0.4 ; 0.7	0.6 ± 0.3 ; 0.3	07-15-04	283	1.4 ± 0.3 ; 0.4	0.4 ± 0.3 ; 0.3
01-22-04	285	2.7 ± 0.3 ; 0.6	-	07-22-04	283	2.5 ± 0.4 ; 0.6	-
01-28-04	242	2.3 ± 0.4 ; 0.6	-0.5 ± 0.4 ; 0.4	07-29-04	287	1.9 ± 0.3 ; 0.5	1.0 ± 0.3 ; 0.4
02-05-04	329	4.5 ± 0.4 ; 0.9	-	08-05-04	285	3.3 ± 0.4 ; 0.7	-
02-12-04	285	3.5 ± 0.4 ; 0.8	-0.6 ± 0.3 ; 0.3	08-12-04	291	2.0 ± 0.4 ; 0.5	-0.2 ± 0.3 ; 0.3
02-19-04	284	2.3 ± 0.3 ; 0.5	-	08-19-04	285	2.5 ± 0.4 ; 0.6	-
02-26-04	280	2.5 ± 0.3 ; 0.6	0.3 ± 0.3 ; 0.3	08-26-04	280	2.0 ± 0.4 ; 0.5	-0.6 ± 0.3 ; 0.4
03-04-04	287	2.3 ± 0.3 ; 0.5	-	09-02-04	285	1.6 ± 0.3 ; 0.5	-
03-11-04	282	2.6 ± 0.3 ; 0.6	-0.2 ± 0.3 ; 0.3	09-09-04	288	3.0 ± 0.4 ; 0.7	0.3 ± 0.3 ; 0.3
03-17-04	244	2.0 ± 0.4 ; 0.6	-	09-16-04	283	2.4 ± 0.4 ; 0.6	-
03-25-04	325	1.9 ± 0.3 ; 0.5	0.6 ± 0.3 ; 0.3	09-23-04	296	3.1 ± 0.4 ; 0.7	0.6 ± 0.3 ; 0.3
1st Qtr. Mean±s.d.		2.8 ± 0.7	0.1 ± 0.5	09-30-04		2.1 ± 0.3 ; 0.5	-
04-01-04	284	1.8 ± 0.3 ; 0.4	-	3rd Qtr. Mean±s.d.		2.3 ± 0.6	0.2 ± 0.6
04-08-04	288	2.7 ± 0.4 ; 0.6	0.0 ± 0.3 ; 0.3	10-06-04	236	2.1 ± 0.4 ; 0.5	-1.0 ± 0.4 ; 0.4
04-15-04	282	1.4 ± 0.3 ; 0.4	-	10-14-04	329	2.9 ± 0.3 ; 0.6	-
04-22-04	285	2.8 ± 0.4 ; 0.6	-0.4 ± 0.3 ; 0.3	10-21-04	293	1.9 ± 0.3 ; 0.5	0.5 ± 0.4 ; 0.4
04-29-04	282	1.9 ± 0.4 ; 0.5	-	10-28-04	280	3.2 ± 0.4 ; 0.7	-
05-06-04	290	2.0 ± 0.3 ; 0.5	0.2 ± 0.3 ; 0.3	11-04-04	287	2.3 ± 0.4 ; 0.5	-0.0 ± 0.3 ; 0.3
05-13-04	285	3.1 ± 0.4 ; 0.7	-	11-11-04	289	2.9 ± 0.4 ; 0.7	-
05-20-04	283	1.4 ± 0.3 ; 0.4	0.6 ± 0.3 ; 0.3	11-18-04	285	2.7 ± 0.4 ; 0.6	1.5 ± 0.3 ; 0.4
05-27-04	284	1.3 ± 0.3 ; 0.4	-	11-24-04	249	3.3 ± 0.4 ; 0.7	-
06-03-04	286	1.2 ± 0.3 ; 0.4	0.1 ± 0.3 ; 0.3	12-02-04	326	1.8 ± 0.3 ; 0.4	1.0 ± 0.3 ; 0.4
06-10-04	283	2.5 ± 0.4 ; 0.6	-	12-09-04	285	3.7 ± 0.4 ; 0.8	-
06-17-04	287	1.8 ± 0.3 ; 0.5	-1.4 ± 0.4 ; 0.4	12-16-04	288	3.5 ± 0.4 ; 0.7	-0.9 ± 0.4 ; 0.4
06-24-04	284	1.7 ± 0.3 ; 0.5	-	12-23-04	280	2.7 ± 0.3 ; 0.6	-
2nd Qtr. Mean±s.d.		2.0 ± 0.6	-0.2 ± 0.7	12-30-04	284	3.8 ± 0.4 ; 0.8	0.8 ± 0.4 ; 0.4
4th Qtr. Mean±s.d.		2.8 ± 0.7	0.3 ± 1.0				

^a Volume based on two week collection period.^b No electricity; ComEd working on line. Used FL_A of 60CFH for volume calculation.

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Table 1. Airborne Particulates and Iodine Cartridges

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

BD-21 Nearsite, NE							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-01-04	325	2.9 ± 0.3 ; 0.6	0.2 ± 0.3 ; 0.3	07-01-04	277 ^b	2.1 ± 0.3 ; 0.5	0.7 ± 0.3 ; 0.3
01-08-04	282	2.9 ± 0.4 ; 0.7	-	07-08-04	283	2.2 ± 0.4 ; 0.5	-
01-15-04	282	3.1 ± 0.4 ; 0.7	0.1 ± 0.4 ; 0.4	07-15-04	283	1.5 ± 0.3 ; 0.4	-0.2 ± 0.3 ; 0.3
01-22-04	285	3.0 ± 0.4 ; 0.6	-	07-22-04	283	2.5 ± 0.4 ; 0.6	-
01-28-04	242	2.1 ± 0.4 ; 0.6	-0.3 ± 0.4 ; 0.4	07-29-04	287	1.8 ± 0.3 ; 0.4	0.3 ± 0.4 ; 0.4
02-05-04	329	4.2 ± 0.4 ; 0.9	-	08-05-04	285	2.9 ± 0.4 ; 0.7	-
02-12-04	285	3.6 ± 0.4 ; 0.8	0.4 ± 0.3 ; 0.3	08-13-04	332 ^c	1.8 ± 0.3 ; 0.4	0.2 ± 0.3 ; 0.3
02-19-04	284	2.3 ± 0.3 ; 0.5	-	08-19-04	244 ^d	2.0 ± 0.4 ; 0.5	-
02-26-04	285	2.6 ± 0.3 ; 0.6	0.2 ± 0.3 ; 0.3	08-26-04	280	2.4 ± 0.4 ; 0.6	-0.1 ± 0.3 ; 0.3
03-04-04	287	2.3 ± 0.3 ; 0.5	-	09-02-04	285	1.3 ± 0.3 ; 0.4	-
03-11-04	282	2.6 ± 0.3 ; 0.6	-1.0 ± 0.3 ; 0.4	09-09-04	288	2.5 ± 0.4 ; 0.6	-0.5 ± 0.3 ; 0.3
03-17-04	244	1.7 ± 0.4 ; 0.5	-	09-16-04	283	2.4 ± 0.4 ; 0.6	-
03-25-04	325	1.7 ± 0.3 ; 0.4	0.1 ± 0.4 ; 0.4	09-23-04	288	2.7 ± 0.4 ; 0.6	0.7 ± 0.3 ; 0.4
1st Qtr. Mean±s.d.	2.7 ± 0.7	-0.0 ± 0.5		09-30-04	288	1.7 ± 0.3 ; 0.4	-
4th Qtr. Mean±s.d.	2.1 ± 0.5	0.2 ± 0.5					
04-01-04	284	1.6 ± 0.3 ; 0.4	-	10-06-04	236	2.1 ± 0.4 ; 0.5	0.3 ± 0.3 ; 0.3
04-08-04	284	1.9 ± 0.3 ; 0.5	0.4 ± 0.3 ; 0.3	10-14-04	329	3.0 ± 0.3 ; 0.6	-
04-15-04	282	1.4 ± 0.3 ; 0.4	-	10-21-04	293	1.7 ± 0.3 ; 0.4	-0.1 ± 0.3 ; 0.3
04-22-04	285	2.5 ± 0.4 ; 0.6	0.8 ± 0.3 ; 0.3	10-28-04	275	2.9 ± 0.4 ; 0.7	-
04-29-04	282	1.7 ± 0.4 ; 0.5	-	11-04-04	287	2.1 ± 0.4 ; 0.5	-0.9 ± 0.3 ; 0.4
05-06-04	290	2.2 ± 0.3 ; 0.5	0.7 ± 0.3 ; 0.3	11-11-04	284	2.5 ± 0.4 ; 0.6	-
05-13-04	284	2.5 ± 0.3 ; 0.6	-	11-18-04	286	2.5 ± 0.4 ; 0.6	-0.1 ± 0.3 ; 0.3
05-20-04	284	1.0 ± 0.3 ; 0.3	-0.2 ± 0.3 ; 0.3	11-24-04	245	2.4 ± 0.4 ; 0.6	-
05-27-04	283	1.1 ± 0.3 ; 0.3	-	12-02-04	326	2.1 ± 0.3 ; 0.5	-0.2 ± 0.3 ; 0.3
06-03-04	286	1.3 ± 0.3 ; 0.4	-0.2 ± 0.4 ; 0.4	12-09-04	285	3.1 ± 0.4 ; 0.7	-
06-10-04	283	2.3 ± 0.4 ; 0.6	-	12-16-04	288	3.3 ± 0.4 ; 0.7	0.4 ± 0.3 ; 0.3
06-17-04	286	1.4 ± 0.3 ; 0.4	0.2 ± 0.3 ; 0.3	12-23-04	280	2.8 ± 0.4 ; 0.6	-
06-24-04	289	1.4 ± 0.3 ; 0.4	-	12-30-04	284	3.8 ± 0.4 ; 0.8	1.2 ± 0.4 ; 0.4
2nd Qtr. Mean±s.d.	1.7 ± 0.5	0.3 ± 0.4		4th Qtr. Mean±s.d.	2.6 ± 0.6	0.1 ± 0.7	

^a Volume based on two week collection period.^b No electricity; ComEd working on line. Used FL_A of 60CFH for volume calculation.^c Volume high due to 8-day runtime; backup collector denied access on 08-12-04; sample collected 08-13-04.^d Volume low due to 6-day runtime.

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Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: Cs-134 = 0.05, Cs-137 = 0.06 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

<u>Sample Description and Concentration</u>				
<u>BD-03 (C) County Line Road</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BDAP-2041	BDAP-4342	BDAP-6552	BDAP-7850
Volume	3,738	3,710	3,983	3,705
Mn-54	-3.6 ± 5.4 ; 5.4	1.6 ± 5.3 ; 5.3	0.6 ± 5.7 ; 5.7	-10.2 ± 7.2 ; 7.4
Fe-59	-19.1 ± 11.8 ; 12.3	-22.4 ± 17.4 ; 17.8	-17.6 ± 8.2 ; 8.8	-7.2 ± 8.6 ; 8.7
Co-58	-2.4 ± 5.2 ; 5.2	-4.3 ± 7.0 ; 7.0	3.2 ± 4.7 ; 4.8	-4.5 ± 5.3 ; 5.4
Co-60	2.9 ± 6.5 ; 6.6	2.0 ± 7.5 ; 7.5	3.4 ± 5.0 ; 5.1	0.3 ± 5.9 ; 5.9
Zn-65	-11.2 ± 13.6 ; 13.8	2.2 ± 17.9 ; 17.9	6.8 ± 8.2 ; 8.3	-11.0 ± 10.3 ; 10.5
Nb/Zr-95	5.1 ± 6.7 ; 6.8	-18.4 ± 6.7 ; 7.4	-8.5 ± 4.5 ; 4.7	3.9 ± 5.2 ; 5.3
Cs-134	0.1 ± 5.8 ; 5.8	9.4 ± 7.0 ; 7.2	3.0 ± 6.5 ; 6.5	3.6 ± 4.7 ; 4.7
Cs-137	3.2 ± 5.9 ; 6.0	-3.6 ± 6.8 ; 6.8	2.3 ± 6.2 ; 6.2	8.2 ± 6.0 ; 6.2
Ba/La-140	25.7 ± 8.3 ; 9.5	70.1 ± 8.6 ; 15.1	-21.2 ± 8.2 ; 9.0	-7.5 ± 7.3 ; 7.4
<u>BD-06 Godley</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BDAP-2042	BDAP-4343	BDAP-6553	BDAP-7851
Volume	3,753	3,704	4,011	3,705
Mn-54	-1.8 ± 5.7 ; 5.7	-5.9 ± 6.8 ; 6.9	3.1 ± 4.7 ; 4.7	3.9 ± 6.3 ; 6.3
Fe-59	-10.7 ± 11.4 ; 11.6	15.3 ± 9.9 ; 10.2	13.1 ± 9.4 ; 9.7	-4.1 ± 10.9 ; 10.9
Co-58	2.8 ± 4.4 ; 4.4	7.7 ± 6.2 ; 6.3	7.3 ± 3.8 ; 4.0	-1.5 ± 5.3 ; 5.3
Co-60	4.5 ± 5.6 ; 5.6	-1.2 ± 8.6 ; 8.6	-5.8 ± 7.4 ; 7.4	0.1 ± 4.2 ; 4.2
Zn-65	-21.6 ± 13.1 ; 13.6	-16.0 ± 17.7 ; 17.9	-0.7 ± 10.2 ; 10.2	24.4 ± 13.0 ; 13.7
Nb/Zr-95	-1.9 ± 6.6 ; 6.6	7.1 ± 5.4 ; 5.6	-16.4 ± 5.3 ; 6.1	-4.1 ± 5.7 ; 5.7
Cs-134	2.2 ± 5.0 ; 5.0	1.1 ± 6.6 ; 6.6	3.4 ± 4.3 ; 4.4	-4.3 ± 7.5 ; 7.6
Cs-137	2.1 ± 5.7 ; 5.7	0.6 ± 7.0 ; 7.0	4.1 ± 4.9 ; 5.0	-3.3 ± 5.2 ; 5.2
Ba/La-140	-22.5 ± 6.8 ; 7.9	-131.4 ± 8.5 ; 24.9	7.0 ± 5.3 ; 5.5	-7.5 ± 7.3 ; 7.4

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Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: Cs-134 = 0.05, Cs-137 = 0.06 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				
<u>BD-19 Nearsite, NW</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BDAP-2043	BDAP-4344	BDAP-6554	BDAP-7852
Volume	3,753	3,769	4,006	3,699
Mn-54	2.1 ± 5.9 ; 5.9	2.4 ± 4.8 ; 4.8	5.9 ± 5.2 ; 5.3	1.8 ± 5.3 ; 5.4
Fe-59	9.5 ± 9.4 ; 9.6	9.5 ± 12.2 ; 12.3	-5.5 ± 11.2 ; 11.3	-12.4 ± 9.6 ; 9.8
Co-58	1.1 ± 4.7 ; 4.7	-2.9 ± 4.8 ; 4.8	3.3 ± 4.2 ; 4.2	1.0 ± 4.7 ; 4.7
Co-60	1.9 ± 4.8 ; 4.8	-1.9 ± 4.4 ; 4.4	3.4 ± 5.0 ; 5.1	3.7 ± 5.4 ; 5.5
Zn-65	-6.4 ± 11.4 ; 11.5	-27.7 ± 15.5 ; 16.3	-3.0 ± 11.3 ; 11.3	9.5 ± 6.9 ; 7.1
Nb/Zr-95	-37.0 ± 14.3 ; 15.7	-11.5 ± 5.6 ; 5.9	-4.3 ± 4.9 ; 4.9	-2.4 ± 6.2 ; 6.3
Cs-134	-4.7 ± 6.4 ; 6.5	-1.1 ± 5.6 ; 5.7	-1.8 ± 5.5 ; 5.5	-0.5 ± 5.7 ; 5.7
Cs-137	6.1 ± 4.6 ; 4.8	-0.5 ± 5.3 ; 5.3	0.4 ± 5.5 ; 5.5	0.7 ± 4.6 ; 4.6
Ba/La-140	-64.4 ± 9.1 ; 14.6	-19.4 ± 4.6 ; 5.7	42.4 ± 4.4 ; 8.7	-24.6 ± 6.2 ; 7.6
<u>BD-20 Nearsite, N</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BDAP-2044	BDAP-4345	BDAP-6555	BDAP-7853
Volume	3,749	3,711	4,002	3,719
Mn-54	0.3 ± 5.6 ; 5.6	8.6 ± 6.5 ; 6.7	6.8 ± 4.8 ; 5.0	3.9 ± 3.8 ; 3.8
Fe-59	2.4 ± 11.3 ; 11.3	-17.1 ± 9.3 ; 9.8	-14.3 ± 10.2 ; 10.5	-2.1 ± 11.1 ; 11.1
Co-58	-4.2 ± 5.4 ; 5.5	3.0 ± 6.5 ; 6.5	8.1 ± 3.8 ; 4.1	-1.3 ± 4.8 ; 4.8
Co-60	1.2 ± 6.1 ; 6.1	2.7 ± 5.1 ; 5.1	-0.5 ± 5.2 ; 5.2	2.9 ± 6.6 ; 6.6
Zn-65	6.4 ± 10.6 ; 10.7	13.3 ± 14.3 ; 14.5	12.0 ± 7.5 ; 7.8	3.9 ± 12.0 ; 12.0
Nb/Zr-95	2.3 ± 5.4 ; 5.4	-9.2 ± 7.2 ; 7.4	-0.5 ± 5.9 ; 5.9	6.3 ± 4.0 ; 4.1
Cs-134	1.4 ± 6.0 ; 6.0	3.1 ± 8.3 ; 8.3	2.7 ± 4.8 ; 4.8	3.4 ± 5.9 ; 6.0
Cs-137	0.5 ± 5.4 ; 5.4	-3.8 ± 6.9 ; 6.9	2.1 ± 4.6 ; 4.6	4.5 ± 4.9 ; 4.9
Ba/La-140	-4.9 ± 9.2 ; 9.2	-22.5 ± 8.3 ; 9.3	-28.4 ± 6.1 ; 7.9	3.8 ± 7.9 ; 7.9

