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May 13, 2005

U. S. Nuclear Regulatory Commission
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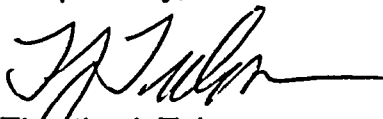
Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Quad Cities Nuclear Power Station Annual Radiological Environmental
Operating Report

In accordance with Quad Cities Technical Specifications 5.6.2, enclosed is the 2004 Radiological Environmental Operating Report for Quad Cities Nuclear Power Station. This report contains the results of the radiological environmental and meteorological monitoring programs.

Should you have any questions concerning this letter, please contact Mr. W. J. Beck at (309) 227-2800.

Respectfully,



Timothy J. Tulon
Site Vice President
Quad Cities Nuclear Power Station

Attachment: The Quad Cities Nuclear Power Station 2004 Annual Radiological
Environmental Operating Report

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

JEAS

Attachment

**Quad Cities Nuclear Power Station
2004 Annual Radiological Environmental
Operating Report**

**QUAD CITIES STATION
ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING
REPORT**

2004

MAY 2005

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INTRODUCTION

Units 1 and 2 of the Quad Cities Nuclear Power Station, located near Cordova, Illinois next to the Mississippi River, are 2957 MW_{th} boiling water reactors. The station has been designed to keep releases to the environment at levels below those specified in the regulations.

Liquid effluents from Quad Cities Nuclear Power Station are released to the Mississippi River in controlled batches after radioassay of each batch. Gaseous effluents are released to the atmosphere after delay to permit decay of short-lived (noble) gases. Releases to the atmosphere are calculated on the basis of analyses of grab samples of noble gases 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 and reported to the Nuclear Regulatory Commission as required per Technical Specifications. Airborne concentrations of noble gases, I-131, and particulate radioactivity in offsite areas are calculated using isotopic composition of effluent and meteorological data.

Environmental monitoring is conducted by sampling at indicator and control (background) locations in the vicinity of the Quad Cities Nuclear Power Station to measure changes in radiation or radioactivity levels that may be attributable to station operations. If significant changes attributable to Quad Cities Nuclear Power Station are measured, these changes are correlated with effluent releases. External gamma radiation exposure from noble gases and internal dose from I-131 in milk are the most critical pathways at this site; however, an environmental monitoring program is conducted which includes these and other pathways.

SUMMARY

Calculations based gaseous and liquid effluents and hydrogen addition activities indicate that public dose due to radioactive material attributable to Quad Cities Nuclear Power 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 Quad Cities Nuclear Power Station calculated for the maximally-exposed individual for the period is 7.26 mrem. The annual limit on TEDE is 100 mrem. Most of the dose (6.23 mrem) is due to direct radiation from Unit 1 and Unit 2 turbines. The remaining 1.03 mrem is due to the maximum calculated dose from radionuclides released from the station in gaseous and liquid effluents.

The assessment of radiation doses are 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 and isotopic composition of noble gases, radioiodine, and particulate radioactivity released to the atmosphere during the year, are listed in Table 1.1-1. A total of $5.00\text{E}+02$ curies of fission and activation gases was released with a maximum quarterly average release rate of $1.88\text{E}+01$ $\mu\text{Ci}/\text{sec}$.

A total of $8.31\text{E}-03$ curies of I-131 was released during the year with a maximum quarterly average release rate of $3.46\text{E}-04$ $\mu\text{Ci}/\text{sec}$.

A total of $8.87\text{E}-03$ curies of beta-gamma emitters was released as airborne particulate matter with a maximum quarterly average release rate of $4.04\text{E}-04$ $\mu\text{Ci}/\text{sec}$. Alpha-emitting radionuclides remaining below the lower limit of detection (LLD) for the year.

A total of $2.05\text{E}+02$ curies of tritium was released with a maximum quarterly average release rate of $7.84\text{E}+00$ $\mu\text{Ci}/\text{sec}$.

1.2 Liquids Released to the Mississippi River

A total of $4.48\text{E}+06$ liters of radioactive liquid waste (prior to dilution) containing $7.20\text{E}-02$ curies (excluding tritium, noble gases, and alpha) was discharged from the station. These wastes were released at a maximum quarterly average diluted concentration of $8.93\text{E}-09$ $\mu\text{Ci}/\text{ml}$. No alpha radioactivity was detected in the liquid waste. A total of $4.34\text{E}+01$ curies of tritium was released at a maximum quarterly average diluted concentration of $3.41\text{E}-06$ $\mu\text{Ci}/\text{ml}$. Quarterly release estimates and principal radionuclides in liquid effluents are given in Table 1.2-1.

2.0 SOLID RADIOACTIVE WASTE

Twenty-nine shipments of solid radioactive waste were shipped to waste processors via truck during 2004; thirty-four shipments were sent, via truck, to disposal sites (Table 2.0-1). For further detail, refer to the Quad Cities Nuclear Power Station 2004 Effluent Report.

3.0 DOSE TO MAN

3.1 Gaseous Effluent Pathways

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

Isopleth figures and any references to them were removed from the report in 2004 due to a Change Management decision between the station and the Met Tower contractor. Associated information for iodine and particulate concentrations in air under previous sections 3.1.2.1 and 3.1.3 has also been removed. Subsequent sections have been renumbered accordingly.

3.1.1 Noble Gases

3.1.1.1 Gamma Dose Rates

Offsite gamma air and total body doses are shown in Table 3.1-1 and were calculated based on measured release rates, isotopic composition of the noble gases, and average meteorological data for the period. Doses based on concurrent meteorological data are shown in Table 3.4-1. Based on measured effluents and average meteorological data, the maximum total body dose to an individual would be 1.45E-02 mrem for the year (Table 3.1-1), with an occupancy or shielding factor of 0.7 included. The maximum total body dose based on measured effluents and concurrent meteorological data would be 2.92E-02 mrem (Table 3.4-1). The maximum gamma air dose was 2.91E-03 mrad (Table 3.1-1) based on measured effluents and average meteorological data and 2.03E-02 mrad based on concurrent meteorological data (Table 3.4-1).

3.1.1.2 Beta Air and Skin Dose Rates

The range of beta particles in air is relatively small (on the order of a few meters or less); consequently, plumes of gaseous effluents may be considered "infinite" for 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/cm² and an occupancy factor of 1.0 is used. The skin dose from beta and gamma radiation for the year was 3.64E-02 mrem based on concurrent meteorological data (Table 3.4-1).

The maximum offsite beta air dose for the year was 1.48E-03 mrad based on average meteorological data (Table 3.1-1) and 2.68E-03 mrad based on concurrent meteorological data (Table 3.4-1).

The difference between the calculated doses from average meteorology and those calculated by the contractor from concurrent meteorology are attributable to:

1. Concurrent meteorology will almost always produce higher Chi/Q values than those using average meteorology data.
2. The dose calculated using concurrent meteorological data is also using a slightly different dose calculation than the ODCM calculation. This is because not all of the Exelon sites have implemented the

NUREG 0133 methodology in use at Quad Cities Nuclear Power Station since January 2001.

3.1.2 Radioactive Iodine

The human thyroid exhibits a significant capacity to concentrate ingested or inhaled iodine. The radioiodine, I-131, released during routine operation of the station, may be made available to a person resulting in a dose to the thyroid. The principal pathway of interest for this radionuclide is ingestion of radioiodine in milk.

3.1.2.1 Dose to Thyroid

The hypothetical thyroid dose to a maximum exposed individual living near the station via ingestion of milk was calculated. The radionuclide considered was I-131 and the source of milk was taken to be the nearest dairy farm with the cows pastured from May through October. The maximum annual thyroid dose was 1.01E+00 mrem (infant) {Table 3.1-1}.

3.2 Liquid Effluent Pathways

The three principal pathways through the aquatic environment for potential doses to man from liquid waste are ingestion of potable water, eating aquatic foods, and exposure while on the shoreline. Not all of these pathways are significant or applicable at a given time but a reasonable approximation of the dose can be made by adjusting the dose formula for season of the year or type and degree of use of the aquatic environment. NRC developed equations* were used to calculate the doses to the whole body, lower GI tracts, thyroid, bone, skin; specific parameters for use in the equations are given in the Offsite Dose Calculation Manual. The maximum whole body dose for the year was 1.85E-04 mrem and no organ dose exceeded 3.08E-04 mrem (Table 3.2-1 [teen liver]).

3.3 Assessment of Dose to Member of Public

During the period January to December, 2004, Quad Cities Nuclear Power Station did not exceed the following limits as shown in Table 3.1-1 and Table 3.2-1 (based on yearly average meteorological data), and as shown in Table 3.4-1 (based on concurrent meteorological data):

- The RETS limits on dose or dose commitment to an individual due to radioactive materials in liquid effluents from the site (3 mrem to the whole body or 10 mrem to any organ during any calendar quarter; 6 mrem to the whole body or 20 mrem to any organ during any calendar year).
- The RETS limits on air dose in noble gases released in gaseous effluents

* Nuclear Regulatory Commission, NUREG 0133 methodology and Regulatory Guide 1.109 (Rev. 1) dose conversion factors.

to a member of the public from each reactor unit (5 mrad for gamma radiation or 10 mrad for beta radiation during any calendar quarter; 10 mrad for gamma radiation or 20 mrad for beta radiation during any calendar year).

- The RETS limits on dose to any individual 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 RETS 40CFR190 limits for dose due to radioactive liquid and gaseous effluents to the whole body or any organ (25 mrem during the calendar year) and to the thyroid (75 mrem during the 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 quarter of the year is given in Appendix II. The data are presented as cumulative joint frequency distributions of the wind direction for the 296' level and wind speed class by atmospheric stability class determined from the temperature difference between the 296' and 33' levels. Average data recovery for all measurements on the tower was 99.0% for 2004 (Table 3.4-1).

5.0 ENVIRONMENTAL MONITORING

Table 5.0-1 provides an outline of the Radiological Environmental Monitoring Program (REMP) as required in current Technical Specifications. Table 5.0-2 identifies the sampling locations, sample collections and analyses for each location. Tables 5.0-3 to 5.0-6 summarize data for the year. A detailed listing of all data is presented in Appendix III.

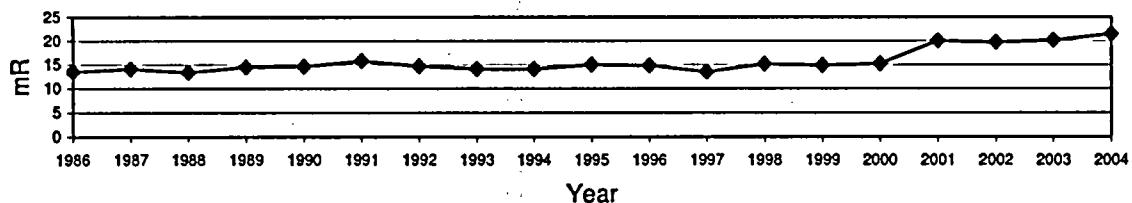
Specific findings for various environmental media are discussed below.

5.1 Gamma Radiation

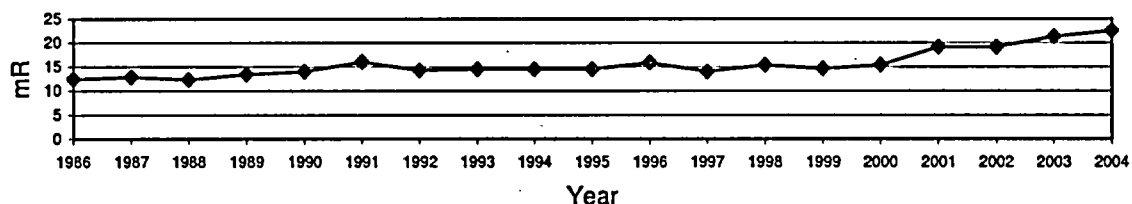
External radiation dose from onsite sources and noble gases released to the atmosphere was measured using CaF_2 thermoluminescent dosimeters (TLDs). The quarterly average external radiation dose for the year was 22.1 mR at the indicator locations and 22.5 mR at the control locations. TLD results are listed in Section 6.0 of Appendix III and locations are shown in Figure 5.0-1 and 5.0-2.

Quarterly average of external radiation dose (including background) at indicator air sampling locations averaged 21.4 ± 3.2 mR. Averages from this and previous years are charted on following page.

Air Sampler Indicator TLD Averages 1986-2004



Air Sampler Control TLD Averages 1986-2004



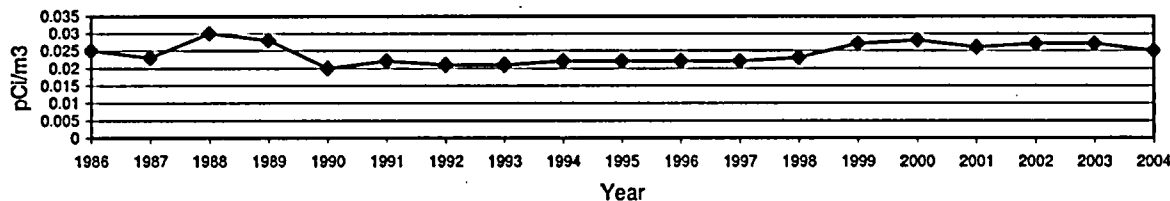
The differences are not statistically different than the control locations. A different style of TLD was used starting in 2001. Prior to that timeframe, dose was normalized to the 91-day timeframe. Starting in 2001, dose is “as read,” with no correction applied based on TLD period starting before the first day of the quarter.

5.2 Airborne I-131 and Particulate Radioactivity

Locations of the air samplers are shown in Figure 5.0-1. Airborne I-131 remained below the LLD of 0.07 pCi/m³ throughout the year.

Gross beta concentrations ranged from 0.009 to 0.052 pCi/m³ and averaged 0.025 pCi/m³ and was comparable to overall average levels since 1985, as shown below.

Air Particulate Gross Beta 1985-2004



No radioactivity attributable to station operation was detected in any sample.

5.3 Aquatic Radioactivity

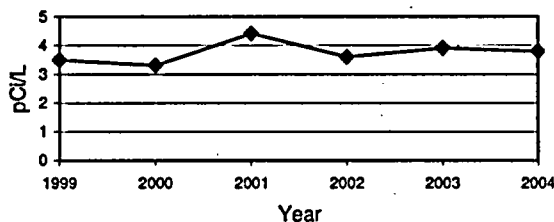
Well water was collected quarterly from one nearsite well (Q-35) and one farsite well (Q-36) and was analyzed for tritium and gamma-emitting nuclides. All nuclides

remained below the limits of detection for the year. Weekly surface water samples from upstream (Q-34) and downstream (Q-33) from the station on the Mississippi River were composited monthly and analyzed for gamma-emitting nuclides and gross beta activity. Quarterly composites were analyzed for tritium.

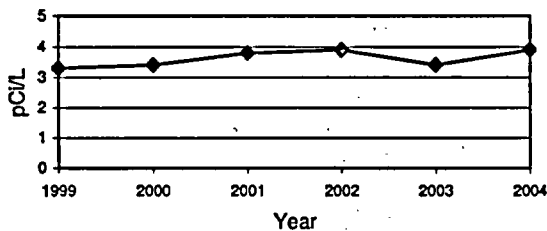
Cs-134 and Cs-137 concentrations were below the LLD of 15 pCi/L and 18 pCi/L, respectively, in all samples.

Gross beta concentrations at Q-33 averaged 3.8 pCi/L with a range of 2.2-5.3 pCi/L; concentrations at Q-34 averaged 3.9 pCi/L with a range of 3.0-4.8 pCi/L. Gross beta concentrations for prior years is charted below. (Before 1999 and the implementation of uniform REMP, water was composited monthly for gamma isotopic analysis only.)

Q-33 Gross Beta Averages 1999-2004



Q-34 Gross Beta Averages 1999-2004



Tritium concentrations remained below the LLD of 200 pCi/L in all samples.

Levels of gamma radioactivity in fish were measured and found in all cases to be below the lower limit of detection for the program. One downstream sediment sample was analyzed by gamma spectrometry. All gamma-emitters were below the limits of detection indicating that no radioactivity was found due to station operation.

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

5.4 Milk

Milk samples from the Bill Stanley Farm (located 3.5 miles east southeast of the station) were collected monthly from November through April and biweekly from May through October and analyzed for I-131.

I-131 remained below the detection limits during the non-grazing period (November through April) and the grazing period (May through October).

Milk sample locations are shown in Figure 5.0-3.

5.5 Terrestrial Radioactivity

Vegetables were collected in the third quarter and analyzed for gamma-emitting nuclides. In addition, broad leaf vegetables were analyzed for I-131. All nuclides were below the limits of detection, indicating there was no measurable amount of radioactivity attributable to station releases.

5.6 Sample Collections

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

5.7 Program Modifications

There were no changes to the program in 2004.

6.0 ANALYTICAL PROCEDURES

Procedures used during the period covered in this report remain unchanged. A summary of the procedures is given in Appendix VI of the 1993 Annual Radiological Environmental Operating Report.

7.0 MILCH ANIMALS AND NEAREST LIVESTOCK CENSUS

A census of milch animals and nearest livestock was conducted around the station by G. Kreuder. The survey was conducted on August 27, 2004.

Milch animal and nearest livestock census results are presented in Section 5.0 of Appendix III.

8.0 NEAREST RESIDENCE CENSUS

A census of the nearest residences within a 6.2-mile radius was conducted on August 27, 2004 by G. Kreuder.

The nearest residence census results are presented in Section 5.0 of Appendix III.

9.0 INTERLABORATORY COMPARISON PROGRAM RESULTS

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

10.0 ERRATA DATA

There is no errata data for 2004.

QUAD CITIES

APPENDIX I

DATA TABLES AND FIGURES

Table 1.1-1

**Effluent & Waste Disposable Summary
Gaseous Effluents – Summation Of All Releases**

Period: January – December 2004

Unit: 1 & 2

A. Fission & Activation Gases***	Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Est. Total Error %
1. Total Release	Ci	1.46E+02	1.19E+02	1.19E+02	1.16E+02	12.5
2. Average release rate for the period	μCi/sec	1.88E+01	1.52E+01	1.50E+01	1.46E+01	
3. *Percent of limit	% γ	1.59E-02	1.31E-02	1.37E-02	1.55E-02	
	% β	4.13E-03	3.43E-03	3.51E-03	3.76E-03	

B. Iodine						
1. Total Iodine – 131.	Ci	2.72E-03	1.74E-03	2.13E-03	1.72E-03	41.6
2. Average release rate for the period	μCi/sec	3.46E-04	2.22E-04	2.69E-04	2.16E-04	
3. Percent of limit	%	NA	NA	NA	NA	

C. Particulates						
1. Particulates with half-lives > 8 days	Ci	3.18E-03	1.60E-03	2.06E-03	2.03E-03	32.1
2. Average release rate for the period	μCi/sec	4.04E-04	2.03E-04	2.59E-04	2.55E-04	
3. Percent of limit	%	NA	NA	NA	NA	
3. Gross alpha radioactivity	Ci	<LLD	<LLD	<LLD	<LLD	

D. Tritium						
1. Total Release	Ci	4.94E+01	4.32E+01	5.00E+01	6.23E+01	6.3
2. Average release rate for the period	μCi/sec	6.28E+00	5.50E+00	6.29E+00	7.84E+00	
3. Percent of limit	%	NA	NA	NA	NA	

E. Iodine 131 & 133, Tritium & Particulate						
1. Percent of ODCM limit	%	4.32E+00	2.76E+00	3.61E+00	2.76E+00	

* % Noble gas gamma/noble gas beta dose limits

*** It has recently been discovered that the U-2 off-gas flow element is not situated in the sample flow as designed (IR 322879). This situation has the potential to have caused over-reporting of fission and activation gas releases from the site. At this time, the extent of the error introduced by this situation is unknown. Pending the outcome of the investigation, errata data for this report may be submitted under separate cover at a later date.

Table 1.2-1

**Effluent & Waste Disposable Summary
Liquid Effluents – Summation Of All Releases**

Period: January – December 2004

Unit: 1 & 2

A. Fission & Activation Products	Unit	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Est. Total Error %
1. Total Release (not including tritium, gases & alpha)	Ci	4.43E-02	2.48E-02	1.94E-03	9.39E-04	4.1
2. Average diluted concentration during period	µCi/mL	8.93E-09	2.57E-09	4.06E-10	2.12E-10	
3. Percent of applicable limit*	%	WB	8.06E-02	1.19E-01	3.27E-02	7.07E-02
		O	4.38E-02	5.75E-02	1.60E-02	3.36E-02
4. Maximum diluted concentration during batch discharges	µCi/mL	2.74E-08	3.86E-09	3.59E-10	1.45E-10	

B. Tritium						
1. Total Release	Ci	1.69E+01	1.57E+01	3.63E+00	7.19E+00	4.1
2. Average diluted concentration during period	µCi/mL	3.41E-06	1.63E-06	7.59E-07	1.62E-06	
3. Percent of applicable limit	%	1.14E-01	5.43E-02	2.52E-02	5.40E-02	

C. Dissolved & Entrained Gases						
1. Total Release	Ci	9.45E-05	4.15E-04	<LLD*	<LLD*	4.1
2. Average diluted concentration during period	µCi/mL	1.91E-11	4.30E-11	NA	NA	
3. Percent of applicable limit	%	9.55E-06	2.15E-05	NA	NA	

D. Gross Alpha Activity						
1. Total Release	Ci	<LLD	<LLD	<LLD	<LLD	14.8

E. Volume Of Waste Released (prior to dilution)	Liters	1.62E+06	1.42E+06	6.15E+05	8.24E+05
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F. Volume Of Dilution Water Used During Period	Liters	2.18E+11	4.49E+11	4.91E+11	3.36E+11
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* Whole Body/Organ (ODCM)

Table 2.0-1

Solid Waste and Irradiated Fuel Shipments

A. Solid Waste Shipped Offsite for Burial or Disposal (Not irradiated fuel)

1. Types of Waste

Types of Waste	Total Quantity (m ³)	Total Activity (Ci)	Period	Est. Total Error %
a. Spent resins, filter sludges, evaporator bottoms, etc	9.05E+01	6.82E+03	2004	2.50E+01
b. Dry compressible waste, contaminated equip, etc	1.54E+03	2.73E+01	2004	2.50E+01
c. Irradiated components, control rods, etc	7.51E+00	9.61E+03	2004	2.50E+01
d. Other (describe)				

2. Estimate of major nuclide composition (by waste type)

Major Nuclide Composition		%
a.	Mn-54	2.17E+00
	Fe-55	6.97E+01
	Co-60	2.68E+01
b.	Mn-54	6.80E+00
	Fe-55	5.13E+01
	Co-60	3.68E+01
	Zn-65	1.24E+00
	Cs-137	1.21E+00
c.	Mn-54	1.24E+00
	Fe-55	3.90E+01
	Co-60	5.66E+01
	Ni-63	3.18E+00

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
29	Highway	Processor
32	Highway	Disposal

B. Irradiated Fuel Shipments (disposition)

Number of Shipments	Mode of Transportation	Destination
2	Highway	Disposal

C. Changes to the Process Control Program

Submitted with this report is Revision 3 of RW-AA-100, Process Control Program for Radioactive Wastes. No significant process changes made. Changes are administrative in nature.

Table 3.1-1

RET DAS v3.6.4

<QUA>

VSSI

GASEOUS ANNUAL DOSE SUMMARY REPORT
(Composite Critical Receptor - Limited Analysis)

Release ID.....: 1 All Gas Releases
Year.....: 2004
Coefficient Type.....: Historical
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
Quarter 1	INFANT	THYROID	3.24E-01	Quarter	5.63E+00	5.75E+00	7.50E+00	4.32E+00
Quarter 2	INFANT	THYROID	2.07E-01	Quarter	5.63E+00	3.69E+00	7.50E+00	2.76E+00
Quarter 3	INFANT	THYROID	2.71E-01	Quarter	5.63E+00	4.82E+00	7.50E+00	3.61E+00
Quarter 4	INFANT	THYROID	2.07E-01	Quarter	5.63E+00	3.68E+00	7.50E+00	2.76E+00
Annual	INFANT	THYROID	1.01E+00	Annual	1.13E+01	8.97E+00	1.50E+01	6.73E+00

=== 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
Quarter 1	CHILD	TBODY	5.63E-03	Quarter	5.25E+00	1.07E-01	7.50E+00	7.51E-02
Quarter 2	CHILD	TBODY	2.46E-03	Quarter	5.25E+00	4.68E-02	7.50E+00	3.28E-02
Quarter 3	CHILD	TBODY	3.12E-03	Quarter	5.25E+00	5.94E-02	7.50E+00	4.16E-02
Quarter 4	CHILD	TBODY	3.32E-03	Quarter	5.25E+00	6.31E-02	7.50E+00	4.42E-02
Annual	CHILD	TBODY	1.45E-02	Annual	1.05E+01	1.38E-01	1.50E+01	9.68E-02

=== 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
Quarter 1	Gamma	7.94E-04	Quarter	3.75E+00	2.12E-02	5.00E+00	1.59E-02
Quarter 2	Gamma	6.55E-04	Quarter	3.75E+00	1.75E-02	5.00E+00	1.31E-02
Quarter 3	Gamma	6.84E-04	Quarter	3.75E+00	1.82E-02	5.00E+00	1.37E-02
Quarter 4	Gamma	7.76E-04	Quarter	3.75E+00	2.07E-02	5.00E+00	1.55E-02
Annual	Gamma	2.91E-03	Annual	7.50E+00	3.88E-02	1.00E+01	2.91E-02

=== 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
Quarter 1	Beta	4.13E-04	Quarter	7.50E+00	5.51E-03	1.00E+01	4.13E-03
Quarter 2	Beta	3.43E-04	Quarter	7.50E+00	4.58E-03	1.00E+01	3.43E-03
Quarter 3	Beta	3.51E-04	Quarter	7.50E+00	4.67E-03	1.00E+01	3.51E-03
Quarter 4	Beta	3.76E-04	Quarter	7.50E+00	5.01E-03	1.00E+01	3.76E-03
Annual	Beta	1.48E-03	Annual	1.50E+01	9.88E-03	2.00E+01	7.41E-03

Date/Time: 04/29/2005 15:35 kirrks

Table 3.2-1

RETDAS v3.6.4 <QUA>

VSSI

LIQUID ANNUAL DOSE SUMMARY REPORT
 ----- (PERIOD BASIS) -----

Release ID.....: 1 All Liquid Releases
 Year.....: 2004
 Liquid 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
Quarter 1	TEEN	LIVER	2.24E-04	Quarter	3.75E+00	5.99E-03	5.00E+00	4.49E-03
Quarter 2	TEEN	LIVER	1.62E-04	Quarter	3.75E+00	4.31E-03	5.00E+00	3.23E-03
Quarter 3	TEEN	LIVER	1.47E-05	Quarter	3.75E+00	3.92E-04	5.00E+00	2.94E-04
Quarter 4	TEEN	LIVER	2.77E-05	Quarter	3.75E+00	7.38E-04	5.00E+00	5.54E-04
Annual	TEEN	LIVER	3.08E-04	Annual	7.50E+00	4.11E-03	1.00E+01	3.08E-03

=== 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
Quarter 1	ADULT	TBODY	1.30E-04	Quarter	1.13E+00	1.15E-02	1.50E+00	8.64E-03
Quarter 2	ADULT	TBODY	9.91E-05	Quarter	1.13E+00	8.81E-03	1.50E+00	6.61E-03
Quarter 3	ADULT	TBODY	8.87E-06	Quarter	1.13E+00	7.88E-04	1.50E+00	5.91E-04
Quarter 4	ADULT	TBODY	1.72E-05	Quarter	1.13E+00	1.53E-03	1.50E+00	1.15E-03
Annual	ADULT	TBODY	1.85E-04	Annual	2.25E+00	8.21E-03	3.00E+00	6.16E-03

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Table 3.3-1

QUAD CITIES STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/04 THROUGH 12/31/04

CALCULATED 04/14/05

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

Total Effective Dose Equivalent,	mrem/yr	4.07
10 CFR 20.1301 (a) (1) limit	mrem/yr	100.0
	% of limit	4.07

Compliance Summary - 10CFR20

	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	% of Limit
TEDE	1.01E+00	9.99E-01	1.05E+00	1.01E+00	4.07E+00

Table 3.1-1 (continued)

QUAD CITIES STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/04 THROUGH 12/31/04

CALCULATED 04/14/05

2. 10 CFR 20.1301 (a) (1) Compliance

Total Effective Dose Equivalent,	mrem/yr	3.19
10 CFR 20.1301 (a) (1) limit	mrem/yr	100.0
	% of limit	3.19

Compliance Summary - 10CFR20

	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	% of Limit
TEDE	6.02E-01	8.55E-01	8.68E-01	8.69E-01	3.19E+00

