WOLF CREEK
NUCLEAR OPERATING CORPORATION

Gautam Sen
Manager Regulatory Affairs

April 26, 2012

RA 12-0053

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Docket No. 50-482: 2011 Annual Radiological Environmental Operating Report

Gentlemen:

The purpose of this letter is to submit the enclosed Annual Radiological Environmental Operating Report, which is being submitted pursuant to Wolf Creek Generating Station (WCGS) Technical Specification 5.6.2. This report covers radiological environmental monitoring around WCGS for the period of January 1, 2011, through December 31, 2011.

Also enclosed are corrected pages from the 2009 and 2010 reports that reflect administrative changes that were found necessary during preparation of the 2011 report. The changes are marked with revision bars. Wolf Creek Nuclear Operating Corporation apologizes for any inconvenience this may cause.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4175, or Mr. William Muilenburg, at (620) 364-8831, ext. 4511.

Sincerely,

Gautam Sen

Gautam Sen

GS/rlt

Enclosure: 2011 Annual Radiological Environmental Operating Report
Corrected pages from 2009 and 2010 reports (3 pages)

cc: E. E. Collins (NRC), w/e
J. R. Hall (NRC), w/e
N. F. O'Keefe (NRC), w/e
Senior Resident Inspector (NRC), w/e

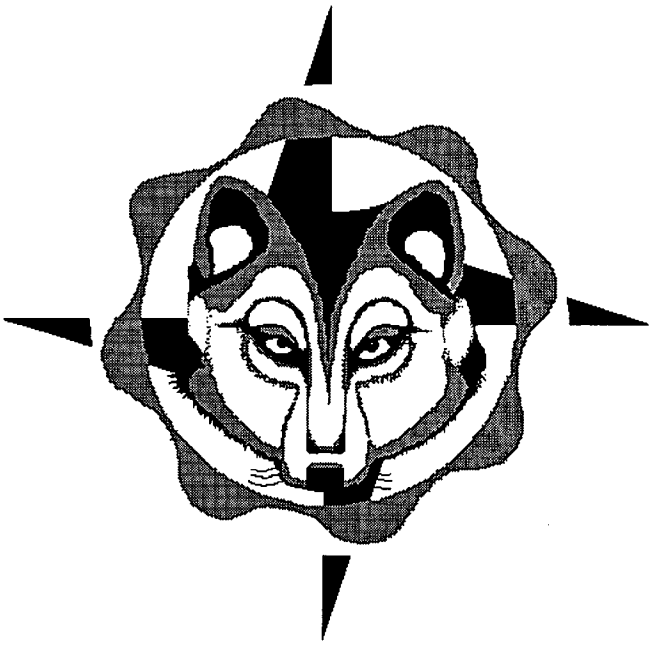
IE25
NRR

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

2011 ANNUAL RADIOLOGICAL

ENVIRONMENTAL OPERATING REPORT



April 15, 2012

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EXECUTIVE SUMMARY

Plant-related activation, corrosion, or fission products were not detected during 2011 in airborne particulate and radioiodine filters, ground water, drinking water, broadleaf vegetation, shoreline sediment, crops, aquatic vegetation, bottom sediment, or soil samples. Activation, corrosion or fission products attributable to plant operation were detected during 2011 in surface water, fish, and deer samples.

Activity was detected from the radioactive material released from Dai-Ichi, Fukushima following the March 22, 2011 earthquake and subsequent tsunami.

Nuclides detected in Radiological Environmental Monitoring Program (REMP) samples were below applicable NRC reporting levels.

Based upon the radiological environmental monitoring program results, it was concluded that station operations had no significant radiological impact on the health and safety of the public or the environment.

INTRODUCTION

The 2011 Annual Radiological Environmental Operating Report for Wolf Creek Generating Station (WCGS) covers the period from January 1 through December 31, 2011. WCGS is located in Coffey County, Kansas, approximately five miles northeast of Burlington, Kansas.

Fuel loading commenced at WCGS on March 12, 1985. The operational phase of the REMP began with initial criticality on May 22, 1985, and the first detectable quantities of radioactivity were reported in plant effluents in June 1985.

This report contains a description of the REMP conducted by Wolf Creek Nuclear Operating Corporation (WCNOC), a discussion of monitoring program results, the revisions or changes to the program, program deviations, the Interlaboratory Comparison Program and a comparison to the Radioactive Effluents Release Program. The Interlaboratory Comparison Program results, a summary of results in the Nuclear Regulatory Commission (NRC) Branch Technical Position specified format, the individual sample results, and the Land Use Census Report are included as appendices.

I. PROGRAM DESCRIPTION

Radiological environmental monitoring samples were collected according to the schedule in WCGS procedure AP 07B-004, *Offsite Dose Calculation Manual (Radiological Environmental Monitoring Program)*. Radiological environmental monitoring program samples were collected by the WCGS Environmental Management group and were analyzed by Environmental, Inc. Landauer, Inc. processed the environmental optically stimulated luminescence (OSL) dosimeters. Table 1 identifies the exposure pathway/sample type, number of samples/sample locations, sample collection frequency and type/frequency of analysis. Table 2 lists each sample location's distance and direction from the plant. Samples in addition to those required by the WCGS Offsite Dose Calculation Manual (ODCM) were also obtained and analyzed.

The following is a description of the sampling and analysis program by individual pathways.