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Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: Cs-134 = 0.05, Cs-137 = 0.06 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				
<u>BD-21 Nearsite, NE</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	BDAP-2045	BDAP-4346	BDAP-6556	BDAP-7854
Volume	3,744	3,709	3,994	3,705
Mn-54	4.2 ± 6.7 ; 6.7	-6.6 ± 6.0 ; 6.1	6.2 ± 4.7 ; 4.8	-6.6 ± 6.9 ; 7.0
Fe-59	4.8 ± 8.8 ; 8.8	21.3 ± 10.4 ; 11.1	6.6 ± 8.6 ; 8.7	2.1 ± 11.8 ; 11.8
Co-58	0.9 ± 5.2 ; 5.2	10.3 ± 4.8 ; 5.2	-1.4 ± 4.5 ; 4.5	-1.0 ± 6.3 ; 6.3
Co-60	1.7 ± 2.4 ; 2.4	-4.2 ± 7.2 ; 7.3	3.5 ± 6.3 ; 6.4	-2.3 ± 5.1 ; 5.1
Zn-65	4.0 ± 11.9 ; 12.0	-24.3 ± 20.4 ; 20.9	6.7 ± 8.2 ; 8.3	10.2 ± 9.8 ; 9.9
Nb/Zr-95	-1.1 ± 5.1 ; 5.1	1.6 ± 4.6 ; 4.7	3.7 ± 3.9 ; 4.0	2.7 ± 6.0 ; 6.0
Cs-134	4.8 ± 5.6 ; 5.6	4.5 ± 7.1 ; 7.1	1.4 ± 5.2 ; 5.2	2.0 ± 6.2 ; 6.2
Cs-137	-8.3 ± 5.8 ; 6.0	-1.3 ± 6.8 ; 6.8	0.2 ± 4.1 ; 4.1	3.1 ± 6.4 ; 6.4
Ba/La-140	9.7 ± 2.1 ; 2.8	33.7 ± 7.5 ; 9.6	-10.0 ± 4.5 ; 4.9	-20.0 ± 8.5 ; 9.2

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Table 3. Milk

Collection:

Biweekly (May - October)

Monthly (November - April)

ODCM-
Required LLDs:

I-131 = 1; Cs-134 = 15; Cs-137 = 18; Ba-140 = 60; La-140 = 15 pCi/L

Other LLDs:

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

Units:

pCi/L

Sample Description and Concentration

BD-17 Halpin's Dairy

Date Collected	01-01-04	02-05-04	03-04-04	04-01-04
Lab Code	BDMI-4	BDMI-515	BDMI-906	BDMI-1381
I-131	0.02 ± 0.14 ; 0.14	-0.01 ± 0.14 ; 0.14	-0.05 ± 0.18 ; 0.18	0.10 ± 0.18 ; 0.18
Mn-54	-1.9 ± 3.7 ; 3.8	2.0 ± 3.3 ; 3.3	-1.3 ± 3.1 ; 3.1	0.3 ± 4.4 ; 4.4
Fe-59	-2.7 ± 7.5 ; 7.5	1.3 ± 8.3 ; 8.3	1.4 ± 7.0 ; 7.0	12.6 ± 7.5 ; 7.7
Co-58	2.6 ± 3.3 ; 3.3	2.4 ± 3.6 ; 3.6	-1.1 ± 3.4 ; 3.4	-0.9 ± 4.8 ; 4.8
Co-60	-1.8 ± 4.1 ; 4.1	-1.2 ± 5.1 ; 5.1	-0.3 ± 3.9 ; 3.9	0.7 ± 5.2 ; 5.2
Zn-65	1.2 ± 7.4 ; 7.4	-0.7 ± 9.1 ; 9.1	0.3 ± 8.4 ; 8.4	-14.1 ± 11.1 ; 11.3
Nb/Zr-95	2.6 ± 3.9 ; 3.9	-0.8 ± 3.8 ; 3.8	-3.4 ± 3.3 ; 3.3	-2.3 ± 3.5 ; 3.5
Cs-134	0.6 ± 4.1 ; 4.1	1.9 ± 4.6 ; 4.6	-4.1 ± 3.8 ; 3.9	1.9 ± 4.8 ; 4.8
Cs-137	-2.5 ± 3.7 ; 3.7	1.6 ± 3.6 ; 3.6	-1.2 ± 3.9 ; 3.9	0.9 ± 4.3 ; 4.3
Ba-140	8.3 ± 11.4 ; 11.4	7.2 ± 10.6 ; 10.7	-9.2 ± 12.1 ; 12.1	-3.3 ± 13.7 ; 13.7
La-140	1.0 ± 2.7 ; 2.7	-4.6 ± 3.8 ; 3.8	2.0 ± 2.8 ; 2.9	-4.8 ± 4.6 ; 4.7
Date Collected	05-06-04	05-20-04	06-03-04	06-17-04
Lab Code	BDMI-2190	BDMI-2495	BDMI-2757	BDMI-3051
I-131	-0.14 ± 0.14 ; 0.14	-0.06 ± 0.17 ; 0.17	-0.08 ± 0.16 ; 0.16	-0.07 ± 0.18 ; 0.18
Mn-54	1.1 ± 1.9 ; 1.9	0.8 ± 3.7 ; 3.7	0.6 ± 3.7 ; 3.7	-1.3 ± 4.2 ; 4.2
Fe-59	-0.7 ± 5.2 ; 5.2	0.6 ± 6.8 ; 6.8	0.4 ± 9.6 ; 9.6	-4.4 ± 7.6 ; 7.6
Co-58	-1.4 ± 2.7 ; 2.7	-0.2 ± 3.2 ; 3.2	0.3 ± 4.3 ; 4.3	5.6 ± 3.9 ; 4.0
Co-60	-0.6 ± 3.0 ; 3.0	-1.3 ± 5.0 ; 5.0	0.7 ± 4.2 ; 4.2	-0.1 ± 5.3 ; 5.3
Zn-65	-3.7 ± 6.5 ; 6.5	-3.8 ± 9.2 ; 9.2	-3.8 ± 8.3 ; 8.3	-10.3 ± 9.6 ; 9.7
Nb/Zr-95	-2.9 ± 2.4 ; 2.4	2.8 ± 3.1 ; 3.2	-2.9 ± 3.7 ; 3.7	-1.4 ± 3.7 ; 3.8
Cs-134	1.6 ± 2.8 ; 2.8	2.7 ± 3.7 ; 3.7	-0.5 ± 4.1 ; 4.1	1.3 ± 4.4 ; 4.4
Cs-137	-1.7 ± 2.5 ; 2.6	4.4 ± 4.1 ; 4.2	0.7 ± 4.2 ; 4.2	0.0 ± 4.0 ; 4.0
Ba-140	0.7 ± 9.1 ; 9.1	-0.4 ± 13.2 ; 13.2	13.0 ± 15.0 ; 15.1	-13.7 ± 13.1 ; 13.2
La-140	-3.4 ± 2.6 ; 2.6	0.8 ± 3.2 ; 3.2	-2.6 ± 4.1 ; 4.2	8.0 ± 4.1 ; 4.3

BRAIDWOOD

Table 3. Milk

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

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

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

Units: pCi/L

Sample Description and Concentration

BD-17 Halpin's Dairy

Date Collected	07-01-04	07-15-04	07-29-04	08-12-04
Lab Code	BDMI-3335	BDMI-3803	BDMI-4159	BDMI-4553
I-131	0.02 ± 0.22 ; 0.22	-0.20 ± 0.20 ; 0.20	-0.05 ± 0.22 ; 0.22	0.04 ± 0.17 ; 0.17
Mn-54	-1.1 ± 2.4 ; 2.4	0.4 ± 2.5 ; 2.5	0.5 ± 2.3 ; 2.3	0.7 ± 2.4 ; 2.4
Fe-59	3.9 ± 5.0 ; 5.1	3.2 ± 5.4 ; 5.4	5.7 ± 4.8 ; 4.8	1.3 ± 4.6 ; 4.6
Co-58	0.7 ± 2.5 ; 2.5	-0.6 ± 1.8 ; 1.8	-0.9 ± 2.3 ; 2.3	-0.7 ± 2.3 ; 2.3
Co-60	1.9 ± 2.9 ; 2.9	1.6 ± 3.3 ; 3.3	1.5 ± 2.1 ; 2.1	-0.3 ± 2.4 ; 2.4
Zn-65	2.1 ± 6.6 ; 6.6	-10.0 ± 6.3 ; 6.4	4.8 ± 6.1 ; 6.1	-5.7 ± 6.8 ; 6.8
Nb/Zr-95	-1.3 ± 2.2 ; 2.2	-1.2 ± 2.6 ; 2.6	0.2 ± 2.5 ; 2.5	-0.9 ± 2.2 ; 2.2
Cs-134	0.7 ± 2.5 ; 2.5	-3.3 ± 3.1 ; 3.1	-0.2 ± 2.9 ; 2.9	-1.4 ± 2.8 ; 2.8
Cs-137	-2.0 ± 2.9 ; 2.9	0.2 ± 2.9 ; 2.9	1.9 ± 2.5 ; 2.5	-0.6 ± 2.3 ; 2.3
Ba-140	4.3 ± 8.4 ; 8.4	6.0 ± 7.9 ; 7.9	23.2 ± 8.4 ; 9.0	9.4 ± 6.9 ; 7.1
La-140	-4.2 ± 2.5 ; 2.5	-3.3 ± 2.0 ; 2.0	0.4 ± 2.0 ; 2.0	2.8 ± 1.6 ; 1.6

Date Collected	08-26-04	09-09-04	09-23-04	10-06-04
Lab Code	BDMI-4787	BDMI-5105	BDMI-5422	BDMI-5867
I-131	-0.17 ± 0.19 ; 0.19	-0.10 ± 0.19 ; 0.19	-0.04 ± 0.13 ; 0.13	0.11 ± 0.20 ; 0.20
Mn-54	2.9 ± 3.0 ; 3.0	0.6 ± 2.4 ; 2.4	1.3 ± 2.6 ; 2.6	1.7 ± 2.5 ; 2.5
Fe-59	2.6 ± 8.5 ; 8.5	-3.5 ± 5.8 ; 5.8	-5.5 ± 4.8 ; 4.9	-7.7 ± 5.5 ; 5.6
Co-58	-2.7 ± 3.8 ; 3.8	0.3 ± 2.3 ; 2.3	-1.2 ± 2.0 ; 2.0	-1.3 ± 2.2 ; 2.2
Co-60	2.7 ± 4.9 ; 4.9	1.4 ± 2.5 ; 2.6	-0.1 ± 2.6 ; 2.6	1.4 ± 1.9 ; 1.9
Zn-65	1.9 ± 8.8 ; 8.8	-0.6 ± 5.1 ; 5.1	-5.7 ± 6.2 ; 6.2	-3.1 ± 6.0 ; 6.1
Nb/Zr-95	-1.1 ± 3.4 ; 3.4	0.8 ± 2.4 ; 2.4	-2.4 ± 2.2 ; 2.2	-1.6 ± 2.2 ; 2.2
Cs-134	1.1 ± 4.7 ; 4.7	-0.1 ± 3.0 ; 3.0	1.8 ± 2.2 ; 2.2	0.8 ± 2.2 ; 2.2
Cs-137	0.7 ± 3.9 ; 3.9	2.1 ± 2.7 ; 2.7	1.2 ± 2.2 ; 2.2	-0.0 ± 2.4 ; 2.4
Ba-140	8.1 ± 12.9 ; 13.0	12.5 ± 10.0 ; 10.2	-4.4 ± 7.6 ; 7.6	9.6 ± 7.9 ; 8.0
La-140	-2.5 ± 4.7 ; 4.7	-6.7 ± 2.4 ; 2.5	2.3 ± 2.3 ; 2.3	1.6 ± 2.8 ; 2.8

BRAIDWOOD

Table 3 . Milk

Collection:

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

ODCM-

Required LLDs:

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

Other LLDs:

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

Units:

pCi/L

Sample Description and Concentration

BD-17 Halpin's Dairy

Date Collected	10-21-04	11-04-04	12-02-04
Lab Code	BDMI-6278	BDMI-6599	BDMI-7101
I-131	-0.12 ± 0.14 ; 0.14	-0.25 ± 0.17 ; 0.18	-0.10 ± 0.14 ; 0.14
Mn-54	-1.0 ± 3.3 ; 3.3	-0.2 ± 2.5 ; 2.5	-1.0 ± 3.1 ; 3.1
Fe-59	-9.8 ± 7.6 ; 7.7	3.9 ± 4.8 ; 4.8	-8.0 ± 6.5 ; 6.6
Co-58	-0.4 ± 3.5 ; 3.5	1.0 ± 2.0 ; 2.0	-2.2 ± 3.1 ; 3.2
Co-60	1.5 ± 3.0 ; 3.1	2.7 ± 2.7 ; 2.7	3.1 ± 3.7 ; 3.7
Zn-65	-1.3 ± 7.7 ; 7.7	-0.2 ± 5.2 ; 5.2	0.4 ± 7.4 ; 7.4
Nb/Zr-95	3.7 ± 3.8 ; 3.8	2.1 ± 2.2 ; 2.2	-1.2 ± 3.0 ; 3.0
Cs-134	0.2 ± 3.6 ; 3.6	-2.2 ± 2.1 ; 2.1	0.2 ± 3.1 ; 3.1
Cs-137	-2.2 ± 3.6 ; 3.6	-1.4 ± 2.6 ; 2.6	-0.6 ± 3.9 ; 3.9
Ba-140	-19.5 ± 12.0 ; 12.3	-3.3 ± 7.3 ; 7.4	9.9 ± 11.3 ; 11.4
La-140	-4.7 ± 4.6 ; 4.6	-2.1 ± 2.3 ; 2.4	-5.5 ± 2.4 ; 2.5

BRAIDWOOD

Table 3. Milk

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

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

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

Units: pCi/L

Sample Description and Concentration

BD-18 (C) Biros Farm

Date Collected	01-02-04	02-05-04	03-04-04	04-02-04
Lab Code	BDMI-5	BDMI-516	BDMI-907	BDMI-1382
I-131	0.05 ± 0.12 ; 0.12	-0.06 ± 0.14 ; 0.14	-0.10 ± 0.15 ; 0.15	-0.16 ± 0.19 ; 0.19
Mn-54	-0.6 ± 2.6 ; 2.6	0.5 ± 4.0 ; 4.0	1.5 ± 2.7 ; 2.7	2.3 ± 4.3 ; 4.3
Fe-59	4.2 ± 4.2 ; 4.2	-12.8 ± 8.4 ; 8.6	-0.2 ± 5.1 ; 5.1	-6.9 ± 9.6 ; 9.7
Co-58	-0.2 ± 2.4 ; 2.4	2.8 ± 3.8 ; 3.8	0.5 ± 2.3 ; 2.3	-2.3 ± 4.8 ; 4.8
Co-60	0.1 ± 2.4 ; 2.4	1.8 ± 4.9 ; 4.9	-2.0 ± 2.6 ; 2.6	-3.1 ± 4.7 ; 4.7
Zn-65	-2.0 ± 6.0 ; 6.1	-10.3 ± 8.9 ; 9.0	-2.4 ± 5.4 ; 5.4	-4.6 ± 9.7 ; 9.7
Nb/Zr-95	-2.3 ± 2.2 ; 2.3	0.5 ± 3.5 ; 3.5	-2.0 ± 2.2 ; 2.3	-0.3 ± 4.0 ; 4.0
Cs-134	1.6 ± 2.3 ; 2.3	1.1 ± 4.4 ; 4.4	0.1 ± 2.4 ; 2.4	5.2 ± 4.9 ; 4.9
Cs-137	-2.3 ± 2.2 ; 2.2	1.0 ± 3.6 ; 3.6	0.5 ± 2.4 ; 2.4	-0.6 ± 3.6 ; 3.6
Ba-140	2.2 ± 8.0 ; 8.0	-3.3 ± 12.6 ; 12.6	-7.9 ± 8.4 ; 8.5	-2.2 ± 12.4 ; 12.4
La-140	0.4 ± 2.4 ; 2.4	-1.7 ± 2.8 ; 2.8	-1.0 ± 1.7 ; 1.7	2.5 ± 4.1 ; 4.1

Date Collected	05-06-04	05-20-04	06-03-04	06-17-04
Lab Code	BDMI-2191	BDMI-2496	BDMI-2758	BDMI-3052
I-131	0.01 ± 0.14 ; 0.14	-0.09 ± 0.20 ; 0.20	-0.10 ± 0.17 ; 0.17	0.17 ± 0.25 ; 0.25
Mn-54	-0.6 ± 2.4 ; 2.4	-2.0 ± 2.2 ; 2.2	-1.4 ± 3.8 ; 3.8	2.3 ± 3.8 ; 3.8
Fe-59	-1.5 ± 5.1 ; 5.1	-3.1 ± 5.4 ; 5.4	0.4 ± 6.9 ; 6.9	9.8 ± 8.6 ; 8.7
Co-58	-0.5 ± 2.3 ; 2.3	0.5 ± 1.9 ; 1.9	-1.0 ± 4.1 ; 4.1	5.8 ± 4.1 ; 4.2
Co-60	2.2 ± 2.3 ; 2.3	1.1 ± 2.5 ; 2.5	4.6 ± 3.6 ; 3.6	3.5 ± 4.4 ; 4.5
Zn-65	-1.2 ± 4.7 ; 4.7	-1.1 ± 6.4 ; 6.4	-4.5 ± 8.9 ; 9.0	2.3 ± 10.0 ; 10.0
Nb/Zr-95	1.3 ± 2.1 ; 2.1	-1.3 ± 2.3 ; 2.3	-0.5 ± 3.4 ; 3.4	-0.6 ± 3.3 ; 3.3
Cs-134	-0.3 ± 2.9 ; 2.9	-0.4 ± 2.4 ; 2.4	-0.9 ± 4.8 ; 4.8	2.5 ± 5.4 ; 5.4
Cs-137	0.7 ± 2.4 ; 2.4	-2.1 ± 2.7 ; 2.7	-1.8 ± 3.5 ; 3.5	1.2 ± 4.4 ; 4.4
Ba-140	8.0 ± 8.6 ; 8.7	7.9 ± 7.8 ; 7.9	-11.8 ± 12.1 ; 12.2	-14.9 ± 14.3 ; 14.4
La-140	0.7 ± 2.1 ; 2.1	-4.2 ± 2.3 ; 2.3	2.2 ± 3.0 ; 3.0	4.9 ± 4.2 ; 4.3

BRAIDWOOD

Table 3 . Milk

Collection:

Biweekly (May - October)

Monthly (November - April)

ODCM-

Required LLDs:

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

Other LLDs:

