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May 13, 2011
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U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

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: 2010 Annual Radiological Environmental Operating Report

Attached is the 2010 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.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 Chris VanDenburgh, Regulatory Assurance Manager, at (815) 417-2800.

Respectfully,

Daniel J. Enright
Site Vice President
Braidwood Station

cc: (without attachments)
US NRC Regional Administrator, Region III
US NRC Senior Resident Inspector - Braidwood Station
NRR Project Manager - Braidwood Station
Illinois Emergency Management Agency - Division of Nuclear Safety

IE25
NRR

Docket No: 50-456
50-457

BRAIDWOOD STATION
UNITS 1 and 2

Annual Radiological
Environmental Operating Report

1 January through 31 December 2010

Prepared By

Teledyne Brown Engineering
Environmental Services

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Braidwood Station
Braceville, IL 60407

May 2011

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I. Summary and Conclusions

This report on the Radiological Environmental Monitoring Program conducted for the Braidwood Station by Exelon covers the period 1 January 2010 through 31 December 2010. During that time period, 1,552 analyses were performed on 1331 samples. In assessing all the data gathered for this report and comparing these results with preoperational data, it was concluded that the operation of Braidwood Station had no adverse radiological impact on the environment.

Surface, public and ground/well water samples were analyzed for concentrations of tritium and gamma emitting nuclides. Surface water and public water samples were also analyzed for concentrations of gross beta. No fission or activation products were detected. Gross beta and tritium activities detected were consistent with those detected in previous years.

Fish (commercially and/or recreationally important species) and sediment samples were analyzed for concentrations of gamma emitting nuclides. No fission or activation products were detected in fish. Two sediment samples had Cesium-137. The concentration was consistent with levels observed during the preoperational years. No plant produced fission or activation products were found in sediment.

Air particulate samples were analyzed for concentrations of gross beta and gamma emitting nuclides. No fission or activation products were detected.

High sensitivity I-131 analyses were performed on weekly air samples. All results were less than the minimum detectable activity.

Cow milk samples were analyzed for concentrations of I-131 and gamma emitting nuclides. All I-131 results were below the minimum detectable activity. Concentrations of naturally occurring K-40 were detected. No fission or activation products were found.

Food Product samples were analyzed for concentrations of gamma emitting nuclides. No plant produced fission or activation products were detected.

Environmental gamma radiation measurements were performed quarterly using thermoluminescent dosimeters(TLD). Levels detected were consistent with those observed in previous years with the exception of the first quarter TLD values, which were higher due to being exposed in transit.

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II. Introduction

The Braidwood Station, consisting of two 3587 MWt pressurized water reactors owned and operated by Exelon Corporation, is located in Will County, Illinois. Unit No. 1 went critical on 29 May 1987. Unit No. 2 went critical on 08 March 1988. The site is located in northeastern Illinois, 15 miles south-southwest of Joliet, Illinois, 60 miles southwest of Chicago, and southwest of the Kankakee River.

This report covers those analyses performed by Teledyne Brown Engineering (TBE), Global Dosimetry, and Environmental Inc. (Midwest Labs) on samples collected during the period 1 January 2010 through 31 December 2010.

A. Objective of the REMP

The objectives of the REMP are to:

1. Provide data on measurable levels of radiation and radioactive materials in the site environs.

2. Evaluate the relationship between quantities of radioactive material released from the plant and resultant radiation doses to individuals from principal pathways of exposure.

B. Implementation of the Objectives

The implementation of the objectives is accomplished by:

1. Identifying significant exposure pathways.

2. Establishing baseline radiological data of media within those pathways.

3. Continuously monitoring those media before and during Station operation to assess Station radiological effects (if any) on man and the environment.

III. Program Description

A. Sample Collection

Samples for the Braidwood Station REMP were collected for Exelon Nuclear by Environmental Inc. (Midwest Labs). This section describes the general collection methods used by Environmental Inc. (Midwest Labs) to

obtain environmental samples for the Braidwood Station REMP in 2010. Sample locations and descriptions can be found in Table B–1 and Figures B–1 through B–3, Appendix B. The sampling methods used by Environmental Inc. are listed in Table B-2.

Aquatic Environment

The aquatic environment was evaluated by performing radiological analyses on samples of surface water, public water, well water, fish, and sediment. Two gallon water samples were collected weekly from six surface water locations (BD-10, BD-25 [control], BD-38, BD-40, BD-55 and BD-56) and one weekly composite sample of public drinking water location (BD-22) and ground/well water samples collected quarterly from nine locations (BD-13, BD-34, BD-35, BD-36, BD-37, BD-50, BD-51, BD-53 and BD-54). All samples were collected in new unused plastic bottles, which were rinsed with source water prior to collection. Fish samples comprising the flesh of largemouth bass, smallmouth bass, golden redhorse, quillback, freshwater drum, channel catfish and carp were collected semiannually at three locations, BD-25 (control), BD-28, and BD-41. Sediment samples composed of recently deposited substrate were collected at two locations semiannually, BD-10 and BD-57.

Atmospheric Environment

The atmospheric environment was evaluated by performing radiological analyses on samples of air particulate, airborne iodine, and milk. Air particulate samples were collected and analyzed weekly at eight locations (BD-02, BD-03, BD-04, BD-05, BD-06, BD-19, BD-20, and BD-21). The control location was BD-03. Airborne iodine and particulate samples were obtained at each location, using a vacuum pump with charcoal and glass fiber filters attached. The pumps were run continuously and sampled air at the rate of approximately one cubic foot per minute. The air filters and air iodine samples were replaced weekly and sent to the laboratory for analysis.

Milk samples were collected biweekly at two locations (BD-17 and BD-18) from May through October, and monthly from November through April. The control location was BD-18. All samples were collected in new unused two gallon plastic bottles from the bulk tank at each location, preserved with sodium bisulfite, and shipped promptly to the laboratory. Food products were collected annually in September at five locations (BD-Control, BD-Quad 1, BD-Quad 2, BD-Quad 3, and BD-Quad 4). The control location was BD-Control. Various types of samples were collected and placed in new unused plastic bags, and sent to the laboratory for analysis.

Ambient Gamma Radiation

Direct radiation measurements were made using dual calcium fluoride and lithium flouride thermoluminescent dosimeters (TLD). Each location consisted of 2 TLD sets. The TLDs were exchanged quarterly and sent to Global Dosimetry for analysis. The TLDs were placed at locations on and around the Braidwood Station site as follows:

An inner ring (site boundary) consisting of 16 locations (BD-101, BD-102, BD-103, BD-104, BD-105, BD-106, BD-107, BD-108, BD-109, BD-110, BD-111a, BD-112, BD-113a, BD-114, BD-115 and BD-116) at or near the site boundary.

An outer ring (intermediate distance) consisting of 16 locations (BD-201, BD-202, BD-203, BD-204, BD-205, BD-206, BD-207, BD-208, BD-209, BD-210, BD-211, BD-212, BD-213, BD-214, BD-215, BD-216) extending to approximately 5 miles from the site.

An additional (other) set consisting of seven locations (BD-02, BD-04, BD-05, BD-06, BD-19, BD-20 and BD-21).

The balance of one location (BD-03) represents the control area.

The specific TLD locations were determined by the following criteria:

1. The presence of relatively dense population;

2. Site meteorological data taking into account distance and elevation for each of the sixteen–22 1/2 degree sectors around the site, where estimated annual dose from Braidwood Station, if any, would be most significant;

B. Sample Analysis

This section describes the general analytical methodologies used by TBE and Environmental Inc. (Midwest Labs) to analyze the environmental samples for radioactivity for the Braidwood Station REMP in 2010. The analytical procedures used by the laboratories are listed in Table B-2.

In order to achieve the stated objectives, the current program includes the following analyses:

1. Concentrations of beta emitters in public and surface water and air particulates.

2. Concentrations of gamma emitters in public, ground/well and surface water, air particulates, milk, fish, sediment and food products.

3. Concentrations of tritium in public, ground/well and surface water.

4. Concentrations of I-131 in air and milk.

5. Ambient gamma radiation levels at various site environs.

C. Data Interpretation

The radiological and direct radiation data collected prior to Braidwood Station becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, Braidwood Station was considered operational at initial criticality. In addition, data was compared to previous years' operational data for consistency and trending. Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Concentration

The lower limit of detection (LLD) was defined as the smallest concentration of radioactive material in a sample that would yield a net count (above background) that would be detected with only a 5% probability of falsely concluding that a blank observation represents a "real" signal. The LLD was intended as a before the fact estimate of a system (including instrumentation, procedure and sample type) and not as an after the fact criteria for the presence of activity. All analyses were designed to achieve the required Braidwood Station detection capabilities for environmental sample analysis.

The minimum detectable concentration (MDC) is defined above with the exception that the measurement is an after the fact estimate of the presence of activity.

2. Net Activity Calculation and Reporting of Results

Net activity for a sample was calculated by subtracting background activity from the sample activity. Since the REMP measures extremely small changes in radioactivity in the environment, background variations may result in sample activity being lower than the background activity effecting a negative number. An MDC was reported in all cases where positive activity was not detected.

Gamma spectroscopy results for each type of sample were grouped as follows:

For surface, public, ground/well water and fish 12 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Nb-95, Zr-95, I-131, Cs-134, Cs-137, Ba-140, and La-140 were reported.

For sediment, air particulate, milk and vegetation 11 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Nb-95, Zr-95, Cs-134, Cs-137, Ba-140, and La-140 were reported.

Means and standard deviations of the results were calculated. The standard deviations represent the variability of measured results for different samples rather than single analysis uncertainty.

D. Program Exceptions

For 2010 the Braidwood Station REMP had a sample recovery rate in excess of 99%. Sample anomalies and missed samples are listed in the tables below:

Table D-1 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
A/I	BD-03	03/11/10	No apparent reason for low timer reading of 145.6 hours; possible power outage.
A/I	BD-03	04/29/10	Low reading of 167.2 hours possibly due to storms in the area.
A/I	BD-05	04/29/10	Low reading of 164.3 hours possibly due to storms in the area.
A/I	BD-03	05/13/10	Low reading of 159.3 hours possibly due to power outages in the area.
A/I	BD-06	06/03/10	Estimated reading of 170.7 hours; timer reset; collector will check timer next collection period.
A/I	BD-04	06/10/10	Pump plugs melted by power surge; collector placed new pump. Estimated flow rate of 60 cfh used.

Table D-1 LISTING OF SAMPLE ANOMALIES (continued)

Sample Type	Location Code	Collection Date	Reason
A/I	BD-02	08/19/10	No apparent reason for low reading of 165.7 hours.
A/I	BD-03	12/02/10	No apparent reason for low reading of 188.7 hours.

Table D-2 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Collection Date	Reason
WT	BD-55, BD-56	01/07/10	No sample, water frozen.
WG	BD-50	01/14/10	No sample for quarter. Homeowner not cooperating, then requested to be included in the program in subsequent quarters.
WT	BD-38, BD-55 BD-56	01/14/10	No sample, water frozen.
WT	BD-38, BD-55 BD-56,	01/21/10	No sample, water frozen.
WT	BD-55, BD-56	01/28/10	No sample, water frozen.
WT	BD-55, BD-56	02/04/10	No sample, water frozen.
WT	BD-55, BD-56	02/11/10	No sample, water frozen.
WT	BD-55, BD-56	02/18/10	No sample, water frozen.
WT	BD-55, BD-56	02/25/10	No sample, water frozen.
WT	BD-55, BD-56	03/04/10	No sample, water frozen.
WT	BD-55, BD-56	12/09/10	No sample, water frozen.
WT	BD-38, BD-55 BD-56	12/16/10	No sample, water frozen.
WT	BD-38, BD-55 BD-56	12/23/10	No sample, water frozen.

Table D-2 LISTING OF MISSED SAMPLES (continued)

Sample Type	Location Code	Collection Date	Reason
WT	BD-38, BD-55 BD-56	12/30/10	No sample, water frozen.

Each program exception was reviewed to understand the causes of the program exception. Sampling and maintenance errors were reviewed with the personnel involved to prevent recurrence. Occasional equipment breakdowns and power outages were unavoidable.

The overall sample recovery rate indicates that the appropriate procedures and equipment are in place to assure reliable program implementation.

E. Program Changes

A homeowner, representing location BD-50, who had not been previously participating has been included in the program again in 2010. No ODCM change had occurred due to the homeowner's decisions.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

Samples were taken weekly and composited monthly at six locations (BD-10, BD-25, BD-38, BD-40, BD-55 and BD-56). Of these locations, only BD-10, BD-38, and BD-40 could be affected by Braidwood Station's effluent releases. The following analyses were performed.

Gross Beta

Samples from all locations were analyzed for concentrations of gross beta (Table C–I.1, Appendix C). Gross beta was detected in 57 of 68 samples. The values ranged from 2.8 to 14.2 pCi/l. Concentrations detected were consistent with those detected in previous years (Figures C–1 through C-3, Appendix C).

Tritium

Quarterly composites of weekly collections were analyzed for tritium activity (Table C–I.2, Appendix C). Tritium activity was detected in one of 24 samples at a concentration of 307 pCi/l (Figures C–4 through C-6, Appendix C).

Gamma Spectrometry

Samples from all locations were analyzed for gamma emitting nuclides (Table C–I.3, Appendix C). No nuclides were detected, and all required LLDs were met.

2. Public Water

Monthly composite of weekly samples were collected at one location (BD-22). This location could be affected by Braidwood Station's effluent releases. The following analyses were performed:

Gross Beta

Samples from the location were analyzed for concentrations of gross beta (Tables C–II.1, Appendix C). Gross beta was detected in nine of 12 samples. The values ranged from 2.4 to 6.4 pCi/l. Concentrations detected were consistent with those detected in previous years (Figure C–7, Appendix C).

Tritium

Monthly composites of weekly samples from the location were analyzed for tritium activity (Table C–II.2, Appendix C). Tritium was detected in four of 12 samples. The values ranged from 213 to 2950 pCi/l. Concentrations detected were consistent with those detected in previous years (Figure C–8, Appendix C).

Gamma Spectrometry

Samples from the location were analyzed for gamma emitting nuclides (Table C–II.3, Appendix C). No nuclides were detected, and all required LLDs were met.

3. Ground/Well Water

Quarterly samples were collected at nine locations (BD-13, BD-34,

BD-35, BD-36, BD-37, BD-50, BD-51, BD-53 and BD-54). The following analyses were performed:

Tritium

Quarterly grab samples from the locations were analyzed for tritium activity (Table C–III.1, Appendix C). Tritium was detected in two of 35 samples. The values ranged from 180 to 242 pCi/l. The concentration detected was consistent with those detected in previous years (Figures C–9 through C–13, Appendix C).

Gamma Spectrometry

Samples from all locations were analyzed for gamma emitting nuclides (Table C–III.2, Appendix C). No nuclides were detected, and all required LLDs were met.

4. Fish

Fish samples comprised of largemouth bass, smallmouth bass, golden redhorse, quillback, freshwater drum, channel catfish and common carp were collected at three locations (BD-25, BD-28, and BD-41) semiannually. Locations BD-28 and BD-41 could be affected by Braidwood Station's effluent releases. The following analysis was performed:

Gamma Spectrometry

The edible portion of fish samples from all three locations was analyzed for gamma emitting nuclides (Table C–IV.1, Appendix C). No fission or activation products were found. No nuclides were detected, and all required LLDs were met.

5. Sediment

Aquatic sediment samples were collected at two locations (BD-10 and BD-57) semiannually. The locations, at the Braidwood Station outfall to the Kanakakee River and downstream of the outfall, could be affected by the Braidwood Station's effluent releases. The following analysis was performed:

Gamma Spectrometry

Sediment samples from the location were analyzed for gamma emitting nuclides (Table C–V.1, Appendix C).

Concentrations of the fission product Cs-137 were found at location BD-10 in both samples. The concentration ranged from 108 to 165 pCi/kg dry. The activity detected was consistent with those detected in previous years (29 pCi/kg to 260 pCi/kg from 1995 to 2006). No other Braidwood fission or activation products were found and all required LLDs were met.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

Continuous air particulate samples were collected from eight locations on a weekly basis. The eight locations were separated into three groups: Near field samplers (BD-06, BD-19, BD-20 and BD-21), far field samplers within 10 km of the site (BD-02, BD-04 and BD-05) and the Control sampler between 10 and 30 km from the site (BD-03). Far field samples are analyzed when the respective near field sample results are inconsistent with previous measurements and radioactivity is confirmed as having its origin in airborne effluents from the station, or at the discretion of the REMP Program Owner. The following analyses were performed:

Gross Beta

Weekly samples were analyzed for concentrations of beta emitters (Table C–VI.1 and C-VI.2, Appendix C).

Detectable gross beta activity was observed at all locations. Comparison of results among the three groups aid in determining the effects, if any, resulting from the operation of Braidwood Station. The results from the near field (Group I) ranged from 6 to 41 E–3 pCi/m^3 with a mean of 19 E–3 pCi/m^3. The results from the far field (Group II) ranged from 6 to 43 E–3 pCi/m^3 with a mean of 20 E–3 pCi/m^3. The results from the Control location (Group III) ranged from 7 to 42 E–3 pCi/m^3 with a mean of 21 E–3 pCi/m^3. Comparison of the 2010 air particulate data with previous years data indicate no effects from the operation of Braidwood Station. In addition a comparison of the weekly mean values for 2010 indicate no notable differences among the three groups (Figures C–14 through C-18, Appendix C).

Gamma Spectrometry

Weekly samples were composited quarterly and analyzed for gamma emitting nuclides (Table C–VI.3, Appendix C). No nuclides were detected, and all required LLDs were met.

b. Airborne Iodine

Continuous air samples were collected from eight locations (BD-02, BD-03, BD-04, BD-05, BD-06, BD19, BD-20, and BD-21) and analyzed weekly for I-131 (Table C–VII.1, Appendix C). I-131 was not detected, and the required LLD was met.

2. Terrestrial

a. Milk

Samples were collected from two locations (BD-17 and BD-18) biweekly May through October and monthly November through April. The following analyses were performed:

Iodine-131

Milk samples from both locations were analyzed for concentrations of I-131 (Table C–VIII.1, Appendix C). No I-131 was detected, and all required LLDs were met.

Gamma Spectrometry

Each milk sample was analyzed for concentrations of gamma emitting nuclides (Table C–VIII.2, Appendix C). No nuclides were detected, and all required LLDs were met.

b. Food Products

Food product samples were collected at five locations (BD-Control, BD-Quad 1, BD-Quad 2, BD-Quad 3 and BD-Quad 4) when available. Four locations, (located downstream, BD-Quad 1, BD-Quad 2, BD-Quad 3 and BD-Quad 4) could be affected by Braidwood Station's effluent releases. The following analysis was performed:

Gamma Spectrometry

Samples from all locations were analyzed for gamma emitting nuclides (Table C–IX.1, Appendix C). No nuclides were detected, and all required LLDs were met.

C. Ambient Gamma Radiation

Ambient gamma radiation levels were measured utilizing dual element calcium fluoride and lithium fluoride thermoluminescent dosimeters (TLD). Eighty TLD locations were established around the site. Results of TLD measurements are listed in Tables C–X.1 to C–X.3, Appendix C.

All TLD measurements were below 30 mR/quarter, with a range of 14 to 27 mR/quarter with the exception of the first quarter TLDs. The first quarter TLDs were exposed in transit resulting in a higher value. A comparison of the Inner Ring, Outer Ring and Other data to the Control Location data, indicate that the ambient gamma radiation levels from all locations were similar.

D. Land Use Survey

A Land Use Survey conducted during August 2010 around the Braidwood Station was performed by Environmental Inc. (Midwest Labs) for Exelon Nuclear to comply with section 12.5.2 of the Braidwood Station's Offsite Dose Calculation Manual. The purpose of the survey was to document the nearest resident, milk producing animal and garden of greater than 500 ft^2 in each of the sixteen 22 ½ degree sectors around the site. For dose calculation, a garden is assumed at the nearest residence. There were no changes required to the Braidwood Station REMP, as a result of this survey. The results of this survey are summarized below.

Distance in Miles from the Braidwood Station Reactor Buildings			
Sector	Residence Miles	Livestock Miles	Milk Farm Miles
(A) N	0.5	2.6	-
(B) NNE	1.8	-	-
(C) NE	0.7	0.9	-
(D) ENE	0.8	3.3	-
(E) E	0.8	2.3	-
(F) ESE	2.2	2.3	-
(G) SE	2.7	2.7	11.2
(H) SSE	4.5	-	-
(J) S	4.2	4.8	-
(K) SSW	1.3	5.3	5.6
(L) SW	0.4	1.2	-
(M) WSW	0.5	-	-
(N) W	0.4	1.6	8.7
(P) WNW	0.4	-	-
(Q) NW	0.4	-	-
(R) NNW	0.4	-	-

E. Summary of Results – Inter-Laboratory Comparison Program

The primary and secondary laboratories analyzed Performance Evaluation (PE) samples of air particulate, air iodine, milk, soil, vegetation and water matrices (Appendix D). The PE samples, supplied by Analytics Inc., Environmental Resource Associates (ERA) and DOE's Mixed Analyte Performance Evaluation Program (MAPEP), were evaluated against the following pre-set acceptance criteria:

1. Analytics Evaluation Criteria

   Analytics' evaluation report provides a ratio of laboratory results and Analytics' known value. Since flag values are not assigned by Analytics, TBE-ES evaluates the reported ratios based on internal QC requirements, which are based on the DOE MAPEP criteria.

2. ERA Evaluation Criteria

   ERA's evaluation report provides an acceptance range for control and warning limits with associated flag values. ERA's acceptance limits are established per the USEPA, NELAC, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits, as applicable. The acceptance limits are either determined by a regression equation specific to each analyte or a fixed percentage limit promulgated under the appropriate regulatory document.

3. DOE Evaluation Criteria

MAPEP's evaluation report provides an acceptance range with associated flag values.

The MAPEP defines three levels of performance: Acceptable (flag = "A"), Acceptable with Warning (flag = "W"), and Not Acceptable (flag = "N"). Performance is considered acceptable when a mean result for the specified analyte is ± 20% of the reference value. Performance is acceptable with warning when a mean result falls in the range from ±20% to ±30% of the reference value (i.e., 20% < bias < 30%). If the bias is greater than 30%, the results are deemed not acceptable.

For the primary laboratory, 16 out of 18 analytes met the specified acceptance criteria. Two analytes did not meet the specified acceptance criteria for the following reason:

1. Teledyne Brown Engineering's ERA November 2010 Sr-89 in water result of 77.8 pCi/L was higher than the known value of 68.5 pCi/L, resulting in a found to known ratio of 1.14. NCR 10-09 was initiated to investigate this failure. Since the ratio of 1.14 fell within an acceptance range of 20%, Teledyne considers this an acceptable result.
2. Teledyne Brown Engineering's ERA November 2010 Zn-65 in water result of 11.0 pCi/L was lower than the known value of 102 pCi/L. NCR 10-09 was initiated to investigate this failure. The Zn-65 result of 111 was incorrectly reported as 11.0.

The Inter-Laboratory Comparison Program provides evidence of "in control" counting systems and methods, and that the laboratories are producing accurate and reliable data.

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APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT QUARTERLY AND ANNUAL SUMMARY

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TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR BRAIDWOOD STATION, 2010

Name of Facility: BRAIDWOOD **DOCKET NUMBER: 50-456 & 50-457**

Location of Facility: BRACEVILLE, IL **REPORTING PERIOD: ANNUAL 2010**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	GR-B	68	4	6.5 (45/56) (2.8/14.2)	8.3 (12/12) (5.7/11)	10.5 (12/12) (5.9/14.2)	BD-40 INDICATOR BRAIDWOOD STATION COOLING LAKE ONSITE	0
	H-3	24	200	307 (1/20)	<LLD	307 (1/4)	BD-10 INDICATOR KANKAKEE RIVER DOWNSTREAM 5.4 MILES NE OF SITE	0
	GAMMA	68						
	MN-54		15	<LLD	<LLD	-		0
	CO-58		15	<LLD	<LLD	-		0
	FE-59		30	<LLD	<LLD	-		0
	CO-60		15	<LLD	<LLD	-		0
	ZN-65		30	<LLD	<LLD	-		0
	NB-95		15	<LLD	<LLD	-		0

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING BOTH THE MDAs AND THE POSITIVE VALUES
FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR BRAIDWOOD STATION, 2010

Name of Facility: BRAIDWOOD — **DOCKET NUMBER: 50-456 & 50-457**

Location of Facility: BRACEVILLE, IL — **REPORTING PERIOD: ANNUAL 2010**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	ZR-95		30	<LLD	<LLD	-		0
	I-131		15	<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
PUBLIC WATER (PCI/LITER)	GR-B	12	4	3.8 (9/12) (2.4/6.4)	NA	3.8 (9/12) (2.4/6.4)	BD-22 INDICATOR WILMINGTON 6.0 MILES NE OF SITE	0
	H-3	12	200	1029 (4/12) (213/2950)	NA	1029 (4/12) (213/2950)	BD-22 INDICATOR WILMINGTON 6.0 MILES NE OF SITE	0

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING BOTH THE MDAs AND THE POSITIVE VALUES FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR BRAIDWOOD STATION, 2010

Name of Facility: BRAIDWOOD **DOCKET NUMBER: 50-456 & 50-457**

Location of Facility: BRACEVILLE, IL **REPORTING PERIOD: ANNUAL 2010**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
PUBLIC WATER (PCI/LITER)	GAMMA	12						
	MN-54		15	<LLD	NA	-		0
	CO-58		15	<LLD	NA	-		0
	FE-59		30	<LLD	NA	-		0
	CO-60		15	<LLD	NA	-		0
	ZN-65		30	<LLD	NA	-		0
	NB-95		15	<LLD	NA	-		0
	ZR-95		30	<LLD	NA	-		0
	I-131		15	<LLD	NA	-		0

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PUBLIC WATER (PCI/LITER)	CS-134		15	<LLD	NA	-		0
	CS-137		18	<LLD	NA	-		0
	BA-140		60	<LLD	NA	-		0
	LA-140		15	<LLD	NA	-		0
GROUND WATER (PCI/LITER)	H-3	35	200	211 (2/35) (180/242)	NA	211 (2/4) (180/242)	BD-36 INDICATOR HUTTON WELL 4.7 MILES E OF SITE	0
	GAMMA	35						
	MN-54		15	<LLD	NA	-		0
	CO-58		15	<LLD	NA	-		0
	FE-59		30	<LLD	NA	-		0

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GROUND WATER (PCI/LITER)	CO-60		15	<LLD	NA	-		0
	ZN-65		30	<LLD	NA	-		0
	NB-95		15	<LLD	NA	-		0
	ZR-95		30	<LLD	NA	-		0
	I-131		15	<LLD	NA	-		0
	CS-134		15	<LLD	NA	-		0
	CS-137		18	<LLD	NA	-		0
	BA-140		60	<LLD	NA	-		0

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GROUND WATER (PCI/LITER)	LA-140		15	<LLD	NA	-		0
FISH (PCI/KG WET)	GAMMA	12						
	MN-54		130	<LLD	<LLD	-		0
	CO-58		130	<LLD	<LLD	-		0
	FE-59		260	<LLD	<LLD	-		0
	CO-60		130	<LLD	<LLD	-		0
	ZN-65		260	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0

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FISH (PCI/KG WET)	I-131		NA	<LLD	<LLD	-		0
	CS-134		130	<LLD	<LLD	-		0
	CS-137		150	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
SEDIMENT (PCI/KG DRY)	GAMMA MN-54	4	NA	<LLD	NA	-		0
	CO-58		NA	<LLD	NA	-		0
	FE-59		NA	<LLD	NA	-		0

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TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR BRAIDWOOD STATION, 2010

Name of Facility: BRAIDWOOD **DOCKET NUMBER: 50-456 & 50-457**

Location of Facility: BRACEVILLE, IL **REPORTING PERIOD: ANNUAL 2010**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (M) (F) RANGE	CONTROL LOCATION MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN (M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SEDIMENT (PCI/KG DRY)	CO-60		NA	<LLD	NA	-		0
	ZN-65		NA	<LLD	NA	-		0
	NB-95		NA	<LLD	NA	-		0
	ZR-95		NA	<LLD	NA	-		0
	CS-134		150	<LLD	NA	-		0
	CS-137		180	137 (2/4) (108/165)	NA	137 (2/2) (108/165)	BD-10 INDICATOR KANKAKEE RIVER DOWNSTREAM 5.4 MILES NE OF SITE	0
	BA-140		NA	<LLD	NA	-		0
	LA-140		NA	<LLD	NA	-		0

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Location of Facility: BRACEVILLE, IL **REPORTING PERIOD: ANNUAL 2010**

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AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	416	10	20 (362/364) (6/43)	21 (51/52) (7/42)	21 (51/52) (7/42)	BD-03 CONTROL COUNTY LINE ROAD 6.2 MILES ESE OF SITE	0
	GAMMA	32						
	MN-54		NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	FE-59		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0
	ZN-65		NA	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0

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AIR PARTICULATE (E-3 PCI/CU.METER)	CS-134		50	<LLD	<LLD	-		0
	CS-137		60	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
AIR IODINE (E-3 PCI/CU.METER)	GAMMA I-131	416	70	<LLD	<LLD	-		0
MILK (PCI/LITER)	I-131	38	1	<LLD	<LLD	-		0
	GAMMA MN-54	38	NA	<LLD	<LLD	-		0

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MILK (PCI/LITER)	CO-58		NA	<LLD	<LLD	-		0
	FE-59		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0
	ZN-65		NA	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0
	CS-134		15	<LLD	<LLD	-		0
	CS-137		18	<LLD	<LLD	-		0

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MILK (PCI/LITER)	BA-140		60	<LLD	<LLD	-		0
	LA-140		15	<LLD	<LLD	-		0
VEGETATION (PCI/KG WET)	GAMMA	10						
	MN-54		NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	FE-59		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0
	ZN-65		NA	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0

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VEGETATION (PCI/KG WET)	ZR-95		NA	<LLD	<LLD	-		0
	CS-134		60	<LLD	<LLD	-		0
	CS-137		80	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
DIRECT RADIATION (MILLI-ROENTGEN/QTR.)	TLD-QUARTERLY	320	NA	56.1 (312/312) (14/271)	47.4 (8/8) (16/166)	81.8 (4/4) (17/271)	BD-111A-2 INDICATOR 1.4 MILES SW	0

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APPENDIX B

LOCATION DESIGNATION, DISTANCE & DIRECTION, AND SAMPLE COLLECTION & ANALYTICAL METHODS

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TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Braidwood Station, 2010

Location	Location Description	Distance & Direction From Site
A. Surface Water		
BD-10	Kankakee River Downstream (indicator)	5.4 miles NE
BD-25	Kankakee River Upstream (control)	9.6 miles E
BD-38	Main Drainage Ditch (indicator)	1.5 miles SW
BD-40	Braidwood Station Cooling Lake (indicator)	Onsite
BD-55	North Pond Fatlan Site (Indicator)	0.6 miles NE
BD-56	South Pond Fatlan Site (indictor)	0.6 miles NE
B. Drinking (Potable) Water		
BD-22	Wilmington (indicator)	6.0 miles NE
C. Ground/Well Water		
BD-13	Braidwood City Hall Well (indicator)	1.7 miles NNE
BD-34	Gibson Well (indicator)	4.7 miles E
BD-35	Joly Well (indicator)	4.7 miles E
BD-36	Hutton Well (indicator)	4.7 miles E
BD-37	Nurczyk Well (indicator)	4.7 miles E
BD-50	Skole Well (indicator)	4.7 miles E
BD-51	Fatlan Well (indicator)	0.6 miles NE
BD-53	Phelps Well (indicator)	0.7 miles E
BD-54	Cash Well (indicator)	0.9 miles NE
D. Milk - bi-weekly / monthly		
BD-17	Halpin's Dairy (indicator)	5.5 miles SSW
BD-18	Biros' Farm (control)	8.7 miles W
E. Air Particulates / Air Iodine		
BD-02	Custer Park (indicator)	5.0 miles E
BD-03	County Line Road (control)	6.2 miles ESE
BD-04	Essex (indicator)	4.8 miles SSE
BD-05	Gardner (indicator)	5.5 miles SW
BD-06	Godley (indicator)	0.5 miles WSW
BD-19	Nearsite NW (indicator)	0.3 miles NW
BD-20	Nearsite N (indicator)	0.6 miles N
BD-21	Nearsite NE (indicator)	0.5 miles NE
F. Fish		
BD-25	Kankakee River, Upstream (control)	5.0 miles E
BD-28	Kankakee River, Discharge (indicator)	5.4 miles E
BD-41	Cooling Lake (indicator)	1.0 mile E
G. Sediment		
BD-10	Kankakee River, Downstream (indicator)	5.4 miles NE
BD-57	Circulating Water Blowdown Discharge (indicator)	5.4 miles E

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Braidwood Station, 2010

Location	Location Description	Distance & Direction From Site
H. Food Products		
Quadrant 1	Clark Farm	3.8 miles ENE
Quadrant 2	W.F. Soltwisch	4.5 miles SSE
Quadrant 3	Terri Schultz	4.8 miles SSW
Quadrant 4	Bruce Sinkular	1.9 miles NNW
Control	Gorman Farm	9.0 miles NE
I. Environmental Dosimetry - TLD		
Site Boundary		
BD-101-3 and -4		0.5 miles N
BD-102-1 and -2		1.1 miles NNE
BD-103-1 and -2		1.0 mile NE
BD-104-1 and -2		0.7 miles ENE
BD-105-1 and -2		2.2 miles E
BD-106-1 and -2		2.5 miles ESE
BD-107-1 and -2		3.2 miles SE
BD-108-1 and -2		3.2 miles SSE
BD-109-1 and -2		3.8 miles S
BD-110-1 and -2		2.8 miles SSW
BD-111a-1 and -2		1.4 miles SW
BD-112-1 and -2		0.7 miles WSW
BD-113a-1 and -2		0.5 miles W
BD-114-1 and -2		0.4 miles WNW
BD-115-1 and -2		0.3 miles NW
BD-116-1		0.4 miles NNW
BD-116-2		0.5 miles NNW
Intermediate Distance		
BD-201-1 and -2		4.2 miles N
BD-202-1 and -2		4.8 miles NNE
BD-203-1 and -2		4.9 miles NE
BD-204-1 and -2		4.3 miles ENE
BD-205-1 and -2		4.0 miles E
BD-206-1 and -2		4.5 miles ESE
BD-207-1 and -2		4.5 miles SE
BD-208-1 and -2		4.5 miles SSE
BD-209-1 and -2		4.8 miles S
BD-210-1 and -2		5.3 miles SSW
BD-211-1 and -2		4.8 miles SW
BD-212-3 and -4		5.0 miles WSW
BD-213-3 and -4		4.8 miles W
BD-214-1 and -2		4.3 miles WNW
BD-215-1 and -2		4.5 miles NW
BD-216-1 and -2		4.0 miles NNW
Other		
BD-02-1 and -2	Custer Park (indicator)	5.0 miles E
BD-04-1 and -2	Essex (indicator)	4.8 miles SSE
BD-05-1 and -2	Gardner (indicator)	5.5 miles SW
BD-06-1 and -2	Godley (indicator)	0.5 miles WSW
BD-19-1 and -2	Nearsite NW (indicator)	0.3 miles NW
BD-20-1 and -2	Nearsite N (indicator)	0.6 miles N
BD-21-1 and -2	Nearsite NE (indicator)	0.5 miles NE

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Braidwood Station, 2010

Location	Location Description	Distance & Direction From Site
I. Environmental Dosimetry – TLD (cont'd)		
Control and Special Interest		
BD-03-1 and -2	Onsite 2	0.3 miles NE

TABLE B-2: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Braidwood Station, 2010

Sample Medium	Analysis	Sampling Method	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Monthly composite from weekly grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis
Surface Water	Gross Beta	Monthly composite from weekly grab samples.	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices
Surface Water	Tritium	Quarterly composite from weekly grab samples.	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation
Drinking Water	Gross Beta	Monthly composite from weekly grab samples.	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices
Drinking Water	Gamma Spectroscopy	Monthly composite from weekly grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis
Drinking Water	Tritium	Quarterly composite from weekly grab samples.	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation
Ground/Well Water	Gamma Spectroscopy	Quarterly grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis
Ground/Well Water	Tritium	Quarterly grab samples.	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation
Fish	Gamma Spectroscopy	Samples collected twice annually via electroshocking or other techniques	TBE-2007 Gamma emitting radioisotope analysis

TABLE B-2: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Braidwood Station, 2010

Sample Medium	Analysis	Sampling Method	Analytical Procedure Number
Air Particulates	Gross Beta	One-week composite of continuous air sampling through glass fiber filter paper	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices
Air Particulates	Gamma Spectroscopy	Quarterly composite of each station	TBE, TBE-2007 Gamma emitting radioisotope analysis
Air Iodine	Gamma Spectroscopy	Weekly composite of continuous air sampling through charcoal filter	TBE, TBE-2007 Gamma emitting radioisotope analysis
Milk	I-131	Bi-weekly grab sample May through October. Monthly all other times	TBE, TBE-2012 Radioiodine in various matrices
Milk	Gamma Spectroscopy	Bi-weekly grab sample May through October. Monthly all other times	TBE, TBE-2007 Gamma emitting radioisotope analysis
Food Products	Gamma Spectroscopy	Annual grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis
TLD	Thermoluminescence Dosimetry	Quarterly TLDs comprised of two Global Dosimetry CaF_2 elements.	Mirion Technologies

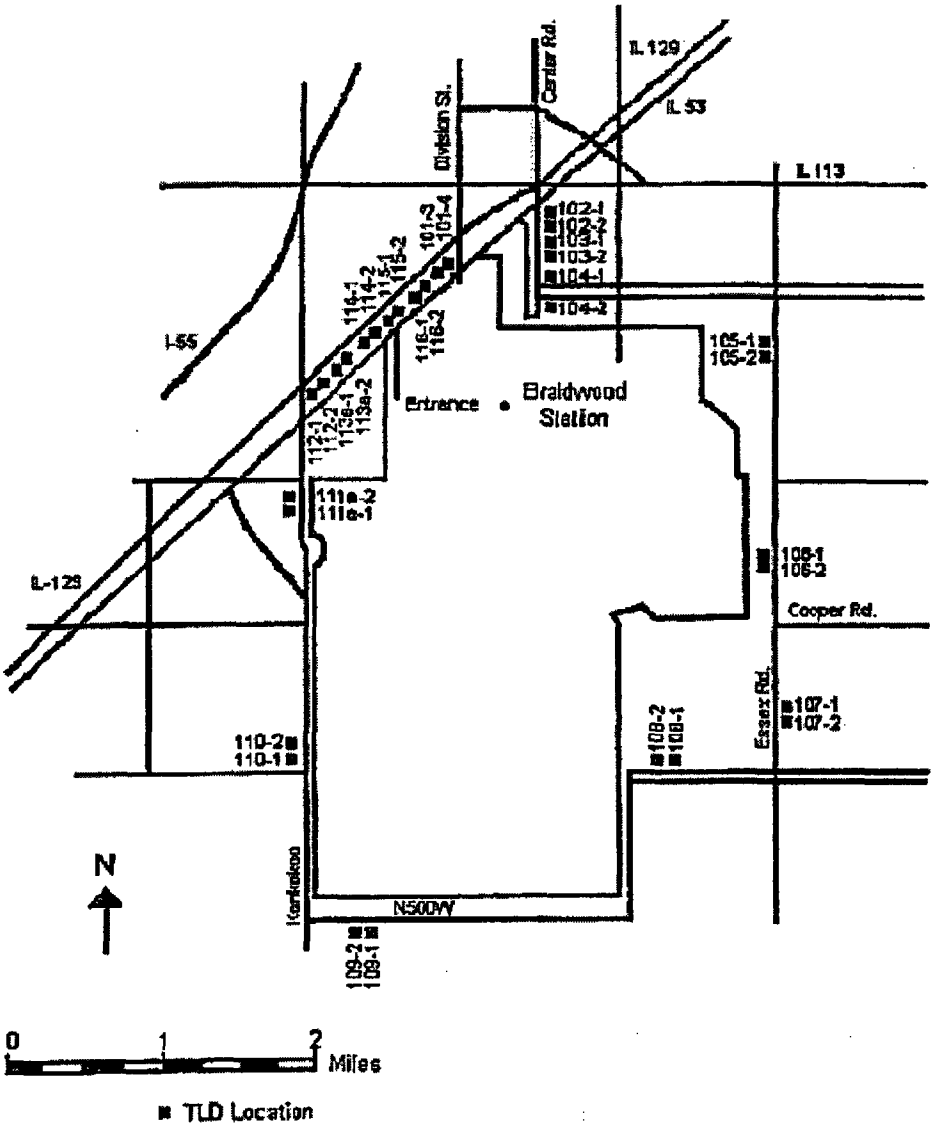

Figure B-1
Inner Ring TLD Locations of the
Braidwood Station, 2010

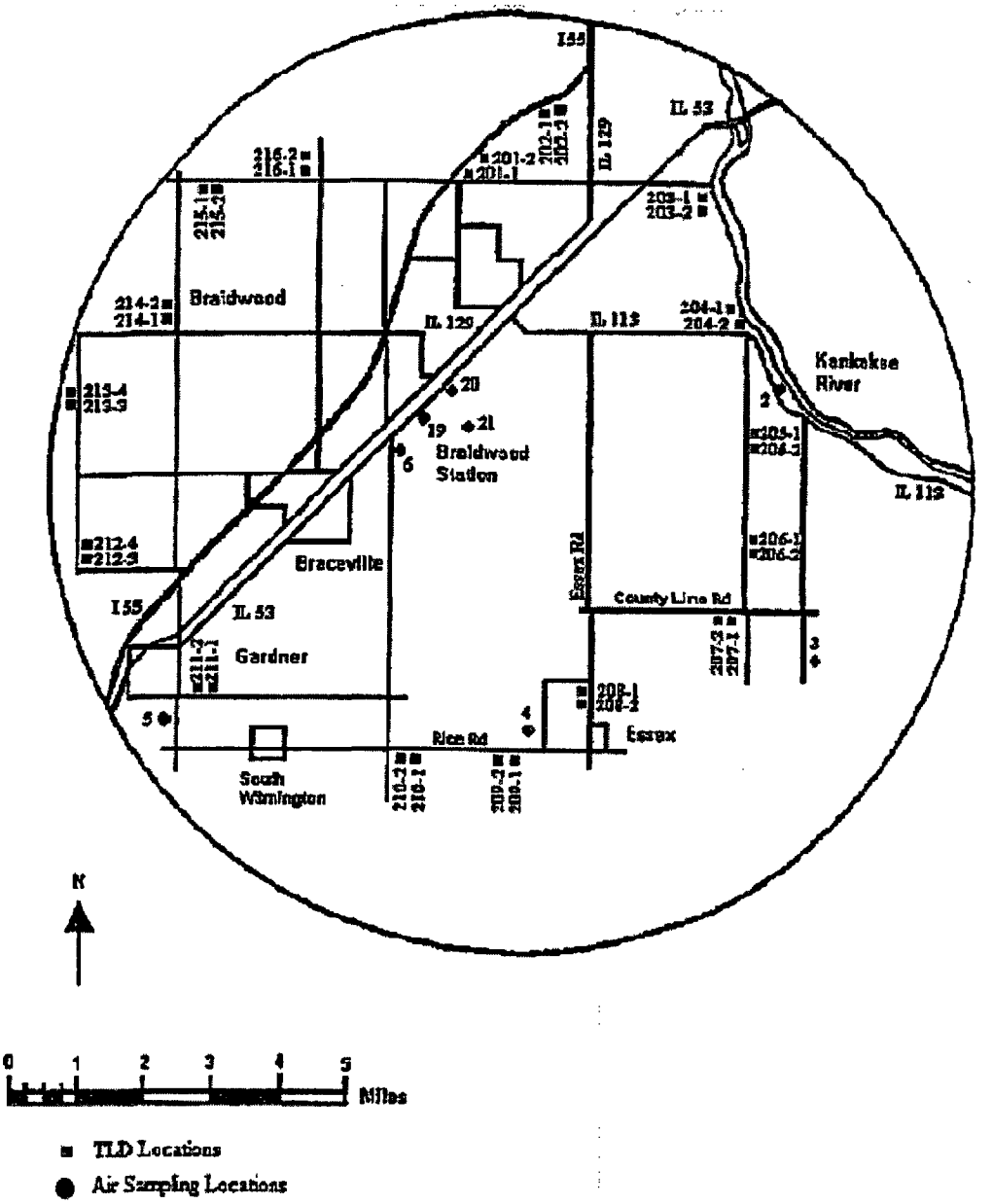

Figure B-2
Fixed Air Sampling and Outer Ring TLD Locations
of the Braidwood Station, 2010