A. Airborne Pathway

Low volume air sampling pumps with digital flow meters continuously collected particulate and radioiodine samples on 47 mm glass fiber filters and charcoal canisters, respectively. The filters and charcoal canisters were changed out weekly, labeled, and shipped to Environmental, Inc. for analyses.

Gross beta analyses of the air particulate filters were performed after a nominal 72-hour period to allow the radon and thoron daughter products to decay.

Weekly air particulate filters were combined into quarterly composites for each location and analyzed for gamma emitting isotopes.

Charcoal canisters were routinely counted to determine the presence or absence of I-131. Positive indication of I-131 would have resulted in analysis of each individual charcoal canister.

Air samples were collected from six locations. The five indicator locations sampled included 2, 18, 32, 37 and 49. A control location near the intersection of 20th Road and Yearling Road (location 53) was also sampled. Indicator locations are shown in Figure 1 and the control location is shown in Figure 5.

B. Direct Radiation Pathway

Optically stimulated luminescence (OSL) dosimeters were used at 43 locations during the sample year to measure direct radiation. The OSLs were typically positioned roughly 3 to 4 feet above the ground in plastic thermostat boxes. Three OSLs were placed at each designated location. The OSLs were changed out quarterly. Transit dose was measured and subtracted from the ambient dose. Indicator OSL sample locations are illustrated in Figure 2 and control locations are shown in Figure 5. Control locations were 39 (Beto Junction) and 53 (near the intersection of 20th Road and Yearling Road).

C. Waterborne Pathway

All water samples were analyzed to determine whether gamma emitters were present. In addition to gamma isotopic analysis, radiochemical analysis for I-131 was performed on drinking water and ground water samples. Gross beta analysis was also performed on drinking water samples. Tritium analysis was performed monthly by liquid scintillation for surface water and quarterly for drinking water. Tritium analysis was also performed on ground water samples. Two surface water samples from the Coffey County Lake Spillway (SP) location and two surface water samples from the John Redmond Reservoir (JRR) location were also analyzed for Fe-55. Water sampling locations are shown in Figures 3 and 5.

Monthly grab samples of surface water were collected from John Redmond Reservoir (JRR) as a control location and from the SP location, which is located near the spillway of Coffey County Lake, formerly known as Wolf Creek Lake, as an indicator location.

Quarterly grab samples of ground water were collected from seven wells. Location B-12 is hydrologically up gradient from the site and was used as a control location. Six locations (C-10, C-49, F-1, G-2, J-1 and J-2) are hydrologically down gradient from the site and were used as indicator sample locations.

Drinking water was sampled at the water treatment facilities for the towns of Burlington (control location BW-15) and Iola (indicator location IO-DW). The Burlington facility is located upstream and the Iola facility is located downstream of the confluence of the discharge from Coffey County Lake and the Neosho River. Composite samples were obtained monthly from automatic samplers at each location that collected approximately 27 ml. of drinking water every two hours.

Shoreline sediments were sampled semiannually. Gamma isotopic analyses were performed on the shoreline sediment samples. Shoreline sediment sample locations were the Coffey County Lake discharge cove (DC) indicator location and the JRR control location.

D. Ingestion Pathway

Because no sampling locations that produce milk for human consumption were identified within five miles of the plant during the Land Use Census, milk was not collected during the sample year.

Fish were sampled semiannually from the tail waters of JRR (control, Figure 4) and from Coffey County Lake (indicator, Figure 4). Gamma isotopic analyses were performed on the boneless meat portions of the fish. Several species of game fish and rough fish were sampled. Fish were also analyzed for tritium.

Broadleaf vegetation samples were collected monthly when available during the growing season from four gardens. Three indicator (B-1, N-1 and Q-6) gardens (Figure 4) and one control (D-2) garden (Figure 5) were sampled. Gamma isotopic analyses were performed on all samples.

Crop samples were obtained from two indicator locations (NR-D1 and NR-D2) downstream of the confluence of Wolf Creek and the Neosho River. Two crop samples were obtained from control location NR-U1. Gamma isotopic analysis was performed on each sample. Crop sample locations are identified on Figure 5.

E. Additional Samples Collected (not required by ODCM)

Quarterly, duplicate ground water grab samples were obtained from indicator location C-49 and were labeled L-49. These duplicate samples served as laboratory quality checks. The ground water samples were analyzed for gamma emitters, I-131, and tritium.

Bottom sediment samples were collected from indicator locations at the Coffey County Lake discharge cove (DC), Environmental Education Area (EEA), Make-Up Discharge Structure (MUDS), Ultimate Heat Sink (UHS), Essential Service Water (ESW) channel and the control location (JRR). Gamma isotopic analyses were performed on the bottom sediment samples. Samples obtained from DC, ESW and UHS were also analyzed for Fe-55. Some of the bottom sediment samples were collected as part of a cooperative sampling effort with the Kansas

Department of Health and Environment (KDHE). The sample locations are identified on Figure 3.

A shoreline sediment sample was collected from indicator location EEA. Gamma isotopic analysis was performed on the sample. This sample was collected as part of a cooperative sampling effort with the KDHE. The sample location is identified on Figure 3.

Aquatic vegetation was collected from indicator locations DC ALT and MUDS. Gamma isotopic analyses were performed on the aquatic vegetation samples. These samples were collected as part of a cooperative sampling effort with the KDHE. The sample locations are identified on Figure 3.