Table 3.4-1

Quad Cities Station - Unit 1

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2004

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	2.995E-03(W)	2.915E-03(NNE)	4.101E-03(N)	2.092E-03(W)	1.015E-02(N)
BETA AIR (mrad)	5.400E-04(ESE)	5.150E-04(NNE)	5.543E-04(NNE)	2.574E-04(ESE)	1.339E-03(NNE)
WHOLE BODY (mrem)	3.075E-03(NNE)	3.810E-03(NNE)	4.335E-03(NNE)	3.380E-03(NNE)	1.460E-02(NNE)
SKIN (mrem)	3.715E-03(NNE)	4.870E-03(NNE)	5.510E-03(NNE)	4.085E-03(NNE)	1.818E-02(NNE)
ORGAN (mrem)	2.714E-04(WNW)	1.590E-04(NNE)	3.627E-04(WNW)	1.770E-04(WNW)	9.306E-04(WNW)
CRITICAL PERSON	Teenager	Teenager	Teenager	Teenager	Teenager
CRITICAL ORGAN	Lung	Thyroid	Lung	Lung	Lung

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP. I	
	QUARTERLY OBJECTIVE	% OF APP. I	YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	0.08	10.0	0.10
BETA AIR (mrad)	10.0	0.01	20.0	0.01
WHOLE BODY (mrem)	2.5	0.17	5.0	0.29
SKIN (mrem)	7.5	0.07	15.0	0.12
ORGAN (mrem)	7.5	0.00	15.0	0.01
CRITICAL PERSON		Teenager		Teenager
CRITICAL ORGAN		Lung		Lung

Calculation used release data from the following:

- Unit 0 - Vent
- Unit 0 - Chimney

Date of calculation: 4/ 1/2005

Table 3.4-1 (continued)

Quad Cities Station - Unit 2

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2004

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	2.995E-03(W)	2.915E-03(NNE)	4.101E-03(N)	2.092E-03(W)	1.015E-02(N)
BETA AIR (mrad)	5.400E-04(ESE)	5.150E-04(NNE)	5.543E-04(NNE)	2.574E-04(ESE)	1.339E-03(NNE)
WHOLE BODY (mrem)	3.075E-03(NNE)	3.810E-03(NNE)	4.335E-03(NNE)	3.380E-03(NNE)	1.460E-02(NNE)
SKIN (mrem)	3.715E-03(NNE)	4.870E-03(NNE)	5.510E-03(NNE)	4.085E-03(NNE)	1.818E-02(NNE)
ORGAN (mrem)	2.714E-04(WNW)	1.590E-04(NNE)	3.627E-04(WNW)	1.770E-04(WNW)	9.306E-04(WNW)
CRITICAL PERSON	Teenager	Teenager	Teenager	Teenager	Teenager
CRITICAL ORGAN	Lung	Thyroid	Lung	Lung	Lung

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP. I	
	QUARTERLY OBJECTIVE	% OF APP. I	YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	0.08	10.0	0.10
BETA AIR (mrad)	10.0	0.01	20.0	0.01
WHOLE BODY (mrem)	2.5	0.17	5.0	0.29
SKIN (mrem)	7.5	0.07	15.0	0.12
ORGAN (mrem)	7.5	0.00	15.0	0.01
CRITICAL PERSON		Teenager		Teenager
CRITICAL ORGAN		Lung		Lung

Calculation used release data from the following:
 Unit 0 - Vent
 Unit 0 - Chimney

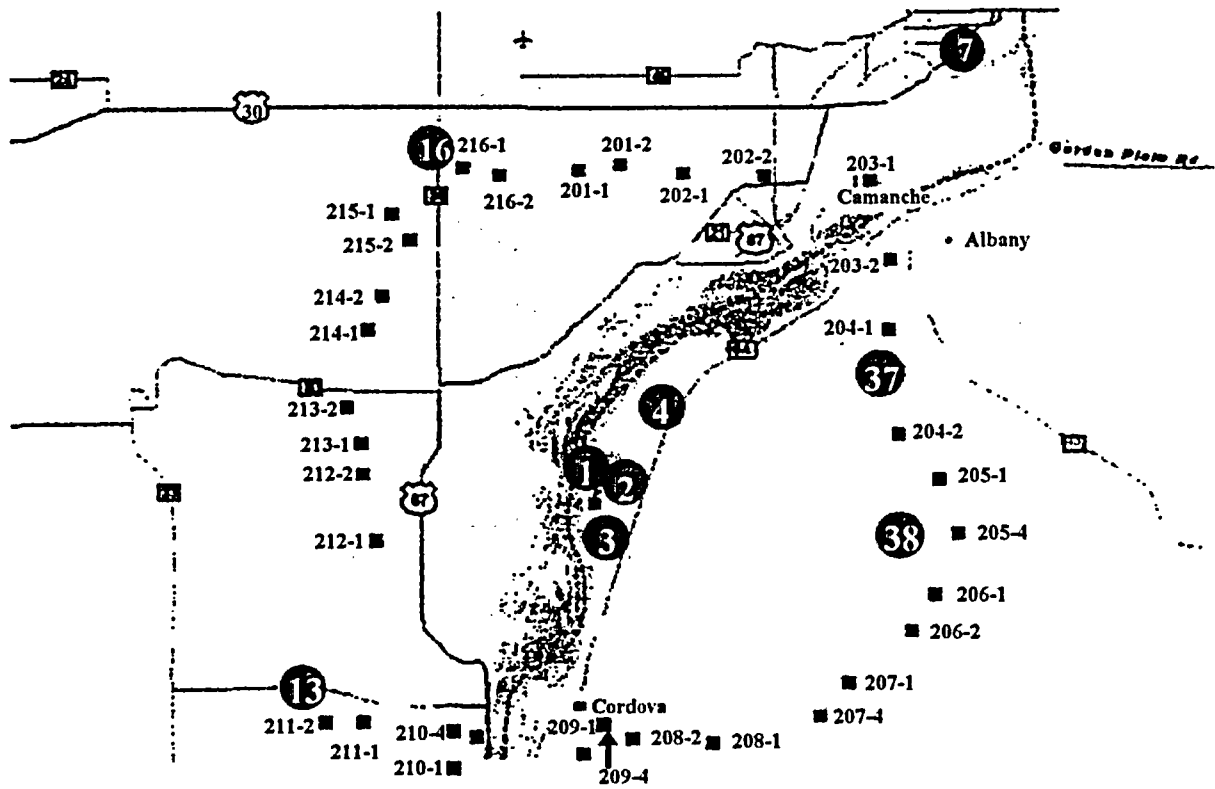
Data Recovery 99.0%
 (priority parameters)

Date of calculation: 4/ 1/2005

Quad Cities

Figure 5.0-1

Quad Cities Outer Ring TLD's and Air Sampling Sites



- = Air Sampling Sites
- = Outer Ring TLD Locations

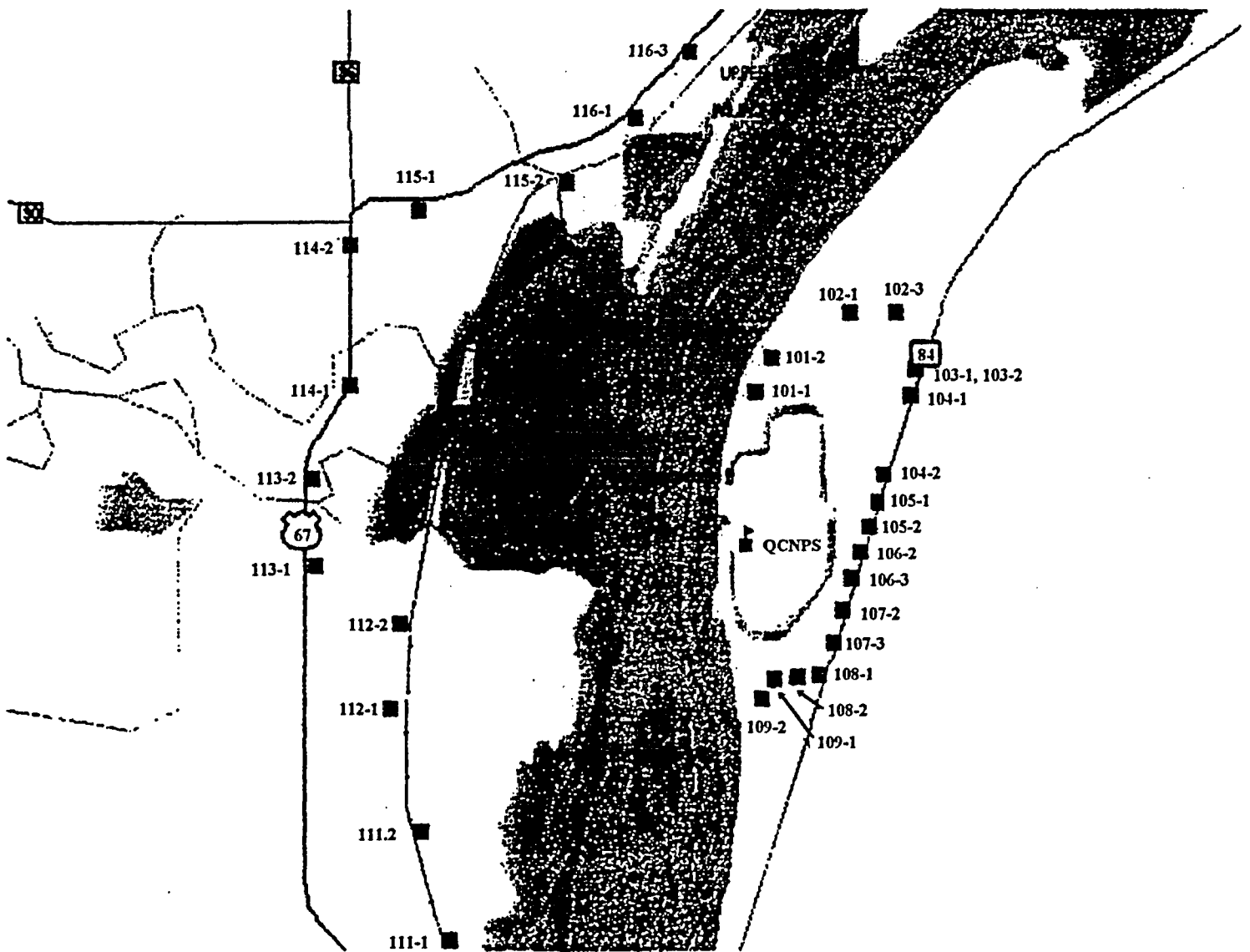
Air Sampling Sites

- Q-01 Onsite No. 1
- Q-02 Onsite No. 2
- Q-03 Onsite No. 3
- Q-04 Nitrin
- Q-07 Clinton (C)
- Q-13 Princeton
- Q-16 Low Moor
- Q-37 Meredosia Road
- Q-38 Fuller Road

Quad Cities

Figure 5.0-2

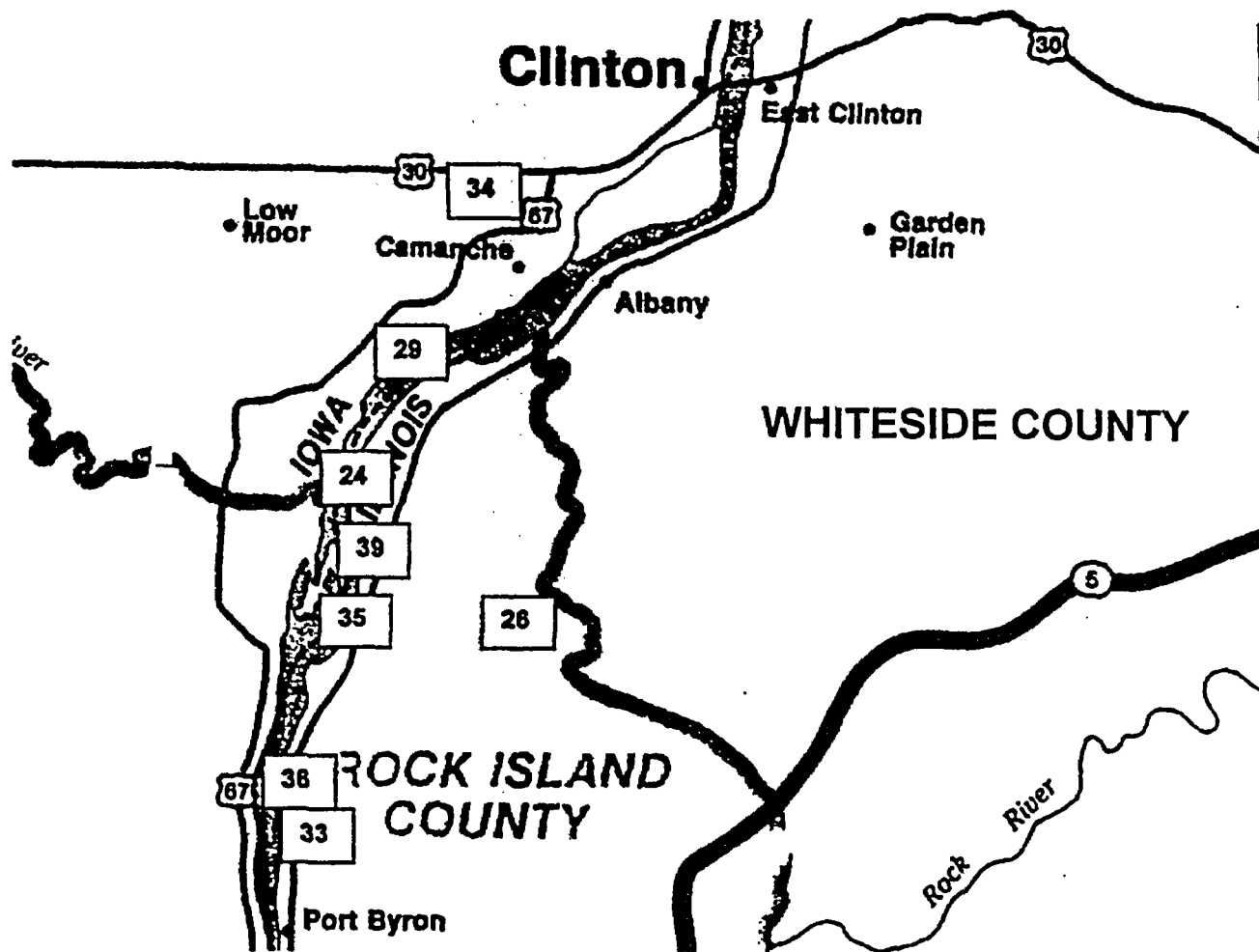
Quad Cities Inner Ring TLD Locations



Quad Cities

Figure 5.0-3

Milk, Fish, Water and Sediment Sampling Locations



Milk, Fish, Water and Sediment Sample Locations

- | | |
|--------------------------------------|---|
| Q-24 Pool #14 of Mississippi River | Q-34 Camanche (C) |
| Q-26 Bill Stanley Dairy | Q-35 McMillan Well |
| Q-29 Mississippi River, Upstream (C) | Q-36 Cordova Well |
| Q-33 Cordova | Q-39 Cordova, Downstream on Mississippi River |

TABLE 5.0-1

**Quad Cities Station
Radiological Environmental
Monitoring Locations**

Air Sampling	TLD	Fish	Milk	Sediments	Surface Water	Well Water	Vegetation
--------------	-----	------	------	-----------	---------------	------------	------------

Q-01 Onsite No. 1	◀	◀	.	.	.	.	.
Q-02 Onsite No. 2	◀	◀	.	.	.	.	.
Q-03 Onsite No. 3	◀	◀	.	.	.	.	.
Q-04 Nitrin	◀	◀	.	.	.	.	.
Q-07 Clinton	◀	◀	.	.	.	.	.
Q-13 Princeton	◀	◀	.	.	.	.	.
Q-16 Low Moor	◀	◀	.	.	.	.	.
Q-24 Pool #14 of Mississippi River	.	.	◀	.	.	.	.
Q-26 Bill Stanley Dairy	.	.	.	◀	.	.	.
Q-29 Mississippi River, Upstream	.	.	◀	.	.	.	.
Q-33 Cordova	.	.	.	.	◀	.	.
Q-34 Camanche	.	.	.	.	◀	.	.
Q-35 McMillan Well	.	.	.	.	.	◀	.
Q-36 Cordova Well	.	.	.	.	.	◀	.
Q-37 Meredosia Road	◀	◀	.	.	.	.	.
Q-38 Fuller Road	◀	◀	.	.	.	.	.
Q-39 Cordova, Downstream on Mississippi	.	.	.	◀	.	.	.
Q-Quad 1	.	.	.	.	.	.	◀
Q-Quad 2	.	.	.	.	.	.	◀
Q-Quad 3	.	.	.	.	.	.	◀
Q-Quad 4	.	.	.	.	.	.	◀
Q-Control	.	.	.	.	.	.	◀

CENSUS

- Dairy
- Residence
- Livestock

TABLE 5.0-2

QUAD CITIES STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

1. AIR SAMPLERS

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
Q-01	Onsite No. 1	0.5	N	A
Q-02	Onsite No. 2	0.4	ENE	D
Q-03	Onsite No. 3	0.6	S	J
Q-04	Nitrin	1.7	NE	C
Q-07 (C)	Clinton	8.9	NE	C
Q-13	Princeton	4.7	SW	L
Q-16	Low Moor	5.7	NNW	R
Q-37	Meredosia Road	4.4	ENE	D
Q-38	Fuller Road	4.7	E	E

2. TLDs

a. Same as No. 1.

b. Inner and Outer Ring TLD locations

<u>Site Code</u>	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
Inner Ring			
Q-101-1	0.6	N	A
Q-101-2	0.9	N	A
Q-102-1	1.3	NNE	B
Q-102-3	1.4	NNE	B
Q-103-1,2	1.2	NE	C
Q-104-1	1.1	ENE	D
Q-104-2	0.9	ENE	D
Q-105-1,2	0.8	E	E
Q-106-2,3	0.7	ESE	F
Q-107-2	0.7	SE	G
Q-107-3	0.8	SE	G
Q-108-1	1.0	SSE	H
Q-108-2	0.9	SSE	H
Q-109-1	0.9	S	J
Q-109-2	1.2	S	J
Q-111-1	2.6	SW	L
Q-111-2	2.5	SW	L
Q-112-1	2.5	WSW	M
Q-112-2	2.2	WSW	M
Q-113-1,2	2.5	W	N
Q-114-1	2.1	WNW	P
Q-114-2	2.5	WNW	P
Q-115-1	2.6	NW	Q
Q-115-2	2.3	NW	Q
Q-116-1	2.3	NNW	R
Q-116-3	2.4	NNW	R

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

TABLE 5.0-2 (continued)

QUAD CITIES STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

2. TLDs

b. Inner and Outer Ring TLD locations (continued)

<u>Site Code</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Outer Ring			
Q-201-1,2	4.2	N	A
Q-202-1	4.4	NNE	B
Q-202-2	4.8	NNE	B
Q-203-1	4.7	NE	C
Q-203-2	5.0	NE	C
Q-204-1	4.7	ENE	D
Q-204-2	4.5	ENE	D
Q-205-1	4.7	E	E
Q-205-4	4.8	E	E
Q-206-1,2	4.8	ESE	F
Q-207-1,4	4.7	SE	G
Q-208-1	4.3	SSE	H
Q-208-2	4.9	SSE	H
Q-209-1,4	4.7	S	J
Q-210-1,4	4.1	SSW	K
Q-211-1,2	4.5	SW	L
Q-212-1	5.4	WSW	M
Q-212-2	4.4	WSW	M
Q-213-1	4.3	W	N
Q-213-2	4.8	W	N
Q-214-1	4.7	WNW	P
Q-214-2	4.4	WNW	P
Q-215-1	5.0	NW	Q
Q-215-2	4.2	NW	Q
Q-216-1	4.6	NNW	R
Q-216-2	4.3	NNW	R

3. MILK

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (mile)</u>	<u>Direction</u>	<u>Sector</u>
Q-26	Bill Stanley Dairy	3.5	ESE	F

4. SURFACE WATER

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-33	Cordova	3.3	SSW	K
Q-34(C)	Camanche	4.4	NNE	C

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

Table 5.0-2 (continued)

QUAD CITIES STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

5. WELL WATER

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-35	McMillan Well	1.5	S	J
Q-36	Cordova Well	3.3	SSW	K

6. FISH

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-24	Pool #14 of Mississippi River	0.5	SW	L
Q-29 (C)	Mississippi River, Upstream	1.0	N	A

7. SEDIMENTS

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-39	Cordova, Downstream on Mississippi River	0.8	SSW	K

8. VEGETABLES

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-Quad 1	Janet Price	6.0	NE	C
Q-Quad 2	Dale Nimmic	3.0	ESE	F
Q-Quad 3	Amy Johnston	1.8	S	J
Q-Quad 4	William Dohrman	6.0	WNW	P
Q-Control(C)	Charles Leavens	9.5	NE	C

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

TABLE 5.0-2 (continued)

**QUAD CITIES STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES**

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
1. Airborne Particulates	Onsite, Nearfield and Control		Filter exchange weekly	Gross Beta Gamma Isot.	Weekly Quarterly Composite (or if weekly gross beta in a sample exceeds 5X the average concentration of preceding calendar quarter).
	Q-01	Onsite No. 1			
	Q-02	Onsite No. 2			
	Q-03	Onsite No.3			
	Q-04	Nittrin			
	Q-07 (C)	Clinton			
	Far Field			Gamma Isot.	If gross beta in a sample exceeds 10 times the yearly mean of control samples and radioactivity is confirmed as having its origin in airborne effluents from station.
	Q-13	Princeton			
	Q-16	Low Moor			
	Q-37	Meredosia Road			
Q-38	Fuller Road				
2. Airborne Iodine	Same as 1.		Canister exchange biweekly	I-131	Biweekly
3. Air Sampling Train	Same as 1.		-	Test and Maintenance	Weekly
4. TLDs	a. Same as 1. (two TLDs per location)		Quarterly	Gamma	Quarterly
	b. Q-101-1,2 Inner Ring				
	102-1,3				
	103-1,2				
	104-1,2				
	105-1,2				
	106-2,3				
	107-2,3				
	108-1,2				
	109-1,2				
	111-1,2				
	112-1,2				
	113-1,2				
	114-1,2				
	115-1,2				
	116-1,3				
	c. Q-201-1,2 Outer Ring				
	202-1,2				
	203-1,2				
	204-1,2				
	205-1,4				
	206-1,2				
	207-1,4				
	208-1,2				
	209-1,4				
	210-1,4				
	211-1,2				

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

TABLE 5.0-2 (continued)

**QUAD CITIES STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES**

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
4. TLDs (continued)					
	Outer Ring		Quarterly	Gamma	Quarterly
	Q-212-1,2				
	213-1,2				
	214-1,2				
	215-1,2				
	216-1,2				
5. Milk	Q-26	Bill Stanley Dairy	Biweekly: May-October Monthly: November-April	I-131 Gamma Isot.	Biweekly: May-October Monthly: November-April
6. Vegetables	Quad 1	Janet Price	Annually - two varieties from each location as available at harvest.	Gamma Isot.	Annually
	Quad 2	Dale Nimmic		I-131	Annually, on broad leaf vegetation.
	Quad 3	Amy Johnston			
	Quad 4	William Dohrman			
	Control	Charles Leavens			
7. Ground/Well Water	Q-35	McMillan Well	Quarterly	Gamma Isot.	Quarterly
	Q-36	Cordova Well		Tritium	
8. Surface Water	Q-33	Cordova	Weekly	Gross Beta	Monthly composite. Monthly composite. Quarterly composite.
	Q-34 (C)	Comanche		Gamma Isot. Tritium	
9. Fish (at least two species)	Q-24	Pool #14 of Mississippi River	Two times/year	Gamma Isot.	Two times/year on edible portions only.
	Q-29 (C)	Mississippi River Upstream			
10. Sediments	Q-39	Cordova, Downstream on Mississippi River	Semiannually	Gamma Isot.	Semiannually
11. Land Use Census					
	Milch Animals				
	a.	Site Boundary to 2 miles	-	a. Enumeration by a door to door or equivalent counting technique.	Annually during grazing season.
	b.	2 miles to 6.2 miles	-	b. Using referenced information from county agricultural agents or other reliable sources.	
	c.	At dairies listed in Item 5.	-	c. Inquire as to feeding practices:	Annually during grazing season.

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

TABLE 5.0-2 (continued)

QUAD CITIES STATION
 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

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

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

Table 5.0-3

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Rock Island, Illinois Reporting Period 1st Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Air Particulates (pCi/m ³)	Gross Beta 65	0.01	0.032 (52/52) (0.016-0.052)	Q-07, Clinton 8.9 mi. NE, Sector C	0.033 (13/13) (0.019-0.052)	0.033 (13/13) (0.019-0.052)	0
	Gamma Spec. 5						
	Cs-134	0.01	<LLD	-	-	<LLD	0
	Cs-137	0.01	<LLD	-	-	<LLD	0
	Other Gammas	0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131 35	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131 3	1	<LLD	-	-	None	0
	Gamma Spec. 3						
	Cs-134	15	<LLD	-	-	None	0
	Cs-137	18	<LLD	-	-	None	0
	Ba-140	60	<LLD	-	-	None	0
	La-140	15	<LLD	-	-	None	0
Surface Water (pCi/L)	Gross Beta 5	4	4.8 (1/3)	Q-33, Cordova 3.3 mi. SSW, Sector K	5.3 (1/3)	5.3 (1/3)	0
	Gamma Spec. 5		5.3?				
	Cs-134	15	<LLD	-	-	<LLD	0
	Cs-137	18	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas	15-60	<LLD	-	-	<LLD	0
Well Water (pCi/L)	Tritium 2	200	<LLD	-	-	<LLD	0
	Gamma Spec. 2						
	Cs-134	15	<LLD	-	-	None	0
	Cs-137	18	<LLD	-	-	None	0
	Other ODCM-Required Gammas	15-60	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 80	9.7	20.1 (78/78) (17.0-26.0)	Q-215-1 5.0 mi. NW, Sector Q	26.0 (1/1)	20.0 (2/2) (20.0-20.0)	0

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

Table 5.0-4

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Rock Island, Illinois Reporting Period 2nd Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Air Particulates (pCi/m ³)	Gross Beta 65	0.01	0.018 (52/52) (0.010-0.026)	Q-07, Clinton, 8.9 mi NE, Sector C	0.019 (12/13) (0.012-0.024)	0.019 (12/13) (0.012-0.024)	0
	Gamma Spec. 5						
	Cs-134	0.01	<LLD	-	-	<LLD	0
	Cd-137	0.01	<LLD	-	-	<LLD	0
	Other Gammas	0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131 30	0.07	<LLD	-	-	None	0
Milk (pCi/L)	I-131 5	1	<LLD	-	-	None	0
	Gamma Spec. 5						
	Cs-134	15	<LLD	-	-	None	0
	Cs-137	18	<LLD	-	-	None	0
	Ba-140	60	<LLD	-	-	None	0
	La-140	15	<LLD	-	-	None	0
	Other Gammas	10-15	<LLD	-	-	None	0
Fish (pCi/g wet)	Gamma Spec. 4						
	Cs-134	0.10	<LLD	-	-	<LLD	0
	Cs-137	0.10	<LLD	-	-	<LLD	0
	Other ODCM-Required Gammas	0.13-0.26	<LLD	-	-	<LLD	0
	Other Gammas	0.20-0.30	<LLD	-	-	<LLD	0
Bottom Sediments (pCi/g dry)	Gamma Spec. 1						
	Cs-134	0.15	<LLD	-	-	None	0
	Cs-137	0.18	<LLD	-	-	None	0

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

Table 5.0-4 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Rock Island, Illinois Reporting Period 2nd Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results		
Surface Water (pCi/L)	Gross Beta 6	4	4.2 (1/3)	Q-34, Camanche 4.4 mi. NNE, Sector C	4.5 (2/3) (4.3-4.6)	4.5 (2/3) (4.3-4.6)	0		
	Gamma Spec. 6								
	Cs-134 15	<LLD	-					<LLD	0
	Cs-137 18	<LLD	-					<LLD	0
	Other ODCM-Required Gammas 15-30	<LLD	-					<LLD	0
Tritium 2	200	<LLD	-	-	<LLD	0			
Well Water (pCi/L)	Tritium 2	200	<LLD	-	-	None	0		
	Gamma Spec. 2								
	Cs-134 15	<LLD	-	-	None	0			
	Cs-137 18	<LLD	-	-	None	0			
Other ODCM-Required Gammas 15-30	<LLD	-	-	None	0				
Gamma Background (TLDs) (mR/Qu.)	Gamma Dose 80	9.7	21.6 (78/78) (17.0-28.0)	Q-113-1, 2.5 mi. W, Sector N	28.0 (1/1)	21.0 (2/2) (21.0-21.0)	0		

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

Table 5.0-5

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Rock Island, Illinois Reporting Period 3rd Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results				
Air Particulates (pCi/m ³)	Gross Beta 64	0.01	0.023 (51/51) (0.013-0.052)	Q-03, Onsite No. 3 0.6 mi S, Sector J	0.025 (12/12) (0.016-0.052)	0.024 (13/13) (0.016-0.031)	0				
	Gamma Spec. 5										
	Cs-134	0.01	<LLD					-	-	-	0
	Cs-137	0.01	<LLD					-	-	-	0
	Other Gammas	0.01-0.04	<LLD					-	-	-	0
Airborne Iodine (pCi/m ³)	I-131 35	0.10	<LLD	-	-	None	0				
Milk (pCi/L)	I-131 7	1	<LLD	-	-	None	0				
	Gamma Spec. 7										
	Cs-134	15	<LLD	-	-	None	0				
	Cs-137	18	<LLD	-	-	None	0				
	Ba -140	60	<LLD	-	-	None	0				
	La-140	15	<LLD	-	-	None	0				
	Other Gammas	10-15									
Vegetation (pCi/gr. wet)	I-131 18	0.06	<LLD	-	-	<LLD	0				
	Gamma Spec. 18										
	Cs-134	0.06	<LLD	-	-	<LLD	0				
	Cs-137	0.08	<LLD	-	-	<LLD	0				
	Other Gammas	0.01-0.10	<LLD	-	-	<LLD	0				
Surface Water (pCi/L)	Gross Beta 6	4	4.4 (1/3)	Q-33 Cordova 3.3 mi. SSW, Sector K	4.4 (1/3)	4.1 (1/3)	0				
	Gamma Spec. 6										
	Cs-134	15	<LLD					-	-	<LLD	0
	Cs-137	18	<LLD					-	-	<LLD	0
	Other ODCM-Required Gammas	15-30	<LLD					-	-	<LLD	0
	Tritium 2	200	<LLD					-	-	<LLD	0

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

Table 5.0-5 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Rock Island, Illinois Reporting Period 3rd Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean Range	Location with Highest Quarterly Mean	Highest Mean Range	Control Locations Mean Range	Number of Non-routine Results
Well Water (pCi/L)	Tritium 2	200	<LLD	-	-	None	0
	Gamma Spec. 2						
	Cs-134 15	15	<LLD	-	-	None	0
	Cs-137 18	18	<LLD	-	-	None	0
	Other ODCM-Required Gammas 15-30	15-30	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 80	9.7	20.3 (78/78) (18.0-25.0)	Q-204-2 ^b 4.5 mi. ENE Sector D	25.0 (1/1)	20.0 (2/2) (20.0-20.0)	0

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

^b Locations Q-204-2, 207-1, 211-1,2 and 214-2 had identical results of 25.0 mR. Only Q-204-2 is detailed in this summary.