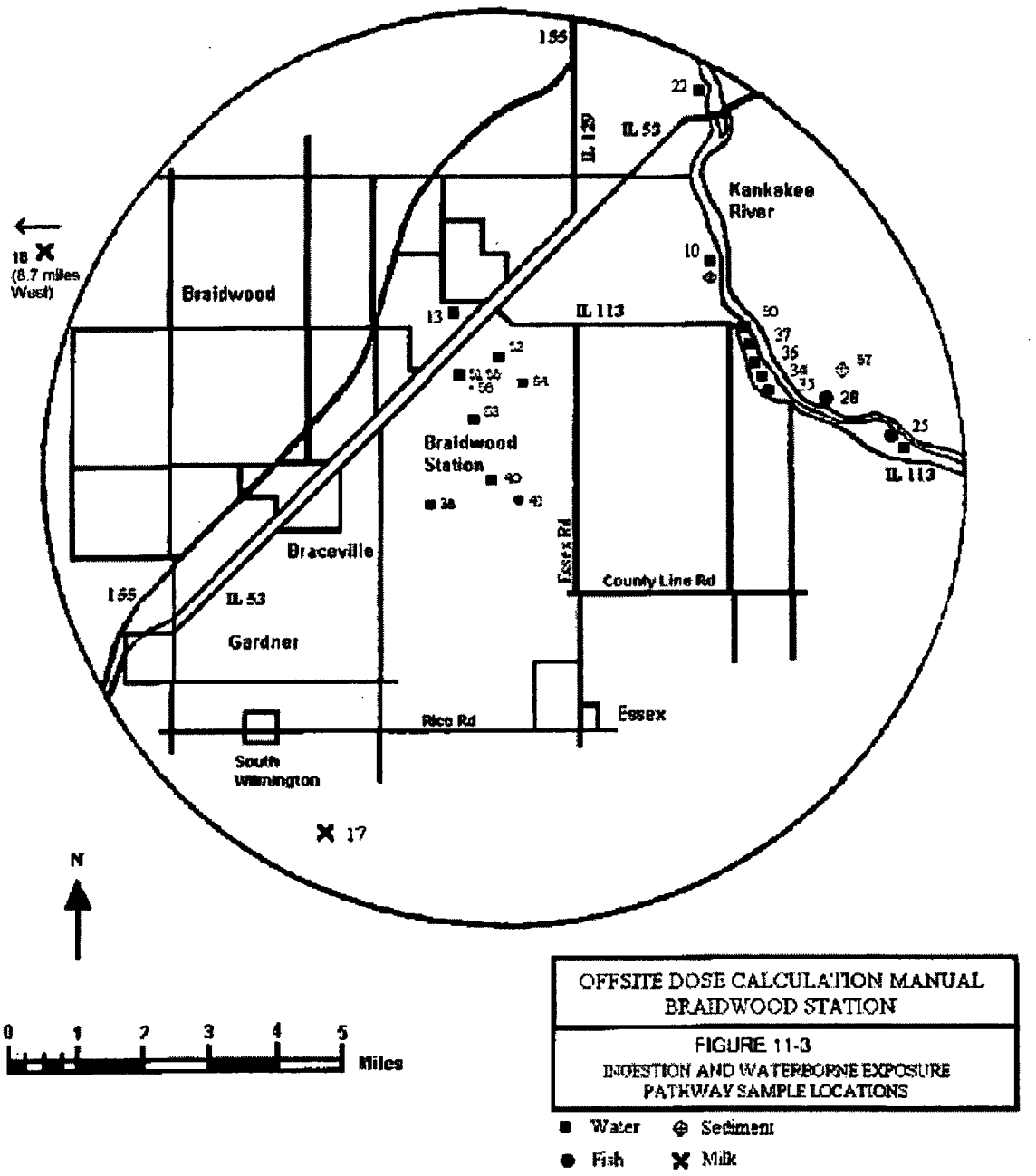

Figure B-3
Ingestion and Waterborne Exposure Pathway Sample Locations
of the Braidwood Station, 2010

APPENDIX C

DATA TABLES AND FIGURES
PRIMARY LABORATORY

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TABLE C-I.1 **CONCENTRATIONS OF GROSS BETA IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	BD-10	BD-25	BD-38	BD-40	BD-55	BD-56
01/07/10 - 01/28/10	4.2 ± 2.1	8.5 ± 2.7	4.9 ± 2.7 (1)	11 ± 2.9	(1)	(1)
02/04/10 - 02/25/10	6.3 ± 3.1	6.6 ± 3.5	4.2 ± 1.8	11 ± 3.7	(1)	(1)
03/04/10 - 03/25/10	< 3.4	9.6 ± 3.2	4.6 ± 2.9	11 ± 3.2	2.9 ± 1.9 (1)	< 3.1 (1)
04/01/10 - 04/29/10	4.8 ± 2.1	8.4 ± 2.6	5.1 ± 2.4	5.9 ± 2.1	3.1 ± 1.8	5.4 ± 2.4
05/06/10 - 05/27/10	4.7 ± 2.2	7.7 ± 2.4	4.3 ± 2.6	11 ± 2.8	3.5 ± 1.9	< 3.2
06/03/10 - 06/24/10	7.2 ± 2.3	6.7 ± 2.4	< 3.8	10 ± 2.9	< 2.8	< 3.3
07/01/10 - 07/29/10	5.3 ± 2.2	8.0 ± 2.5	< 3.7	7.1 ± 2.4	< 2.6	< 3.0
08/05/10 - 08/26/10	4.1 ± 2.2	5.7 ± 2.2	4.1 ± 2.8	12 ± 2.9	< 2.9	< 3.1
09/02/10 - 09/30/10	5.6 ± 2.8	9.9 ± 2.7	9.6 ± 3.7	14 ± 3.8	2.8 ± 1.8	3.8 ± 2.0
10/07/10 - 10/28/10	4.4 ± 2.7	8.3 ± 3.2	5.4 ± 3.3	12 ± 3.5	5.8 ± 3.3	6.2 ± 3.0
11/04/10 - 11/24/10	4.8 ± 1.9	11 ± 2.3	9.4 ± 2.5	13 ± 2.7	4.0 ± 1.7	5.2 ± 1.9
12/02/10 - 12/02/10	5.5 ± 2.1	9.4 ± 2.4	6.1 ± 2.2 (1)	9.2 ± 2.7	4.3 ± 1.7 (1)	5.7 ± 2.0 (1)
MEAN	5.2 ± 1.9	8.3 ± 3.0	5.8 ± 4.1	10 ± 4.6	3.8 ± 2.1	5.3 ± 1.8

TABLE C-I.2 **CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	BD-10	BD-25	BD-38	BD-40	BD-55	BD-56
01/07/10 - 03/25/10	< 178	< 177	< 174	< 177	< 172	< 179
04/01/10 - 06/24/10	< 160	< 167	< 166	< 164	< 165	< 165
07/01/10 - 09/30/10	< 188	< 195	< 188	< 188	< 191	< 192
10/07/10 - 12/30/10	307 ± 112	< 160	< 158	< 161	< 159	< 160
MEAN	-	-	-	-	-	-

(1) SEE EXCEPTIONS SECTION FOR EXPLANATION

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE C-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BD-10	01/07/10 - 01/28/10	< 3	< 3	< 7	< 3	< 4	< 4	< 5	< 12	< 2	< 3	< 27	< 8
	02/04/10 - 02/25/10	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 10	< 3	< 3	< 20	< 8
	03/04/10 - 03/25/10	< 1	< 1	< 4	< 1	< 2	< 2	< 3	< 6	< 1	< 1	< 43	< 13
	04/01/10 - 04/29/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 11	< 1	< 2	< 18	< 6
	05/06/10 - 05/27/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 15	< 2	< 2	< 22	< 6
	06/03/10 - 06/24/10	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 7	< 1	< 1	< 14	< 4
	07/01/10 - 07/29/10	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 8	< 1	< 2	< 15	< 5
	08/05/10 - 08/26/10	< 1	< 2	< 3	< 1	< 3	< 2	< 3	< 8	< 1	< 1	< 14	< 4
	09/02/10 - 09/30/10	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 14	< 2	< 3	< 26	< 8
	10/07/10 - 10/28/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 21	< 6
	11/04/10 - 11/24/10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 7	< 1	< 1	< 12	< 4
	12/02/10 - 12/30/10	< 1	< 1	< 3	< 1	< 2	< 1	< 3	< 7	< 1	< 1	< 14	< 4
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-25	01/07/10 - 01/28/10	< 3	< 3	< 6	< 2	< 5	< 3	< 5	< 15	< 3	< 3	< 27	< 6
	02/04/10 - 02/25/10	< 4	< 3	< 10	< 4	< 9	< 4	< 8	< 15	< 4	< 4	< 29	< 11
	03/04/10 - 03/25/10	< 1	< 1	< 3	< 1	< 2	< 1	< 3	< 7	< 1	< 1	< 39	< 12
	04/01/10 - 04/29/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 11	< 1	< 2	< 18	< 6
	05/06/10 - 05/27/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 14	< 2	< 2	< 22	< 7
	06/03/10 - 06/24/10	< 2	< 2	< 5	< 2	< 5	< 2	< 4	< 10	< 2	< 2	< 19	< 6
	07/01/10 - 07/29/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 11	< 2	< 2	< 19	< 5
	08/05/10 - 08/26/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 22	< 6
	09/02/10 - 09/30/10	< 2	< 2	< 6	< 2	< 5	< 3	< 5	< 12	< 2	< 2	< 23	< 8
	10/07/10 - 10/28/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 11	< 2	< 2	< 19	< 6
	11/04/10 - 11/24/10	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 10	< 1	< 1	< 16	< 5
	12/02/10 - 12/30/10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 6	< 1	< 1	< 12	< 4
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD		Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BD-38	01/07/10 - 01/28/10	(1)	< 3	< 3	< 6	< 2	< 5	< 3	< 5	< 14	< 2	< 3	< 28	< 8
	2/4/2010 - 02/25/10		< 3	< 3	< 8	< 3	< 7	< 4	< 6	< 13	< 3	< 3	< 27	< 9
	3/4/2010 - 03/25/10		< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 7	< 1	< 1	< 35	< 11
	04/01/10 - 04/29/10		< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 12	< 2	< 2	< 19	< 6
	05/06/10 - 05/27/10		< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 14	< 1	< 2	< 21	< 5
	06/03/10 - 06/24/10		< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 10	< 2	< 2	< 18	< 6
	07/01/10 - 07/29/10		< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 22	< 7
	08/05/10 - 08/26/10		< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 20	< 6
	09/02/10 - 09/30/10		< 2	< 2	< 5	< 2	< 4	< 3	< 4	< 13	< 2	< 2	< 22	< 7
	10/07/10 - 10/28/10		< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 11	< 2	< 2	< 18	< 6
	11/04/10 - 11/24/10		< 2	< 2	< 4	< 1	< 3	< 2	< 3	< 11	< 1	< 2	< 18	< 6
	12/02/10 - 12/09/10	(1)	< 7	< 9	< 23	< 8	< 15	< 10	< 17	< 231	< 6	< 7	< 200	< 59
	MEAN		-	-	-	-	-	-	-	-	-	-	-	-
BD-40	01/07/10 - 01/28/10		< 3	< 3	< 7	< 3	< 6	< 3	< 5	< 14	< 2	< 3	< 25	< 9
	2/4/2010 - 02/25/10		< 3	< 4	< 8	< 3	< 6	< 4	< 6	< 15	< 3	< 3	< 30	< 10
	3/4/2010 - 03/25/10		< 1	< 2	< 4	< 1	< 2	< 2	< 3	< 7	< 1	< 1	< 48	< 14
	4/1/2010 - 04/29/10		< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 21	< 6
	05/06/10 - 05/27/10		< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 11	< 1	< 1	< 16	< 4
	06/03/10 - 06/24/10		< 2	< 3	< 6	< 2	< 5	< 3	< 4	< 11	< 2	< 2	< 20	< 7
	07/01/10 - 07/29/10		< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 20	< 6
	08/05/10 - 08/26/10		< 2	< 3	< 5	< 2	< 4	< 3	< 4	< 13	< 2	< 2	< 23	< 7
	09/02/10 - 09/30/10		< 2	< 2	< 5	< 2	< 4	< 3	< 4	< 13	< 2	< 2	< 22	< 7
	10/07/10 - 10/28/10		< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 20	< 7
	11/04/10 - 11/24/10		< 1	< 1	< 3	< 1	< 3	< 2	< 3	< 9	< 1	< 1	< 16	< 5
	12/02/10 - 12/30/10		< 1	< 1	< 3	< 1	< 2	< 1	< 3	< 8	< 1	< 1	< 13	< 4
	MEAN		-	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BD-55	01/07/10 - 01/28/10 (1)												
	2/4/2010 - 02/25/10 (1)												
	03/04/10 - 03/25/10	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 10	< 1	< 1	< 47	< 15
	4/1/2010 - 04/29/10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 9	< 1	< 1	< 13	< 4
	5/6/2010 - 05/27/10	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 1	< 2	< 20	< 5
	6/3/2010 - 06/24/10	< 2	< 2	< 6	< 2	< 5	< 3	< 5	< 13	< 2	< 3	< 22	< 7
	7/1/2010 - 07/29/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 11	< 2	< 2	< 20	< 6
	8/5/2010 - 08/26/10	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 11	< 2	< 2	< 19	< 7
	09/02/10 - 09/30/10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 8	< 1	< 1	< 13	< 4
	10/07/10 - 10/28/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 12	< 2	< 2	< 19	< 6
	11/04/10 - 11/24/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 2	< 2	< 20	< 6
	12/02/10 - 12/02/10 (1)	< 10	< 13	< 10	< 9	< 23	< 13	< 26	< 596	< 10	< 10	< 468	< 129
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-56	01/07/10 - 01/28/10 (1)												
	2/4/2010 - 02/25/10 (1)												
	03/04/10 - 03/25/10	< 1	< 1	< 4	< 1	< 2	< 2	< 2	< 7	< 1	< 1	< 40	< 11
	04/01/10 - 04/29/10	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 10	< 1	< 1	< 17	< 6
	05/06/10 - 05/27/10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 10	< 1	< 1	< 17	< 5
	06/03/10 - 06/24/10	< 2	< 2	< 6	< 2	< 5	< 3	< 5	< 12	< 2	< 2	< 23	< 7
	7/1/2010 - 07/29/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 23	< 7
	8/5/2010 - 08/26/10	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 12	< 2	< 2	< 20	< 6
	9/2/2010 - 09/30/10	< 2	< 2	< 6	< 3	< 5	< 3	< 4	< 14	< 2	< 2	< 25	< 7
	10/07/10 - 10/28/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 22	< 8
	11/04/10 - 11/24/10	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 13	< 1	< 1	< 20	< 6
	12/02/10 - 12/02/10 (1)	< 9	< 10	< 27	< 8	< 17	< 13	< 19	< 444	< 7	< 7	< 326	< 108
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-II.1 CONCENTRATIONS OF GROSS BETA IN PUBLIC WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	BD-22
12/31/09 - 01/28/10	2.9 ± 1.9
01/28/10 - 02/25/10	5.8 ± 1.8
02/25/10 - 04/01/10	2.6 ± 1.7
04/01/10 - 04/29/10	2.4 ± 1.6
04/29/10 - 06/03/10	2.8 ± 1.8
06/03/10 - 07/01/10	< 2.7
07/01/10 - 07/29/10	6.4 ± 1.8
07/29/10 - 09/02/10	3.9 ± 1.8
09/02/10 - 09/30/10	3.3 ± 1.8
09/30/10 - 10/28/10	< 3.7
10/28/10 - 12/02/10	3.9 ± 1.7
12/02/10 - 12/30/10	< 3.4
MEAN	3.8 ± 2.8

TABLE C-II.2 CONCENTRATIONS OF TRITIUM IN PUBLIC WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	BD-22
12/31/09 - 01/28/10	< 181
01/28/10 - 02/25/10	230 ± 109
02/25/10 - 04/01/10	< 159
04/01/10 - 04/29/10	< 161
04/29/10 - 06/03/10	< 161
06/03/10 - 07/01/10	< 170
07/01/10 - 07/29/10	< 170
07/29/10 - 09/02/10	< 189
09/02/10 - 09/30/10	723 ± 134
09/30/10 - 10/28/10	2950 ± 345
10/28/10 - 12/02/10	213 ± 86
12/02/10 - 12/30/10	< 170
MEAN	1029 ± 2605

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

TABLE C-II.3 **CONCENTRATIONS OF GAMMA EMITTERS IN PUBLIC WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BD-22	12/31/09 - 01/28/10	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 5	< 3	< 3	< 44	< 15
	01/28/10 - 02/25/10	< 1	< 1	< 4	< 1	< 2	< 2	< 2	< 9	< 1	< 1	< 42	< 15
	02/25/10 - 04/01/10	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 13	< 1	< 1	< 14	< 4
	04/01/10 - 04/29/10	< 2	< 2	< 4	< 2	< 3	< 2	< 4	< 13	< 2	< 2	< 20	< 7
	04/29/10 - 06/03/10	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 13	< 1	< 1	< 16	< 5
	06/03/10 - 07/01/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 14	< 1	< 1	< 19	< 7
	07/01/10 - 07/29/10	< 1	< 1	< 3	< 1	< 3	< 2	< 3	< 5	< 1	< 2	< 12	< 4
	07/29/10 - 09/02/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 15	< 1	< 2	< 21	< 7
	09/02/10 - 09/30/10	< 4	< 4	< 9	< 5	< 8	< 4	< 9	< 14	< 4	< 4	< 30	< 9
	09/30/10 - 10/28/10	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 8	< 1	< 2	< 14	< 5
	10/28/10 - 12/02/10	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 13	< 1	< 1	< 16	< 6
	12/02/10 - 12/30/10	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 14	< 5
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-III.1 CONCENTRATIONS OF TRITIUM IN GROUND/WELL WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	BD-13	BD-34	BD-35	BD-36	BD-37	BD-50	BD-51	BD-53	BD-54
01/21/10 - 03/18/10	< 186	< 180	< 168	< 180	< 185	(1)	< 189	< 175	< 188
04/08/10 - 04/22/10	< 162	< 161	< 157	< 161	< 156	< 173	< 159	< 157	< 160
07/08/10 - 07/08/10	< 163	< 161	< 160	180 ± 109	< 163	< 165	< 160	< 162	< 162
10/14/10 - 10/14/10	< 194	< 192	< 193	242 ± 131	< 194	< 194	< 195	< 192	< 190
MEAN	-	-	-	211 ± 88	-	-	-	-	-

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-III.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUND/WELL WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BD-13	01/14/10 - 01/14/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 7	< 2	< 2	< 14	< 5
	04/08/10 - 04/08/10	< 4	< 4	< 9	< 4	< 7	< 5	< 8	< 12	< 4	< 4	< 22	< 10
	07/08/10 - 07/08/10	< 4	< 4	< 9	< 5	< 8	< 5	< 8	< 7	< 5	< 4	< 20	< 7
	10/14/10 - 10/14/10	< 4	< 3	< 8	< 4	< 6	< 4	< 6	< 11	< 3	< 4	< 25	< 9
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-34	01/14/10 - 01/14/10	< 2	< 2	< 4	< 1	< 3	< 2	< 3	< 7	< 1	< 2	< 14	< 4
	04/08/10 - 04/08/10	< 4	< 4	< 9	< 5	< 9	< 5	< 8	< 13	< 5	< 4	< 28	< 10
	07/08/10 - 07/08/10	< 5	< 6	< 11	< 4	< 9	< 6	< 10	< 10	< 5	< 5	< 26	< 8
	10/14/10 - 10/14/10	< 4	< 4	< 10	< 4	< 9	< 5	< 9	< 15	< 4	< 5	< 32	< 10
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-35	03/18/10 - 03/18/10	< 5	< 6	< 14	< 5	< 10	< 6	< 10	< 12	< 5	< 6	< 29	< 8
	04/08/10 - 04/08/10	< 5	< 6	< 10	< 4	< 12	< 6	< 9	< 13	< 4	< 5	< 40	< 8
	07/08/10 - 07/08/10	< 5	< 5	< 9	< 4	< 10	< 5	< 7	< 8	< 5	< 5	< 25	< 7
	10/14/10 - 10/14/10	< 5	< 5	< 11	< 5	< 10	< 6	< 8	< 14	< 4	< 5	< 37	< 13
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-36	01/14/10 - 01/14/10	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 6	< 1	< 2	< 12	< 4
	04/08/10 - 04/08/10	< 5	< 5	< 14	< 5	< 11	< 5	< 11	< 15	< 3	< 5	< 31	< 8
	07/08/10 - 07/08/10	< 7	< 7	< 13	< 7	< 16	< 7	< 13	< 14	< 8	< 7	< 32	< 11
	10/14/10 - 10/14/10	< 3	< 3	< 7	< 3	< 7	< 4	< 6	< 11	< 3	< 3	< 22	< 7
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-37	01/14/10 - 01/14/10	< 2	< 2	< 5	< 2	< 4	< 3	< 4	< 10	< 2	< 2	< 19	< 6
	04/08/10 - 04/08/10	< 5	< 5	< 9	< 5	< 10	< 6	< 8	< 15	< 5	< 5	< 37	< 10
	07/08/10 - 07/08/10	< 6	< 5	< 15	< 5	< 13	< 6	< 11	< 9	< 5	< 6	< 30	< 9
	10/14/10 - 10/14/10	< 5	< 5	< 10	< 5	< 8	< 5	< 8	< 14	< 4	< 4	< 31	< 11
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-III.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUND/WELL WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BD-50	01/14/10 - 01/14/10	(1)	-	-	-	-	-	-	-	-	-	-	-
	04/22/10 - 04/22/10	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 15	< 1	< 2	< 21	< 7
	07/08/10 - 07/08/10	< 4	< 4	< 8	< 5	< 8	< 5	< 7	< 7	< 4	< 5	< 21	< 6
	10/14/10 - 10/14/10	< 3	< 4	< 9	< 5	< 8	< 5	< 8	< 14	< 4	< 4	< 29	< 8
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-51	01/21/10 - 01/21/10	< 7	< 7	< 13	< 5	< 12	< 8	< 12	< 14	< 5	< 7	< 38	< 13
	04/08/10 - 04/08/10	< 4	< 4	< 9	< 4	< 8	< 4	< 8	< 11	< 4	< 5	< 28	< 6
	07/08/10 - 07/08/10	< 5	< 7	< 10	< 5	< 10	< 5	< 10	< 10	< 4	< 6	< 28	< 6
	10/14/10 - 10/14/10	< 4	< 4	< 8	< 3	< 7	< 4	< 8	< 13	< 4	< 4	< 30	< 7
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-53	01/14/10 - 01/14/10	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 9	< 2	< 2	< 16	< 6
	04/08/10 - 04/08/10	< 5	< 6	< 13	< 5	< 11	< 6	< 10	< 14	< 5	< 6	< 35	< 11
	07/08/10 - 07/08/10	< 4	< 5	< 11	< 5	< 11	< 5	< 9	< 9	< 4	< 5	< 26	< 9
	10/14/10 - 10/14/10	< 4	< 5	< 10	< 4	< 9	< 4	< 7	< 15	< 4	< 5	< 35	< 9
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-54	01/14/10 - 01/14/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 8	< 2	< 2	< 14	< 5
	04/08/10 - 04/08/10	< 3	< 4	< 8	< 3	< 7	< 4	< 7	< 12	< 4	< 4	< 25	< 6
	07/08/10 - 07/08/10	< 6	< 6	< 13	< 6	< 15	< 7	< 11	< 11	< 7	< 6	< 31	< 9
	10/14/10 - 10/14/10	< 3	< 3	< 7	< 3	< 7	< 4	< 7	< 13	< 3	< 4	< 28	< 6
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-IV.1

CONCENTRATIONS OF GAMMA EMITTERS IN FISH SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC		COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BD-25	Golden Redhorse	05/18/10	< 63	< 75	< 199	< 46	< 161	< 77	< 139	< 1640	< 72	< 60	< 1680	< 412
	Quillback	05/18/10	< 37	< 61	< 115	< 34	< 96	< 63	< 98	< 936	< 36	< 40	< 972	< 347
	Channel Catfish	10/12/10	< 47	< 40	< 82	< 40	< 91	< 47	< 65	< 80	< 44	< 42	< 235	< 86
	Golden Redhorse	10/12/10	< 61	< 64	< 147	< 74	< 120	< 60	< 121	< 111	< 52	< 59	< 325	< 112
		MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-28	Freshwater Drum	05/18/10	< 44	< 51	< 115	< 27	< 85	< 65	< 101	< 1080	< 42	< 49	< 1090	< 297
	Quillback	05/18/10	< 24	< 32	< 71	< 28	< 67	< 38	< 55	< 494	< 20	< 30	< 660	< 101
	Golden Redhorse	10/12/10	< 40	< 51	< 103	< 49	< 88	< 48	< 82	< 79	< 40	< 52	< 266	< 91
	Smallmouth bass	10/12/10	< 45	< 39	< 106	< 47	< 105	< 51	< 91	< 100	< 38	< 55	< 223	< 94
		MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BD-41	Common Carp	05/18/10	< 37	< 46	< 82	< 30	< 80	< 43	< 80	< 725	< 34	< 33	< 892	< 217
	Largemouth Bass	05/18/10	< 62	< 79	< 165	< 55	< 150	< 92	< 137	< 1390	< 94	< 57	< 1380	< 440
	Common Carp	10/12/10	< 18	< 18	< 32	< 25	< 34	< 18	< 36	< 30	< 15	< 16	< 85	< 25
	Largemouth Bass	10/12/10	< 59	< 56	< 126	< 58	< 128	< 63	< 106	< 107	< 54	< 51	< 324	< 94
		MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-V.1 **CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BD-10	05/20/10	< 76	< 96	< 254	< 72	< 178	< 117	< 161	< 68	165 ± 65	< 1480	< 568
	10/07/10	< 32	< 32	< 74	< 38	< 69	< 40	< 57	< 28	108 ± 28	< 188	< 67
	MEAN	-	-	-	-	-	-	-	-	137 ± 81	-	-
BD-57	05/20/10	< 34	< 45	< 73	< 39	< 78	< 45	< 59	< 28	< 47	< 684	< 147
	10/07/10	< 33	< 38	< 89	< 45	< 86	< 43	< 76	< 32	< 35	< 284	< 68
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VI.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

COLLECTION PERIOD	GROUP I				GROUP II			GROUP III	
	BD-06	BD-19	BD-20	BD-21	BD-02	BD-04	BD-05	BD-03	
12/31/09 - 01/07/10	24 ± 4	26 ± 4	25 ± 4	26 ± 4	29 ± 4	27 ± 4	27 ± 4	33 ± 4	
01/07/10 - 01/14/10	29 ± 5	28 ± 5	26 ± 5	30 ± 5	29 ± 5	32 ± 5	30 ± 5	32 ± 5	
01/14/10 - 01/21/10	37 ± 6	40 ± 6	32 ± 5	28 ± 5	29 ± 5	32 ± 5	33 ± 5	28 ± 5	
01/21/10 - 01/28/10	19 ± 4	20 ± 5	19 ± 5	21 ± 5	20 ± 5	18 ± 4	23 ± 5	16 ± 4	
01/28/10 - 02/04/10	24 ± 5	19 ± 5	24 ± 5	24 ± 5	17 ± 5	23 ± 5	26 ± 5	28 ± 5	
02/04/10 - 02/11/10	23 ± 5	18 ± 4	20 ± 4	20 ± 4	15 ± 4	23 ± 5	15 ± 4	18 ± 4	
02/11/10 - 02/18/10	16 ± 4	16 ± 4	12 ± 4	17 ± 4	21 ± 4	14 ± 4	13 ± 4	16 ± 4	
02/18/10 - 02/25/10	20 ± 5	20 ± 5	21 ± 5	21 ± 5	21 ± 5	21 ± 5	25 ± 5	20 ± 5	
02/25/10 - 03/04/10	13 ± 4	12 ± 4	11 ± 4	15 ± 4	12 ± 4	13 ± 4	13 ± 4	13 ± 4	
03/04/10 - 03/11/10	21 ± 4	19 ± 4	22 ± 5	20 ± 5	21 ± 5	23 ± 5	24 ± 5	31 ± 6	(1)
03/11/10 - 03/18/10	9 ± 4	7 ± 4	11 ± 4	14 ± 4	11 ± 4	9 ± 4	10 ± 4	11 ± 4	
03/18/10 - 03/25/10	13 ± 4	14 ± 4	13 ± 4	14 ± 4	9 ± 4	14 ± 4	13 ± 4	14 ± 4	
03/25/10 - 04/01/10	19 ± 4	15 ± 4	20 ± 5	20 ± 5	15 ± 4	19 ± 4	17 ± 4	17 ± 4	
04/01/10 - 04/08/10	14 ± 4	15 ± 4	16 ± 4	16 ± 4	15 ± 4	13 ± 4	13 ± 4	11 ± 4	
04/08/10 - 04/15/10	21 ± 4	18 ± 4	16 ± 4	14 ± 4	19 ± 4	17 ± 4	18 ± 4	19 ± 4	
04/15/10 - 04/22/10	10 ± 4	13 ± 4	13 ± 4	11 ± 4	9 ± 4	12 ± 4	14 ± 4	14 ± 4	
04/22/10 - 04/29/10	13 ± 4	14 ± 4	12 ± 4	10 ± 4	14 ± 4	12 ± 4	15 ± 5	(1) 10 ± 4	(1)
04/29/10 - 05/06/10	13 ± 4	13 ± 4	17 ± 4	14 ± 4	14 ± 4	12 ± 4	14 ± 4	14 ± 4	
05/06/10 - 05/13/10	< 6	< 6	7 ± 4	8 ± 4	9 ± 4	6 ± 4	9 ± 4	< 6	(1)
05/13/10 - 05/20/10	9 ± 4	8 ± 4	11 ± 4	8 ± 4	10 ± 4	15 ± 4	9 ± 4	12 ± 4	
05/20/10 - 05/27/10	19 ± 4	15 ± 4	14 ± 4	17 ± 4	17 ± 4	18 ± 4	14 ± 4	21 ± 4	
05/27/10 - 06/03/10	17 ± 4 (1)	15 ± 4	16 ± 4	17 ± 4	16 ± 4	16 ± 4	16 ± 4	16 ± 4	
06/03/10 - 06/10/10	16 ± 4	13 ± 4	10 ± 4	16 ± 4	16 ± 4	22 ± 10 (1)	13 ± 4	14 ± 4	
06/10/10 - 06/17/10	7 ± 4	14 ± 4	9 ± 4	10 ± 4	13 ± 4	15 ± 4	12 ± 4	13 ± 4	
06/17/10 - 06/24/10	11 ± 4	10 ± 4	14 ± 4	15 ± 4	11 ± 4	11 ± 4	10 ± 4	7 ± 4	
06/24/10 - 07/01/10	11 ± 4	10 ± 4	13 ± 4	14 ± 4	12 ± 4	12 ± 4	12 ± 4	14 ± 4	
07/01/10 - 07/08/10	16 ± 4	18 ± 4	19 ± 4	17 ± 4	19 ± 4	15 ± 4	17 ± 4	19 ± 4	
07/08/10 - 07/15/10	21 ± 4	23 ± 5	22 ± 5	21 ± 4	26 ± 5	21 ± 4	20 ± 4	22 ± 5	
07/15/10 - 07/22/10	25 ± 4	23 ± 4	26 ± 4	22 ± 4	21 ± 4	27 ± 4	23 ± 4	24 ± 4	
07/22/10 - 07/29/10	16 ± 4	14 ± 4	18 ± 5	16 ± 4	15 ± 4	13 ± 4	17 ± 4	16 ± 4	
07/29/10 - 08/05/10	17 ± 4	22 ± 5	25 ± 5	21 ± 4	21 ± 4	19 ± 4	26 ± 5	22 ± 5	
08/05/10 - 08/12/10	26 ± 4	22 ± 4	31 ± 4	29 ± 4	24 ± 4	29 ± 4	28 ± 4	27 ± 4	
08/12/10 - 08/19/10	22 ± 5	24 ± 5	23 ± 5	22 ± 5	22 ± 5 (1)	21 ± 4	23 ± 5	22 ± 5	
08/19/10 - 08/26/10	18 ± 4	21 ± 5	23 ± 5	6 ± 4	22 ± 5	22 ± 5	20 ± 5	26 ± 5	
08/26/10 - 09/02/10	20 ± 4	22 ± 4	20 ± 4	17 ± 4	21 ± 4	21 ± 4	22 ± 4	23 ± 4	
09/02/10 - 09/09/10	19 ± 4	15 ± 4	15 ± 4	14 ± 4	17 ± 4	15 ± 4	15 ± 4	18 ± 4	
09/09/10 - 09/16/10	17 ± 5	18 ± 5	21 ± 5	20 ± 5	20 ± 5	20 ± 5	15 ± 5	21 ± 5	
09/16/10 - 09/23/10	17 ± 4	17 ± 4	20 ± 4	16 ± 4	18 ± 4	17 ± 4	22 ± 4	18 ± 4	
09/23/10 - 09/30/10	20 ± 4	16 ± 4	18 ± 4	23 ± 4	21 ± 4	20 ± 4	21 ± 4	24 ± 5	
09/30/10 - 10/07/10	20 ± 4	18 ± 4	18 ± 4	16 ± 4	19 ± 4	18 ± 4	22 ± 4	16 ± 3	
10/07/10 - 10/14/10	38 ± 6	39 ± 6	41 ± 6	38 ± 6	38 ± 6	35 ± 5	43 ± 6	35 ± 5	
10/14/10 - 10/21/10	23 ± 5	16 ± 4	27 ± 5	22 ± 5	23 ± 5	24 ± 5	17 ± 4	22 ± 5	
10/21/10 - 10/28/10	17 ± 4	15 ± 4	16 ± 4	18 ± 4	18 ± 4	17 ± 4	18 ± 4	16 ± 4	
10/28/10 - 11/04/10	16 ± 4	13 ± 3	13 ± 3	15 ± 4	15 ± 3	14 ± 3	11 ± 3	18 ± 4	
11/04/10 - 11/11/10	20 ± 4	17 ± 4	21 ± 4	22 ± 4	23 ± 4	18 ± 4	19 ± 4	18 ± 4	
11/11/10 - 11/18/10	35 ± 4	37 ± 4	34 ± 4	27 ± 4	33 ± 4	31 ± 4	36 ± 4	37 ± 4	
11/18/10 - 11/24/10	18 ± 5	18 ± 5	18 ± 5	17 ± 5	22 ± 5	27 ± 5	18 ± 5	20 ± 5	
11/24/10 - 12/02/10	33 ± 4	28 ± 4	30 ± 4	29 ± 4	32 ± 4	29 ± 4	29 ± 4	30 ± 4	(1)
12/02/10 - 12/09/10	23 ± 5	22 ± 5	22 ± 5	22 ± 5	26 ± 5	29 ± 5	24 ± 5	19 ± 4	
12/09/10 - 12/16/10	29 ± 4	29 ± 4	30 ± 4	27 ± 4	28 ± 4	24 ± 4	25 ± 4	31 ± 4	
12/16/10 - 12/23/10	40 ± 4	29 ± 4	30 ± 4	36 ± 4	22 ± 4	37 ± 4	38 ± 4	42 ± 4	
12/23/10 - 12/30/10	27 ± 5	25 ± 5	25 ± 5	21 ± 4	26 ± 5	23 ± 5	26 ± 5	25 ± 5	
MEAN	20 ± 15	19 ± 14	20 ± 14	19 ± 13	20 ± 13	20 ± 14	20 ± 15	21 ± 15	

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VI.2 MONTHLY AND YEARLY VALUES OF GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

GROUP I - NEAR FIELD LOCATIONS				GROUP II - FAR FIELD LOCATIONS				GROUP III - CONTROL LOCATIONS			
COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD
12/31/09 - 01/28/10	19	40	27 ± 12	12/31/09 - 01/28/10	18	33	27 ± 10	12/31/09 - 01/28/10	16	33	27 ± 15
01/28/10 - 02/25/10	12	24	20 ± 7	01/28/10 - 02/25/10	13	26	19 ± 9	01/28/10 - 02/25/10	16	28	21 ± 11
02/25/10 - 04/01/10	7	22	15 ± 9	02/25/10 - 04/01/10	9	24	15 ± 10	02/25/10 - 04/01/10	11	31	17 ± 16
04/01/10 - 04/29/10	10	21	14 ± 6	04/01/10 - 04/29/10	9	19	14 ± 6	04/01/10 - 04/29/10	10	19	14 ± 8
04/29/10 - 06/03/10	7	19	13 ± 7	04/29/10 - 06/03/10	6	18	13 ± 7	04/29/10 - 06/03/10	12	21	16 ± 8
06/03/10 - 07/01/10	7	16	12 ± 5	06/03/10 - 07/01/10	10	22	13 ± 7	06/03/10 - 07/01/10	7	14	12 ± 7
07/01/10 - 07/29/10	14	26	20 ± 7	07/01/10 - 07/29/10	13	27	19 ± 9	07/01/10 - 07/29/10	16	24	20 ± 7
07/29/10 - 09/02/10	6	31	22 ± 10	07/29/10 - 09/02/10	19	29	23 ± 6	07/29/10 - 09/02/10	22	27	24 ± 4
09/02/10 - 09/30/10	14	23	18 ± 5	09/02/10 - 09/30/10	15	22	18 ± 5	09/02/10 - 09/30/10	18	24	20 ± 6
09/30/10 - 10/28/10	15	41	24 ± 19	09/30/10 - 10/28/10	17	43	24 ± 18	09/30/10 - 10/28/10	16	35	23 ± 18
10/28/10 - 12/02/10	13	37	23 ± 16	10/28/10 - 12/02/10	11	36	24 ± 16	10/28/10 - 12/02/10	18	37	25 ± 17
12/02/10 - 12/30/10	21	40	27 ± 10	12/02/10 - 12/30/10	22	38	27 ± 10	12/02/10 - 12/30/10	19	42	29 ± 20
12/31/09 - 12/30/10	6	41	19 ± 14	12/31/09 - 12/30/10	6	43	20 ± 14	12/31/09 - 12/30/10	7	42	21 ± 15

TABLE C-VI.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BD-02	12/31/09 - 04/01/10	< 3	< 3	< 9	< 3	< 5	< 3	< 6	< 3	< 2	< 109	< 56
	04/01/10 - 07/01/10	< 3	< 3	< 7	< 2	< 6	< 4	< 6	< 3	< 4	< 39	< 9
	07/01/10 - 09/30/10	< 3	< 5	< 9	< 4	< 7	< 5	< 8	< 3	< 3	< 65	< 17
	09/30/10 - 12/30/10	< 2	< 3	< 5	< 2	< 5	< 2	< 3	< 2	< 2	< 20	< 11
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BD-03	12/31/09 - 04/01/10	< 3	< 4	< 14	< 4	< 4	< 6	< 7	< 3	< 2	< 130	< 70
	04/01/10 - 07/01/10	< 4	< 4	< 9	< 5	< 11	< 5	< 8	< 4	< 3	< 56	< 23
	07/01/10 - 09/30/10	< 3	< 2	< 6	< 2	< 5	< 3	< 6	< 2	< 2	< 38	< 18
	09/30/10 - 12/30/10	< 3	< 3	< 8	< 3	< 4	< 2	< 7	< 3	< 3	< 38	< 11
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BD-04	12/31/09 - 04/01/10	< 3	< 3	< 6	< 4	< 8	< 5	< 7	< 3	< 2	< 122	< 50
	04/01/10 - 07/01/10	< 4	< 5	< 10	< 6	< 11	< 4	< 7	< 4	< 4	< 52	< 16
	07/01/10 - 09/30/10	< 3	< 2	< 8	< 3	< 4	< 3	< 4	< 2	< 2	< 52	< 21
	09/30/10 - 12/30/10	< 3	< 4	< 7	< 4	< 8	< 4	< 6	< 4	< 3	< 40	< 17
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BD-05	12/31/09 - 04/01/10	< 3	< 5	< 14	< 3	< 10	< 5	< 8	< 4	< 4	< 182	< 68
	04/01/10 - 07/01/10	< 4	< 6	< 8	< 1	< 7	< 6	< 10	< 4	< 3	< 43	< 16
	07/01/10 - 09/30/10	< 2	< 3	< 7	< 2	< 6	< 3	< 6	< 2	< 2	< 57	< 28
	09/30/10 - 12/30/10	< 2	< 3	< 6	< 2	< 5	< 3	< 4	< 2	< 2	< 26	< 5
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BD-06	12/31/09 - 04/01/10	< 3	< 4	< 16	< 3	< 9	< 3	< 9	< 3	< 3	< 190	< 57
	04/01/10 - 07/01/10	< 3	< 4	< 8	< 4	< 8	< 3	< 5	< 3	< 2	< 35	< 21
	07/01/10 - 09/30/10	< 3	< 4	< 12	< 4	< 6	< 4	< 7	< 3	< 3	< 82	< 34
	09/30/10 - 12/30/10	< 3	< 3	< 9	< 3	< 7	< 4	< 6	< 3	< 3	< 41	< 9
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VI.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BD-19	12/31/09 - 04/01/10	< 3	< 6	< 13	< 4	< 9	< 5	< 9	< 3	< 3	< 195	< 72
	04/01/10 - 07/01/10	< 3	< 3	< 8	< 5	< 8	< 4	< 9	< 4	< 4	< 49	< 23
	07/01/10 - 09/30/10	< 2	< 3	< 6	< 3	< 7	< 4	< 6	< 3	< 2	< 56	< 24
	09/30/10 - 12/30/10	< 3	< 3	< 6	< 3	< 6	< 3	< 5	< 3	< 2	< 28	< 15
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BD-20	12/31/09 - 04/01/10	< 3	< 4	< 9	< 3	< 6	< 4	< 6	< 2	< 2	< 158	< 60
	04/01/10 - 07/01/10	< 4	< 4	< 13	< 4	< 10	< 6	< 8	< 4	< 3	< 45	< 17
	07/01/10 - 09/30/10	< 3	< 4	< 10	< 4	< 10	< 4	< 7	< 3	< 3	< 77	< 35
	09/30/10 - 12/30/10	< 2	< 3	< 5	< 2	< 4	< 2	< 4	< 2	< 2	< 21	< 15
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BD-21	12/31/09 - 04/01/10	< 4	< 4	< 14	< 3	< 9	< 5	< 6	< 3	< 4	< 192	< 93
	04/01/10 - 07/01/10	< 3	< 3	< 9	< 3	< 8	< 3	< 4	< 3	< 3	< 38	< 13
	07/01/10 - 09/30/10	< 2	< 3	< 6	< 1	< 5	< 2	< 5	< 1	< 2	< 55	< 18
	09/30/10 - 12/30/10	< 3	< 3	< 6	< 3	< 5	< 3	< 7	< 3	< 3	< 36	< 9
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VII.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