Terrestrial vegetation (grass) was sampled from the MUDS indicator location. Gamma isotopic analyses were performed on the grass samples. These samples were collected as part of a cooperative sampling effort with the KDHE. The sample location is identified on Figure 4.

Soil was sampled from the MUDS indicator location. Gamma isotopic analysis was performed on the soil sample. This sample was collected as part of a cooperative sampling effort with the KDHE. The sample location is identified on Figure 4.

Deer were sampled from indicator locations C.36 and Q1.4. Gamma isotopic analyses and tritium analyses were performed. These samples were collected as part of a cooperative sampling effort with the KDHE. The sample locations are identified on Figure 4.

II. DISCUSSION OF RESULTS

Analysis results for all pathways are summarized in Appendix B using the format described in Radiological Assessment Branch Technical Position, Revision 1, November 1979 (NRC Generic Letter 79-065). Results for individual samples are listed in Appendix C.

In this section, results are discussed by pathway and analysis type. Monitoring results are compared with control data, preoperational values, sources of radioactivity, and effluent releases when applicable. Trends or seasonal effects are discussed.

A. Airborne Pathway

Chart 1 graphically illustrates weekly gross beta results for the sample year. Chart 2 represents the historical smoothed averages of indicator locations and the control locations gross beta data. Charts 1 and 2 demonstrate how closely the indicator and control locations tracked together. Chart 2 reveals a seasonal cyclic trend in which gross beta values peak in the winter months (December or January) and decrease to a low point in the spring months (May or June). This trend is expected and is attributed to seasonal meteorological changes, i.e., changes in prevailing winds and precipitation.

The gross beta results of 2011 were compared to pre-operational monitoring results of 1983 and 1984. The weekly gross beta analyses range for 1983 and 1984 was 0.0064 to 0.084 pCi/m^3. The 2011 weekly gross beta analyses range for all indicator locations was 0.008 to 0.056 pCi/m^3, which was within the 1983 and 1984 pre-operational range. Additionally, the annual mean for indicator locations for 2011 (0.026 pCi/m^3) was lower than the annual mean for 1983 (0.032 pCi/m^3).

The gross beta results for the indicator locations were also compared to the control location. The annual mean for indicator locations for 2011 (0.026 pCi/m^3) was slightly lower than the annual mean of the control location (0.027 pCi/m^3). The indicator location with the highest gross beta annual mean was location 49 (0.027 pCi/m^3), which was the same as the annual mean of the control location (0.027 pCi/m^3).

Naturally occurring Be-7 activity was detected, as was the case during pre-operational monitoring. In 1984, the range for Be-7 detected activity was 0.024 to 0.211 pCi/m^3 for indicator locations and the annual mean for indicator locations was 0.069 pCi/m^3. In 2011, the range for Be-7 detected activity was 0.063 to 0.118 pCi/m^3 for indicator locations and the annual mean for indicator locations was 0.080 pCi/m^3. The control location annual mean for Be-7 detected activity (0.079 pCi/m^3) was slightly lower than the annual mean of the indicator locations (0.080 pCi/m^3).

I-131 activity was detected in all charcoal filter samples collected from the indicator and control locations with collection start dates of 03-21-2011 and 03-28-2011. Since the I-131 activity was detected in the indicator samples as well as the control samples, the atypical detection of this radionuclide is attributed to the transport of airborne releases from Dai-Ichi, Fukushima following the March 11, 2011 Tohoku earthquake and is not related to the operations of the Wolf Creek Generating Station.

The ODCM required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2011 in airborne particulate and radioiodine filters and no unusual trends were noted.

B. Direct Radiation Pathway

Quarterly OSL dosimeter results for each location are shown in Table 3. Measured values have been converted to a standardized 90-day quarter.

The annual mean of all indicator locations in 2011 was 19.5 mR per standardized 90-day quarter. The annual mean of the control locations in 2011 was 20.1 mR per standardized 90-day quarter.

For pre-operational comparison, in 1981, the annual mean of all indicator locations was 18.9 mR per standardized 90-day quarter and the annual mean for the control locations was 17.1 mR per standardized 90-day quarter. It should be noted that WCGS changed from thermoluminescence dosimeters (TLD) to optically stimulated luminescence (OSL) dosimeters in 2008.

The indicator location with the highest annual mean was 47 (25.1 mR per standardized 90-day quarter). The close proximity of location 47 to the Radwaste Building is likely the reason direct radiation levels are higher at this location.

Based upon Condition Report 00027489, improvements were made in measuring and subtracting transit dose in 2010. As expected, the OSL results have increased for all locations since 2010. Chart 3 visibly displays the increase of the OSL results. Chart 3 also displays how closely the indicator and control location OSL dosimeter results are for 2011.

Chart 4 displays the TLD nearsite locations (1, 2, 7-9, 11-14, 18, 26, 27, 29, 30, 37 and 38) and the control locations (locations 39 and 48) for the preoperational years through 2007.

C. Waterborne Pathway

(1) Surface Water

Tritium, attributable to WCGS operation, was detected in all surface water samples collected from the Coffey County Lake Spillway (SP) indicator location during 2011. The annual mean for detected tritium activity at the SP location was 12,848 pCi/L and the range was 9,847 to 15,523 pCi/L. Chart 5 illustrates the yearly averages of surface water tritium data for the spillway location. Chart 5 indicates that the average tritium concentration of the Coffey County Lake spillway location may have reached equilibrium. Tritium activity was not detected in samples obtained from the control location (JRR).