Table 5.0-6

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Rock Island, Illinois Reporting Period 4th Quarter 2004
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results	
Air Particulates (pCi/m ³)	Gross Beta 70	0.01	0.0027 (56/56) (0.012-0.045)	Q-07, Clinton 8.9 mi NE, Sector C	0.029 (14/14) (0.018-0.042)	0.029 (14/14) (0.018-0.042)	0	
	Gamma Spec. 5							
	Cs-134	0.01	<LLD		-	-	-	0
	Cs-137	0.01	<LLD		-	-	-	0
	Other Gammas	0.01-0.04	<LLD		-	-	-	0
Airborne Iodine (pCi/m ³)	I-131 35	0.07	<LLD	-	-	None	0	
Milk (pCi/L)	I-131 4	1.0	<LLD	-	-	None	0	
	Gamma Spec. 4							
	Cs-134	15	<LLD	-	-	None	0	
	Cs-137	18	<LLD	-	-	None	0	
	La-140	15	<LLD	-	-	None	0	
	Ba-140	60	<LLD	-	-	None	0	
Fish (pCi/g wet)	Other Gammas	10-15	<LLD	-	-	None	0	
	Gamma Spec. 4							
	Cs-134	0.13	<LLD	-	-	<LLD	0	
	Cs-137	0.15	<LLD	-	-	<LLD	0	
	Other ODCM-Required Gammas	0.13-0.26	<LLD	-	-	<LLD	0	
Bottom Sediments (pCi/g dry)	Other Gammas	0.20-0.30	<LLD	-	-	<LLD	0	
	Gamma Spec. 1							
	Cs-134	0.15	<LLD	-	-	<LLD	0	
	Cs-137	0.18	<LLD	-	-	<LLD	0	
Surface Water (pCi/L)	Other Gammas	0.10-0.60	<LLD	-	-	<LLD	0	
	Gross Beta 6	4	4.4 (2/3) (4.1-4.7)	Q-33 Cordova, 3.3 mi. SSW, Sector K	4.4 (2/3) (4.1-4.7)	4.2 (2/3) (4.0-4.4)	0	
	Gamma Spec. 6							
	Cs-134	15	<LLD		-	-	<LLD	0
	Cs-137	18	<LLD		-	-	<LLD	0
	Other ODCM-Required Gammas	15-60	<LLD		-	-	<LLD	0
Tritium 2	200	<LLD	-		-	<LLD	0	

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

Table 5.0-6 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility Quad Cities Nuclear Power Station Docket No. 50-254, 50-265

Location of Facility Rock Island, Illinois Reporting Period 4th Quarter 2004
(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Well Water (pCi/L)	Tritium 2	200	<LLD	-	-	None	0
	Gamma Spec.						
	Cs-134	15	<LLD	-	-	None	0
	Cs-137	18	<LLD	-	-	None	0
	Other ODCM-Required Gammas	15-60	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qt.)	Gamma Dose 80	9.7	26.2 (78/78) (22.0-30.0)	Q-215.2, 4.2 mi. NW, Sector Q	30.0 (1/1)	29.0 (2/2) (29.0-29.0)	0

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

QUAD CITIES

APPENDIX II

METEOROLOGICAL DATA

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	7	2	0	0	10
NNE	0	0	1	0	0	0	1
NE	0	2	2	0	0	0	4
ENE	0	0	3	0	0	0	3
E	0	0	2	1	0	0	3
ESE	0	0	4	0	0	0	4
SE	0	1	0	0	0	0	1
SSE	0	3	13	0	0	0	16
S	0	7	2	0	0	0	9
SSW	0	15	4	0	0	0	19
SW	0	6	2	0	0	0	8
WSW	0	1	4	1	0	0	6
W	0	5	17	0	0	0	22
WNW	0	2	21	0	0	0	23
NW	0	3	9	0	0	0	12
NNW	0	5	9	0	0	0	14
Variable	0	0	0	0	0	0	0
Total	0	51	100	4	0	0	155

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

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	0	0	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	3	0	0	0	3
E	0	0	1	2	0	0	3
ESE	1	3	4	0	0	0	8
SE	0	2	0	0	0	0	2
SSE	0	2	1	0	0	0	3
S	0	6	0	0	0	0	6
SSW	0	1	0	0	0	0	1
SW	0	3	2	0	0	0	5
WSW	0	1	3	0	0	0	4
W	0	6	8	1	0	0	15
WNW	0	2	3	4	0	0	9
NW	0	1	3	1	0	0	5
NNW	0	3	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	1	33	28	8	0	0	70

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

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	0	0	0	0	3
NNE	0	0	1	0	0	0	1
NE	0	2	1	0	0	0	3
ENE	1	9	3	0	0	0	13
E	0	4	1	2	0	0	7
ESE	1	4	10	0	0	0	15
SE	1	5	0	0	0	0	6
SSE	0	6	2	0	0	0	8
S	0	3	1	0	0	0	4
SSW	0	2	0	0	0	0	2
SW	0	4	4	0	0	0	8
WSW	0	3	7	0	0	0	10
W	0	11	12	1	0	0	24
WNW	0	8	10	8	0	0	26
NW	0	7	5	1	0	0	13
NNW	0	4	2	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	4	74	59	12	0	0	149

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

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Neutral - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	5	27	28	2	0	0	62
NNE	4	13	21	2	0	0	40
NE	11	31	17	0	0	0	59
ENE	5	23	29	0	0	0	57
E	6	29	40	2	0	0	77
ESE	8	31	42	0	0	0	81
SE	2	27	6	0	0	0	35
SSE	2	13	5	0	0	0	20
S	3	13	4	0	0	0	20
SSW	2	13	3	0	0	0	18
SW	4	19	19	1	0	0	43
WSW	1	33	45	3	2	0	84
W	7	82	61	12	0	0	162
WNW	3	70	66	24	0	0	163
NW	4	60	43	6	2	0	115
NNW	5	32	18	2	0	0	57
Variable	0	0	0	0	0	0	0
Total	72	516	447	54	4	0	1093

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

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Stable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	8	0	0	0	0	11
NNE	6	5	2	0	0	0	13
NE	5	10	1	0	0	0	16
ENE	9	20	1	0	0	0	30
E	7	17	3	0	0	0	27
ESE	7	17	6	0	0	0	30
SE	8	20	10	0	0	0	38
SSE	9	18	2	0	0	0	29
S	10	32	3	0	0	0	45
SSW	2	21	4	2	0	0	29
SW	11	20	12	2	0	0	45
WSW	4	30	14	0	0	0	48
W	16	18	11	0	0	0	45
WNW	4	9	4	0	0	0	17
NW	4	13	1	0	0	0	18
NNW	9	13	2	0	0	0	24
Variable	0	0	0	0	0	0	0
Total	114	271	76	4	0	0	465

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

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Stable - 196Ft-33Ft Delta-T (F)

Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	1	0	0	0	0	1
NE	8	0	0	0	0	0	8
ENE	1	7	0	0	0	0	8
E	9	1	0	0	0	0	10
ESE	16	12	2	0	0	0	30
SE	6	4	0	0	0	0	10
SSE	10	2	0	0	0	0	12
S	7	1	0	0	0	0	8
SSW	5	5	0	0	0	0	10
SW	7	1	0	0	0	0	8
WSW	2	0	0	0	0	0	2
W	5	0	0	0	0	0	5
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	76	36	2	0	0	0	114

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

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Stable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	2	0	0	0	0	0	2
ENE	3	0	0	0	0	0	3
E	10	3	0	0	0	0	13
ESE	20	24	0	0	0	0	44
SE	6	0	0	0	0	0	6
SSE	3	0	0	0	0	0	3
S	2	0	0	0	0	0	2
SSW	3	0	0	0	0	0	3
SW	1	0	0	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	50	27	0	0	0	0	77

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

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

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

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	2	0	0	0	2
ENE	0	0	1	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	2	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	1	2	0	0	3
S	0	0	0	2	1	2	5
SSW	0	0	3	2	0	0	5
SW	0	0	3	2	0	0	5
WSW	0	0	3	0	1	0	4
W	0	0	4	5	4	0	13
WNW	0	0	5	6	4	0	15
NW	0	0	2	4	0	0	6
NNW	0	0	3	5	0	0	8
Variable	0	0	0	0	0	0	0
Total	0	0	31	28	10	2	71

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: 7

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	4	1	0	0	5
NNE	0	0	0	0	0	0	0
NE	0	0	2	0	0	0	2
ENE	0	0	4	1	0	0	5
E	0	0	3	0	0	0	3
ESE	0	0	2	2	2	0	6
SE	0	0	2	0	0	0	2
SSE	0	1	0	3	1	2	7
S	0	0	3	0	2	0	5
SSW	0	2	0	1	0	0	3
SW	0	0	0	2	0	0	2
WSW	0	1	2	2	7	0	12
W	0	3	5	7	5	0	20
WNW	0	0	4	5	2	2	13
NW	0	0	2	4	3	2	11
NNW	0	0	7	1	0	0	8
Variable	0	0	0	0	0	0	0
Total	0	7	40	29	22	6	104

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: 7

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Neutral - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	6	16	24	4	0	53
NNE	1	7	8	21	6	0	43
NE	0	8	22	31	1	0	62
ENE	1	11	16	19	24	1	72
E	1	14	25	20	14	0	74
ESE	1	8	14	40	14	0	77
SE	0	15	16	11	4	0	46
SSE	0	11	11	13	7	2	44
S	0	2	5	18	16	3	44
SSW	0	3	10	9	1	1	24
SW	1	3	9	24	14	2	53
WSW	0	2	15	24	32	5	78
W	1	2	35	60	22	10	130
WNW	3	4	45	75	34	36	197
NW	1	8	35	59	35	17	155
NNW	0	14	34	40	3	2	93
Variable	0	0	0	0	0	0	0
Total	13	118	316	488	231	79	1245

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 6
 Hours of missing stability measurements in all stability classes: 7

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Slightly Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	7	9	0	0	17
NNE	0	4	11	10	0	0	25
NE	0	5	3	4	0	0	12
ENE	0	3	11	4	0	0	18
E	1	7	24	14	1	0	47
ESE	3	1	2	11	6	0	23
SE	0	3	10	15	14	1	43
SSE	0	5	13	14	9	1	42
S	0	3	6	27	15	2	53
SSW	0	1	8	18	13	7	47
SW	0	0	9	17	9	1	36
WSW	0	2	3	35	6	0	46
W	1	5	7	15	12	0	40
WNW	0	10	6	12	2	0	30
NW	0	3	3	10	0	0	16
NNW	0	3	10	10	0	0	23
Variable	0	0	0	0	0	0	0
Total	5	56	133	225	87	12	518

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: 7

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Moderately Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	1	0	0	0	2
NNE	0	1	0	1	0	0	2
NE	0	0	1	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	4	7	1	0	0	12
ESE	0	0	3	2	0	0	5
SE	0	2	4	6	2	0	14
SSE	0	6	11	12	0	0	29
S	1	3	7	11	0	0	22
SSW	1	4	4	10	0	0	19
SW	2	1	6	3	1	0	13
WSW	0	4	3	0	0	0	7
W	0	0	1	0	0	0	1
WNW	1	3	2	0	0	0	6
NW	0	1	1	0	0	0	2
NNW	0	1	2	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	5	31	53	47	3	0	139

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 2
 Hours of missing stability measurements in all stability classes: 7

Quad Cities Nuclear Station

Period of Record: January - March 2004
 Stability Class - Extremely Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	1	0	0	0	0	0	1
E	0	0	0	1	0	0	1
ESE	0	1	0	1	0	0	2
SE	0	0	1	6	1	0	8
SSE	0	0	4	7	0	0	11
S	0	0	9	6	0	0	15
SSW	0	1	5	2	0	0	8
SW	0	1	3	1	0	0	5
WSW	0	0	2	0	0	0	2
W	0	0	2	0	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	1	3	26	24	1	0	55

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: 7

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Extremely Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	13	2	0	0	19
NNE	0	13	6	0	0	0	19
NE	0	5	5	0	0	0	10
ENE	0	7	0	0	0	0	7
E	0	4	3	0	0	0	7
ESE	0	7	8	0	0	0	15
SE	0	9	4	0	0	0	13
SSE	0	8	0	0	0	0	8
S	0	7	2	0	0	0	9
SSW	0	19	14	0	0	0	33
SW	0	21	10	2	0	0	33
WSW	0	2	7	0	0	0	9
W	0	16	5	0	0	0	21
WNW	0	9	10	2	0	0	21
NW	0	13	10	2	0	0	25
NNW	0	8	7	2	0	0	17
Variable	0	0	0	0	0	0	0
Total	0	152	104	10	0	0	266

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

Quad Cities Nuclear Station

Period of Record: April - June 2004

Stability Class - Moderately Unstable - 196Ft-33Ft Delta-T (F)

Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	1	0	0	0	5
NNE	0	1	1	0	0	0	2
NE	0	0	0	0	0	0	0
ENE	0	0	2	0	0	0	2
E	0	1	1	0	0	0	2
ESE	0	5	0	0	0	0	5
SE	0	2	0	0	0	0	2
SSE	0	1	1	0	0	0	2
S	0	1	0	0	0	0	1
SSW	0	4	1	0	0	0	5
SW	0	15	2	0	0	0	17
WSW	0	8	2	0	0	0	10
W	0	6	1	0	0	0	7
WNW	0	4	1	3	0	0	8
NW	0	1	1	0	0	0	2
NNW	0	2	2	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	55	16	3	0	0	74

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

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	9	0	0	0	0	9
NNE	0	5	3	0	0	0	8
NE	1	5	0	0	0	0	6
ENE	0	4	1	0	0	0	5
E	0	4	6	1	0	0	11
ESE	0	12	0	0	0	0	12
SE	0	3	1	0	0	0	4
SSE	0	3	0	0	0	0	3
S	0	2	0	0	0	0	2
SSW	0	13	4	0	0	0	17
SW	0	13	6	0	0	0	19
WSW	0	8	2	0	0	0	10
W	0	7	3	0	0	0	10
WNW	0	14	2	2	0	0	18
NW	0	4	0	0	0	0	4
NNW	0	8	2	1	0	0	11
Variable	0	0	0	0	0	0	0
Total	1	114	30	4	0	0	149

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

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Neutral - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	26	6	1	0	0	37
NNE	5	14	5	0	0	0	24
NE	8	10	6	0	0	0	24
ENE	7	23	11	0	0	0	41
E	3	11	17	0	0	0	31
ESE	2	19	16	1	0	0	38
SE	2	24	3	0	0	0	29
SSE	5	9	0	0	0	0	14
S	5	18	1	0	0	0	24
SSW	4	20	14	0	0	0	38
SW	9	44	26	3	0	0	82
WSW	17	31	16	1	0	0	65
W	8	19	20	3	0	0	50
WNW	10	19	20	0	0	0	49
NW	7	40	5	1	0	0	53
NNW	5	24	8	1	0	0	38
Variable	0	0	0	0	0	0	0
Total	101	351	174	11	0	0	637

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

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Stable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	9	16	7	0	0	0	32
NNE	4	21	3	0	0	0	28
NE	7	11	2	0	0	0	20
ENE	8	21	4	0	0	0	33
E	9	12	2	0	0	0	23
ESE	19	23	11	0	0	0	53
SE	27	24	9	0	0	0	60
SSE	18	24	4	0	0	0	46
S	15	24	2	0	0	0	41
SSW	18	45	3	0	0	0	66
SW	23	76	16	6	0	0	121
WSW	14	28	3	1	0	0	46
W	14	14	2	0	0	0	30
WNW	21	21	2	1	0	0	45
NW	17	25	1	0	0	0	43
NNW	5	18	1	0	0	0	24
Variable	0	0	0	0	0	0	0
Total	228	403	72	8	0	0	711

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

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Moderately Stable - 196Ft-33Ft Delta-T (F)

Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	2	0	0	0	0	0	2
NNE	9	2	0	0	0	0	11
NE	4	0	0	0	0	0	4
ENE	6	5	0	0	0	0	11
E	10	0	0	0	0	0	10
ESE	9	4	1	0	0	0	14
SE	7	3	0	0	0	0	10
SSE	8	6	0	0	0	0	14
S	9	1	0	0	0	0	10
SSW	13	4	0	0	0	0	17
SW	10	0	0	0	0	0	10
WSW	12	0	0	0	0	0	12
W	17	5	0	0	0	0	22
WNW	1	3	0	0	0	0	4
NW	10	5	0	0	0	0	15
NNW	10	1	0	0	0	0	11
Variable	0	0	0	0	0	0	0
Total	137	39	1	0	0	0	177

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

Quad Cities Nuclear Station

Period of Record: April - June 2004

Stability Class - Extremely Stable - 196Ft-33Ft Delta-T (F)

Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	0	0	0	0	0	1
NNE	4	0	0	0	0	0	4
NE	2	0	0	0	0	0	2
ENE	1	0	0	0	0	0	1
E	1	0	0	0	0	0	1
ESE	3	0	0	0	0	0	3
SE	2	0	0	0	0	0	2
SSE	6	0	0	0	0	0	6
S	6	0	0	0	0	0	6
SSW	6	0	0	0	0	0	6
SW	4	0	0	0	0	0	4
WSW	0	0	0	0	0	0	0
W	8	3	0	0	0	0	11
WNW	11	1	0	0	0	0	12
NW	3	0	0	0	0	0	3
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	58	4	0	0	0	0	62

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

Quad Cities Nuclear Station

Period of Record: April - June 2004

Stability Class - Extremely Unstable - 296Ft-33Ft Delta-T (F)

Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	8	0	0	8
NNE	0	0	1	1	0	0	2
NE	0	0	0	3	0	0	3
ENE	0	0	0	1	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	1	0	1	0	2
SE	0	0	3	1	0	0	4
SSE	0	0	8	3	0	0	11
S	0	0	4	5	0	1	10
SSW	0	0	15	21	5	1	42
SW	0	1	8	4	1	3	17
WSW	0	1	5	1	0	0	7
W	0	1	7	7	0	0	15
WNW	0	1	6	10	1	0	18
NW	0	1	4	6	3	0	14
NNW	0	0	0	3	1	0	4
Variable	0	0	0	0	0	0	0
Total	0	5	62	74	12	5	158

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

Quad Cities Nuclear Station

Period of Record: April - June 2004

Stability Class - Moderately Unstable - 296Ft-33Ft Delta-T (F)

Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	3	3	0	0	8
NNE	0	1	1	2	0	0	4
NE	0	1	1	0	0	0	2
ENE	0	2	4	1	0	0	7
E	0	1	0	0	0	0	1
ESE	0	3	8	3	1	0	15
SE	0	0	7	2	0	0	9
SSE	0	0	3	0	0	0	3
S	0	1	2	2	1	0	6
SSW	0	3	9	5	2	2	21
SW	0	2	5	2	1	0	10
WSW	0	7	3	3	3	0	16
W	0	1	4	3	0	0	8
WNW	0	2	6	2	1	1	12
NW	0	0	7	3	1	1	12
NNW	0	2	10	1	1	1	15
Variable	0	0	0	0	0	0	0
Total	0	28	73	32	11	5	149

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: 33

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	4	2	0	0	8
NNE	0	9	3	1	0	0	13
NE	0	2	0	0	0	0	2
ENE	0	1	0	0	1	0	2
E	0	0	5	1	0	0	6
ESE	0	4	6	2	1	0	13
SE	0	5	1	2	0	0	8
SSE	0	3	3	2	1	0	9
S	0	2	0	1	2	2	7
SSW	0	4	10	7	3	2	26
SW	0	6	2	1	2	0	11
WSW	0	6	1	3	0	0	10
W	0	0	4	2	1	0	7
WNW	0	5	5	4	1	3	18
NW	0	6	4	1	0	1	12
NNW	0	6	4	2	2	0	14
Variable	0	0	0	0	0	0	0
Total	0	61	52	31	14	8	166

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: 33

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Neutral - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	5	20	10	1	1	37
NNE	1	13	13	7	0	0	34
NE	0	13	8	5	2	0	28
ENE	0	14	14	12	3	0	43
E	1	6	9	20	7	0	43
ESE	0	8	10	11	9	1	39
SE	0	3	9	7	6	0	25
SSE	1	4	9	10	4	0	28
S	0	4	6	19	12	0	41
SSW	3	7	25	13	10	15	73
SW	2	7	18	19	10	7	63
WSW	2	9	8	18	5	5	47
W	0	6	12	6	12	11	47
WNW	2	9	14	12	19	0	56
NW	0	12	20	21	3	3	59
NNW	0	11	21	14	1	1	48
Variable	0	0	0	0	0	0	0
Total	12	131	216	204	104	44	711

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 17
 Hours of missing stability measurements in all stability classes: 33

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Slightly Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	16	19	2	0	42
NNE	0	5	18	10	0	0	33
NE	0	3	12	8	0	0	23
ENE	0	2	17	9	0	0	28
E	0	3	12	5	0	0	20
ESE	0	4	14	12	8	0	38
SE	0	2	15	11	8	0	36
SSE	0	3	15	19	12	1	50
S	2	2	20	39	14	2	79
SSW	0	2	27	53	18	8	108
SW	0	3	17	24	10	1	55
WSW	2	2	11	14	1	1	31
W	0	2	10	17	1	0	30
WNW	2	4	6	8	0	0	20
NW	1	7	14	16	1	0	39
NNW	1	2	11	8	0	1	23
Variable	0	0	0	0	0	0	0
Total	9	50	235	272	75	14	655

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: 33

Quad Cities Nuclear Station

Period of Record: April - June 2004
 Stability Class - Moderately Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	5	8	1	0	0	15
NNE	1	6	3	1	0	0	11
NE	0	1	7	2	0	0	10
ENE	0	4	5	2	0	0	11
E	0	1	6	1	0	0	8
ESE	0	4	4	2	0	0	10
SE	1	0	5	6	1	0	13
SSE	0	2	7	7	0	0	16
S	0	0	6	13	4	0	23
SSW	0	1	5	10	1	0	17
SW	0	0	2	3	0	0	5
WSW	0	0	4	7	0	0	11
W	0	3	1	1	0	0	5
WNW	0	5	2	1	0	0	8
NW	2	3	1	3	1	0	10
NNW	0	2	4	4	0	0	10
Variable	0	0	0	0	0	0	0
Total	5	37	70	64	7	0	183

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: 33

Quad Cities Nuclear Station

Period of Record: April - June 2004

Stability Class - Extremely Stable - 296Ft-33Ft Delta-T (F)

Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	2	2	1	0	0	5
NNE	1	3	1	0	0	0	5
NE	0	2	1	0	0	0	3
ENE	0	3	0	1	0	0	4
E	0	2	4	0	0	0	6
ESE	0	1	0	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	1	0	0	0	0	1
S	0	0	0	2	1	0	3
SSW	0	1	1	5	0	0	7
SW	0	4	2	1	0	0	7
WSW	0	0	1	0	0	0	1
W	1	2	6	0	0	0	9
WNW	0	3	0	0	0	0	3
NW	1	1	0	3	0	0	5
NNW	0	0	3	6	0	0	9
Variable	0	0	0	0	0	0	0
Total	3	25	21	19	1	0	69

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 5
 Hours of missing stability measurements in all stability classes: 33

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	8	7	0	0	0	15
NNE	0	6	7	0	0	0	13
NE	0	6	12	0	0	0	18
ENE	0	8	3	0	0	0	11
E	0	5	0	0	0	0	5
ESE	0	2	4	0	0	0	6
SE	0	6	2	0	0	0	8
SSE	0	9	3	0	0	0	12
S	0	14	0	0	0	0	14
SSW	0	23	2	0	0	0	25
SW	0	21	2	0	0	0	23
WSW	0	2	0	0	0	0	2
W	0	8	3	0	0	0	11
WNW	0	9	0	0	0	0	9
NW	0	13	3	0	0	0	16
NNW	0	13	2	0	0	0	15
Variable	0	0	0	0	0	0	0
Total	0	153	50	0	0	0	203

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

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	3	0	0	0	0	4
NNE	0	0	1	0	0	0	1
NE	0	2	1	0	0	0	3
ENE	0	3	0	0	0	0	3
E	0	2	0	0	0	0	2
ESE	0	2	1	0	0	0	3
SE	0	3	1	0	0	0	4
SSE	0	3	0	0	0	0	3
S	0	3	0	0	0	0	3
SSW	0	13	0	0	0	0	13
SW	0	11	0	0	0	0	11
WSW	0	3	2	0	0	0	5
W	0	4	1	0	0	0	5
WNW	0	4	0	0	0	0	4
NW	1	5	1	0	0	0	7
NNW	0	6	1	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	2	67	9	0	0	0	78

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

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	8	2	0	0	0	11
NNE	0	2	1	0	0	0	3
NE	0	8	0	0	0	0	8
ENE	0	3	0	0	0	0	3
E	0	7	0	0	0	0	7
ESE	0	6	0	0	0	0	6
SE	0	3	0	0	0	0	3
SSE	0	11	0	0	0	0	11
S	1	10	1	0	0	0	12
SSW	1	14	0	0	0	0	15
SW	0	13	0	0	0	0	13
WSW	0	7	2	0	0	0	9
W	2	13	3	0	0	0	18
WNW	0	8	1	0	0	0	9
NW	2	11	2	0	0	0	15
NNW	1	9	0	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	8	133	12	0	0	0	153

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

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Neutral - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	3	14	1	0	0	0	18
NNE	4	6	7	0	0	0	17
NE	6	17	5	0	0	0	28
ENE	6	24	1	0	0	0	31
E	3	21	0	0	0	0	24
ESE	5	17	2	0	0	0	24
SE	4	22	0	0	0	0	26
SSE	14	24	0	0	0	0	38
S	10	19	1	0	0	0	30
SSW	11	22	1	0	0	0	34
SW	9	38	3	0	0	0	50
WSW	13	21	2	0	0	0	36
W	11	26	6	0	0	0	43
WNW	10	25	6	0	0	0	41
NW	14	17	2	0	0	0	33
NNW	5	11	1	0	0	0	17
Variable	0	0	0	0	0	0	0
Total	128	324	38	0	0	0	490