COLLECTION PERIOD	GROUP I				GROUP II			GROUP III
	BD-06	BD-19	BD-20	BD-21	BD-02	BD-04	BD-05	BD-03
12/31/09 - 01/07/10	< 38	< 53	< 53	< 53	< 37	< 21	< 38	< 37
01/07/10 - 01/14/10	< 22	< 22	< 22	< 22	< 27	< 27	< 27	< 27
01/14/10 - 01/21/10	< 63	< 58	< 58	< 58	< 63	< 63	< 27	< 63
01/21/10 - 01/28/10	< 41	< 41	< 41	< 41	< 35	< 35	< 35	< 35
01/28/10 - 02/04/10	< 21	< 52	< 52	< 52	< 42	< 42	< 42	< 42
02/04/10 - 02/11/10	< 49	< 49	< 49	< 49	< 37	< 37	< 37	< 38
02/11/10 - 02/18/10	< 31	< 13	< 31	< 31	< 29	< 29	< 29	< 29
02/18/10 - 02/25/10	< 35	< 35	< 35	< 35	< 26	< 26	< 26	< 26
02/25/10 - 03/04/10	< 38	< 38	< 16	< 38	< 26	< 26	< 26	< 25
03/04/10 - 03/11/10	< 40	< 41	< 41	< 42	< 43	< 43	< 43	< 53 (1)
03/11/10 - 03/18/10	< 59	< 59	< 25	< 59	< 37	< 37	< 37	< 37
03/18/10 - 03/25/10	< 33	< 33	< 33	< 33	< 32	< 32	< 32	< 32
03/25/10 - 04/01/10	< 33	< 41	< 41	< 41	< 18	< 33	< 33	< 33
04/01/10 - 04/08/10	< 55	< 55	< 55	< 55	< 41	< 41	< 42	< 41
04/08/10 - 04/15/10	< 24	< 33	< 33	< 33	< 24	< 24	< 24	< 13
04/15/10 - 04/22/10	< 38	< 37	< 37	< 37	< 29	< 28	< 29	< 29
04/22/10 - 04/29/10	< 30	< 39	< 39	< 39	< 30	< 17	< 31 (1)	< 31 (1)
04/29/10 - 05/06/10	< 40	< 40	< 40	< 40	< 33	< 33	< 33	< 33
05/06/10 - 05/13/10	< 28	< 41	< 41	< 41	< 28	< 28	< 15	< 29 (1)
05/13/10 - 05/20/10	< 28	< 28	< 28	< 28	< 38	< 39	< 39	< 38
05/20/10 - 05/27/10	< 12	< 29	< 29	< 29	< 27	< 27	< 27	< 27
05/27/10 - 06/03/10	< 62 (1)	< 62	< 62	< 63	< 56	< 56	< 56	< 56
06/03/10 - 06/10/10	< 42	< 20	< 43	< 43	< 36	< 19 (1)	< 37	< 37
06/10/10 - 06/17/10	< 38	< 38	< 38	< 38	< 35	< 35	< 35	< 35
06/17/10 - 06/24/10	< 30	< 30	< 13	< 30	< 27	< 27	< 27	< 27
06/24/10 - 07/01/10	< 50	< 50	< 50	< 50	< 39	< 40	< 40	< 40
07/01/10 - 07/08/10	< 38	< 38	< 38	< 16	< 35	< 35	< 35	< 35
07/08/10 - 07/15/10	< 38	< 38	< 38	< 38	< 37	< 37	< 37	< 37
07/15/10 - 07/22/10	< 21	< 25	< 26	< 25	< 12	< 21	< 21	< 22
07/22/10 - 07/29/10	< 32	< 32	< 33	< 32	< 25	< 26	< 26	< 25
07/29/10 - 08/05/10	< 36	< 36	< 36	< 36	< 31	< 31	< 32	< 17
08/05/10 - 08/12/10	< 30	< 30	< 31	< 31	< 27	< 27	< 27	< 27
08/12/10 - 08/19/10	< 19	< 28	< 28	< 28	< 19 (1)	< 19	< 19	< 19
08/19/10 - 08/26/10	< 55	< 55	< 53	< 55	< 41	< 41	< 41	< 41
08/26/10 - 09/02/10	< 48	< 40	< 40	< 40	< 48	< 48	< 20	< 48
09/02/10 - 09/09/10	< 41	< 41	< 41	< 41	< 32	< 32	< 32	< 32
09/09/10 - 09/16/10	< 27	< 51	< 51	< 51	< 43	< 44	< 44	< 44
09/16/10 - 09/23/10	< 29	< 30	< 30	< 30	< 24	< 24	< 24	< 24
09/23/10 - 09/30/10	< 44	< 24	< 44	< 44	< 59	< 59	< 59	< 59
09/30/10 - 10/07/10	< 57	< 57	< 57	< 57	< 39	< 39	< 38	< 38
10/07/10 - 10/14/10	< 37	< 37	< 20	< 37	< 54	< 54	< 37	< 54
10/14/10 - 10/21/10	< 38	< 38	< 38	< 38	< 38	< 38	< 38	< 38
10/21/10 - 10/28/10	< 33	< 33	< 33	< 18	< 48	< 48	< 48	< 48
10/28/10 - 11/04/10	< 49	< 49	< 49	< 49	< 43	< 43	< 43	< 43
11/04/10 - 11/11/10	< 41	< 45	< 45	< 45	< 23	< 41	< 41	< 41
11/11/10 - 11/18/10	< 36	< 36	< 37	< 37	< 40	< 40	< 40	< 40
11/18/10 - 11/24/10	< 59	< 60	< 60	< 60	< 67	< 67	< 67	< 67
11/24/10 - 12/02/10	< 48	< 48	< 48	< 48	< 53	< 53	< 53	< 54 (1)
12/02/10 - 12/09/10	< 55	< 47	< 47	< 47	< 55	< 23	< 55	< 55
12/09/10 - 12/16/10	< 65	< 65	< 65	< 65	< 60	< 60	< 60	< 60
12/16/10 - 12/23/10	< 64	< 64	< 64	< 64	< 56	< 56	< 56	< 56
12/23/10 - 12/30/10	< 68	< 68	< 68	< 68	< 57	< 57	< 57	< 57
MEAN	-	-	-	-	-	-	-	-

TABLE C-VIII.1 CONCENTRATIONS OF I-131 IN MILK SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

	CONTROL FARM	INDICATOR FARM
COLLECTION PERIOD	BD-18	BD-17
01/08/10	< 0.2	< 0.4
02/04/10	< 0.6	< 0.5
03/04/10	< 0.7	< 0.7
04/01/10	< 0.5	< 0.7
05/06/10	< 0.9	< 0.8
05/20/10	< 0.6	< 0.6
06/04/10	< 0.5	< 0.6
06/17/10	< 0.9	< 0.9
07/03/10	< 0.7	< 0.6
07/15/10	< 0.6	< 0.5
07/29/10	< 0.6	< 0.7
08/12/10	< 0.9	< 0.9
08/26/10	< 0.9	< 0.8
09/09/10	< 0.7	< 0.7
09/23/10	< 0.6	< 0.6
10/07/10	< 0.7	< 0.7
10/21/10	< 1.0	< 0.7
11/04/10	< 0.8	< 0.7
12/02/10	< 0.4	< 0.4
MEAN	-	-

TABLE C-VIII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BD-17	01/07/10	< 5	< 6	< 14	< 6	< 14	< 7	< 9	< 6	< 6	< 27	< 9
	02/04/10	< 7	< 8	< 18	< 6	< 14	< 8	< 11	< 8	< 8	< 30	< 9
	03/04/10	< 3	< 3	< 7	< 3	< 7	< 3	< 5	< 3	< 3	< 13	< 4
	04/01/10	< 7	< 8	< 18	< 7	< 14	< 8	< 14	< 6	< 8	< 37	< 11
	05/06/10	< 8	< 9	< 14	< 8	< 20	< 11	< 16	< 8	< 10	< 57	< 12
	05/20/10	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 2	< 2	< 32	< 10
	06/03/10	< 5	< 5	< 13	< 4	< 10	< 5	< 8	< 4	< 5	< 30	< 6
	06/17/10	< 6	< 7	< 18	< 6	< 16	< 7	< 10	< 6	< 7	< 42	< 12
	07/03/10	< 6	< 5	< 14	< 6	< 13	< 7	< 11	< 5	< 6	< 28	< 8
	07/15/10	< 7	< 7	< 16	< 7	< 17	< 7	< 15	< 7	< 8	< 32	< 8
	07/29/10	< 5	< 6	< 12	< 6	< 12	< 6	< 11	< 5	< 6	< 50	< 15
	08/12/10	< 8	< 8	< 19	< 7	< 18	< 8	< 14	< 7	< 7	< 52	< 13
	08/26/10	< 4	< 5	< 14	< 5	< 12	< 6	< 9	< 4	< 5	< 45	< 14
	09/09/10	< 6	< 6	< 14	< 7	< 14	< 7	< 12	< 5	< 6	< 53	< 14
	09/23/10	< 4	< 5	< 11	< 6	< 10	< 5	< 8	< 5	< 5	< 18	< 5
	10/07/10	< 8	< 8	< 17	< 10	< 22	< 8	< 13	< 8	< 8	< 36	< 11
	10/21/10	< 5	< 6	< 14	< 7	< 14	< 6	< 10	< 6	< 5	< 29	< 5
	11/04/10	< 7	< 8	< 16	< 9	< 18	< 7	< 14	< 7	< 8	< 39	< 13
	12/02/10	< 6	< 6	< 14	< 6	< 16	< 7	< 12	< 5	< 7	< 38	< 8
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VIII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BD-18	01/08/10	< 8	< 8	< 16	< 9	< 18	< 11	< 13	< 7	< 7	< 30	< 12
	02/04/10	< 5	< 6	< 11	< 6	< 14	< 6	< 11	< 5	< 5	< 23	< 7
	03/04/10	< 4	< 4	< 10	< 5	< 9	< 5	< 8	< 4	< 5	< 21	< 6
	04/01/10	< 7	< 7	< 16	< 6	< 13	< 8	< 12	< 7	< 7	< 36	< 9
	05/06/10	< 8	< 8	< 13	< 9	< 15	< 8	< 16	< 7	< 9	< 47	< 15
	05/20/10	< 2	< 2	< 6	< 2	< 4	< 2	< 4	< 2	< 2	< 32	< 8
	06/04/10	< 6	< 8	< 21	< 9	< 18	< 8	< 11	< 6	< 8	< 40	< 14
	06/17/10	< 5	< 5	< 11	< 4	< 10	< 6	< 11	< 5	< 6	< 38	< 10
	07/03/10	< 5	< 5	< 13	< 5	< 11	< 6	< 9	< 5	< 5	< 25	< 7
	07/15/10	< 8	< 7	< 16	< 6	< 15	< 7	< 12	< 7	< 8	< 31	< 8
	07/29/10	< 5	< 6	< 12	< 5	< 11	< 6	< 10	< 5	< 5	< 48	< 14
	08/11/10	< 6	< 6	< 15	< 6	< 14	< 6	< 9	< 6	< 6	< 39	< 7
	08/26/10	< 5	< 5	< 12	< 5	< 13	< 6	< 9	< 4	< 5	< 46	< 13
	09/09/10	< 6	< 7	< 17	< 7	< 13	< 7	< 12	< 6	< 6	< 53	< 14
	09/23/10	< 5	< 5	< 13	< 7	< 12	< 5	< 10	< 5	< 6	< 24	< 8
	10/07/10	< 6	< 6	< 12	< 7	< 14	< 7	< 10	< 5	< 6	< 30	< 10
	10/21/10	< 5	< 4	< 10	< 6	< 11	< 4	< 8	< 4	< 5	< 23	< 7
	11/04/10	< 6	< 7	< 17	< 9	< 16	< 7	< 12	< 5	< 6	< 39	< 14
	12/02/10	< 7	< 7	< 17	< 9	< 16	< 8	< 12	< 6	< 6	< 44	< 13
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-IX.1 **CONCENTRATIONS OF GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PC/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD		Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BD-CONTROL	09/06/10	Cabbage	< 8	< 10	< 24	< 11	< 20	< 11	< 18	< 8	< 9	< 100	< 23
	09/06/10	Onions	< 8	< 8	< 22	< 8	< 16	< 9	< 16	< 7	< 8	< 93	< 26
	MEAN		-	-	-	-	-	-	-	-	-	-	-
BD-QUAD 1	09/06/10	Beets	< 9	< 11	< 27	< 12	< 20	< 11	< 18	< 8	< 10	< 100	< 19
	09/06/10	Cabbage	< 9	< 11	< 28	< 11	< 23	< 12	< 19	< 8	< 10	< 96	< 26
	MEAN		-	-	-	-	-	-	-	-	-	-	-
BD-QUAD 2	09/06/10	Cabbage	< 10	< 11	< 32	< 13	< 26	< 12	< 21	< 9	< 10	< 99	< 29
	09/06/10	Potatoes	< 19	< 20	< 53	< 20	< 41	< 25	< 38	< 15	< 17	< 311	< 93
	MEAN		-	-	-	-	-	-	-	-	-	-	-
BD-QUAD 3	09/06/10	Cabbage	< 9	< 9	< 26	< 11	< 20	< 10	< 18	< 7	< 9	< 98	< 28
	09/06/10	Potatoes	< 9	< 10	< 23	< 11	< 20	< 10	< 18	< 7	< 9	< 99	< 26
	MEAN		-	-	-	-	-	-	-	-	-	-	-
BD-QUAD 4	09/06/10	Cabbage	< 8	< 10	< 27	< 10	< 21	< 11	< 18	< 7	< 10	< 94	< 26
	09/06/10	Potatoes	< 9	< 10	< 28	< 12	< 23	< 12	< 19	< 8	< 11	< 100	< 25
	MEAN		-	-	-	-	-	-	-	-	-	-	-

TABLE C-X.1 QUARTERLY TLD RESULTS FOR BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER ± 2 STANDARD DEVIATIONS

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
BD-02-1	38.5 ± 80.7	99 (1)	18	17	20
BD-02-2	53.3 ± 141.1	159 (1)	18	15	21
BD-03-1	56.3 ± 146.4	166 (1)	18	19	22
BD-03-2	38.5 ± 75.6	95 (1)	20	16	23
BD-04-1	58.0 ± 153.4	173 (1)	19	18	22
BD-04-2	64.5 ± 180.7	200 (1)	18	17	23
BD-05-1	58.5 ± 155.4	175 (1)	20	17	22
BD-05-2	62.8 ± 175.1	194 (1)	18	17	22
BD-06-1	76.8 ± 235.0	253 (1)	16	17	21
BD-06-2	66.5 ± 190.1	209 (1)	21	15	21
BD-19-1	51.0 ± 121.4	142 (1)	22	19	21
BD-19-2	44.8 ± 101.7	121 (1)	19	18	21
BD-20-1	44.8 ± 103.0	122 (1)	18	18	21
BD-20-2	76.8 ± 233.7	252 (1)	18	15	22
BD-21-1	42.3 ± 93.0	112 (1)	18	18	21
BD-21-2	53.8 ± 137.8	157 (1)	18	17	23
BD-101-3	52.3 ± 133.0	152 (1)	18	18	21
BD-101-4	39.3 ± 82.4	101 (1)	18	17	21
BD-102-1	52.3 ± 135.7	154 (1)	17	18	20
BD-102-2	76.8 ± 229.8	249 (1)	18	16	24
BD-103-1	65.0 ± 182.7	202 (1)	19	17	22
BD-103-2	58.3 ± 153.1	173 (1)	21	17	22
BD-104-1	41.3 ± 94.5	112 (1)	17	15	21
BD-104-2	46.0 ± 116.0	133 (1)	16	16	19
BD-105-1	71.3 ± 209.0	228 (1)	17	18	22
BD-105-2	68.0 ± 197.4	216 (1)	18	16	22
BD-106-1	45.0 ± 104.0	123 (1)	18	19	20
BD-106-2	60.0 ± 164.0	183 (1)	19	17	21
BD-107-1	46.8 ± 107.0	127 (1)	19	19	22
BD-107-2	57.0 ± 154.8	173 (1)	18	15	22
BD-108-1	71.8 ± 211.0	230 (1)	18	18	21
BD-108-2	40.0 ± 84.2	103 (1)	21	15	21
BD-109-1	79.0 ± 226.8	249 (1)	20	20	27
BD-109-2	62.0 ± 161.4	183 (1)	23	19	23
BD-110-1	63.5 ± 174.1	194 (1)	21	17	22
BD-110-2	57.0 ± 153.4	172 (1)	19	16	21
BD-112-1	72.5 ± 216.7	235 (1)	17	18	20
BD-112-2	37.0 ± 70.9	90 (1)	18	17	23
BD-114-1	52.0 ± 130.7	150 (1)	21	18	19
BD-114-2	43.3 ± 98.4	117 (1)	18	18	20
BD-115-1	45.8 ± 104.4	124 (1)	18	19	22
BD-115-2	78.3 ± 241.1	259 (1)	17	15	22
BD-116-1	66.8 ± 191.0	210 (1)	18	18	21
BD-116-2	60.0 ± 165.4	184 (1)	19	17	20
BD-201-1	69.3 ± 185.0	208 (1)	22	22	25
BD-201-2	52.8 ± 128.5	149 (1)	19	18	25
BD-202-1	77.0 ± 230.7	250 (1)	19	18	21
BD-202-2	44.0 ± 104.0	122 (1)	17	17	20
BD-203-1	44.0 ± 96.0	116 (1)	19	19	22
BD-203-2	55.3 ± 149.1	167 (1)	19	14	21
BD-204-1	53.3 ± 139.7	158 (1)	18	17	20

(1) ALL FIRST QUARTER TLDS WERE EXPOSED IN TRANSIT

TABLE C-X.1 QUARTERLY TLD RESULTS FOR BRAIDWOOD STATION, 2010

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER ± 2 STANDARD DEVIATIONS

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
BD-204-2	76.3 ± 237.0	254 (1)	16	16	19
BD-205-1	44.0 ± 101.4	120 (1)	20	16	20
BD-205-2	52.5 ± 142.1	159 (1)	17	14	20
BD-206-1	61.8 ± 167.0	187 (1)	19	19	22
BD-206-2	68.8 ± 200.4	219 (1)	18	17	21
BD-207-1	62.8 ± 175.0	194 (1)	18	18	21
BD-207-2	41.5 ± 91.4	110 (1)	18	17	21
BD-208-1	44.3 ± 101.0	120 (1)	18	18	21
BD-208-2	50.3 ± 129.0	147 (1)	18	16	20
BD-209-1	49.8 ± 108.3	131 (1)	23	22	23
BD-209-2	52.0 ± 112.0	136 (1)	24	22	26
BD-210-1	50.3 ± 116	137 (1)	20	21	23
BD-210-2	56.5 ± 148.7	168 (1)	18	18	22
BD-211-1	52.8 ± 109.7	135 (1)	26	23	27
BD-211-2	57.3 ± 137.1	160 (1)	22	21	26
BD-212-3	40.0 ± 80.1	100 (1)	19	18	23
BD-212-4	49.8 ± 108.4	131 (1)	21	22	25
BD-213-3	44.5 ± 100.8	120 (1)	18	17	23
BD-213-4	52.5 ± 132.8	152 (1)	21	15	22
BD-214-1	40.5 ± 82.1	102 (1)	18	20	22
BD-214-2	68.0 ± 185.4	207 (1)	20	20	25
BD-215-1	57.0 ± 150.7	170 (1)	18	18	22
BD-215-2	64.5 ± 191.4	208 (1)	17	14	19
BD-216-1	47.8 ± 105.7	127 (1)	20	20	24
BD-216-2	56.8 ± 152.4	171 (1)	18	16	22
BD-111A-1	50.0 ± 117.4	138 (1)	22	18	22
BD-111A-2	81.8 ± 252.4	271 (1)	17	18	21
BD-113A-1	52.5 ± 132.7	152 (1)	18	19	21
BD-113A-2	53.3 ± 139.7	158 (1)	17	18	20

(1) ALL FIRST QUARTER TLDS WERE EXPOSED IN TRANSIT

TABLE C-X.2 **MEAN QUARTLY TLD RESULTS FOR THE INNER RING, OUTER RING, OTHER AND CONTROL LOCATIONS FOR BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF MILLI-ROENTGENS/QUARTER ± 2 STANDARD DEVIATIONS OF THE STATION DATA

COLLECTION PERIOD		SITE BOUNDARY ± 2 S.D.	INTERMEDIATE DISTANCE	OTHER	CONTROL
JAN-MAR	(1)	173.3 ± 101.1	157.3 ± 81.7	169.1 ± 97.4	130.5 ± 100.4
APR-JUN		18.6 ± 3.3	19.3 ± 4.4	18.6 ± 3.0	19.0 ± 2.8
JUL-SEP		17.4 ± 2.7	18.2 ± 5.0	17.0 ± 2.5	17.5 ± 4.2
OCT-DEC		21.4 ± 3.0	22.3 ± 4.3	21.5 ± 1.7	22.5 ± 1.4

TABLE C-X.3 **SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S.D.
SITE BOUNDARY	128	15.0	271.0	57.7 ± 143.1
INTERMEDIATE DISTANCE	128	14.0	254.0	54.3 ± 126.2
OTHER	56	15.0	253.0	56.6 ± 139.5
CONTROL	8	16.0	166.0	47.4 ± 109.5

SITE BOUNDARY STATIONS - BD-101-3, BD-101-4, BD-102-1, BD-102-2, BD-103-1, BD-103-2, BD-104-1, BD-104-2, BD-105-1, BD-105-2, BD-106-1, BD-106-2, BD-107-1, BD-107-2, BD-108-1, BD-108-2, BD-109-1, BD-109-2, BD-110-1, BD-110-2, BD-111A-1, BD-111A-2, BD-112-1, BD-112-2, BD-113A-1, BD-113A-2, BD-114-1, BD-114-2, BD-115-1, BD-115-2, BD-116-1, BD-116-2

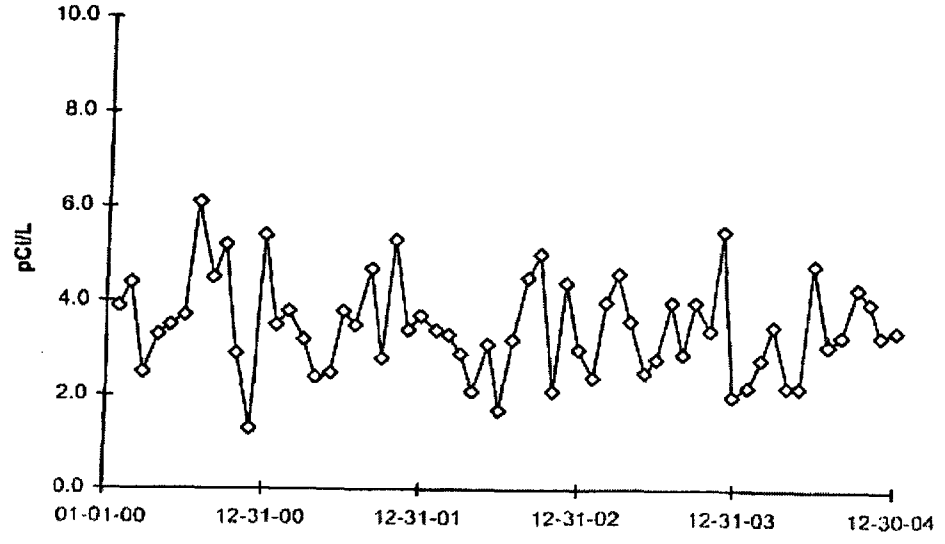
INTERMEDIATE DISTANCE STATIONS - BD-201-1, BD-201-2, BD-202-1, BD-202-2, BD-203-1, BD-203-2, BD-204-1, BD-204-2, BD-205-1, BD-205-2, BD-206-1, BD-206-2, BD-207-1, BD-207-2, BD-208-1, BD-208-2, BD-209-1, BD-209-2, BD-210-1, BD-210-2, BD-211-1, BD-211-2, BD-212-3, BD-212-4, BD-213-3, BD-213-4, BD-214-1, BD-214-2, BD-215-1, BD-215-2, BD-216-1, BD-216-2

OTHER STATIONS - BD-02-1, BD-02-2, BD-04-1, BD-04-2, BD-05-1, BD-05-2, BD-06-1, BD-06-2, BD-19-1, BD-19-2, BD-20-1, BD-20-2, BD-21-1, BD-21-2

CONTROL STATIONS - BD-03-1, BD-03-2

(1) ALL FIRST QUARTER TLDS WERE EXPOSED IN TRANSIT

FIGURE C-1
Surface Water - Gross Beta - Stations BD-10 and BD-25 (C) Collected in the Vicinity of Braidwood Station, 2000 - 2004



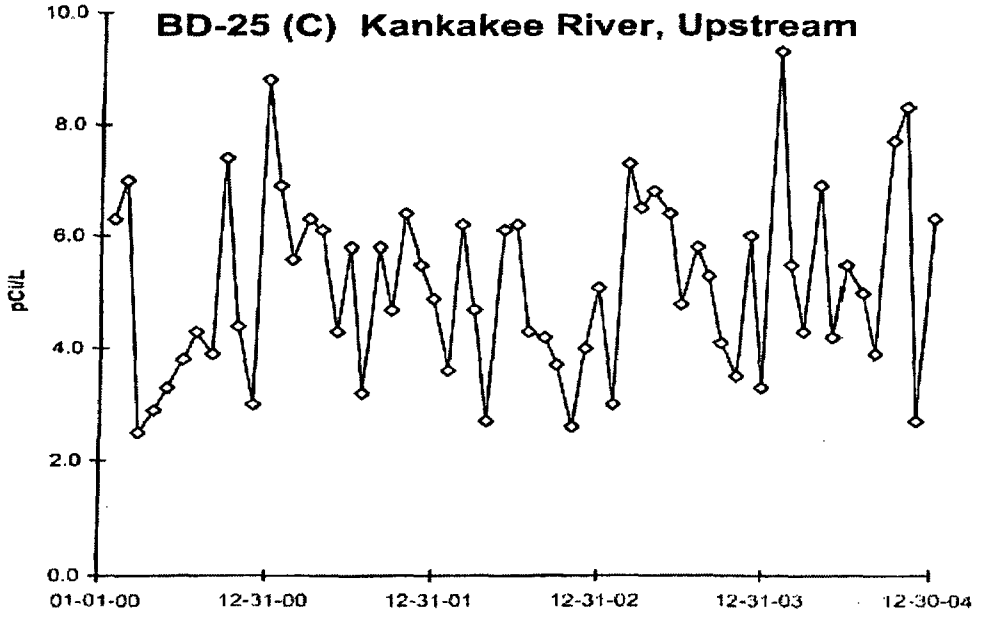
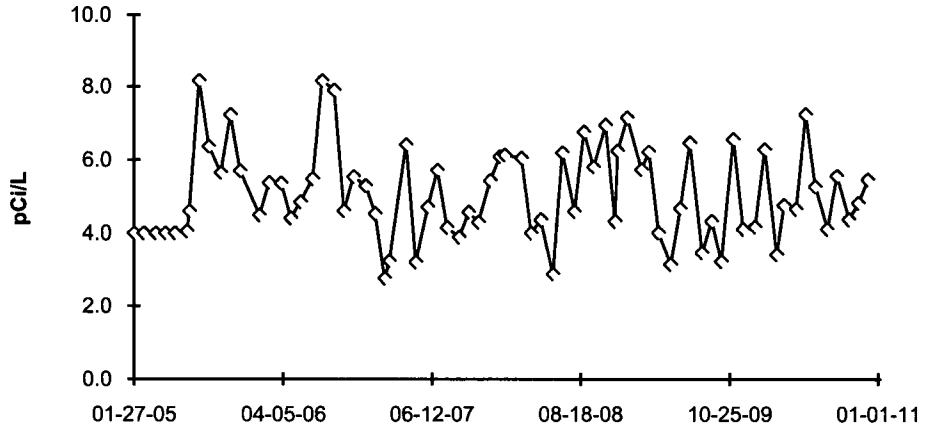
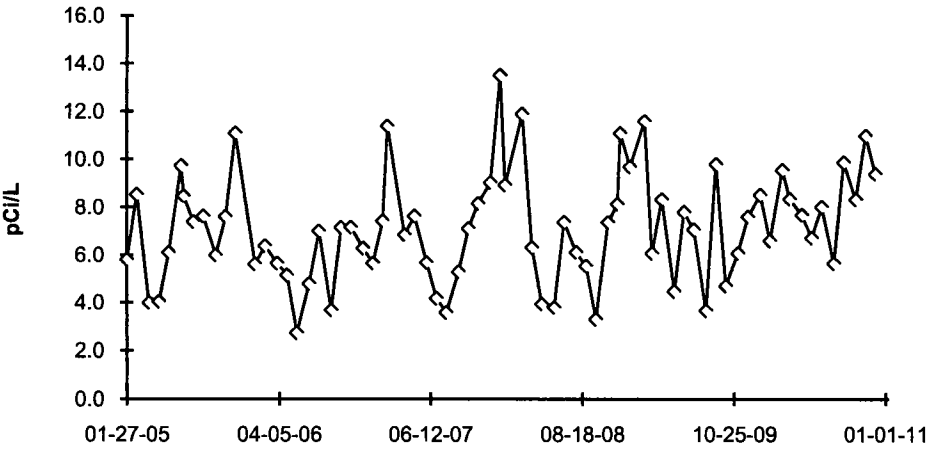


FIGURE C-1 (cont.)
Surface Water - Gross Beta - Stations BD-10 and BD-25 (C)
Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-10 Kankaee River, Downstream



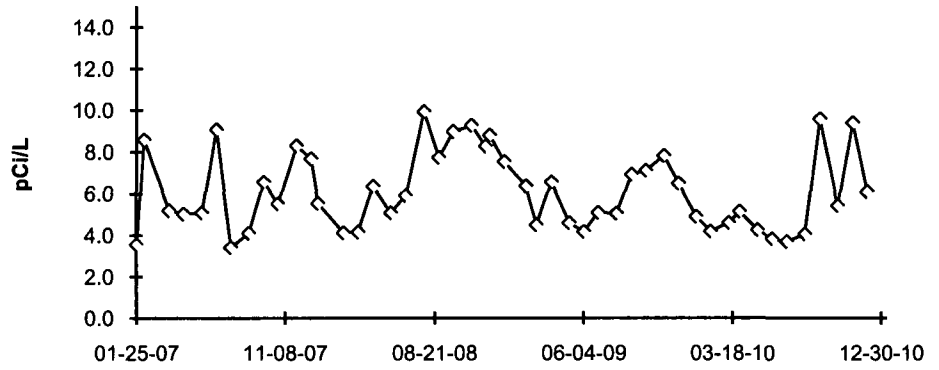
BD-25 (C) Kankakee River, Upstream



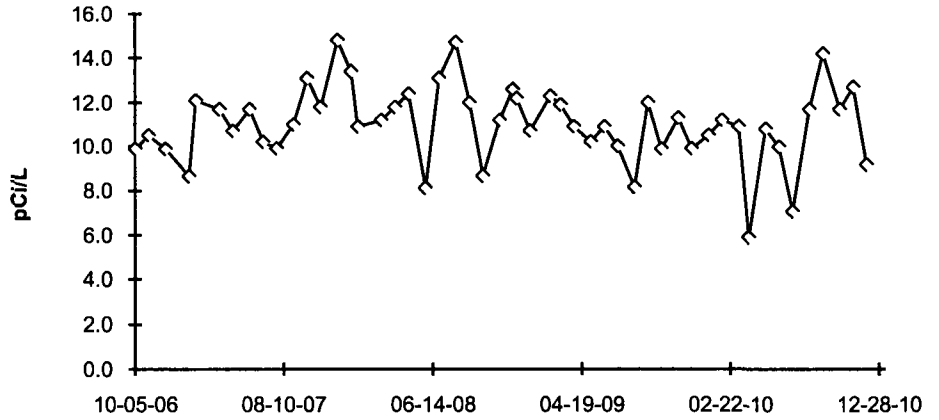
DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JUNE 2005

FIGURE C-2
Surface Water - Gross Beta - Stations BD-38 and BD-40 Collected in the Vicinity of Braidwood Station, 2007 - 2010

BD-38 Main Drainage Ditch

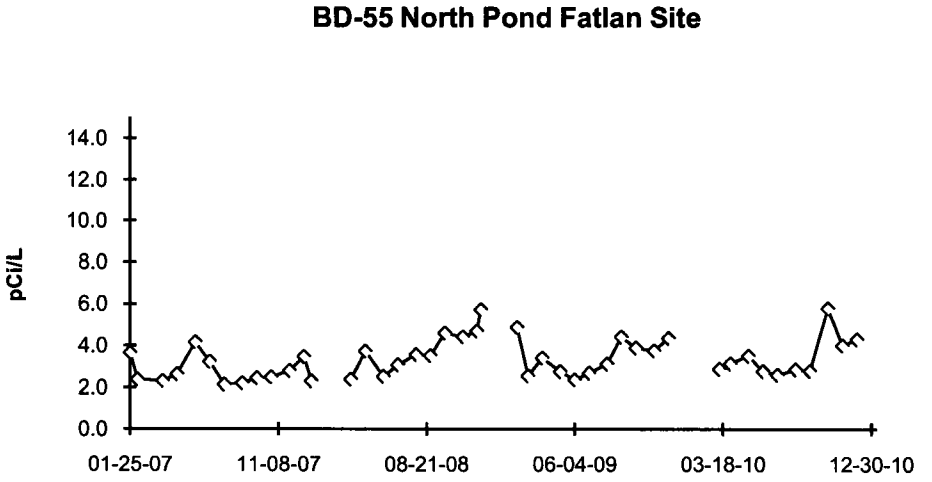


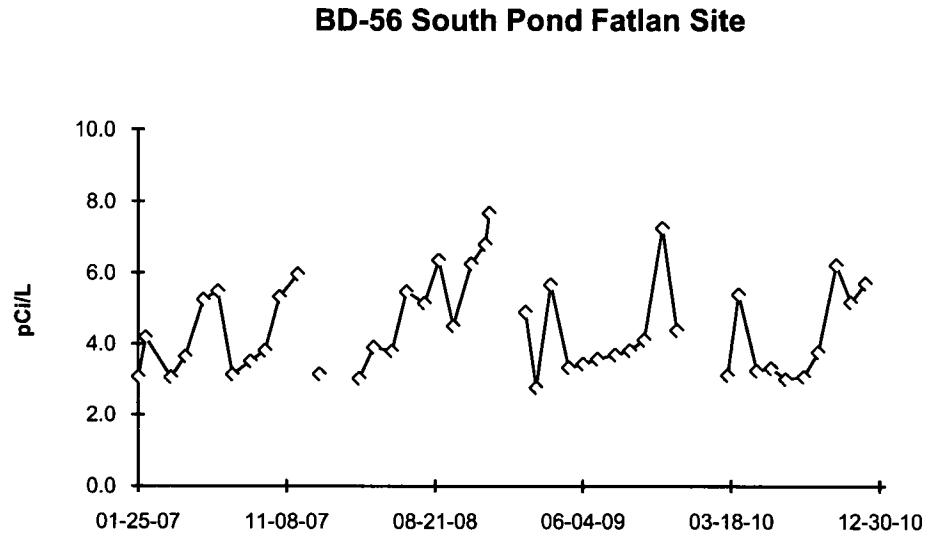
BD-40 Braidwood Station Cooling Lake



NEW STATION BD-40 ADDED ON 10/05/06
NEW STATION BD-38 ADDED ON 01/25/07

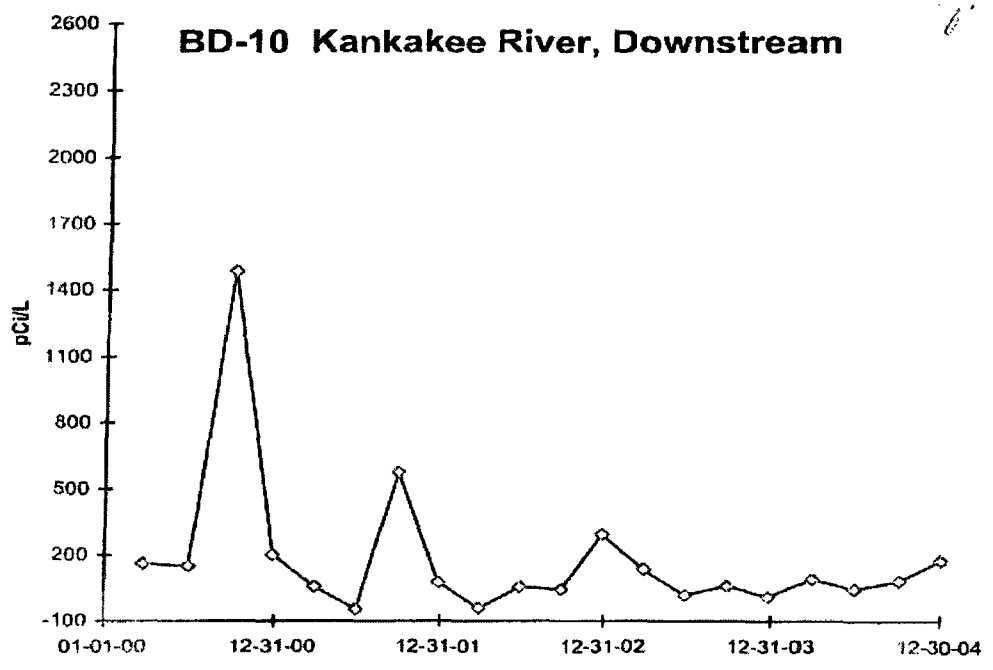
FIGURE C-3
Surface Water - Gross Beta - Stations BD-55 and BD-56 Collected in the Vicinity of Braidwood Station, 2007 - 2010





NEW STATIONS BD-55 AND BD-56 ADDED ON 01/04/07
GAPS IN DATA ARE DUE TO SAMPLING POINTS BEING PROZEN AT TIME OF COLLECTION

FIGURE C-4
Surface Water - Tritium - Stations BD-10 and BD-25 (C)
Collected in the Vicinity of Braidwood Station, 2000 - 2004



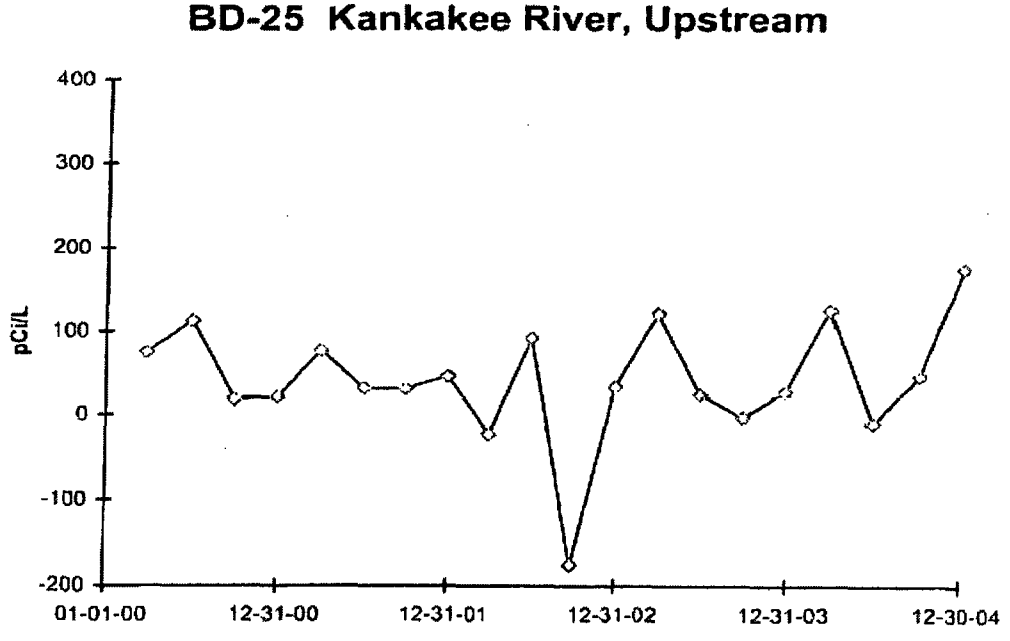
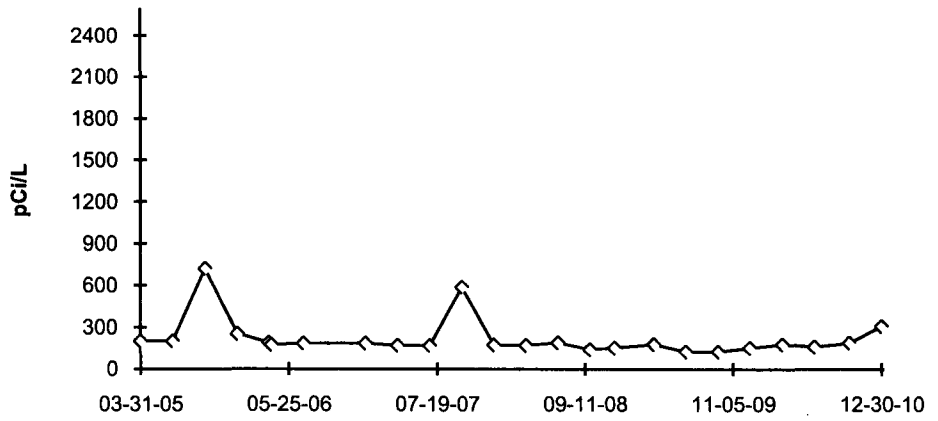
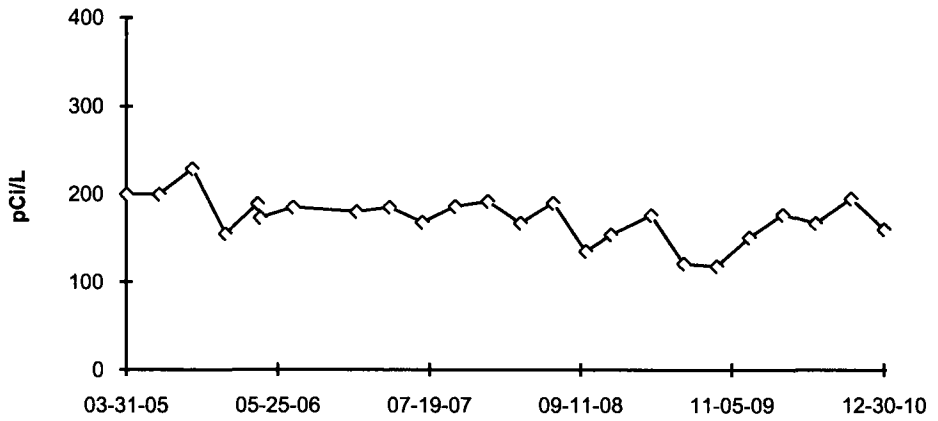