During pre-operational radiological environmental monitoring, measured radiological activity was not detected in surface water samples.

The ODCM required lower limits of detection were met. Radionuclides were not detected by the gamma isotopic analyses or by Fe-55 analyses.

Tritium was the only activity detected in surface water samples and no unusual trends were noted.

(2) Ground Water

ODCM required lower limits of detection were met for I-131, tritium and gamma isotopic analyses. Radioactivity was not detected in any ground water samples. No unusual trends were noted. Plant-related activation, corrosion or fission products were not detected during 2011 in ground water samples.

(3) Drinking Water

Gross beta activity was detected in all drinking water samples collected from the indicator location and nearly all samples collected from the control location. The annual mean of the indicator location gross beta activity (2.6 pCi/L) was slightly lower when compared to the annual mean of the control location gross beta activity (2.7 pCi/L). The 2011 annual means of gross beta activity for both the indicator and control locations were lower than those of the pre-operational monitoring year of 1984. In 1984, the annual mean of the indicator location gross beta activity was 7.5 pCi/L and the annual mean of the control location gross beta activity was 6.4 pCi/L.

Chart 6 illustrates the drinking water gross beta results for the last five years and how closely the gross beta results compared for the indicator and control locations.

ODCM required lower limits of detection were met. Additionally, radionuclides were not detected by the I-131, Tritium, or gamma isotopic analyses.

Plant-related activation, corrosion, or fission products were not detected during 2011 in drinking water samples and no unusual trends were noted.

(4) Shoreline Sediment

Naturally occurring K-40 was detected in all shoreline sediment samples collected from the DC (indicator) and JRR (control) locations. K-40 was also detected during pre-operational shoreline sediment monitoring.

Cs-137 activity (144.5 +/- 37.7 pCi/kg, dry) was detected in one shoreline sediment sample obtained from the DC indicator location. Cs-137 activity was also detected in pre-operational shoreline sediment samples. Cs-137 activity detected in shoreline sediment samples collected from the DC location from 1982 to 1984 was in the range of 224 to 437 pCi/kg, dry. The decay corrected range of pre-operational Cs-137 activity detected is approximately 121 to 236 pCi/kg, dry. The detected Cs-137 activity in the shoreline sediment sample collected at the DC indicator location in 2011 was likely due to fallout since the measured activity is within the decay corrected range of pre-operational Cs-137 detected activity and Cs-137 activity has also been detected in the past at the control location.

ODCM required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2011 in shoreline sediment samples and no unusual trends were noted.

D. Ingestion Pathway

(1) Milk

Milk was not collected during the sample year since no indicator locations within five miles of the plant were identified during the Land Use Census.

(2) Fish

Naturally occurring K-40 activity was detected in all fish samples obtained from the CCL indicator location and the JRR control location. K-40 activity was also detected during pre-operational fish monitoring.

Fish samples were also analyzed for tritium. All fish samples taken from Coffey County Lake had tritium activity detected (8,230 pCi/kg annual mean). The detected tritium activity was attributable to plant operation. An adult consuming 21 kilograms of fish, at the maximum measured tritium concentration (9,461 pCi/kg), would receive a committed effective dose equivalent of 0.013 mRem.

Tritium activity was not detected in the control samples collected from JRR.

No other radionuclides were detected in fish during the year. The ODCM required lower limits of detection were met and no unusual trends were noted.

(3) Broadleaf Vegetation

Gamma analyses of broadleaf vegetation samples obtained from indicator and control locations detected naturally occurring gamma emitters Be-7 and K-40. Be-7 and K-40 activity were also detected pre-operationally.

No other radionuclides were detected in broadleaf vegetation during the year. The ODCM required lower limits of detection were met and no unusual trends were noted. Plant-related activation, corrosion, or fission products were not detected during 2011 in broadleaf vegetation samples.

(4) Crop Samples

Gamma analysis detected naturally occurring K-40 activity to be present in all of the samples. K-40 activity was also detected during pre-operational crop monitoring. K-40 was the only activity detected in crop samples. The ODCM required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2011 in crop samples and no unusual trends were noted.

E. Additional Samples Collected (not required by ODCM)

(1) Bottom Sediment

Naturally occurring K-40 was detected in all of the bottom sediment samples obtained from the indicator locations and the control locations. K-40 activity was also detected during pre-operational bottom sediment monitoring.

Cs-137 activity was detected in ten out of the seventeen samples obtained from indicator locations (range 66 to 120 pCi/kg, dry). Cs-137 activity was also detected in one sample obtained from the control location (91 pCi/kg, dry).

Cs-137 activity was detected in pre-operational samples, and the results for 2011 indicator bottom sediment samples were within the pre-operational range. (Cs-137 activity detected in 1981 and 1982 was in the range of 79 to 953 pCi/kg. The decay corrected range of pre-operational Cs-137 activity detected is approximately 40 to 479 pCi/kg.)

The detected Cs-137 activity in the samples collected from the indicator locations was likely due to fallout since the measured activity is within the decay corrected range of pre-operational Cs-137 detected activity and Cs-137 activity has also been detected in samples collected at the control location.

Chart 8 plots the Cs-137 detected activity from the discharge cove indicator location and JRR control location bottom sediment samples. The detected Cs-137 activity measured from the discharge cove location reflects a decreasing trend. The Chart 8 trend line indicates that as expected, Cs-137 activity detected at the JRR control location has also been decreasing.