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

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Stable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	10	19	1	0	0	0	30
NNE	5	11	2	0	0	0	18
NE	19	13	1	0	0	0	33
ENE	10	13	0	0	0	0	23
E	12	10	0	0	0	0	22
ESE	8	9	0	0	0	0	17
SE	18	7	0	0	0	0	25
SSE	25	18	0	0	0	0	43
S	12	31	1	0	0	0	44
SSW	13	10	3	0	0	0	26
SW	25	30	1	0	0	0	56
WSW	28	27	0	0	0	0	55
W	18	32	2	0	0	0	52
WNW	29	14	0	0	0	0	43
NW	9	17	2	0	0	0	28
NNW	9	12	0	0	0	0	21
Variable	0	0	0	0	0	0	0
Total	250	273	13	0	0	0	536

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

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Stable - 196Ft-33Ft Delta-T (F)

Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	10	0	0	0	0	0	10
NNE	6	3	0	0	0	0	9
NE	7	1	0	0	0	0	8
ENE	4	1	0	0	0	0	5
E	15	1	0	0	0	0	16
ESE	23	2	0	0	0	0	25
SE	22	1	0	0	0	0	23
SSE	13	0	0	0	0	0	13
S	12	0	0	0	0	0	12
SSW	8	0	0	0	0	0	8
SW	2	1	0	0	0	0	3
WSW	6	0	0	0	0	0	6
W	6	2	0	0	0	0	8
WNW	22	2	0	0	0	0	24
NW	10	2	0	0	0	0	12
NNW	9	1	0	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	175	17	0	0	0	0	192

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

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Stable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	11	0	0	0	0	0	11
NNE	4	0	0	0	0	0	4
NE	6	0	0	0	0	0	6
ENE	3	0	0	0	0	0	3
E	24	2	0	0	0	0	26
ESE	77	6	0	0	0	0	83
SE	17	0	0	0	0	0	17
SSE	11	0	0	0	0	0	11
S	8	0	0	0	0	0	8
SSW	2	0	0	0	0	0	2
SW	0	0	0	0	0	0	0
WSW	3	0	0	0	0	0	3
W	3	0	0	0	0	0	3
WNW	14	0	0	0	0	0	14
NW	6	0	0	0	0	0	6
NNW	6	0	0	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	195	8	0	0	0	0	203

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

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	7	0	0	7
NE	0	0	1	3	0	0	4
ENE	0	0	0	1	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	1	0	0	1
SE	0	0	1	1	0	0	2
SSE	0	0	4	6	0	0	10
S	0	1	9	7	3	0	20
SSW	0	2	23	5	1	0	31
SW	0	0	1	1	0	0	2
WSW	0	0	2	0	0	0	2
W	0	0	0	1	0	0	1
WNW	0	2	3	1	0	0	6
NW	0	2	5	4	0	0	11
NNW	0	0	5	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	0	7	54	39	4	0	104

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: 36

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class, - Moderately Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	8	2	0	0	11
NNE	0	2	3	0	1	0	6
NE	0	1	4	7	0	0	12
ENE	0	3	3	1	0	0	7
E	0	1	4	0	0	0	5
ESE	0	1	6	4	0	0	11
SE	0	1	2	3	0	0	6
SSE	0	5	4	7	0	0	16
S	0	4	4	3	0	0	11
SSW	0	3	16	5	0	0	24
SW	0	4	6	3	0	0	13
WSW	1	2	2	1	1	0	7
W	0	5	1	4	1	0	11
WNW	0	9	1	7	0	0	17
NW	0	3	5	1	0	0	9
NNW	0	6	9	2	0	0	17
Variable	0	0	0	0	0	0	0
Total	1	51	78	50	3	0	183

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: 36

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	7	3	1	0	0	11
NNE	0	2	2	2	0	0	6
NE	0	2	3	3	0	0	8
ENE	0	2	3	0	0	0	5
E	0	3	1	0	0	0	4
ESE	0	2	4	0	0	0	6
SE	0	2	1	1	0	0	4
SSE	0	3	3	3	1	0	10
S	0	5	9	3	3	0	20
SSW	0	7	12	2	1	0	22
SW	0	8	1	0	0	0	9
WSW	1	0	5	1	0	0	7
W	0	6	9	2	2	0	19
WNW	0	6	1	5	0	0	12
NW	0	10	2	3	0	0	15
NNW	0	8	4	2	0	0	14
Variable	0	0	0	0	0	0	0
Total	1	73	63	28	7	0	172

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 2
 Hours of missing stability measurements in all stability classes: 36

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Neutral - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	10	12	2	0	0	25
NNE	0	11	7	6	5	0	29
NE	1	8	15	11	2	0	37
ENE	1	6	19	3	1	0	30
E	1	11	13	5	0	0	30
ESE	0	8	6	9	1	0	24
SE	3	9	9	3	0	0	24
SSE	5	7	9	11	4	0	36
S	1	10	14	15	2	5	47
SSW	3	8	19	3	2	0	35
SW	1	5	13	8	1	0	28
WSW	3	6	13	14	0	0	36
W	4	6	11	24	4	0	49
WNW	1	6	13	20	5	0	45
NW	3	6	13	7	0	0	29
NNW	3	7	11	1	0	0	22
Variable	0	0	0	0	0	0	0
Total	31	124	197	142	27	5	526

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 2
 Hours of missing stability measurements in all stability classes: 36

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Slightly Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	6	13	0	0	22
NNE	0	8	13	8	1	0	30
NE	1	2	13	18	0	0	34
ENE	1	5	12	5	0	0	23
E	1	6	6	5	1	0	19
ESE	1	1	5	8	0	0	15
SE	2	1	12	4	0	0	19
SSE	2	4	14	13	7	0	40
S	0	5	19	27	17	0	68
SSW	2	4	33	11	4	0	54
SW	1	4	14	18	2	0	39
WSW	0	6	16	11	1	0	34
W	0	3	18	14	0	0	35
WNW	0	3	16	10	0	0	29
NW	0	2	13	23	3	0	41
NNW	1	5	6	4	0	0	16
Variable	0	0	0	0	0	0	0
Total	12	62	216	192	36	0	518

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: 36

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Moderately Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	2	3	0	0	6
NNE	0	3	13	12	0	0	28
NE	0	6	17	13	0	0	36
ENE	1	4	12	2	0	0	19
E	0	5	9	2	0	0	16
ESE	1	3	3	8	0	0	15
SE	1	4	13	17	3	0	38
SSE	2	0	11	8	0	0	21
S	1	2	17	24	3	0	47
SSW	1	7	18	27	0	0	53
SW	2	4	5	2	0	0	13
WSW	1	0	4	1	0	0	6
W	1	5	6	1	1	0	14
WNW	0	0	6	5	0	0	11
NW	1	2	5	5	0	0	13
NNW	0	1	7	6	1	0	15
Variable	0	0	0	0	0	0	0
Total	12	47	148	136	8	0	351

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: 36

Quad Cities Nuclear Station

Period of Record: July - September 2004
 Stability Class - Extremely Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	3	0	0	0	4
NNE	1	3	4	0	0	0	8
NE	1	6	3	1	0	0	11
ENE	2	2	4	2	0	0	10
E	3	6	4	0	0	0	13
ESE	1	2	1	4	1	0	9
SE	2	2	4	12	3	0	23
SSE	0	3	15	21	0	0	39
S	0	8	35	33	0	0	76
SSW	0	4	20	15	1	0	40
SW	0	9	16	5	0	0	30
WSW	2	4	8	0	0	0	14
W	1	5	1	0	0	0	7
WNW	1	5	8	1	0	0	15
NW	2	0	0	0	0	0	2
NNW	3	0	2	2	0	0	7
Variable	0	0	0	0	0	0	0
Total	19	60	128	96	5	0	308

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: 36

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Extremely Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	0	0	0	1
NNE	0	3	1	0	0	0	4
NE	0	1	3	1	0	0	5
ENE	0	0	1	0	0	0	1
E	0	1	0	0	0	0	1
ESE	0	0	2	0	0	0	2
SE	0	0	0	0	0	0	0
SSE	0	9	2	0	0	0	11
S	0	6	1	0	0	0	7
SSW	0	6	1	0	0	0	7
SW	0	9	8	0	0	0	17
WSW	0	1	0	0	0	0	1
W	0	6	0	0	0	0	6
WNW	0	4	0	0	0	0	4
NW	0	0	0	0	0	0	0
NNW	0	1	3	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	48	22	1	0	0	71

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

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

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

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

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Unstable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	3	0	0	0	4
NNE	0	3	0	0	0	0	3
NE	0	3	1	0	0	0	4
ENE	0	2	0	0	0	0	2
E	0	5	2	0	0	0	7
ESE	0	6	2	0	0	0	8
SE	0	1	0	0	0	0	1
SSE	0	8	0	0	0	0	8
S	0	3	0	0	0	0	3
SSW	0	5	1	0	0	0	6
SW	0	6	1	0	0	0	7
WSW	0	4	1	0	0	0	5
W	0	7	4	0	0	0	11
WNW	0	3	2	0	0	0	5
NW	0	4	0	0	0	0	4
NNW	0	3	1	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	64	18	0	0	0	82

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

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Neutral - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	23	34	1	0	0	59
NNE	6	25	11	2	0	0	44
NE	2	36	14	3	0	0	55
ENE	5	37	7	0	0	0	49
E	2	43	23	0	0	0	68
ESE	1	26	3	0	0	0	30
SE	5	13	10	0	0	0	28
SSE	5	12	1	0	0	0	18
S	7	11	0	0	0	0	18
SSW	5	22	6	0	0	0	33
SW	9	26	9	2	0	0	46
WSW	5	25	12	6	0	0	48
W	5	18	34	8	0	0	65
WNW	6	29	57	18	0	0	110
NW	7	27	12	6	0	0	52
NNW	7	19	16	0	0	0	42
Variable	0	0	0	0	0	0	0
Total	78	392	249	46	0	0	765

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

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Stable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	4	16	5	3	0	0	28
NNE	12	8	2	0	0	0	22
NE	12	23	1	0	0	0	36
ENE	6	31	1	0	0	0	38
E	5	29	8	1	0	0	43
ESE	12	37	6	0	0	0	55
SE	14	21	8	0	0	0	43
SSE	4	22	4	0	0	0	30
S	14	22	6	0	0	0	42
SSW	11	32	9	0	0	0	52
SW	12	60	22	1	0	0	95
WSW	17	37	8	1	0	0	63
W	15	47	6	0	0	0	68
WNW	16	44	32	3	0	0	95
NW	12	38	14	0	0	0	64
NNW	8	16	3	3	0	0	30
Variable	0	0	0	0	0	0	0
Total	174	483	135	12	0	0	804

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

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Stable - 196Ft-33Ft Delta-T (F)

Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	8	3	0	0	0	0	11
NNE	11	4	0	0	0	0	15
NE	4	3	0	0	0	0	7
ENE	9	2	0	0	0	0	11
E	12	1	0	0	0	0	13
ESE	13	6	0	0	0	0	19
SE	4	4	0	0	0	0	8
SSE	3	1	0	0	0	0	4
S	3	0	0	0	0	0	3
SSW	2	5	0	0	0	0	7
SW	8	1	1	0	0	0	10
WSW	3	0	0	0	0	0	3
W	9	1	0	0	0	0	10
WNW	9	0	0	0	0	0	9
NW	3	1	0	0	0	0	4
NNW	3	1	0	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	104	33	1	0	0	0	138

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

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Extremely Stable - 196Ft-33Ft Delta-T (F)
 Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	6	0	0	0	0	0	6
NNE	3	0	0	0	0	0	3
NE	7	0	0	0	0	0	7
ENE	3	1	0	0	0	0	4
E	20	0	0	0	0	0	20
ESE	22	10	0	0	0	0	32
SE	3	1	0	0	0	0	4
SSE	4	0	0	0	0	0	4
S	8	0	0	0	0	0	8
SSW	4	0	0	0	0	0	4
SW	2	0	0	0	0	0	2
WSW	4	0	0	0	0	0	4
W	10	0	0	0	0	0	10
WNW	4	0	0	0	0	0	4
NW	3	0	0	0	0	0	3
NNW	2	0	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	105	12	0	0	0	0	117

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

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Extremely Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

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

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: 120

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	0	1	2	0	3
ENE	0	0	0	0	1	0	1
E	0	0	1	0	0	0	1
ESE	0	0	2	0	0	0	2
SE	0	0	0	2	0	0	2
SSE	0	0	1	0	0	0	1
S	0	0	1	3	0	0	4
SSW	0	0	2	3	0	0	5
SW	0	0	2	4	2	0	8
WSW	0	0	2	0	0	0	2
W	0	0	2	1	0	0	3
WNW	0	0	3	0	0	0	3
NW	0	0	0	0	0	0	0
NNW	0	0	4	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	0	21	14	5	0	40

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: 120

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Unstable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	1	1	0	2
NNE	0	1	2	0	0	0	3
NE	0	0	2	1	1	0	4
ENE	0	0	5	0	0	0	5
E	0	0	1	0	0	0	1
ESE	0	0	3	3	0	0	6
SE	0	0	1	0	0	0	1
SSE	0	0	1	4	0	0	5
S	0	0	2	1	0	0	3
SSW	0	0	3	1	0	0	4
SW	0	0	3	2	0	0	5
WSW	0	1	2	2	0	0	5
W	0	4	4	2	0	0	10
WNW	0	4	1	1	1	0	7
NW	0	0	0	0	0	0	0
NNW	0	2	1	2	2	0	7
Variable	0	0	0	0	0	0	0
Total	0	12	31	20	5	0	68

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: 120

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Neutral - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	19	23	9	0	56
NNE	0	9	25	3	10	2	49
NE	1	8	38	8	12	1	68
ENE	0	2	33	15	5	0	55
E	0	1	36	26	5	0	68
ESE	2	7	22	10	2	0	43
SE	0	6	2	20	6	0	34
SSE	0	2	11	18	8	1	40
S	0	7	16	15	0	0	38
SSW	0	8	11	12	15	2	48
SW	0	6	21	17	5	4	53
WSW	0	3	15	18	3	6	45
W	1	5	13	25	15	10	69
WNW	0	6	11	20	49	19	105
NW	0	10	16	29	17	12	84
NNW	1	5	14	24	8	0	52
Variable	0	0	0	0	0	0	0
Total	6	89	303	283	169	57	907

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 2
 Hours of missing stability measurements in all stability classes: 120

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Slightly Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	1	2	16	6	5	1	31
NNE	0	1	10	16	1	0	28
NE	1	4	10	14	4	0	33
ENE	1	3	17	15	0	0	36
E	0	3	20	9	1	0	33
ESE	0	4	6	15	2	0	27
SE	0	4	14	21	4	0	43
SSE	0	8	18	18	7	1	52
S	1	2	8	18	11	8	48
SSW	1	1	12	34	29	7	84
SW	1	1	14	22	26	4	68
WSW	0	2	4	20	10	0	36
W	0	3	11	28	8	0	50
WNW	1	6	14	36	10	3	70
NW	0	4	20	32	12	2	70
NNW	0	6	13	16	5	3	43
Variable	0	0	0	0	0	0	0
Total	7	54	207	320	135	29	752

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 2
 Hours of missing stability measurements in all stability classes: 120

Quad Cities Nuclear Station

Period of Record: October - December 2004
 Stability Class - Moderately Stable - 296Ft-33Ft Delta-T (F)
 Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	5	5	0	0	10
NNE	0	1	6	1	0	0	8
NE	0	2	5	3	0	0	10
ENE	0	5	7	4	1	0	17
E	0	5	9	4	0	0	18
ESE	0	2	8	17	0	0	27
SE	0	1	0	4	0	0	5
SSE	0	2	6	6	0	0	14
S	0	7	7	3	0	0	17
SSW	2	1	5	6	0	5	19
SW	0	2	2	3	0	0	7
WSW	0	0	1	3	0	0	4
W	0	1	2	3	0	0	6
WNW	0	0	2	3	1	0	6
NW	0	1	3	1	0	0	5
NNW	0	0	3	2	1	0	6
Variable	0	0	0	0	0	0	0
Total	2	30	71	68	3	5	179

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: 120

Quad Cities Nuclear Station

Period of Record: October - December 2004

Stability Class - Extremely Stable - 296Ft-33Ft Delta-T (F)

Winds Measured at 296 Feet

Wind Direction	Wind Speed (in mph)						Total
	1-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	1	1	1	0	0	3
NE	0	2	6	0	0	0	8
ENE	0	1	1	2	0	0	4
E	0	0	8	1	0	0	9
ESE	0	2	1	1	2	0	6
SE	0	0	3	3	0	0	6
SSE	0	2	5	20	0	0	27
S	1	0	3	10	0	0	14
SSW	0	0	3	8	0	0	11
SW	1	0	4	3	0	0	8
WSW	0	0	2	2	0	0	4
W	0	0	0	1	0	0	1
WNW	0	0	1	3	0	0	4
NW	0	1	2	2	0	0	5
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	2	10	40	57	2	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: 120

QUAD CITIES

APPENDIX III

2004 REMP SAMPLE RESULTS

QUAD CITIES

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QUAD CITIES

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QUAD CITIES

1.0 INTRODUCTION

The following constitutes the 2004 Progress Report for the Radiological Environmental Monitoring Program conducted at the Quad Cities Nuclear Power Station, Cordova, Illinois. Results of completed analyses are presented in the attached tables.

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

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

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

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

TLD data is provided by Exelon Generation Company.

Deviations from Scheduled Sampling and Corrective Actions Taken

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

Unusual Environmental Measurements

None for 2004

Sample Type	Location Code	Collection Date	Comments
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QUAD CITIES

2.0 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Expected Collection Date	Reason
TLD	Other	01-02-04	TLD Q-307-5 found missing during quarterly exchange; pole TLD was mounted on removed by ComEd; collector mounted new 1st qtr '04 TLD on tree behind former pole location.
SW	Q-33	01-09-04	No sample; river frozen.
SW	Q-33	01-16-04	No sample; river frozen.
SW	Q-33	01-23-04	No sample; river frozen.
SW	Q-34	01-23-04	No sample; river frozen.
SW	Q-33	01-30-04	No sample; river frozen.
SW	Q-34	01-30-04	No sample; river frozen.
SW	Q-33	02-05-04	No sample; river frozen.
SW	Q-34	02-05-04	No sample; river frozen.
SW	Q-33	02-13-04	No sample; water frozen.
SW	Q-34	02-13-04	No sample; water frozen.
A	Q-03	07-23-04	No residue on filter; no apparent reason for this finding.
SW	Q-33	12-24-04	No sample; water frozen.
SW	Q-34	12-24-04	No sample; water frozen.

QUAD CITIES

3.0 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
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None for 2004

QUAD CITIES

4.0 2004 ANALYSES DATA TABLES

QUAD CITIES

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

Q-01 Onsite No. 1							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-02-04	280	3.0 ± 0.4; 0.6	-0.0 ± 0.3; 0.3	07-02-04	279	2.6 ± 0.3; 0.6	0.3 ± 0.3; 0.3
01-09-04	285	4.7 ± 0.4; 0.9	-	07-09-04	292	1.8 ± 0.3; 0.5	-
01-16-04	287	3.7 ± 0.4; 0.8	1.0 ± 0.3; 0.3	07-16-04	281	1.7 ± 0.3; 0.4	0.7 ± 0.3; 0.3
01-23-04	284	2.6 ± 0.4; 0.6	-	07-23-04	282	2.7 ± 0.4; 0.6	-
01-30-04	285	3.2 ± 0.4; 0.7	-0.9 ± 0.4; 0.4	07-30-04	285	2.2 ± 0.3; 0.5	0.3 ± 0.3; 0.3
02-06-04	286	4.3 ± 0.5; 0.9	-	08-06-04	285	2.6 ± 0.4; 0.6	-
02-13-04	281	4.2 ± 0.5; 0.9	1.1 ± 0.3; 0.4	08-13-04	290	1.6 ± 0.3; 0.4	-0.4 ± 0.3; 0.3
02-20-04	288	2.7 ± 0.4; 0.6	-	08-20-04	280	3.1 ± 0.4; 0.7	-
02-27-04	285	2.6 ± 0.4; 0.6	-0.7 ± 0.4; 0.4	08-27-04	285	1.8 ± 0.3; 0.5	-0.1 ± 0.3; 0.3
03-05-04	284	2.5 ± 0.3; 0.6	-	09-03-04	285	2.3 ± 0.3; 0.5	-
03-12-04	284	3.1 ± 0.4; 0.7	-1.0 ± 0.4; 0.4	09-10-04	284	2.3 ± 0.3; 0.5	0.4 ± 0.3; 0.3
03-19-04	285	1.8 ± 0.3; 0.4	-	09-17-04	285	2.4 ± 0.3; 0.5	-
03-26-04	286	1.9 ± 0.3; 0.5	0.1 ± 0.3; 0.3	09-24-04	282	2.7 ± 0.4; 0.6	-0.9 ± 0.3; 0.3
1st Qtr. Mean±s.d.		3.1 ± 0.9	-0.1 ± 0.9	3rd Qtr. Mean±s.d.		2.3 ± 0.4	0.0 ± 0.6
04-03-04	323	1.3 ± 0.3; 0.4	-	10-01-04	296	2.4 ± 0.3; 0.5	-
04-09-04	245	1.8 ± 0.4; 0.5	-0.5 ± 0.4; 0.4	10-08-04	277	2.2 ± 0.4; 0.5	-0.2 ± 0.3; 0.3
04-16-04	285	1.4 ± 0.4; 0.4	-	10-16-04	334	1.7 ± 0.3; 0.4	-
04-23-04	281	2.6 ± 0.3; 0.6	-0.7 ± 0.3; 0.3	10-23-04	286	1.7 ± 0.3; 0.4	-0.2 ± 0.3; 0.3
04-30-04	285	2.3 ± 0.4; 0.6	-	10-29-04	232	3.0 ± 0.4; 0.7	-
05-07-04	287	2.0 ± 0.4; 0.5	-0.3 ± 0.4; 0.4	11-06-04	341	1.8 ± 0.3; 0.5	-0.3 ± 0.3; 0.3
05-14-04	281	2.1 ± 0.3; 0.5	-	11-12-04	238	2.7 ± 0.4; 0.7	-
05-21-04	287	1.7 ± 0.3; 0.4	0.5 ± 0.3; 0.4	11-19-04	280	3.3 ± 0.4; 0.7	0.0 ± 0.4; 0.4
05-28-04	285	1.2 ± 0.3; 0.4	-	11-26-04	289	2.6 ± 0.4; 0.6	-
06-05-04	325	1.4 ± 0.3; 0.4	0.8 ± 0.3; 0.3	12-03-04	281	2.9 ± 0.4; 0.7	-0.4 ± 0.3; 0.3
06-11-04	243	2.5 ± 0.4; 0.6	-	12-10-04	284	3.5 ± 0.4; 0.8	-
06-18-04	281	1.6 ± 0.3; 0.4	0.5 ± 0.4; 0.4	12-17-04	286	2.6 ± 0.3; 0.6	0.2 ± 0.4; 0.4
06-25-04	294	1.5 ± 0.3; 0.4	-	12-24-04	284	2.9 ± 0.4; 0.6	-
2nd Qtr. Mean±s.d.		1.8 ± 0.5	0.0 ± 0.6	12-31-04	292	4.3 ± 0.4; 0.9	0.1 ± 0.3; 0.3
				4th Qtr. Mean±s.d.		2.7 ± 0.7	-0.1 ± 0.2

^a Volume based on a two week collection period.

QUAD CITIES

Table 1. Airborne Particulates and Iodine Cartridges
 Collection: Airborne Particulates - Continuous; weekly exchange
 Iodine Cartridges - Continuous; biweekly exchange
 Required LLD: 0.01 pCi/m³ for Gross Beta and 0.07 pCi/m³ for I-131
 Units: 10⁻³ pCi/m³

Q-02 Onsite No. 2							
Date Collected	Volume (m ³)	Gross Beta	I-131*	Date Collected	Volume (m ³)	Gross Beta	I-131*
01-02-04	280	3.0 ± 0.4; 0.6	0.7 ± 0.3; 0.3	07-02-04	277	2.5 ± 0.3; 0.6	0.7 ± 0.3; 0.4
01-09-04	285	4.8 ± 0.4; 1.0	-	07-09-04	292	2.0 ± 0.3; 0.5	-
01-16-04	287	4.1 ± 0.4; 0.8	0.5 ± 0.3; 0.3	07-16-04	280	1.7 ± 0.3; 0.4	-0.8 ± 0.3; 0.3
01-23-04	284	2.8 ± 0.4; 0.6	-	07-23-04	282	2.7 ± 0.4; 0.6	-
01-30-04	285	3.3 ± 0.4; 0.7	0.0 ± 0.3; 0.3	07-30-04	285	2.5 ± 0.3; 0.6	-1.0 ± 0.3; 0.4
02-06-04	286	4.2 ± 0.5; 0.9	-	08-06-04	285	2.3 ± 0.4; 0.6	-
02-13-04	281	4.5 ± 0.5; 0.9	0.5 ± 0.3; 0.4	08-13-04	289	1.5 ± 0.3; 0.4	0.8 ± 0.3; 0.3
02-20-04	288	3.2 ± 0.4; 0.7	-	08-20-04	280	2.8 ± 0.4; 0.6	-
02-27-04	285	2.4 ± 0.4; 0.6	0.1 ± 0.3; 0.3	08-27-04	284	1.3 ± 0.3; 0.4	0.1 ± 0.3; 0.3
03-05-04	284	2.7 ± 0.3; 0.6	-	09-03-04	285	2.1 ± 0.3; 0.5	-
03-12-04	284	2.5 ± 0.3; 0.6	-0.5 ± 0.3; 0.3	09-10-04	285	2.2 ± 0.3; 0.5	0.8 ± 0.3; 0.3
03-19-04	285	1.6 ± 0.3; 0.4	-	09-17-04	285	2.7 ± 0.3; 0.6	-
03-26-04	286	2.3 ± 0.3; 0.5	-0.7 ± 0.4; 0.4	09-24-04	278	2.4 ± 0.4; 0.6	-0.2 ± 0.4; 0.4
1st Qtr. Mean±s.d.		3.2 ± 1.0	0.1 ± 0.5	3rd Qtr. Mean±s.d.		2.2 ± 0.5	0.1 ± 0.8
04-03-04	323	1.7 ± 0.3; 0.4	-	10-01-04	296	2.2 ± 0.3; 0.5	-
04-09-04	245	1.6 ± 0.3; 0.5	-0.3 ± 0.3; 0.3	10-08-04	277	2.0 ± 0.4; 0.5	0.6 ± 0.4; 0.4
04-16-04	285	1.3 ± 0.4; 0.4	-	10-16-04	334	1.5 ± 0.3; 0.4	-
04-23-04	286	2.4 ± 0.3; 0.5	-0.4 ± 0.3; 0.3	10-23-04	286	1.2 ± 0.3; 0.4	-0.5 ± 0.3; 0.3
04-30-04	285	2.0 ± 0.3; 0.5	-	10-29-04	232	3.1 ± 0.4; 0.7	-
05-07-04	287	1.7 ± 0.4; 0.5	-0.3 ± 0.3; 0.3	11-06-04	341	1.8 ± 0.3; 0.5	0.5 ± 0.4; 0.4
05-14-04	281	2.0 ± 0.3; 0.5	-	11-12-04	238	2.8 ± 0.4; 0.7	-
05-21-04	287	1.7 ± 0.3; 0.4	-0.3 ± 0.4; 0.4	11-19-04	280	3.1 ± 0.4; 0.7	-0.2 ± 0.4; 0.4
05-28-04	285	1.2 ± 0.3; 0.4	-	11-26-04	289	2.5 ± 0.4; 0.6	-
06-05-04	325	1.3 ± 0.3; 0.3	0.0 ± 0.3; 0.3	12-03-04	281	2.8 ± 0.4; 0.6	0.1 ± 0.3; 0.3
06-11-04	243	2.3 ± 0.4; 0.6	-	12-10-04	284	3.5 ± 0.4; 0.8	-
06-18-04	281	1.8 ± 0.3; 0.5	0.2 ± 0.3; 0.3	12-17-04	286	2.8 ± 0.4; 0.6	0.4 ± 0.3; 0.3
06-25-04	295	1.6 ± 0.3; 0.4	-	12-24-04	284	3.0 ± 0.4; 0.6	-
2nd Qtr. Mean±s.d.		1.7 ± 0.4	-0.2 ± 0.3	12-31-04	292	4.1 ± 0.4; 0.8	-0.2 ± 0.3; 0.3
				4th Qtr. Mean±s.d.		2.6 ± 0.8	0.1 ± 0.4

* Volume based on a two week collection period.