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

Units:

pCi/L

Sample Description and Concentration

BD-18 (C) Biros Farm

Date Collected	07-01-04	07-15-04	07-29-04	08-11-04
Lab Code	BDMI-3336	BDMI-3804	BDMI-4160	BDMI-4554
I-131	0.02 ± 0.20 ; 0.20	-0.17 ± 0.15 ; 0.15	-0.18 ± 0.23 ; 0.23	0.07 ± 0.17 ; 0.17
Mn-54	1.8 ± 2.3 ; 2.3	-0.2 ± 3.3 ; 3.3	-2.6 ± 3.5 ; 3.5	-3.3 ± 3.9 ; 4.0
Fe-59	4.6 ± 4.8 ; 4.8	3.4 ± 6.1 ; 6.1	5.2 ± 5.9 ; 5.9	-5.7 ± 8.3 ; 8.4
Co-58	-1.2 ± 2.4 ; 2.4	2.1 ± 2.9 ; 2.9	2.2 ± 3.5 ; 3.5	-0.3 ± 3.2 ; 3.2
Co-60	-0.1 ± 2.5 ; 2.5	2.0 ± 3.2 ; 3.3	-0.3 ± 4.6 ; 4.6	2.0 ± 4.1 ; 4.1
Zn-65	-0.8 ± 5.8 ; 5.8	-7.9 ± 7.9 ; 7.9	-2.4 ± 7.9 ; 7.9	-9.3 ± 7.8 ; 7.9
Nb/Zr-95	-0.9 ± 2.4 ; 2.4	-0.1 ± 2.4 ; 2.4	-0.7 ± 3.9 ; 3.9	0.3 ± 3.7 ; 3.7
Cs-134	1.2 ± 2.4 ; 2.4	-0.5 ± 3.2 ; 3.2	0.1 ± 3.8 ; 3.8	-1.6 ± 3.8 ; 3.8
Cs-137	-1.6 ± 2.4 ; 2.4	3.2 ± 2.8 ; 2.8	5.0 ± 4.3 ; 4.4	2.4 ± 3.8 ; 3.8
Ba-140	7.0 ± 7.8 ; 7.9	-0.4 ± 8.9 ; 8.9	5.5 ± 11.8 ; 11.8	6.8 ± 11.8 ; 11.9
La-140	-0.3 ± 1.7 ; 1.7	2.0 ± 2.8 ; 2.8	3.5 ± 2.8 ; 2.9	5.1 ± 2.1 ; 2.2

Date Collected	08-26-04	09-09-04	09-23-04	10-06-04
Lab Code	BDMI-4788	BDMI-5106	BDMI-5423	BDMI-5868
I-131	-0.15 ± 0.18 ; 0.18	-0.22 ± 0.18 ; 0.18	0.01 ± 0.15 ; 0.15	0.08 ± 0.19 ; 0.19
Mn-54	0.5 ± 3.8 ; 3.8	-2.8 ± 2.4 ; 2.5	-2.7 ± 2.7 ; 2.7	-1.1 ± 4.3 ; 4.3
Fe-59	3.0 ± 7.7 ; 7.7	3.2 ± 5.0 ; 5.0	4.2 ± 5.7 ; 5.7	1.7 ± 8.2 ; 8.2
Co-58	-0.3 ± 3.7 ; 3.7	1.0 ± 1.9 ; 1.9	-0.7 ± 3.2 ; 3.2	-0.3 ± 3.5 ; 3.5
Co-60	1.5 ± 4.4 ; 4.4	-2.3 ± 2.8 ; 2.8	0.8 ± 3.3 ; 3.3	2.2 ± 4.2 ; 4.2
Zn-65	5.8 ± 10.1 ; 10.2	-3.4 ± 4.9 ; 4.9	-7.1 ± 7.2 ; 7.3	-13.7 ± 9.2 ; 9.4
Nb/Zr-95	-0.2 ± 3.4 ; 3.4	-1.7 ± 2.2 ; 2.2	0.4 ± 3.6 ; 3.6	2.4 ± 3.6 ; 3.6
Cs-134	2.0 ± 4.6 ; 4.6	0.5 ± 2.5 ; 2.5	0.5 ± 3.9 ; 3.9	-0.3 ± 4.3 ; 4.3
Cs-137	-1.2 ± 4.2 ; 4.2	-3.0 ± 2.7 ; 2.7	1.1 ± 3.6 ; 3.6	-0.2 ± 3.5 ; 3.5
Ba-140	-19.0 ± 11.9 ; 12.1	2.0 ± 9.3 ; 9.3	-20.2 ± 13.5 ; 13.8	7.6 ± 13.0 ; 13.0
La-140	0.5 ± 4.2 ; 4.2	-1.0 ± 1.9 ; 1.9	1.4 ± 3.2 ; 3.2	-1.6 ± 3.9 ; 3.9

BRAIDWOOD

Table 3. Milk

Collection:

Biweekly (May - October)

Monthly (November - April)

ODCM-

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

Required LLDs:

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

Units:

pCi/L

Sample Description and Concentration

BD-18 (C) Biros Farm

Date Collected	10-21-04	11-04-04	12-02-04
Lab Code	BDMI-6279,80	BDMI-6600	BDMI-7102
I-131	0.02 ± 0.14 ; 0.14	-0.08 ± 0.16 ; 0.16	0.14 ± 0.17 ; 0.17
Mn-54	0.5 ± 2.5 ; 2.5	1.0 ± 3.5 ; 3.5	2.2 ± 2.6 ; 2.7
Fe-59	0.1 ± 4.9 ; 4.9	2.9 ± 7.1 ; 7.2	-2.4 ± 4.3 ; 4.3
Co-58	0.8 ± 2.3 ; 2.3	3.2 ± 3.6 ; 3.6	0.1 ± 2.2 ; 2.2
Co-60	0.6 ± 2.2 ; 2.2	1.1 ± 3.8 ; 3.8	0.9 ± 2.4 ; 2.4
Zn-65	0.3 ± 5.9 ; 5.9	-5.0 ± 9.6 ; 9.7	-7.9 ± 6.0 ; 6.1
Nb/Zr-95	0.9 ± 2.1 ; 2.1	-1.9 ± 3.4 ; 3.4	-0.8 ± 2.2 ; 2.2
Cs-134	1.3 ± 2.7 ; 2.7	1.1 ± 3.9 ; 3.9	0.5 ± 2.1 ; 2.1
Cs-137	0.9 ± 2.4 ; 2.4	-3.1 ± 3.5 ; 3.5	0.6 ± 2.5 ; 2.5
Ba-140	-0.4 ± 8.0 ; 8.0	22.2 ± 12.1 ; 12.4	-6.3 ± 7.7 ; 7.7
La-140	2.7 ± 2.2 ; 2.2	8.7 ± 2.9 ; 3.1	-3.3 ± 2.6 ; 2.6

BRAIDWOOD

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				
<u>BD-25 (C) Kankakee River, Upstream</u>				
Date Collected	05-19-04	05-19-04	10-05-04	10-05-04
Lab Code	BDF-2443	BDF-2444	BDF-5945	BDF-5946
Type	Channel Catfish	Smallmouth Bass	Channel Catfish	Golden Redhorse
Mn-54	-0.0 ± 0.8 ; 0.8	0.7 ± 1.4 ; 1.4	0.1 ± 1.0 ; 1.0	0.5 ± 1.4 ; 1.4
Fe-59	2.8 ± 2.1 ; 2.2	2.8 ± 3.1 ; 3.1	1.0 ± 2.3 ; 2.3	2.0 ± 2.7 ; 2.7
Co-58	-0.7 ± 0.8 ; 0.8	-0.2 ± 1.4 ; 1.4	0.5 ± 1.1 ; 1.1	-0.9 ± 1.3 ; 1.3
Co-60	1.4 ± 1.1 ; 1.2	-0.1 ± 1.4 ; 1.4	0.1 ± 1.2 ; 1.2	0.7 ± 1.4 ; 1.4
Zn-65	-3.5 ± 2.3 ; 2.3	0.8 ± 3.4 ; 3.4	-1.7 ± 2.4 ; 2.4	-2.2 ± 3.5 ; 3.5
Nb/Zr-95	-1.4 ± 0.7 ; 0.7	-0.6 ± 1.0 ; 1.0	-0.4 ± 0.9 ; 0.9	2.3 ± 1.3 ; 1.3
Cs-134	0.4 ± 0.8 ; 0.8	0.4 ± 1.5 ; 1.5	-0.9 ± 0.9 ; 1.0	0.4 ± 1.4 ; 1.4
Cs-137	1.0 ± 0.9 ; 0.9	-0.0 ± 1.3 ; 1.3	0.1 ± 1.1 ; 1.1	0.3 ± 1.3 ; 1.3
Ba/La-140	-5.5 ± 1.0 ; 1.3	-14.9 ± 1.8 ; 2.7	-0.9 ± 1.1 ; 1.1	5.1 ± 1.4 ; 1.5

BRAIDWOOD

Table 4 . Fish, Edible Portions

Collection: Semianually
 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

BD-28 Kankakee River, Discharge

Date Collected	05-19-04	05-19-04	10-05-04	10-05-04
Lab Code	BDF-2445	BDF-2446	BDF-5947	BDF-5948
Type	Channel Catfish	Largemouth Bass	Smallmouth Bass	Golden Redhorse
Mn-54	-0.3 ± 0.9 ; 0.9	-0.1 ± 1.0 ; 1.0	-0.8 ± 0.7 ; 0.7	-1.2 ± 0.9 ; 0.9
Fe-59	-4.3 ± 1.9 ; 2.0	1.8 ± 1.5 ; 1.6	1.0 ± 2.3 ; 2.3	1.1 ± 1.7 ; 1.7
Co-58	-1.5 ± 0.9 ; 1.0	0.9 ± 0.9 ; 0.9	0.2 ± 1.0 ; 1.0	-0.7 ± 0.7 ; 0.7
Co-60	0.2 ± 1.2 ; 1.2	0.5 ± 0.7 ; 0.7	0.8 ± 1.1 ; 1.1	0.1 ± 0.9 ; 0.9
Zn-65	-1.2 ± 2.2 ; 2.2	1.3 ± 1.8 ; 1.8	0.2 ± 2.4 ; 2.4	0.2 ± 2.0 ; 2.0
Nb/Zr-95	2.3 ± 0.8 ; 0.9	1.5 ± 0.9 ; 0.9	-1.7 ± 1.1 ; 1.1	-0.6 ± 0.9 ; 0.9
Cs-134	-0.1 ± 1.2 ; 1.2	0.6 ± 1.1 ; 1.1	0.7 ± 1.0 ; 1.0	0.7 ± 0.9 ; 0.9
Cs-137	-0.2 ± 1.0 ; 1.0	-0.6 ± 0.8 ; 0.8	-0.6 ± 1.1 ; 1.1	0.2 ± 0.8 ; 0.8
Ba/La-140	12.2 ± 0.8 ; 1.8	6.8 ± 0.9 ; 1.3	1.5 ± 0.9 ; 0.9	-3.6 ± 0.8 ; 1.0

BRAIDWOOD

Table 5. Bottom Sediments

Collection: Semiannually
 ODCM-
 Required LLDs: Cs-134 = 0.15, Cs-137 = 0.18 pCi/g dry weight
 Other LLDs: Mn-54 = 0.15; Fe-59 = 0.60; Co-58, Co-60 = 0.10; Zn-65 = 0.60; Zr/Nb-95 = 0.20;
 Ba/La = 0.60 pCi/g dry weight
 Units: 10^{-2} pCi/g dry weight

Sample Description and Concentration

BD-10 Kankakee River, Downstream

Date Collected	05-06-04	10-06-04
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Lab Code	BDBS-2204	BDBS-5872
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Mn-54	$2.4 \pm 1.6 ; 1.6$	$-0.1 \pm 0.7 ; 0.7$
Fe-59	$-4.7 \pm 3.8 ; 3.9$	$0.5 \pm 1.3 ; 1.3$
Co-58	$-0.4 \pm 1.4 ; 1.4$	$-1.3 \pm 0.6 ; 0.6$
Co-60	$-0.1 \pm 2.2 ; 2.2$	$1.8 \pm 0.7 ; 0.8$
Zn-65	$2.2 \pm 3.8 ; 3.8$	$-0.7 \pm 1.6 ; 1.6$
Nb/Zr-95	$-4.9 \pm 1.9 ; 2.0$	$-3.6 \pm 0.7 ; 0.9$
Cs-134	$3.1 \pm 2.1 ; 2.2$	$-0.1 \pm 0.9 ; 0.9$
Cs-137	$13.1 \pm 4.2 ; 4.6$	$2.9 \pm 1.2 ; 1.3$
Ba/La-140	$5.3 \pm 1.2 ; 1.4$	$-1.3 \pm 0.7 ; 0.7$

BD-41 Kankakee River, Downstream

Date Collected	05-06-04	10-06-04
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Lab Code	BDBS-2205	BDBS-5873
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Mn-54	$3.0 \pm 2.2 ; 2.2$	$5.0 \pm 1.8 ; 2.0$
Fe-59	$-3.3 \pm 4.5 ; 4.5$	$1.4 \pm 2.0 ; 2.0$
Co-58	$1.4 \pm 2.0 ; 2.0$	$2.8 \pm 1.0 ; 1.1$
Co-60	$11.0 \pm 3.9 ; 4.2$	$26.0 \pm 2.5 ; 4.3$
Zn-65	$-1.0 \pm 5.4 ; 5.4$	$3.0 \pm 2.4 ; 2.4$
Nb/Zr-95	$-4.4 \pm 2.1 ; 2.2$	$-3.3 \pm 1.0 ; 1.1$
Cs-134	$2.8 \pm 2.2 ; 2.2$	$0.6 \pm 1.2 ; 1.2$
Cs-137	$7.6 \pm 4.3 ; 4.4$	$8.1 \pm 2.7 ; 2.9$
Ba/La-140	$-17.4 \pm 2.4 ; 3.4$	$-5.9 \pm 0.9 ; 1.2$

Table 6. Vegetation

BRAIDWOOD

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>BD-Control Gorman Farm</u>		
Date Collected	09-23-04	09-23-04
Lab Code	BDVE-5427	BDVE-5428
Type	Potatoes	Cabbage
Mn-54	$0.1 \pm 0.7 ; 0.7$	$0.0 \pm 0.5 ; 0.5$
Fe-59	$-0.6 \pm 1.9 ; 1.9$	$-0.7 \pm 1.4 ; 1.4$
Co-58	$0.4 \pm 0.7 ; 0.7$	$0.9 \pm 0.8 ; 0.8$
Co-60	$0.6 \pm 0.7 ; 0.7$	$0.2 \pm 0.9 ; 0.9$
Zn-65	$-0.1 \pm 2.1 ; 2.1$	$0.8 \pm 1.9 ; 1.9$
Nb/Zr-95	$-0.2 \pm 0.8 ; 0.8$	$0.1 \pm 0.6 ; 0.6$
I-131	$-0.1 \pm 0.8 ; 0.8$	$0.5 \pm 0.6 ; 0.6$
Cs-134	$0.6 \pm 0.8 ; 0.8$	$-0.5 \pm 0.8 ; 0.8$
Cs-137	$1.1 \pm 0.8 ; 0.8$	$0.6 \pm 0.8 ; 0.8$
Ba/La-140	$0.6 \pm 0.6 ; 0.6$	$1.7 \pm 1.1 ; 1.1$
<u>BD-Quad 1 Clark Farm</u>		
Date Collected	09-16-04	09-16-04
Lab Code	BDVE-5298	BDVE-5299
Type	Beets	Cabbage
Mn-54	$-0.5 \pm 0.6 ; 0.6$	$0.2 \pm 0.9 ; 0.9$
Fe-59	$1.5 \pm 1.5 ; 1.5$	$-0.8 \pm 1.7 ; 1.7$
Co-58	$-0.0 \pm 0.6 ; 0.6$	$-0.2 \pm 0.7 ; 0.7$
Co-60	$-0.1 \pm 0.7 ; 0.7$	$-0.2 \pm 0.8 ; 0.8$
Zn-65	$-1.9 \pm 1.9 ; 2.0$	$-1.9 \pm 1.9 ; 1.9$
Nb/Zr-95	$0.3 \pm 0.7 ; 0.7$	$-1.1 \pm 0.9 ; 0.9$
I-131	$1.1 \pm 0.6 ; 0.6$	$0.0 \pm 0.7 ; 0.7$
Cs-134	$-0.5 \pm 0.6 ; 0.7$	$-0.7 \pm 0.9 ; 0.9$
Cs-137	$0.6 \pm 0.7 ; 0.7$	$0.0 \pm 0.8 ; 0.8$
Ba/La-140	$-0.1 \pm 0.5 ; 0.5$	$-0.3 \pm 0.5 ; 0.5$

BRAIDWOOD

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

BD-Quad 2 W.F. Soltwisch

Date Collected	09-16-04	09-16-04
Lab Code	BDVE-5300	BDVE-5301
Type	Cabbage	Potatoes
Mn-54	$0.2 \pm 0.6 ; 0.6$	$-0.1 \pm 0.8 ; 0.8$
Fe-59	$-0.5 \pm 1.1 ; 1.1$	$0.1 \pm 1.7 ; 1.7$
Co-58	$0.4 \pm 0.5 ; 0.5$	$0.1 \pm 0.7 ; 0.7$
Co-60	$0.5 \pm 0.5 ; 0.5$	$0.5 \pm 0.8 ; 0.8$
Zn-65	$-0.9 \pm 1.4 ; 1.4$	$-1.5 \pm 2.0 ; 2.0$
Nb/Zr-95	$-0.9 \pm 0.6 ; 0.6$	$-0.2 \pm 0.9 ; 0.9$
I-131	$0.5 \pm 0.6 ; 0.6$	$-0.6 \pm 0.7 ; 0.8$
Cs-134	$-0.3 \pm 0.6 ; 0.6$	$0.2 \pm 0.9 ; 0.9$
Cs-137	$0.1 \pm 0.6 ; 0.6$	$-0.2 \pm 0.9 ; 0.9$
Ba/La-140	$-0.2 \pm 0.5 ; 0.5$	$-0.0 \pm 0.7 ; 0.7$

Bd-Quad 3 Terri Schultz

Date Collected	09-11-04	09-11-04
Lab Code	BDVE-5110	BDVE-5111
Type	Sweet Potatoes	Cabbage
Mn-54	$0.7 \pm 0.8 ; 0.8$	$0.3 \pm 1.0 ; 1.0$
Fe-59	$2.5 \pm 2.2 ; 2.2$	$0.8 \pm 2.0 ; 2.0$
Co-58	$0.1 \pm 1.0 ; 1.0$	$0.2 \pm 0.9 ; 0.9$
Co-60	$0.7 \pm 1.0 ; 1.0$	$0.4 \pm 0.7 ; 0.7$
Zn-65	$1.6 \pm 1.8 ; 1.8$	$-1.4 \pm 1.9 ; 1.9$
Nb/Zr-95	$0.4 \pm 0.8 ; 0.8$	$0.6 \pm 0.9 ; 0.9$
I-131	$-0.8 \pm 0.9 ; 0.9$	$-0.4 \pm 0.9 ; 0.9$
Cs-134	$0.8 \pm 1.1 ; 1.1$	$-0.2 \pm 1.1 ; 1.1$
Cs-137	$0.3 \pm 0.9 ; 0.9$	$0.5 \pm 0.9 ; 0.9$
Ba/La-140	$0.4 \pm 1.0 ; 1.0$	$-0.4 \pm 0.9 ; 0.9$