Fe-55 activity was not detected in the fourteen samples obtained from indicator locations. No other radionuclides were detected in bottom sediment samples.

Plant-related activation, corrosion, or fission products were not detected in bottom sediment samples and no unusual trends were noted.

(3) Aquatic Vegetation

Naturally occurring Be-7 and K-40 activity were detected in all aquatic vegetation samples. Be-7 and K-40 activity were also detected during pre-operational monitoring.

No other radionuclides were detected. Plant-related activation, corrosion, or fission products were not detected during 2011 in aquatic vegetation samples and no unusual trends were noted.

(4) Shoreline Sediment

Naturally occurring K-40 activity was detected in the shoreline sediment sample obtained from the EEA indicator location. K-40 activity was also detected during pre-operational monitoring.

Cs-137 activity (250.5 pCi/kg, dry) was detected in the shoreline sediment sample obtained from the EEA indicator location. Cs-137 activity was also detected in pre-operational shoreline sediment samples. Cs-137 activity detected in shoreline sediment samples collected from the DC location from 1982 to 1984 was in the range of 224 to 437 pCi/kg, dry. The decay corrected range of pre-operational Cs-137 activity detected is approximately 121 to 236 pCi/kg, dry. The detected Cs-137 activity in the shoreline sediment sample collected at the EEA indicator location in 2011 was likely due to fallout since the result is very near the pre-operational decay corrected range. Additionally, Cs-137 activity is routinely detected in soil and sediment samples collected from the control locations and this shoreline sediment sample was obtained following the release of radioactive material from the Fukushima nuclear plant after the March 11, 2011 earthquake and tsunami.

No other radionuclides were detected. Plant-related activation, corrosion, or fission products were not detected and no unusual trends were noted.

(5) Soil

Naturally occurring K-40 activity was detected in the MUDS indicator location soil sample. K-40 activity was also detected during pre-operational soil monitoring.

Cs-137 activity (112 pCi/kg) was also detected in the MUDS indicator location soil sample. This activity is likely due to fallout. Data was reviewed for soil samples collected pre-operationally. The detected Cs-137 activity range from February of 1985 was 255 to 2,160 pCi/kg, dry. The decay corrected range of pre-operational Cs-137 activity detected in soil is approximately 139 to 1,181 pCi/kg. The detected Cs-137 activity in soil sampled in 2011 is lower than the decay corrected pre-operational range.

Plant-related activation, corrosion, or fission products were not detected during 2011 in this soil sample and no unusual trends were noted.

(6) Deer

Naturally occurring K-40 activity was detected in the deer samples obtained from the indicator locations.

The deer samples were also analyzed for tritium. The average mean for detected tritium was 748 pCi/kg. The detected tritium activity was attributable to plant operation.

No other radionuclides were detected. No unusual trends were identified.

III. PROGRAM REVISIONS/CHANGES

Based upon Condition Report 00027489, during the second quarter of 2011, the number of dosimeters was increased from two to three per sample location and the number of transit dosimeters was increased from four to five. Additionally, the method for calculating and subtracting transit dose was revised.

Based upon Condition Report 00029165, during the third quarter of 2011, quarterly Fe-55 analysis was added for surface water samples collected from John Redmond Reservoir (JRR) and the Discharge Cove (DC). Additionally, Fe-55 analysis was added for bottom sediment samples collected from the DC and the Ultimate Heat Sink (UHS).

IV. PROGRAM DEVIATIONS

Air Samples

The following air sample location failed to meet the requirement for "continuous sampler operation." As described in footnote (1) of procedure AP 07B-004, *Offsite Dose Calculation Manual (Radiological Environmental Monitoring Program)*, Table 5-1, deviations are permitted from the required sampling schedule due to malfunction of sampling equipment and other legitimate reasons. Discrepancies greater than five percent between Total Military Time and Total Digital Flow Meter Time, which resulted in a loss of air sample collected, are listed in the following table.

Location	Sample Period	Percent Discrepancy/ Hours Unavailable	Explanation of Deviation/ Condition Report Number/ Comments
2	01/31/11 – 02/07/11	Unknown	Power Outage / Equipment Malfunction Condition Report 00033233

Ground Water Protection

The following information is being provided in association with the Nuclear Energy Institute (NEI) Groundwater Protection Industry Initiative:

Describe offsite ground water or surface water sample results that exceeded the REMP reporting criteria that were voluntarily communicated to State/Local officials during the calendar year – None.

V. INTERLABORATORY COMPARISON PROGRAM RESULTS

During 2011, Environmental, Inc., Midwest Laboratory was contracted to perform radiological analysis of environmental samples for WCNOC. The lab participated in the intercomparison studies administered by Environmental Resources Associates. Appendix A is the Interlaboratory Comparison Program Results for Environmental, Inc., Midwest Laboratory. Intercomparison results, in-house spikes, blanks, duplicates and mixed analyte performance evaluation program results are also contained in Appendix A.

VI. COMPARISON TO THE RADIOACTIVE EFFLUENTS RELEASE PROGRAM

As described in the section discussing radioisotopes found in fish from Coffey County Lake, dose that may be received as a result of tritium released from WCGS is comparable with the theoretical doses calculated by the Radioactive Effluent Release Program.

The theoretical doses calculated by the Radioactive Effluent Release Program assume that a person drinks the water from Coffey County Lake and eats the fish from Coffey County Lake. Based upon these assumptions the dose to man from both pathways was calculated to be 0.219 mRem for 2011.