QUAD CITIES

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

Q-03 Onsite No. 3							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-02-04	280	2.9 ± 0.4; 0.6	-1.4 ± 0.3; 0.4	07-02-04	276	3.0 ± 0.4; 0.6	0.0 ± 0.3; 0.3
01-09-04	285	4.9 ± 0.4; 1.0	-	07-09-04	292	2.0 ± 0.3; 0.5	-
01-16-04	287	3.9 ± 0.4; 0.8	-0.2 ± 0.3; 0.3	07-16-04	281	1.6 ± 0.3; 0.4	-0.2 ± 0.3; 0.3
01-23-04	284	2.5 ± 0.4; 0.6	-	07-23-04	NS ^b	-	-
01-30-04	285	3.2 ± 0.4; 0.7	-0.4 ± 0.3; 0.4	07-30-04	280	5.2 ± 0.4; 1.0	0.9 ± 0.3; 0.4
02-06-04	286	3.9 ± 0.5; 0.8	-	08-06-04	285	2.7 ± 0.4; 0.6	-
02-13-04	281	4.8 ± 0.5; 1.0	-0.1 ± 0.3; 0.4	08-13-04	290	1.6 ± 0.3; 0.4	-1.2 ± 0.4; 0.4
02-20-04	288	4.0 ± 0.4; 0.8	-	08-20-04	280	2.9 ± 0.4; 0.7	-
02-27-04	285	2.5 ± 0.4; 0.6	-0.5 ± 0.3; 0.3	08-27-04	284	2.0 ± 0.3; 0.5	-0.5 ± 0.3; 0.3
03-05-04	284	2.2 ± 0.3; 0.5	-	09-03-04	285	2.0 ± 0.3; 0.5	-
03-12-04	284	2.8 ± 0.4; 0.6	-0.1 ± 0.3; 0.3	09-10-04	285	2.3 ± 0.3; 0.5	0.2 ± 0.3; 0.3
03-19-04	285	1.6 ± 0.3; 0.4	-	09-17-04	285	2.2 ± 0.3; 0.5	-
03-26-04	286	1.9 ± 0.3; 0.5	-0.4 ± 0.4; 0.4	09-24-04	282	2.7 ± 0.4; 0.6	0.0 ± 0.3; 0.3
1st Qtr. Mean±s.d.		3.1 ± 1.1	-0.5± 0.5	3rd Qtr. Mean±s.d.		2.5 ± 1.0	-0.1± 0.6
04-03-04	323	1.2 ± 0.3; 0.4	-	10-01-04	296	2.8 ± 0.3; 0.6	-
04-09-04	245	2.1 ± 0.4; 0.5	1.0 ± 0.3; 0.4	10-08-04	277	2.4 ± 0.4; 0.6	0.5 ± 0.3; 0.3
04-16-04	285	1.3 ± 0.4; 0.4	-	10-16-04	334	1.8 ± 0.3; 0.4	-
04-23-04	286	2.4 ± 0.3; 0.5	0.7 ± 0.3; 0.3	10-23-04	286	1.8 ± 0.3; 0.4	-0.3 ± 0.3; 0.3
04-30-04	285	2.2 ± 0.4; 0.5	-	10-29-04	232	2.8 ± 0.4; 0.7	-
05-07-04	287	1.7 ± 0.4; 0.5	0.9 ± 0.3; 0.3	11-06-04	341	1.7 ± 0.3; 0.4	0.8 ± 0.3; 0.3
05-14-04	281	1.8 ± 0.3; 0.4	-	11-12-04	238	2.9 ± 0.4; 0.7	-
05-21-04	287	1.6 ± 0.3; 0.4	0.6 ± 0.3; 0.3	11-19-04	280	2.7 ± 0.4; 0.6	0.4 ± 0.4; 0.4
05-28-04	285	1.1 ± 0.3; 0.4	-	11-26-04	289	2.4 ± 0.4; 0.6	-
06-05-04	325	1.5 ± 0.3; 0.4	-1.2 ± 0.3; 0.4	12-03-04	281	2.9 ± 0.4; 0.7	0.7 ± 0.3; 0.4
06-11-04	243	2.2 ± 0.4; 0.6	-	12-10-04	284	3.8 ± 0.4; 0.8	-
06-18-04	281	1.7 ± 0.3; 0.5	-0.5 ± 0.3; 0.4	12-17-04	286	2.8 ± 0.4; 0.6	0.2 ± 0.3; 0.3
06-25-04	294	1.8 ± 0.3; 0.4	-	12-24-04	284	3.1 ± 0.4; 0.7	-
2nd Qtr. Mean±s.d.		1.7 ± 0.4	0.3± 0.9	12-31-04	292	4.2 ± 0.4; 0.9	-0.2 ± 0.3; 0.3
				4th Qtr. Mean±s.d.		2.7 ± 0.7	0.3± 0.4

^a Volume based on a two week collection period.

^b "NS" = No sample; no residue on filter; no apparent reason for this finding.

QUAD CITIES

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

Q-04 Nitrin							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-02-04	280	3.0 ± 0.4; 0.7	0.2 ± 0.3; 0.3	07-02-04	279	2.7 ± 0.3; 0.6	-1.2 ± 0.3; 0.4
01-09-04	285	4.4 ± 0.4; 0.9	-	07-09-04	291	1.9 ± 0.3; 0.5	-
01-16-04	287	4.1 ± 0.4; 0.8	-0.2 ± 0.3; 0.3	07-16-04	281	1.7 ± 0.3; 0.4	1.3 ± 0.3; 0.4
01-23-04	284	2.7 ± 0.4; 0.6	-	07-23-04	287	2.4 ± 0.3; 0.5	-
01-30-04	285	3.5 ± 0.4; 0.7	0.4 ± 0.3; 0.3	07-30-04	285	2.5 ± 0.3; 0.6	-0.3 ± 0.3; 0.3
02-06-04	286	4.1 ± 0.5; 0.9	-	08-06-04	281	2.7 ± 0.4; 0.6	-
02-13-04	281	5.2 ± 0.5; 1.1	-0.5 ± 0.3; 0.3	08-13-04	290	2.1 ± 0.4; 0.5	0.3 ± 0.4; 0.4
02-20-04	288	3.0 ± 0.4; 0.7	-	08-20-04	280	3.1 ± 0.4; 0.7	-
02-27-04	285	2.6 ± 0.4; 0.6	0.4 ± 0.3; 0.3	08-27-04	285	2.4 ± 0.3; 0.5	-0.3 ± 0.3; 0.3
03-05-04	284	2.2 ± 0.3; 0.5	-	09-03-04	285	2.2 ± 0.3; 0.5	-
03-12-04	284	2.8 ± 0.4; 0.6	0.2 ± 0.3; 0.3	09-10-04	285	2.4 ± 0.3; 0.5	-0.1 ± 0.3; 0.3
03-19-04	285	1.8 ± 0.3; 0.4	-	09-17-04	285	2.9 ± 0.4; 0.6	-
03-26-04	286	1.9 ± 0.3; 0.5	0.4 ± 0.3; 0.3	09-24-04	282	2.8 ± 0.4; 0.6	0.5 ± 0.3; 0.3
1st Qtr. Mean±s.d.		3.2 ± 1.0	0.1 ± 0.3	3rd Qtr. Mean±s.d.		2.4 ± 0.4	0.0 ± 0.8
04-03-04	322	1.4 ± 0.3; 0.4	-	10-01-04	296	2.8 ± 0.3; 0.6	-
04-09-04	245	2.1 ± 0.4; 0.5	-0.3 ± 0.3; 0.3	10-08-04	276	2.7 ± 0.4; 0.6	-0.0 ± 0.3; 0.3
04-16-04	285	1.3 ± 0.4; 0.4	-	10-16-04	334	1.8 ± 0.3; 0.4	-
04-23-04	286	2.2 ± 0.3; 0.5	-0.6 ± 0.3; 0.3	10-23-04	286	1.8 ± 0.3; 0.4	1.1 ± 0.3; 0.3
04-30-04	285	2.3 ± 0.4; 0.5	-	10-29-04	233	3.3 ± 0.4; 0.7	-
05-07-04	287	1.6 ± 0.4; 0.5	0.1 ± 0.4; 0.4	11-06-04	341	2.1 ± 0.3; 0.5	0.1 ± 0.3; 0.3
05-14-04	281	2.2 ± 0.3; 0.5	-	11-12-04	238	2.6 ± 0.4; 0.6	-
05-21-04	287	1.7 ± 0.3; 0.4	-0.4 ± 0.3; 0.3	11-19-04	281	3.2 ± 0.4; 0.7	0.1 ± 0.4; 0.4
05-28-04	285	1.0 ± 0.3; 0.3	-	11-26-04	288	2.3 ± 0.4; 0.6	-
06-05-04	325	1.4 ± 0.3; 0.4	0.1 ± 0.3; 0.3	12-03-04	281	3.1 ± 0.4; 0.7	0.6 ± 0.3; 0.4
06-11-04	243	2.2 ± 0.4; 0.6	-	12-10-04	284	3.6 ± 0.4; 0.8	-
06-18-04	281	1.9 ± 0.3; 0.5	-0.3 ± 0.4; 0.4	12-17-04	286	2.8 ± 0.4; 0.6	0.3 ± 0.3; 0.3
06-25-04	293	1.6 ± 0.3; 0.4	-	12-24-04	284	3.2 ± 0.4; 0.7	-
2nd Qtr. Mean±s.d.		1.8 ± 0.4	-0.2 ± 0.3	12-31-04	292	4.5 ± 0.4; 0.9	-1.3 ± 0.3; 0.4
				4th Qtr. Mean±s.d.		2.8 ± 0.7	0.1 ± 0.8

^a Volume based on a two week collection period.

QUAD CITIES

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

Q-07 (C) Clinton							
Date Collected	Volume (m ³)	Gross Beta	I-131*	Date Collected	Volume (m ³)	Gross Beta	I-131*
01-02-04	278	3.3 ± 0.4; 0.7	0.5 ± 0.4; 0.4	07-02-04	276	3.0 ± 0.4; 0.6	0.2 ± 0.3; 0.3
01-09-04	297	4.9 ± 0.4; 1.0	-	07-09-04	297	1.9 ± 0.3; 0.5	-
01-16-04	281	4.3 ± 0.4; 0.9	-0.1 ± 0.3; 0.3	07-16-04	272	1.6 ± 0.3; 0.4	0.4 ± 0.3; 0.3
01-23-04	281	2.5 ± 0.4; 0.6	-	07-23-04	288	2.7 ± 0.3; 0.6	-
01-30-04	286	3.7 ± 0.4; 0.8	0.7 ± 0.3; 0.3	07-30-04	284	2.3 ± 0.3; 0.5	0.6 ± 0.3; 0.3
02-05-04	233	5.2 ± 0.6; 1.1	-	08-06-04	288	2.7 ± 0.4; 0.6	-
02-13-04	328	3.7 ± 0.4; 0.8	-1.1 ± 0.4; 0.4	08-13-04	291	2.1 ± 0.4; 0.5	-0.0 ± 0.3; 0.3
02-20-04	291	3.3 ± 0.4; 0.7	-	08-20-04	277	2.9 ± 0.4; 0.7	-
02-27-04	289	2.5 ± 0.4; 0.6	-0.6 ± 0.3; 0.3	08-27-04	296	2.2 ± 0.3; 0.5	-0.5 ± 0.4; 0.4
03-05-04	285	2.2 ± 0.3; 0.5	-	09-03-04	275	2.3 ± 0.3; 0.5	-
03-11-04	247	3.0 ± 0.4; 0.7	-0.6 ± 0.4; 0.4	09-10-04	291	2.2 ± 0.3; 0.5	-0.4 ± 0.3; 0.4
03-19-04	290	1.9 ± 0.3; 0.5	-	09-17-04	277	3.1 ± 0.4; 0.7	-
03-26-04	288	2.1 ± 0.3; 0.5	0.2 ± 0.3; 0.3	09-24-04	299	2.8 ± 0.4; 0.6	-0.5 ± 0.3; 0.4
1st Qtr. Mean±s.d.		3.3 ± 1.1	-0.1 ± 0.6	3rd Qtr. Mean±s.d.		2.4 ± 0.5	-0.0 ± 0.5
04-02-04	278	1.4 ± 0.3; 0.4	-	10-01-04	284	2.8 ± 0.4; 0.6	-
04-09-04	275	2.2 ± 0.3; 0.5	-0.1 ± 0.3; 0.3	10-08-04	275	2.8 ± 0.4; 0.6	0.1 ± 0.3; 0.3
04-16-04	295	1.2 ± 0.4; 0.4	-	10-15-04	297	1.8 ± 0.3; 0.4	-
04-23-04	283	2.0 ± 0.3; 0.5	-0.9 ± 0.3; 0.4	10-23-04	320	1.8 ± 0.3; 0.4	0.2 ± 0.3; 0.3
04-30-04	287	2.3 ± 0.4; 0.5	-	10-29-04	250	3.5 ± 0.4; 0.8	-
05-07-04	284	1.7 ± 0.4; 0.5	0.1 ± 0.3; 0.3	11-05-04	283	1.8 ± 0.4; 0.5	-1.0 ± 0.4; 0.4
05-15-04	319	2.2 ± 0.3; 0.5	-	11-11-04	239	3.3 ± 0.5; 0.7	-
05-21-04	253	2.1 ± 0.4; 0.5	0.1 ± 0.4; 0.4	11-19-04	335	2.9 ± 0.4; 0.6	-0.1 ± 0.3; 0.3
05-28-04	279	0.9 ± 0.3; 0.3	-	11-27-04	317	2.4 ± 0.3; 0.6	-
06-04-04	290	1.5 ± 0.3; 0.4	0.4 ± 0.3; 0.3	12-03-04	253	3.2 ± 0.4; 0.7	-0.3 ± 0.3; 0.3
06-11-04	275	2.4 ± 0.4; 0.6	-	12-10-04	283	4.0 ± 0.4; 0.8	-
06-18-04	290	2.0 ± 0.3; 0.5	0.6 ± 0.3; 0.4	12-17-04	285	3.2 ± 0.4; 0.7	0.1 ± 0.3; 0.3
06-25-04	296	1.6 ± 0.3; 0.4	-	12-24-04	276	3.0 ± 0.4; 0.7	-
2nd Qtr. Mean±s.d.		1.8 ± 0.5	0.1 ± 0.5	12-31-04	284	4.2 ± 0.4; 0.9	0.0 ± 0.4; 0.4
				4th Qtr. Mean±s.d.		2.9 ± 0.8	-0.1 ± 0.4

* Volume based on a two week collection period.

QUAD CITIES

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m³
 Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01;
 Ba/La-140 = 0.025 pCi/m³
 Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

<u>Q-01 Onsite No. 1</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2114	QAP-4353	QAP-6640	QAP-7819
Volume	3,706	3,708	3,702	4,007
Mn-54	-1.5 ± 6.4 ; 6.4	4.3 ± 5.8 ; 5.8	-1.4 ± 5.0 ; 5.0	2.8 ± 6.1 ; 6.1
Fe-59	-15.8 ± 11.0 ; 11.4	-24.6 ± 12.9 ; 13.6	18.4 ± 8.6 ; 9.2	-5.0 ± 8.4 ; 8.4
Co-58	1.2 ± 4.2 ; 4.2	-0.7 ± 5.0 ; 5.0	-4.6 ± 4.3 ; 4.4	-3.0 ± 5.6 ; 5.6
Co-60	4.5 ± 5.6 ; 5.7	13.2 ± 6.5 ; 6.9	1.8 ± 5.3 ; 5.3	2.8 ± 7.2 ; 7.3
Zn-65	3.2 ± 10.0 ; 10.0	14.8 ± 8.6 ; 9.0	-7.1 ± 10.9 ; 10.9	0.7 ± 10.5 ; 10.5
Nb/Zr-95	-2.9 ± 6.2 ; 6.3	1.5 ± 4.9 ; 4.9	-9.1 ± 4.3 ; 4.6	-16.4 ± 5.1 ; 5.9
Cs-134	-2.1 ± 6.5 ; 6.5	4.8 ± 6.1 ; 6.2	1.4 ± 5.3 ; 5.3	3.7 ± 6.1 ; 6.1
Cs-137	-0.8 ± 6.5 ; 6.5	0.7 ± 7.1 ; 7.1	1.4 ± 4.7 ; 4.7	-1.0 ± 6.9 ; 6.9
Ba/La-140	-11.8 ± 4.9 ; 5.3	-43.7 ± 8.5 ; 11.5	-26.5 ± 5.6 ; 7.3	24.3 ± 4.0 ; 5.9
<u>Q-02 Onsite No. 2</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2115	QAP-4354	QAP-6641	QAP-7820
Volume	3,705	3,713	3,695	4,007
Mn-54	-0.6 ± 7.0 ; 7.0	4.0 ± 6.2 ; 6.3	-1.7 ± 4.2 ; 4.2	4.7 ± 5.0 ; 5.1
Fe-59	2.4 ± 8.1 ; 8.1	16.8 ± 8.7 ; 9.2	0.9 ± 6.8 ; 6.8	-2.0 ± 7.1 ; 7.1
Co-58	0.5 ± 3.3 ; 3.3	-4.2 ± 5.0 ; 5.0	-2.3 ± 3.7 ; 3.7	4.6 ± 4.4 ; 4.5
Co-60	4.5 ± 5.6 ; 5.7	6.3 ± 6.1 ; 6.2	-3.0 ± 4.3 ; 4.3	-0.4 ± 6.5 ; 6.5
Zn-65	-3.2 ± 12.3 ; 12.3	-4.1 ± 13.6 ; 13.6	-3.3 ± 8.9 ; 8.9	-0.7 ± 13.2 ; 13.2
Nb/Zr-95	-24.6 ± 13.8 ; 14.5	-10.3 ± 4.8 ; 5.1	-4.3 ± 4.2 ; 4.2	-2.6 ± 6.4 ; 6.4
Cs-134	-2.2 ± 7.0 ; 7.0	4.1 ± 6.0 ; 6.1	0.2 ± 3.9 ; 3.9	-3.6 ± 5.1 ; 5.2
Cs-137	0.8 ± 6.8 ; 6.8	-8.4 ± 5.9 ; 6.1	3.4 ± 4.9 ; 4.9	-0.7 ± 6.0 ; 6.0
Ba/La-140	28.9 ± 6.5 ; 8.3	-41.8 ± 6.5 ; 9.9	30.5 ± 4.8 ; 7.3	-1.0 ± 5.0 ; 5.0

QUAD CITIES

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m³
 Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01;
 Ba/La-140 = 0.025 pCi/m³
 Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

<u>Q-03 Onsite No. 3</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2116	QAP-4355	QAP-6642	QAP-7821
Volume	3,705	3,713	3,411	4,007
Mn-54	-0.3 ± 5.5 ; 5.5	-0.3 ± 5.5 ; 5.5	4.3 ± 7.0 ; 7.0	-2.2 ± 5.3 ; 5.3
Fe-59	9.8 ± 9.5 ; 9.7	-3.9 ± 12.4 ; 12.4	1.6 ± 10.4 ; 10.4	3.0 ± 9.6 ; 9.6
Co-58	-0.7 ± 5.0 ; 5.0	-0.9 ± 5.5 ; 5.5	3.4 ± 6.9 ; 6.9	0.1 ± 4.7 ; 4.7
Co-60	3.7 ± 5.4 ; 5.5	6.3 ± 6.1 ; 6.2	-6.5 ± 9.5 ; 9.5	6.0 ± 6.8 ; 6.9
Zn-65	4.9 ± 10.4 ; 10.4	-4.9 ± 11.9 ; 11.9	15.1 ± 16.2 ; 16.4	-1.5 ± 8.0 ; 8.0
Nb/Zr-95	-10.5 ± 6.7 ; 7.0	2.1 ± 6.2 ; 6.2	-7.3 ± 6.5 ; 6.6	-9.2 ± 6.1 ; 6.3
Cs-134	3.4 ± 6.5 ; 6.5	3.0 ± 4.5 ; 4.6	2.2 ± 6.5 ; 6.5	-1.6 ± 4.4 ; 4.4
Cs-137	4.3 ± 5.7 ; 5.8	-1.7 ± 5.5 ; 5.5	5.6 ± 5.8 ; 5.9	2.5 ± 5.5 ; 5.5
Ba/La-140	-34.1 ± 6.6 ; 8.9	37.7 ± 3.7 ; 7.7	-8.3 ± 9.7 ; 9.8	-14.3 ± 6.4 ; 6.9
<u>Q-04 Nitrin</u>				
2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2117	QAP-4356	QAP-6643	QAP-7822
Volume	3,706	3,712	3,702	4,008
Mn-54	1.2 ± 6.3 ; 6.3	-1.5 ± 6.4 ; 6.4	4.0 ± 5.2 ; 5.2	2.5 ± 5.6 ; 5.6
Fe-59	-20.8 ± 10.3 ; 10.9	-3.9 ± 9.4 ; 9.4	-9.4 ± 9.6 ; 9.7	-2.0 ± 10.3 ; 10.3
Co-58	6.3 ± 4.4 ; 4.5	0.7 ± 6.1 ; 6.1	0.5 ± 6.2 ; 6.2	4.4 ± 4.9 ; 4.9
Co-60	-0.4 ± 7.0 ; 7.0	5.3 ± 4.2 ; 4.3	-2.3 ± 7.1 ; 7.1	-3.7 ± 5.6 ; 5.7
Zn-65	13.0 ± 12.3 ; 12.5	11.5 ± 7.5 ; 7.7	5.2 ± 11.3 ; 11.3	11.7 ± 7.5 ; 7.8
Nb/Zr-95	-2.7 ± 5.9 ; 5.9	-9.7 ± 6.1 ; 6.3	-13.1 ± 6.3 ; 6.8	-2.0 ± 5.1 ; 5.1
Cs-134	8.0 ± 6.8 ; 6.9	-2.6 ± 5.9 ; 5.9	-2.2 ± 7.2 ; 7.2	1.8 ± 6.2 ; 6.2
Cs-137	-2.8 ± 5.7 ; 5.7	-1.2 ± 6.0 ; 6.0	1.0 ± 5.6 ; 5.6	-4.4 ± 6.4 ; 6.4
Ba/La-140	-22.2 ± 4.4 ; 5.9	35.7 ± 6.5 ; 9.1	8.7 ± 5.3 ; 5.5	24.5 ± 4.0 ; 5.9

QUAD CITIES

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: Cs-134 = 0.01, Cs-137 = 0.01 pCi/m³
 Other LLDs: Mn-54 = 0.01; Fe-59 = 0.015; Co-58, Co-60 = 0.01; Zn-65 = 0.04; Zr/Nb-95 = 0.01;
 Ba/La-140 = 0.025 pCi/m³
 Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

Q-07 (C) Clinton

2004 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2118	QAP-4357	QAP-6644	QAP-7823
Volume	3,681	3,709	3,718	3,989
Mn-54	6.5 ± 4.4 ; 4.5	-2.5 ± 6.7 ; 6.7	2.0 ± 4.1 ; 4.1	4.5 ± 6.4 ; 6.4
Fe-59	-18.5 ± 10.7 ; 11.2	5.2 ± 8.9 ; 8.9	7.1 ± 8.0 ; 8.1	-11.0 ± 10.5 ; 10.7
Co-58	-2.3 ± 4.8 ; 4.8	1.1 ± 4.7 ; 4.7	-2.2 ± 4.3 ; 4.3	-4.5 ± 5.4 ; 5.5
Co-60	-2.1 ± 7.9 ; 7.9	-2.1 ± 7.8 ; 7.8	5.3 ± 4.4 ; 4.5	-2.0 ± 6.1 ; 6.1
Zn-65	4.1 ± 13.1 ; 13.2	-5.7 ± 13.3 ; 13.4	-24.6 ± 12.9 ; 13.7	-1.5 ± 11.7 ; 11.7
Nb/Zr-95	-11.4 ± 6.0 ; 6.4	-5.1 ± 7.2 ; 7.2	-1.4 ± 4.6 ; 4.6	0.3 ± 6.3 ; 6.3
Cs-134	-3.4 ± 6.3 ; 6.3	-2.1 ± 6.5 ; 6.5	1.9 ± 5.2 ; 5.3	-2.9 ± 4.7 ; 4.8
Cs-137	-0.5 ± 5.3 ; 5.3	-1.2 ± 6.0 ; 6.0	4.8 ± 5.4 ; 5.5	3.5 ± 5.2 ; 5.3
Ba/La-140	19.0 ± 6.2 ; 7.0	-16.9 ± 7.3 ; 7.9	-59.6 ± 6.4 ; 12.4	-32.9 ± 5.4 ; 7.9

QUAD CITIES

Table 3.	Milk
Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

Q-26 Bill Stanley Dairy

Date Collected	01-02-04	02-06-04	03-05-04	04-03-04
Lab Code	QMI-9	QMI-557	QMI-961	QMI-1417
I-131	0.01 ± 0.18 ; 0.18	0.01 ± 0.14 ; 0.14	-0.05 ± 0.17 ; 0.17	0.17 ± 0.23 ; 0.23
Mn-54	-1.2 ± 2.5 ; 2.5	0.3 ± 3.4 ; 3.4	1.0 ± 3.7 ; 3.7	0.5 ± 3.0 ; 3.0
Fe-59	-1.3 ± 6.5 ; 6.5	3.0 ± 8.3 ; 8.4	-3.9 ± 8.8 ; 8.8	-5.0 ± 6.2 ; 6.2
Co-58	-1.1 ± 2.8 ; 2.8	1.3 ± 3.6 ; 3.6	4.0 ± 3.8 ; 3.8	-0.4 ± 2.5 ; 2.5
Co-60	0.2 ± 2.9 ; 2.9	-0.5 ± 5.1 ; 5.1	4.3 ± 4.6 ; 4.6	4.3 ± 2.8 ; 2.9
Zn-65	-2.9 ± 7.0 ; 7.0	3.8 ± 7.7 ; 7.8	4.1 ± 9.1 ; 9.1	0.5 ± 7.0 ; 7.0
Nb/Zr-95	0.1 ± 2.9 ; 2.9	-0.6 ± 2.8 ; 2.8	0.3 ± 3.7 ; 3.7	2.4 ± 2.6 ; 2.6
Cs-134	-3.8 ± 3.1 ; 3.1	-1.9 ± 2.6 ; 2.6	-1.3 ± 4.3 ; 4.3	-1.3 ± 3.1 ; 3.1
Cs-137	1.0 ± 3.2 ; 3.2	1.8 ± 3.8 ; 3.8	0.5 ± 4.2 ; 4.2	-0.2 ± 2.9 ; 2.9
Ba-140	2.2 ± 10.1 ; 10.1	0.6 ± 10.7 ; 10.7	6.5 ± 13.3 ; 13.3	4.5 ± 9.5 ; 9.5
La-140	0.4 ± 2.5 ; 2.5	-1.5 ± 3.6 ; 3.6	0.6 ± 4.7 ; 4.7	0.9 ± 2.5 ; 2.5
Date Collected	05-07-04	05-21-04	06-05-04	06-18-04
Lab Code	QMI-2214	QMI-2512	QMI-2847	QMI-3108
I-131	0.01 ± 0.15 ; 0.15	0.19 ± 0.26 ; 0.26	0.03 ± 0.15 ; 0.15	-0.20 ± 0.23 ; 0.23
Mn-54	-0.4 ± 2.3 ; 2.3	-2.0 ± 2.4 ; 2.4	1.3 ± 3.2 ; 3.2	-1.7 ± 4.5 ; 4.5
Fe-59	-3.5 ± 5.0 ; 5.0	-1.9 ± 5.5 ; 5.5	2.2 ± 7.3 ; 7.3	0.7 ± 7.5 ; 7.5
Co-58	1.2 ± 2.3 ; 2.4	-1.7 ± 2.3 ; 2.3	-0.7 ± 3.3 ; 3.3	-1.4 ± 4.3 ; 4.3
Co-60	-0.5 ± 2.7 ; 2.7	-1.0 ± 2.9 ; 2.9	0.5 ± 5.0 ; 5.0	-0.4 ± 4.4 ; 4.4
Zn-65	6.6 ± 6.0 ; 6.1	-0.6 ± 6.3 ; 6.3	-0.4 ± 7.7 ; 7.7	-6.1 ± 8.4 ; 8.4
Nb/Zr-95	0.9 ± 2.0 ; 2.0	0.5 ± 2.2 ; 2.2	-1.3 ± 3.4 ; 3.4	1.2 ± 3.6 ; 3.6
Cs-134	0.1 ± 2.9 ; 2.9	-0.8 ± 2.7 ; 2.7	-0.5 ± 4.1 ; 4.1	-1.6 ± 4.6 ; 4.6
Cs-137	0.4 ± 2.6 ; 2.6	1.5 ± 2.4 ; 2.4	-1.6 ± 4.0 ; 4.0	-2.6 ± 4.4 ; 4.4
Ba-140	-4.9 ± 6.7 ; 6.8	13.4 ± 8.9 ; 9.0	-15.0 ± 11.2 ; 11.4	-8.7 ± 12.6 ; 12.7
La-140	-2.2 ± 2.8 ; 2.8	0.7 ± 2.6 ; 2.6	1.0 ± 4.3 ; 4.3	-0.1 ± 4.2 ; 4.2