FIGURE C-4 (cont.)
Surface Water - Tritium - Stations BD-10 and BD-25 (C) Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-10 Kankakee River, Downstream



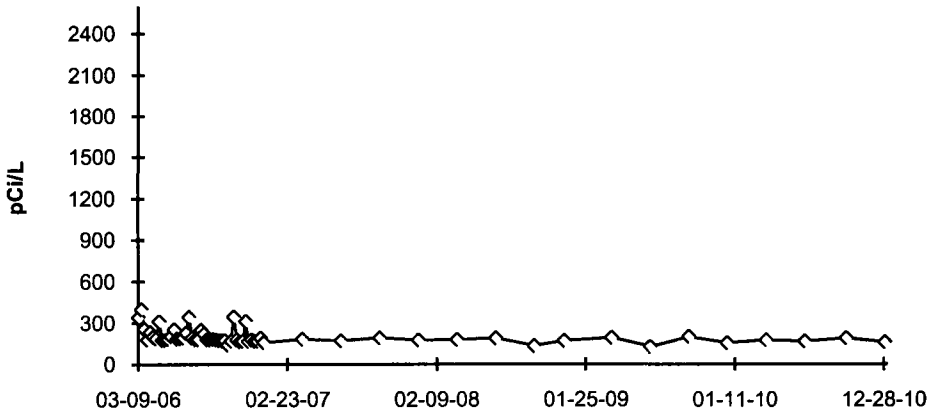
BD-25 (C) Kankakee River, Upstream



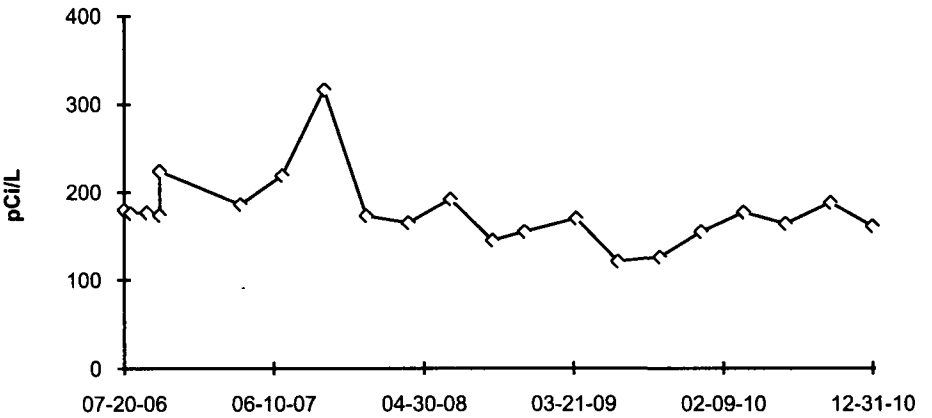
DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JUNE 2005

FIGURE C-5
Surface Water - Tritium - Stations BD-38 and BD-40 Collected in the Vicinity of Braidwood Station, 2006 - 2010

BD-38 Main Drainage Ditch



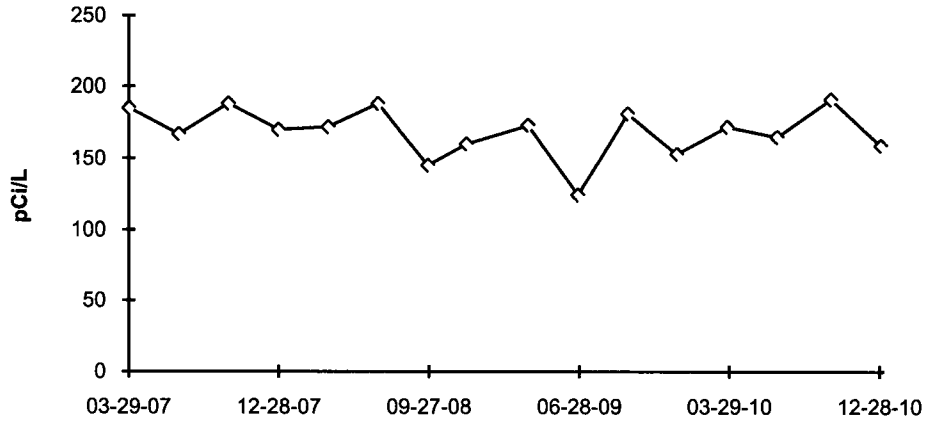
BD-40 Braidwood Station Cooling Lake



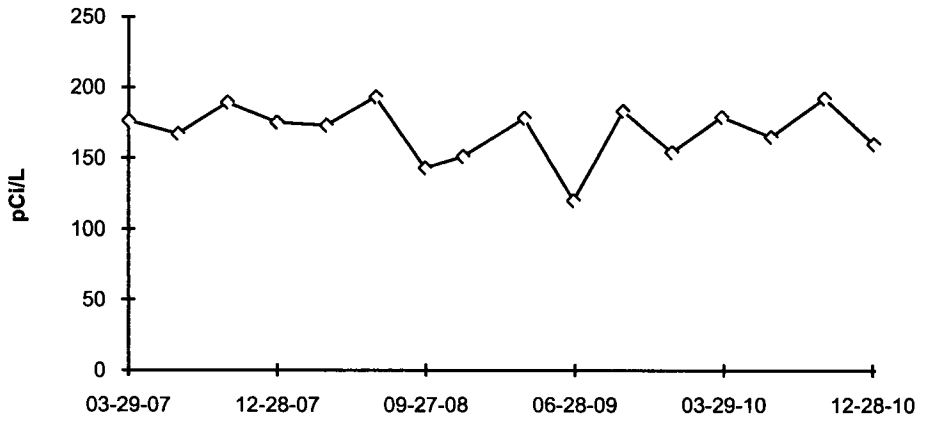
NEW STATIONS BD-38 AND BD-40 ADDED IN 2006

FIGURE C-6
Surface Water - Tritium - Stations BD-55 and BD-56 Collected in the Vicinity of Braidwood Station, 2007 - 2010

BD-55 North Pond Fatlan Site



BD-56 South Pond Fatlan Site



NEW STATIONS BD-55 AND BD-56 ADDED IN 2007

FIGURE C-7
Public Water - Gross Beta - Station BD-22
Collected in the Vicinity of Braidwood Station, 2000 - 2004

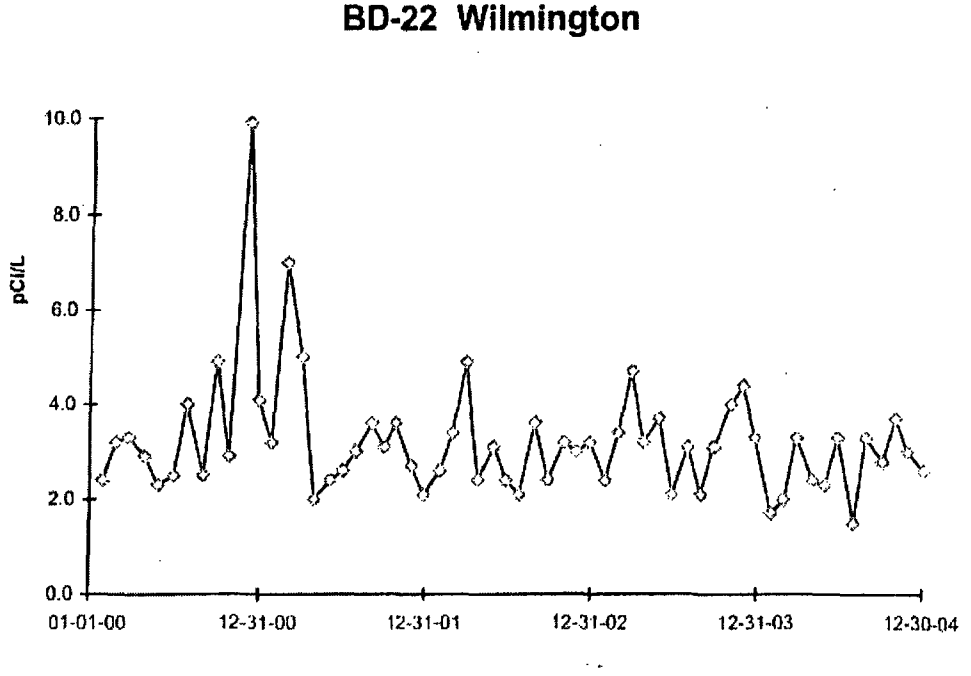
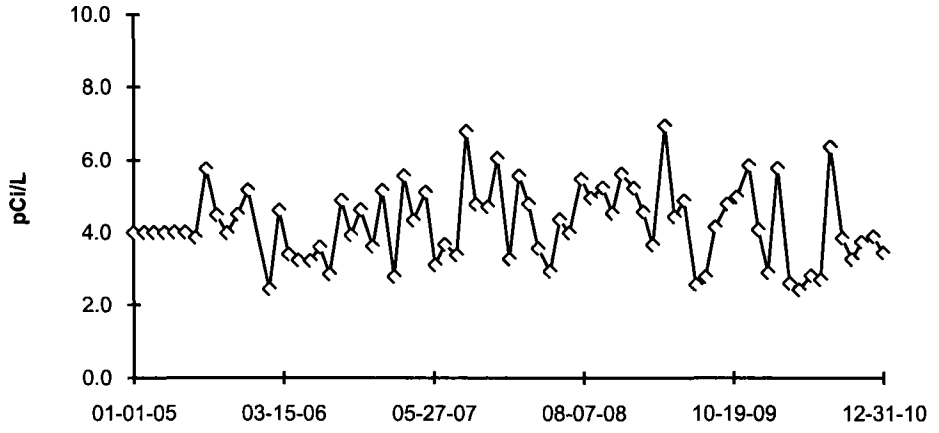


FIGURE C-7 (cont.)
Public Water - Gross Beta - Station BD-22
Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-22 Wilmington



DUE TO VENDOR CHANGE, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JUNE 2005

FIGURE C-8
Public Water - Tritium - Station BD-22
Collected in the Vicinity of Braidwood Station, 2000 - 2004

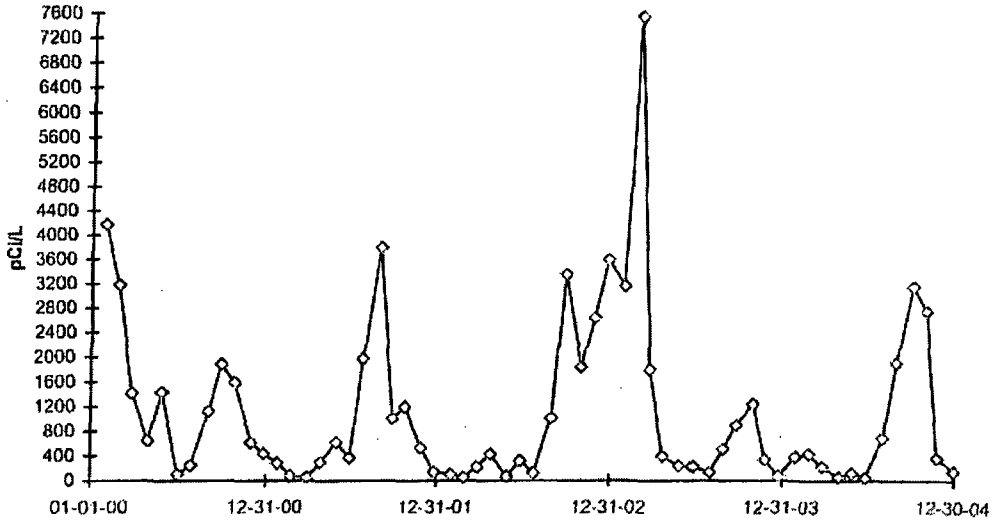
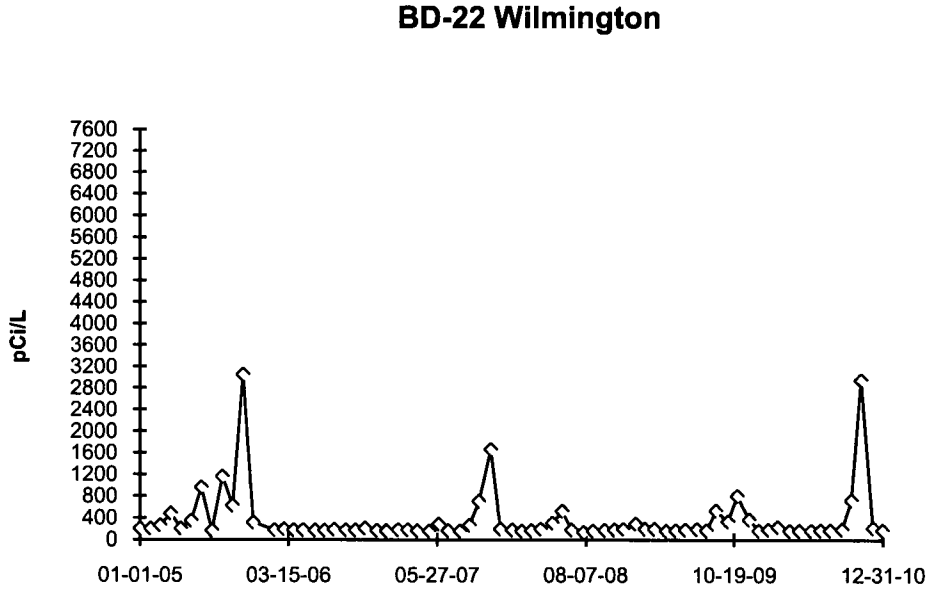
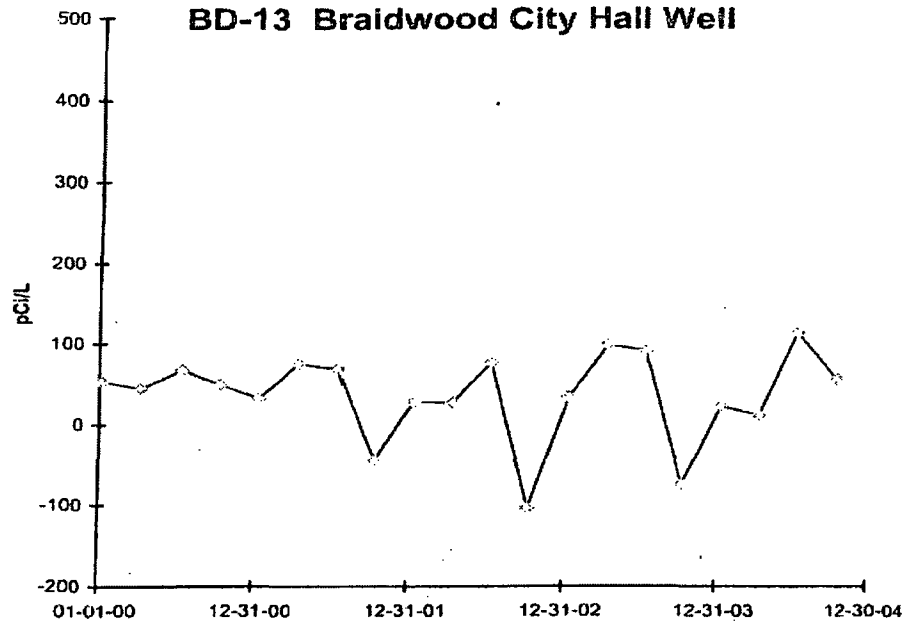


FIGURE C-8 (cont.)
Public Water - Tritium - Station BD-22
Collected in the Vicinity of Braidwood Station, 2005 - 2010



DUE TO VENDOR CHANGE, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JUNE 2005

FIGURE C-9
Ground/Well Water - Tritium - Stations BD-13 and BD-34 Collected in the Vicinity of Braidwood Station, 2000 - 2004



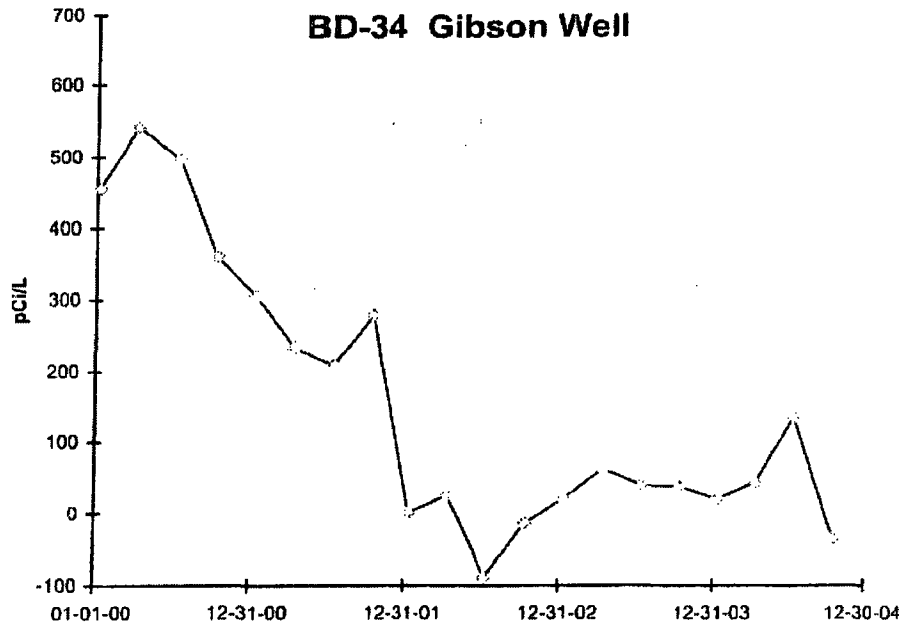
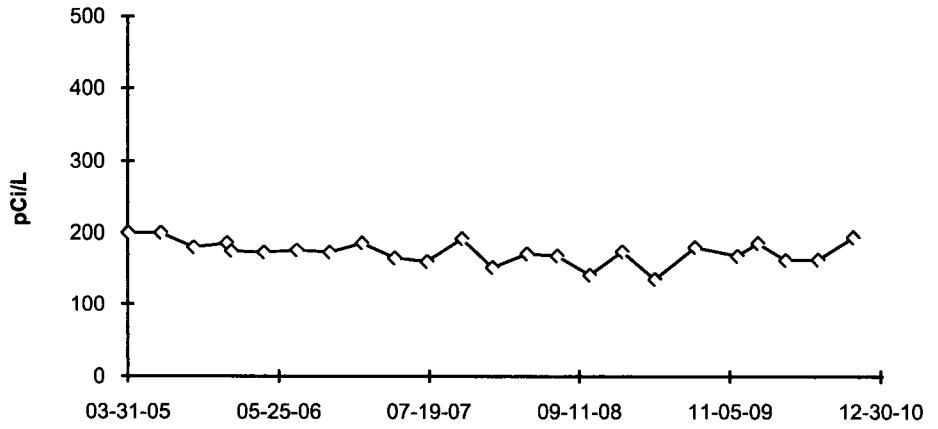
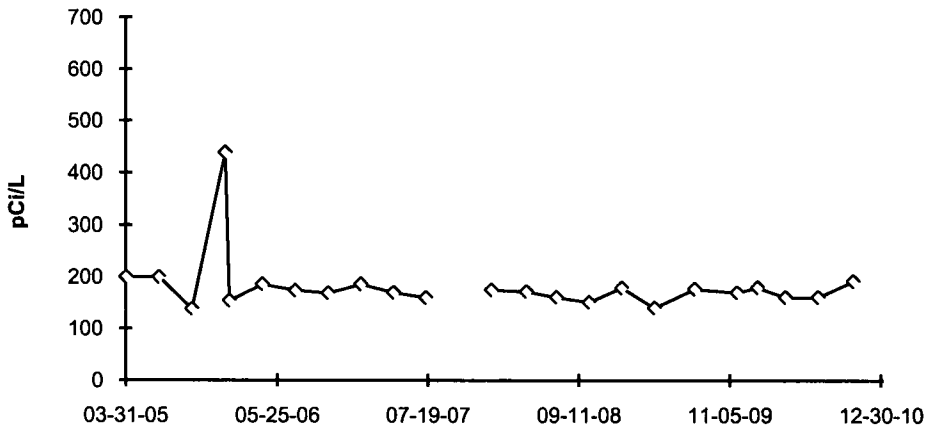


FIGURE C-9 (cont.)
Ground/Well Water - Tritium - Stations BD-13 and BD-34 Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-13 Braidwood City Hall Well

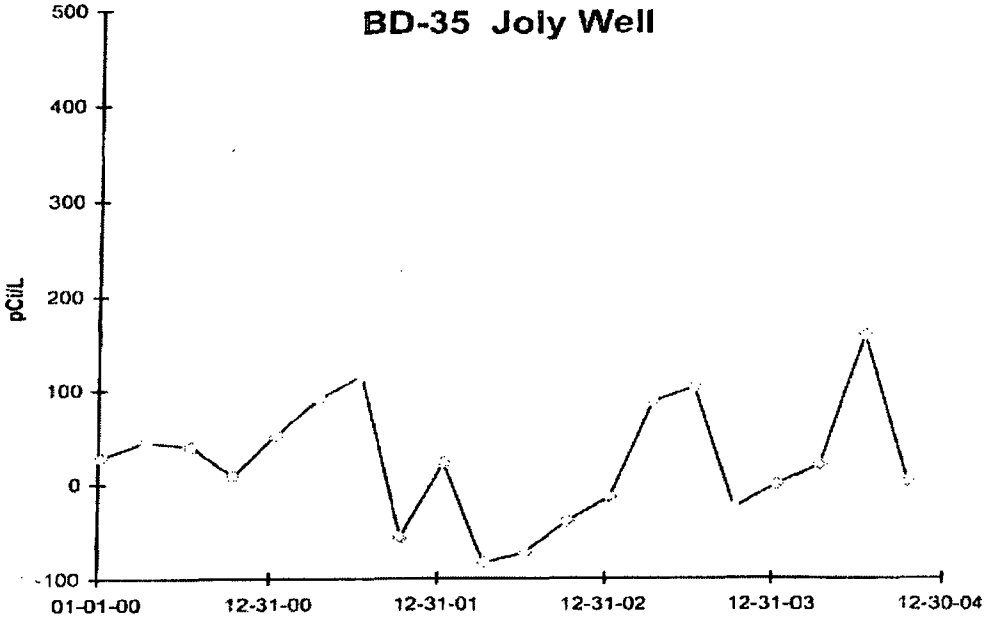


BD-34 Gibson Well



DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE AND MDC VALUES JULY THROUGH DECEMBER

FIGURE C-10
Ground/Well Water - Tritium - Stations BD-35 and BD-36 Collected in the Vicinity of Braidwood Station, 2000 - 2004



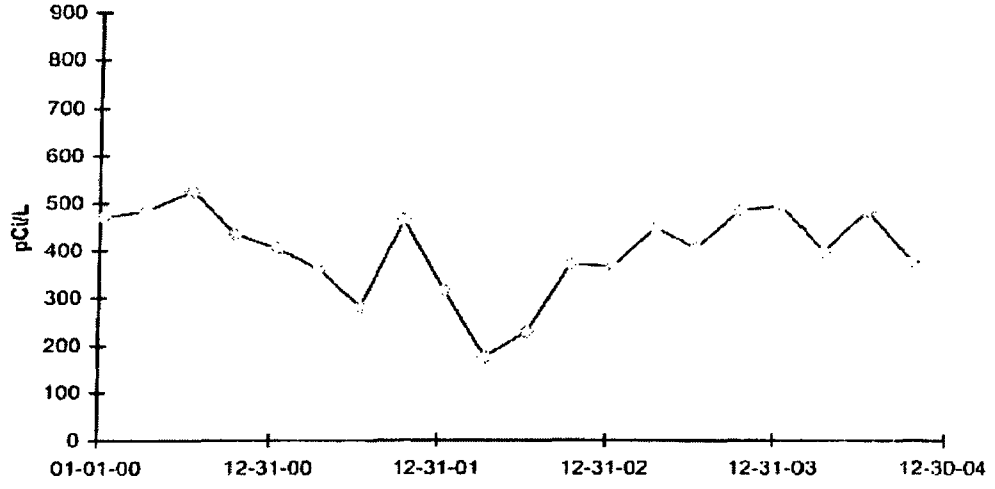
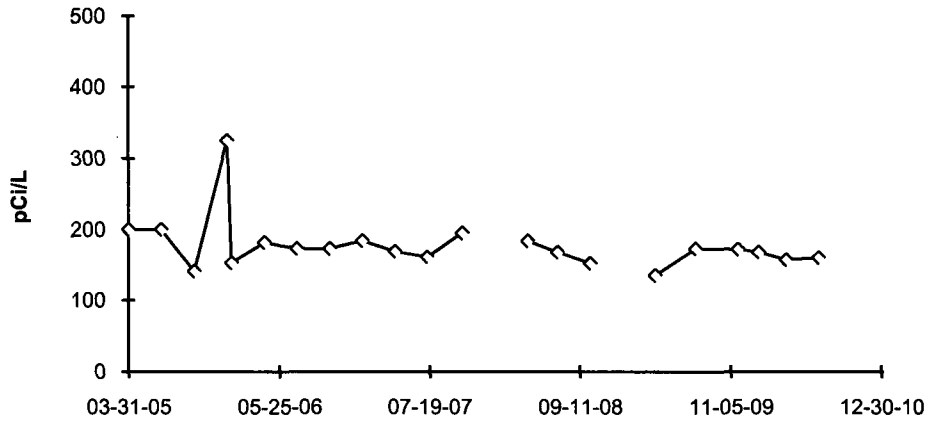
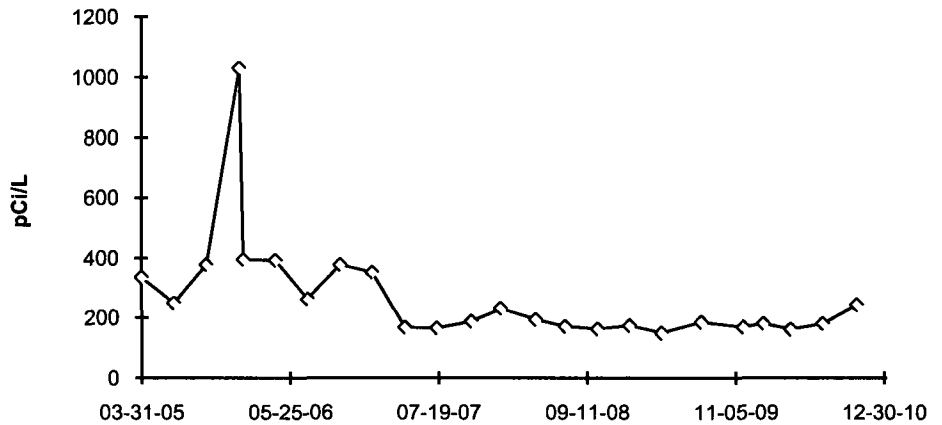


FIGURE C-10 (cont.)
Ground/Well Water - Tritium - Stations BD-35 and BD-36 Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-35 Joly Well



BD-36 Hutton Well



DUE TO VENDOR CHANGE, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE AND MDC VALUES JULY THROUGH DECEMBER

FIGURE C-11
Ground/Well Water - Tritium - Station BD-37
Collected in the Vicinity of Braidwood Station, 2000 - 2004

BD-37 Nurczyk Well

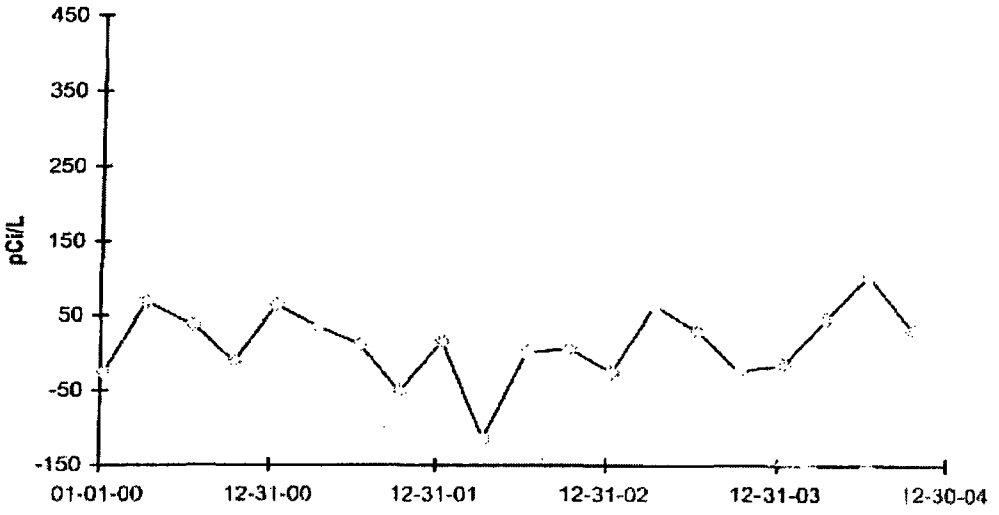
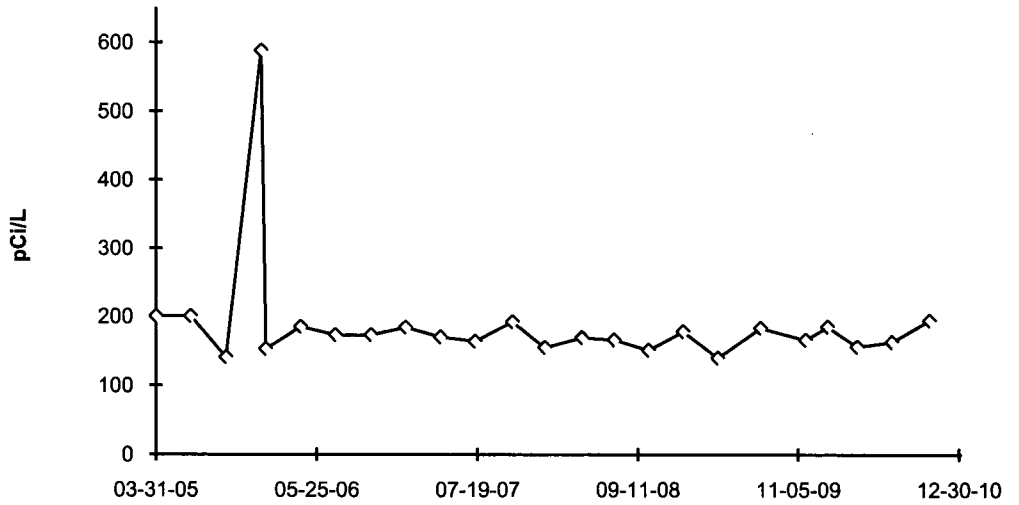


FIGURE C-11 (cont.)
Ground/Well Water - Tritium - Station BD-37
Collected in the Vicinity of Braidwood Station, 2005 - 2010

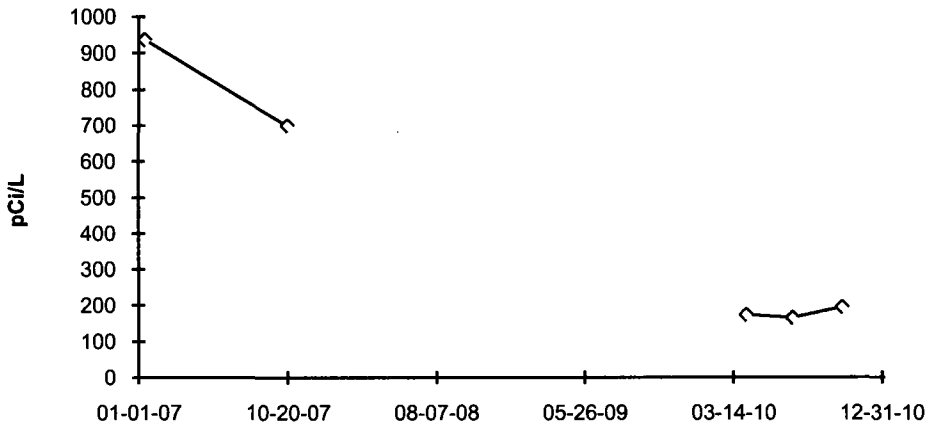
BD-37 Nurczyk Well



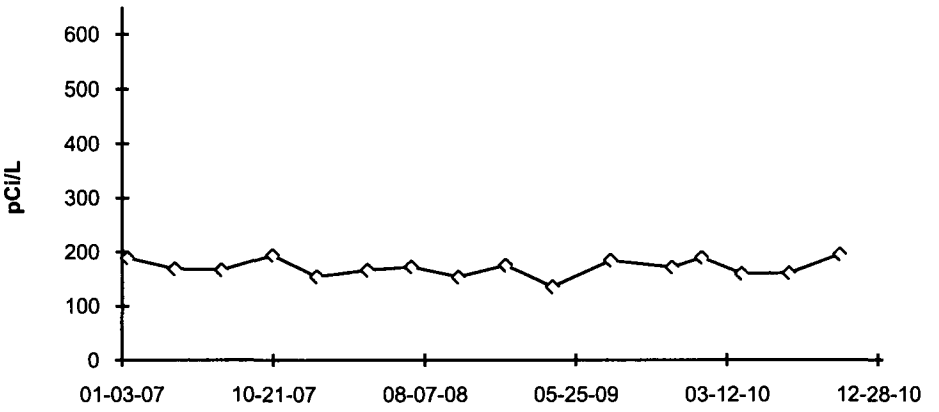
DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE AND MDC VALUES JULY THROUGH DECEMBER

FIGURE C-12
Ground/Well Water - Tritium - Station BD-50 and BD-51 Collected in the Vicinity of Braidwood Station, 2007-2010

BD-50 Skole Well



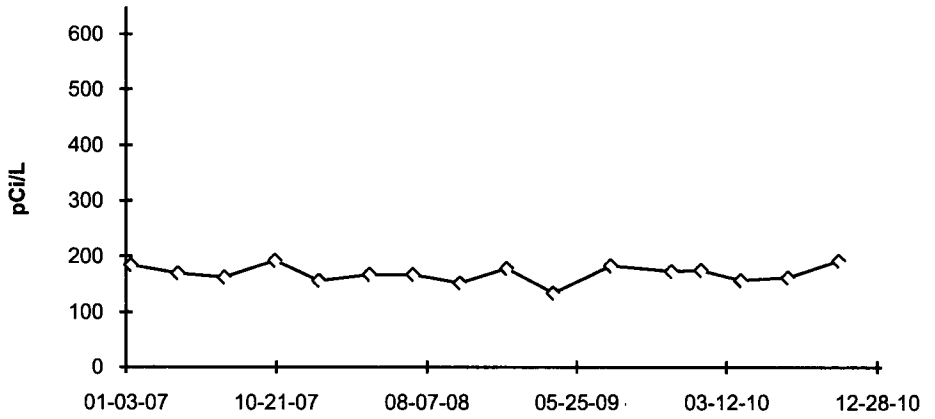
BD-51 Fatlan Well



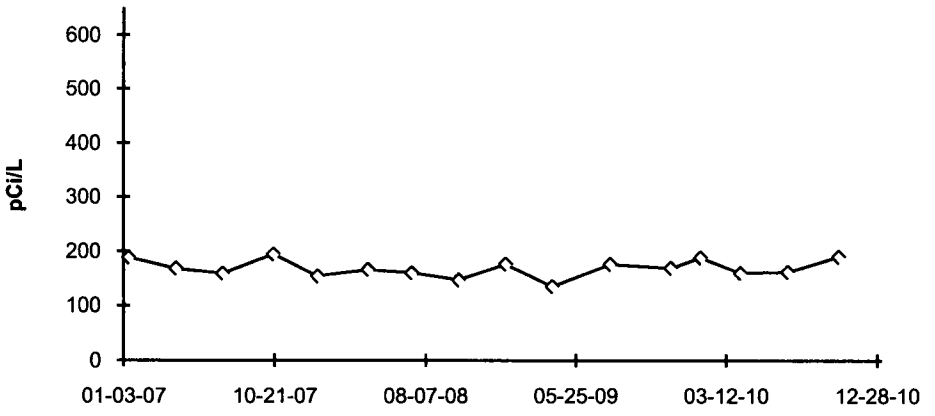
NEW STATIONS BD-50 AND BD-51 ADDED IN 2007
STATION BD-50 WAS INITIALLY DISCONTINUED ON 10/18/07 AND RESUMED ON 04/08/10

FIGURE C-13
Ground/Well Water - Tritium - Station BD-53 and BD-54 Collected in the Vicinity of Braidwood Station, 2007 - 2010

BD-53 Phelps Well



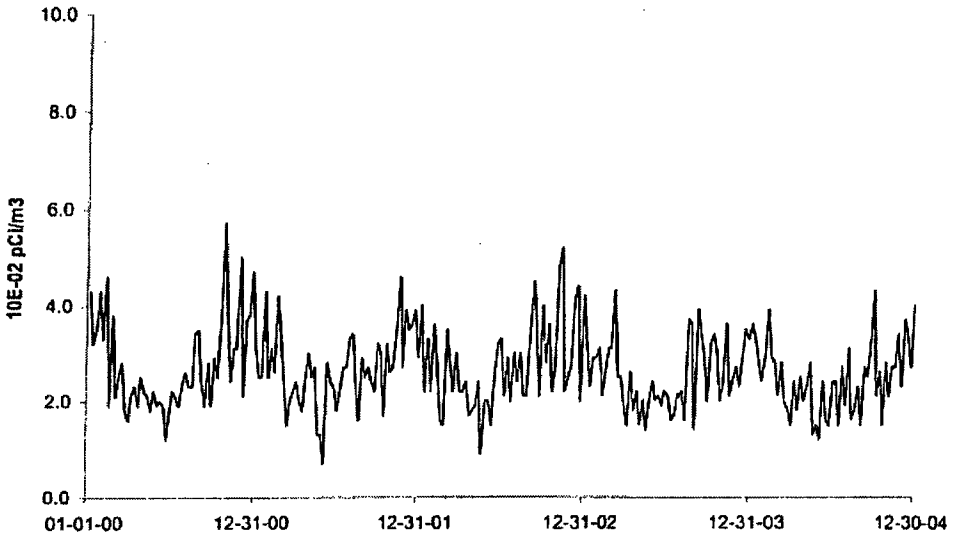
BD-54 Cash Well



NEW STATIONS BD-53 AND BD-54 ADDED IN 2007

FIGURE C-14
Air Particulates - Gross Beta- Stations BD-03 (C) and BD-06 Collected in the Vicinity of Braidwood Station, 2000 - 2004

BD-03 (C) County Line Road



BD-06 Godley

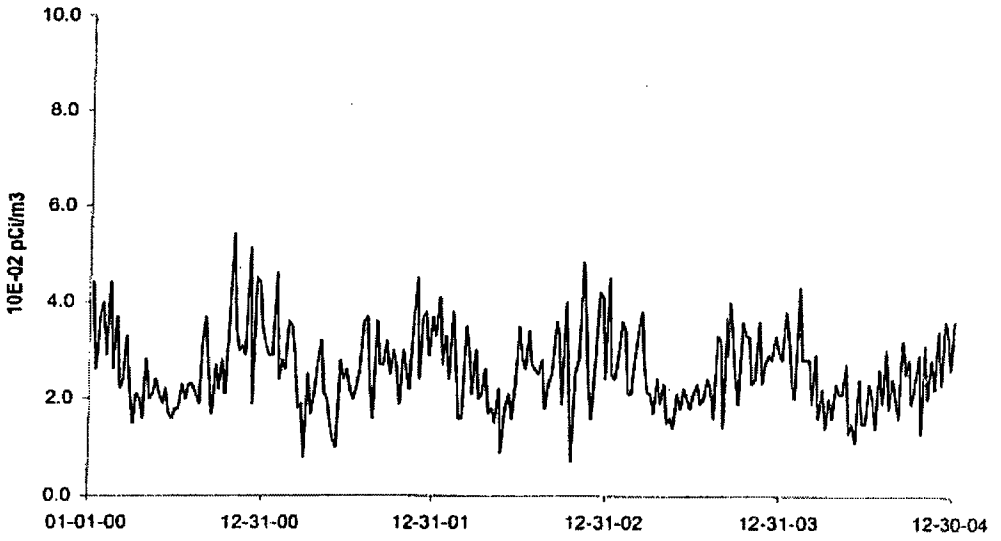
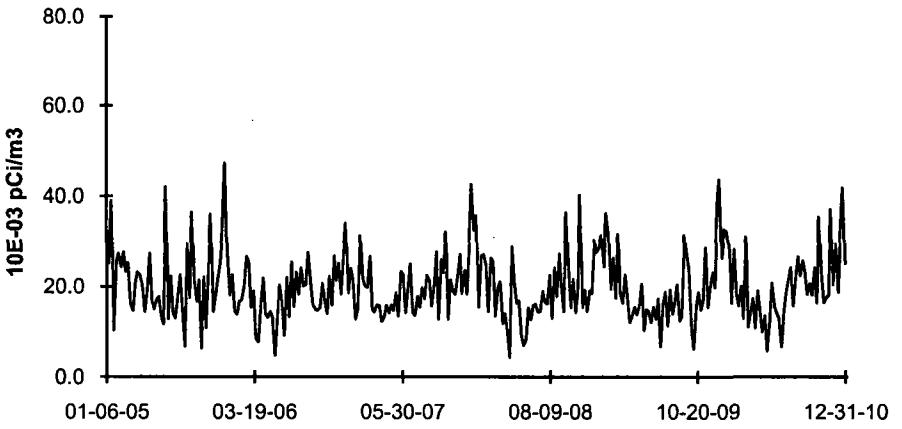
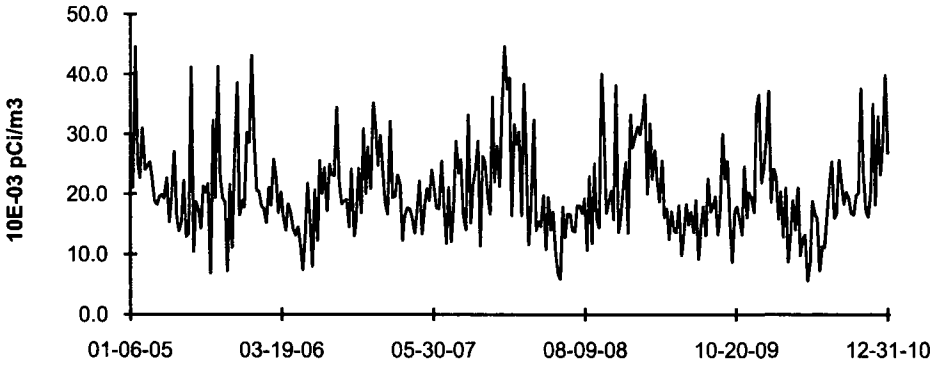


FIGURE C-14 (cont.)
Air Particulates - Gross Beta- Stations BD-03 (C) and BD-06 Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-03 (C) County Line Road