Using sample data obtained from the REMP, an adult drinking 2 liters per day of surface water from Coffey County Lake, using the average tritium activity (12,848 pCi/L), would receive a committed effective dose equivalent of 0.587 mRem per year. For an adult eating 21 kg of fish per year from Coffey County Lake, using the average tritium activity (8,230 pCi/kg), would receive a committed effective dose equivalent of 0.011 mRem per year. Based upon the REMP results, the dose from both pathways was calculated to be 0.598 mRem per year.

It should be noted that the Coffey County Lake is not a drinking water source. Calculating the dose to man for tritium detected in the Coffey County Lake surface water is for comparison purposes only.

The tritium dose values are being compared on a qualitative basis. It is not expected that the annual doses, as calculated in the Radioactive Effluent Release Report, would compare directly to those calculated from the REMP. The Radioactive Effluent Release Report provides a 'snap shot' of potential dose resulting from the year's releases. The REMP data indicates the accumulated result of releasing tritium into the lake since the start of plant operation.

TABLE 1

2011 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DESCRIPTION (SAMPLE COLLECTION SPECIFIED BY ODCM)

EXPOSURE PATHWAY/ SAMPLE TYPE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLE COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
AIRBORNE	**(See Figures 1 & 5)**		
Radioiodine and Particulates	Samples from six locations	Continuous sampler operation with sample collection weekly, or more frequently if required, by dust loading.	Analyze radioiodine canister weekly for I-131
	Samples from locations near the site boundary in three sectors having the highest calculated annual average D/Q (Locations 2, 37, 49 and supplemental location 18 on Figure 1)		Analyze particulate filter weekly for gross beta activity; perform quarterly gamma isotopic analysis composite (by location)
	Sample from the vicinity of a community having the highest calculated annual average D/Q (Location 32 on Figure 1, New Strawn)		
	Sample from a control location 9.5 to 18.5 miles distant in a low ranked D/Q sector (Location 53 on Figure 5)		

TABLE 1 (Cont.)

EXPOSURE PATHWAY/ SAMPLE TYPE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLE COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
DIRECT RADIATION	**(See Figures 2 & 5)**		
	40 routine monitoring stations with two or more dosimeters measuring dose continuously, placed as follows: An inner ring of stations, one in each meteorological sector 0-3 mile range from the site (Locations 1, 7, 9, 11-13, 18, 26, 27, 29, 30, 37, 38, 46, 47, & 49 on Figure 2). An outer ring of stations, one in each meteorological sector in the 3 to 5 mile range from the site (Locations 4, 5, 15-17, 19, 22-25, 32, 34-36, 50 & 51 on Figure 2). Four sectors [A, B, G & J] contain an additional station (Locations 2, 8, 14 & 20). The balance of the stations to be placed in special interest areas such as population centers (Locations 23, 32 & 52), nearby residences	Quarterly	Gamma dose quarterly

TABLE 1 (Cont.)

EXPOSURE PATHWAY/ SAMPLE TYPE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLE COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
DIRECT RADIATION (cont.)	(many locations are near a residence), schools (Locations 23 & 52), Environmental Education Area (44), CCL Public Fishing Area (46) and in two areas to serve as control stations 10-20 miles distant from the site (Locations 39 and 53 on Figure 5).		
WATERBORNE	(See Figure 3)		
Surface	One sample upstream (Location JRR on Figure 3) and one sample downstream (Location SP on Figure 3).	Monthly grab sample	Monthly gamma isotopic analysis and composite for tritium analysis quarterly
Ground	Samples from one or two sources only if likely to be affected. Indicator samples at locations hydrologically down gradient of the site (Locations C-10, C-49, F-1, G-2, J-1 and J-2 on Figure 3); control sample at a location hydrologically up gradient of the site (Location B-12 on Figure 3).	Quarterly grab sample	Quarterly gamma isotopic and tritium analysis

TABLE 1 (Cont.)

EXPOSURE PATHWAY/ SAMPLE TYPE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLE COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
WATERBORNE (cont.)			
Drinking	Sample of municipal water supply at an indicator location downstream of the site (Location IO-DW on Figure 5); control sample from location upstream of the site (Location BW-15 on Figure 3).	Monthly Composite	Monthly gamma isotopic analysis and gross beta analysis of composite sample. Quarterly tritium analysis of composites.
Shoreline Sediment	One sample from the vicinity of Coffey County Lake discharge cove (Location DC on Figure 3); control sample from John Redmond Reservoir (Location JRR on Figure 3).	Semiannually	Semiannual gamma isotopic analysis
INGESTION	(See Figures 4 & 5)		
Milk	Samples from milking animals at three indicator locations within 5 miles of the site having the highest dose potential (currently there are no locations producing milk for human consumption within 5 miles of the site); one sample from a control location greater than 10 miles from the site if indicator locations are sampled.	Semimonthly April to November; monthly December-March	Gamma isotopic analysis and I-131 analysis of each sample

TABLE 1 (Cont.)