BRAIDWOOD

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>BD-Quad 4 Bruce Sinkular</u>		
Date Collected	09-11-04	09-11-04
Lab Code	BDVE-5112	BDVE-5113
Type	Cabbage	Potatoes
Mn-54	$0.4 \pm 0.5 ; 0.5$	$0.4 \pm 0.7 ; 0.7$
Fe-59	$0.2 \pm 0.8 ; 0.8$	$0.1 \pm 1.6 ; 1.6$
Co-58	$0.2 \pm 0.5 ; 0.5$	$-0.2 \pm 0.5 ; 0.5$
Co-60	$0.1 \pm 0.8 ; 0.8$	$0.3 \pm 0.8 ; 0.8$
Zn-65	$1.2 \pm 1.6 ; 1.6$	$-4.6 \pm 2.0 ; 2.1$
Nb/Zr-95	$0.0 \pm 0.5 ; 0.5$	$-1.7 \pm 0.8 ; 0.8$
I-131	$-0.5 \pm 0.5 ; 0.5$	$-0.3 \pm 0.6 ; 0.6$
Cs-134	$0.1 \pm 0.7 ; 0.7$	$0.4 \pm 0.7 ; 0.7$
Cs-137	$0.4 \pm 0.7 ; 0.7$	$-0.7 \pm 0.7 ; 0.8$
Ba/La-140	$0.4 \pm 0.4 ; 0.4$	$0.7 \pm 0.7 ; 0.7$

BRAIDWOOD

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, Zr-95 = 30,
Required LLDs: Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BD-10 Kankakee River, Downstream

2004

Collection Period	January	February	March
Lab Code	BDSW-392	BDSW-819	BDSW-1244
Gross Beta	2.2 ± 1.0 ; 1.0	2.8 ± 1.0 ; 1.1	3.5 ± 1.0 ; 1.1
Mn-54	1.3 ± 1.8 ; 1.8	-0.7 ± 2.5 ; 2.5	0.5 ± 1.8 ; 1.8
Fe-59	0.2 ± 3.1 ; 3.1	2.5 ± 6.5 ; 6.5	-1.7 ± 2.7 ; 2.8
Co-58	-1.7 ± 1.8 ; 1.8	1.9 ± 3.8 ; 3.8	0.2 ± 1.7 ; 1.7
Co-60	0.4 ± 1.2 ; 1.2	1.0 ± 4.6 ; 4.6	0.9 ± 1.8 ; 1.8
Zn-65	-1.0 ± 3.3 ; 3.3	3.4 ± 7.4 ; 7.5	-1.0 ± 3.7 ; 3.7
Zr-95	-1.9 ± 4.5 ; 4.5	0.6 ± 7.6 ; 7.6	-1.7 ± 4.2 ; 4.2
Nb-95	-1.7 ± 1.8 ; 1.8	1.9 ± 3.3 ; 3.3	-1.2 ± 1.8 ; 1.8
Cs-134	-2.8 ± 2.1 ; 2.2	1.5 ± 3.9 ; 3.9	0.2 ± 1.9 ; 1.9
Cs-137	-0.5 ± 2.6 ; 2.6	1.3 ± 3.2 ; 3.2	-0.8 ± 2.2 ; 2.2
Ba-140	-6.5 ± 6.3 ; 6.4	12.0 ± 11.9 ; 12.1	10.2 ± 6.6 ; 6.7
La-140	-1.7 ± 1.3 ; 1.4	-0.1 ± 4.6 ; 4.6	-0.4 ± 2.4 ; 2.4

2004

Collection Period	April	May	June
Lab Code	BDSW-2130	BDSW-2820	BDSW-3446
Gross Beta	2.2 ± 1.0 ; 1.0	2.2 ± 1.2 ; 1.3	4.8 ± 1.1 ; 1.3
Mn-54	2.9 ± 2.6 ; 2.6	0.5 ± 3.0 ; 3.0	-0.7 ± 1.7 ; 1.7
Fe-59	-3.0 ± 5.9 ; 5.9	4.8 ± 4.4 ; 4.5	6.1 ± 3.2 ; 3.3
Co-58	2.1 ± 3.9 ; 3.9	-1.3 ± 2.7 ; 2.7	-1.6 ± 1.9 ; 2.0
Co-60	1.3 ± 3.4 ; 3.4	-0.2 ± 3.5 ; 3.5	-1.4 ± 2.1 ; 2.1
Zn-65	-4.2 ± 7.8 ; 7.9	-7.8 ± 5.7 ; 5.9	-0.2 ± 3.5 ; 3.5
Zr-95	4.4 ± 6.1 ; 6.1	-2.5 ± 5.3 ; 5.3	2.2 ± 4.6 ; 4.6
Nb-95	-1.0 ± 2.9 ; 2.9	-1.4 ± 2.6 ; 2.6	-4.4 ± 2.3 ; 2.4
Cs-134	2.7 ± 3.8 ; 3.8	-0.7 ± 2.2 ; 2.2	-2.0 ± 2.3 ; 2.3
Cs-137	3.8 ± 3.5 ; 3.5	-1.9 ± 2.9 ; 2.9	-0.3 ± 2.3 ; 2.3
Ba-140	-2.6 ± 12.4 ; 12.4	-3.5 ± 8.9 ; 8.9	15.6 ± 7.4 ; 7.7
La-140	-1.0 ± 4.4 ; 4.4	0.6 ± 2.1 ; 2.1	-1.9 ± 2.0 ; 2.1

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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, Zr-95 = 30,
Required LLDs: Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BD-10 Kankakee River, Downstream

2004

Collection Period	July	August	September
Lab Code	BDSW-4434	BDSW-5084	BDSW-5908
Gross Beta	3.1 ± 1.1 ; 1.2	3.3 ± 1.0 ; 1.1	4.3 ± 1.1 ; 1.3
Mn-54	1.4 ± 3.4 ; 3.4	1.5 ± 2.1 ; 2.1	-1.5 ± 2.5 ; 2.5
Fe-59	-3.3 ± 6.8 ; 6.8	-0.8 ± 4.6 ; 4.6	-3.8 ± 5.2 ; 5.3
Co-58	-2.8 ± 2.9 ; 2.9	1.2 ± 2.2 ; 2.2	-2.8 ± 2.5 ; 2.6
Co-60	-2.6 ± 3.6 ; 3.6	-0.7 ± 2.5 ; 2.5	0.2 ± 2.8 ; 2.8
Zn-65	-1.8 ± 6.6 ; 6.7	2.6 ± 6.0 ; 6.0	-2.4 ± 5.2 ; 5.2
Zr-95	1.4 ± 5.9 ; 6.0	1.2 ± 6.0 ; 6.0	-1.2 ± 5.9 ; 5.9
Nb-95	-3.7 ± 2.7 ; 2.8	-0.5 ± 2.3 ; 2.3	-1.2 ± 3.0 ; 3.0
Cs-134	2.5 ± 4.0 ; 4.0	0.8 ± 2.6 ; 2.6	0.9 ± 2.2 ; 2.2
Cs-137	4.1 ± 3.0 ; 3.1	-1.0 ± 3.1 ; 3.1	-0.3 ± 3.0 ; 3.0
Ba-140	-23.7 ± 11.7 ; 12.1	10.7 ± 9.5 ; 9.6	12.2 ± 9.8 ; 9.9
La-140	-1.8 ± 4.0 ; 4.0	-8.1 ± 2.9 ; 3.1	4.4 ± 3.9 ; 3.9

2004

Collection Period	October	November	December
Lab Code	BDSW-6592	BDSW-7196	BDSW-7712
Gross Beta	4.0 ± 1.1 ; 1.2	3.3 ± 1.0 ; 1.1	3.4 ± 1.5 ; 1.6
Mn-54	-0.4 ± 1.5 ; 1.5	0.7 ± 1.7 ; 1.7	0.1 ± 1.5 ; 1.5
Fe-59	0.3 ± 3.0 ; 3.0	-1.8 ± 3.4 ; 3.4	-0.2 ± 3.4 ; 3.4
Co-58	-0.1 ± 1.7 ; 1.7	-0.1 ± 1.4 ; 1.4	1.6 ± 1.7 ; 1.7
Co-60	-1.8 ± 1.8 ; 1.8	-0.7 ± 2.1 ; 2.1	1.0 ± 1.9 ; 1.9
Zn-65	-7.7 ± 3.8 ; 4.0	2.1 ± 3.4 ; 3.4	2.9 ± 3.3 ; 3.3
Zr-95	3.1 ± 3.6 ; 3.6	-3.4 ± 4.0 ; 4.0	-3.2 ± 3.7 ; 3.7
Nb-95	0.6 ± 1.8 ; 1.8	-3.7 ± 1.8 ; 1.8	-2.0 ± 1.9 ; 1.9
Cs-134	-1.2 ± 1.9 ; 1.9	0.1 ± 2.1 ; 2.1	-0.2 ± 1.6 ; 1.6
Cs-137	-0.3 ± 2.0 ; 2.0	-0.3 ± 1.9 ; 1.9	-1.4 ± 1.8 ; 1.8
Ba-140	-13.4 ± 6.4 ; 6.7	11.0 ± 6.6 ; 6.8	-17.8 ± 6.1 ; 6.7
La-140	-0.7 ± 2.0 ; 2.0	-0.3 ± 1.7 ; 1.7	-2.1 ± 2.2 ; 2.2

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Table 7. Surface Water

Collection: Monthly composites of weekly collections

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

Units: pCi/L

Sample Description and Concentration

BD-25 (C) Kankakee River, Upstream

2004

Collection Period	January	February	March
Lab Code	BDSW-393*	BDSW-820	BDSW-1245
Gross Beta	9.3 ± 1.6 ; 2.1	5.5 ± 1.2 ; 1.5	4.3 ± 1.1 ; 1.3
Mn-54	-0.9 ± 2.2 ; 2.2	-0.3 ± 2.3 ; 2.3	-0.5 ± 1.7 ; 1.7
Fe-59	-1.6 ± 5.0 ; 5.1	1.4 ± 3.9 ; 3.9	-1.4 ± 4.1 ; 4.1
Co-58	1.0 ± 2.3 ; 2.3	2.6 ± 2.7 ; 2.8	-0.5 ± 2.0 ; 2.0
Co-60	0.4 ± 2.6 ; 2.6	-4.3 ± 4.3 ; 4.4	0.1 ± 1.7 ; 1.7
Zn-65	2.8 ± 4.6 ; 4.6	-1.3 ± 4.1 ; 4.1	-10.5 ± 5.2 ; 5.4
Zr-95	-5.3 ± 5.5 ; 5.5	-1.2 ± 6.5 ; 6.5	1.6 ± 4.4 ; 4.4
Nb-95	-0.7 ± 2.0 ; 2.0	0.1 ± 3.1 ; 3.1	-1.0 ± 2.1 ; 2.1
Cs-134	0.3 ± 2.2 ; 2.2	1.0 ± 3.6 ; 3.6	2.3 ± 2.1 ; 2.1
Cs-137	1.7 ± 2.8 ; 2.8	0.7 ± 3.5 ; 3.5	0.6 ± 2.5 ; 2.5
Ba-140	2.3 ± 7.1 ; 7.1	-15.9 ± 9.0 ; 9.3	7.8 ± 7.8 ; 7.9
La-140	1.5 ± 2.1 ; 2.1	2.8 ± 3.1 ; 3.1	-1.5 ± 2.2 ; 2.2

2004

Collection Period	April	May	June
Lab Code	BDSW-2131	BDSW-2821	BDSW-3447
Gross Beta	6.9 ± 1.2 ; 1.6	4.2 ± 1.0 ; 1.2	5.5 ± 1.1 ; 1.4
Mn-54	-2.1 ± 2.2 ; 2.2	1.2 ± 2.5 ; 2.5	-0.9 ± 1.6 ; 1.6
Fe-59	-1.3 ± 4.0 ; 4.0	-2.2 ± 4.0 ; 4.0	1.1 ± 3.7 ; 3.7
Co-58	0.1 ± 1.6 ; 1.6	-0.8 ± 2.4 ; 2.4	-2.4 ± 1.7 ; 1.8
Co-60	-0.1 ± 1.9 ; 1.9	1.7 ± 2.0 ; 2.0	0.7 ± 2.0 ; 2.0
Zn-65	1.3 ± 3.9 ; 3.9	-3.5 ± 4.5 ; 4.6	-0.2 ± 3.5 ; 3.5
Zr-95	-0.3 ± 4.4 ; 4.4	-1.8 ± 5.3 ; 5.3	-3.5 ± 4.0 ; 4.0
Nb-95	0.7 ± 2.0 ; 2.0	-2.7 ± 2.6 ; 2.7	0.8 ± 1.9 ; 1.9
Cs-134	0.3 ± 1.9 ; 1.9	-1.1 ± 2.6 ; 2.6	1.6 ± 2.1 ; 2.1
Cs-137	1.3 ± 2.3 ; 2.3	1.8 ± 2.4 ; 2.4	-0.5 ± 2.1 ; 2.1
Ba-140	9.5 ± 7.6 ; 7.7	8.1 ± 8.6 ; 8.7	-8.7 ± 6.8 ; 6.9
La-140	-1.8 ± 2.5 ; 2.5	1.8 ± 3.3 ; 3.3	-2.5 ± 2.0 ; 2.1

* Gross beta repeated with a result of 8.8 +/- 1.3 pCi/L.

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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, Zr-95 = 30,
Required LLDs: Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration

BD-25 (C) Kankakee River, Upstream

2004

Collection Period	July	August	September
Lab Code	BDSW-4435	BDSW-5085	BDSW-5909
Gross Beta	5.0 ± 1.2 ; 1.4	3.9 ± 1.0 ; 1.2	7.7 ± 1.2 ; 1.7
Mn-54	-0.1 ± 2.7 ; 2.7	-2.3 ± 3.3 ; 3.4	1.9 ± 2.9 ; 2.9
Fe-59	2.6 ± 3.7 ; 3.8	-2.8 ± 4.9 ; 4.9	1.7 ± 5.9 ; 5.9
Co-58	1.4 ± 2.7 ; 2.8	-1.4 ± 3.2 ; 3.2	0.4 ± 2.4 ; 2.4
Co-60	1.6 ± 2.3 ; 2.3	4.4 ± 3.0 ; 3.1	1.6 ± 3.2 ; 3.2
Zn-65	-0.4 ± 4.0 ; 4.0	2.1 ± 6.1 ; 6.1	-5.4 ± 5.9 ; 5.9
Zr-95	-8.1 ± 5.7 ; 5.8	9.6 ± 6.4 ; 6.5	3.6 ± 6.1 ; 6.1
Nb-95	-1.2 ± 2.6 ; 2.6	-4.7 ± 3.4 ; 3.4	1.4 ± 2.1 ; 2.1
Cs-134	-0.5 ± 2.9 ; 2.9	0.3 ± 3.2 ; 3.2	0.4 ± 2.5 ; 2.5
Cs-137	0.2 ± 2.8 ; 2.8	0.2 ± 3.3 ; 3.3	0.9 ± 3.5 ; 3.5
Ba-140	-4.6 ± 10.4 ; 10.4	-3.0 ± 11.1 ; 11.1	-22.6 ± 9.1 ; 9.7
La-140	-4.3 ± 3.9 ; 3.9	5.9 ± 3.3 ; 3.4	-4.4 ± 3.3 ; 3.4

2004

Collection Period	October	November	December
Lab Code	BDSW-6593	BDSW-7197	BDSW-7713
Gross Beta	8.3 ± 1.4 ; 1.9	2.7 ± 0.9 ; 1.0	6.3 ± 1.8 ; 2.0
Mn-54	-0.7 ± 1.0 ; 1.0	-1.5 ± 3.3 ; 3.3	-0.6 ± 2.0 ; 2.0
Fe-59	-0.7 ± 1.9 ; 1.9	-1.3 ± 5.9 ; 5.9	1.2 ± 4.6 ; 4.6
Co-58	-0.0 ± 0.9 ; 0.9	1.4 ± 2.9 ; 2.9	-0.9 ± 2.6 ; 2.6
Co-60	-0.6 ± 1.0 ; 1.0	-1.2 ± 3.7 ; 3.7	0.2 ± 2.9 ; 2.9
Zn-65	-3.4 ± 2.4 ; 2.4	3.3 ± 6.4 ; 6.5	4.7 ± 5.0 ; 5.1
Zr-95	-2.5 ± 2.0 ; 2.0	2.5 ± 6.4 ; 6.4	-0.6 ± 6.3 ; 6.3
Nb-95	0.1 ± 1.0 ; 1.0	-0.7 ± 2.9 ; 2.9	2.1 ± 2.2 ; 2.2
Cs-134	-0.4 ± 1.1 ; 1.1	-0.3 ± 3.4 ; 3.4	-0.4 ± 2.7 ; 2.7
Cs-137	0.7 ± 1.1 ; 1.1	3.8 ± 3.0 ; 3.1	-0.0 ± 3.3 ; 3.3
Ba-140	-0.2 ± 3.6 ; 3.6	-26.7 ± 10.2 ; 10.9	1.0 ± 10.3 ; 10.3
La-140	0.8 ± 1.1 ; 1.1	0.8 ± 3.6 ; 3.6	3.9 ± 3.4 ; 3.5

BRAIDWOOD

Table 7. Surface Water

Collection: Quarterly composites of weekly collections

Required LLD: H-3 = 200 pCi/L

Units: pCi/L

2004 Collection Period	<u>Sample Description and Concentration</u>	
	Lab Code	Tritium

BD-10 Kankakee River, Downstream

1st Quarter	BDSW - 1260	90± 84;85
2nd Quarter	BDSW - 3541	45± 83;83
3rd Quarter	BDSW - 5612,3	83± 62;63
4th Quarter	BDSW - 7611	176± 90;94

BD-25 (C) Kankakee River, Upstream

1st Quarter	BDSW - 1261	125± 86;87
2nd Quarter	BDSW - 3542	-10± 80;80
3rd Quarter	BDSW - 5614	47± 86;86
4th Quarter	BDSW - 7612	176± 90;94