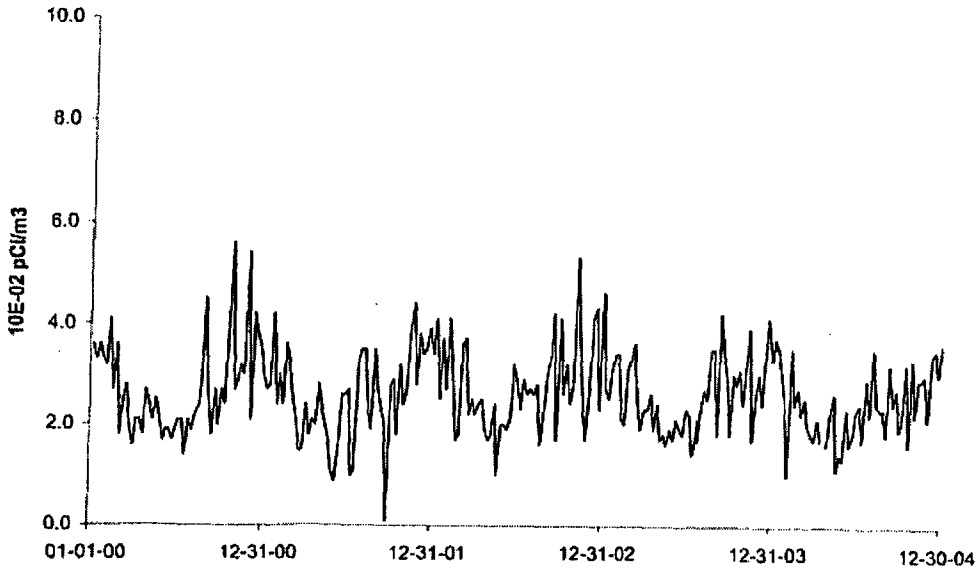
BD-06 Godley



DUE TO VENDOR CHANGE, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-15
Air Particulates - Gross Beta- Stations BD-19 and BD-20 Collected in the Vicinity of Braidwood Station, 2000 - 2004

BD-19 Nearsite, NW



BD-20 Nearsite, N

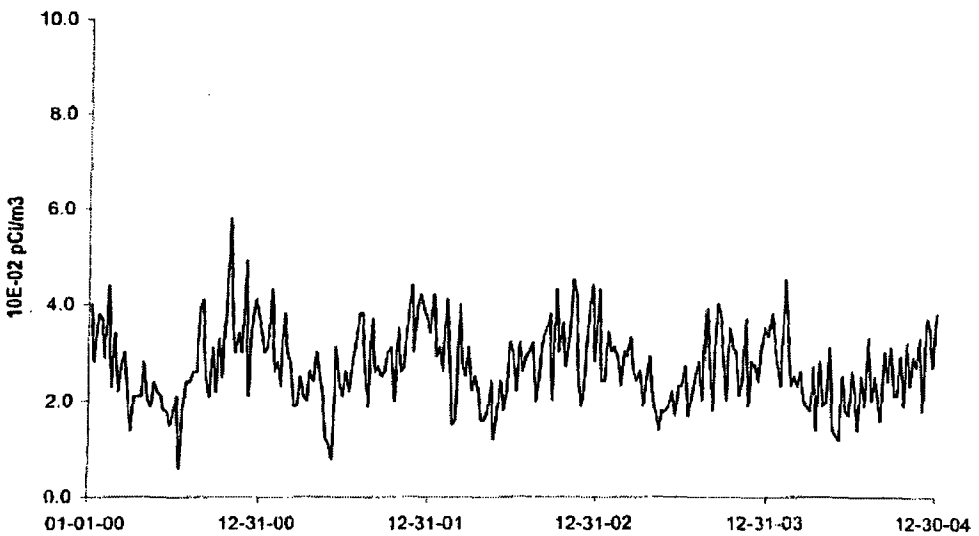
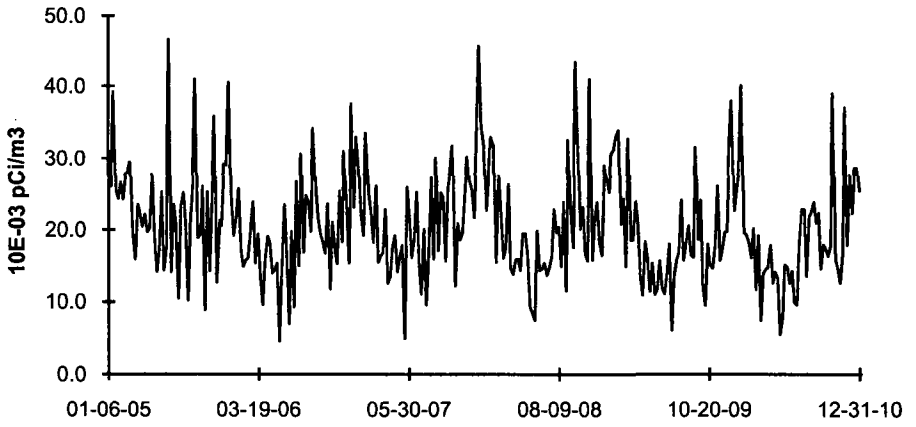
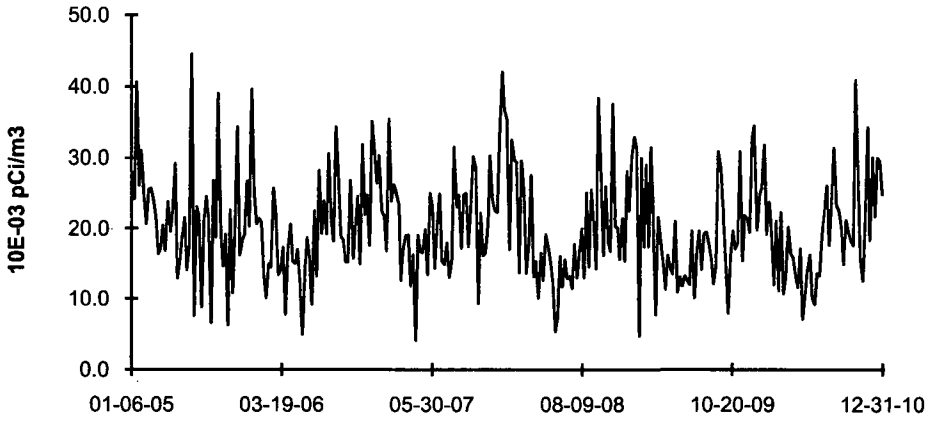


FIGURE C-15 (cont.)
Air Particulates - Gross Beta- Stations BD-19 and BD-20 Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-19 Nearsite, NW



BD-20 Nearsite, N



DUE TO VENDOR CHANGE, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-16
Air Particulates - Gross Beta- Station BD-21
Collected in the Vicinity of Braidwood Station, 2000 - 2004

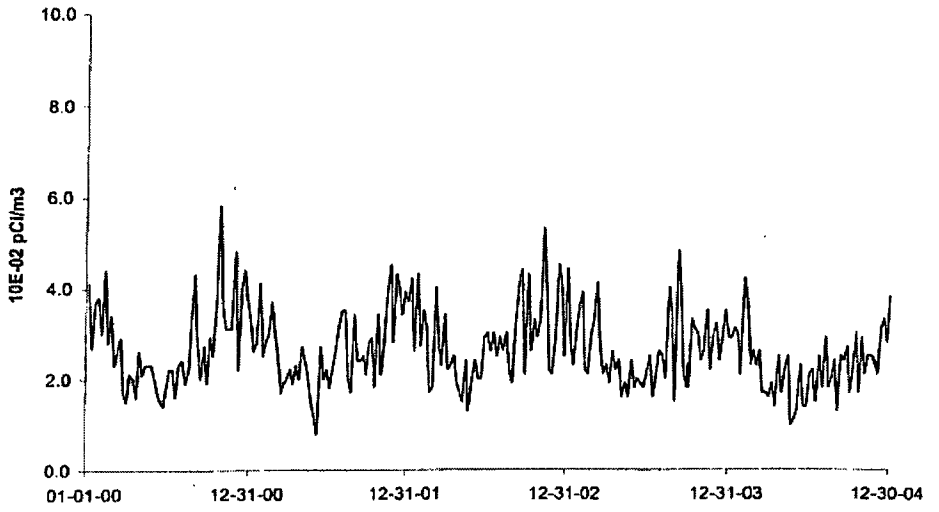
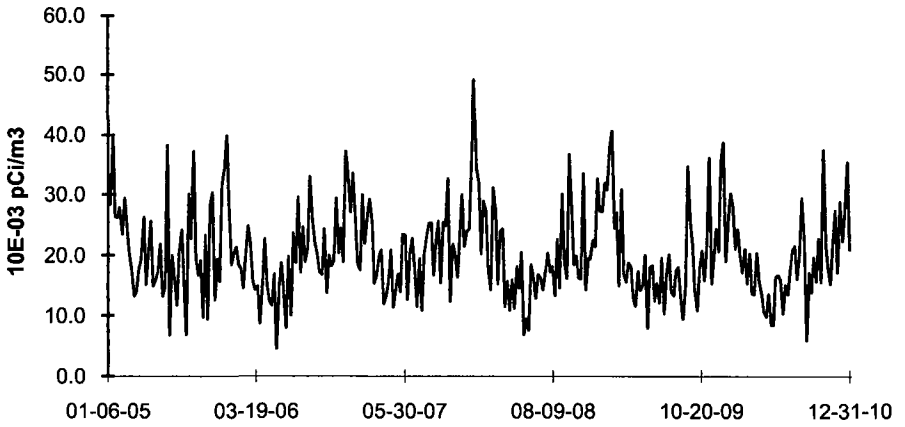


FIGURE C-16 (cont.)
Air Particulates - Gross Beta- Station BD-21
Collected in the Vicinity of Braidwood Station, 2005 - 2010

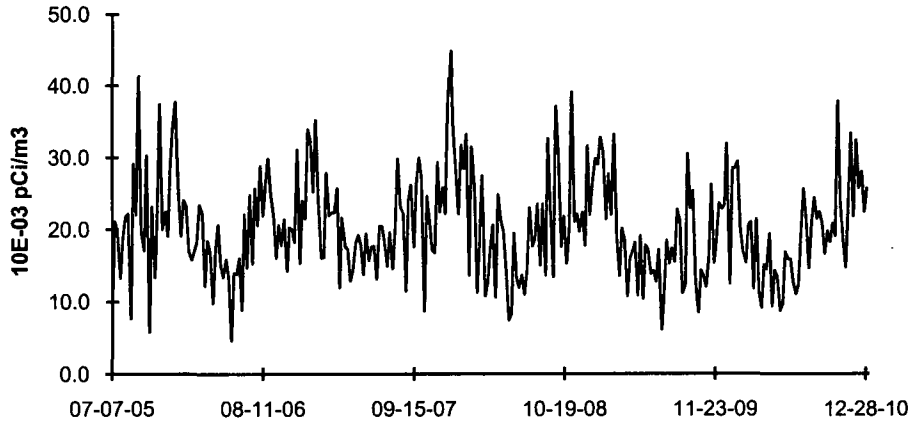
BD-21 Nearsite, NE



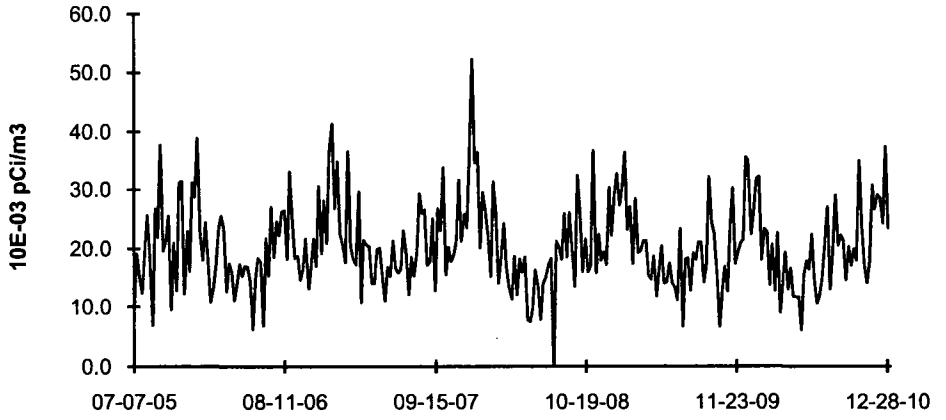
DUE TO VENDOR CHANGE, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-17
Air Particulates - Gross Beta- Stations BD-02 and BD-04 Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-02 Nearsite, NW



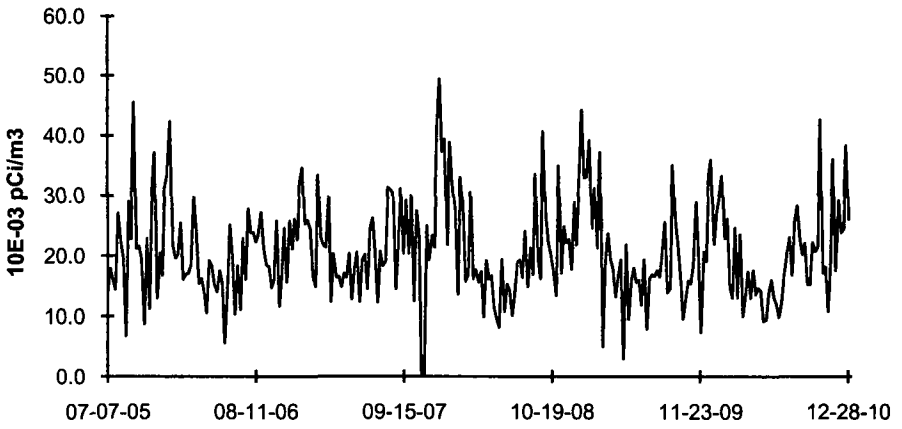
BD-04 Nearsite, N



DUE TO VENDOR CHANGE, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-18
Air Particulates - Gross Beta- Station BD-05
Collected in the Vicinity of Braidwood Station, 2005 - 2010

BD-05 Nearsite, NE



DUE TO VENDOR CHANGE, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

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APPENDIX D

INTER-LABORATORY COMPARISON PROGRAM

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TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2010	E6978-396	Milk	Sr-89	pCi/L	89.3	92.8	0.96	A
			Sr-90	pCi/L	13.8	12.7	1.09	A
	E6979-396	Milk	I-131	pCi/L	65.2	74.0	0.88	A
			Ce-141	pCi/L	241	261	0.92	A
			Cr-51	pCi/L	388	361	1.07	A
			Cs-134	pCi/L	157	178	0.88	A
			Cs-137	pCi/L	150	158	0.95	A
			Co-58	pCi/L	143	143	1.00	A
			Mn-54	pCi/L	202	207	0.98	A
			Fe-59	pCi/L	146	137	1.07	A
			Zn-65	pCi/L	247	254	0.97	A
			Co-60	pCi/L	177	183	0.97	A
	E6981-396	AP	Ce-141	pCi	211	185	1.14	A
			Cr-51	pCi	304	255	1.19	A
			Cs-134	pCi	142	125	1.14	A
			Cs-137	pCi	131	111	1.18	A
			Co-58	pCi	119	101	1.18	A
			Mn-54	pCi	162	146	1.11	A
			Fe-59	pCi	110	97	1.14	A
			Zn-65	pCi	217	179	1.21	W
			Co-60	pCi	145	129	1.12	A
	E6980-396	Charcoal	I-131	pCi	80.2	85.6	0.94	A
June 2010	E7132-396	Milk	Sr-89	pCi/L	82.0	93.4	0.88	A
			Sr-90	pCi/L	15.8	16.7	0.95	A
	E7133-396	Milk	I-131	pCi/L	83.5	96.9	0.86	A
			Ce-141	pCi/L	107	110	0.97	A
			Cr-51	pCi/L	325	339	0.96	A
			Cs-134	pCi/L	114	126	0.90	A
			Cs-137	pCi/L	144	150	0.96	A
			Co-58	pCi/L	92.3	101	0.91	A
			Mn-54	pCi/L	165	169	0.98	A
			Fe-59	pCi/L	121	119	1.02	A
			Zn-65	pCi/L	197	206	0.96	A
			Co-60	pCi/L	190	197	0.96	A
	E7135-396	AP	Ce-141	pCi	88.4	91.6	0.97	A
			Cr-51	pCi	292	282	1.04	A
			Cs-134	pCi	101	105	0.96	A
			Cs-137	pCi	132	125	1.06	A
			Co-58	pCi	87.3	84.0	1.04	A
			Mn-54	pCi	150	140	1.07	A
			Fe-59	pCi	105	98.6	1.06	A
			Zn-65	pCi	168	171	0.98	A
			Co-60	pCi	170	163	1.04	A
	E7134-396	Charcoal	I-131	pCi	76.4	79.9	0.96	A

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September 2010	E7229-396	Milk	Sr-89	pCi/L	85.0	92.8	0.92	A
			Sr-90	pCi/L	12.6	14.7	0.86	A
	E7230-396	Milk	I-131	pCi/L	80.2	94.1	0.85	A
			Ce-141	pCi/L	130	130	1.00	A
			Cr-51	pCi/L	235	234	1.00	A
			Cs-134	pCi/L	83.2	93.0	0.89	A
			Cs-137	pCi/L	95.1	94.5	1.01	A
			Co-58	pCi/L	77.3	73.7	1.05	A
			Mn-54	pCi/L	121	119	1.02	A
			Fe-59	pCi/L	96.4	91.1	1.06	A
			Zn-65	pCi/L	216	204	1.06	A
			Co-60	pCi/L	172	171	1.01	A
	E7232-396	AP	Ce-141	pCi	122	119	1.03	A
			Cr-51	pCi	228	214	1.07	A
			Cs-134	pCi	79.9	85.3	0.94	A
			Cs-137	pCi	93.8	86.7	1.08	A
			Co-58	pCi	71.5	67.6	1.06	A
			Mn-54	pCi	113	110	1.03	A
			Fe-59	pCi	73.8	83.6	0.88	A
			Zn-65	pCi	186	187	0.99	A
			Co-60	pCi	163	157	1.04	A
	E7231-396	Charcoal	I-131	pCi/L	62.3	59.9	1.04	A
December 2010	E7375-396	Milk	Sr-89	pCi/L	92.7	98.0	0.95	A
			Sr-90	pCi/L	13.5	13.5	1.00	A
	E7376-396	Milk	I-131	pCi/L	87.9	96.9	0.91	A
			Ce-141	pCi/L	not provided by Analytics for this study			
			Cr-51	pCi/L	389	456	0.85	A
			Cs-134	pCi/L	137	157	0.87	A
			Cs-137	pCi/L	172	186	0.92	A
			Co-58	pCi/L	84.3	90.2	0.93	A
			Mn-54	pCi/L	120	120	1.00	A
			Fe-59	pCi/L	134	131	1.02	A
			Zn-65	pCi/L	162	174	0.93	A
			Co-60	pCi/L	284	301	0.94	A
	E7378-396	AP	Ce-141	pCi	not provided by Analytics for this study			
			Cr-51	pCi	387	365	1.06	A
			Cs-134	pCi	135	126	1.07	A
			Cs-137	pCi	157	149	1.05	A
			Co-58	pCi	73.6	72.3	1.02	A
			Mn-54	pCi	88.7	96	0.92	A
			Fe-59	pCi	127	105	1.21	W
			Zn-65	pCi	151	139	1.09	A
			Co-60	pCi	249	241	1.03	A

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2010	E7377-396	Charcoal	I-131	pCi	79.6	84.2	0.95	A

(a) Teledyne Brown Engineering reported result.

(b) The Analytics known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) Ratio of Teledyne Brown Engineering to Analytics results.

(d) Analytics evaluation based on TBE internal QC limits: A= Acceptable. Reported result falls within ratio limits of 0.80-1.20. W-Acceptable with warning. Reported result falls within 0.70-0.80 or 1.20-1.30. N = Not Acceptable. Reported result falls outside the ratio limits of < 0.70 and > 1.30.

TABLE D-2 **ERA ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
May 2010	RAD-81	Water	Sr-89	pCi/L	64.4	60.4	48.6 - 68.2	A
			Sr-90	pCi/L	37.8	41.3	30.4 - 47.4	A
			Ba-133	pCi/L	66.4	65.9	54.9 - 72.5	A
			Cs-134	pCi/L	66.43	71.6	58.4 - 78.8	A
			Cs-137	pCi/L	137.33	146	131 - 163	A
			Co-60	pCi/L	83.33	84.5	76.0 - 95.3	A
			Zn-65	pCi/L	177	186	167 - 219	A
			Gr-A	pCi/L	26.37	32.9	16.9 - 42.6	A
			Gr-B	pCi/L	28.77	37.5	24.7 - 45.0	A
			I-131	pCi/L	26.27	26.4	21.9 - 31.1	A
			H-3	pCi/L	12967	12400	10800 - 13600	A
November 2010	RAD-83	Water	Sr-89	pCi/L	77.8	68.5	55.8 - 76.7	N (1)
			Sr-90	pCi/L	39.3	43.0	31.7 - 49.3	A
			Ba-133	pCi/L	70.3	68.9	57.5 - 75.8	A
			Cs-134	pCi/L	39.9	43.2	34.5 - 47.5	A
			Cs-137	pCi/L	117	123	111 - 138	A
			Co-60	pCi/L	53.5	53.4	48.1 - 61.3	A
			Zn-65	pCi/L	11.0	102	91.8 - 122	N (2)
			Gr-A	pCi/L	35.1	42.3	21.9 - 53.7	A
			Gr-B	pCi/L	35.5	36.6	24.0 - 44.2	A
			I-131	pCi/L	27.9	27.5	22.9 - 32.3	A
			H-3	pCi/L	13233	12900	11200 - 14200	A

(1) Sr-89 TBE to known ratio of 1.14 fell within acceptable range of ± 20%. No action required. NCR 10-09

(2) Zn-65 result of 111 was incorrectly reported as 11.0. No action required. NCR 10-09

(a) Teledyne Brown Engineering reported result.

(b) The ERA known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) ERA evaluation: A=acceptable. Reported result falls within the Warning Limits. NA=not acceptable. Reported result falls outside of the Control Limits. CE=check for Error. Reported result falls within the Control Limits and outside of the Warning Limit.

TABLE D-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 1 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
March 2010	10-MaW22	Water	Cs-134	Bq/L	-0.0942		(1)	A
			Cs-137	Bq/L	58.5	60.6	42.4 - 78.8	A
			Co-57	Bq/L	27.2	28.3	19.8 - 36.8	A
			Co-60	Bq/L	0.0226		(1)	A
			H-3	Bq/L	104	90.8	63.6 - 118.0	A
			Mn-54	Bq/L	26.6	26.9	18.8 - 35.0	A
			Sr-90	Bq/L	0.1029		(1)	A
			Zn-65	Bq/L	42.0	40.7	28.5 - 52.9	A
	10-GrW22	Water	Gr-A	Bq/L	0.5173	0.676	0.00 - 1.352	A
			Gr-B	Bq/L	3.98	3.09	1.55 - 4.64	A
	10-MaS22	Soil	Cs-134	Bq/kg	665	733	513 - 953	A
			Cs-137	Bq/kg	800	779	545 - 1013	A
			Co-57	Bq/kg	508	522	365 - 679	A
			Co-60	Bq/kg	648	622	435 - 809	A
			Mn-54	Bq/kg	893	849	594 - 1104	A
			K-40	Bq/kg	597	559	391 - 727	A
			Sr-90	Bq/kg	221	288	202 - 374	W
			Zn-65	Bq/kg	-4.97		(1)	A
	10-RdF22	AP	Cs-134	Bq/sample	1.81	2.13	1.49 - 2.77	A
			Cs-137	Bq/sample	1.70	1.53	1.07 - 1.99	A
			Co-57	Bq/sample	0.0056		(1)	A
			Co-60	Bq/sample	2.65	2.473	1.731 - 3.215	A
			Mn-54	Bq/sample	3.70	3.02	2.11 - 3.93	W
			Sr-90	Bq/sample	0.0523		(1)	A
			Zn-65	Bq/sample	-0.0627		(1)	A
	10-GrF22	AP	Gr-A	Bq/sample	0.1533	0.0427	0.00 - 0.854	A
			Gr-B	Bq/sample	1.240	1.29	0.65 - 1.94	A
	10-RdV22	Vegetation	Cs-134	Bq/sample	4.48	4.39	3.07 - 5.71	A
			Cs-137	Bq/sample	3.43	3.06	2.14 - 3.98	A
			Co-57	Bq/sample	-0.0117		(1)	A
			Co-60	Bq/sample	3.55	3.27	2.29 - 4.25	A
			Mn-54	Bq/sample	0.007		(1)	A
			Sr-90	Bq/sample	-0.0002		(1)	A
			Zn-65	Bq/sample	8.12	7.10	4.97 - 9.23	A
September 2010	10-MaW23	Water	Cs-134	Bq/L	27.1	31.4	22.0 - 40.8	A
			Cs-137	Bq/L	41.8	44.2	30.9 - 57.5	A
			Co-57	Bq/L	33.2	36.0	25.2 - 46.8	A
			Co-60	Bq/L	26.5	28.3	19.8 - 36.8	A
			H-3	Bq/L	500	453.4	317.4 - 589.4	A
			Mn-54	Bq/L	0.024		(1)	A
			Sr-90	Bq/L	8.10	8.3	5.8 - 10.8	A
			Zn-65	Bq/L	30.8	31.0	21.7 - 40.3	A
	10-GrW23	Water	Gr-A	Bq/L	2.36	1.92	0.58 - 3.26	A
			Gr-B	Bq/L	6.37	4.39	2.20 - 6.59	A

TABLE D-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 2 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
September 2010	10-MaS23	Soil	Cs-134	Bq/kg	837	940	658 - 1222	A
			Cs-137	Bq/kg	680	670	469 - 871	A
			Co-57	Bq/kg	2.78		(1)	A
			Co-60	Bq/kg	350	343	240 - 446	A
			Mn-54	Bq/kg	853	820	574 - 1066	A
			K-40	Bq/kg	721	699	489 - 909	A
			Sr-90	Bq/kg	2.24		(1)	A
			Zn-65	Bq/kg	287	265	186 - 345	A
	10-RdF23	AP	Cs-134	Bq/sample	2.31	2.98	2.09 - 3.87	W
			Cs-137	Bq/sample	-0.025		(1)	A
			Co-57	Bq/sample	3.64	4.08	2.86 - 5.380	A
			Co-60	Bq/sample	2.81	2.92	2.04 - 3.80	A
			Mn-54	Bq/sample	3.19	3.18	2.23- 4.13	A
			Sr-90	Bq/sample	1.01	1.01	0.71 - 1.31	A
			Zn-65	Bq/sample	0.0310		(1)	A
	10-GrF23	AP	Gr-A	Bq/sample	0.004		(1)	A
			Gr-B	Bq/sample	0.473	0.50	0.25 - 0.75	A
	10-RdV23	Vegetation	Cs-134	Bq/sample	4.90	4.79	3.35 - 6.23	A
			Cs-137	Bq/sample	6.78	5.88	4.12 - 7.64	A
			Co-57	Bq/sample	10.2	8.27	5.79 - 10.75	W
			Co-60	Bq/sample	0.00		(1)	A
			Mn-54	Bq/sample	7.36	6.287	4.401 - 8.173	A
			Sr-90	Bq/sample	2.53	2.63	1.84 - 3.42	A
			Zn-65	Bq/sample	6.40	5.3900	3.77 - 7.01	A

(1) False positive test.

(a) Teledyne Brown Engineering reported result.

(b) The MAPEP known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) DOE/MAPEP evaluation: A=acceptable, W=acceptable with warning, N=not acceptable.

TABLE D-4 **ERA (a) STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM[a]**
ENVIRONMENTAL, INC., 2010

Lab Code	Date	Concentration (pCi/L)				
		Analysis	Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1205	04/05/10	Sr-89	63.0 ± 5.7	60.4	48.6 - 68.2	Pass
STW-1205	04/05/10	Sr-90	37.4 ± 2.4	41.3	30.4 - 47.4	Pass
STW-1206	04/05/10	Ba-133	63.6 ± 3.3	65.9	54.9 - 72.5	Pass
STW-1206	04/05/10	Co-60	83.3 ± 2.9	84.5	76.0 - 95.3	Pass
STW-1206	04/05/10	Cs-134	71.0 ± 3.4	71.6	58.4 - 78.8	Pass
STW-1206	04/05/10	Cs-137	145.5 ± 5.1	146.0	131.0 - 163.0	Pass
STW-1206	04/05/10	Zn-65	194.9 ± 7.8	186.0	167.0 - 219.0	Pass
STW-1207	04/05/10	Gr. Alpha	26.5 ± 1.7	32.9	16.9 - 42.6	Pass
STW-1207	04/05/10	Gr. Beta	34.5 ± 1.6	37.5	24.7 - 45.0	Pass
STW-1208	04/05/10	I-131	22.7 ± 0.8	26.4	21.9 - 31.1	Pass
STW-1210	04/05/10	H-3	12955 ± 332	12400.0	10800 - 13600	Pass
STW-1224	10/04/10	Sr-89	65.3 ± 5.7	68.5	55.8 - 76.7	Pass
STW-1224	10/04/10	Sr-90	39.9 ± 2.3	43.0	31.7 - 49.3	Pass
STW-1225	10/04/10	Ba-133	67.2 ± 4.3	68.9	57.5 - 75.8	Pass
STW-1225	10/04/10	Co-60	53.2 ± 3.3	53.4	48.1 - 61.3	Pass
STW-1225	10/04/10	Cs-134	47.3 ± 5.1	43.2	34.5 - 47.5	Pass
STW-1225	10/04/10	Cs-137	118.0 ± 5.9	123.0	111.0 - 138.0	Pass
STW-1225	10/04/10	Zn-65	107.0 ± 8.7	102.0	91.8 - 122.0	Pass
STW-1226	10/04/10	Gr. Alpha	30.7 ± 2.9	42.3	21.9 - 53.7	Pass
STW-1226	10/04/10	Gr. Beta	32.7 ± 0.8	36.6	24.0 - 44.2	Pass
STW-1227	10/04/10	I-131	28.6 ± 1.1	27.5	22.9 - 32.3	Pass
STW-1229	10/04/10	H-3	13682 ± 352	12900.0	11200 - 14200	Pass

[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 D-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2010

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STVE-1199	03/01/10	Co-57	0.01 ± 0.03	0.00	-	Pass
STVE-1199	03/01/10	Co-60	3.39 ± 0.12	3.27	2.29 - 4.25	Pass
STVE-1199	03/01/10	Cs-134	4.74 ± 0.15	4.39	3.07 - 5.71	Pass
STVE-1199	03/01/10	Cs-137	3.32 ± 0.17	3.06	2.14 - 3.98	Pass
STVE-1199	03/01/10	Mn-54	0.01 ± 0.05	0.00	-	Pass
STVE-1199	03/01/10	Zn-65	8.03 ± 0.33	7.10	4.97 - 9.23	Pass
STW-1200	03/01/10	Gr. Alpha	0.40 ± 0.05	0.68	0.00 - 1.35	Pass
STW-1200	03/01/10	Gr. Beta	3.03 ± 0.07	3.09	1.55 - 4.64	Pass
STW-1201	03/01/10	Co-57	28.90 ± 0.40	28.30	19.80 - 36.80	Pass
STW-1201	03/01/10	Co-60	0.06 ± 0.05	0.00	-	Pass
STW-1201	03/01/10	Cs-134	-0.03 ± 0.09	0.00	-	Pass
STW-1201	03/01/10	Cs-137	60.60 ± 0.60	60.60	42.40 - 78.80	Pass
STW-1201	03/01/10	H-3	93.20 ± 18.30	90.80	63.60 - 118.00	Pass
STW-1201	03/01/10	Mn-54	27.80 ± 0.40	26.90	18.80 - 35.00	Pass
STW-1201	03/01/10	Sr-90	-0.10 ± 0.60	0.00	-	Pass
STW-1201	03/01/10	Zn-65	42.70 ± 0.80	40.70	28.50 - 52.90	Pass
STSO-1202	03/01/10	Co-57	520.00 ± 10.80	522.00	365.00 - 679.00	Pass
STSO-1202	03/01/10	Co-60	599.10 ± 2.80	622.00	435.00 - 809.00	Pass
STSO-1202	03/01/10	Cs-134	666.10 ± 4.70	733.00	513.00 - 953.00	Pass
STSO-1202	03/01/10	Cs-137	774.40 ± 4.50	779.00	545.00 - 1013.00	Pass
STSO-1202	03/01/10	K-40	562.00 ± 15.30	559.00	391.00 - 727.00	Pass
STSO-1202	03/01/10	Mn-54	866.20 ± 4.60	849.00	594.00 - 1104.00	Pass
STSO-1202	03/01/10	Sr-90	225.50 ± 11.80	288.00	202.00 - 374.00	Pass
STSO-1202	03/01/10	Zn-65	-1.23 ± 1.96	0.00	-	Pass
STAP-1203	03/01/10	Co-57	0.01 ± 0.02	0.00	-	Pass
STAP-1203	03/01/10	Co-60	2.63 ± 0.19	2.47	1.73 - 3.22	Pass
STAP-1203	03/01/10	Cs-134	2.21 ± 0.34	2.13	1.49 - 2.77	Pass
STAP-1203	03/01/10	Cs-137	1.66 ± 0.22	1.53	1.07 - 1.99	Pass
STAP-1203	03/01/10	Mn-54	3.42 ± 0.26	3.02	2.11 - 3.93	Pass
STAP-1203	03/01/10	Sr-90	0.02 ± 0.06	0.00	-	Pass
STAP-1203	03/01/10	Zn-65	-0.05 ± 0.11	0.00	-	Pass
STAP-1204	03/01/10	Gr. Alpha	0.13 ± 0.03	0.43	0.00 - 0.85	Pass
STAP-1204	03/01/10	Gr. Beta	1.46 ± 0.07	1.29	0.65 - 1.94	Pass

TABLE D-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2010

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1211	08/01/10	Co-57	36.40 ± 4.80	36.00	25.20 - 46.80	Pass
STW-1211	08/01/10	Co-60	28.30 ± 1.00	28.30	19.80 - 36.80	Pass
STW-1211	08/01/10	Cs-134	29.30 ± 2.10	31.40	22.00 - 40.80	Pass
STW-1211	08/01/10	Cs-137	44.60 ± 1.80	44.20	30.90 - 57.50	Pass
STW-1211	08/01/10	H-3	503.60 ± 12.80	453.40	317.40 - 589.40	Pass
STW-1211	08/01/10	K-40	38.50 ± 2.50	38.90	27.20 - 50.60	Pass
STW-1211	08/01/10	Mn-54	0.10 ± 0.30	0.00	-	Pass
STW-1211	08/01/10	Sr-90	9.20 ± 1.30	8.30	5.80 - 10.80	Pass
STW-1211	08/01/10	Zn-65	32.80 ± 3.00	31.00	21.70 - 40.30	Pass
STW-1212	08/01/10	Gr. Alpha	1.54 ± 0.09	1.92	0.58 - 3.26	Pass
STW-1212	08/01/10	Gr. Beta	4.13 ± 0.15	4.39	2.20 - 6.59	Pass
STVE-1213	08/01/10	Co-57	9.60 ± 0.54	8.27	5.79 - 10.75	Pass
STVE-1213	08/01/10	Co-60	0.05 ± 0.08	0.00	-	Pass
STVE-1213	08/01/10	Cs-134	4.83 ± 0.26	4.79	3.35 - 6.23	Pass
STVE-1213	08/01/10	Cs-137	6.45 ± 0.66	5.88	4.12 - 7.64	Pass
STVE-1213	08/01/10	Mn-54	7.12 ± 0.66	6.29	4.40 - 8.17	Pass
STVE-1213	08/01/10	Zn-65	6.05 ± 0.74	5.39	3.77 - 7.01	Pass
STSO-1214	08/01/10	Co-57	0.10 ± 1.60	0.00	-	Pass
STSO-1214	08/01/10	Co-60	370.00 ± 6.00	343.00	240.00 - 446.00	Pass
STSO-1214	08/01/10	Cs-134	1005.00 ± 21.00	940.00	658.00 - 1222.00	Pass
STSO-1214	08/01/10	Cs-137	755.00 ± 15.00	670.00	469.00 - 871.00	Pass
STSO-1214	08/01/10	K-40	783.00 ± 54.00	699.00	489.00 - 909.00	Pass
STSO-1214	08/01/10	Mn-54	942.00 ± 15.00	820.00	574.00 - 1066.00	Pass
STSO-1214	08/01/10	Sr-90	3.50 ± 8.00	0.00	-	Pass
STSO-1214	08/01/10	Zn-65	310.00 ± 18.00	265.00	186.00 - 345.00	Pass
STAP-1215	08/01/10	Co-57	4.47 ± 0.21	4.08	2.86 - 5.30	Pass
STAP-1215	08/01/10	Co-60	3.15 ± 0.30	2.92	2.04 - 3.80	Pass
STAP-1215	08/01/10	Cs-134	3.03 ± 0.17	2.98	2.09 - 3.87	Pass
STAP-1215	08/01/10	Cs-137	0.01 ± 0.05	0.00	-	Pass
STAP-1215	08/01/10	Mn-54	3.69 ± 0.39	3.18	2.23 - 4.13	Pass
STAP-1215	08/01/10	Sr-90	1.00 ± 0.12	1.01	0.71 - 1.31	Pass
STAP-1215	08/01/10	Zn-65	0.03 ± 0.15	0.00	-	Pass

TABLE D-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2010

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STAP-1216	08/01/10	Gr. Alpha	0.01 ± 0.01	0.00	-	Pass
STAP-1216	08/01/10	Gr. Beta	0.54 ± 0.05	0.50	0.25 - 0.75	Pass

[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] *Results are reported in units of Bq/kg (soil), Bq/L (water) or Bq/total sample (filters, vegetation).*

[c] *Laboratory codes as follows: STW (water), STAP (air filter), STSO (soil), STVE (vegetation).*

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

[e] *Included in the testing series as a "false positive".*

APPENDIX E

EFFLUENT DATA

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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. Units 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 activity 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. Carbon-14 concentration in offsite areas is calculated based on industry-approved methodology for estimation of the amount released and meteorological data.

Environmental monitoring is conducted by sampling at indicator and control (background) locations in the vicinity of 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. An environmental monitoring program is conducted which also includes all potential pathways at the site. Gaseous pathways include ground plane (direct), inhalation, vegetation, meat, and milk. Liquid pathways include potable water and freshwater fish. The critical pathway for 2010 gaseous dose was vegetation. The critical pathway for 2010 liquid dose was potable water.

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 1.95E+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 6.97E-01 curies of fission and activation gases were released with a maximum quarterly average release rate of 4.38E-02 µCi/sec at Unit 1 and 4.38E-02 µCi/sec at Unit 2.

A total of 6.57E-05 curies of 1-131 were released during the year with a maximum average quarterly release rate of 4.06E-06 µCi/sec for Unit 1 and 4.20E-06 µCi/sec for Unit 2.

A total of 5.40E-06 curies of beta-gamma emitters were released as airborne particulate matter with a maximum average release rate of 6.94E-07 µCi/sec at Unit 1 and 0.00E+00 µCi/sec at Unit 2. Alpha-emitting radionuclides were below the lower limit of detection (LLD) for the year.

A total of 3.43E+02 curies of tritium were released with a maximum average quarterly release rate of 1.24E+01 µCi/sec at Unit 1 and 4.58E+00 µCi/sec at Unit 2.

A total of 8.90E+00 curies of C-14 was released with a maximum average quarterly release rate of 1.41E-01 uCi/sec from Unit 1 and 1.41E-01 uCi/sec from Unit 2.

1.2 Liquids Released to Kankakee River

A total of 6.77E+05 liters of radioactive liquid wastes (prior to dilution) containing 2.70E-02 curies (excluding tritium, noble gases and alpha) were discharged from the station. These wastes were released at a maximum quarterly diluted average concentration of 2.30E-09 µCi/ml. Alpha-emitting radionuclides were less than the LLD for the year. A total of 7.90E+02 curies of tritium was released from the station. Quarterly release activities 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 the Braidwood Station 2010 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.

3.1.1 Noble Gases

3.1.1.1 Gamma Dose Rates

Offsite Gamma air and total body dose rates 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 4.25E-01 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 5.55E-01 mrem (Table 3.4-1). The maximum gamma air dose was 1.03E-05 mrad (Table 3.1-1) based on measured effluents and average meteorological data and 1.46E-05 mrad based on concurrent meteorological date (Table 3.4-1).

3.1.1.2 Beta Air and Skin Dose Rates

The range of beta particles in air is relatively small (on the order of a few meters or less); consequently, plumes of gaseous effluents may be considered "infinite" for 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 2.31E-05 mrem based on concurrent meteorological data (Table 3.4-1).

The maximum offsite beta air dose for the year was 4.09E-05 mrad (Table 3.1-1) based on measured effluents and average meteorological data and 3.69E-05 mrad based on concurrent meteorological data (Table 3.4-1).

3.1.2 Radioactive Iodine & Particulate

The human thyroid exhibits a significant capacity to concentrate ingested or inhaled iodine. I-131 released during routine operation of the station may be made available to man resulting in a dose to the thyroid. C-14 is also included in this category. C-14 exhibits a capacity to concentrate in bone. C-14 is released in gaseous form and is absorbed into vegetation through photosynthesis. The principal pathways of interest for C-14 are the consumption of vegetation by humans and milk from which animals have ingested C-14 through the consumption of vegetation. With the inclusion of C-14 in plant effluent calculations, human dose in this category is primarily driven by the release of C-14 from the plant.

The hypothetical dose to the maximum exposed individual living near the station via ingestion of milk and vegetation was calculated. The source of milk and vegetation was assumed to be at the nearest site boundary with the cows pastured and vegetation grown from May through October. The maximum dose from radioactive iodine and particulate (including C-14) to any organ was 1.87E+00 mrem (child/bone) based on measured effluents and average meteorological data and 2.21E+00 mrem based on concurrent meteorological data. The maximum dose from radioactive iodine and particulate (including C-14) to the whole body was 4.25E-01 mrem (child) based on measured effluents and average meteorological data and 5.44E-01 mrem based on concurrent meteorological data.

3.2 Liquid Effluent Pathways

The three principal pathways through the aquatic environment for potential doses to man from liquid waste are ingestion of potable water, eating 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 and skin; specific parameters for use in the equations are given in the Exelon Offsite Dose Calculation Manual. The maximum whole body dose for the year was 2.60E-02 mrem and no organ dose exceeded 3.14E-02 mrem (Table 3.2-1 [child]).

3.3 Assessment of Dose to Member of Public

During the period January to December, 2010, 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), Table 3.4-1 (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 year; 3 mrem to the whole body or 10 mrem to any organ during the 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 mrads for gamma radiation or 10 mrad for beta radiation during any calendar quarter; 10 mrad for gamma radiation or 20 mrad for beta radiation during a calendar year).

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

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

4.0 SITE METEOROLOGY

A summary of the site meteorological measurements taken during each calendar quarter of the year is given in Appendix E. 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 the 199' and 30' levels. Data recovery for these measurements was 99.8% during 2010.