QUAD CITIES

Table 3. Milk
 Collection: Biweekly (May - October)
 Monthly (November - April)
 ODCM-Required LLDs: I-131 = 1, Cs-134 = 15; Cs-137 = 18, Ba-140 = 60, La-140 = 15 pCi/L
 Other LLDs: Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Nb/Zr-95 = 10 pCi/L
 Units: pCi/L

Sample Description and Concentration

Q-26 Bill Stanley Dairy

Date Collected	07-02-04	07-16-04	07-30-04	08-13-04
Lab Code	QMI-3424	QMI-3821	QMI-4161	QMI-4584
I-131	-0.04 ± 0.18 ; 0.18	0.05 ± 0.20 ; 0.20	0.11 ± 0.20 ; 0.20	0.12 ± 0.19 ; 0.19
Mn-54	-2.2 ± 3.5 ; 3.6	-0.7 ± 2.7 ; 2.7	-1.2 ± 3.8 ; 3.8	0.3 ± 4.4 ; 4.4
Fe-59	2.5 ± 7.1 ; 7.2	2.9 ± 5.6 ; 5.6	2.8 ± 6.3 ; 6.3	-3.1 ± 9.9 ; 9.9
Co-58	2.5 ± 3.0 ; 3.0	0.1 ± 2.2 ; 2.2	1.5 ± 3.1 ; 3.1	-3.6 ± 4.9 ; 4.9
Co-60	-5.3 ± 4.2 ; 4.3	0.3 ± 2.3 ; 2.3	2.7 ± 3.6 ; 3.6	-2.1 ± 5.8 ; 5.8
Zn-65	-8.5 ± 8.0 ; 8.1	-11.5 ± 6.6 ; 6.8	-1.4 ± 10.6 ; 10.6	8.5 ± 14.2 ; 14.3
Nb/Zr-95	0.8 ± 2.8 ; 2.8	0.9 ± 2.2 ; 2.2	1.4 ± 3.1 ; 3.1	-1.0 ± 4.6 ; 4.6
Cs-134	2.0 ± 3.5 ; 3.5	0.6 ± 2.6 ; 2.6	-2.8 ± 3.6 ; 3.6	-0.1 ± 5.7 ; 5.7
Cs-137	3.3 ± 3.7 ; 3.7	1.1 ± 2.6 ; 2.6	1.9 ± 3.8 ; 3.8	2.1 ± 4.4 ; 4.4
Ba-140	-14.1 ± 10.8 ; 11.0	-6.8 ± 7.5 ; 7.6	11.8 ± 12.7 ; 12.8	14.8 ± 15.7 ; 15.8
La-140	0.8 ± 2.7 ; 2.7	-6.1 ± 2.6 ; 2.8	1.7 ± 3.7 ; 3.7	4.7 ± 6.0 ; 6.0

Date Collected	08-27-04	09-10-04	09-24-04	10-08-04
Lab Code	QMI-4817	QMI-5166	QMI-5448	QMI-5889
I-131	0.08 ± 0.16 ; 0.16	-0.04 ± 0.16 ; 0.16	-0.14 ± 0.24 ; 0.24	0.02 ± 0.19 ; 0.19
Mn-54	1.1 ± 3.0 ; 3.0	4.9 ± 4.6 ; 4.6	-1.0 ± 2.8 ; 2.8	0.4 ± 2.6 ; 2.6
Fe-59	0.8 ± 5.1 ; 5.1	-5.3 ± 11.5 ; 11.5	-2.5 ± 5.4 ; 5.4	-5.7 ± 5.2 ; 5.2
Co-58	-0.5 ± 2.9 ; 2.9	-0.3 ± 4.5 ; 4.5	-2.7 ± 2.9 ; 3.0	-0.2 ± 2.5 ; 2.5
Co-60	1.8 ± 2.6 ; 2.6	-2.9 ± 6.1 ; 6.1	3.0 ± 2.8 ; 2.9	1.6 ± 2.2 ; 2.2
Zn-65	-6.0 ± 7.1 ; 7.2	-3.7 ± 13.9 ; 13.9	-5.7 ± 8.1 ; 8.1	-11.1 ± 7.2 ; 7.4
Nb/Zr-95	-0.3 ± 2.9 ; 2.9	1.0 ± 4.9 ; 4.9	1.6 ± 3.0 ; 3.0	-3.3 ± 2.8 ; 2.9
Cs-134	3.2 ± 3.2 ; 3.2	-7.7 ± 5.8 ; 5.9	-1.5 ± 3.2 ; 3.2	-1.9 ± 2.6 ; 2.6
Cs-137	0.4 ± 3.0 ; 3.0	0.8 ± 5.2 ; 5.2	1.3 ± 3.2 ; 3.2	0.5 ± 2.5 ; 2.5
Ba-140	6.7 ± 8.5 ; 8.5	0.3 ± 16.8 ; 16.8	19.5 ± 9.8 ; 10.2	20.4 ± 8.8 ; 9.2
La-140	-3.0 ± 2.4 ; 2.5	-2.0 ± 4.2 ; 4.2	0.5 ± 2.9 ; 2.9	0.7 ± 2.6 ; 2.6

QUAD CITIES

Table 3. Milk

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

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

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

Units: pCi/L

Sample Description and Concentration

Q-26 Bill Stanley Dairy

Date Collected	10-23-04	11-06-04	12-03-04
Lab Code	QMI-6318	QMI-6645	QMI-7165
I-131	-0.09 ± 0.21 ; 0.21	-0.14 ± 0.16 ; 0.16	-0.26 ± 0.16 ; 0.16
Mn-54	1.8 ± 4.5 ; 4.5	-2.9 ± 3.4 ; 3.4	-1.0 ± 2.9 ; 2.9
Fe-59	-3.1 ± 13.0 ; 13.0	8.2 ± 7.7 ; 7.8	-0.5 ± 6.2 ; 6.2
Co-58	-8.5 ± 5.1 ; 5.2	-5.1 ± 3.0 ; 3.1	-0.1 ± 2.1 ; 2.1
Co-60	8.8 ± 5.6 ; 5.7	1.0 ± 2.7 ; 2.7	0.3 ± 2.9 ; 2.9
Zn-65	-5.0 ± 12.3 ; 12.4	-2.3 ± 7.5 ; 7.5	-6.0 ± 6.8 ; 6.8
Nb/Zr-95	-8.2 ± 5.8 ; 5.9	1.9 ± 3.1 ; 3.1	-2.6 ± 3.0 ; 3.0
Cs-134	-3.1 ± 6.0 ; 6.1	4.4 ± 4.1 ; 4.1	-0.9 ± 2.7 ; 2.7
Cs-137	-0.6 ± 6.2 ; 6.2	2.0 ± 4.2 ; 4.2	0.7 ± 2.9 ; 2.9
Ba-140	-2.7 ± 17.5 ; 17.5	-26.1 ± 11.8 ; 12.3	-6.1 ± 9.7 ; 9.7
La-140	-7.7 ± 6.3 ; 6.4	-4.9 ± 3.9 ; 4.0	6.6 ± 2.7 ; 2.8

QUAD CITIES

Table 4. Fish, Edible Portions

Collection: Semiannually
 ODCM-
 Required LLDs: Mn-54 = 0.13, Fe-59 = 0.26, Co-58 = 0.13, Co-60 = 0.13, Zn-65 = 0.26, Cs-134 = 0.1, Cs-137 = 0.1 pCi/g wet weight
 Other LLDs: Zr/Nb-95 = 0.20, Ba/La-140 = 0.30 pCi/g wet weight
 Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

Q-24 Pool #14 of Mississippi River

Date Collected	05-04-04	05-04-04	10-26-04	10-26-04
Lab Code	QF-2093	QF-2094	QF-6325	QF-6326
Type	Channel Catfish	Common Carp	Channel Catfish	Walleye
Mn-54	0.1 ± 0.9 ; 0.9	-0.1 ± 0.9 ; 0.9	-0.2 ± 0.9 ; 0.9	-0.8 ± 1.0 ; 1.0
Fe-59	-1.2 ± 1.6 ; 1.6	3.4 ± 2.1 ; 2.2	-3.1 ± 2.0 ; 2.0	-1.3 ± 2.0 ; 2.0
Co-58	1.1 ± 0.8 ; 0.8	-0.2 ± 0.7 ; 0.7	0.4 ± 0.7 ; 0.7	-0.3 ± 1.0 ; 1.0
Co-60	0.3 ± 0.8 ; 0.8	-1.0 ± 1.1 ; 1.1	-1.0 ± 0.9 ; 0.9	-0.6 ± 1.3 ; 1.3
Zn-65	-0.3 ± 2.0 ; 2.0	-2.3 ± 2.2 ; 2.2	-2.6 ± 2.2 ; 2.3	0.8 ± 2.1 ; 2.1
Nb/Zr-95	0.8 ± 0.9 ; 0.9	-1.1 ± 0.9 ; 0.9	-0.4 ± 1.0 ; 1.0	0.7 ± 0.9 ; 0.9
Cs-134	-0.1 ± 0.8 ; 0.8	0.8 ± 1.1 ; 1.1	0.5 ± 0.9 ; 0.9	-0.2 ± 1.2 ; 1.2
Cs-137	-0.3 ± 0.9 ; 0.9	-0.2 ± 0.8 ; 0.8	0.5 ± 0.9 ; 0.9	0.1 ± 0.9 ; 0.9
Ba/La-140	-0.5 ± 0.8 ; 0.8	2.5 ± 0.9 ; 0.9	0.8 ± 0.7 ; 0.7	1.9 ± 0.7 ; 0.8

QUAD CITIES

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-

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

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

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

Sample Description and Concentration

Q-29 (C) Mississippi River, Upstream

Date Collected	05-04-04	05-04-04	10-26-04	10-26-04
Lab Code	QF-2095	QF-2096	QF-6327	QF-6328
Type	Channel Catfish	River Carpsucker	Bigmouth Buffalo	Channel Catfish
Mn-54	-1.0 ± 0.9 ; 0.9	-0.8 ± 0.8 ; 0.8	0.2 ± 0.6 ; 0.6	-0.3 ± 0.7 ; 0.7
Fe-59	1.1 ± 2.3 ; 2.3	-0.5 ± 1.8 ; 1.8	-0.6 ± 1.3 ; 1.3	-1.1 ± 1.5 ; 1.6
Co-58	1.2 ± 0.8 ; 0.8	-1.1 ± 1.0 ; 1.0	0.2 ± 0.6 ; 0.6	-0.5 ± 0.7 ; 0.7
Co-60	-0.3 ± 1.3 ; 1.3	-0.7 ± 1.1 ; 1.1	-0.8 ± 0.6 ; 0.6	-1.0 ± 1.0 ; 1.0
Zn-65	1.1 ± 2.3 ; 2.3	1.2 ± 2.6 ; 2.6	-0.6 ± 1.5 ; 1.5	-1.2 ± 1.6 ; 1.6
Nb/Zr-95	-1.7 ± 0.9 ; 0.9	-2.1 ± 0.8 ; 0.8	-0.3 ± 0.6 ; 0.6	0.1 ± 0.7 ; 0.7
Cs-134	0.3 ± 1.0 ; 1.0	0.7 ± 1.0 ; 1.0	0.0 ± 0.7 ; 0.7	-0.4 ± 0.9 ; 0.9
Cs-137	-1.1 ± 1.0 ; 1.0	0.5 ± 1.0 ; 1.0	0.1 ± 0.6 ; 0.6	-0.6 ± 0.7 ; 0.7
Ba/La-140	-1.0 ± 1.0 ; 1.0	-11.0 ± 1.1 ; 1.8	-0.4 ± 0.7 ; 0.7	0.5 ± 0.4 ; 0.4

QUAD CITIES

Table 5.	Bottom Sediments
	Collection: Semiannually
	ODCM-
	Required LLDs: Cs-134 = 0.15, Cs-137 = 0.18 pCi/g dry weight
	Other LLDs: Mn-54 = 0.15; Fe-59 = 0.60; Co-58, Co-60 = 0.10; Zn-65 = 0.60; Zr/Nb-95 = 0.20; Ba/La = 0.60 pCi/g dry weight
	Units: 10^{-2} pCi/g dry weight

Sample Description and Concentration

Q-39 Downstream on Mississippi River

Date Collected	05-21-04	10-01-04
Lab Code	QBS-2511	QBS-5689
Mn-54	-0.2 ± 0.9 ; 0.9	0.3 ± 1.2 ; 1.2
Fe-59	0.6 ± 1.9 ; 1.9	3.4 ± 2.0 ; 2.0
Co-58	-0.0 ± 0.8 ; 0.8	-1.1 ± 1.0 ; 1.0
Co-60	2.9 ± 1.7 ; 1.8	0.4 ± 1.1 ; 1.1
Zn-65	1.7 ± 2.1 ; 2.1	0.2 ± 2.6 ; 2.6
Nb/Zr-95	-2.6 ± 0.8 ; 0.9	-1.7 ± 1.1 ; 1.2
Cs-134	0.9 ± 1.0 ; 1.0	1.9 ± 1.4 ; 1.4
Cs-137	1.4 ± 1.0 ; 1.0	6.5 ± 2.7 ; 2.8
Ba/La-140	0.1 ± 0.5 ; 0.5	-4.0 ± 1.0 ; 1.2

QUAD CITIES

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

Sample Description and Concentration

Q-Control (C) Charles Leavens

Date Collected	07-20-04	07-20-04
Lab Code	QVE-3869	QVE-3870
Type	Rhubarb leaves	Onions
Mn-54	-0.4 ± 0.8 ; 0.8	0.1 ± 0.9 ; 0.9
Fe-59	-1.5 ± 1.6 ; 1.6	-1.0 ± 1.5 ; 1.5
Co-58	0.3 ± 0.8 ; 0.8	-0.5 ± 0.9 ; 0.9
Co-60	-0.1 ± 0.8 ; 0.8	0.9 ± 1.0 ; 1.0
Zn-65	-1.0 ± 1.8 ; 1.8	0.2 ± 2.1 ; 2.1
Nb/Zr-95	-0.5 ± 0.5 ; 0.5	-0.1 ± 0.7 ; 0.7
I-131	0.6 ± 0.7 ; 0.7	0.9 ± 0.9 ; 0.9
Cs-134	-0.3 ± 0.8 ; 0.8	0.4 ± 0.8 ; 0.8
Cs-137	0.4 ± 0.8 ; 0.8	0.6 ± 1.0 ; 1.0
Ba/La-140	-0.2 ± 0.6 ; 0.6	0.0 ± 1.3 ; 1.3

Date Collected	07-20-04
Lab Code	QVE-3871
Type	Cucumbers
Mn-54	-0.4 ± 0.6 ; 0.6
Fe-59	-1.1 ± 1.6 ; 1.6
Co-58	-0.0 ± 0.6 ; 0.6
Co-60	0.6 ± 0.8 ; 0.8
Zn-65	-0.4 ± 1.5 ; 1.5
Nb/Zr-95	0.0 ± 0.7 ; 0.7
I-131	0.0 ± 0.5 ; 0.5
Cs-134	0.3 ± 0.8 ; 0.8
Cs-137	0.1 ± 0.8 ; 0.8
Ba/La-140	-0.1 ± 0.8 ; 0.8

QUAD CITIES

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

Sample Description and Concentration

Q-Quad 1 Janet Price

Date Collected	07-20-04	07-20-04
Lab Code	QVE-3872	QVE-3873
Type	Rhubarb leaves	Onions
Mn-54	0.0 ± 0.7 ; 0.7	-0.3 ± 0.7 ; 0.7
Fe-59	-0.4 ± 1.6 ; 1.6	-0.4 ± 1.3 ; 1.3
Co-58	0.5 ± 0.6 ; 0.6	0.2 ± 0.5 ; 0.5
Co-60	-0.8 ± 1.2 ; 1.2	0.4 ± 0.5 ; 0.6
Zn-65	0.7 ± 2.1 ; 2.1	0.2 ± 1.1 ; 1.1
Nb/Zr-95	0.1 ± 0.9 ; 0.9	-0.3 ± 0.5 ; 0.5
I-131	-0.1 ± 0.7 ; 0.7	-1.1 ± 0.6 ; 0.6
Cs-134	-0.4 ± 1.0 ; 1.0	0.3 ± 0.5 ; 0.5
Cs-137	0.2 ± 0.8 ; 0.8	-0.8 ± 0.6 ; 0.6
Ba/La-140	-1.8 ± 1.0 ; 1.0	-1.1 ± 0.7 ; 0.7
Date Collected	07-20-04	07-20-04
Lab Code	QVE-3874	QVE-3876
Type	Beets	Beet greens
Mn-54	-0.3 ± 0.8 ; 0.8	0.7 ± 0.9 ; 0.9
Fe-59	0.1 ± 1.7 ; 1.7	0.4 ± 2.2 ; 2.2
Co-58	-0.2 ± 0.8 ; 0.8	-0.1 ± 0.9 ; 0.9
Co-60	0.2 ± 0.8 ; 0.8	-0.2 ± 1.1 ; 1.1
Zn-65	-0.2 ± 1.8 ; 1.8	-3.1 ± 2.5 ; 2.5
Nb/Zr-95	0.1 ± 0.8 ; 0.8	-0.2 ± 0.9 ; 0.9
I-131	1.1 ± 0.7 ; 0.7	-0.5 ± 1.1 ; 1.1
Cs-134	0.0 ± 0.9 ; 0.9	-0.2 ± 0.9 ; 0.9
Cs-137	-0.0 ± 0.8 ; 0.8	0.1 ± 1.1 ; 1.1
Ba/La-140	0.5 ± 0.6 ; 0.6	0.2 ± 0.9 ; 0.9

QUAD CITIES

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

Sample Description and Concentration

Date Collected	07-20-04	
Lab Code	QVE-3877	
Type	Potatoes	
Mn-54	0.8 ± 1.0 ; 1.0	
Fe-59	0.6 ± 2.1 ; 2.1	
Co-58	0.2 ± 0.9 ; 0.9	
Co-60	1.5 ± 1.4 ; 1.4	
Zn-65	1.0 ± 2.6 ; 2.6	
Nb/Zr-95	0.9 ± 0.9 ; 0.9	
I-131	-0.8 ± 1.0 ; 1.0	
Cs-134	-1.1 ± 1.2 ; 1.2	
Cs-137	-0.2 ± 0.9 ; 0.9	
Ba/La-140	-1.6 ± 1.1 ; 1.1	
	<u>Q-Quad 2 Dale Nimmic</u>	
Date Collected	07-20-04	07-20-04
Lab Code	QVE-3878	QVE-3879
Type	Rhubarb leaves	Potatoes + onions
Mn-54	-0.7 ± 0.7 ; 0.8	1.4 ± 1.0 ; 1.0
Fe-59	-0.5 ± 1.7 ; 1.7	-1.3 ± 2.4 ; 2.4
Co-58	0.0 ± 0.6 ; 0.6	-0.1 ± 0.8 ; 0.8
Co-60	0.5 ± 0.7 ; 0.7	0.4 ± 1.2 ; 1.2
Zn-65	-2.2 ± 2.4 ; 2.4	-0.6 ± 2.7 ; 2.7
Nb/Zr-95	0.4 ± 0.7 ; 0.7	-1.6 ± 0.9 ; 0.9
I-131	-0.2 ± 0.5 ; 0.5	1.4 ± 0.8 ; 0.8
Cs-134	0.2 ± 0.8 ; 0.8	0.9 ± 1.0 ; 1.0
Cs-137	0.5 ± 0.7 ; 0.7	0.3 ± 1.1 ; 1.1
Ba/La-140	-0.9 ± 0.6 ; 0.6	1.3 ± 1.5 ; 1.5

QUAD CITIES

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

Sample Description and Concentration

Q-Quad 3 Amy Johnston

Date Collected	07-20-04	07-20-04
Lab Code	QVE-3880	QVE-3881
Type	Rhubarb leaves	Beets
Mn-54	0.1 ± 0.7 ; 0.7	0.4 ± 1.2 ; 1.2
Fe-59	-1.3 ± 1.3 ; 1.3	-0.6 ± 2.4 ; 2.4
Co-58	-0.1 ± 0.5 ; 0.5	0.1 ± 1.2 ; 1.2
Co-60	0.1 ± 0.6 ; 0.6	0.1 ± 1.4 ; 1.4
Zn-65	-0.1 ± 1.4 ; 1.4	-1.2 ± 2.9 ; 2.9
Nb/Zr-95	-0.2 ± 0.6 ; 0.6	0.6 ± 1.1 ; 1.1
I-131	-0.7 ± 0.6 ; 0.6	0.6 ± 1.1 ; 1.1
Cs-134	0.3 ± 0.6 ; 0.6	0.1 ± 1.4 ; 1.4
Cs-137	0.2 ± 0.6 ; 0.6	-0.5 ± 1.2 ; 1.2
Ba/La-140	0.3 ± 0.5 ; 0.5	-0.3 ± 1.3 ; 1.3
Date Collected	07-20-04	07-20-04
Lab Code	QVE-3882	QVE-3883
Type	Beet greens	Potatoes
Mn-54	0.4 ± 0.8 ; 0.8	-0.2 ± 0.9 ; 0.9
Fe-59	0.7 ± 2.2 ; 2.2	-0.3 ± 1.5 ; 1.5
Co-58	0.3 ± 0.9 ; 0.9	0.1 ± 0.7 ; 0.7
Co-60	-0.7 ± 1.1 ; 1.1	0.3 ± 0.8 ; 0.8
Zn-65	-2.4 ± 2.7 ; 2.7	-0.3 ± 2.2 ; 2.2
Nb/Zr-95	0.5 ± 0.9 ; 0.9	0.3 ± 0.7 ; 0.7
I-131	0.7 ± 0.7 ; 0.7	0.9 ± 0.7 ; 0.7
Cs-134	0.2 ± 1.1 ; 1.1	0.6 ± 0.7 ; 0.7
Cs-137	0.7 ± 1.0 ; 1.0	-0.2 ± 1.0 ; 1.0
Ba/La-140	-0.3 ± 0.7 ; 0.7	-1.4 ± 0.9 ; 1.0

QUAD CITIES

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

Sample Description and Concentration

Q-Quad 4 William Dohrmann

Date Collected	07-20-04	07-20-04
Lab Code	QVE-3884	QVE-3885
Type	Cabbage	Carrots
Mn-54	0.1 ± 0.9 ; 0.9	-0.4 ± 0.8 ; 0.8
Fe-59	2.0 ± 1.8 ; 1.8	1.3 ± 1.4 ; 1.4
Co-58	-0.1 ± 0.8 ; 0.8	0.5 ± 0.6 ; 0.6
Co-60	-0.6 ± 1.0 ; 1.0	-0.6 ± 0.8 ; 0.8
Zn-65	-0.6 ± 2.0 ; 2.0	0.1 ± 1.6 ; 1.6
Nb/Zr-95	0.3 ± 0.8 ; 0.8	0.0 ± 0.6 ; 0.6
I-131	-0.2 ± 0.8 ; 0.8	-0.3 ± 0.7 ; 0.7
Cs-134	-0.2 ± 0.8 ; 0.8	-0.3 ± 0.7 ; 0.7
Cs-137	0.1 ± 0.7 ; 0.7	0.5 ± 0.7 ; 0.7
Ba/La-140	-0.7 ± 0.9 ; 0.9	-0.0 ± 0.7 ; 0.7
Date Collected	07-20-04	07-20-04
Lab Code	QVE-3886	QVE-3887
Type	Onions	Broccoli
Mn-54	-0.3 ± 0.8 ; 0.8	0.8 ± 0.8 ; 0.8
Fe-59	0.8 ± 1.4 ; 1.4	-0.8 ± 1.6 ; 1.6
Co-58	0.5 ± 1.0 ; 1.0	0.3 ± 0.8 ; 0.8
Co-60	-0.5 ± 1.0 ; 1.0	0.2 ± 0.8 ; 0.8
Zn-65	-0.0 ± 2.0 ; 2.0	0.8 ± 1.8 ; 1.8
Nb/Zr-95	-0.4 ± 0.8 ; 0.8	-0.7 ± 0.8 ; 0.8
I-131	-0.1 ± 0.7 ; 0.7	1.5 ± 0.9 ; 0.9
Cs-134	0.2 ± 0.6 ; 0.6	0.8 ± 0.9 ; 0.9
Cs-137	-0.3 ± 0.9 ; 0.9	-0.0 ± 0.8 ; 0.8
Ba/La-140	-0.7 ± 1.1 ; 1.1	-0.0 ± 0.7 ; 0.7

QUAD CITIES

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

Sample Description and Concentration			
Q-33 Cordova			
2004 Collection Period	January	February	March
Lab Code	QSW-10 ^a	QSW-836,7 ^a	QSW-1252
Gross Beta	2.2 ± 1.0 ; 1.0	3.6 ± 0.7 ; 0.8	5.3 ± 1.2 ; 1.4
Mn-54	1.0 ± 1.1 ; 1.1	2.6 ± 2.2 ; 2.2	-0.8 ± 2.1 ; 2.1
Fe-59	1.1 ± 2.1 ; 2.1	-1.2 ± 4.1 ; 4.1	1.1 ± 3.7 ; 3.7
Co-58	0.4 ± 1.0 ; 1.0	0.9 ± 1.9 ; 1.9	0.4 ± 1.9 ; 1.9
Co-60	1.2 ± 1.3 ; 1.3	-0.9 ± 2.1 ; 2.1	-1.6 ± 2.2 ; 2.2
Zn-65	-1.4 ± 2.4 ; 2.4	-6.4 ± 4.8 ; 4.9	-2.2 ± 4.3 ; 4.3
Zr-95	-4.9 ± 2.5 ; 2.6	1.1 ± 4.5 ; 4.5	-2.9 ± 3.7 ; 3.8
Nb-95	0.1 ± 1.2 ; 1.2	-0.9 ± 2.2 ; 2.2	-0.7 ± 2.0 ; 2.0
Cs-134	0.9 ± 1.3 ; 1.3	1.4 ± 2.5 ; 2.5	-0.1 ± 1.7 ; 1.7
Cs-137	0.7 ± 1.1 ; 1.1	2.4 ± 2.5 ; 2.5	1.3 ± 1.9 ; 1.9
Ba-140	-18.8 ± 3.9 ; 4.7	5.5 ± 8.0 ; 8.0	11.0 ± 7.4 ; 7.6
La-140	0.8 ± 1.3 ; 1.3	0.5 ± 2.1 ; 2.1	-2.8 ± 2.8 ; 2.9
2004 Collection Period	April	May	June
Lab Code	QSW-2127	QSW-2770	QSW-3452
Gross Beta	3.4 ± 0.9 ; 1.1	4.2 ± 1.0 ; 1.2	3.9 ± 1.0 ; 1.2
Mn-54	-2.3 ± 3.5 ; 3.5	0.5 ± 3.4 ; 3.4	1.8 ± 2.2 ; 2.2
Fe-59	1.4 ± 5.4 ; 5.4	-3.5 ± 6.6 ; 6.6	3.1 ± 4.9 ; 4.9
Co-58	1.2 ± 3.1 ; 3.1	0.8 ± 3.2 ; 3.2	0.1 ± 2.1 ; 2.1
Co-60	0.4 ± 2.1 ; 2.1	2.7 ± 4.0 ; 4.0	1.4 ± 2.7 ; 2.7
Zn-65	-6.2 ± 7.7 ; 7.7	1.0 ± 6.3 ; 6.3	0.3 ± 4.9 ; 4.9
Zr-95	1.6 ± 6.4 ; 6.5	-1.2 ± 6.6 ; 6.6	-5.5 ± 6.1 ; 6.1
Nb-95	1.0 ± 2.7 ; 2.7	-2.1 ± 3.1 ; 3.1	0.3 ± 2.4 ; 2.4
Cs-134	-2.4 ± 4.3 ; 4.4	0.6 ± 4.1 ; 4.1	-0.8 ± 2.8 ; 2.8
Cs-137	2.1 ± 3.6 ; 3.7	-0.2 ± 3.2 ; 3.2	1.2 ± 2.5 ; 2.6
Ba-140	-5.2 ± 12.3 ; 12.3	1.9 ± 10.1 ; 10.1	1.9 ± 9.7 ; 9.7
La-140	-3.3 ± 4.1 ; 4.1	-7.7 ± 4.4 ; 4.6	-3.7 ± 3.9 ; 3.9

^a Partial composite for month; water frozen.