BRAIDWOOD

Table 8. Well Water

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

Sample Description and Concentration

BD-13 Braidwood City Hall Well

Date Collected	01-08-04	04-08-04	07-08-04	10-14-04
Lab Code	BDWW-157	BDWW-1563	BDWW-3583	BDWW-6053
H-3	22± 80 ; 80	11± 77 ; 77	113± 82 ; 84	55± 82 ; 82
Mn-54	1.0 ± 1.8 ; 1.8	2.4 ± 3.0 ; 3.0	0.2 ± 2.0 ; 2.0	-0.7 ± 1.3 ; 1.3
Fe-59	-2.5 ± 3.7 ; 3.7	-4.4 ± 7.3 ; 7.3	-4.3 ± 3.5 ; 3.5	-2.0 ± 2.4 ; 2.4
Co-58	-0.8 ± 1.8 ; 1.5	-1.4 ± 3.7 ; 3.4	-0.7 ± 1.5 ; 1.4	-0.6 ± 1.1 ; 1.2
Co-60	-0.4 ± 1.5 ; 1.8	-1.3 ± 3.4 ; 3.7	0.9 ± 1.4 ; 1.5	-1.8 ± 1.2 ; 1.1
Zn-65	-5.3 ± 4.9 ; 5.0	-3.8 ± 7.5 ; 7.5	-1.2 ± 4.0 ; 4.0	-1.1 ± 2.6 ; 2.6
Zr-95	2.6 ± 3.6 ; 3.6	3.8 ± 7.3 ; 7.3	0.6 ± 3.8 ; 3.8	-1.7 ± 2.9 ; 3.0
Nb-95	-1.5 ± 2.2 ; 2.2	-1.9 ± 3.9 ; 3.9	1.0 ± 1.7 ; 1.7	0.4 ± 1.2 ; 1.2
Cs-134	0.5 ± 2.1 ; 2.1	2.4 ± 4.0 ; 4.1	1.6 ± 2.2 ; 2.2	0.9 ± 1.3 ; 1.3
Cs-137	1.3 ± 2.5 ; 2.5	-1.6 ± 3.9 ; 3.9	-1.9 ± 2.2 ; 2.2	0.1 ± 1.2 ; 1.2
Ba-140	3.0 ± 8.4 ; 8.4	2.9 ± 13.6 ; 13.6	-8.6 ± 6.0 ; 6.2	-2.8 ± 4.6 ; 4.6
La-140	-1.5 ± 2.0 ; 2.1	-5.9 ± 3.9 ; 4.0	1.8 ± 1.4 ; 1.4	-0.7 ± 1.4 ; 1.5

BD-34 Gibson Well

Date Collected	01-08-04	04-08-04	07-08-04	10-14-04
Lab Code	BDWW-158	BDWW-1564	BDWW-3584	BDWW-6054
H-3	20± 80 ; 80	43± 78 ; 79	134± 83 ; 85	-36± 77 ; 77
Mn-54	0.2 ± 1.6 ; 1.6	1.3 ± 1.9 ; 1.9	-1.8 ± 2.6 ; 2.6	1.0 ± 1.2 ; 1.2
Fe-59	-2.7 ± 3.0 ; 3.1	0.7 ± 3.4 ; 3.4	3.5 ± 5.5 ; 5.5	-0.6 ± 2.0 ; 2.0
Co-58	0.3 ± 1.6 ; 1.7	0.7 ± 1.7 ; 2.3	-0.9 ± 2.8 ; 3.4	-0.6 ± 1.2 ; 1.3
Co-60	-2.0 ± 1.7 ; 1.6	-0.7 ± 2.3 ; 1.7	-4.6 ± 3.4 ; 2.8	-0.3 ± 1.3 ; 1.2
Zn-65	-4.1 ± 4.0 ; 4.0	-6.6 ± 4.5 ; 4.6	1.2 ± 4.6 ; 4.6	-0.5 ± 2.8 ; 2.8
Zr-95	0.7 ± 3.9 ; 3.9	-1.7 ± 4.9 ; 4.9	2.2 ± 5.2 ; 5.2	-0.8 ± 2.7 ; 2.7
Nb-95	1.0 ± 2.1 ; 2.1	1.4 ± 2.2 ; 2.2	0.9 ± 2.9 ; 2.9	-1.5 ± 1.4 ; 1.4
Cs-134	-0.6 ± 2.2 ; 2.2	0.2 ± 2.3 ; 2.3	0.1 ± 3.4 ; 3.4	1.6 ± 1.5 ; 1.5
Cs-137	-2.2 ± 2.2 ; 2.2	1.0 ± 2.3 ; 2.3	0.5 ± 2.7 ; 2.7	0.8 ± 1.5 ; 1.5
Ba-140	9.0 ± 6.5 ; 6.6	-2.8 ± 8.5 ; 8.5	-12.6 ± 8.4 ; 8.6	-6.5 ± 4.9 ; 5.0
La-140	2.8 ± 1.9 ; 1.9	0.3 ± 2.3 ; 2.3	1.7 ± 3.6 ; 3.6	0.4 ± 1.4 ; 1.4

BRAIDWOOD

Table 8. Well Water

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

Sample Description and Concentration

BD-35 Joly Well

Date Collected	01-08-04	04-08-04	07-08-04	10-14-04
Lab Code	BDWW-159	BDWW-1565	BDWW-3585	BDWW-6055
H-3	-1 ± 79 ; 79	20 ± 77 ; 77	158 ± 84 ; 87	2 ± 79 ; 79
Mn-54	-1.9 ± 3.6 ; 3.6	2.0 ± 3.7 ; 3.8	1.3 ± 2.5 ; 2.5	-0.0 ± 1.9 ; 1.9
Fe-59	0.8 ± 5.6 ; 5.6	7.2 ± 6.8 ; 6.9	0.3 ± 4.3 ; 4.3	0.4 ± 2.9 ; 2.9
Co-58	2.2 ± 3.7 ; 3.4	0.7 ± 3.9 ; 5.1	-1.0 ± 2.9 ; 3.0	-0.3 ± 1.5 ; 1.9
Co-60	3.2 ± 3.4 ; 3.7	7.0 ± 5.0 ; 3.9	-0.5 ± 3.0 ; 2.9	0.4 ± 1.9 ; 1.5
Zn-65	2.3 ± 7.7 ; 7.7	-7.5 ± 9.0 ; 9.1	-2.4 ± 5.2 ; 5.2	-0.2 ± 3.0 ; 3.0
Zr-95	3.3 ± 6.8 ; 6.8	2.8 ± 9.0 ; 9.1	-4.0 ± 6.6 ; 6.6	-3.7 ± 3.5 ; 3.6
Nb-95	1.5 ± 3.7 ; 3.7	-0.1 ± 4.2 ; 4.2	-5.3 ± 2.8 ; 2.9	0.2 ± 1.7 ; 1.7
Cs-134	-2.6 ± 3.4 ; 3.4	2.3 ± 4.2 ; 4.2	0.9 ± 3.4 ; 3.4	0.4 ± 2.0 ; 2.0
Cs-137	1.3 ± 3.3 ; 3.3	-1.6 ± 3.8 ; 3.8	-0.7 ± 3.2 ; 3.2	0.6 ± 1.9 ; 1.9
Ba-140	-5.0 ± 11.7 ; 11.7	-14.4 ± 12.5 ; 12.7	0.3 ± 8.9 ; 8.9	-9.2 ± 6.8 ; 6.9
La-140	-9.2 ± 5.3 ; 5.5	1.2 ± 4.4 ; 4.4	-2.5 ± 3.5 ; 3.5	-2.3 ± 1.8 ; 1.8

BD-36 Hutton Well

Date Collected	01-08-04	04-08-04	07-08-04	10-14-04
Lab Code	BDWW-160	BDWW-1566,7	BDWW-3586	BDWW-6056
H-3	494 ± 100 ; 121	396 ± 66 ; 77	485 ± 98 ; 118	376 ± 95 ; 108
Mn-54	-0.5 ± 3.1 ; 3.1	0.1 ± 1.6 ; 1.6	-0.2 ± 1.5 ; 1.5	-0.7 ± 1.2 ; 1.2
Fe-59	1.9 ± 6.2 ; 6.2	1.6 ± 2.7 ; 2.7	0.1 ± 2.5 ; 2.5	-3.0 ± 1.9 ; 2.0
Co-58	-3.0 ± 2.7 ; 3.7	-0.8 ± 1.5 ; 1.6	-0.3 ± 1.3 ; 1.4	0.2 ± 1.1 ; 1.1
Co-60	-2.6 ± 3.7 ; 2.7	2.2 ± 1.5 ; 1.5	-0.2 ± 1.4 ; 1.3	1.6 ± 1.1 ; 1.1
Zn-65	1.5 ± 7.8 ; 7.8	-10.0 ± 4.4 ; 4.6	3.1 ± 3.0 ; 3.0	-0.5 ± 2.1 ; 2.1
Zr-95	-0.8 ± 7.3 ; 7.3	-1.8 ± 3.4 ; 3.4	-2.4 ± 2.9 ; 2.9	1.3 ± 2.6 ; 2.6
Nb-95	0.1 ± 3.1 ; 3.1	-1.0 ± 1.9 ; 2.0	0.5 ± 1.3 ; 1.3	-0.2 ± 1.3 ; 1.3
Cs-134	0.3 ± 3.2 ; 3.2	-1.3 ± 1.6 ; 1.6	1.5 ± 1.4 ; 1.4	-0.0 ± 1.2 ; 1.2
Cs-137	-1.3 ± 3.3 ; 3.3	0.2 ± 1.6 ; 1.6	-0.3 ± 1.5 ; 1.5	-0.0 ± 1.3 ; 1.3
Ba-140	22.0 ± 11.2 ; 11.6	-3.8 ± 6.1 ; 6.1	-2.6 ± 4.8 ; 4.9	6.8 ± 4.5 ; 4.6
La-140	6.7 ± 4.6 ; 4.7	-0.8 ± 1.8 ; 1.8	-4.4 ± 1.6 ; 1.7	-1.3 ± 1.3 ; 1.4

BRAIDWOOD

Table 8. Well Water

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

Sample Description and Concentration

BD-37 Nurczyk Well

Date Collected	01-15-04	04-15-04	07-08-04	10-14-04
Lab Code	BDWW-248*	BDWW-1690†	BDWW-3587	BDWW-6057
H-3	-15 ± 78 ; 78	45 ± 78 ; 79	103 ± 82 ; 83	29 ± 80 ; 80
Mn-54	-0.3 ± 3.3 ; 3.3	-0.9 ± 3.8 ; 3.8	0.2 ± 2.0 ; 2.0	-0.4 ± 1.9 ; 1.9
Fe-59	1.7 ± 5.7 ; 5.7	-0.4 ± 5.9 ; 5.9	-0.7 ± 3.9 ; 3.9	2.7 ± 3.5 ; 3.5
Co-58	1.1 ± 3.4 ; 4.0	-4.2 ± 3.5 ; 3.6	-1.2 ± 1.7 ; 1.8	0.3 ± 1.9 ; 2.0
Co-60	1.6 ± 4.0 ; 3.4	4.1 ± 3.5 ; 3.6	2.3 ± 1.8 ; 1.7	4.1 ± 1.9 ; 1.9
Zn-65	-0.3 ± 7.6 ; 7.6	-3.4 ± 7.8 ; 7.9	-0.2 ± 4.0 ; 4.0	-1.7 ± 4.3 ; 4.3
Zr-95	-4.0 ± 7.9 ; 8.0	3.1 ± 7.9 ; 7.9	-3.6 ± 3.9 ; 4.0	-1.3 ± 4.7 ; 4.7
Nb-95	1.7 ± 3.1 ; 3.1	-1.1 ± 3.7 ; 3.7	-2.7 ± 1.8 ; 1.8	2.1 ± 1.9 ; 1.9
Cs-134	0.1 ± 3.6 ; 3.6	-0.3 ± 3.8 ; 3.8	1.6 ± 2.2 ; 2.2	-0.6 ± 2.3 ; 2.3
Cs-137	1.4 ± 3.5 ; 3.5	1.0 ± 3.2 ; 3.2	1.8 ± 2.1 ; 2.1	0.7 ± 2.3 ; 2.3
Ba-140	8.0 ± 10.8 ; 10.9	2.5 ± 11.7 ; 11.7	1.1 ± 6.0 ; 6.0	10.5 ± 7.4 ; 7.6
La-140	-0.9 ± 4.0 ; 4.0	4.3 ± 4.4 ; 4.4	2.3 ± 2.5 ; 2.5	-0.4 ± 2.3 ; 2.3

* Unable to collect on scheduled date of 01-08-04; owner not home.

† Unable to collect on scheduled date of 04-08-04; owner not home.

BRAIDWOOD

Table 9. Public Water

Collection: Monthly composites of weekly collections
 ODCM- Gross Beta = 4, H-3 = 200, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15,
 Required LLDs: Zn-65 = 30, Zr-95 = 30, Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140
 Units: pCi/L

Sample Description and Concentration

BD-22 Wilmington

2004

Collection Period	January	February	March
Lab Code	BDPW-391	BDPW-812	BDPW-1243
Gross Beta	1.7 ± 1.0 ; 1.1	2.0 ± 1.2 ; 1.3	3.3 ± 1.0 ; 1.1
H-3	383 ± 97 ; 110	432 ± 99 ; 115	219 ± 90 ; 94
Mn-54	0.7 ± 2.8 ; 2.8	2.1 ± 1.7 ; 1.7	1.8 ± 3.5 ; 3.5
Fe-59	-4.5 ± 5.6 ; 5.6	-1.5 ± 3.9 ; 4.0	1.5 ± 4.9 ; 4.9
Co-58	-0.8 ± 2.6 ; 2.6	-0.6 ± 1.8 ; 1.8	0.2 ± 3.8 ; 3.8
Co-60	5.6 ± 3.4 ; 3.4	0.4 ± 1.9 ; 1.9	-2.6 ± 3.9 ; 3.9
Zn-65	0.6 ± 4.0 ; 4.0	-3.1 ± 5.4 ; 5.5	3.0 ± 6.9 ; 6.9
Zr-95	-1.2 ± 6.5 ; 6.5	-0.7 ± 4.7 ; 4.7	-5.9 ± 7.9 ; 7.9
Nb-95	-1.0 ± 3.1 ; 3.1	1.2 ± 1.9 ; 1.9	0.2 ± 3.3 ; 3.3
Cs-134	1.6 ± 3.1 ; 3.1	-0.4 ± 2.2 ; 2.2	-0.3 ± 3.8 ; 3.8
Cs-137	1.0 ± 2.7 ; 2.7	-1.3 ± 2.2 ; 2.2	3.4 ± 3.8 ; 3.9
Ba-140	-3.8 ± 9.2 ; 9.2	-4.2 ± 8.3 ; 8.3	-4.6 ± 11.3 ; 11.3
La-140	-0.8 ± 2.7 ; 2.7	-1.0 ± 2.3 ; 2.3	-2.8 ± 3.0 ; 3.0

2004

Collection Period	April	May	June
Lab Code	BDPW-2129	BDPW-2748,9	BDPW-3445
Gross Beta	2.4 ± 0.9 ; 1.0	2.3 ± 0.7 ; 0.7	3.3 ± 1.0 ; 1.1
H-3	56 ± 84 ; 84	117 ± 62 ; 63	42 ± 80 ; 81
Mn-54	-1.6 ± 3.6 ; 3.6	-0.9 ± 2.5 ; 2.5	1.0 ± 2.6 ; 2.6
Fe-59	-8.9 ± 7.1 ; 7.2	-2.1 ± 3.8 ; 3.8	2.9 ± 4.9 ; 5.0
Co-58	1.2 ± 3.3 ; 3.3	-2.0 ± 2.1 ; 2.1	0.3 ± 3.3 ; 3.3
Co-60	2.0 ± 3.4 ; 3.5	-0.3 ± 2.5 ; 2.5	-0.9 ± 3.1 ; 3.1
Zn-65	0.8 ± 7.2 ; 7.2	0.4 ± 4.8 ; 4.8	-4.6 ± 7.0 ; 7.0
Zr-95	-3.1 ± 7.0 ; 7.0	3.1 ± 4.8 ; 4.8	0.5 ± 7.6 ; 7.6
Nb-95	0.2 ± 3.3 ; 3.3	-1.0 ± 2.1 ; 2.1	0.9 ± 2.7 ; 2.7
Cs-134	-1.5 ± 3.4 ; 3.4	-0.5 ± 2.6 ; 2.6	-1.5 ± 3.3 ; 3.3
Cs-137	0.3 ± 3.5 ; 3.5	0.8 ± 2.5 ; 2.5	1.8 ± 2.9 ; 2.9
Ba-140	1.4 ± 11.6 ; 11.6	5.2 ± 7.4 ; 7.5	-10.2 ± 9.9 ; 10.0
La-140	-4.2 ± 4.4 ; 4.5	-1.7 ± 2.3 ; 2.3	-6.0 ± 4.2 ; 4.3

BRAIDWOOD

Table 9. Public Water

Collection: Monthly composites of weekly collections
 ODCM- Gross Beta = 4, H-3 = 200, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15,
 Required LLDs: Zn-65 = 30, Zr-95 = 30, Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba-140 = 60, La-140
 Units: pCi/L