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

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APPENDIX E-1

DATA TABLES AND FIGURES

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Table 1.1-1

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2010
GAS RELEASES
UNIT 1 (Docket Number 50-456)
SUMMATION OF ALL RELEASES

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error%
A. Fission and Activation Gas Releases						
1. Total Release Activity	Ci	7.21E-02	6.46E-02	3.48E-01	3.71E-02	7.59
2. Average Release Rate	µCi/sec	9.27E-03	8.22E-03	4.38E-02	4.67E-03	
3. Percent of ODCM Limit - gamma	%	1.15E-05	1.04E-05	7.73E-05	6.12E-06	
4. Percent of ODCM Limit - beta	%	2.79E-05	2.50E-05	1.44E-04	1.45E-05	
B. Iodine Releases						
1. Total I-131 Activity	Ci	0.00E+00	0.00E+00	0.00E+00	3.23E-05	33.20
2. Average Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	4.06E-06	
3. Percent of ODCM Limit - gamma	%	0.00E+00	0.00E+00	0.00E+00	3.14E+00	
C. Particulate (> 8 day half-life) Releases						
1. Gross Activity	Ci	5.40E-06	0.00E+00	0.00E+00	0.00E+00	19.80
2. Average Release Rate	µCi/sec	6.94E-07	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM Limit	%	3.07E+00	0.00E+00	0.00E+00	0.00E+00	
D. Tritium Releases						
1. Total Release Activity	Ci	6.81E+01	5.37E+01	9.82E+01	3.77E+01	8.07
2. Average Release Rate	µCi/sec	8.76E+00	6.83E+00	1.24E+01	4.74E+00	
3. Percent of ODCM Limit	%	3.07E+00	3.11E+00	3.14E+00	3.14E+00	
E. Gross Alpha Releases						
1. Total Release Activity	Ci	<LLD	<LLD	<LLD	<LLD	19.80
2. Average Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM limit	%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
F. Carbon-14 Releases						
1. Total Release Activity	Ci	1.10E+00	1.11E+00	1.12E+00	1.12E+00	
2. Average Release Rate	µCi/sec	1.41E-01	1.41E-01	1.41E-01	1.41E-01	

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

Table 1.1-1 (cont.)

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2010
GAS RELEASES
UNIT 2 (Docket Number 50-457)
SUMMATION OF ALL RELEASES

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Est. Total Error%
A. Fission and Activation Gas Releases						
1. Total Activity Released	Ci	5.31E-02	4.97E-02	3.48E-01	3.71E-02	7.59
2. Average Release Rate	µCi/sec	6.83E-03	6.32E-03	4.38E-02	4.67E-03	
3. Percent of ODCM Limit - gamma	%	8.47E-06	7.99E-06	7.73E-05	6.12E-06	
4. Percent of ODCM Limit - beta	%	2.05E-05	1.92E-05	1.44E-04	1.45E-05	
B. Iodine Releases						
1. Total I-131 Activity	Ci	0.00E+00	0.00E+00	0.00E+00	3.34E-05	33.20
2. Average Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	4.20E-06	
3. Percent of ODCM Limit	%	0.00E+00	0.00E+00	0.00E+00	3.15E+00	
C. Particulate (> 8 day half-life) Releases						
1. Gross Activity	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	19.80
2. Average Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
3. Percent of OCDM Limit	%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
D. Tritium Releases						
1. Total Release Activity	Ci	1.78E+00	1.29E+01	3.64E+01	3.44E+01	8.07
2. Average Release Rate	µCi/sec	2.29E-01	1.64E+00	4.58E+00	4.33E+00	
3. Percent of ODCM Limit	%	3.08E+00	3.11E+00	3.14E+00	3.15E+00	
E. Gross Alpha Releases						
1. Total Release Activity	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	19.80
2. Average Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
3. Percent of ODCM Limit	%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
F. Carbon-14 Releases						
1. Total Release Activity	Ci	1.10E+00	1.11E+00	1.12E+00	1.12E+00	
2. Average Release Rate	µCi/sec	1.41E-01	1.41E-01	1.41E-01	1.41E-01	

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

Table 1.2-1

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2010
LIQUID RELEASES
UNIT 1 (Docket Number 50-456)
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	1.51E-03	4.04E-03	1.70E-03	6.24E-03	2.64
2. Average Concentration Released	µCi/ml	2.48E-10	1.00E-09	4.27E-10	2.30E-09	
3. Percent of limit	%	*	*	*	*	
B. Tritium						
1. Total Activity Released	Ci	3.49E+01	1.09E+02	1.16E+02	1.35E+02	5.85
2. Average Concentration Released	µCi/ml	5.74E-06	2.71E-05	2.92E-05	4.97E-05	
3. % of Limit (1E-2 µCi/ml)	%	5.74E-02	2.71E-01	2.92E-01	4.97E-01	
C. Dissolved Noble Gases						
1. Total Activity Released	Ci	0.00E+00	0.00E+00	0.00E+00	5.16E-06	2.64
2. Average Concentration Released	µCi/ml	0.00E+00	0.00E+00	0.00E+00	1.90E-12	
3. % of Limit (2E-4 µCi/ml)	%	0.00E+00	0.00E+00	0.00E+00	9.51E-07	
D. Gross Alpha						
1. Total Activity Released	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	14.70
E. Volume of Releases						
1. Volume of Liquid Waste to Discharge	liters	9.43E+04	1.50E+05	2.23E+05	2.10E+05	
2. Volume of Dilution Water	liters	6.08E+09	4.02E+09	3.98E+09	2.71E+09	

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

Note: % Limit Values are included in Appendix B 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 (cont.)

BRAIDWOOD NUCLEAR POWER STATION
ANNUAL EFFLUENT REPORT FOR 2010
LIQUID RELEASES
UNIT 2 (Docket Number 50-457)
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	1.51E-03	4.04E-03	1.70E-03	6.24E-03	2.64
2. Average Concentration Released	µCi/ml	2.48E-10	1.00E-09	4.27E-10	2.30E-09	
3. Percent of Limit	%	*	*	*	*	
B. Tritium						
1. Total Activity Released	Ci	3.49E+01	1.09E+02	1.16E+02	1.35E+02	5.85
2. Average Concentration Released	µCi/ml	5.74E-06	2.71E-05	2.92E-05	4.97E-05	
3. % of Limit (1E-3 µCi/ml)	%	5.74E-02	2.71E-01	2.92E-01	4.97E-01	
C. Dissolved Noble Gases						
1. Total Activity Released	Ci	0.00E+00	0.00E+00	0.00E+00	5.16E-06	2.64
2. Average Concentration Released	µCi/ml	0.00E+00	0.00E+00	0.00E+00	1.90E-12	
3. % of Limit (2E-4 µCi/ml)	%	0.00E+00	0.00E+00	0.00E+00	9.51E-07	
D. Gross Alpha						
1. Total Activity Released	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	14.70
E. Volume of Releases						
1. Volume of Liquid Waste to Discharge	liters	9.43E+04	1.50E+05	2.23E+05	2.10E+05	
2. Volume of Dilution Water	liters	6.08E+09	4.02E+09	3.98E+09	2.71E+09	

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

Note: % Limit Values are included in Appendix B of this report.

*This limit is equal to 10 times the concentration values in Appendix B, Table 2, Column 2 to 10CFR20.1001-2402.

Table 3.1-1

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2010 00:00
Period End Date.....: 01/01/2011 00:00
Period Duration (min): 5.256E+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 Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	BONE	9.35E-01	31-day	2.25E-01	4.15E+02	3.00E-01	3.12E+02
Qrtr->End	CHILD	BONE	9.35E-01	Quarter	5.63E+00	1.66E+01	7.50E+00	1.25E+01
Year->End	CHILD	BONE	9.35E-01	Annual	1.13E+01	8.31E+00	1.50E+01	6.23E+00

Critical Pathway.....: 2 Vegetation (VEG)
Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
H-3	0.00E+00
C-14	1.00E+02
I-131	2.66E-03
I-132	6.69E-06
I-133	1.68E-06
ND-147	2.80E-06

=== 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	2.25E-01	31-day	1.50E-01	1.50E+02	2.00E-01	1.12E+02
Qrtr->End	CHILD	TBODY	2.25E-01	Quarter	5.25E+00	4.28E+00	7.50E+00	2.99E+00
Year->End	CHILD	TBODY	2.25E-01	Annual	1.05E+01	2.14E+00	1.50E+01	1.50E+00

Critical Pathway.....: 2 Vegetation (VEG)
Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
H-3	1.67E+01
C-14	8.33E+01
I-131	6.41E-03
I-132	2.75E-05
I-133	3.66E-06
ND-147	1.07E-05

Table 3.1-1 (cont.)

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2010 00:00
Period End Date.....: 01/01/2011 00:00
Period Duration (min): 5.256E+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 Period	Dose Type	Dose (mrad)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	Gamma	5.26E-06	31-day	1.50E-01	3.51E-03	2.00E-01	2.63E-03
Qrtr->End	Gamma	5.26E-06	Quarter	3.75E+00	1.40E-04	5.00E+00	1.05E-04
Year->End	Gamma	5.26E-06	Annual	7.50E+00	7.02E-05	1.00E+01	5.26E-05

Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
AR-41	1.30E+01
KR-85M	1.91E-01
XE-133M	4.91E-01
XE-131M	0.00E+00
XE-135	1.03E+01
XE-133	7.60E+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	2.11E-05	31-day	3.00E-01	7.05E-03	4.00E-01	5.29E-03
Qrtr->End	Beta	2.11E-05	Quarter	7.50E+00	2.82E-04	1.00E+01	2.11E-04
Year->End	Beta	2.11E-05	Annual	1.50E+01	1.41E-04	2.00E+01	1.06E-04

Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
AR-41	1.86E+00
KR-85M	1.24E-01
XE-133M	9.02E-01
XE-131M	0.00E+00
XE-135	5.35E+00
XE-133	9.18E+01

Table 3.1-1 (cont.)

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2010 00:00
Period End Date.....: 01/01/2011 00:00
Period Duration (min): 5.256E+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 Period	Age Group	Organ	Dose (mrem)	Limit Period	Admin Limit	Admin % of Limit	T.Spec Limit	T.Spec % of Limit
Strt->End	CHILD	BONE	9.36E-01	31-day	2.25E-01	4.16E+02	3.00E-01	3.12E+02
Qrtr->End	CHILD	BONE	9.36E-01	Quarter	5.63E+00	1.66E+01	7.50E+00	1.25E+01
Year->End	CHILD	BONE	9.36E-01	Annual	1.13E+01	8.32E+00	1.50E+01	6.24E+00

Critical Pathway.....: 2 Vegetation (VEG)
Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
H-3	0.00E+00
C-14	1.00E+02
I-131	2.76E-03
I-132	2.04E-05
I-133	1.31E-05
BA-139	2.43E-07

=== 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	2.00E-01	31-day	1.50E-01	1.33E+02	2.00E-01	9.98E+01
Qrtr->End	CHILD	TBODY	2.00E-01	Quarter	5.25E+00	3.80E+00	7.50E+00	2.66E+00
Year->End	CHILD	TBODY	2.00E-01	Annual	1.05E+01	1.90E+00	1.50E+01	1.33E+00

Critical Pathway.....: 2 Vegetation (VEG)
Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
H-3	6.26E+00
C-14	9.37E+01
I-131	7.46E-03
I-132	9.47E-05
I-133	3.22E-05
BA-139	1.13E-06

Table 3.1-1 (cont.)

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

Release ID.....: 1 All Gas Release Types
Period Start Date....: 01/01/2010 00:00
Period End Date.....: 01/01/2011 00:00
Period Duration (min): 5.256E+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	4.99E-06	31-day	1.50E-01	3.33E-03	2.00E-01	2.50E-03
Qrtr->End	Gamma	4.99E-06	Quarter	3.75E+00	1.33E-04	5.00E+00	9.99E-05
Year->End	Gamma	4.99E-06	Annual	7.50E+00	6.66E-05	1.00E+01	4.99E-05

Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
AR-41	1.37E+01
KR-85M	2.01E-01
XE-133M	5.18E-01
KR-88	0.00E+00
XE-131M	0.00E+00
XE-135	1.09E+01
XE-133	7.47E+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	1.98E-05	31-day	3.00E-01	6.61E-03	4.00E-01	4.96E-03
Qrtr->End	Beta	1.98E-05	Quarter	7.50E+00	2.64E-04	1.00E+01	1.98E-04
Year->End	Beta	1.98E-05	Annual	1.50E+01	1.32E-04	2.00E+01	9.92E-05

Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
AR-41	1.99E+00
KR-85M	1.32E-01
XE-133M	9.62E-01
KR-88	0.00E+00
XE-131M	0.00E+00
XE-135	5.71E+00
XE-133	9.12E+01

Table 3.2-1

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

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2010 00:00
Period End Date.....: 01/01/2011 00:00
Period Duration (mins): 5.256E+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	ADULT	GILLI	1.57E-02	31-day	1.50E-01	1.05E+01	2.00E-01	7.84E+00
Qrtr->End	ADULT	GILLI	1.57E-02	Quarter	3.75E+00	4.18E-01	5.00E+00	3.14E-01
Year->End	ADULT	GILLI	1.57E-02	Annual	7.50E+00	2.09E-01	1.00E+01	1.57E-01

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

Nuclide	Percentage
H-3	7.08E+01
CR-51	7.20E-03
MN-54	5.46E-01
FE-59	6.31E-02
CO-58	1.19E+00
CO-60	3.83E+00
ZR-95	1.25E-03
NB-95	1.87E+01
TE-125M	4.47E+00
TE-132	1.11E-01
I-132	5.18E-06
CS-134	5.41E-02
CS-137	7.78E-02

=== 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	1.30E-02	31-day	4.50E-02	2.90E+01	6.00E-02	2.17E+01
Qrtr->End	CHILD	TBODY	1.30E-02	Quarter	1.13E+00	1.16E+00	1.50E+00	8.70E-01
Year->End	CHILD	TBODY	1.30E-02	Annual	2.25E+00	5.80E-01	3.00E+00	4.35E-01

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

Nuclide	Percentage
H-3	9.73E+01
CR-51	3.82E-05
MN-54	4.41E-02
FE-59	9.96E-03
CO-58	1.79E-01

Table 3.2-1 (cont.)

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

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2010 00:00
Period End Date.....: 01/01/2011 00:00
Period Duration (mins): 5.256E+05

Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
CO-60	6.14E-01
ZR-95	5.24E-07
NB-95	2.20E-03
TE-125M	2.52E-01
TE-132	3.08E-03
I-132	1.55E-05
CS-134	6.68E-01
CS-137	6.74E-01

Table 3.2-1 (cont.)

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

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2010 00:00
Period End Date.....: 01/01/2011 00:00
Period Duration (mins): 5.256E+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	ADULT	GILLI	1.57E-02	31-day	1.50E-01	1.05E+01	2.00E-01	7.84E+00
Qrtr->End	ADULT	GILLI	1.57E-02	Quarter	3.75E+00	4.18E-01	5.00E+00	3.14E-01
Year->End	ADULT	GILLI	1.57E-02	Annual	7.50E+00	2.09E-01	1.00E+01	1.57E-01

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

Nuclide	Percentage
H-3	7.08E+01
CR-51	7.20E-03
MN-54	5.46E-01
FE-59	6.31E-02
CO-58	1.19E+00
CO-60	3.83E+00
ZR-95	1.25E-03
NB-95	1.87E+01
TE-125M	4.47E+00
TE-132	1.11E-01
I-132	5.18E-06
CS-134	5.41E-02
CS-137	7.78E-02

=== 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	1.30E-02	31-day	4.50E-02	2.90E+01	6.00E-02	2.17E+01
Qrtr->End	CHILD	TBODY	1.30E-02	Quarter	1.13E+00	1.16E+00	1.50E+00	8.70E-01
Year->End	CHILD	TBODY	1.30E-02	Annual	2.25E+00	5.80E-01	3.00E+00	4.35E-01

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

Nuclide	Percentage
H-3	9.73E+01
CR-51	3.82E-05
MN-54	4.41E-02
FE-59	9.96E-03
CO-58	1.79E-01

Table 3.2-1 (cont.)

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

Release ID.....: 1 All Liquid Release Types
Period Start Date.....: 01/01/2010 00:00
Period End Date.....: 01/01/2011 00:00
Period Duration (mins): 5.256E+05

Major Contributors.....: 0.0% or greater to total

Nuclide	Percentage
CO-60	6.14E-01
ZR-95	5.24E-07
NB-95	2.20E-03
TE-125M	2.52E-01
TE-132	3.08E-03
I-132	1.55E-05
CS-134	6.68E-01
CS-137	6.74E-01

Table 3.3-1

Braidwood Nuclear Station

Unit 1

10 CFR 20 Compliance Assessment

Period of Assessment: 1/1/2010 through 12/31/2010
Calculated 4/24/11

10 CFR 20.1301(A)(1) COMPLIANCE

Total Effective Dose Equivalent (TEDE)	mrem/year	9.75E-01
10 CFR 20.1301(a)(1) limit	mrem/year	100.00
	% of limit	0.975

COMPLIANCE SUMMARY

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
TEDE (mrem)	2.36E-01	2.44E-01	2.43E-01	2.51E-01	9.75E-01

Table 3.3-1 (cont.)

Braidwood Nuclear Station

Unit 2

10 CFR 20 Compliance Assessment

Period of Assessment: 1/1/2010 through 12/31/2010
Calculated 4/24/11

10 CFR 20.1301(A)(1) COMPLIANCE

Total Effective Dose Equivalent (TEDE)	mrem/year	9.75E-01
10 CFR 20.1301(a)(1) limit	mrem/year	100.00
	% of limit	0.975

COMPLIANCE SUMMARY

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
TEDE (mrem)	2.36E-01	2.44E-01	2.43E-01	2.51E-01	9.75E-01

Table 3.4-1

Doses Resulting from Airborne Releases

The following are the maximum annual calculated cumulative offsite doses resulting from Braidwood Station airborne releases.

Unit 1:

Dose	*Maximum Value*	*Sector Affected*
gamma air [1]	7.110×10^{-6} mrad	North
beta air [2]	1.850×10^{-5} mrad	North
whole body [3]	2.719×10^{-1} mrem	North
skin [4]	1.120×10^{-5} mrem	North
organ [5] (child-bone)	$1.104 \times 10^{+0}$ mrem	North

Unit 1 Compliance Status

10 CFR 50 Appendix I	**Yearly Objective**	**% of Appendix I**
gamma air	10.0 mrad	0.00
beta air	20.0 mrad	0.00
whole body	5.0 mrem	5.44
skin	15.0 mrem	0.00
organ	15.0 mrem	7.36

Unit 2:

Dose	*Maximum Value*	Sector *Affected*
gamma air [1]	7.510×10^{-6} mrad	North
beta air [2]	1.840×10^{-5} mrad	North
whole body [3]	2.835×10^{-1} mrem	North
skin [4]	1.190×10^{-5} mrem	North
organ [5] (child-bone)	$1.105 \times 10^{+0}$ mrem	North

Unit 2 Compliance Status

10 CFR 50 Appendix I	**Yearly Objective**	**% of Appendix I**
gamma air	10.0 mrad	0.00
beta air	20.0 mrad	0.00
whole body	5.0 mrem	5.67
skin	15.0 mrem	0.00
organ	15.0 mrem	7.37

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APPENDIX F

METEOROLOGICAL

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Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	1	0	0	0	0	2
NNE	0	1	2	1	0	0	4
NE	0	2	4	0	0	0	6
ENE	0	4	1	0	0	0	5
E	0	2	0	0	0	0	2
ESE	0	3	2	0	0	0	5
SE	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	5	5	0	0	10
SSW	0	0	0	1	0	0	1
SW	0	0	1	0	0	0	1
WSW	0	2	6	0	0	0	8
W	0	14	10	1	0	0	25
WNW	0	8	19	0	0	0	27
NW	1	13	24	2	0	0	40
NNW	0	2	3	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	2	52	78	10	0	0	142

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: 1

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	0	0	0	0	3
NNE	0	3	2	2	0	0	7
NE	0	0	2	0	0	0	2
ENE	2	2	0	0	0	0	4
E	1	4	1	0	0	0	6
ESE	0	3	1	0	0	0	4
SE	0	2	2	0	0	0	4
SSE	0	0	0	0	0	0	0
S	0	0	0	1	0	0	1
SSW	0	2	0	0	0	0	2
SW	0	0	2	0	0	0	2
WSW	0	6	2	0	0	0	8
W	0	5	6	1	0	0	12
WNW	0	5	2	0	0	0	7
NW	0	2	8	0	0	0	10
NNW	0	2	6	0	0	0	8
Variable	0	0	0	0	0	0	0
Total	3	39	34	4	0	0	80

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

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	4	1	0	0	0	6
NNE	0	2	4	1	0	0	7
NE	2	4	3	0	0	0	9
ENE	0	1	0	0	0	0	1
E	1	3	0	0	0	0	4
ESE	2	2	1	0	0	0	5
SE	0	1	0	0	0	0	1
SSE	0	0	1	0	0	0	1
S	0	0	2	1	0	0	3
SSW	0	5	1	2	0	0	8
SW	0	1	0	2	0	0	3
WSW	0	2	3	0	0	0	5
W	0	5	4	2	0	0	11
WNW	0	4	3	0	0	0	7
NW	0	5	6	0	0	0	11
NNW	1	1	3	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	7	40	32	9	0	0	88

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

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	4	21	10	0	0	0	35
NNE	2	16	46	39	0	0	103
NE	7	23	48	10	0	0	88
ENE	9	26	2	0	0	0	37
E	10	31	14	0	0	0	55
ESE	1	15	2	0	0	0	18
SE	1	25	15	0	0	0	41
SSE	1	12	8	3	0	0	24
S	3	3	7	6	1	0	20
SSW	2	5	5	13	1	0	26
SW	1	14	27	6	0	0	48
WSW	4	19	20	8	0	0	51
W	5	74	34	12	0	0	125
WNW	8	54	25	0	0	0	87
NW	7	43	23	4	0	0	77
NNW	5	29	24	3	0	0	61
Variable	2	0	0	0	0	0	2
Total	72	410	310	104	2	0	898

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

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	10	27	2	0	0	0	39
NNE	4	33	23	0	0	0	60
NE	10	24	18	2	0	0	54
ENE	9	27	2	0	0	0	38
E	20	17	0	0	0	0	37
ESE	8	28	9	0	0	0	45
SE	2	11	27	1	0	0	41
SSE	2	14	8	0	0	0	24
S	2	2	17	1	0	0	22
SSW	3	0	12	9	0	0	24
SW	7	13	3	0	0	0	23
WSW	7	18	5	0	0	0	30
W	17	50	0	0	0	0	67
WNW	22	53	3	1	0	0	79
NW	20	39	2	0	0	0	61
NNW	15	24	2	0	0	0	41
Variable	1	0	0	0	0	0	1
Total	159	380	133	14	0	0	686

Hours of calm in this stability class: 5
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 1

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	6	0	0	0	0	0	6
NNE	2	0	0	0	0	0	2
NE	3	0	0	0	0	0	3
ENE	11	1	0	0	0	0	12
E	19	1	0	0	0	0	20
ESE	3	6	0	0	0	0	9
SE	1	5	0	0	0	0	6
SSE	0	0	0	0	0	0	0
S	0	1	0	0	0	0	1
SSW	0	0	1	0	0	0	1
SW	2	1	0	0	0	0	3
WSW	6	22	0	0	0	0	28
W	24	35	0	0	0	0	59
WNW	23	8	0	0	0	0	31
NW	23	0	0	0	0	0	23
NNW	9	2	0	0	0	0	11
Variable	0	0	0	0	0	0	0
Total	132	82	1	0	0	0	215

Hours of calm in this stability class: 5
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 1

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	2	0	0	0	0	0	2
ENE	2	0	0	0	0	0	2
E	2	0	0	0	0	0	2
ESE	1	0	0	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	1	4	0	0	0	0	5
W	4	1	0	0	0	0	5
WNW	13	0	0	0	0	0	13
NW	5	0	0	0	0	0	5
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	31	5	0	0	0	0	36

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

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	1	0	0	0	0	2
NNE	0	0	0	2	1	0	3
NE	0	3	0	4	0	0	7
ENE	0	0	3	1	0	0	4
E	0	1	1	1	0	0	3
ESE	0	0	5	1	0	0	6
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	5	5	0	10
SSW	0	0	0	1	0	0	1
SW	0	0	1	0	0	0	1
WSW	0	1	6	0	0	0	7
W	0	9	8	5	0	0	22
WNW	0	1	17	12	0	0	30
NW	0	2	13	24	3	0	42
NNW	0	1	2	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	1	19	56	57	9	0	142

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: 1

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	1	0	0	0	2
NNE	0	3	0	3	2	0	8
NE	0	1	0	1	0	0	2
ENE	1	1	1	0	0	0	3
E	2	2	2	1	0	0	7
ESE	0	3	0	1	0	0	4
SE	0	0	3	1	0	0	4
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	1	1
SSW	0	1	1	0	0	0	2
SW	0	0	0	1	0	0	1
WSW	0	2	2	1	0	0	5
W	0	6	4	1	0	0	11
WNW	0	1	8	1	1	0	11
NW	0	1	2	9	0	0	12
NNW	0	0	3	4	0	0	7
Variable	0	0	0	0	0	0	0
Total	3	22	27	24	3	1	80

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

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	1	2	0	0	5
NNE	0	2	1	0	2	0	5
NE	0	4	1	3	0	0	8
ENE	0	0	2	0	0	0	2
E	0	4	0	0	0	0	4
ESE	0	3	0	1	0	0	4
SE	0	0	1	0	0	0	1
SSE	0	1	1	0	0	0	2
S	0	1	1	1	1	0	4
SSW	0	4	0	1	2	0	7
SW	0	1	0	0	2	0	3
WSW	0	0	1	2	0	0	3
W	0	3	6	1	2	0	12
WNW	0	0	5	3	0	0	8
NW	1	3	3	5	0	0	12
NNW	2	2	2	1	1	0	8
Variable	0	0	0	0	0	0	0
Total	3	30	25	20	10	0	88

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

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	9	16	5	0	0	31
NNE	2	8	16	39	31	7	103
NE	2	7	17	36	17	0	79
ENE	3	10	14	4	0	0	31
E	2	11	22	7	0	0	42
ESE	1	2	16	5	0	0	24
SE	0	5	22	9	4	0	40
SSE	1	1	12	8	2	1	25
S	1	4	2	4	5	3	19
SSW	1	3	0	8	12	1	25
SW	2	6	23	10	4	0	45
WSW	2	16	11	14	2	0	45
W	4	22	43	27	14	4	114
WNW	3	15	41	40	6	0	105
NW	1	19	26	29	11	0	86
NNW	0	13	24	17	2	0	56
Variable	2	0	0	0	0	0	2
Total	28	151	305	262	110	16	872

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 27
Hours of missing stability measurements in all stability classes: 1

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	9	28	3	0	0	43
NNE	1	5	27	27	1	0	61
NE	2	5	20	19	5	1	52
ENE	0	14	20	3	0	0	37
E	2	5	30	3	0	0	40
ESE	0	3	17	16	5	2	43
SE	1	5	8	15	13	0	42
SSE	0	1	9	8	5	0	23
S	0	3	6	13	7	0	29
SSW	4	1	0	9	11	1	26
SW	1	11	6	5	0	0	23
WSW	2	8	2	13	0	0	25
W	1	6	28	7	0	0	42
WNW	0	6	46	27	2	0	81
NW	0	12	40	15	2	0	69
NNW	1	17	19	13	0	0	50
Variable	0	1	0	0	0	0	1
Total	18	112	306	196	51	4	687

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

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	11	1	0	0	15
NNE	0	3	3	0	0	0	6
NE	1	1	3	0	0	0	5
ENE	3	7	1	0	0	0	11
E	1	1	6	3	0	0	11
ESE	1	3	5	4	0	0	13
SE	0	1	4	3	0	0	8
SSE	0	2	5	1	0	0	8
S	0	0	0	1	0	0	1
SSW	0	0	0	1	0	0	1
SW	0	1	0	0	0	0	1
WSW	1	0	1	1	0	0	3
W	1	3	21	11	0	0	36
WNW	0	6	30	20	0	0	56
NW	2	5	14	3	0	0	24
NNW	2	0	17	2	0	0	21
Variable	0	0	0	0	0	0	0
Total	12	36	121	51	0	0	220

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

Braidwood Generating Station

Period of Record: January - March 2010
Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

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

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

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Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	6	5	1	0	0	13
NNE	0	11	18	0	0	0	29
NE	1	13	13	0	0	0	27
ENE	1	11	0	0	0	0	12
E	2	12	3	0	0	0	17
ESE	2	9	5	0	0	0	16
SE	0	8	9	0	0	0	17
SSE	1	10	2	1	0	0	14
S	0	11	6	3	3	0	23
SSW	0	7	8	2	6	0	23
SW	0	3	8	11	0	0	22
WSW	1	3	14	5	0	0	23
W	2	5	23	4	0	0	34
WNW	1	15	22	0	0	0	38
NW	0	8	11	0	0	0	19
NNW	0	16	4	3	0	0	23
Variable	0	1	0	0	0	0	1
Total	12	149	151	30	9	0	351

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

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	0	0	0	0	2
NNE	1	3	5	1	0	0	10
NE	2	3	3	0	0	0	8
ENE	0	6	1	0	0	0	7
E	2	5	1	0	0	0	8
ESE	0	2	0	0	0	0	2
SE	1	1	2	0	0	0	4
SSE	0	9	0	0	0	0	9
S	2	7	0	2	3	0	14
SSW	1	6	4	4	5	0	20
SW	0	1	1	5	0	0	7
WSW	0	3	3	0	0	0	6
W	0	4	8	0	0	0	12
WNW	0	0	3	0	0	0	3
NW	0	4	1	0	0	0	5
NNW	0	2	2	0	0	0	4
Variable	1	0	0	0	0	0	1
Total	10	58	34	12	8	0	122

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

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	2	0	0	0	4
NNE	0	5	3	2	0	0	10
NE	1	3	5	0	0	0	9
ENE	4	7	0	0	0	0	11
E	3	5	0	0	0	0	8
ESE	2	5	3	0	0	0	10
SE	2	5	2	0	0	0	9
SSE	0	5	0	1	0	0	6
S	0	2	3	0	0	0	5
SSW	0	2	2	3	1	0	8
SW	0	0	4	4	0	0	8
WSW	1	2	2	2	0	0	7
W	0	10	3	1	0	0	14
WNW	0	2	2	0	0	0	4
NW	1	2	4	0	0	0	7
NNW	1	2	4	0	0	0	7
Variable	1	0	0	0	0	0	1
Total	16	59	39	13	1	0	128

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

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	8	6	1	0	0	17
NNE	1	26	24	5	0	0	56
NE	6	53	20	1	0	0	80
ENE	13	47	9	0	0	0	69
E	12	24	8	0	0	0	44
ESE	6	18	14	1	0	0	39
SE	3	27	17	1	0	0	48
SSE	1	19	9	3	0	0	32
S	2	10	14	6	9	0	41
SSW	1	8	17	13	6	0	45
SW	1	16	33	10	1	0	61
WSW	1	15	18	2	0	0	36
W	2	18	19	8	0	0	47
WNW	3	17	11	4	0	0	35
NW	5	9	7	0	0	0	21
NNW	3	10	16	0	0	0	29
Variable	0	0	0	0	0	0	0
Total	62	325	242	55	16	0	700

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

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	9	13	1	0	0	0	23
NNE	10	17	2	0	0	0	29
NE	15	10	1	0	0	0	26
ENE	29	22	2	0	0	0	53
E	29	25	1	0	0	0	55
ESE	13	43	8	0	0	0	64
SE	2	26	17	0	0	0	45
SSE	2	35	17	0	0	0	54
S	2	32	45	13	1	0	93
SSW	4	7	19	11	3	0	44
SW	1	15	14	1	0	0	31
WSW	8	33	8	0	0	0	49
W	6	23	3	1	0	0	33
WNW	16	16	1	0	0	0	33
NW	8	6	1	0	0	0	15
NNW	6	9	3	0	0	0	18
Variable	0	0	0	0	0	0	0
Total	160	332	143	26	4	0	665

Hours of calm in this stability class: 9
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	7	3	0	0	0	0	10
NNE	3	0	0	0	0	0	3
NE	0	0	0	0	0	0	0
ENE	10	0	0	0	0	0	10
E	6	0	0	0	0	0	6
ESE	11	2	0	0	0	0	13
SE	5	5	0	0	0	0	10
SSE	2	3	0	0	0	0	5
S	2	0	0	0	0	0	2
SSW	0	0	7	0	0	0	7
SW	4	0	0	0	0	0	4
WSW	5	11	0	0	0	0	16
W	10	3	0	0	0	0	13
WNW	16	1	0	0	0	0	17
NW	5	0	0	0	0	0	5
NNW	7	1	0	0	0	0	8
Variable	0	0	0	0	0	0	0
Total	93	29	7	0	0	0	129

Hours of calm in this stability class: 18
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	0	0	0	0	0	3
NNE	1	0	0	0	0	0	1
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	2	0	0	0	0	0	2
ESE	2	2	0	0	0	0	4
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	2	0	0	0	0	2
SW	1	0	0	0	0	0	1
WSW	2	4	0	0	0	0	6
W	9	0	0	0	0	0	9
WNW	6	0	0	0	0	0	6
NW	6	0	0	0	0	0	6
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	34	8	0	0	0	0	42

Hours of calm in this stability class: 15
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	8	1	0	0	12
NNE	1	1	12	11	0	0	25
NE	1	5	9	12	0	0	27
ENE	1	11	3	0	0	0	15
E	1	8	6	4	0	0	19
ESE	0	4	6	6	3	0	19
SE	1	2	5	4	1	0	13
SSE	0	6	6	1	0	1	14
S	0	4	10	3	2	4	23
SSW	0	6	4	3	2	7	22
SW	1	2	6	6	7	0	22
WSW	0	1	6	12	4	0	23
W	1	3	7	14	3	0	28
WNW	0	6	11	20	2	0	39
NW	0	11	4	5	9	0	29
NNW	0	5	7	6	2	0	20
Variable	0	1	0	0	0	0	1
Total	7	79	110	108	35	12	351

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

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	0	0	0	0	1
NNE	0	0	3	3	2	0	8
NE	2	3	1	3	0	0	9
ENE	0	3	2	1	0	0	6
E	0	5	2	1	0	0	8
ESE	0	1	0	2	0	0	3
SE	0	1	2	1	0	0	4
SSE	0	1	7	0	0	0	8
S	2	4	3	0	1	5	15
SSW	0	3	4	6	1	4	18
SW	0	1	2	0	2	0	5
WSW	0	2	3	2	2	0	9
W	0	2	3	3	0	0	8
WNW	0	1	0	5	2	0	8
NW	0	3	0	0	1	0	4
NNW	1	4	1	1	0	0	7
Variable	1	0	0	0	0	0	1
Total	6	35	33	28	11	9	122

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

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	0	2	0	0	4
NNE	0	4	2	2	1	1	10
NE	0	2	2	4	0	0	8
ENE	1	7	3	0	0	0	11
E	0	4	2	1	0	0	7
ESE	3	4	1	3	1	0	12
SE	0	5	2	1	1	0	9
SSE	0	2	3	0	0	1	6
S	0	0	3	2	0	0	5
SSW	0	1	1	2	0	3	7
SW	0	1	1	1	2	2	7
WSW	1	0	4	2	2	0	9
W	0	2	6	2	1	1	12
WNW	0	2	1	1	1	0	5
NW	0	2	3	2	3	0	10
NNW	1	1	1	2	0	0	5
Variable	1	0	0	0	0	0	1
Total	7	39	35	27	12	8	128

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

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	4	7	5	1	0	17
NNE	1	9	16	19	6	0	51
NE	2	12	29	20	5	0	68
ENE	2	14	39	14	1	0	70
E	1	10	17	17	2	0	47
ESE	3	4	8	16	5	6	42
SE	1	3	18	17	4	0	43
SSE	1	3	13	6	5	1	29
S	0	3	11	9	11	10	44
SSW	0	1	12	13	10	12	48
SW	0	5	23	25	2	3	58
WSW	1	4	16	11	2	0	34
W	2	4	12	10	8	4	40
WNW	0	7	10	10	10	5	42
NW	0	8	6	13	1	0	28
NNW	0	2	9	13	0	0	24
Variable	0	0	0	0	0	0	0
Total	14	93	246	218	73	41	685

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 15
Hours of missing stability measurements in all stability classes: 5

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	3	14	3	0	0	21
NNE	1	9	16	5	0	0	31
NE	1	10	20	4	0	0	35
ENE	0	10	34	4	0	0	48
E	1	10	30	12	2	0	55
ESE	0	3	13	31	5	0	52
SE	0	4	17	25	1	0	47
SSE	0	3	12	32	7	0	54
S	0	3	15	30	28	8	84
SSW	0	2	8	25	14	8	57
SW	0	9	13	19	1	0	42
WSW	0	5	17	5	0	0	27
W	1	1	26	15	1	0	44
WNW	1	2	23	9	0	0	35
NW	3	3	11	7	0	0	24
NNW	0	3	9	5	0	0	17
Variable	0	0	0	0	0	0	0
Total	9	80	278	231	59	16	673

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: 5

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	3	6	2	0	0	12
NNE	0	6	5	3	0	0	14
NE	0	3	2	0	0	0	5
ENE	0	7	1	0	0	0	8
E	1	0	3	0	0	0	4
ESE	1	0	6	1	0	0	8
SE	0	0	4	2	0	0	6
SSE	0	2	5	3	0	0	10
S	0	3	5	1	0	0	9
SSW	0	1	1	2	0	0	4
SW	0	1	1	3	2	0	7
WSW	1	2	0	2	0	0	5
W	1	5	13	7	0	0	26
WNW	1	7	3	0	0	0	11
NW	0	3	8	1	0	0	12
NNW	1	1	4	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	7	44	67	27	2	0	147

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

Braidwood Generating Station

Period of Record: April - June 2010
Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

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

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

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Braidwood Generating Station

Period of Record: July - September 2010
Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	7	10	1	0	0	19
NNE	1	9	3	0	0	0	13
NE	1	23	3	0	0	0	27
ENE	3	11	0	0	0	0	14
E	1	9	0	0	0	0	10
ESE	2	12	0	0	0	0	14
SE	0	11	1	0	0	0	12
SSE	1	17	3	0	0	0	21
S	0	20	28	4	0	0	52
SSW	1	14	21	13	2	0	51
SW	0	5	14	10	0	0	29
WSW	2	8	14	7	2	0	33
W	0	26	13	7	0	0	46
WNW	3	40	13	0	0	0	56
NW	8	24	14	0	0	0	46
NNW	2	16	14	0	0	0	32
Variable	1	0	0	0	0	0	1
Total	27	252	151	42	4	0	476

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 Generating Station

Period of Record: July - September 2010
Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	4	1	0	0	0	6
NNE	0	4	0	0	0	0	4
NE	4	3	0	0	0	0	7
ENE	2	4	0	0	0	0	6
E	3	1	0	0	0	0	4
ESE	2	5	0	0	0	0	7
SE	0	0	0	0	0	0	0
SSE	1	4	1	0	0	0	6
S	0	3	4	0	0	0	7
SSW	1	2	5	1	0	0	9
SW	0	5	2	2	0	0	9
WSW	1	5	1	0	0	0	7
W	1	3	0	1	0	0	5
WNW	2	4	2	0	0	0	8
NW	1	0	1	0	0	0	2
NNW	1	5	2	0	0	0	8
Variable	1	0	0	0	0	0	1
Total	21	52	19	4	0	0	96

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 Generating Station

Period of Record: July - September 2010
Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	2	0	0	0	0	3
NNE	1	4	1	0	0	0	6
NE	2	4	1	0	0	0	7
ENE	1	0	0	0	0	0	1
E	0	1	0	0	0	0	1
ESE	1	1	0	0	0	0	2
SE	3	7	0	0	0	0	10
SSE	1	9	0	0	0	0	10
S	1	5	9	0	0	0	15
SSW	0	4	4	3	0	0	11
SW	0	3	5	2	2	0	12
WSW	0	6	2	0	0	0	8
W	2	6	2	2	0	0	12
WNW	2	3	0	0	0	0	5
NW	1	2	3	0	0	0	6
NNW	1	4	1	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	17	61	28	7	2	0	115

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 Generating Station

Period of Record: July - September 2010
Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	9	4	0	0	0	14
NNE	2	17	6	0	0	0	25
NE	10	21	0	0	0	0	31
ENE	7	5	0	0	0	0	12
E	9	6	0	0	0	0	15
ESE	7	8	0	0	0	0	15
SE	3	24	0	0	0	0	27
SSE	5	27	1	0	0	0	33
S	3	21	22	2	0	0	48
SSW	1	7	22	6	5	0	41
SW	2	11	27	8	3	0	51
WSW	0	19	12	2	0	0	33
W	1	16	7	3	0	0	27
WNW	4	11	6	0	0	0	21
NW	4	20	0	0	0	0	24
NNW	4	11	3	0	0	0	18
Variable	2	0	0	0	0	0	2
Total	65	233	110	21	8	0	437

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 Generating Station

Period of Record: July - September 2010
Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	15	15	3	0	0	0	33
NNE	12	13	0	0	0	0	25
NE	26	2	0	0	0	0	28
ENE	26	10	0	0	0	0	36
E	28	5	0	0	0	0	33
ESE	23	20	0	0	0	0	43
SE	14	40	0	0	0	0	54
SSE	13	56	4	0	0	0	73
S	15	100	34	2	0	0	151
SSW	2	15	12	12	2	0	43
SW	4	23	13	1	0	0	41
WSW	6	21	3	0	0	0	30
W	21	19	2	0	0	0	42
WNW	11	17	1	0	0	0	29
NW	11	8	2	0	0	0	21
NNW	12	17	2	0	0	0	31
Variable	0	0	0	0	0	0	0
Total	239	381	76	15	2	0	713

Hours of calm in this stability class: 4
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 2

Braidwood Generating Station

Period of Record: July - September 2010
Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	20	1	0	0	0	0	21
NNE	8	2	0	0	0	0	10
NE	7	0	0	0	0	0	7
ENE	7	0	0	0	0	0	7
E	26	2	0	0	0	0	28
ESE	17	6	0	0	0	0	23
SE	11	8	0	0	0	0	19
SSE	4	4	0	0	0	0	8
S	5	0	0	0	0	0	5
SSW	9	7	0	0	0	0	16
SW	5	4	2	0	0	0	11
WSW	10	17	0	0	0	0	27
W	27	2	0	0	0	0	29
WNW	18	0	0	0	0	0	18
NW	6	1	0	0	0	0	7
NNW	5	0	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	185	54	2	0	0	0	241

Hours of calm in this stability class: 13
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 2

Braidwood Generating Station

Period of Record: July - September 2010
Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	0	0	0	0	0	2
NNE	3	0	0	0	0	0	3
NE	3	0	0	0	0	0	3
ENE	2	0	0	0	0	0	2
E	5	0	0	0	0	0	5
ESE	2	0	0	0	0	0	2
SE	1	0	0	0	0	0	1
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	2	0	0	0	0	0	2
WSW	10	8	0	0	0	0	18
W	14	5	0	0	0	0	19
WNW	12	0	0	0	0	0	12
NW	5	0	0	0	0	0	5
NNW	4	0	0	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	65	13	0	0	0	0	78

Hours of calm in this stability class: 33
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 2

Braidwood Generating Station

Period of Record: July - September 2010
Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	5	7	5	0	0	18
NNE	0	1	7	0	0	0	8
NE	1	6	21	1	0	0	29
ENE	0	9	3	0	0	0	12
E	3	3	6	0	0	0	12
ESE	0	5	8	1	0	0	14
SE	0	5	6	0	0	0	11
SSE	1	10	12	0	0	0	23
S	0	9	23	19	4	0	55
SSW	0	4	22	8	10	4	48
SW	0	3	12	10	4	0	29
WSW	0	6	8	8	4	3	29
W	0	10	12	7	7	2	38
WNW	4	23	28	15	1	0	71
NW	3	18	16	12	0	0	49
NNW	2	8	13	6	0	0	29
Variable	1	0	0	0	0	0	1
Total	16	125	204	92	30	9	476