QUAD CITIES

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

Sample Description and Concentration			
Q-33 Cordova			
2004 Collection Period	July	August	September
Lab Code	QSW-4436	QSW-5022	QSW-5730
Gross Beta	3.9 ± 1.0 ; 1.2	2.4 ± 1.1 ; 1.2	4.4 ± 1.1 ; 1.3
Mn-54	1.2 ± 2.8 ; 2.8	-3.6 ± 3.4 ; 3.4	0.1 ± 1.9 ; 1.9
Fe-59	2.5 ± 5.5 ; 5.5	4.7 ± 6.8 ; 6.9	4.2 ± 3.5 ; 3.6
Co-58	-3.3 ± 2.6 ; 2.7	0.3 ± 3.1 ; 3.1	-0.8 ± 1.8 ; 1.8
Co-60	-1.4 ± 3.4 ; 3.4	-3.4 ± 3.9 ; 3.9	1.2 ± 1.4 ; 1.4
Zn-65	-1.7 ± 5.5 ; 5.5	-2.1 ± 6.1 ; 6.1	-10.3 ± 5.7 ; 5.9
Zr-95	2.6 ± 6.0 ; 6.0	-9.9 ± 7.4 ; 7.5	3.8 ± 4.5 ; 4.5
Nb-95	-1.5 ± 3.3 ; 3.3	-0.6 ± 3.0 ; 3.0	-1.9 ± 2.2 ; 2.2
Cs-134	-0.2 ± 3.7 ; 3.7	0.3 ± 3.5 ; 3.5	-0.5 ± 2.4 ; 2.4
Cs-137	1.9 ± 2.9 ; 2.9	4.2 ± 3.3 ; 3.3	1.1 ± 2.2 ; 2.2
Ba-140	-4.0 ± 9.8 ; 9.8	2.2 ± 10.1 ; 10.1	1.0 ± 8.6 ; 8.6
La-140	2.4 ± 4.1 ; 4.1	-2.1 ± 3.9 ; 3.9	3.9 ± 2.2 ; 2.2
2004 Collection Period	October	November	December
Lab Code	QSW-6596	QSW-7190	QSW-7607 ^a
Gross Beta	4.7 ± 1.1 ; 1.3	3.2 ± 1.0 ; 1.1	4.1 ± 1.4 ; 1.6
Mn-54	0.5 ± 2.3 ; 2.3	0.2 ± 1.9 ; 1.9	-0.6 ± 2.6 ; 2.6
Fe-59	0.7 ± 3.7 ; 3.7	3.4 ± 4.0 ; 4.1	0.3 ± 4.7 ; 4.7
Co-58	0.1 ± 1.9 ; 1.9	0.6 ± 1.6 ; 1.6	-1.2 ± 2.5 ; 2.5
Co-60	0.8 ± 2.2 ; 2.2	0.1 ± 1.4 ; 1.4	1.3 ± 2.6 ; 2.6
Zn-65	-6.1 ± 4.8 ; 4.8	-6.3 ± 4.2 ; 4.3	1.6 ± 5.2 ; 5.2
Zr-95	-3.3 ± 3.3 ; 3.4	-6.2 ± 3.9 ; 4.0	-0.2 ± 5.6 ; 5.6
Nb-95	-3.6 ± 2.0 ; 2.0	-0.9 ± 1.6 ; 1.6	-0.7 ± 2.8 ; 2.8
Cs-134	0.6 ± 1.9 ; 1.9	2.5 ± 1.9 ; 1.9	0.3 ± 2.8 ; 2.8
Cs-137	-0.5 ± 2.0 ; 2.0	0.6 ± 2.1 ; 2.1	1.1 ± 2.8 ; 2.8
Ba-140	-1.2 ± 6.9 ; 6.9	7.1 ± 6.4 ; 6.5	5.4 ± 9.3 ; 9.3
La-140	-2.0 ± 2.3 ; 2.4	-5.3 ± 2.2 ; 2.4	-1.4 ± 2.9 ; 2.9

^a Partial composite for month; water frozen.

QUAD CITIES

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

Sample Description and Concentration			
<u>Q-34 (C) Camanche</u>			
2004			
Collection Period	January	February	March
Lab Code	QSW-498*	QSW-838*	QSW-1253
Gross Beta	3.1 ± 1.2 ; 1.3	3.9 ± 1.0 ; 1.2	4.8 ± 1.2 ; 1.4
Mn-54	-1.8 ± 2.0 ; 2.0	-1.4 ± 4.5 ; 4.5	0.7 ± 1.7 ; 1.7
Fe-59	2.8 ± 3.5 ; 3.5	-1.0 ± 6.0 ; 6.0	-0.8 ± 3.8 ; 3.8
Co-58	0.7 ± 1.8 ; 1.8	0.4 ± 4.2 ; 4.2	-0.6 ± 1.9 ; 1.9
Co-60	1.0 ± 1.9 ; 1.9	-1.8 ± 5.2 ; 5.2	-2.6 ± 2.4 ; 2.4
Zn-65	-7.4 ± 4.7 ; 4.8	-1.5 ± 9.0 ; 9.0	-0.4 ± 4.6 ; 4.6
Zr-95	-1.4 ± 4.2 ; 4.2	2.4 ± 7.1 ; 7.1	3.8 ± 4.1 ; 4.1
Nb-95	-0.5 ± 2.0 ; 2.0	2.0 ± 4.4 ; 4.4	0.6 ± 1.8 ; 1.8
Cs-134	1.5 ± 2.1 ; 2.1	4.5 ± 4.3 ; 4.4	-2.0 ± 1.8 ; 1.8
Cs-137	0.4 ± 2.0 ; 2.0	3.0 ± 4.7 ; 4.7	0.6 ± 2.0 ; 2.0
Ba-140	5.4 ± 7.0 ; 7.0	5.8 ± 15.1 ; 15.1	-8.1 ± 8.2 ; 8.2
La-140	-12.2 ± 2.3 ; 2.9	3.2 ± 4.7 ; 4.8	0.7 ± 2.6 ; 2.6
2004			
Collection Period	April	May	June
Lab Code	QSW-2128	QSW-2771	QSW-3453
Gross Beta	3.8 ± 1.0 ; 1.2	4.3 ± 1.0 ; 1.2	4.6 ± 1.1 ; 1.3
Mn-54	-1.7 ± 3.2 ; 3.2	1.2 ± 3.4 ; 3.4	1.1 ± 1.8 ; 1.8
Fe-59	-4.5 ± 6.7 ; 6.7	-1.5 ± 4.3 ; 4.3	4.3 ± 3.8 ; 3.9
Co-58	0.6 ± 3.8 ; 3.8	-1.6 ± 2.4 ; 2.4	0.8 ± 1.7 ; 1.7
Co-60	1.0 ± 2.9 ; 2.9	0.5 ± 2.7 ; 2.7	1.6 ± 2.2 ; 2.2
Zn-65	-4.8 ± 6.3 ; 6.4	-2.7 ± 5.7 ; 5.7	-5.3 ± 4.1 ; 4.2
Zr-95	3.2 ± 7.4 ; 7.4	0.7 ± 5.8 ; 5.8	5.0 ± 4.4 ; 4.4
Nb-95	1.5 ± 3.1 ; 3.1	1.5 ± 2.9 ; 2.9	-0.4 ± 1.8 ; 1.8
Cs-134	1.3 ± 3.5 ; 3.6	-3.9 ± 3.1 ; 3.1	-0.7 ± 2.2 ; 2.2
Cs-137	-0.9 ± 3.8 ; 3.8	0.2 ± 2.9 ; 2.9	-0.1 ± 1.9 ; 1.9
Ba-140	-3.5 ± 11.4 ; 11.4	10.3 ± 9.0 ; 9.2	30.9 ± 6.7 ; 8.1
La-140	2.1 ± 3.6 ; 3.6	2.2 ± 1.7 ; 1.7	4.6 ± 2.2 ; 2.3

* Partial composite for month; water frozen.

QUAD CITIES

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

Sample Description and Concentration				
<u>Q-34 (C) Camanche</u>				
2004				
Collection Period	July	August	September	
Lab Code	QSW-4437	QSW-5023	QSW-5731	
Gross Beta	4.1 ± 1.0 ; 1.2	3.6 ± 1.1 ; 1.2	3.0 ± 1.0 ; 1.1	
Mn-54	-2.3 ± 3.3 ; 3.4	3.9 ± 3.3 ; 3.4	-2.2 ± 2.7 ; 2.7	
Fe-59	11.3 ± 6.6 ; 6.8	-4.4 ± 5.8 ; 5.9	3.2 ± 4.5 ; 4.5	
Co-58	1.5 ± 3.2 ; 3.3	0.7 ± 3.4 ; 3.4	1.0 ± 2.7 ; 2.7	
Co-60	-1.3 ± 3.1 ; 3.1	-2.8 ± 3.2 ; 3.2	-1.8 ± 4.1 ; 4.1	
Zn-65	4.2 ± 5.6 ; 5.6	-1.8 ± 7.4 ; 7.4	-2.9 ± 6.5 ; 6.5	
Zr-95	2.9 ± 6.8 ; 6.8	-5.5 ± 7.2 ; 7.3	-1.9 ± 5.4 ; 5.4	
Nb-95	1.1 ± 3.2 ; 3.2	1.8 ± 3.2 ; 3.2	-1.0 ± 3.3 ; 3.3	
Cs-134	1.5 ± 3.7 ; 3.7	-1.1 ± 3.9 ; 3.9	1.2 ± 2.5 ; 2.5	
Cs-137	1.6 ± 3.1 ; 3.1	1.0 ± 3.5 ; 3.5	-0.7 ± 3.2 ; 3.2	
Ba-140	2.5 ± 10.5 ; 10.5	6.1 ± 11.7 ; 11.7	11.7 ± 11.4 ; 11.5	
La-140	5.8 ± 5.0 ; 5.0	1.6 ± 3.9 ; 3.9	-6.2 ± 3.6 ; 3.7	
2004				
Collection Period	October	November	December	
Lab Code	QSW-6597,8	QSW-7191	QSW-7608*	
Gross Beta	4.0 ± 0.8 ; 0.9	2.9 ± 1.0 ; 1.1	4.4 ± 1.4 ; 1.5	
Mn-54	-0.6 ± 1.5 ; 1.5	0.9 ± 2.7 ; 2.7	0.3 ± 1.8 ; 1.8	
Fe-59	-2.6 ± 3.1 ; 3.1	-0.6 ± 4.2 ; 4.2	-1.2 ± 3.5 ; 3.5	
Co-58	-0.2 ± 1.5 ; 1.5	1.2 ± 2.2 ; 2.2	-2.3 ± 2.5 ; 2.5	
Co-60	-0.7 ± 1.4 ; 1.4	-0.9 ± 3.0 ; 3.0	3.7 ± 2.9 ; 3.0	
Zn-65	-1.3 ± 3.4 ; 3.4	-0.3 ± 6.8 ; 6.8	-2.0 ± 4.5 ; 4.5	
Zr-95	3.4 ± 3.1 ; 3.2	-1.4 ± 6.2 ; 6.2	2.0 ± 4.7 ; 4.7	
Nb-95	-1.2 ± 1.5 ; 1.5	0.1 ± 2.8 ; 2.8	0.1 ± 2.1 ; 2.1	
Cs-134	-0.3 ± 1.6 ; 1.6	2.1 ± 3.1 ; 3.1	-1.1 ± 2.7 ; 2.7	
Cs-137	-0.2 ± 1.7 ; 1.7	0.2 ± 3.5 ; 3.5	-0.5 ± 2.5 ; 2.5	
Ba-140	-9.1 ± 6.1 ; 6.2	2.5 ± 11.1 ; 11.1	-11.2 ± 8.5 ; 8.7	
La-140	-2.6 ± 1.5 ; 1.6	-0.7 ± 1.8 ; 1.8	0.4 ± 3.5 ; 3.5	

* Partial composite for month; water frozen.

QUAD CITIES

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

2004 Collection Period	<u>Sample Description and Concentration</u>	
	Lab Code	Tritium
<u>Q-33 Cordova</u>		
1st Quarter	QSW - 1256	103 ± 85 ;86
2nd Quarter	QSW - 3545	-1 ± 81 ;81
3rd Quarter	QSW - 5664	32 ± 84 ;84
4th Quarter	QSW - 7609	88 ± 86 ;86
<u>Q-34 (C) Camanche</u>		
1st Quarter	QSW - 1257	73 ± 83 ;84
2nd Quarter	QSW - 3546	5 ± 81 ;81
3rd Quarter	QSW - 5665	66 ± 86 ;86
4th Quarter	QSW - 7610	76 ± 85 ;86

QUAD CITIES

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

Sample Description and Concentration				
<u>Q-35 McMillian Well</u>				
Date Collected	01-09-04	04-09-04	07-09-04	10-08-04
Lab Code	QWW-189	QWW-1604	QWW-3615	QWW-5892
H-3	11 ± 81 ; 81	136 ± 83 ; 85	122 ± 83 ; 84	-35 ± 80 ; 81
Mn-54	0.1 ± 1.9 ; 1.9	-1.3 ± 2.0 ; 2.0	-6.1 ± 4.4 ; 4.5	-0.8 ± 3.6 ; 3.6
Fe-59	2.8 ± 4.9 ; 4.9	-2.3 ± 4.2 ; 4.2	-1.3 ± 6.7 ; 6.7	1.8 ± 5.0 ; 5.0
Co-58	0.6 ± 2.8 ; 2.5	-0.5 ± 2.0 ; 1.9	0.5 ± 4.0 ; 3.9	-0.2 ± 3.3 ; 4.1
Co-60	-0.7 ± 2.5 ; 2.8	0.6 ± 1.9 ; 2.0	-1.8 ± 3.9 ; 4.0	-0.9 ± 4.1 ; 3.3
Zn-65	5.1 ± 6.1 ; 6.2	1.8 ± 3.5 ; 3.5	-3.6 ± 7.1 ; 7.1	-1.6 ± 8.7 ; 8.7
Zr-95	1.1 ± 6.0 ; 6.0	0.4 ± 4.2 ; 4.2	4.0 ± 7.9 ; 7.9	-3.9 ± 6.3 ; 6.4
Nb-95	0.2 ± 2.6 ; 2.6	-2.5 ± 2.1 ; 2.1	1.1 ± 3.2 ; 3.2	-6.7 ± 3.4 ; 3.5
Cs-134	0.9 ± 3.4 ; 3.4	-0.7 ± 2.0 ; 2.0	-1.0 ± 4.8 ; 4.8	3.2 ± 4.0 ; 4.0
Cs-137	1.9 ± 2.4 ; 2.4	0.2 ± 2.0 ; 2.0	-0.1 ± 3.3 ; 3.3	2.4 ± 3.9 ; 3.9
Ba-140	-10.2 ± 7.7 ; 7.9	4.1 ± 8.2 ; 8.2	-18.5 ± 12.9 ; 13.2	4.5 ± 12.8 ; 12.8
La-140	5.5 ± 2.4 ; 2.6	2.2 ± 2.2 ; 2.2	-1.5 ± 4.9 ; 4.9	10.4 ± 4.1 ; 4.4
<u>Q-36 Cordova Well</u>				
Date Collected	01-09-04	04-09-04	07-09-04	10-08-04
Lab Code	QWW-190	QWW-1605	QWW-3616,7	QWW-5893
H-3	4 ± 81 ; 81	19 ± 77 ; 77	166 ± 60 ; 62	-41 ± 80 ; 80
Mn-54	-0.7 ± 1.8 ; 1.8	1.3 ± 1.9 ; 1.9	-0.4 ± 1.3 ; 1.3	0.2 ± 1.9 ; 1.9
Fe-59	0.4 ± 3.0 ; 3.0	-2.6 ± 3.7 ; 3.7	0.2 ± 2.2 ; 2.2	2.6 ± 4.8 ; 4.8
Co-58	1.5 ± 1.7 ; 1.5	0.4 ± 1.7 ; 1.7	0.1 ± 1.2 ; 1.2	0.6 ± 3.2 ; 3.4
Co-60	1.4 ± 1.5 ; 1.8	0.4 ± 1.7 ; 1.7	-0.4 ± 1.2 ; 1.2	-0.5 ± 3.4 ; 3.2
Zn-65	-3.6 ± 4.0 ; 4.0	-7.4 ± 4.8 ; 4.9	-2.7 ± 2.9 ; 2.9	1.5 ± 4.3 ; 4.3
Zr-95	-1.8 ± 3.8 ; 3.8	-3.0 ± 3.8 ; 3.8	3.6 ± 2.9 ; 2.9	-5.3 ± 6.8 ; 6.9
Nb-95	-0.1 ± 1.7 ; 1.7	1.0 ± 2.3 ; 2.3	-0.4 ± 1.4 ; 1.4	-3.4 ± 3.2 ; 3.3
Cs-134	0.9 ± 2.0 ; 2.0	0.6 ± 1.8 ; 1.8	0.4 ± 1.4 ; 1.4	1.1 ± 2.1 ; 2.1
Cs-137	0.2 ± 2.0 ; 2.0	0.8 ± 2.2 ; 2.2	0.6 ± 1.3 ; 1.3	1.0 ± 3.7 ; 3.7
Ba-140	-3.5 ± 6.4 ; 6.4	7.5 ± 8.2 ; 8.3	-10.6 ± 5.0 ; 5.2	2.7 ± 12.7 ; 12.7
La-140	2.8 ± 1.6 ; 1.6	-0.4 ± 2.2 ; 2.2	2.6 ± 1.5 ; 1.6	-2.6 ± 3.3 ; 3.4

QUAD CITIES

5.0 MILCH ANIMALS, NEAREST LIVESTOCK, AND
NEAREST RESIDENCES CENSUS

QUAD CITIES

MILCH ANIMALS CENSUS, 2004

Cows being milked

Q-26	Bill Stanley Dairy	
	3.1 miles, Sector F	
	Corn, protein, hay	30
	Silage (winter)	
	Julie DePauw	
	6.6 miles, Sector H	
	10% - Pasture	75
	90% - Chopped and Feed	
	Carl Otte	
	4.6 miles, Sector N	
	UNCO-OPERATIVE	
	No Data Available	

Census conducted by G.T. Kreuder on August 24, 2004

QUAD CITIES

NEAREST LIVESTOCK CENSUS, 2004

Nearest livestock of the Quad Cities Station within a 6.2 mile radius.

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>	<u>Livestock No.</u>
A	N	2.7 miles	35
B	NNE	5.4 miles	4
C	NE	None	None
D	ENE	2.9 miles	25
E	E	2.7 miles	19
F	ESE	3.1 miles	30
G	SE	5.5 miles	15
H	SSE	3.4 miles	16
J	S	1.6 miles	25
K	SSW	None	None
L	SW	3.3 miles	55
M	WSW	2.2 miles	1
N	W	4.3 miles	90
P	WNW	3.8 miles	30
Q	NW	2.6 miles	20
R	NNW	2.2 miles	100

Census conducted by G.T. Kreuder on August 24, 2004

QUAD CITIES

NEAREST RESIDENCE CENSUS, 2004

Nearest resident of the Quad Cities Station within a 6.2 mile radius.

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>
A	N	0.6 miles
B	NNE	3.8 miles
C	NE	1.3 miles
D	ENE	2.9 miles
E	E	2.3 miles
F	ESE	2.8 miles
G	SE	2.5 miles
H	SSE	1.1 miles
J	S	0.8 miles
K	SSW	3.2 miles
L	SW	2.9 miles
M	WSW	2.2 miles
N	W	2.6 miles
P	WNW	2.7 miles
Q	NW	2.6 miles
R	NNW	2.1 miles

Census conducted by G.T. Kreuder on August 24, 2004

QUAD CITIES

6.0 TLD DATA*

*TLD Data provided by Exelon Nuclear.

Exelon Nuclear
Environmental Site Report for Quad Cities

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2004	Quarter 2 2004	Quarter 3 2004	Quarter 4 2004
I. INDICATOR LOCATIONS					
a. Air Samplers					
Q-01-1	ONSITE NO. 1	18.0	19.0	19.0	24.0
Q-01-2	ONSITE NO. 1	20.0	20.0	19.0	24.0
Q-02-1	ONSITE NO. 2	20.0	21.0	19.0	28.0
Q-02-2	ONSITE NO. 2	19.0	19.0	19.0	25.0
Q-03-1	ONSITE NO. 3	20.0	23.0	18.0	25.0
Q-03-2	ONSITE NO. 3	17.0	21.0	19.0	25.0
Q-04-1	NITRIN	19.0	21.0	21.0	29.0
Q-04-2	NITRIN	20.0	20.0	20.0	28.0
Q-13-1	PRINCETON	21.0	20.0	22.0	29.0
Q-13-2	PRINCETON	19.0	22.0	19.0	25.0
Q-16-1	LOW MOOR	19.0	22.0	19.0	26.0
Q-16-2	LOW MOOR	19.0	19.0	19.0	25.0
Q-37-1	MEREDOSIA ROAD	19.0	21.0	20.0	28.0
Q-37-2	MEREDOSIA ROAD	20.0	20.0	19.0	28.0
Q-38-1	FULLER ROAD	18.0	20.0	19.0	26.0
Q-38-2	FULLER ROAD	19.0	23.0	19.0	28.0
	Air Sampler Mean ± S. D.	19.2 ±1.0	20.7 ±1.3	19.4 ±1.0	26.4 ±1.8
	Annual Air Sampler Mean ± S.D.				21.4 ±3.2
b. Inner Ring (100 Series)					
Q-101-1		20.0	21.0	19.0	26.0
Q-101-2		20.0	19.0	20.0	28.0
Q-102-1		22.0	24.0	21.0	27.0
Q-102-3		19.0	23.0	19.0	27.0
Q-103-1		19.0	21.0	18.0	29.0
Q-103-2		19.0	19.0	19.0	26.0
Q-104-1		17.0	19.0	19.0	27.0
Q-104-2		20.0	20.0	21.0	28.0
Q-105-1		18.0	22.0	19.0	27.0
Q-105-2		19.0	19.0	18.0	27.0
Q-106-2		21.0	19.0	21.0	29.0
Q-106-3		18.0	19.0	19.0	24.0
Q-107-2		18.0	21.0	18.0	25.0
Q-107-3		18.0	19.0	18.0	24.0
Q-108-1		18.0	22.0	19.0	24.0
Q-108-2		20.0	19.0	18.0	22.0
Q-109-1		21.0	20.0	22.0	25.0
Q-109-2		18.0	20.0	20.0	24.0
Q-111-1		19.0	24.0	20.0	27.0
Q-111-2		19.0	20.0	19.0	25.0

Exelon Nuclear
Environmental Site Report for Quad Cities

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2004	Quarter 2 2004	Quarter 3 2004	Quarter 4 2004
b. Inner Ring (100 Series)					
Q-112-1		19.0	20.0	19.0	25.0
Q-112-2		19.0	24.0	19.0	26.0
Q-113-1		20.0	28.0	20.0	26.0
Q-113-2		21.0	19.0	21.0	25.0
Q-114-1		19.0	17.0	18.0	24.0
Q-114-2		19.0	23.0	22.0	26.0
Q-115-1		18.0	19.0	19.0	25.0
Q-115-2		19.0	21.0	20.0	24.0
Q-116-1		19.0	22.0	20.0	24.0
Q-116-3		21.0	20.0	20.0	25.0
	Inner Ring Mean ± S.D.	19.2 ±1.2	20.8 ±2.3	19.5 ±1.2	25.7 ±1.7
	Annual Inner Ring Mean ± S.D.				21.3 ±3.1
c. Outer Ring (200 Series)					
Q-201-1		22.0	22.0	24.0	27.0
Q-201-2		19.0	22.0	21.0	27.0
Q-202-1		20.0	22.0	18.0	25.0
Q-202-2		17.0	20.0	19.0	24.0
Q-203-1		21.0	20.0	19.0	26.0
Q-203-2		23.0	24.0	20.0	28.0
Q-204-1		22.0	25.0	21.0	26.0
Q-204-2		24.0	23.0	25.0	27.0
Q-205-1		24.0	25.0	23.0	25.0
Q-205-4		24.0	25.0	21.0	27.0
Q-206-1		20.0	20.0	22.0	27.0
Q-206-2		19.0	22.0	20.0	25.0
Q-207-1		21.0	22.0	25.0	27.0
Q-207-4		19.0	20.0	23.0	26.0
Q-208-1		21.0	20.0	21.0	25.0
Q-208-2		21.0	26.0	23.0	28.0
Q-209-1		24.0	25.0	21.0	27.0
Q-209-4		22.0	22.0	23.0	26.0
Q-210-1		21.0	23.0	20.0	26.0
Q-210-4		22.0	20.0	20.0	26.0
Q-211-1		24.0	26.0	25.0	28.0
Q-211-2		24.0	27.0	25.0	29.0
Q-212-1		21.0	22.0	21.0	28.0
Q-212-2		18.0	22.0	21.0	25.0
Q-213-1		20.0	21.0	21.0	26.0
Q-213-2		18.0	20.0	18.0	26.0
Q-214-1		22.0	22.0	24.0	26.0
Q-214-2		23.0	26.0	25.0	25.0

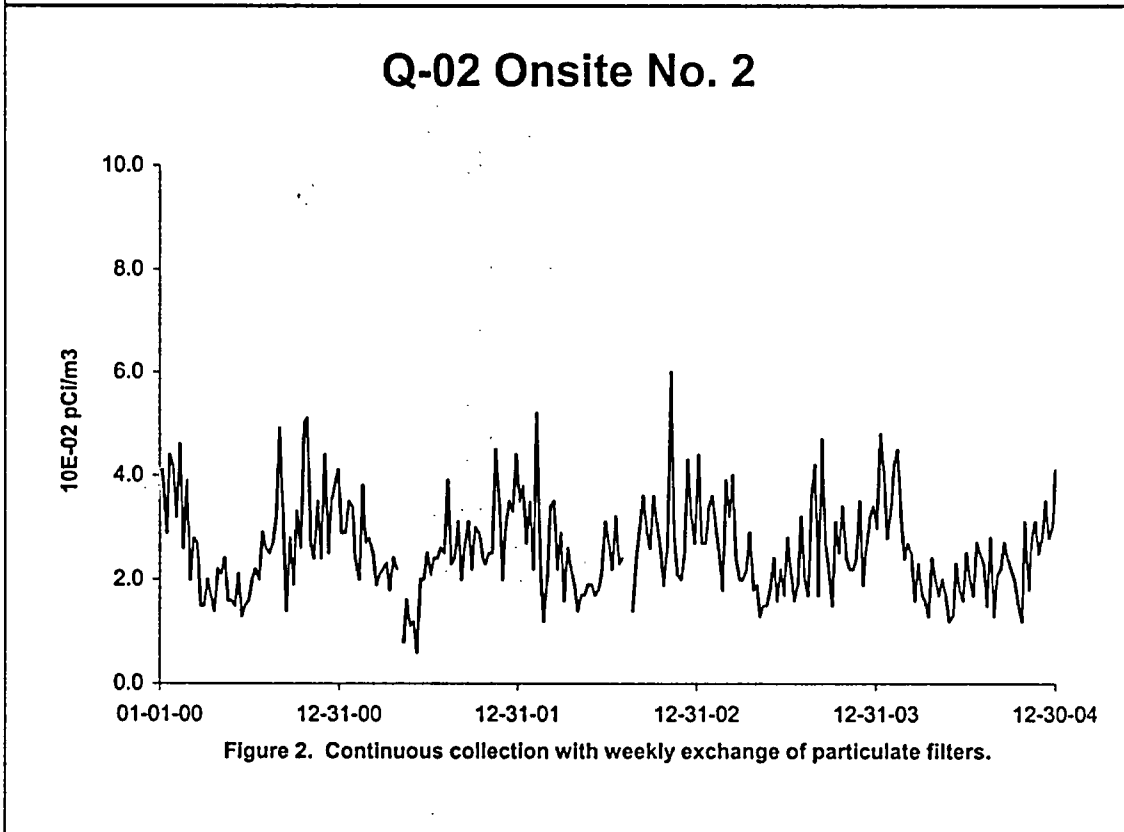
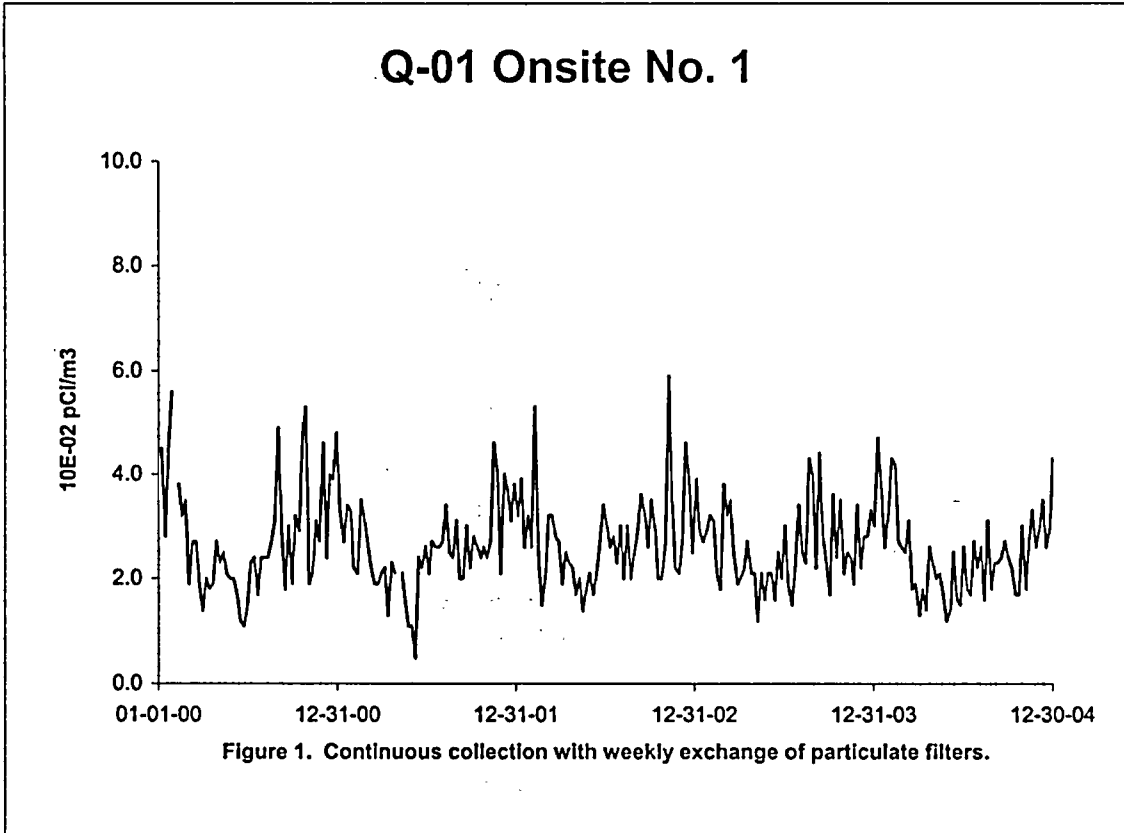
Exelon Nuclear
Environmental Site Report for Quad Cities