Sample Description and Concentration

BD-22 Wilmington

2004

Collection Period	July	August	September
Lab Code	BDPW-4433	BDPW-5021	BDPW-5583
Gross Beta	1.5 ± 1.1 ; 1.1	3.3 ± 1.1 ; 1.3	2.8 ± 1.1 ; 1.1
H-3	685 ± 105 ; 141	1,903 ± 144 ; 296	3,144 ± 176 ; 463
Mn-54	-0.1 ± 2.1 ; 2.1	-0.3 ± 1.8 ; 1.8	-0.6 ± 2.0 ; 2.0
Fe-59	2.4 ± 4.3 ; 4.3	0.5 ± 3.2 ; 3.2	-3.4 ± 3.4 ; 3.5
Co-58	-0.4 ± 2.2 ; 2.2	-0.5 ± 1.9 ; 1.9	-0.4 ± 2.1 ; 2.1
Co-60	3.3 ± 2.8 ; 2.9	-2.1 ± 1.3 ; 1.3	-2.9 ± 2.6 ; 2.6
Zn-65	0.2 ± 3.9 ; 3.9	1.0 ± 4.5 ; 4.5	0.2 ± 4.0 ; 4.0
Zr-95	-2.4 ± 4.7 ; 4.7	2.4 ± 4.0 ; 4.0	-0.7 ± 4.2 ; 4.2
Nb-95	-0.2 ± 2.2 ; 2.2	1.3 ± 2.0 ; 2.0	-1.3 ± 1.8 ; 1.8
Cs-134	-1.8 ± 2.9 ; 2.9	-2.0 ± 2.0 ; 2.1	-0.5 ± 2.2 ; 2.2
Cs-137	1.4 ± 2.9 ; 2.9	-0.3 ± 2.1 ; 2.1	-2.0 ± 2.1 ; 2.2
Ba-140	5.5 ± 9.8 ; 9.8	2.2 ± 8.1 ; 8.1	14.7 ± 7.3 ; 7.6
La-140	2.0 ± 2.9 ; 2.9	-1.9 ± 2.2 ; 2.2	2.1 ± 2.2 ; 2.2
2004			
Collection Period	October	November	December
Lab Code	BDPW-6590	BDPW-7148	BDPW-7604
Gross Beta	3.7 ± 1.0 ; 1.2	3.0 ± 1.0 ; 1.1	2.6 ± 1.3 ; 1.3
H-3	2,743 ± 156 ; 404	364 ± 101 ; 112	152 ± 89 ; 92
Mn-54	-1.2 ± 1.6 ; 1.6	2.0 ± 2.6 ; 2.6	0.4 ± 1.8 ; 1.8
Fe-59	0.2 ± 2.6 ; 2.6	-5.3 ± 4.4 ; 4.4	1.3 ± 2.9 ; 2.9
Co-58	-0.4 ± 1.5 ; 1.5	-0.1 ± 2.6 ; 2.6	1.4 ± 1.5 ; 1.5
Co-60	1.1 ± 1.7 ; 1.8	-2.3 ± 4.0 ; 4.0	1.1 ± 1.9 ; 1.9
Zn-65	-1.8 ± 3.6 ; 3.6	1.9 ± 5.3 ; 5.3	-1.1 ± 3.3 ; 3.4
Zr-95	0.2 ± 3.6 ; 3.6	1.1 ± 6.0 ; 6.0	-1.0 ± 4.2 ; 4.2
Nb-95	-2.7 ± 1.8 ; 1.8	-1.6 ± 3.1 ; 3.1	1.8 ± 1.9 ; 1.9
Cs-134	-0.8 ± 2.0 ; 2.0	1.7 ± 3.4 ; 3.4	0.1 ± 1.8 ; 1.8
Cs-137	1.0 ± 1.9 ; 1.9	2.7 ± 2.9 ; 2.9	0.3 ± 1.8 ; 1.8
Ba-140	-0.7 ± 6.1 ; 6.1	-4.4 ± 9.9 ; 10.0	5.9 ± 6.0 ; 6.0
La-140	-4.8 ± 2.2 ; 2.3	0.6 ± 3.4 ; 3.4	-1.9 ± 2.0 ; 2.0

BRAIDWOOD

5.0 MILCH ANIMALS, NEAREST RESIDENCES, AND
NEAREST LIVESTOCK CENSUS

BRAIDWOOD

MILCH ANIMALS CENSUS, 2004

Cows being milked

BD-17	Halpin Dairy Farm	
	5.6 miles, Sector K	55
	10% or less for pasture	
	25% ground grain	
	65% green chop, hay or silage	
BD-18	Biros Dairy Farm	
	8.7 miles, Sector N	94
	25% pasture	
	25% ground grain	
	50% green chop	

Census conducted by A. Lewis on August 30, 2004

BRAIDWOOD

NEAREST LIVESTOCK CENSUS, 2004

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

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>	<u>Livestock No.</u>
A	N	2.6 miles	9 head of cattle
B	NNE	None	None
C	NE	0.9 miles	5 cows - cattle
D	ENE	3.3 miles	23 cattle
E	E	2.3 miles	27 cattle
F	ESE	2.3 miles	27 cows - cattle
G	SE	2.7 miles	24 cattle
H	SSE	4.1 miles	16 cows- cattle
J	S	4.8 miles	7 cows
K	SSW	5.3 miles	14 cattle
L	SW	1.2 miles	11 cattle
M	WSW	3.8 miles	50 cattle
N	W	1.6 miles	18 cattle
P	WNW	5.4 miles	17 cattle
Q	NW	None	None
R	NNW	None	None

Census conducted by

A. Lewis on August 30, 2004

BRAIDWOOD

NEAREST RESIDENCE CENSUS, 2004

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

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>
A	N	0.5 miles
B	NNE	1.8 miles
C	NE	0.7 miles
D	ENE	0.8 miles
E	E	0.8 miles
F	ESE	2.2 miles
G	SE	2.7 miles
H	SSE	None
J	S	4.2 miles
K	SSW	1.3 miles
L	SW	0.4 miles
M	WSW	0.5 miles
N	W	0.4 miles
P	WNW	0.4 miles
Q	NW	0.4 miles
R	NNW	0.4 miles

Census conducted by A. Lewis on August 30, 2004

BRAIDWOOD

6.0 TLD DATA*

*TLD Data provided by Exelon Nuclear.

Exelon Nuclear
Environmental Site Report for Braidwood

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1	Quarter 2	Quarter 3	Quarter 4
		2004	2004	2004	2004

I. INDICATOR LOCATIONS

a. Air Samplers

BD-02-1	CUSTER PARK	23.0	24.0	23.0	24.0
BD-02-2	CUSTER PARK	23.0	22.0	23.0	25.0
BD-04-1	ESSEX	20.0	21.0	24.0	26.0
BD-04-2	ESSEX	20.0	21.0	24.0	25.0
BD-05-1	GARDNER	26.0	27.0	29.0	28.0
BD-05-2	GARDNER	24.0	27.0	29.0	27.0
BD-06-1	GODLEY	21.0	24.0	27.0	24.0
BD-06-2	GODLEY	19.0	21.0	26.0	24.0
BD-19-1	NEAR SITE NW	24.0	25.0	26.0	26.0
BD-19-2	NEAR SITE NW	23.0	23.0	26.0	23.0
BD-20-1	NEAR SITE N	21.0	23.0	26.0	26.0
BD-20-2	NEAR SITE N	23.0	24.0	27.0	25.0
BD-21-1	NEAR SITE NE	23.0	22.0	22.0	26.0
BD-21-2	NEAR SITE NE	21.0	22.0	24.0	25.0

Air Sampler Mean \pm S. D. 22.2 \pm 1.9 23.3 \pm 2.0 25.4 \pm 2.2 25.3 \pm 1.3

Annual Air Sampler Mean \pm S.D. 24.1 \pm 2.3

b. Inner Ring (100 Series)

BD-101-3	23.0	22.0	27.0	25.0
BD-101-4	21.0	22.0	26.0	26.0
BD-102-1	22.0	21.0	22.0	24.0
BD-102-2	25.0	26.0	25.0	26.0
BD-103-1	21.0	23.0	25.0	23.0
BD-103-2	21.0	25.0	28.0	27.0
BD-104-1	21.0	21.0	23.0	24.0
BD-104-2	20.0	21.0	25.0	23.0
BD-105-1	22.0	24.0	22.0	24.0
BD-105-2	20.0	24.0	23.0	25.0
BD-106-1	22.0	24.0	23.0	23.0
BD-106-2	20.0	23.0	26.0	24.0
BD-107-1	22.0	22.0	23.0	27.0
BD-107-2	20.0	21.0	27.0	24.0
BD-108-1	23.0	21.0	23.0	25.0
BD-108-2	23.0	23.0	23.0	24.0
BD-109-1	27.0	24.0	31.0	29.0
BD-109-2	27.0	29.0	29.0	28.0
BD-110-1	20.0	21.0	23.0	25.0
BD-110-2	21.0	27.0	28.0	25.0
BD-111A-1	22.0	21.0	26.0	22.0
BD-111A-2	20.0	24.0	27.0	25.0

Exelon Nuclear
Environmental Site Report for Braidwood

Site	Description	Gamma Radiation Measured in mR by TLDs			
		Quarter 1 2004	Quarter 2 2004	Quarter 3 2004	Quarter 4 2004
b. Inner Ring (100 Series)					
BD-112-1		22.0	23.0	25.0	26.0
BD-112-2		19.0	21.0	27.0	25.0
BD-113A-1		20.0	22.0	26.0	25.0
BD-113A-2		20.0	24.0	26.0	24.0
BD-114-1		24.0	23.0	25.0	26.0
BD-114-2		21.0	22.0	23.0	25.0
BD-115-1		21.0	23.0	23.0	25.0
BD-115-2		23.0	23.0	27.0	25.0
BD-116-1		21.0	23.0	26.0	25.0
BD-116-2		22.0	24.0	23.0	24.0
		Inner Ring Mean ± S.D.	21.8 ±1.9	23.0 ±1.9	25.2 ±2.2
					24.9 ±1.5
		Annual Inner Ring Mean ± S.D.			23.7 ±2.3
c. Outer Ring (200 Series)					
BD-201-1		26.0	27.0	26.0	28.0
BD-201-2		24.0	24.0	24.0	25.0
BD-202-1		20.0	22.0	26.0	26.0
BD-202-2		23.0	25.0	26.0	25.0
BD-203-1		21.0	25.0	27.0	27.0
BD-203-2		23.0	24.0	26.0	25.0
BD-204-1		22.0	21.0	26.0	24.0
BD-204-2		19.0	21.0	22.0	25.0
BD-205-1		23.0	23.0	22.0	22.0
BD-205-2		21.0	21.0	27.0	23.0
BD-206-1		20.0	25.0	25.0	25.0
BD-206-2		24.0	24.0	27.0	26.0
BD-207-1		22.0	23.0	26.0	24.0
BD-207-2		20.0	22.0	27.0	25.0
BD-208-1		23.0	22.0	27.0	25.0
BD-208-2		23.0	21.0	26.0	25.0
BD-209-1		25.0	30.0	31.0	28.0
BD-209-2		27.0	28.0	31.0	30.0
BD-210-1		24.0	27.0	29.0	28.0
BD-210-2		21.0	24.0	27.0	23.0
BD-211-1		29.0	26.0	28.0	30.0
BD-211-2		28.0	28.0	29.0	28.0
BD-212-3		22.0	24.0	23.0	24.0
BD-212-4		27.0	28.0	30.0	28.0
BD-213-3		23.0	21.0	23.0	22.0
BD-213-4		24.0	21.0	23.0	24.0
BD-214-1		24.0	22.0	27.0	26.0
BD-214-2		27.0	28.0	29.0	27.0

Exelon Nuclear
Environmental Site Report for Braidwood

Site	Description	Gamma Radiation Measured in mR by TLDs			
		Quarter 1 2004	Quarter 2 2004	Quarter 3 2004	Quarter 4 2004
Outer Ring (200 Series)					
BD-215-1		23.0	21.0	23.0	24.0
BD-215-2		24.0	21.0	26.0	23.0
BD-216-1		25.0	23.0	29.0	27.0
BD-216-2		27.0	25.0	28.0	26.0
Outer Ring Mean \pm S.D.		23.6 \pm 2.5	24.0 \pm 2.6	26.4 \pm 2.4	25.6 \pm 2.1
Annual Outer Ring Mean \pm S.D.					24.9 \pm 2.7
INDICATOR LOCATION MEAN \pm S.D.		22.6 \pm 2.3	23.5 \pm 2.3	25.7 \pm 2.3	25.3 \pm 1.7
Annual INDICATOR MEAN \pm S.D.					24.3 \pm 2.5
II. CONTROL LOCATIONS					
BD-03-1	COUNTY LINE ROAD	24.0	22.0	24.0	25.0
BD-03-2	COUNTY LINE ROAD	24.0	23.0	24.0	25.0
CONTROL LOCATION MEAN \pm S.D.		24.0 \pm 0.0	22.5 \pm 0.7	24.0 \pm 0.0	25.0 \pm 0.0
Annual CONTROL LOCATION MEAN \pm S.D.					23.9 \pm 0.0

BRAIDWOOD

7.0 GRAPHS OF DATA TRENDS

Air Particulates - Gross Beta

BD-03 (C) County Line Road

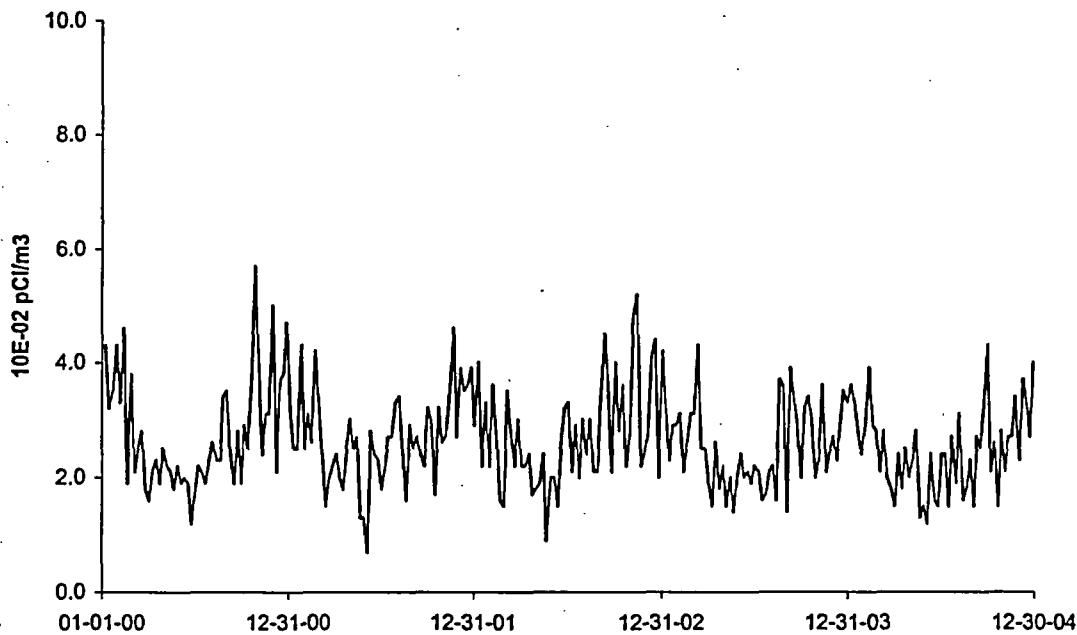


Figure 1. Continuous collection with weekly exchange of particulate filter.