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 Generating Station

Period of Record: July - September 2010
Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	4	1	0	0	0	7
NNE	0	5	0	0	0	0	5
NE	1	2	2	0	0	0	5
ENE	2	4	1	0	0	0	7
E	1	5	0	0	0	0	6
ESE	1	1	3	0	0	0	5
SE	1	0	0	1	0	0	2
SSE	0	1	3	0	0	0	4
S	0	1	3	2	0	0	6
SSW	0	3	3	3	1	0	10
SW	0	1	4	1	1	1	8
WSW	0	3	2	1	0	0	6
W	1	2	0	0	0	1	4
WNW	2	4	1	3	0	0	10
NW	0	3	3	1	1	0	8
NNW	1	0	0	1	0	0	2
Variable	1	0	0	0	0	0	1
Total	13	39	26	13	3	2	96

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 Generating Station

Period of Record: July - September 2010
Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	1	0	0	0	2
NNE	1	2	2	0	0	0	5
NE	1	4	2	1	0	0	8
ENE	1	1	0	0	0	0	2
E	0	1	1	0	0	0	2
ESE	0	2	0	0	0	0	2
SE	0	7	2	0	0	0	9
SSE	1	2	4	0	0	0	7
S	0	2	6	6	0	0	14
SSW	0	4	4	4	2	0	14
SW	0	2	3	4	2	2	13
WSW	0	1	5	2	0	0	8
W	1	5	2	1	1	0	10
WNW	1	1	3	1	1	1	8
NW	0	2	0	3	0	0	5
NNW	1	1	3	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	7	38	38	23	6	3	115

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 Generating Station

Period of Record: July - September 2010
Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	4	8	3	0	0	17
NNE	1	4	8	3	0	0	16
NE	3	8	20	4	0	0	35
ENE	3	5	5	0	0	0	13
E	0	8	5	0	0	0	13
ESE	3	4	4	2	0	0	13
SE	3	8	12	5	0	0	28
SSE	4	4	23	2	0	0	33
S	1	3	12	19	3	3	41
SSW	0	6	11	21	9	8	55
SW	1	1	14	13	7	3	39
WSW	0	8	15	12	3	0	38
W	0	7	11	3	5	1	27
WNW	1	5	6	4	6	0	22
NW	4	5	13	5	0	0	27
NNW	0	6	9	3	0	0	18
Variable	2	0	0	0	0	0	2
Total	28	86	176	99	33	15	437

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 Generating Station

Period of Record: July - September 2010
Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	8	17	3	0	0	31
NNE	0	7	13	0	0	0	20
NE	1	13	13	0	0	0	27
ENE	0	22	14	1	0	0	37
E	1	7	25	1	0	0	34
ESE	0	15	17	2	0	0	34
SE	1	6	37	5	0	0	49
SSE	0	10	30	30	0	0	70
S	1	7	36	89	9	1	143
SSW	2	8	23	30	3	12	78
SW	2	8	19	10	1	0	40
WSW	1	5	14	7	0	0	27
W	0	2	14	10	0	0	26
WNW	2	8	14	16	0	0	40
NW	0	6	12	7	0	0	25
NNW	1	6	26	3	0	0	36
Variable	0	0	0	0	0	0	0
Total	15	138	324	214	13	13	717

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 Generating Station

Period of Record: July - September 2010
Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	5	0	0	0	7
NNE	1	5	11	0	0	0	17
NE	1	3	5	0	0	0	9
ENE	0	5	4	0	0	0	9
E	0	3	9	4	0	0	16
ESE	0	2	15	8	0	0	25
SE	1	2	9	5	0	0	17
SSE	1	6	4	1	0	0	12
S	2	7	5	1	0	0	15
SSW	0	5	6	0	0	0	11
SW	0	11	5	3	0	0	19
WSW	0	6	9	2	0	0	17
W	0	0	11	7	0	0	18
WNW	2	5	17	5	0	0	29
NW	2	4	20	3	0	0	29
NNW	0	2	1	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	10	68	136	40	0	0	254

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 Generating Station

Period of Record: July - September 2010
Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	2	7	0	0	0	11
NNE	1	0	1	0	0	0	2
NE	0	0	10	0	0	0	10
ENE	0	2	3	0	0	0	5
E	1	0	1	0	0	0	2
ESE	3	0	3	0	0	0	6
SE	0	3	0	0	0	0	3
SSE	1	4	0	0	0	0	5
S	0	4	0	0	0	0	4
SSW	1	2	0	0	0	0	3
SW	1	1	0	0	0	0	2
WSW	1	4	4	7	0	0	16
W	0	0	3	2	0	0	5
WNW	1	8	8	1	0	0	18
NW	1	9	2	0	0	0	12
NNW	0	7	0	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	13	46	42	10	0	0	111

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

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Braidwood Generating Station

Period of Record: October - December 2010
Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	3	0	0	4
NNE	0	2	0	0	0	0	2
NE	0	1	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	6	0	0	0	0	6
ESE	0	0	0	0	0	0	0
SE	0	1	0	0	0	0	1
SSE	0	1	1	0	0	0	2
S	0	0	0	0	0	0	0
SSW	0	0	3	3	0	0	6
SW	0	0	1	2	0	0	3
WSW	0	2	9	3	0	0	14
W	0	6	7	3	0	0	16
WNW	0	5	14	0	0	0	19
NW	0	8	8	0	0	0	16
NNW	0	7	5	4	0	0	16
Variable	0	0	0	0	0	0	0
Total	0	39	49	18	0	0	106

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 Generating Station

Period of Record: October - December 2010
Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	0	0	0	1
NNE	0	2	3	0	0	0	5
NE	0	3	0	0	0	0	3
ENE	0	5	0	0	0	0	5
E	0	4	0	0	0	0	4
ESE	0	2	0	0	0	0	2
SE	1	0	0	0	0	0	1
SSE	0	0	4	0	0	0	4
S	0	0	1	0	1	0	2
SSW	0	0	1	2	4	0	7
SW	0	1	1	1	0	0	3
WSW	0	0	9	6	0	0	15
W	0	4	1	2	0	0	7
WNW	0	5	2	0	0	0	7
NW	0	1	3	0	0	0	4
NNW	0	2	1	2	0	0	5
Variable	0	0	0	0	0	0	0
Total	1	29	27	13	5	0	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: 2

Braidwood Generating Station

Period of Record: October - December 2010
Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	5	1	0	0	7
NNE	2	1	5	1	0	0	9
NE	0	0	0	0	0	0	0
ENE	1	1	0	0	0	0	2
E	0	0	0	0	0	0	0
ESE	0	2	0	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	3	0	0	0	3
S	0	2	2	0	0	0	4
SSW	0	3	6	3	0	0	12
SW	0	6	5	4	2	0	17
WSW	1	1	7	2	0	0	11
W	0	6	2	1	0	0	9
WNW	0	4	1	1	0	0	6
NW	0	5	3	0	0	0	8
NNW	0	2	3	3	0	0	8
Variable	0	0	0	0	0	0	0
Total	4	34	42	16	2	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: 2

Braidwood Generating Station

Period of Record: October - December 2010
Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	6	16	28	5	1	0	56
NNE	1	9	6	0	0	0	16
NE	5	7	0	0	0	0	12
ENE	7	17	1	0	0	0	25
E	6	24	0	0	0	0	30
ESE	1	26	12	1	0	0	40
SE	2	9	20	10	0	0	41
SSE	0	4	35	11	0	0	50
S	1	1	24	9	4	0	39
SSW	2	10	17	14	5	0	48
SW	2	16	14	19	8	0	59
WSW	2	24	19	26	1	1	73
W	2	19	36	28	0	0	85
WNW	4	41	48	4	0	0	97
NW	6	16	9	0	0	0	31
NNW	2	17	38	7	11	0	75
Variable	0	0	0	0	0	0	0
Total	49	256	307	134	30	1	777

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 Generating Station

Period of Record: October - December 2010
Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	14	16	14	0	0	0	44
NNE	7	14	3	0	0	0	24
NE	8	4	0	0	0	0	12
ENE	15	14	1	0	0	0	30
E	4	4	0	0	0	0	8
ESE	4	3	3	0	0	0	10
SE	3	11	21	1	0	0	36
SSE	1	40	31	10	1	0	83
S	3	35	46	11	1	0	96
SSW	0	12	24	15	2	0	53
SW	0	22	16	8	0	0	46
WSW	1	20	12	0	1	0	34
W	5	22	9	4	0	0	40
WNW	7	33	14	0	0	0	54
NW	14	20	0	0	0	0	34
NNW	9	29	19	0	0	0	57
Variable	0	0	0	0	0	0	0
Total	95	299	213	49	5	0	661

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 Generating Station

Period of Record: October - December 2010
Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	8	3	0	0	0	0	11
NNE	5	3	0	0	0	0	8
NE	10	0	0	0	0	0	10
ENE	16	0	0	0	0	0	16
E	18	0	0	0	0	0	18
ESE	9	1	0	0	0	0	10
SE	6	10	0	0	0	0	16
SSE	4	13	0	0	0	0	17
S	4	10	0	0	0	0	14
SSW	2	16	9	0	0	0	27
SW	3	6	6	0	0	0	15
WSW	6	31	0	0	0	0	37
W	9	16	0	0	0	0	25
WNW	17	10	0	0	0	0	27
NW	13	5	0	0	0	0	18
NNW	6	4	0	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	136	128	15	0	0	0	279

Hours of calm in this stability class: 5
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 2

Braidwood Generating Station

Period of Record: October - December 2010
Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 34 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	9	1	0	0	0	0	10
NNE	4	1	0	0	0	0	5
NE	4	0	0	0	0	0	4
ENE	10	0	0	0	0	0	10
E	12	0	0	0	0	0	12
ESE	4	1	0	0	0	0	5
SE	1	0	0	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	1	0	0	0	0	1
SSW	11	1	3	0	0	0	15
SW	5	1	0	0	0	0	6
WSW	8	17	0	0	0	0	25
W	37	2	0	0	0	0	39
WNW	36	0	0	0	0	0	36
NW	12	1	0	0	0	0	13
NNW	8	0	0	0	0	0	8
Variable	3	0	0	0	0	0	3
Total	164	26	3	0	0	0	193

Hours of calm in this stability class: 12
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 2

Braidwood Generating Station

Period of Record: October - December 2010
Stability Class - Extremely Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	2	1	0	4
NNE	0	0	1	0	0	0	1
NE	0	0	2	0	0	0	2
ENE	0	0	0	0	0	0	0
E	0	0	5	1	0	0	6
ESE	0	0	0	0	0	0	0
SE	0	1	0	0	0	0	1
SSE	0	0	1	1	0	0	2
S	0	0	0	0	0	0	0
SSW	0	0	3	1	2	0	6
SW	0	1	0	1	0	1	3
WSW	0	1	6	4	2	0	13
W	0	0	6	5	4	0	15
WNW	0	3	7	10	0	0	20
NW	0	5	6	11	0	0	22
NNW	0	1	3	7	0	0	11
Variable	0	0	0	0	0	0	0
Total	0	12	41	43	9	1	106

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 Generating Station

Period of Record: October - December 2010
Stability Class - Moderately Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

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

Braidwood Generating Station

Period of Record: October - December 2010
Stability Class - Slightly Unstable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	1	4	0	0	7
NNE	0	1	1	3	1	0	6
NE	0	0	0	0	0	0	0
ENE	1	2	0	0	0	0	3
E	0	0	0	0	0	0	0
ESE	0	2	0	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	0	3	0	0	3
S	0	0	3	1	0	0	4
SSW	0	1	6	3	3	0	13
SW	0	2	5	3	2	2	14
WSW	0	3	6	0	2	0	11
W	0	3	6	1	1	0	11
WNW	0	0	3	1	1	0	5
NW	0	3	4	3	0	0	10
NNW	0	0	2	4	3	0	9
Variable	0	0	0	0	0	0	0
Total	1	19	37	26	13	2	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: 2

Braidwood Generating Station

Period of Record: October - December 2010
Stability Class - Neutral - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	7	14	23	2	2	48
NNE	2	3	8	3	0	0	16
NE	1	4	5	1	0	0	11
ENE	2	12	11	1	0	0	26
E	1	7	16	6	0	0	30
ESE	2	5	11	19	4	0	41
SE	0	3	4	14	15	6	42
SSE	1	2	4	18	25	0	50
S	0	4	2	15	8	9	38
SSW	1	4	14	11	12	7	49
SW	1	6	15	10	13	6	51
WSW	1	5	14	23	17	5	65
W	3	13	12	17	28	1	74
WNW	1	9	35	42	24	0	111
NW	2	9	16	20	3	0	50
NNW	2	5	18	30	7	13	75
Variable	0	0	0	0	0	0	0
Total	20	98	199	253	158	49	777

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 Generating Station

Period of Record: October - December 2010
Stability Class - Slightly Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	10	15	21	0	0	46
NNE	1	2	10	6	0	0	19
NE	0	3	10	3	0	0	16
ENE	1	5	17	3	0	0	26
E	1	1	7	0	0	0	9
ESE	1	3	2	3	1	0	10
SE	0	5	2	11	15	0	33
SSE	0	1	17	21	22	9	70
S	0	1	18	45	24	3	91
SSW	0	2	18	33	18	10	81
SW	0	2	10	22	0	2	36
WSW	0	0	18	18	1	1	38
W	0	1	15	10	2	0	28
WNW	0	3	19	29	4	0	55
NW	0	4	14	22	0	0	40
NNW	0	11	25	25	2	0	63
Variable	0	0	0	0	0	0	0
Total	4	54	217	272	89	25	661

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 Generating Station

Period of Record: October - December 2010
Stability Class - Moderately Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	6	3	0	0	12
NNE	0	7	4	4	0	0	15
NE	0	6	6	1	0	0	13
ENE	1	8	5	0	0	0	14
E	0	2	13	5	0	0	20
ESE	0	1	5	2	0	0	8
SE	0	3	2	3	0	0	8
SSE	0	1	3	10	0	0	14
S	0	4	11	1	0	0	16
SSW	2	1	13	5	0	0	21
SW	0	5	12	16	0	0	33
WSW	0	3	3	16	0	0	22
W	0	3	8	16	0	0	27
WNW	0	2	9	9	0	0	20
NW	0	4	11	11	0	0	26
NNW	0	5	7	3	0	0	15
Variable	0	0	0	0	0	0	0
Total	3	58	118	105	0	0	284

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 Generating Station

Period of Record: October - December 2010
Stability Class - Extremely Stable - 199Ft-30Ft Delta-T (F)
Winds Measured at 203 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	6	7	5	0	0	19
NNE	0	2	3	0	0	0	5
NE	3	3	1	0	0	0	7
ENE	1	1	4	0	0	0	6
E	1	3	3	0	0	0	7
ESE	4	3	2	2	0	0	11
SE	1	7	1	1	0	0	10
SSE	1	4	0	1	0	0	6
S	0	4	1	0	0	0	5
SSW	3	2	0	1	0	0	6
SW	0	4	1	3	0	0	8
WSW	1	3	5	7	0	0	16
W	1	6	11	11	0	0	29
WNW	0	0	17	13	0	0	30
NW	0	2	21	5	0	0	28
NNW	2	3	6	1	0	0	12
Variable	0	0	0	0	0	0	0
Total	19	53	83	50	0	0	205

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

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APPENDIX G

ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM REPORT (ARGPPR)

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Docket No: 50-456
50-457

BRAIDWOOD STATION
UNITS 1 and 2

Annual Radiological
Groundwater Protection Program Report

1 January through 31 December 2010

Prepared By

Teledyne Brown Engineering
Environmental Services

Exelon SM
Nuclear

Braidwood Station
Braceville, IL 60407

May 2011

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Appendices

I. Summary and Conclusions

In 2010, Exelon continued a comprehensive program that evaluates the impact of station operations on groundwater and surface water in the vicinity of Braidwood Station. This evaluation involved numerous station personnel and contractor support personnel. This report covers groundwater and surface water samples, collected from the environment, both on and off station property in 2010. During that time period, 815 analyses were performed on 812 samples from 199 locations.

In assessing all the data gathered for this report, it was concluded that the operation of Braidwood Station had no adverse radiological impact on the environment.

Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective Lower Limits of Detection (LLDs) as specified in the Offsite Dose Calculation Manual (ODCM) in any of the groundwater samples. Gamma-emitting radionuclides in surface water were not analyzed in 2010. In the case of tritium, Exelon specified that it's laboratories achieve a lower limit of detection 10 times lower than that required by federal regulation.

Strontium-89/90 was not detected at a concentration greater than the LLD of 1.0 picoCuries per liter (pCi/L) in any of the groundwater samples tested. Strontium-89/90 in surface water was not analyzed in 2010.

No tritium was detected in the groundwater samples at concentrations greater than the United States Environmental Protection Agency (USEPA) drinking water standard (and the Nuclear Regulatory Commission Reporting Limit) of 20,000 pCi/L. Tritium was not detected in any surface water samples greater than 20,000 pCi/L. Low levels of tritium were detected in groundwater and surface water at concentrations greater than the LLD of 200 pCi/L in 183 of 814 analyses. The tritium concentrations ranged from 152 ± 99 pCi/L to 3,920 ± 444 pCi/L. The tritium that was detected in the groundwater is believed to be the result of isolated historical releases and/or background from external sources greater than 200 pCi/L.

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II. Introduction

The Braidwood Station, consisting of two 3587 MWt pressurized water reactors owned and operated by Exelon Corporation, is located in Will County, Illinois. Unit No. 1 went critical on 29 May 1987. Unit No. 2 went critical on 08 March 1988. The site is located in northeastern Illinois, 15 miles south-southwest of Joliet, Illinois and 60 miles southwest of Chicago and southwest of the Kankakee River.

This report covers those analyses performed by Teledyne Brown Engineering (TBE) and Environmental Inc. Midwest Labs (EIML) on samples collected in 2010.

A. Objective of the RGPP

The long-term objectives of the RGPP are as follows:

1. Identify suitable locations to monitor and evaluate potential impacts from station operations before significant radiological impact to the environment and potential drinking water sources.

2. Understand the local hydrogeologic regime in the vicinity of the station and maintain up-to-date knowledge of flow patterns on the surface and shallow subsurface.

3. Perform routine water sampling and radiological analysis of water from selected locations.

4. Report new leaks, spills, or other detections with potential radiological significance to stakeholders in a timely manner.

5. Regularly assess analytical results to identify adverse trends.

6. Take necessary corrective actions to protect groundwater resources.

B. Implementation of the Objectives

The objectives identified have been implemented at Braidwood Station as discussed below:

1. Exelon identified locations to monitor and evaluate potential impacts from station operations.

2. The Braidwood Station reports describe the local hydrogeologic regime. Periodically, the flow patterns on the surface and shallow

subsurface are updated based on ongoing measurements.

3. Braidwood Station will continue to perform routine sampling and radiological analysis of water from selected locations.

4. Braidwood Station has implemented procedures to identify and report new leaks, spills, or other detections with potential radiological significance in a timely manner.

5. Assessed results to monitor for adverse trends.

6. Braidwood Station staff and consulting hydrogeologist assess analytical results on an ongoing basis to identify adverse trends.

C. Program Description

1. Sample Collection

Sample locations can be found in Table A-1 and Figures A-1 through A-3, Appendix A.

Groundwater and Surface Water

Samples of water are collected, managed, transported and analyzed in accordance with approved procedures following EPA methods. Both groundwater and surface water are collected. Sample locations, sample collection frequencies and analytical frequencies are controlled in accordance with approved station procedures. Contractor and/or station personnel are trained in the collection, preservation management, and shipment of samples, as well as in documentation of sampling events. Analytical laboratories are subject to internal quality assurance programs, industry cross-check programs, as well as nuclear industry audits. Station personnel review and evaluate all analytical data deliverables as data are received.

Analytical data results are reviewed by both station personnel and an independent hydrogeologist for adverse trends or changes to hydrogeologic conditions.

D. Characteristics of Tritium (H-3)

Tritium (chemical symbol H-3) is a radioactive isotope of hydrogen. The most common form of tritium is tritium oxide, which is also called "tritiated water." The chemical properties of tritium are essentially those of ordinary

hydrogen.

Tritiated water behaves the same as ordinary water in both the environment and the body. Tritium can be taken into the body by drinking water, breathing air, eating food, or absorption through the skin. Once tritium enters the body, it disperses quickly and is uniformly distributed throughout the body. Tritium is excreted primarily through urine with a clearance rate characterized by an effective biological half-life of about 14 days. Within one month or so after ingestion, essentially all tritium is cleared. Organically bound tritium (tritium that is incorporated in organic compounds) can remain in the body for a longer period.

Tritium is produced naturally in the upper atmosphere when cosmic rays strike air molecules. Tritium is also produced during nuclear weapons explosions, as a by-product in reactors producing electricity, and in special production reactors, where the isotopes lithium-7 and/or boron-10 are activated to produce tritium. Like normal water, tritiated water is colorless and odorless. Tritiated water behaves chemically and physically like non-tritiated water in the subsurface, and therefore tritiated water will travel at the same velocity as the average groundwater velocity.

Tritium has a half-life of approximately 12.3 years. It decays spontaneously to helium-3 (3He). This radioactive decay releases a beta particle (low-energy electron). The radioactive decay of tritium is the source of the health risk from exposure to tritium. Tritium is one of the least dangerous radionuclides because it emits very weak radiation and leaves the body relatively quickly. Since tritium is almost always found as water, it goes directly into soft tissues and organs. The associated dose to these tissues is generally uniform and is dependent on the water content of the specific tissue.

III. Program Description

A. Sample Analysis

This section describes the general analytical methodologies used by Teledyne Brown Engineering (TBE) and Environmental Incorporated Midwest Laboratory (EIML) to analyze the environmental samples for radioactivity for the Braidwood Station RGPP in 2010.
In order to achieve the stated objectives, the current program includes the following analyses:

1. Concentrations of gamma emitters in groundwater and surface water.

2. Concentrations of strontium in groundwater and surface water.

3. Concentrations of tritium in groundwater and surface water.

B. Data Interpretation

The radiological data collected prior to Braidwood Station becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, Braidwood Station was considered operational at initial criticality. Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Concentration

The lower limit of detection (LLD) is specified by federal regulation as a minimum sensitivity value that must be achieved routinely by the analytical parameter.

2. Laboratory Measurements Uncertainty

The estimated uncertainty in measurement of tritium in environmental samples is frequently on the order of 50% of the measurement value.

Statistically, the exact value of a measurement is expressed as a range with a stated level of confidence. The convention is to report results with a 95% level of confidence. The uncertainty comes from calibration standards, sample volume or weight measurements, sampling uncertainty and other factors. Exelon reports the uncertainty of a measurement created by statistical process (counting error) as well as all sources of error (Total Propagated Uncertainty or TPU). Each result has two values calculated. Exelon reports the TPU by following the result with plus or minus (±) the estimated sample standard deviation, as TPU, that is obtained by propagating all sources of analytical uncertainty in measurements.

Analytical uncertainties are reported at the 95% confidence level in this report for reporting consistency with the AREOR.

Gamma spectroscopy results for each type of sample were grouped as follows:

For groundwater and surface water 14 nuclides, Be-7, K-40, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Nb-95, Zr-95, I-131, Cs-134, Cs-137,

Ba-140 and La-140 were reported.

C. Background Analysis

A pre-operational radiological environmental monitoring program (pre-operational REMP) was conducted to establish background radioactivity levels prior to operation of the Station. The environmental media sampled and analyzed during the pre-operational REMP were atmospheric radiation, fall-out, domestic water, surface water, marine life, and foodstuffs. The results of the monitoring were detailed in the report entitled, Environmental Radiological Monitoring for Braidwood Nuclear Power Station, Commonwealth Edison Company, Annual Report 1986, May 1987.

The pre-operational REMP contained analytical results from samples collected from the surface water and groundwater.

At the upstream Kankakee River collection point, BD-25, monthly composites of weekly sample collections from all surface water locations indicated tritium concentrations were not detectable above the LLD (<200 pCi/L). Monthly composites of weekly sample collections from all surface water locations indicate strontium-89, strontium-90, cesium-134 and cesium-137 concentrations were less than their specified LLDs.

Groundwater was collected from one off-site well on a quarterly basis. Gamma isotopic, radiostrontium and tritium analyses were performed on all samples. Strontium-89, strontium-90, tritium and gamma emitters were below their respective LLDs.

1. Background Concentrations of Tritium

The purpose of the following discussion is to summarize background measurements of tritium in various media performed by others.

a. Tritium Production

Tritium is created in the environment from naturally occurring processes both cosmic and subterranean, as well as from anthropogenic (i.e., man-made) sources. In the upper atmosphere, "Cosmogenic" tritium is produced from the bombardment of stable nuclides and combines with oxygen to form tritiated water, which will then enter the hydrologic cycle. Below ground, "lithogenic" tritium is produced by the bombardment of natural lithium present in crystalline rocks

by neutrons produced by the radioactive decay of naturally abundant uranium and thorium. Lithogenic production of tritium is usually negligible compared to other sources due to the limited abundance of lithium in rock. The lithogenic tritium is introduced directly to groundwater.

A major anthropogenic source of tritium and strontium-90 comes from the former atmospheric testing of thermonuclear weapons. Levels of tritium in precipitation increased significantly during the 1950s and early 1960s, and later with additional testing, resulting in the release of significant amounts of tritium to the atmosphere. The Canadian heavy water nuclear power reactors, other commercial power reactors, nuclear research and weapons production continue to influence tritium concentrations in the environment.

b. Precipitation Data

Precipitation samples are routinely collected at stations around the world for the analysis of tritium and other radionuclides. Two publicly available databases that provide tritium concentrations in precipitation are Global Network of Isotopes in Precipitation (GNIP) and USEPA's RadNet database. GNIP provides tritium precipitation concentration data for samples collected world wide from 1960 to 2010. RadNet provides tritium precipitation concentration data for samples collected at stations through out the U.S. from 1960 up to and including 2010. Based on GNIP data for sample stations located in the U.S. Midwest, tritium concentrations peaked around 1963. This peak, which approached 10,000 pCi/L for some stations, coincided with the atmospheric testing of thermonuclear weapons. Tritium concentrations in surface water showed a sharp decline up until 1975 followed by a gradual decline since that time. Tritium concentrations in Midwest precipitation have typically been below 100 pCi/L since around 1980. Tritium concentrations in wells may still be above the 200 pCi/L detection limit from the external causes described above. Water from previous years and decades is naturally captured in groundwater, so some well water sources today are affected by the surface water from the 1960s that was elevated in tritium.

c. Surface Water Data

Tritium concentrations are routinely measured in large

surface water bodies, including Lake Michigan and the Mississippi River. Illinois surface water data were typically less than 100 pCi/L.

The USEPA RadNet surface water data typically has a reported 'Combined Standard Uncertainty' of 35 to 50 pCi/L. According to USEPA, this corresponds to a ± 70 to 100 pCi/L 95% confidence bound on each given measurement. Therefore, the typical background data provided may be subject to measurement uncertainty of approximately ± 70 to 100 pCi/L.

The radio-analytical laboratory is counting tritium results to an Exelon specified LLD of 200 pCi/L. Typically, the lowest positive measurement will be reported within a range of 40 – 240 pCi/L or 140 ± 100 pCi/L. Clearly, these sample results cannot be distinguished as different from background at this concentration.

IV. Results and Discussion

A. Groundwater Results

Groundwater

Samples were collected from on and off-site wells throughout the year in accordance with the station radiological groundwater protection program. All required LLDs were met. Analytical results and anomalies are discussed below.

Tritium

Samples from all locations were analyzed for tritium activity (Table B-I.1, Appendix B). Tritium values ranged from the detection limit to 4,020 pCi/l. Some contamination still exists and monitoring is ongoing.

Strontium

Strontium-90 was analyzed for in 8 samples and was less than the required detection limit of 1.0 pCi/liter. (Table B-I.1, Appendix B).

Gamma Emitters

No gamma emitting nuclides were detected in any of the samples analyzed. (Table B–I.2, Appendix B)

B. Surface Water Results

Surface Water

Samples were collected from twelve surface water locations throughout the year in accordance with the station radiological groundwater protection program. All required LLDs were met. Analytical results and anomalies are discussed below.

Tritium

Samples from all locations were analyzed for tritium activity (Table B-II.1, Appendix B). Tritium values ranged from the detection limit to 366 pCi/l.

Strontium

Strontium-90 was not analyzed in 2010.

Gamma Emitters

Gamma emitters were not analyzed in 2010.

C. Drinking Water Well Survey

Drinking water wells near Braidwood Station were sampled quarterly in 2010.

D. Summary of Results – Inter-Laboratory Comparison Program

Inter-Laboratory Comparison Program results for TBE are presented in the AREOR.

E. Leaks, Spills, and Releases

Previously identified contaminated groundwater plumes are being addressed by the Braidwood Station tritium remediation activities.

There were no liquid leaks, spills, or releases in 2010 that affected groundwater.

F. Trends and Analyses

Monitoring of remediation activities indicate that tritium concentrations in affected areas are trending down.

G. Investigations

Investigation of historic spills and the groundwater contamination has resulted in groundwater remediation activities at Braidwood Station.

H. Actions Taken

1. Compensatory Actions

All Circulating Water Blowdown valve vaults were coated to prevent any leakage of water from the vaults to the groundwater. A remote leakage detection system has been installed which provides continuous monitoring of the vaults. Operations procedures are in place for actions to take in the event the leak detection system alarms. Walkdowns of the Circulating Water Blowdown pipeline and vaults were performed weekly.

2. Installation of Monitoring Wells

Exelon has installed a permanent monitoring well network that ensures that ground water will be appropriately monitored around the plant and at the various remediation sites. Monitoring well locations were based on the kind of up gradient potential contamination source, ground flow direction, and source concentration. Some monitoring points are not primarily used for sampling but rather to measure ground water elevation. Water elevation is used extensively around active remediation sites to verify that ground water is still flowing toward remediation wells.

3. Actions to Recover/Reverse Plumes

Vacuum Breaker 1 area: Three remediation wells have been installed in this area to remove contaminated ground water. Monitoring of this activity indicates the remediation is proceeding acceptably.
Vacuum Breaker 2 area: Two remediation wells have been installed in this area to remove contaminated ground water. These wells, which became operational in 2008, discharge to the Exelon Pond. The wells are in place to remediate a previously identified contamination plume and were not installed to remediate contamination from a new spill.

Vacuum Breakers 4, 6, & 7: Monitoring wells have been installed within and down gradient of these plumes which originated from vacuum breaker valves along the blowdown line. These sites are being remediated by monitored natural attenuation.

Exelon Pond area: The combination of groundwater sample monitoring and water level monitoring ensures that the active remedial pumping of Exelon Pond continues to capture the tritium that spilled from vacuum breakers 2 and 3 almost ten years ago. Monitoring to date has shown marked reduction in the most contaminated area and the station continues to monitor plume capture to determine whether adjustments are needed in the pumping rate.

APPENDIX A

LOCATION DESIGNATION

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TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Braidwood Station, 2010

Station Code	Sample Description
BL-03	Monitoring Well
BL-06	Monitoring Well
BL-06D	Monitoring Well
BL-09D	Monitoring Well
BL-10D	Monitoring Well
BL-11	Monitoring Well
BL-11D	Monitoring Well
BL-12D	Monitoring Well
BL-13D	Monitoring Well
BL-14D	Monitoring Well
BL-15D	Monitoring Well
BL-16D	Monitoring Well
BL-17D	Monitoring Well
BL-18D	Monitoring Well
BL-19R	Monitoring Well
BL-20D	Monitoring Well
BL-21	Monitoring Well
BL-22	Monitoring Well
BL-23	Monitoring Well
BL-24	Monitoring Well
BL-25	Monitoring Well
BL-26	Monitoring Well
BL-27	Monitoring Well
C-1D	Monitoring Well
C-2D	Monitoring Well
CD-1D	Monitoring Well
D-1D	Monitoring Well
D-2D	Monitoring Well
D-3D	Monitoring Well
DITCH (DS-2)	Surface Water
EXELON POND	Surface Water
F-1D	Monitoring Well
F-3D	Monitoring Well
F-4D	Monitoring Well
F-5D	Monitoring Well
F-6D	Monitoring Well
F-7D	Monitoring Well
F-8D	Monitoring Well
F-9D	Monitoring Well
FATLAN POND	Surface Water
G-2	Monitoring Well
G-2D	Monitoring Well
G-3	Monitoring Well
G-4S	Monitoring Well
G-5S	Monitoring Well
G-6S	Monitoring Well
LAKE DISCHARGE CANAL	Surface Water
LAKE INTAKE	Surface Water
MW-102R	Monitoring Well
MW-103	Monitoring Well

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Braidwood Station, 2010

Station Code	Sample Description
MW-105	Monitoring Well
MW-105D	Monitoring Well
MW-106D	Monitoring Well
MW-109D	Monitoring Well
MW-11	Monitoring Well
MW-110	Monitoring Well
MW-111DR	Monitoring Well
MW-112D	Monitoring Well
MW-113	Monitoring Well
MW-113DR	Monitoring Well
MW-13	Monitoring Well
MW-130D	Monitoring Well
MW-131D	Monitoring Well
MW-132D	Monitoring Well
MW-133D	Monitoring Well
MW-134D	Monitoring Well
MW-135D	Monitoring Well
MW-136D	Monitoring Well
MW-137D	Monitoring Well
MW-138D	Monitoring Well
MW-139D	Monitoring Well
MW-14	Monitoring Well
MW-140D	Monitoring Well
MW-141D	Monitoring Well
MW-142D	Monitoring Well
MW-143D	Monitoring Well
MW-144D	Monitoring Well
MW-145D	Monitoring Well
MW-148D	Monitoring Well
MW-149D	Monitoring Well
MW-150	Monitoring Well
MW-150D	Monitoring Well
MW-151D	Monitoring Well
MW-154	Monitoring Well
MW-155	Monitoring Well
MW-156	Monitoring Well
MW-157D	Monitoring Well
MW-158D	Monitoring Well
MW-159D	Monitoring Well
MW-160D	Monitoring Well
MW-161D	Monitoring Well
MW-162D	Monitoring Well
MW-2	Monitoring Well
MW-22	Monitoring Well
MW-4	Monitoring Well
MW-5	Monitoring Well
MW-6	Monitoring Well
MW-7	Monitoring Well
MW-9	Monitoring Well

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Braidwood Station, 2010

Station Code	Sample Description
MW-BW-201BD	Monitoring Well
MW-BW-201I	Monitoring Well
MW-BW-201S	Monitoring Well
MW-BW-202I	Monitoring Well
MW-BW-202S	Monitoring Well
MW-BW-203I	Monitoring Well
MW-BW-203S	Monitoring Well
MW-BW-204I	Monitoring Well
MW-BW-205I	Monitoring Well
MW-BW-206I	Monitoring Well
MW-BW-207I	Monitoring Well
MW-BW-208BD	Monitoring Well
P-2D	Monitoring Well
P-4D	Monitoring Well
P-5D	Monitoring Well
P-13D	Monitoring Well
P-14D	Monitoring Well
PW-001	Monitoring Well
PW-002	Monitoring Well
PW-003	Monitoring Well
PW-004	Monitoring Well
PW-005	Monitoring Well
PW-006	Monitoring Well
PW-007	Monitoring Well
PW-008	Monitoring Well
PW-009	Monitoring Well
PW-006A	Monitoring Well
PW-006B	Monitoring Well
PW-006P	Surface Water
PW-011	Monitoring Well
PW-013	Monitoring Well
PW-014	Monitoring Well
PW-015	Monitoring Well
PW-016	Monitoring Well
PW-018	Monitoring Well
PW-13	Monitoring Well
PW-485	Monitoring Well
PW-ALLISON	Monitoring Well
PWN-115	Monitoring Well
RW-10	Monitoring Well
RW-5	Monitoring Well
RW-6	Monitoring Well
RW-7	Monitoring Well
RW-9	Monitoring Well
S-1D	Monitoring Well
S-2D	Monitoring Well
S-4D	Monitoring Well
S-7D	Monitoring Well
S-8DR	Monitoring Well

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Braidwood Station, 2010

Station Code	Sample Description
SC-1D	Monitoring Well
SC-2D	Monitoring Well
SG-BW-103	Surface Water
SG-BW-105	Surface Water
STARK POND	Surface Water
STARK SPIGOT	Monitoring Well
SW-05	Surface Water
SW-101	Surface Water
SW-102 POINT C	Surface Water
SW-103	Surface Water
SW-104 A DITCH	Surface Water
TB-20	Monitoring Well
TB-20D	Monitoring Well
TB-21	Monitoring Well
TB-21D	Monitoring Well
TB-22	Monitoring Well
TB-22D	Monitoring Well
TB-23	Monitoring Well
TB-23D	Monitoring Well
TB-24	Monitoring Well
TB-24D	Monitoring Well
TB-25	Monitoring Well
TB-25D	Monitoring Well
VB10-1	Monitoring Well
VB1-1	Monitoring Well
VB1-10D	Monitoring Well
VB11-1	Monitoring Well
VB1-11D	Monitoring Well
VB1-12D	Monitoring Well
VB1-2D	Monitoring Well
VB1-3D	Monitoring Well
VB1-4D	Monitoring Well
VB1-5D	Monitoring Well
VB1-6D	Monitoring Well
VB1-7D	Monitoring Well
VB1-8D	Monitoring Well
VB1-9D	Monitoring Well
VB2-10	Monitoring Well
VB2-10D	Monitoring Well
VB2-11	Monitoring Well
VB2-11D	Monitoring Well
VB2-12	Monitoring Well
VB2-12D	Monitoring Well
VB2-13	Monitoring Well
VB2-13D	Monitoring Well
VB2-14	Monitoring Well
VB2-14D	Monitoring Well
VB2-15D	Monitoring Well
VB2-16	Monitoring Well

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Braidwood Station, 2010

Station Code	Sample Description
VB2-16D	Monitoring Well
VB2-17	Monitoring Well
VB2-17D	Monitoring Well
VB2-2D	Monitoring Well
VB2-5D	Monitoring Well
VB2-6D	Monitoring Well
VB2-7D	Monitoring Well
VB2-9	Monitoring Well
VB2-10D	Monitoring Well
VB3-10D	Monitoring Well
VB3-2	Monitoring Well
VB3-4D	Monitoring Well
VB3-7D	Monitoring Well
VB3-9D	Monitoring Well
VB4-1	Monitoring Well
VB4-5D	Monitoring Well
VB4-6D	Monitoring Well
VB5-2	Monitoring Well
VB6-1	Monitoring Well
VB7-1	Monitoring Well
VB8-2R	Monitoring Well
VB9-1	Monitoring Well
WCFPD-1D	Monitoring Well
WCFPD-2DR	Monitoring Well
WDFPD-1D	Monitoring Well
WDFPD-2DR	Monitoring Well
WELL D-1D	Monitoring Well

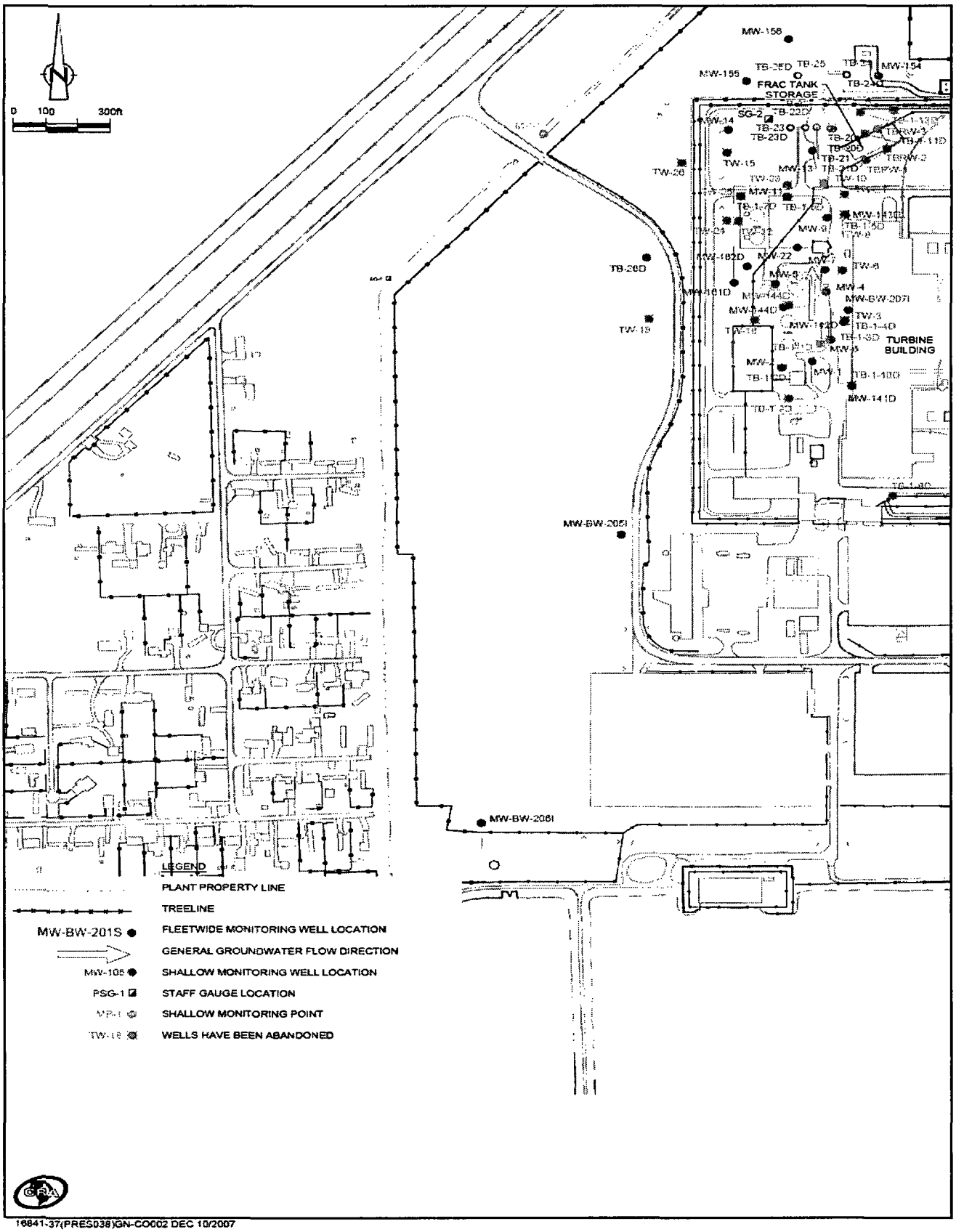

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Figure A-1
Sampling Locations near the Site Boundary of Braidwood Station, 2010