EXPOSURE PATHWAY/ SAMPLE TYPE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLE COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
INGESTION (cont.)			
Fish	Indicator samples of 1 to 3 recreationally important species from Coffey County Lake; control samples of similar species from John Redmond Reservoir spillway (Figure 4).	Semiannually	Gamma isotopic analysis on edible portions
Broadleaf Vegetation	Samples of available broadleaf vegetation from two indicator locations (using the criteria from the "Land Use Census" section) with highest calculated annual average D/Q (Locations Q-6 and N-1 and alternate locations B-1, H-2 and R-2 on Figure 4); sample of similar broadleaf vegetation from a control location 9.5 to 18.5 miles distant in a low ranked D/Q sector (Location D-2 on Figure 5).	Monthly when available	Gamma isotopic analysis on edible portions
Irrigated Crops	Sample of crops irrigated with water from the Neosho River downstream of the Neosho River - Wolf Creek confluence (Location NR-D1 and NR-D2 on Figure 5).	At time of harvest	Gamma isotopic analysis on edible portions

TABLE 2
SAMPLE LOCATION IDENTIFIERS, DISTANCES (Miles) AND DIRECTIONS (Sectors)

Sample Type	Location Identifier	Distance from Reactor	Direction	Sector
Air Particulates and Radioiodine	2	2.7	N	A
	18	3.0	SSE	H
	32	3.1	WNW	P
	37	2.0	NNW	R
	49	0.8	NNE	B
	53	10.8	ENE	D
Dosimeters	1	1.4	N	A
	2	2.7	N	A
	4	4.1	NNE	B
	5	4.1	NE	C
	7	2.1	NE	C
	8	1.7	NNE	B
	9	2.0	ENE	D
	11	1.7	E	E
	12	1.9	ESE	F
	13	1.6	SE	G
	14	2.5	SE	G
	15	4.6	ESE	F
	16	4.3	E	E
	17	3.7	SE	G
	18	3.0	SSE	H
	19	3.9	SSE	H
	20	3.3	S	J
	22	3.9	SSW	K
	23	4.3	SW	L
	24	4.1	WSW	M
	25	3.4	W	N
	26	2.4	WSW	M
	27	2.2	SW	L
	29	2.7	SSW	K
	30	2.5	W	N
	32	3.1	WNW	P
	34	4.4	NW	Q
	35	4.6	NNW	R
	36	4.2	N	A
	37	2.0	NNW	R
	38	1.2	NW	Q
	39	13.1	N	A
	41	0.8	NNW	R
	42	0.8	SSE	H
	43	0.7	WNW	P
	44	3.0	NNW	R

TABLE 2 (Cont.)
SAMPLE LOCATION IDENTIFIERS, DISTANCES (Miles) AND DIRECTIONS (Sectors)

Sample Type	Location Identifier	Distance from Reactor	Direction	Sector
Dosimeters	46	1.6	WNW	P
	47	0.16	S	J
	49	0.8	NNE	B
	50	3.6	ENE	D
	51	4.0	S	J
	52	3.6	SW	L
	53	10.8	ENE	D
Surface Water	JRR	3.7	W	N
	SP	3.2	SSE	H
Ground Water	B-12	1.9	NNE	B
	C-10	2.7	W	N
	C-49/L-49	2.8	SW	L
	F-1	2.5	ESE	F
	G-2	3.6	SE	G
	J-1	3.8	S	J
	J-2	4.3	S	J
Drinking Water	BW-15	3.9	SW	L
	IO-DW	26.1	SSE	H
Shoreline Sediment	DC	0.8	WNW	P
	EEA	3.0	NNW	R
	JRR	3.6	W	N
Fish	CCL	0.6	E to NNW	E to R
	JRR	3.7	W	N
Food/Garden	B-1	0.8	NNE	B
	D-2	14.8	ENE	D
	N-1	2.4	W	N
	Q-6	2.4	NW	Q
Crops	NR-D1	8.9	S	J
	NR-D2	11.5	S	J
	NR-U1	4.0	SSW	K
Bottom Sediment	DC	0.9	WNW	P
	EEA	3.0	NNW	R
	ESW	0.5	E	E
	JRR	3.7	W	N
	MUDS	1.5	WNW	P
	UHS	0.6	E	E
Aquatic Vegetation	DC ALT	1.5	NW	Q
	MUDS	1.5	WNW	P
Terrestrial Vegetation	MUDS	1.5	WNW	P
Soil	MUDS	1.5	WNW	P
Meat (Deer)	C.36	.36	NE	C
	Q1.4	1.4	NW	Q

TABLE 3
OSL Dosimeter Results
(mR/Standardized 90-day Quarter)