BD-06 Godley

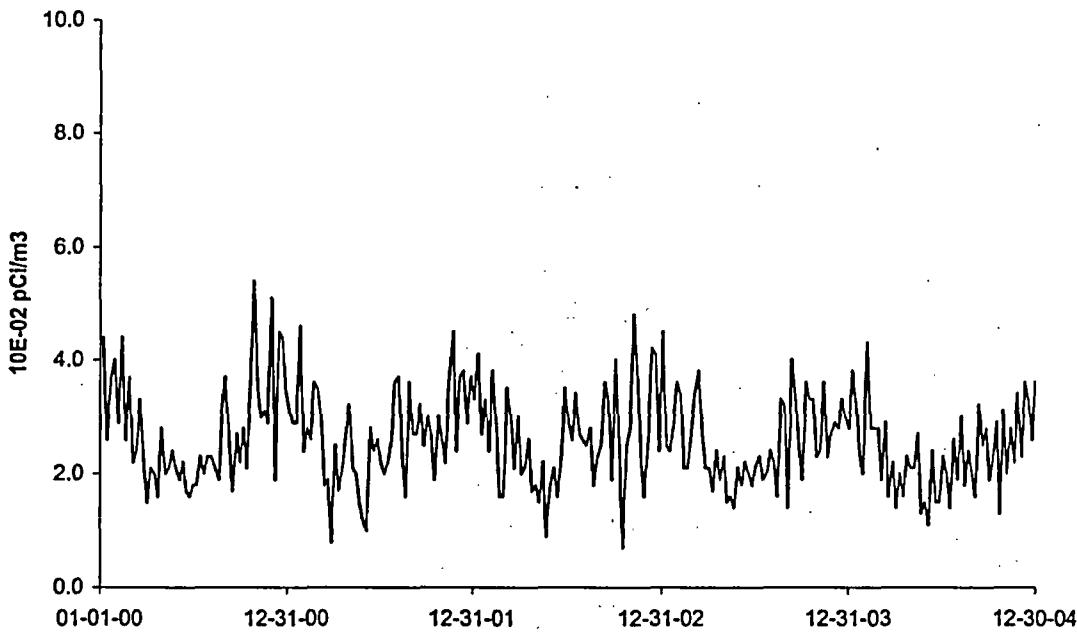
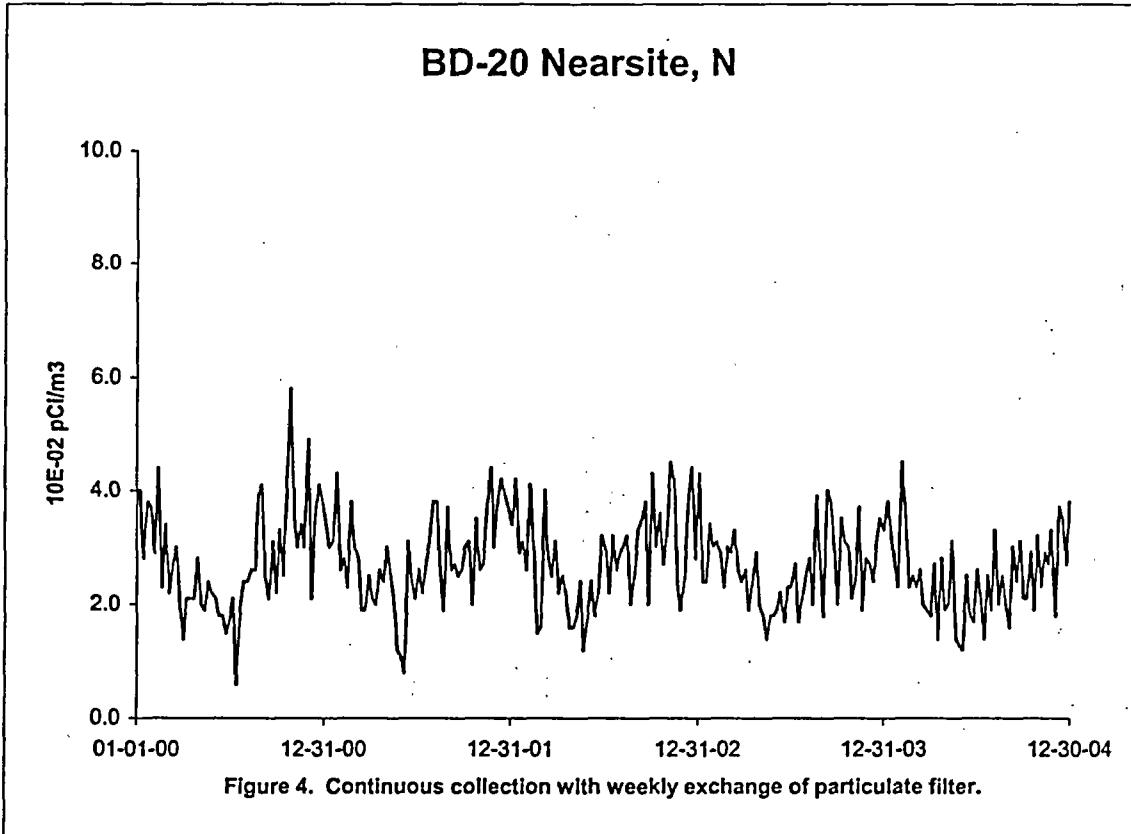
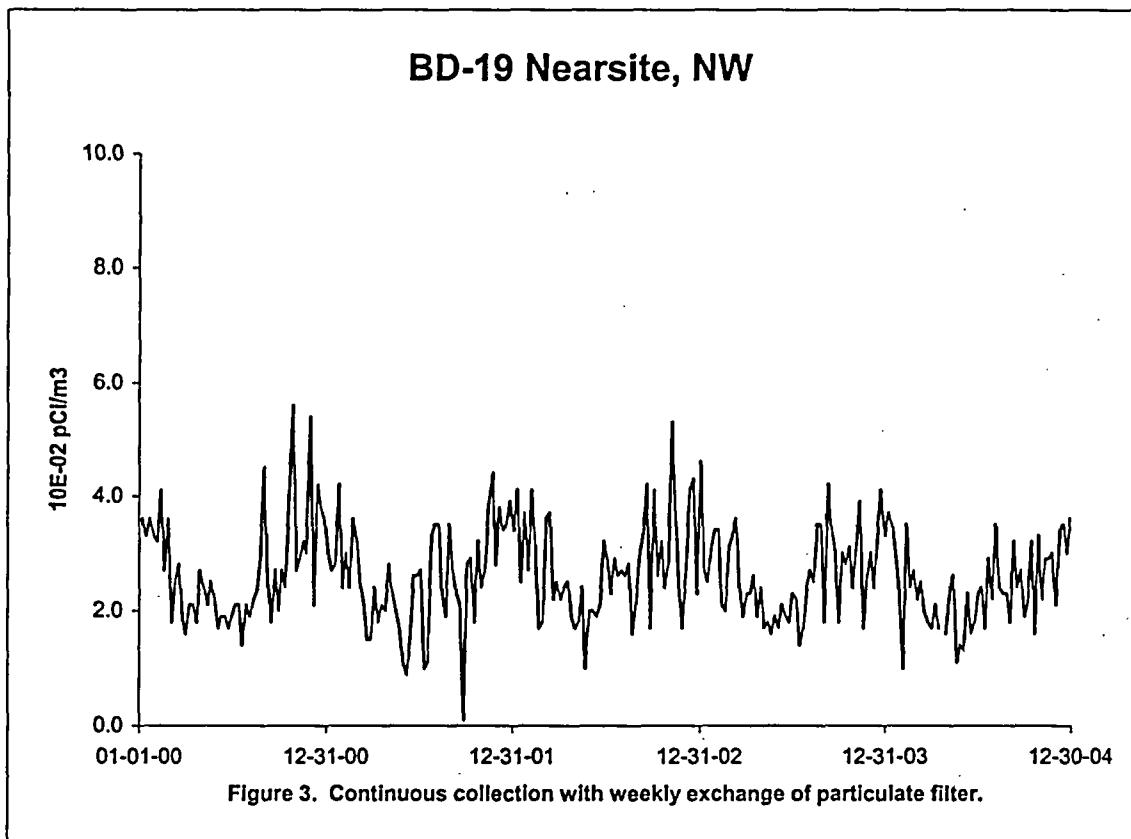
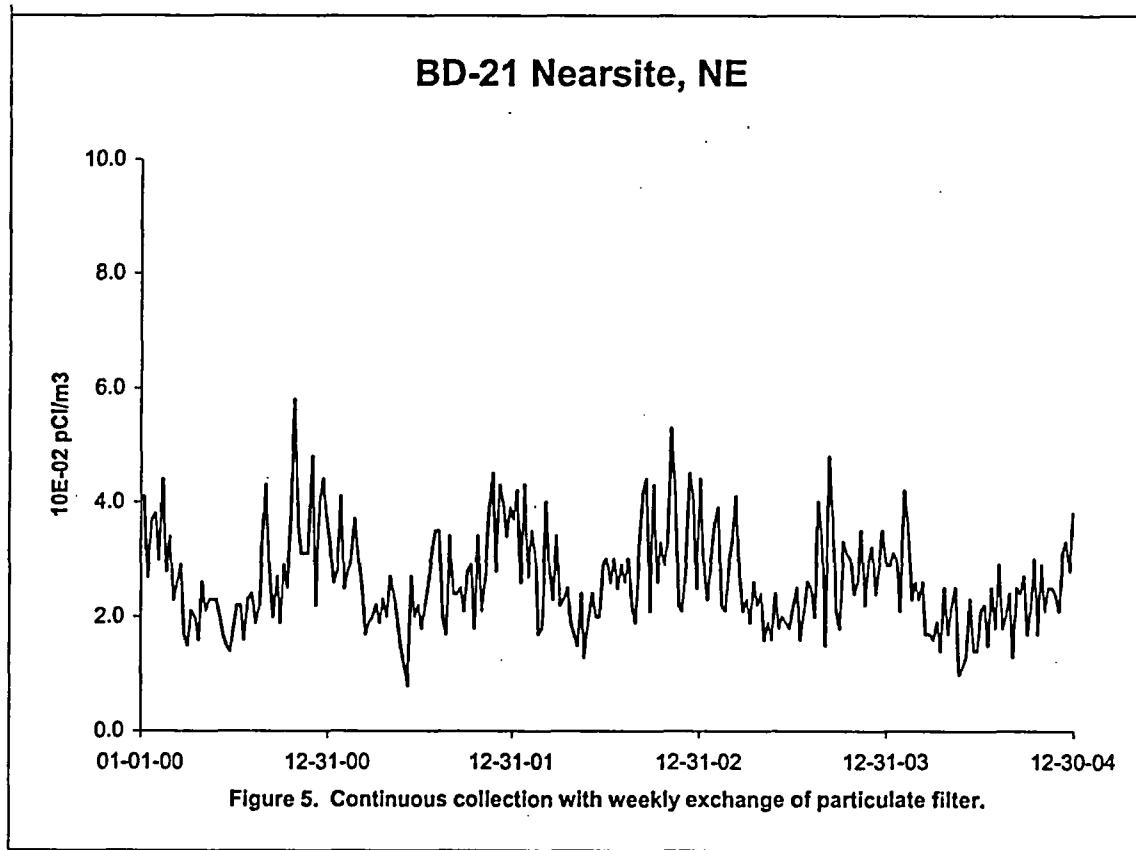


Figure 2. Continuous collection with weekly exchange of particulate filter.

Air Particulates - Gross Beta



Air Particulates - Gross Beta



Surface Water - Gross Beta

BD-10 Kankakee River, Downstream

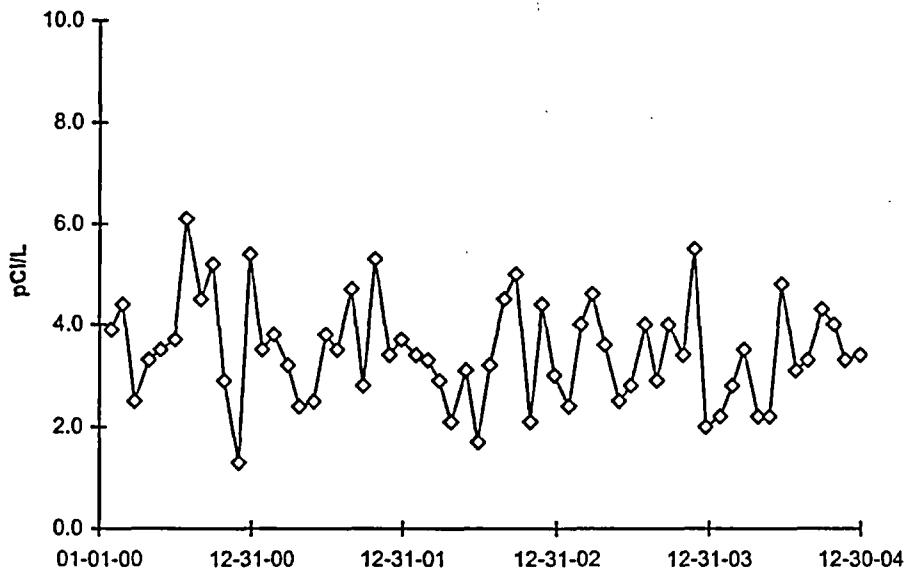


Figure 6. Monthly composites of weekly collections.

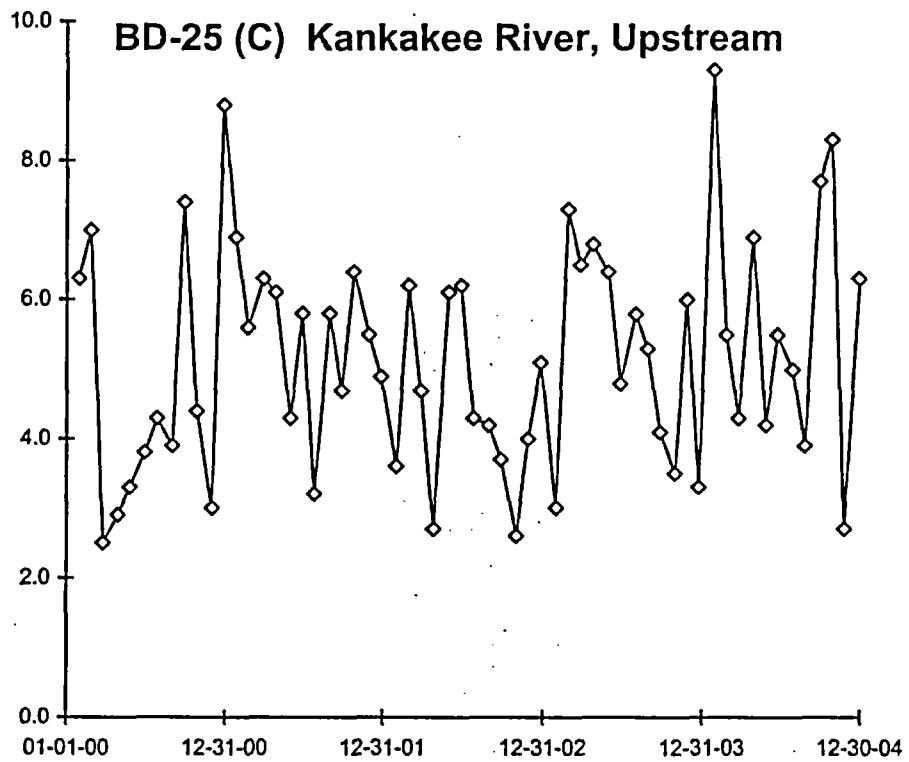
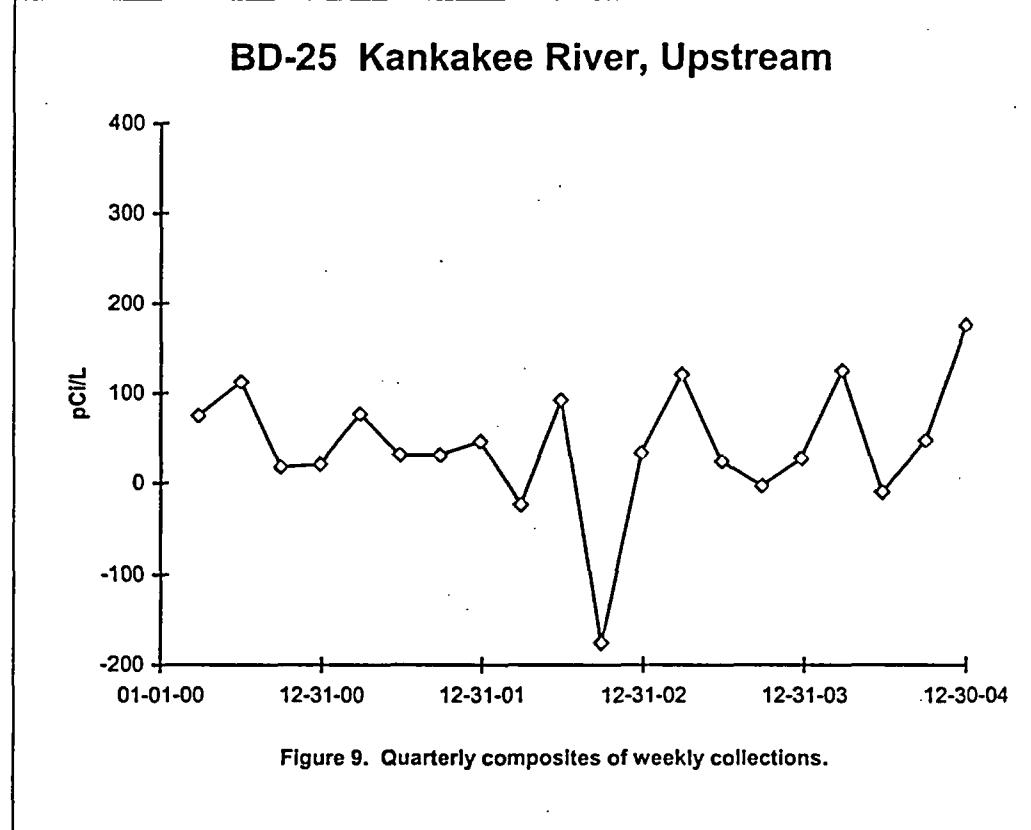
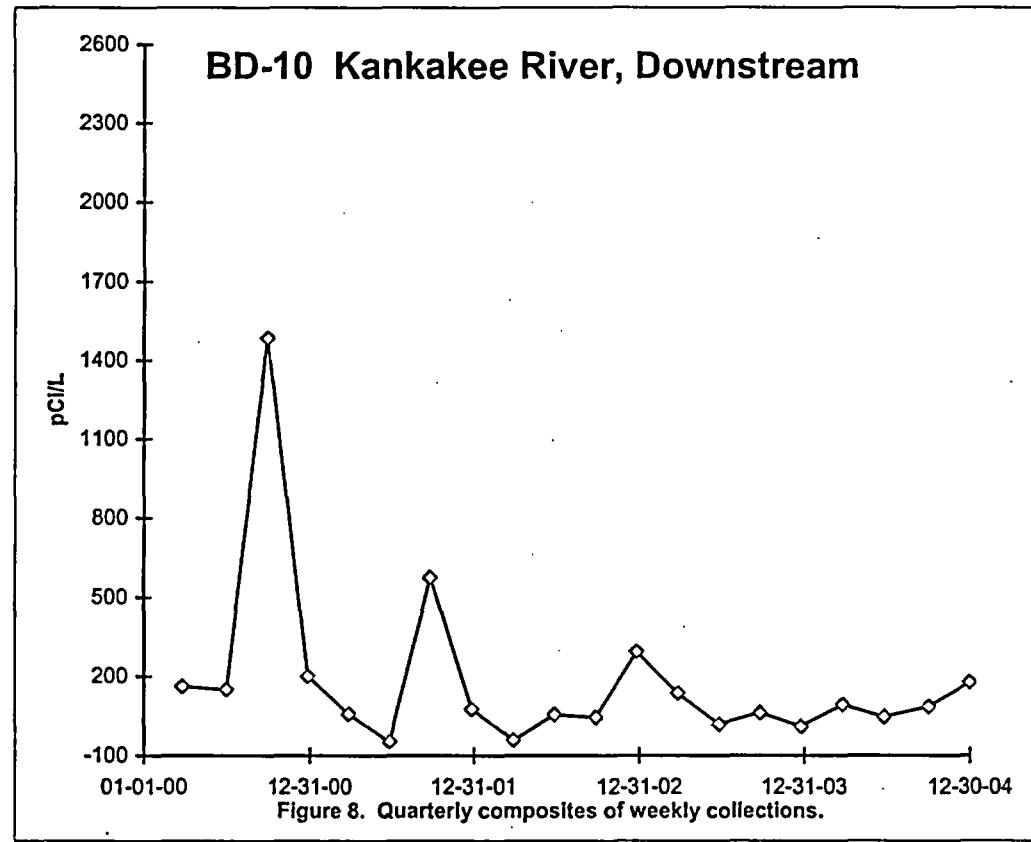
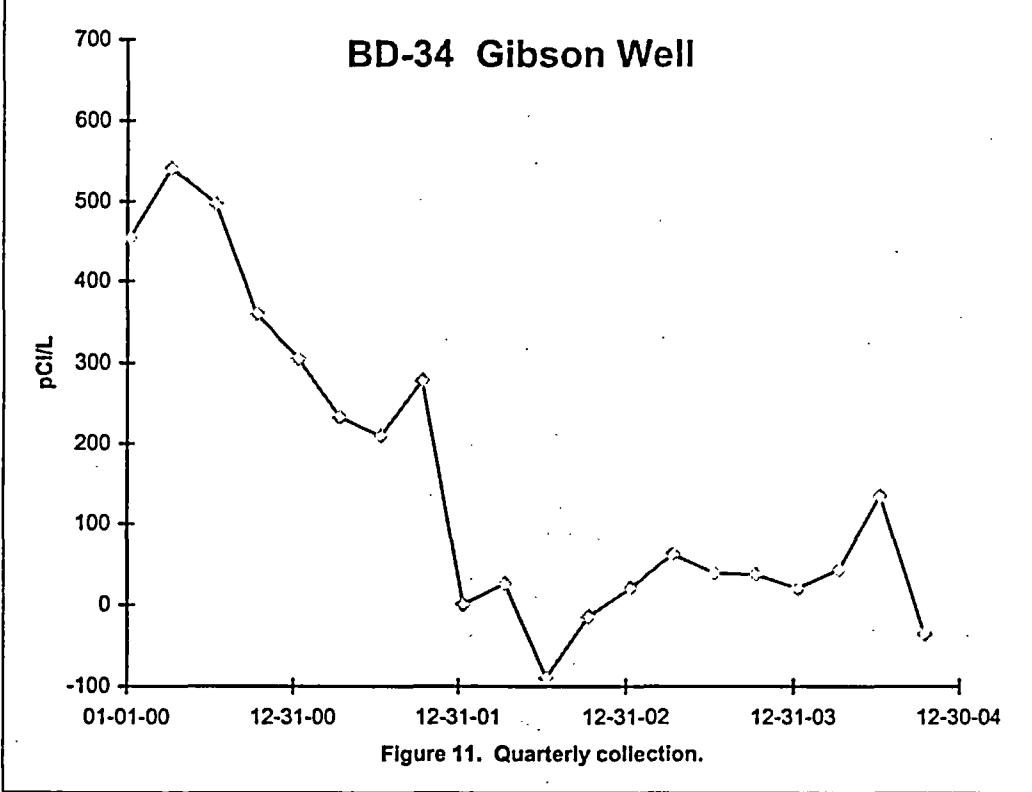
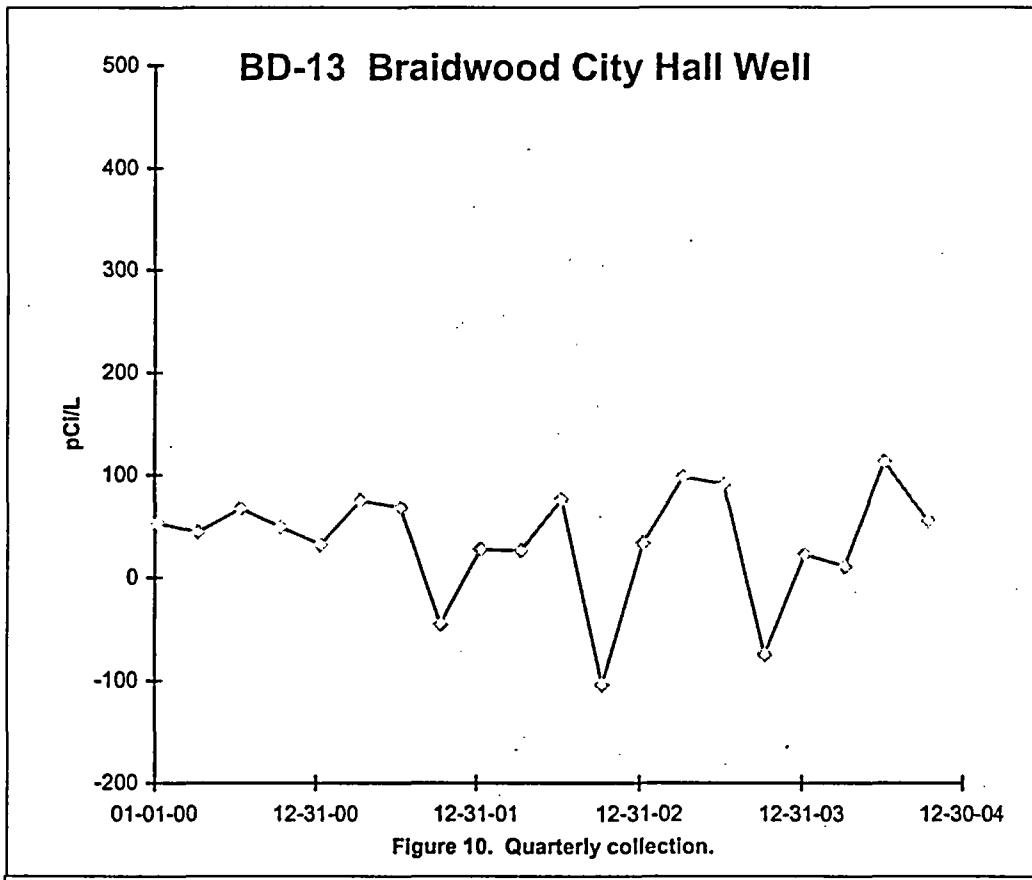