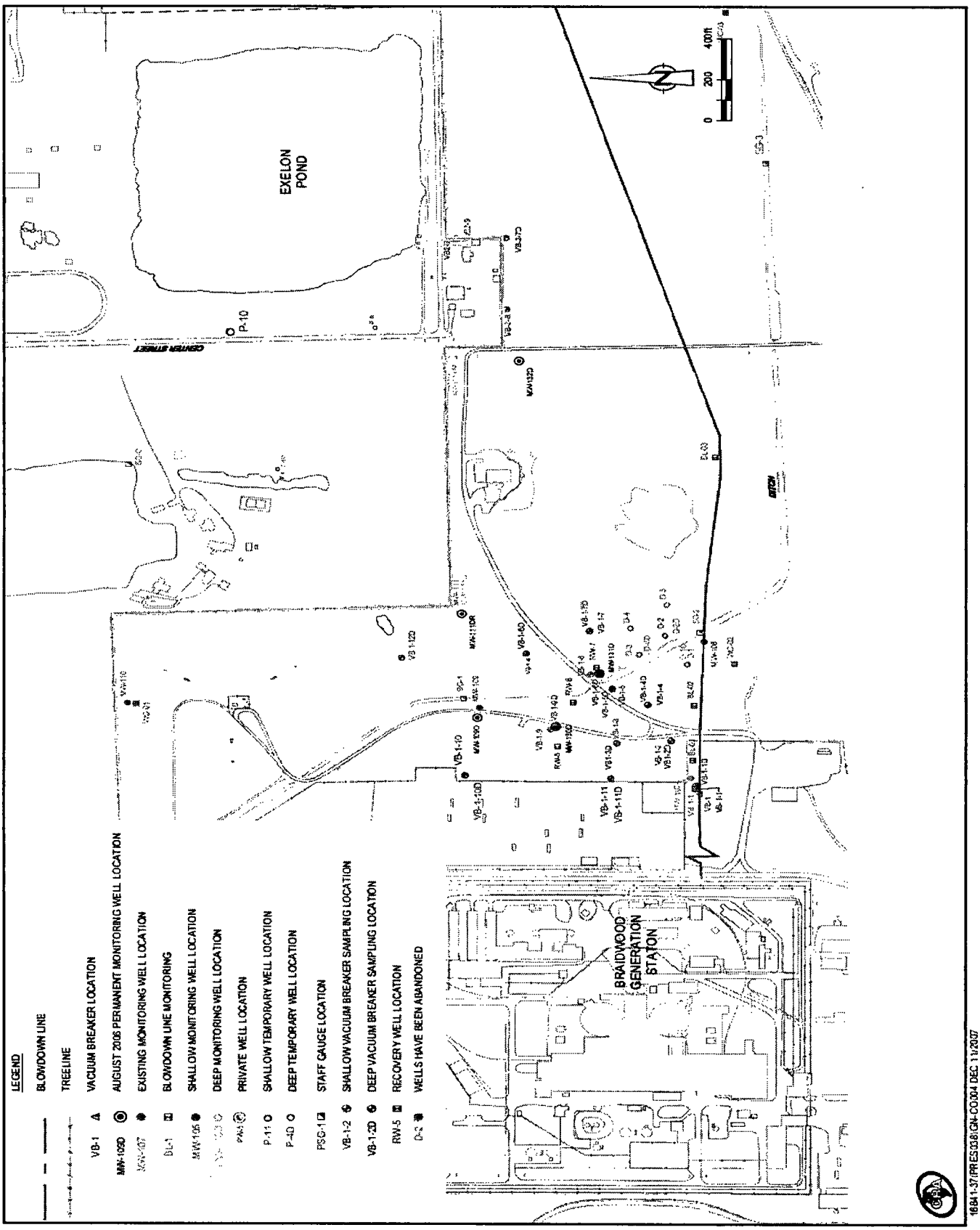

Figure A-2
Intermediate Sampling Locations of the Braidwood Station, 2010

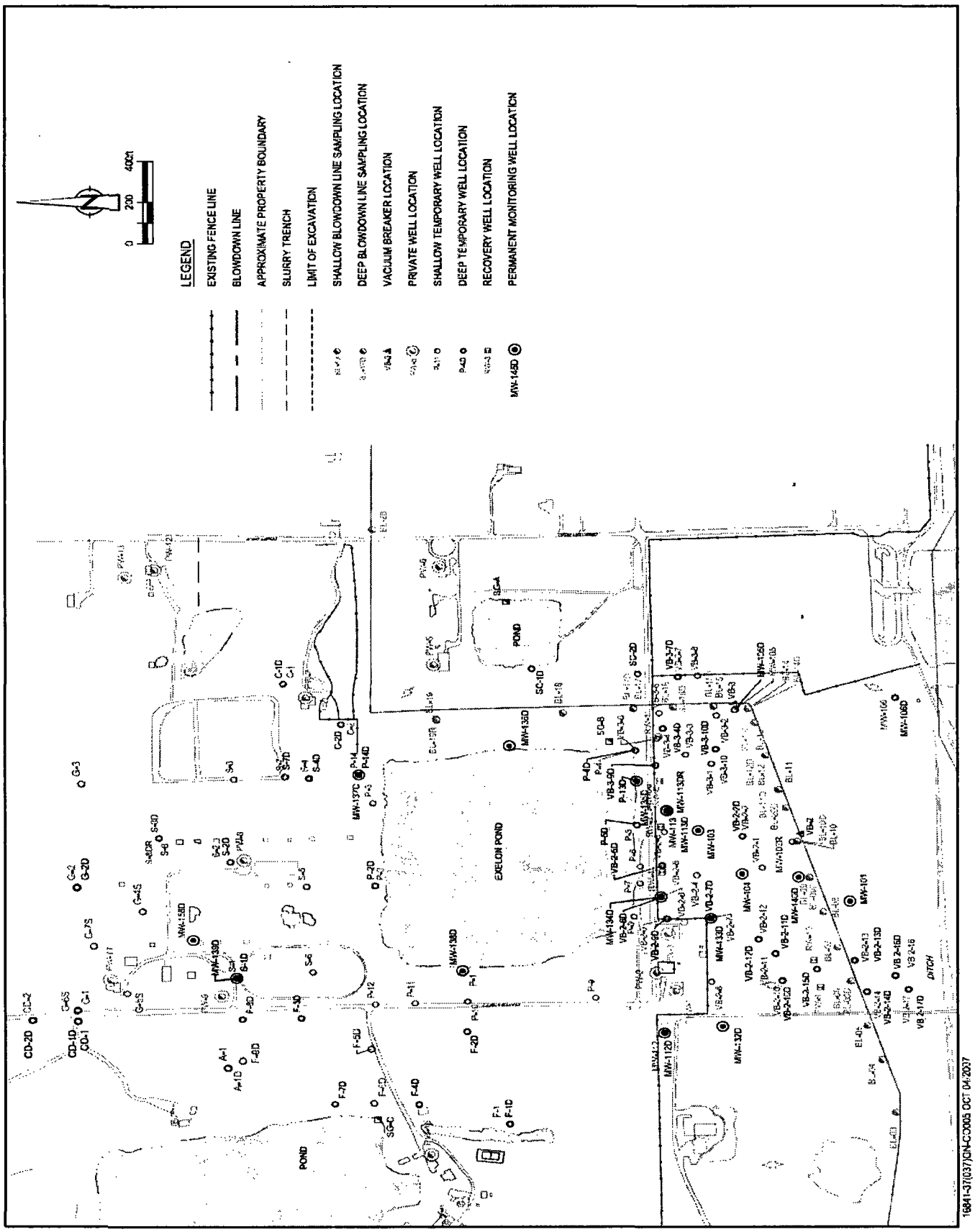

Figure A-3
Distant Sampling Locations of the Braidwood Station, 2010

APPENDIX B

DATA TABLES

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TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
BL-03	01/13/10	< 159	
BL-03	02/11/10	< 167	
BL-03	03/08/10	< 165	
BL-03	06/09/10	< 173	
BL-03	09/29/10	< 177	
BL-03	12/15/10	< 187	
BL-06	01/13/10	< 159	
BL-06	02/11/10	< 166	
BL-06	03/11/10	< 175	
BL-06	04/16/10	< 173	
BL-06	05/13/10	< 157	
BL-06	06/10/10	< 178	
BL-06	07/13/10	< 181	
BL-06	07/18/10	< 187	
BL-06	09/20/10	< 184	
BL-06D	03/11/10	< 175	
BL-06D	06/10/10	< 165	
BL-06D	09/28/10	< 161	
BL-06D	12/14/10	< 174	
BL-09D	06/08/10	< 180	
BL-09D	09/30/10	< 180	
BL-09D	12/16/10	< 171	
BL-10D	06/08/10	< 172	
BL-10D	09/30/10	< 182	
BL-10D	12/16/10	< 167	
BL-11	01/13/10	< 158	
BL-11	02/11/10	< 169	
BL-11	03/09/10	< 162	
BL-11	06/08/10	< 177	
BL-11	09/29/10	< 181	
BL-11	12/15/10	< 188	
BL-11D	06/08/10	< 175	
BL-11D	09/30/10	< 181	
BL-11D	12/16/10	< 171	
BL-12D	06/08/10	< 177	
BL-12D	09/30/10	< 180	
BL-12D	12/16/10	< 171	
BL-13D	06/08/10	< 175	
BL-13D	09/30/10	< 170	
BL-13D	12/16/10	< 170	
BL-14D	06/10/10	< 172	
BL-14D	09/29/10	< 180	
BL-14D	12/16/10	< 168	
BL-15D	06/09/10	< 152	
BL-15D	09/30/10	< 166	
BL-15D	12/16/10	< 192	
BL-16D	06/10/10	< 164	
BL-16D	09/30/10	< 169	
BL-16D	12/16/10	< 191	
BL-17D	06/11/10	< 176	
BL-17D	10/01/10	< 166	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
BL-17D	12/16/10	< 188	
BL-18D	06/11/10	< 152	
BL-18D	10/01/10	< 166	
BL-18D	12/13/10	< 156	
BL-19R	01/13/10	< 160	
BL-19R	02/11/10	< 169	
BL-19R	03/09/10	< 165	
BL-19R	06/08/10	< 152	
BL-19R	09/29/10	< 182	
BL-19R	12/15/10	< 184	
BL-20D	06/11/10	< 174	
BL-20D	09/30/10	< 182	
BL-20D	12/16/10	< 171	
BL-21	01/12/10	< 164	
BL-21	02/10/10	< 159	
BL-21	03/10/10	< 170	
BL-21	06/08/10	< 153	
BL-21	09/28/10	< 158	
BL-21	12/14/10	< 155	
BL-22	01/12/10	< 162	
BL-22	02/10/10	< 155	
BL-22	03/09/10	< 167	
BL-22	06/08/10	< 155	
BL-22	09/28/10	< 157	
BL-22	12/13/10	< 166	
BL-23	02/10/10	< 159	
BL-23	03/09/10	< 167	
BL-23	06/08/10	< 152	
BL-23	09/28/10	< 160	
BL-23	12/14/10	< 157	
BL-24	01/12/10	< 161	
BL-24	02/10/10	< 157	
BL-24	03/09/10	< 168	
BL-24	06/07/10	< 156	
BL-24	09/28/10	< 158	
BL-24	12/14/10	< 156	
BL-25	01/12/10	< 162	
BL-25	02/09/10	< 169	
BL-25	03/08/10	< 172	
BL-25	06/07/10	< 155	
BL-25	09/28/10	< 159	
BL-25	12/14/10	< 156	
BL-26	01/12/10	< 165	
BL-26	02/09/10	< 170	
BL-26	03/08/10	< 170	
BL-26	06/07/10	< 153	
BL-26	09/27/10	< 177	
BL-26	12/13/10	< 160	
BL-27	01/12/10	< 162	
BL-27	02/10/10	< 162	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
BL-27	03/08/10	< 169	
BL-27	06/07/10	< 155	
BL-27	09/28/10	< 159	
BL-27	12/14/10	< 157	
C-1D	06/11/10	< 175	
C-1D	09/30/10	< 157	
C-1D	12/14/10	< 156	
C-2D	06/11/10	< 175	
C-2D	09/30/10	< 165	
C-2D	12/14/10	< 163	
CD-1D	06/09/10	< 152	
CD-1D	09/30/10	< 158	
CD-1D	12/16/10	< 190	
D-1D	09/29/10	< 184	
D-1D	12/14/10	< 166	
D-2D	06/10/10	< 175	
D-2D	09/27/10	< 181	
D-2D	12/14/10	< 166	
D-3D	06/10/10	< 173	
D-3D	09/27/10	< 184	
D-3D	12/21/10	< 160	
F-1D	06/08/10	< 167	
F-1D	10/04/10	< 168	
F-1D	12/16/10	< 187	
F-3D	06/09/10	435 ± 114	
F-3D	10/04/10	416 ± 123	
F-3D	12/17/10	283 ± 112	
F-4D	06/09/10	< 153	
F-4D	10/04/10	< 166	
F-4D	12/16/10	< 188	
F-5D	01/13/10	575 ± 128	
F-5D	02/10/10	588 ± 131	
F-5D	03/11/10	640 ± 130	
F-5D	04/15/10	661 ± 131	
F-5D	05/12/10	636 ± 130	
F-5D	06/09/10	492 ± 133	
F-5D	07/12/10	562 ± 138	
F-5D	08/10/10	739 ± 150	
F-5D	10/04/10	568 ± 130	
F-5D	10/11/10	651 ± 135	
F-5D	11/09/10	652 ± 135	
F-5D	12/16/10	519 ± 141	
F-6D	01/13/10	< 163	
F-6D	02/10/10	< 171	
F-6D	03/11/10	< 160	
F-6D	04/15/10	< 174	
F-6D	05/12/10	< 162	
F-6D	06/09/10	< 152	
F-6D	07/12/10	< 185	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
F-6D	08/10/10	< 181	
F-6D	10/04/10	< 169	
F-6D	10/11/10	< 170	
F-6D	11/09/10	< 166	
F-6D	12/16/10	< 190	
F-7D	06/09/10	677 ± 125	
F-7D	10/04/10	352 ± 121	
F-7D	12/16/10	322 ± 130	
F-8D	06/09/10	238 ± 105	
F-8D	10/04/10	290 ± 114	
F-8D	12/17/10	285 ± 112	
F-9D	01/13/10	223 ± 112	
F-9D	02/10/10	687 ± 138	
F-9D	03/10/10	601 ± 130	
F-9D	04/15/10	443 ± 129	
F-9D	05/12/10	792 ± 139	
F-9D	06/09/10	643 ± 124	
F-9D	07/13/10	356 ± 129	
F-9D	08/10/10	457 ± 136	
F-9D	10/04/10	354 ± 119	
F-9D	10/11/10	275 ± 118	
F-9D	11/09/10	348 ± 122	
F-9D	12/13/10	323 ± 113	
G-2	06/10/10	< 179	
G-2	10/01/10	< 185	
G-2D	06/10/10	< 176	
G-2D	10/01/10	< 185	
G-2D	12/17/10	< 159	
G-5S	10/01/10	< 184	
MW-102R	01/13/10	< 163	
MW-102R	02/11/10	< 167	
MW-102R	03/09/10	< 163	
MW-102R	06/08/10	< 176	
MW-102R	09/29/10	< 183	
MW-102R	12/15/10	< 189	
MW-103	03/11/10	< 178	
MW-105	03/11/10	< 158	
MW-105	06/09/10	< 150	
MW-105	09/29/10	< 182	
MW-105	12/16/10	< 190	
MW-105D	06/09/10	< 166	
MW-105D	09/28/10	< 158	
MW-105D	09/29/10	< 181	
MW-106D	06/11/10	< 172	
MW-106D	09/30/10	< 180	
MW-106D	12/17/10	< 155	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
MW-109D	03/10/10	< 165	
MW-109D	09/30/10	< 167	
MW-109D	10/02/10	< 186	
MW-109D	12/29/10	< 161	
MW-11	05/22/10	387 ± 123	
MW-11	09/12/10	431 ± 132	
MW-11	12/18/10	331 ± 131	
MW-110	03/10/10	< 175	
MW-110	06/09/10	< 181	
MW-110	09/30/10	< 180	
MW-110	12/15/10	< 165	
MW-111DR	03/09/10	< 160	
MW-111DR	06/10/10	< 170	
MW-111DR	09/28/10	< 179	
MW-111DR	12/15/10	< 192	
MW-112D	03/09/10	< 160	
MW-112D	06/10/10	< 172	
MW-112D	07/18/10	< 186	
MW-112D	08/11/10	< 184	
MW-112D	09/28/10	< 179	
MW-112D	12/14/10	< 173	
MW-113	03/11/10	< 160	
MW-113	06/11/10	< 175	
MW-113	09/30/10	< 183	
MW-113	12/15/10	< 164	
MW-113DR	03/11/10	< 159	
MW-113DR	06/11/10	< 177	
MW-113DR	09/30/10	< 179	
MW-113DR	12/15/10	< 172	
MW-13	01/14/10	263 ± 120	
MW-13	02/14/10	< 155	
MW-13	03/15/10	507 ± 123	
MW-13	05/15/10	321 ± 121	
MW-13	06/19/10	< 166	
MW-13	07/02/10	< 182	
MW-13	08/07/10	240 ± 119	
MW-13	09/12/10	255 ± 124	
MW-13	10/10/10	188 ± 115	
MW-13	11/24/10	218 ± 114	
MW-13	12/29/10	295 ± 120	
MW-130D	03/10/10	< 162	
MW-130D	09/29/10	186 ± 112	
MW-130D	12/29/10	< 159	
MW-131D	03/09/10	< 162	
MW-131D	06/10/10	< 178	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
MW-131D	09/28/10	< 183	
MW-131D	12/14/10	< 166	
MW-132D	03/09/10	< 160	
MW-132D	06/10/10	< 173	
MW-132D	09/28/10	< 179	
MW-132D	12/14/10	< 165	
MW-133D	03/09/10	< 166	
MW-133D	06/10/10	< 172	
MW-133D	09/30/10	< 168	
MW-133D	12/17/10	< 161	
MW-134D	03/09/10	827 ± 142	
MW-134D	06/09/10	574 ± 136	
MW-134D	09/30/10	461 ± 126	
MW-134D	12/17/10	< 190	
MW-135D	03/09/10	< 176	
MW-135D	06/09/10	< 173	
MW-135D	09/29/10	< 158	
MW-135D	12/15/10	< 169	
MW-136D	03/09/10	< 169	
MW-136D	06/08/10	< 154	
MW-136D	09/29/10	< 157	
MW-136D	12/15/10	< 185	
MW-137D	03/09/10	< 173	
MW-137D	06/08/10	< 151	
MW-137D	09/11/10	< 186	
MW-138D	03/09/10	< 169	
MW-138D	06/08/10	< 173	
MW-138D	09/29/10	< 158	
MW-138D	12/15/10	< 187	
MW-139D	03/10/10	212 ± 109	
MW-139D	06/08/10	202 ± 105	
MW-139D	09/29/10	< 160	
MW-139D	12/16/10	321 ± 130	
MW-14	06/19/10	307 ± 122	
MW-14	07/01/10	268 ± 121	
MW-140D	03/10/10	< 173	
MW-140D	06/10/10	< 167	
MW-140D	09/29/10	< 160	
MW-140D	12/16/10	< 168	
MW-141D	02/14/10	404 ± 112	
MW-141D	04/19/10	425 ± 132	
MW-141D	05/19/10	563 ± 133	
MW-141D	08/07/10	704 ± 147	
MW-141D	11/28/10	823 ± 155	
MW-142D	02/09/10	667 ± 136	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
MW-142D	05/23/10	981 ± 157	
MW-142D	11/28/10	1040 ± 169	
MW-143D	02/14/10	259 ± 107	
MW-143D	05/23/10	307 ± 120	
MW-144D	02/14/10	1920 ± 240	
MW-144D	04/22/10	2430 ± 292	
MW-144D	05/23/10	2440 ± 295	
MW-144D	11/28/10	3920 ± 444	
MW-145D	03/10/10	< 173	
MW-145D	06/11/10	< 173	
MW-145D	09/29/10	< 178	
MW-145D	12/14/10	381 ± 114	
MW-154	02/18/10	< 151	
MW-154	04/19/10	< 181	
MW-154	05/25/10	< 172	
MW-154	11/23/10	< 168	
MW-155	02/20/10	< 171	
MW-155	04/19/10	< 183	
MW-155	05/25/10	< 171	
MW-155	08/23/10	< 166	
MW-155	11/23/10	< 165	
MW-156	02/18/10	< 164	
MW-156	04/19/10	< 183	
MW-156	05/25/10	< 170	
MW-156	08/23/10	< 169	
MW-156	11/23/10	< 175	
MW-157D	03/10/10	< 173	
MW-157D	06/11/10	< 171	
MW-157D	09/29/10	< 181	
MW-157D	12/14/10	< 158	
MW-158D	01/13/10	< 160	
MW-158D	02/10/10	< 155	
MW-158D	03/10/10	< 158	
MW-158D	04/15/10	< 169	
MW-158D	05/13/10	< 161	
MW-158D	06/08/10	< 152	
MW-158D	07/12/10	< 179	
MW-158D	08/10/10	< 169	
MW-158D	09/29/10	< 159	
MW-158D	10/11/10	< 165	
MW-158D	11/09/10	< 174	
MW-158D	12/16/10	< 189	
MW-159D	02/14/10	< 152	
MW-159D	05/23/10	< 170	
MW-159D	08/18/10	< 185	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
MW-159D	11/24/10	< 162	
MW-160D	02/14/10	< 151	
MW-160D	05/23/10	< 168	
MW-160D	08/18/10	< 175	
MW-160D	11/24/10	< 173	
MW-161D	06/19/10	727 ± 144	
MW-162D	06/19/10	545 ± 132	
MW-2	05/19/10	1110 ± 170	
MW-2	09/18/10	987 ± 173	
MW-2	12/18/10	1150 ± 171	
MW-22	05/23/10	659 ± 139	
MW-22	09/18/10	595 ± 140	
MW-22	12/18/10	475 ± 139	
MW-4	06/19/10	1720 ± 221	
MW-5	05/24/10	1260 ± 182	
MW-5	09/18/10	966 ± 162	
MW-5	12/30/10	818 ± 154	
MW-6	05/26/10	1830 ± 232	
MW-6	09/14/10	1670 ± 218	
MW-6	12/29/10	1790 ± 236	
MW-7	09/14/10	1340 ± 194	
MW-9	05/23/10	434 ± 128	
MW-9	09/12/10	574 ± 140	
MW-9	12/18/10	309 ± 129	
MW-BW-201BD	05/28/10	< 167	
MW-BW-201BD	07/10/10	< 170	< 0.9
MW-BW-201I	02/13/10	< 169	
MW-BW-201I	05/27/10	< 167	
MW-BW-201I	07/10/10	217 ± 113	< 0.7
MW-BW-201S	05/27/10	300 ± 118	
MW-BW-201S	07/11/10	179 ± 111	< 0.7
MW-BW-202I	02/13/10	< 174	
MW-BW-202I	05/24/10	179 ± 112	
MW-BW-202I	07/11/10	212 ± 114	< 0.6
MW-BW-202S	05/24/10	255 ± 114	
MW-BW-202S	07/10/10	200 ± 112	< 0.8
MW-BW-203I	02/13/10	< 171	
MW-BW-203I	05/24/10	< 166	
MW-BW-203I	07/11/10	< 168	< 0.8
MW-BW-203S	05/24/10	< 165	
MW-BW-203S	07/11/10	< 167	< 0.9
MW-BW-204I	05/19/10	< 168	
MW-BW-204I	10/22/10	< 177	
MW-BW-205I	05/19/10	< 168	
MW-BW-205I	12/29/10	< 175	
MW-BW-206I	05/19/10	< 174	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
MW-BW-206I	12/29/10	< 178	
MW-BW-207I	05/28/10	603 ± 134	
MW-BW-207I	09/18/10	492 ± 134	
MW-BW-208BD	05/26/10	< 167	
MW-BW-208BD	07/10/10	< 168	< 0.8
P-13D	09/30/10	779 ± 142	
P-13D	10/02/10	617 ± 139	
P-14D	09/29/10	< 158	
P-14D	12/16/10	< 190	
P-2D	06/08/10	376 ± 113	
P-2D	09/29/10	291 ± 113	
P-2D	12/15/10	< 170	
P-4D	06/08/10	1200 ± 171	
P-4D	09/29/10	1000 ± 172	
P-4D	12/13/10	1130 ± 169	
P-5D	06/09/10	< 163	
P-5D	09/29/10	< 184	
PW-003	01/14/10	< 166	
PW-003	04/16/10	< 176	
PW-003	07/13/10	< 184	
PW-003	10/11/10	< 166	
PW-006	01/15/10	< 165	
PW-006	04/16/10	< 173	
PW-006	07/13/10	< 169	
PW-006	10/11/10	< 166	
PW-006	12/13/10	< 158	
PW-006A	04/16/10	< 170	
PW-006A	07/13/10	< 167	
PW-006A	10/11/10	< 169	
PW-011	01/14/10	< 164	
PW-011	04/16/10	< 172	
PW-011	07/13/10	< 189	
PW-011	10/11/10	< 167	
PW-013	01/15/10	< 165	
PW-013	04/16/10	< 177	
PW-013	07/13/10	< 181	
PW-013	10/11/10	< 168	
PW-013	12/13/10	< 167	
PW-014	01/15/10	< 161	
PW-015	01/14/10	< 163	
PW-015	04/16/10	< 175	
PW-015	07/13/10	< 189	
PW-015	10/11/10	< 168	
PW-016	01/15/10	< 167	
PW-016	04/16/10	< 175	
PW-016	07/13/10	< 187	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
PW-016	10/11/10	< 163	
PW-ALLISON	10/11/10	< 188	
PWN-115	05/13/10	< 173	
RW-10	06/10/10	< 171	
RW-10	09/28/10	< 158	
RW-10	12/15/10	< 187	
RW-5	03/10/10	337 ± 117	
RW-6	03/10/10	617 ± 130	
RW-7	06/10/10	< 170	
RW-7	09/27/10	< 178	
RW-7	12/14/10	< 165	
RW-9	06/10/10	< 171	
RW-9	09/28/10	< 161	
RW-9	12/15/10	< 188	
S-1D	01/13/10	605 ± 129	
S-1D	02/10/10	496 ± 126	
S-1D	03/10/10	387 ± 118	
S-1D	04/15/10	282 ± 122	
S-1D	05/13/10	417 ± 119	
S-1D	06/08/10	390 ± 115	
S-1D	07/12/10	183 ± 119	
S-1D	08/10/10	278 ± 125	
S-1D	09/29/10	< 159	
S-1D	10/11/10	< 168	
S-1D	11/09/10	< 168	
S-1D	12/16/10	< 192	
S-2D	06/08/10	283 ± 114	
S-2D	09/29/10	362 ± 115	
S-2D	12/16/10	< 185	
S-4D	06/08/10	< 165	
S-4D	09/29/10	< 159	
S-4D	12/16/10	< 192	
S-7D	01/13/10	< 159	
S-7D	02/10/10	< 171	
S-7D	03/10/10	< 159	
S-7D	04/15/10	< 175	
S-7D	05/13/10	< 156	
S-7D	06/08/10	< 166	
S-7D	07/12/10	< 179	
S-7D	08/10/10	< 181	
S-7D	09/29/10	< 157	
S-7D	10/11/10	< 166	
S-7D	11/09/10	< 161	
S-7D	12/16/10	< 191	
S-8DR	01/13/10	< 165	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
S-8DR	02/10/10	< 168	
S-8DR	03/10/10	< 161	
S-8DR	04/15/10	< 175	
S-8DR	05/13/10	< 159	
S-8DR	06/08/10	< 164	
S-8DR	07/12/10	< 178	
S-8DR	08/10/10	< 171	
S-8DR	09/30/10	< 159	
S-8DR	10/11/10	< 166	
S-8DR	11/09/10	< 174	
S-8DR	12/16/10	< 191	
SC-1D	07/13/10	< 188	
SC-1D	12/13/10	< 156	
SC-2D	07/13/10	< 186	
SC-2D	12/13/10	< 156	
STARK-SPIGOT	10/01/10	< 182	
TB-20	01/06/10	368 ± 123	
TB-20	02/09/10	< 174	
TB-20	03/09/10	< 178	
TB-20	04/10/10	< 186	
TB-20	05/15/10	< 180	
TB-20	06/08/10	255 ± 121	
TB-20	07/01/10	< 179	
TB-20	08/07/10	< 185	
TB-20	10/10/10	< 177	
TB-20	11/24/10	< 165	
TB-20	12/27/10	< 164	
TB-20D	01/06/10	344 ± 125	
TB-20D	04/10/10	< 182	
TB-20D	05/15/10	< 184	
TB-20D	07/01/10	197 ± 119	
TB-20D	10/10/10	234 ± 117	
TB-21	01/06/10	321 ± 124	
TB-21	02/09/10	< 175	
TB-21	03/09/10	< 178	
TB-21	04/10/10	< 186	
TB-21	05/15/10	< 185	
TB-21	06/19/10	232 ± 118	
TB-21	07/01/10	191 ± 118	
TB-21	08/07/10	249 ± 125	
TB-21	09/12/10	< 179	
TB-21	10/10/10	< 175	
TB-21	11/24/10	181 ± 111	
TB-21	12/27/10	309 ± 116	
TB-21D	01/06/10	353 ± 127	
TB-21D	04/10/10	< 182	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
TB-21D	05/15/10	< 172	
TB-21D	07/01/10	< 170	
TB-21D	10/10/10	< 175	
TB-22	01/08/10	272 ± 117	
TB-22	02/14/10	< 148	
TB-22	03/09/10	< 179	
TB-22	04/10/10	210 ± 110	
TB-22	05/15/10	< 172	
TB-22	06/20/10	213 ± 118	
TB-22	07/01/10	199 ± 112	
TB-22	08/07/10	256 ± 125	
TB-22	09/12/10	< 180	
TB-22	10/10/10	< 176	
TB-22	11/24/10	< 163	
TB-22D	01/08/10	< 171	
TB-22D	04/12/10	< 181	
TB-22D	05/15/10	< 182	
TB-22D	07/01/10	< 169	
TB-22D	10/10/10	< 175	
TB-22D	12/29/10	< 175	
TB-23	01/08/10	207 ± 115	
TB-23	02/14/10	152 ± 99	
TB-23	03/09/10	< 181	
TB-23	04/12/10	< 184	
TB-23	05/15/10	< 173	
TB-23	06/20/10	< 172	
TB-23	07/01/10	< 172	
TB-23	08/07/10	217 ± 125	
TB-23	09/12/10	189 ± 121	
TB-23	10/10/10	207 ± 117	
TB-23	11/24/10	179 ± 110	
TB-23	12/27/10	190 ± 112	
TB-23D	01/08/10	< 168	
TB-23D	04/12/10	< 183	
TB-23D	05/15/10	< 171	
TB-23D	07/01/10	< 168	
TB-23D	10/10/10	< 174	
TB-24	05/28/10	187 ± 114	
TB-24D	05/28/10	< 166	
TB-25	05/26/10	231 ± 113	
TB-25D	05/26/10	< 170	
VB10-1	01/12/10	< 161	
VB10-1	02/09/10	< 171	
VB10-1	03/08/10	< 170	
VB10-1	06/07/10	< 152	
VB10-1	09/27/10	< 175	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
VB10-1	12/13/10	< 160	
VB1-1	01/12/10	< 167	
VB1-1	02/09/10	< 171	
VB1-1	03/10/10	< 164	
VB1-1	04/20/10	< 192	
VB1-1	06/08/10	< 169	
VB1-1	07/17/10	< 170	
VB1-1	09/28/10	< 182	
VB1-1	12/18/10	< 162	
VB1-10D	09/28/10	< 181	
VB1-10D	12/27/10	< 162	
VB11-1	01/12/10	< 165	
VB11-1	02/10/10	< 170	
VB11-1	03/09/10	< 167	
VB11-1	06/07/10	< 155	
VB11-1	09/28/10	< 177	
VB11-1	12/14/10	< 158	
VB1-11D	09/28/10	< 181	
VB1-11D	12/18/10	< 161	
VB1-12D	03/09/10	< 164	
VB1-12D	06/10/10	< 172	
VB1-12D	09/28/10	< 184	
VB1-12D	12/14/10	< 169	
VB1-1D	12/27/10	< 160	
VB1-2D	10/02/10	< 183	
VB1-3D	09/28/10	< 179	
VB1-3D	12/18/10	< 160	
VB1-4D	09/29/10	< 184	
VB1-4D	12/27/10	< 161	
VB1-5D	09/29/10	< 185	
VB1-5D	12/27/10	188 ± 107	
VB1-6D	06/10/10	< 173	
VB1-6D	09/27/10	< 183	
VB1-6D	12/14/10	< 166	
VB1-7D	06/10/10	< 174	
VB1-7D	09/27/10	< 181	
VB1-7D	12/14/10	< 168	
VB1-8D	06/10/10	< 177	
VB1-8D	09/30/10	< 161	
VB1-8D	12/14/10	< 175	
VB1-9D	03/18/10	3470 ± 394	
VB1-9D	08/24/10	1670 ± 235	
VB1-9D	09/30/10	1430 ± 196	
VB1-9D	10/02/10	< 179	
VB1-9D	11/23/10	4020 ± 457	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	SR-90
VB1-9D	12/29/10		1060 ± 163	
VB2-10	01/14/10		< 158	
VB2-10	02/11/10		< 154	
VB2-10	03/11/10		< 162	
VB2-10	04/15/10		< 159	
VB2-10	05/12/10		< 174	
VB2-10	06/07/10		< 171	
VB2-10	07/12/10		< 180	
VB2-10	07/22/10		< 187	
VB2-10	09/20/10		< 185	
VB2-10D	01/14/10		< 160	
VB2-10D	02/11/10		< 148	
VB2-10D	03/11/10		< 178	
VB2-10D	04/15/10		< 159	
VB2-10D	05/12/10		< 174	
VB2-10D	06/07/10		< 169	
VB2-10D	07/12/10		< 179	
VB2-10D	07/22/10		< 179	
VB2-10D	09/20/10		< 181	
VB2-11	01/14/10		< 158	
VB2-11	02/11/10		< 155	
VB2-11	03/11/10		< 172	
VB2-11	04/15/10		< 162	
VB2-11	05/12/10		< 172	
VB2-11	06/07/10		< 169	
VB2-11	07/12/10		< 177	
VB2-11	07/18/10		< 186	
VB2-11	09/11/10		< 170	
VB2-11D	01/14/10		1160 ± 172	
VB2-11D	02/11/10		979 ± 152	
VB2-11D	03/11/10		667 ± 136	
VB2-11D	04/15/10		389 ± 117	
VB2-11D	05/12/10		1310 ± 193	
VB2-11D	06/07/10		913 ± 154	
VB2-11D	07/12/10		192 ± 119	
VB2-11D	07/18/10		< 187	
VB2-11D	09/11/10	Original	1750 ± 232	
VB2-11D	09/11/10	Rerun	2260 ± 520	
VB2-12	01/14/10		< 157	
VB2-12	02/11/10		< 155	
VB2-12	03/11/10		< 183	
VB2-12	04/15/10		< 162	
VB2-12	05/12/10		< 173	
VB2-12	06/07/10		< 170	
VB2-12	07/12/10		< 182	
VB2-12	07/17/10		< 169	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
VB2-12	08/11/10	< 181	
VB2-12	09/11/10	< 187	
VB2-12D	01/14/10	739 ± 133	
VB2-12D	02/11/10	517 ± 123	
VB2-12D	03/11/10	510 ± 134	
VB2-12D	04/15/10	405 ± 118	
VB2-12D	05/12/10	338 ± 122	
VB2-12D	06/07/10	332 ± 121	
VB2-12D	07/12/10	< 181	
VB2-12D	07/17/10	< 183	
VB2-12D	08/11/10	291 ± 128	
VB2-12D	09/11/10	< 185	
VB2-13	03/11/10	< 172	
VB2-13	06/07/10	< 170	
VB2-13	09/30/10	< 168	
VB2-13	12/15/10	< 188	
VB2-13D	03/11/10	< 171	
VB2-13D	06/07/10	< 148	
VB2-13D	09/30/10	< 179	
VB2-13D	12/15/10	< 186	
VB2-14	03/10/10	< 173	
VB2-14	06/07/10	< 165	
VB2-14	09/30/10	< 165	
VB2-14	12/15/10	< 188	
VB2-14D	03/10/10	< 170	
VB2-14D	06/07/10	< 169	
VB2-14D	09/30/10	< 166	
VB2-14D	12/15/10	< 186	
VB2-15D	03/10/10	< 168	
VB2-15D	06/07/10	< 153	
VB2-15D	09/28/10	< 159	
VB2-15D	12/15/10	< 189	
VB2-16	03/10/10	< 176	
VB2-16	06/10/10	< 179	
VB2-16	09/30/10	< 181	
VB2-16	12/15/10	< 186	
VB2-16D	03/10/10	< 173	
VB2-16D	06/10/10	< 176	
VB2-16D	09/30/10	< 180	
VB2-16D	12/15/10	< 188	
VB2-17	03/10/10	< 160	
VB2-17	06/10/10	< 152	
VB2-17	09/30/10	< 178	
VB2-17	12/16/10	< 170	
VB2-17D	03/10/10	< 160	
VB2-17D	06/10/10	< 151	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	SR-90
VB2-17D	09/30/10		< 181	
VB2-17D	12/16/10		< 171	
VB2-2D	06/11/10		< 150	
VB2-2D	09/27/10		< 180	
VB2-2D	12/17/10		< 159	
VB2-5D	01/14/10		944 ± 150	
VB2-5D	02/11/10		797 ± 145	
VB2-5D	03/09/10		720 ± 136	
VB2-5D	04/16/10		512 ± 133	
VB2-5D	05/12/10		521 ± 130	
VB2-5D	06/09/10		398 ± 130	
VB2-5D	07/12/10		< 179	
VB2-5D	09/27/10		213 ± 121	
VB2-6D	04/16/10		987 ± 162	
VB2-6D	05/12/10		936 ± 151	
VB2-6D	06/11/10		682 ± 139	
VB2-6D	07/12/10		529 ± 136	
VB2-6D	09/27/10		530 ± 137	
VB2-7D	06/10/10		< 170	
VB2-7D	10/01/10		< 168	
VB2-9D	06/11/10		1440 ± 218	
VB2-9D	10/01/10	Original	3320 ± 392	
VB2-9D	10/01/10	Rerun	2850 ± 338	
VB2-9D	12/13/10		1740 ± 225	
VB3-10D	06/10/10		< 166	
VB3-10D	10/01/10		< 163	
VB3-10D	12/17/10		< 162	
VB3-2	01/13/10		< 155	
VB3-2	02/10/10		< 171	
VB3-2	03/09/10		< 162	
VB3-2	06/09/10		< 164	
VB3-2	09/29/10		< 181	
VB3-2	12/14/10		< 160	
VB3-4D	06/09/10		373 ± 111	
VB3-4D	09/29/10		< 181	
VB3-7D	06/10/10		< 166	
VB3-7D	09/30/10		< 168	
VB3-7D	12/17/10		< 156	
VB3-9D	06/09/10		< 165	
VB3-9D	10/01/10		< 166	
VB3-9D	12/15/10		< 172	
VB4-1	01/12/10		< 164	
VB4-1	02/10/10		< 161	
VB4-1	03/09/10		< 168	
VB4-1	06/08/10		< 155	
VB4-1	09/29/10		< 181	

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
VB4-1	12/13/10	< 166	
VB4-5D	03/10/10	< 162	
VB4-5D	06/09/10	< 176	
VB4-5D	09/28/10	< 180	
VB4-5D	12/14/10	< 158	
VB4-6D	03/10/10	3010 ± 349	
VB4-6D	06/09/10	2040 ± 259	
VB4-6D	09/28/10	2190 ± 273	
VB4-6D	12/14/10	1540 ± 206	
VB5-2	01/14/10	< 158	
VB5-2	02/11/10	< 154	
VB5-2	03/09/10	< 172	
VB5-2	06/08/10	< 154	
VB5-2	09/28/10	< 159	
VB5-2	12/15/10	< 166	
VB6-1	01/12/10	< 171	
VB6-1	02/09/10	< 172	
VB6-1	03/09/10	< 167	
VB6-1	06/08/10	< 155	
VB6-1	09/28/10	< 158	
VB6-1	12/13/10	< 162	
VB7-1	01/12/10	< 172	
VB7-1	02/09/10	206 ± 114	
VB7-1	03/09/10	< 166	
VB7-1	06/07/10	< 156	
VB7-1	09/28/10	416 ± 119	
VB7-1	12/13/10	188 ± 116	
VB8-2R	01/12/10	< 170	
VB8-2R	02/09/10	< 170	
VB8-2R	03/09/10	< 165	
VB8-2R	06/07/10	< 154	
VB8-2R	09/28/10	< 159	
VB8-2R	12/13/10	< 160	
VB9-1	01/12/10	< 165	
VB9-1	02/09/10	< 168	
VB9-1	03/08/10	< 171	
VB9-1	06/07/10	< 154	
VB9-1	09/27/10	< 177	
VB9-1	12/13/10	< 161	

TABLE B-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
MW-BW-201BD	07/10/10	< 12	< 6	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 120	< 1	< 1	< 57	< 19
MW-BW-201I	07/10/10	< 12	< 8	< 1	< 1	< 4	< 1	< 2	< 1	< 3	< 113	< 1	< 1	< 63	< 20
MW-BW-201S	07/11/10	< 10	< 17	< 1	< 1	< 2	< 1	< 1	< 1	< 2	< 104	< 0.5	< 1	< 48	< 15
MW-BW-202I	07/11/10	< 9	< 4	< 1	< 1	< 2	< 0.5	< 1	< 1	< 2	< 94	< 0.5	< 1	< 44	< 16
MW-BW-202S	07/10/10	< 13	< 7	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 132	< 1	< 1	< 60	< 13
MW-BW-203I	07/11/10	< 10	< 6	< 1	< 1	< 2	< 1	< 1	< 1	< 2	< 81	< 1	< 1	< 45	< 13
MW-BW-203S	07/11/10	< 13	< 7	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 117	< 1	< 1	< 56	< 19
MW-BW-208BD	07/10/10	< 12	< 6	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 118	< 1	< 1	< 65	< 18

TABLE B-II.1 **CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BRAIDWOOD STATION, 2010**

RESULTS IN UNITS OF PCI/LITER + 2 SIGMA

SITE	DATE	H-3
DITCH (DS-2)	03/10/10	< 161
DITCH (DS-2)	09/29/10	< 181
EXELON POND	03/18/10	162 ± 106
EXELON POND	04/20/10	< 184
EXELON POND	05/18/10	225 ± 126
EXELON POND	05/22/10	190 ± 114
EXELON POND	06/09/10	< 174
EXELON POND	07/17/10	283 ± 115
EXELON POND	08/25/10	366 ± 129
EXELON POND	09/11/10	< 186
EXELON POND	11/23/10	< 179
FATLAN POND	06/09/10	< 177
LAKE DISCHARGE CANAL	05/18/10	< 161
LAKE DISCHARGE CANAL	10/10/10	< 175
PW-006P	04/16/10	< 176
PW-006P	07/13/10	< 168
PW-006P	10/11/10	< 166
PW-006P	12/13/10	< 157
STARK POND	10/01/10	< 178
SG-BW-103	05/18/10	< 183
SG-BW-105	05/18/10	< 158
SG-BW-105	10/10/10	< 173
SW-05	04/16/10	< 177
SW-05	07/13/10	< 179
SW-05	10/11/10	< 152
SW-05	12/13/10	< 170
SW-101	05/22/10	< 167
SW-101	11/23/10	< 175
SW-102 POINT C	11/23/10	< 173
SW-102 POINT C	05/22/10	< 165
SW-104 DITCH A	10/02/10	< 184
SW-104 DITCH A	05/22/10	< 159