Site	Description	Gamma Radiation Measured in mR by TLDs			
		Quarter 1 2004	Quarter 2 2004	Quarter 3 2004	Quarter 4 2004
Outer Ring (200 Series)					
Q-215-1		26.0	21.0	19.0	26.0
Q-215-2		22.0	27.0	22.0	30.0
Q-216-1		22.0	22.0	20.0	27.0
Q-216-2		21.0	25.0	21.0	25.0
	Outer Ring Mean ± S.D.	21.5 ±2.1	22.8 ±2.3	21.6 ±2.1	26.4 ±1.3
	Annual Outer Ring Mean ± S.D.				23.1 ±2.8
	INDICATOR LOCATION MEAN ± S.D.	20.1 ±1.9	21.6 ±2.3	20.3 ±1.9	26.2 ±1.6
	Annual INDICATOR MEAN ± S.D.				22.1 ±3.1
II. CONTROL LOCATIONS					
Q-07-1	CLINTON	20.0	21.0	20.0	29.0
Q-07-2	CLINTON	20.0	21.0	20.0	29.0
	CONTROL LOCATION MEAN ± S.D.	20.0 ±0.0	21.0 ±0.0	20.0 ±0.0	29.0 ±0.0
	Annual CONTROL LOCATION MEAN ± S.D.				22.5 ±4.0

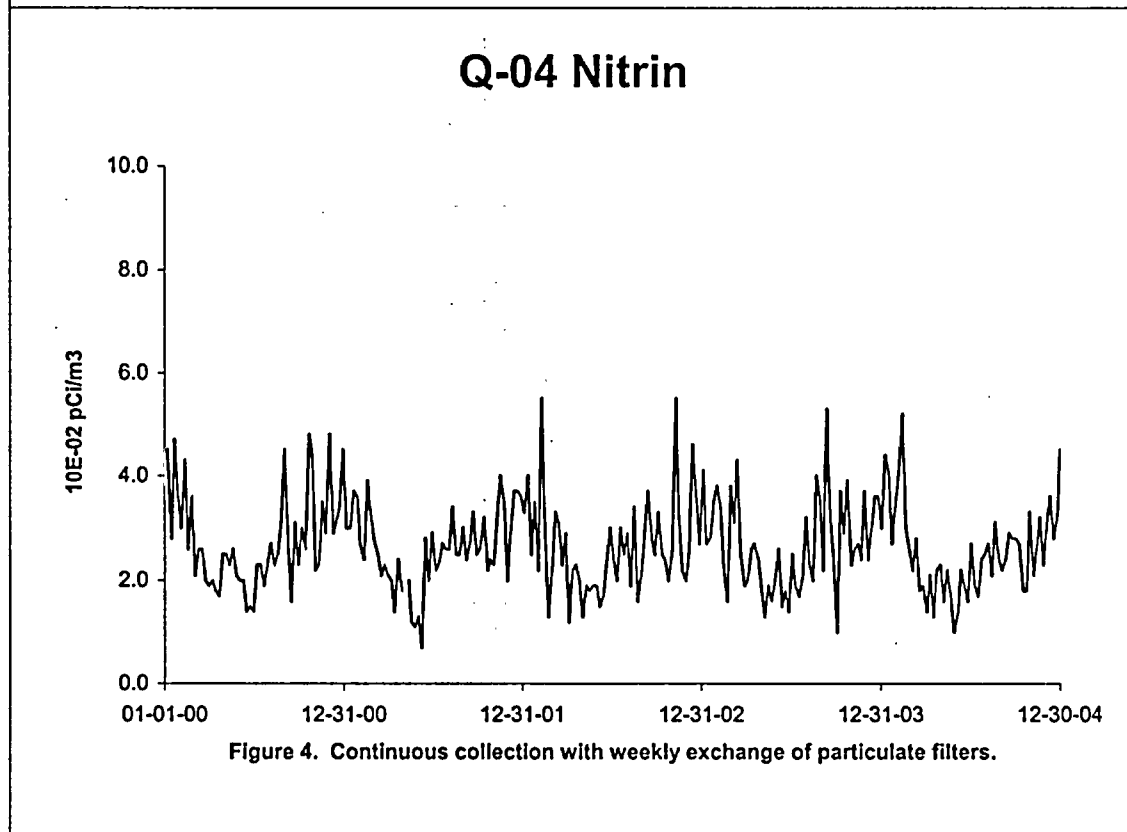
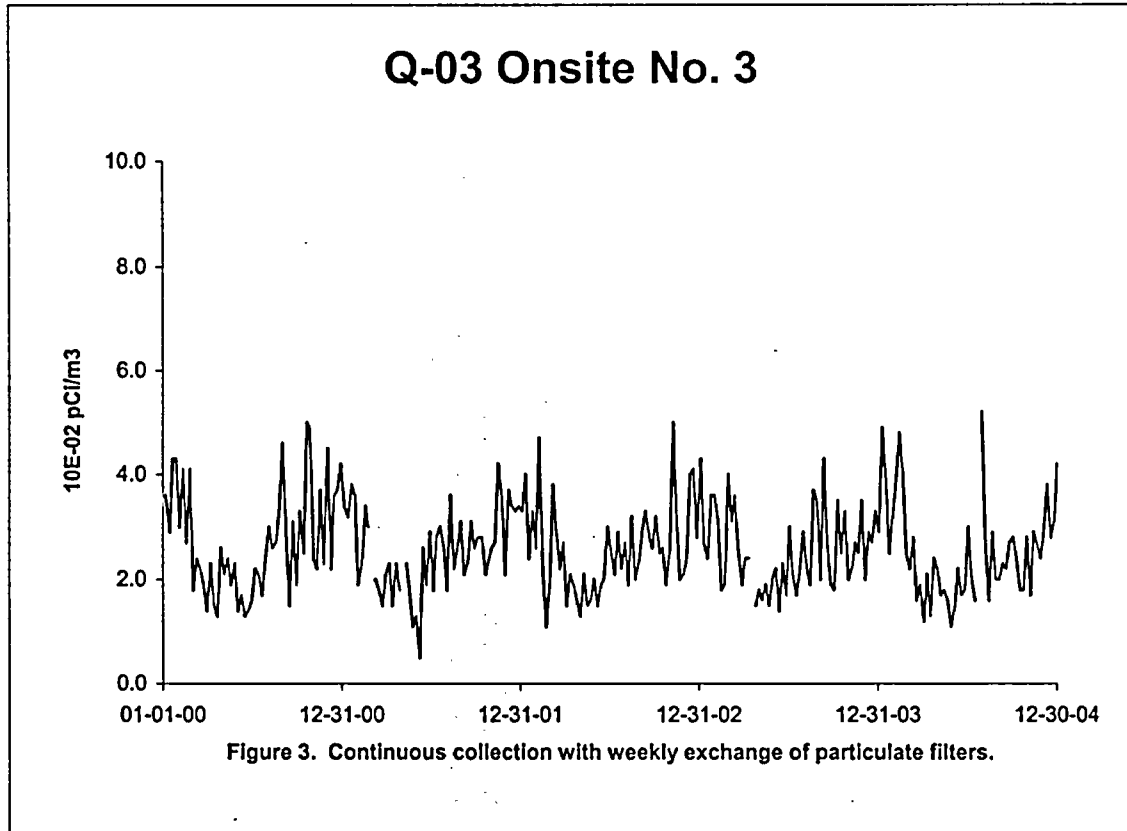
QUAD CITIES

5.0 GRAPHS OF DATA TRENDS

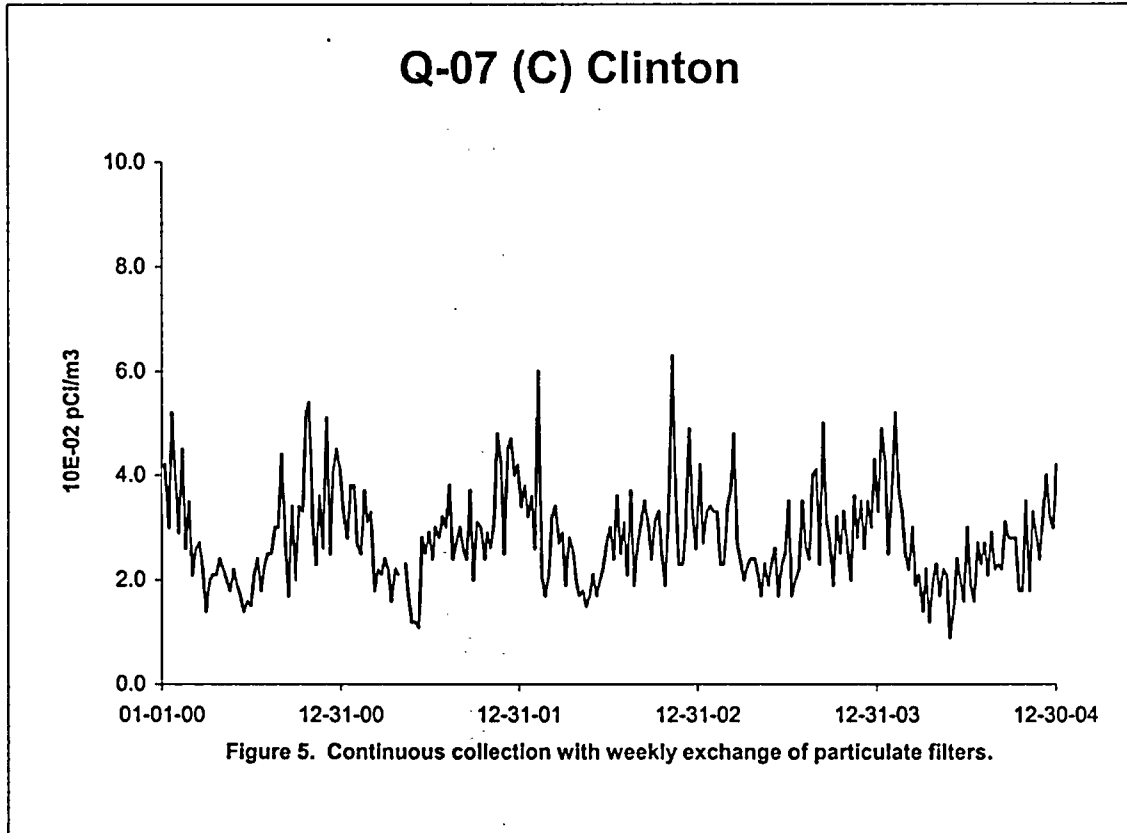
Air Particulates - Gross Beta



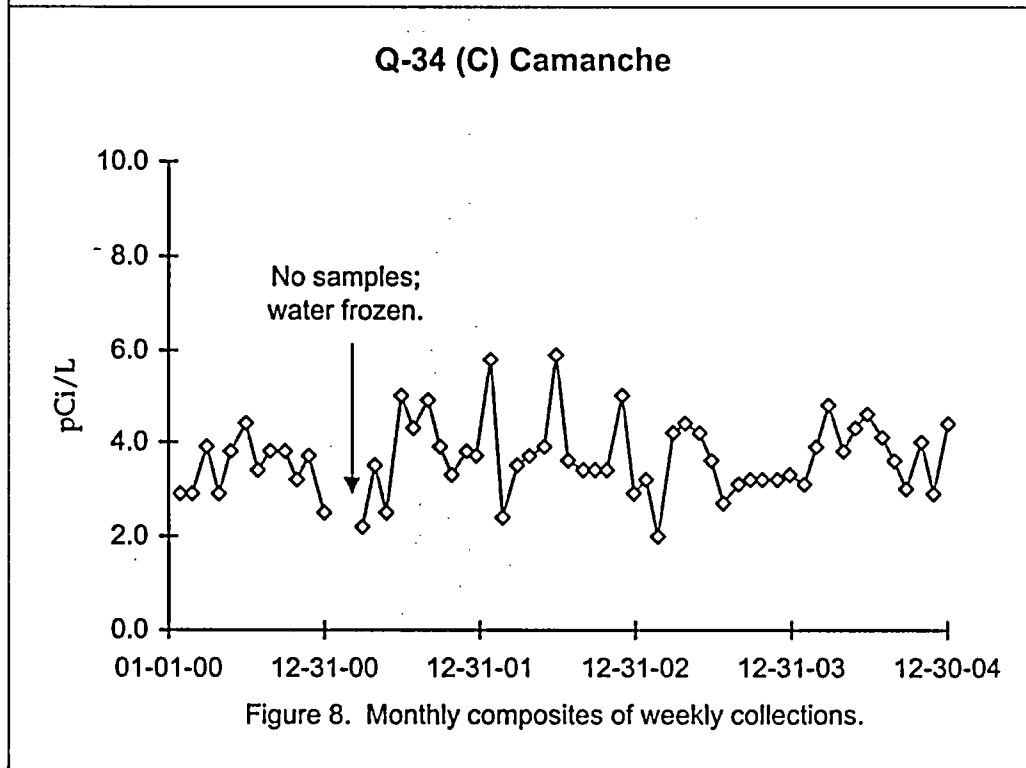
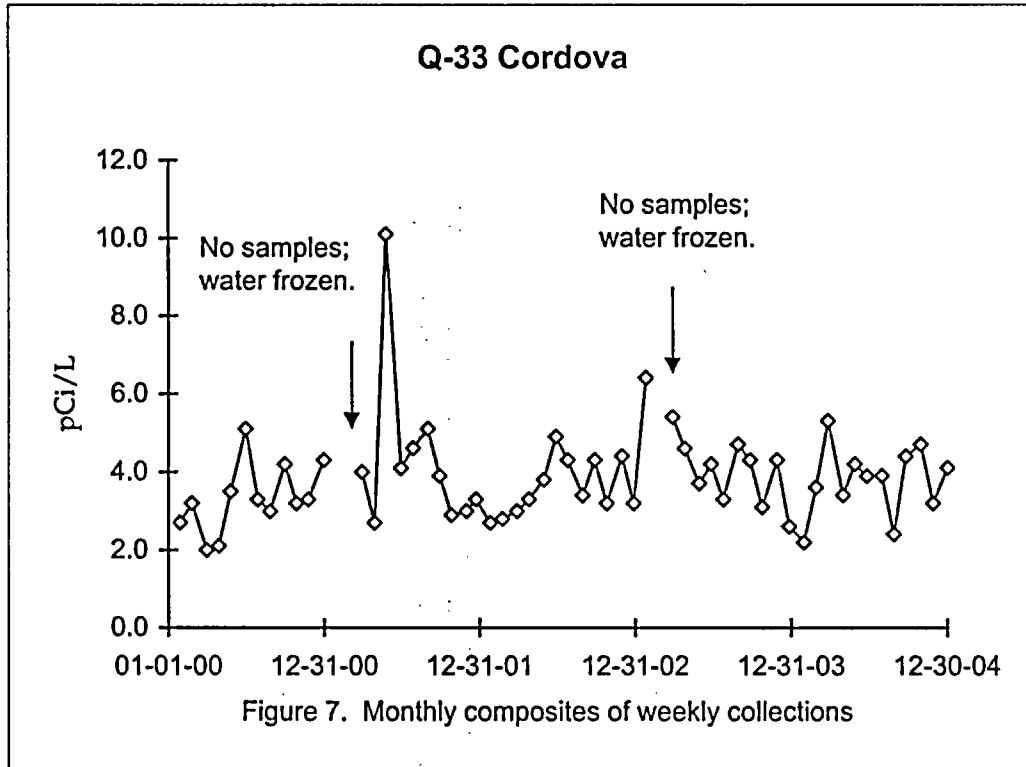
Air Particulates - Gross Beta



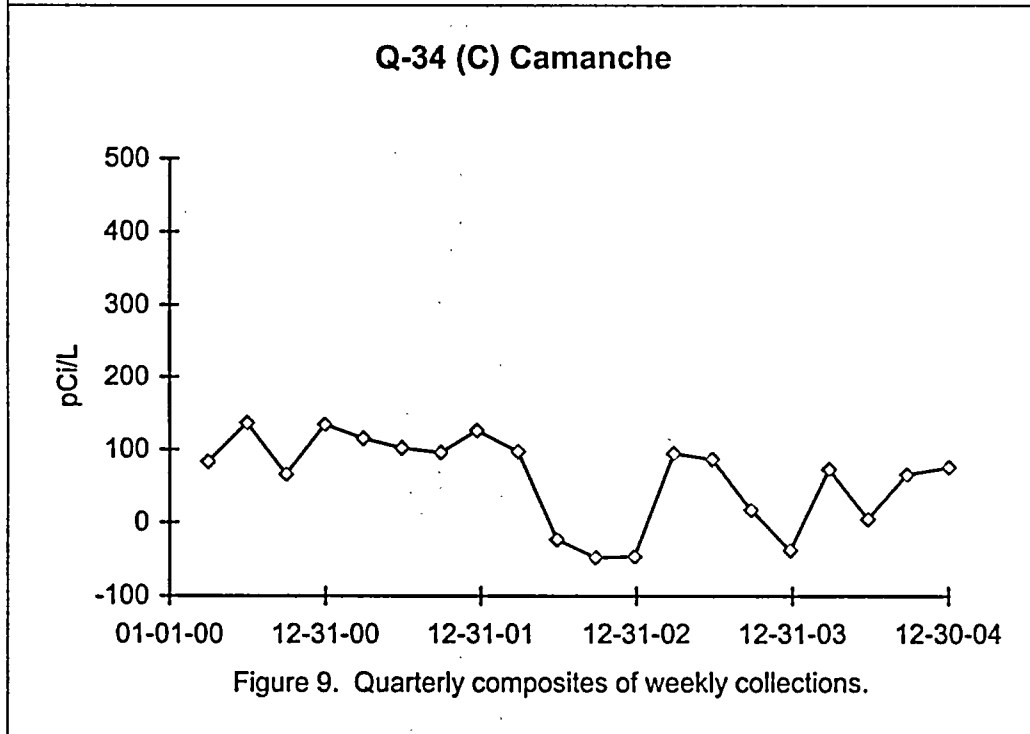
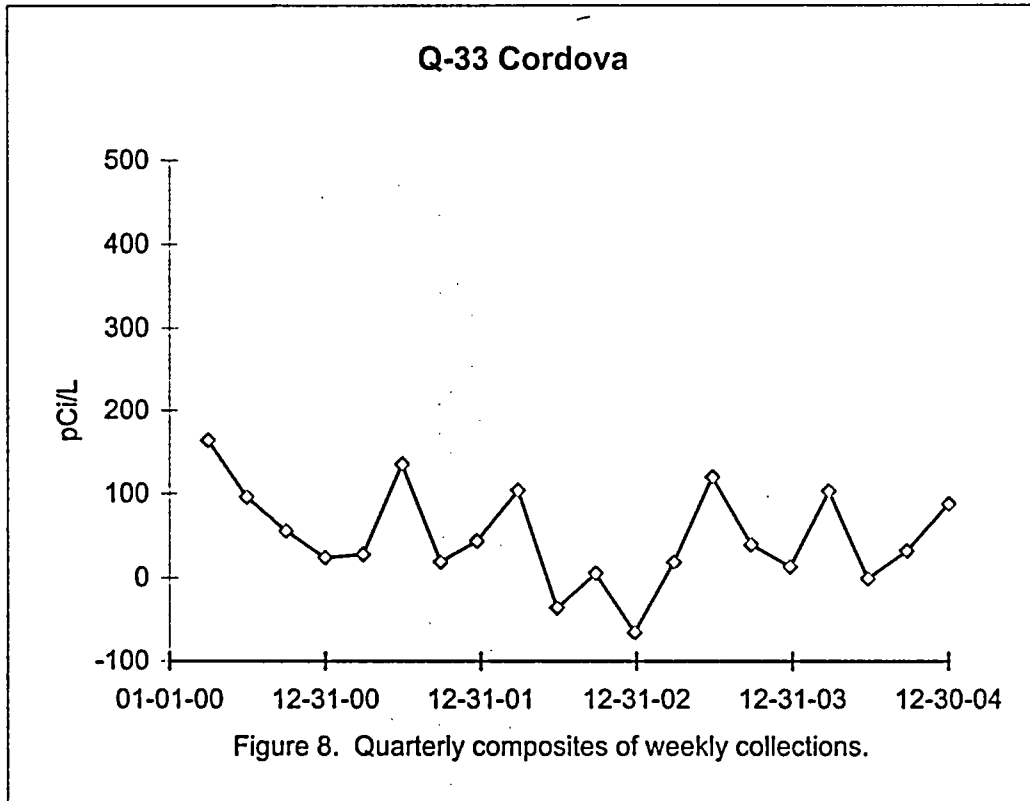
Air Particulates - Gross Beta



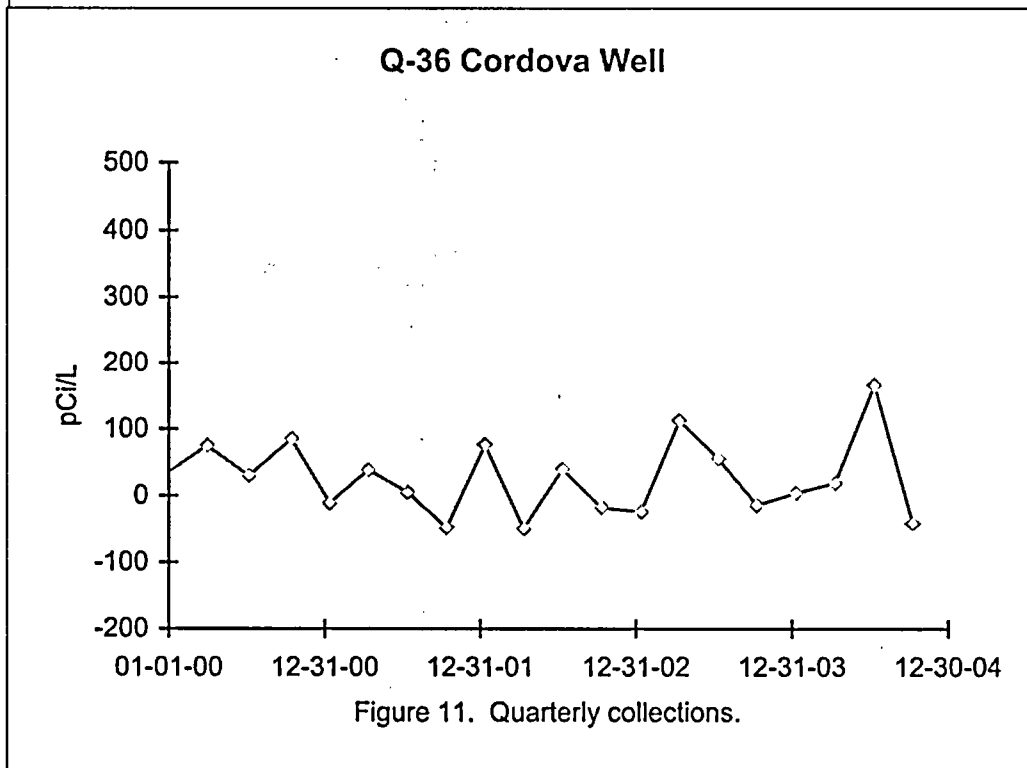
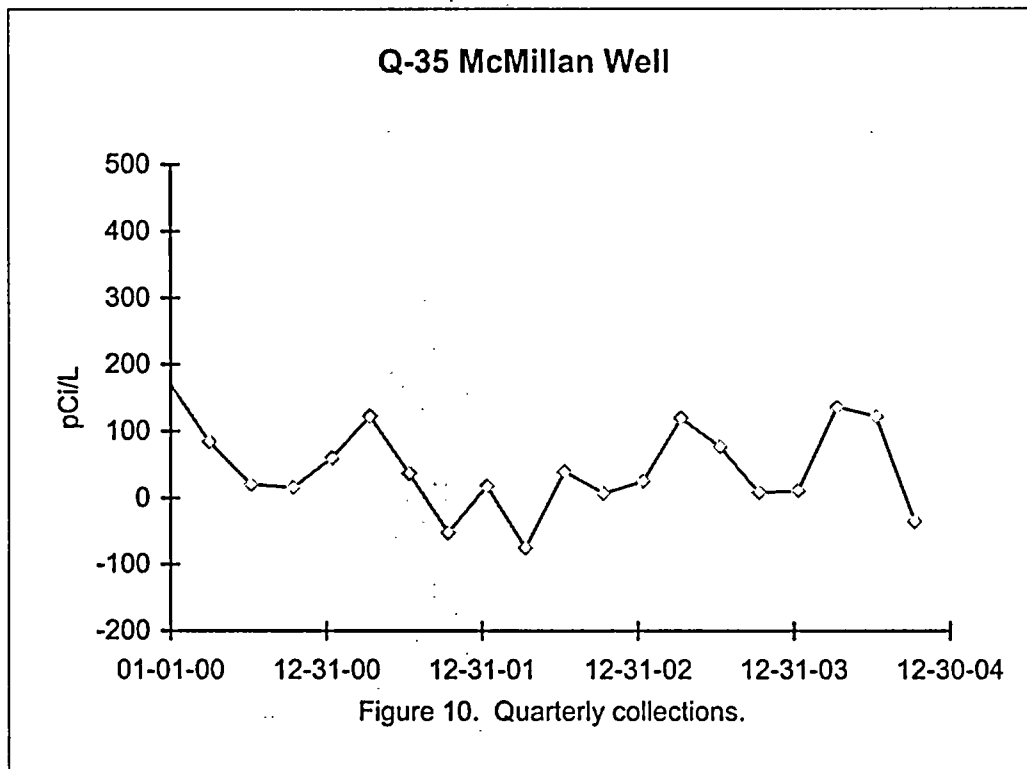
Surface Water-Gross Beta



Surface Water-Tritium

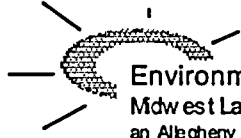


Well Water-Tritium



QUAD CITIES

APPENDIX IV
INTERLABORATORY COMPARISON PROGRAM



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Midwest Laboratory
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APPENDIX IV

INTERLABORATORY COMPARISON PROGRAM RESULTS

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

January through December, 2004

Appendix IV

Interlaboratory Comparison Program Results

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

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

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

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

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

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

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

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

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

Attachment A lists acceptance criteria for "spiked" samples.

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

Attachment A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

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

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

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

^b Laboratory limit.

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

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

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

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

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

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

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

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

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

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

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

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

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

^a Liquid sample results are reported in pCi/Liter, air filters (pCi/m³), charcoal (pCi/m³), and solid samples (pCi/g).

^b Results are based on single determinations.

^c Control limits are based on Attachment A, Page A2 of this report.

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

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

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

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

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

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

^b Activity reported is a net activity result. For gamma spectroscopic analysis, activity detected below the LLD value is not reported.

^c I-131(G); Iodine-131 as analyzed by gamma spectroscopy.

^d Low levels of Sr-90 are still detected in the environment. A concentration of (1-5 pCi/L) in milk is not unusual.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

^a Results are reported in Bq/L with the following exceptions: Air Filters (Bq/Filter), Soil and Vegetation (Bq/kg).

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

^c Control limits are reported by EML as the ratio of Reported Value / EML value.

^d Probable effect of summation peaks and slight difference in filter geometry.