Figure 7. Monthly composites of weekly collections.

Surface Water-Tritium



Well Water-Tritium



Well Water-Tritium

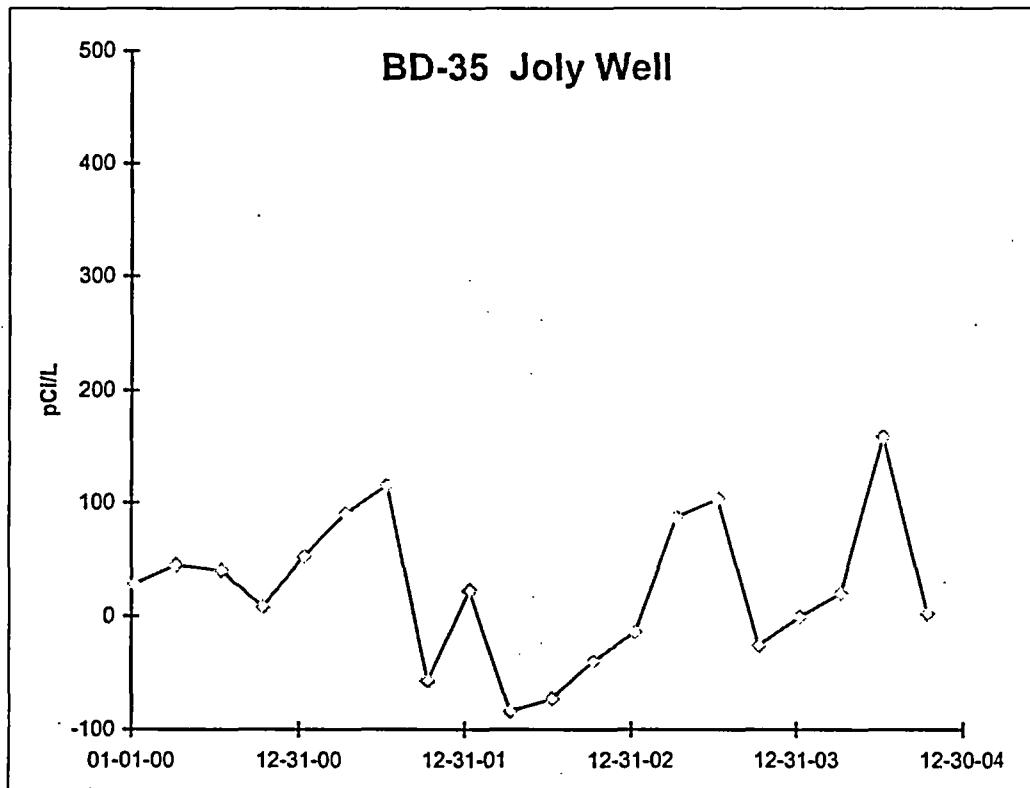


Figure 12. Quarterly collection.

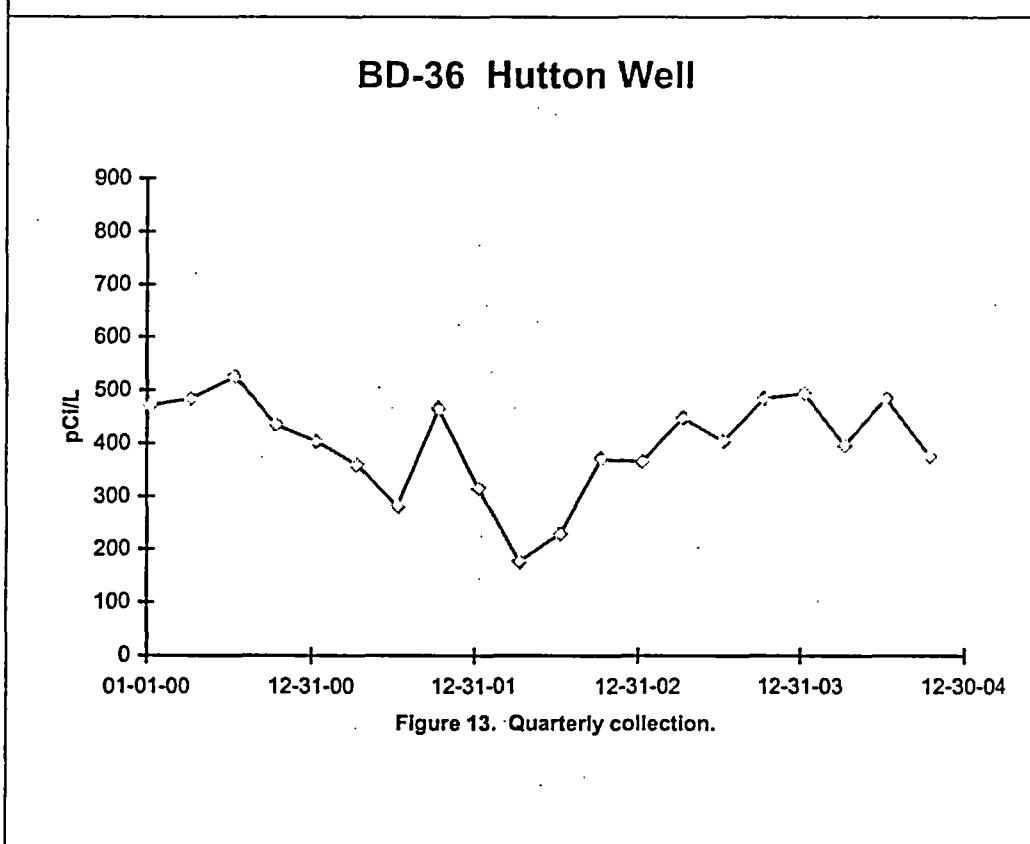
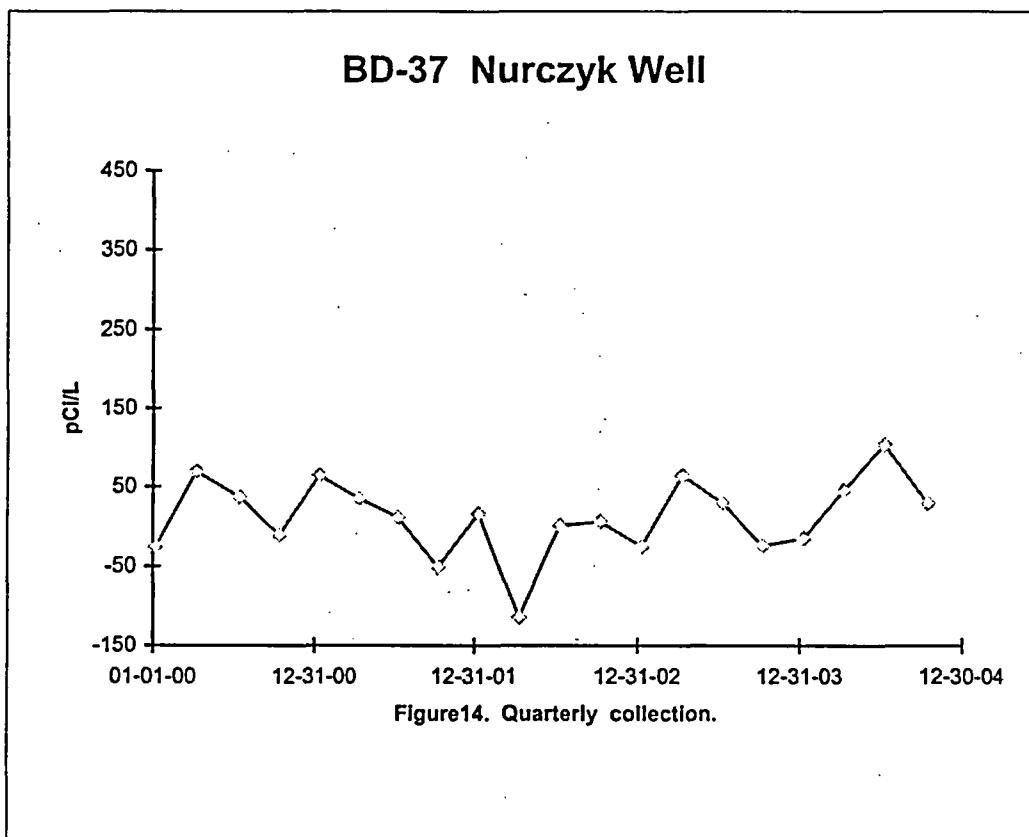
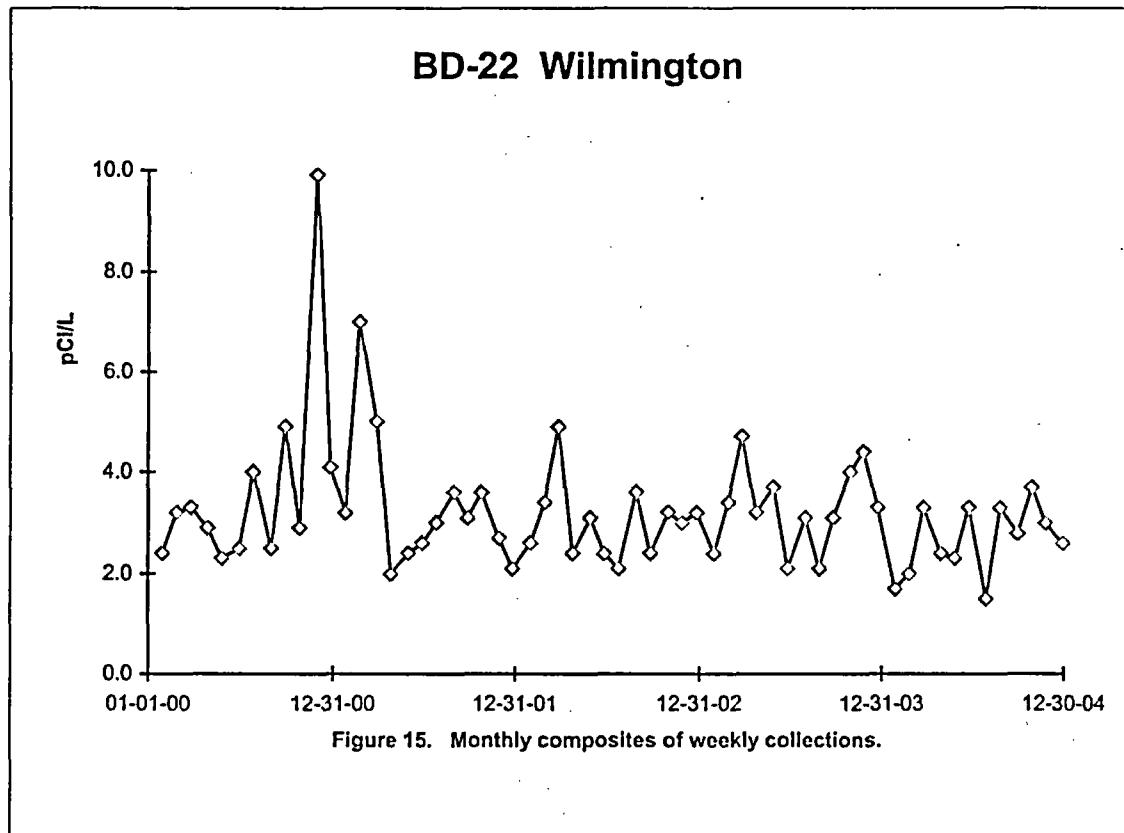


Figure 13. Quarterly collection.

Well Water-Tritium



Public Water - Gross Beta



Public Water-Tritium

BD-22 Wilmington

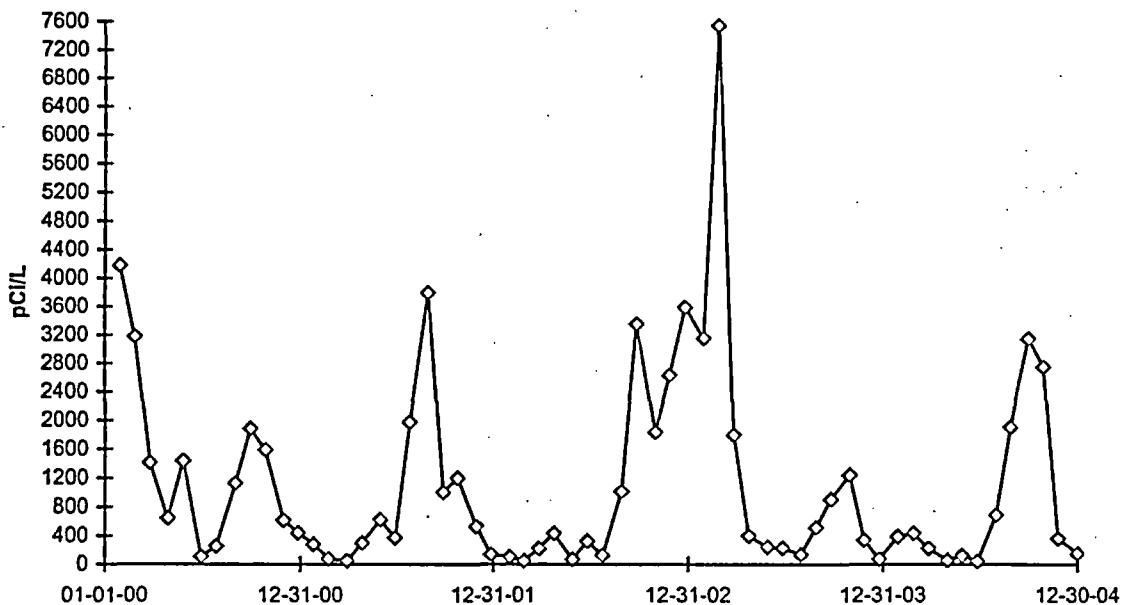


Figure 16. Monthly composites of weekly collections.

BRAIDWOOD

APPENDIX IV

INTERLABORATORY COMPARISON PROGRAM RESULTS



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APPENDIX IV

INTERLABORATORY COMPARISON PROGRAM RESULTS

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

January through December, 2004

Appendix IV

Interlaboratory Comparison Program Results

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

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

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

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

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

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

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

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

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

Attachment A lists acceptance criteria for "spiked" samples.

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

Attachment A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

LABORATORY PRECISION: ONE STANDARD DEVIATION VALUES FOR VARIOUS ANALYSES^a

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

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

^b Laboratory limit.

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

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

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

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

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

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

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

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

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

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

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

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

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

^a Liquid sample results are reported in pCi/Liter, air filters (pCi/m³), charcoal (pCi/m³), and solid samples (pCi/g).^b Results are based on single determinations.^c Control limits are based on Attachment A, Page A2 of this report.

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

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

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

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

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

^a Liquid sample results are reported in pCi/Liter, air filters(pCi/filter), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).^b Activity reported is a net activity result. For gamma spectroscopic analysis, activity detected below the LLD value is not reported.^c I-131(G); Iodine-131 as analyzed by gamma spectroscopy.^d Low levels of Sr-90 are still detected in the environment. A concentration of (1-5 pCi/L) in milk is not unusual.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

^a Results are reported in Bq/L with the following exceptions: Air Filters (Bq/Filter), Soil and Vegetation (Bq/kg).^b The EML result listed is the mean of replicate determinations for each nuclide ± the standard error of the mean.^c Control limits are reported by EML as the ratio of Reported Value / EML value.^d Probable effect of summation peaks and slight difference in filter geometry.