Location	Qtr. 1 (mR)	Qtr. 2 (mR)	Qtr. 3 (mR)	Qtr. 4 (mR)	Total Annual Exposure (mR)
1	21.1	20.2	22.9	20.1	84.4
2	20.2	16.4	19.6	19.6	75.9
4	16.3	21.0	23.9	20.0	81.2
5	21.4	18.0	21.3	15.9	76.6
7	21.6	18.0	21.9	20.0	81.6
8	22.1	17.5	24.4	19.5	83.4
9	18.3	18.2	20.4	17.9	74.9
11	25.4	19.1	23.9	16.9	85.2
12	19.7	19.6	18.5	21.0	78.9
13	21.6	18.5	20.4	20.4	81.0
14	18.3	19.1	20.9	19.5	77.9
15	18.6	17.7	19.5	19.0	74.7
16	19.1	19.9	22.9	18.5	80.3
17	21.6	18.5	22.3	20.5	82.9
18	19.8	17.5	19.0	20.0	76.2
19	23.3	19.9	21.5	22.0	86.6
20	18.7	18.4	17.0	20.7	74.7
22	22.4	20.6	24.4	19.6	87.0
23	20.1	20.4	19.6	19.6	79.7
24	19.6	20.9	18.5	19.4	78.5
25	15.0	13.8	17.7	18.9	65.4
26	17.7	17.7	18.5	17.9	71.7
27	19.1	19.9	23.9	18.4	81.3
29	15.9	13.8	15.5	16.5	61.7
30	20.0	21.0	20.5	18.9	80.4
32	19.3	18.5	20.0	19.4	77.3
34	20.5	19.5	25.4	17.4	82.8
35	21.2	19.7	23.9	17.5	82.3
36	19.7	20.0	20.0	19.8	79.5
37	19.3	17.5	19.0	17.5	73.3
38	21.6	20.0	19.0	19.1	79.7
39	17.7	18.8	19.7	16.9	73.0
41	19.3	19.6	23.9	19.1	82.0
42	13.1	11.1	10.1	13.6	47.8
43	11.2	10.7	12.1	11.8	45.8
44	19.6	18.7	22.0	18.0	78.4
46	19.6	18.2	23.4	17.4	78.6
47	27.0	26.4	29.5	17.6	100.5
49	16.9	19.1	19.9	19.7	75.6
50	21.8	20.4	24.9	21.0	88.2
51	18.6	18.0	20.5	14.1	71.3
52	24.2	20.9	23.4	21.5	90.1
53	20.9	19.5	25.9	21.6	87.9

FIGURE 1

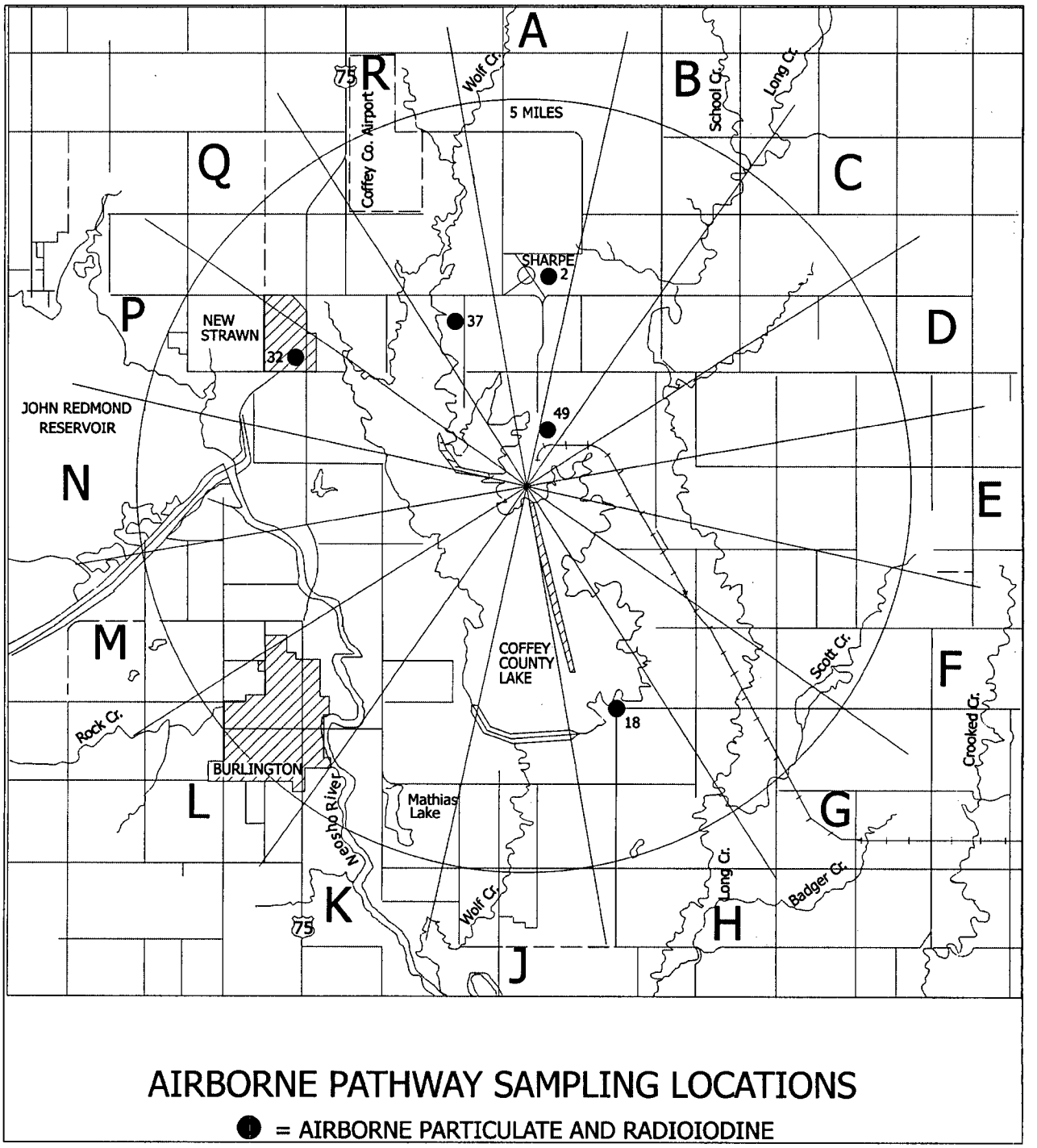
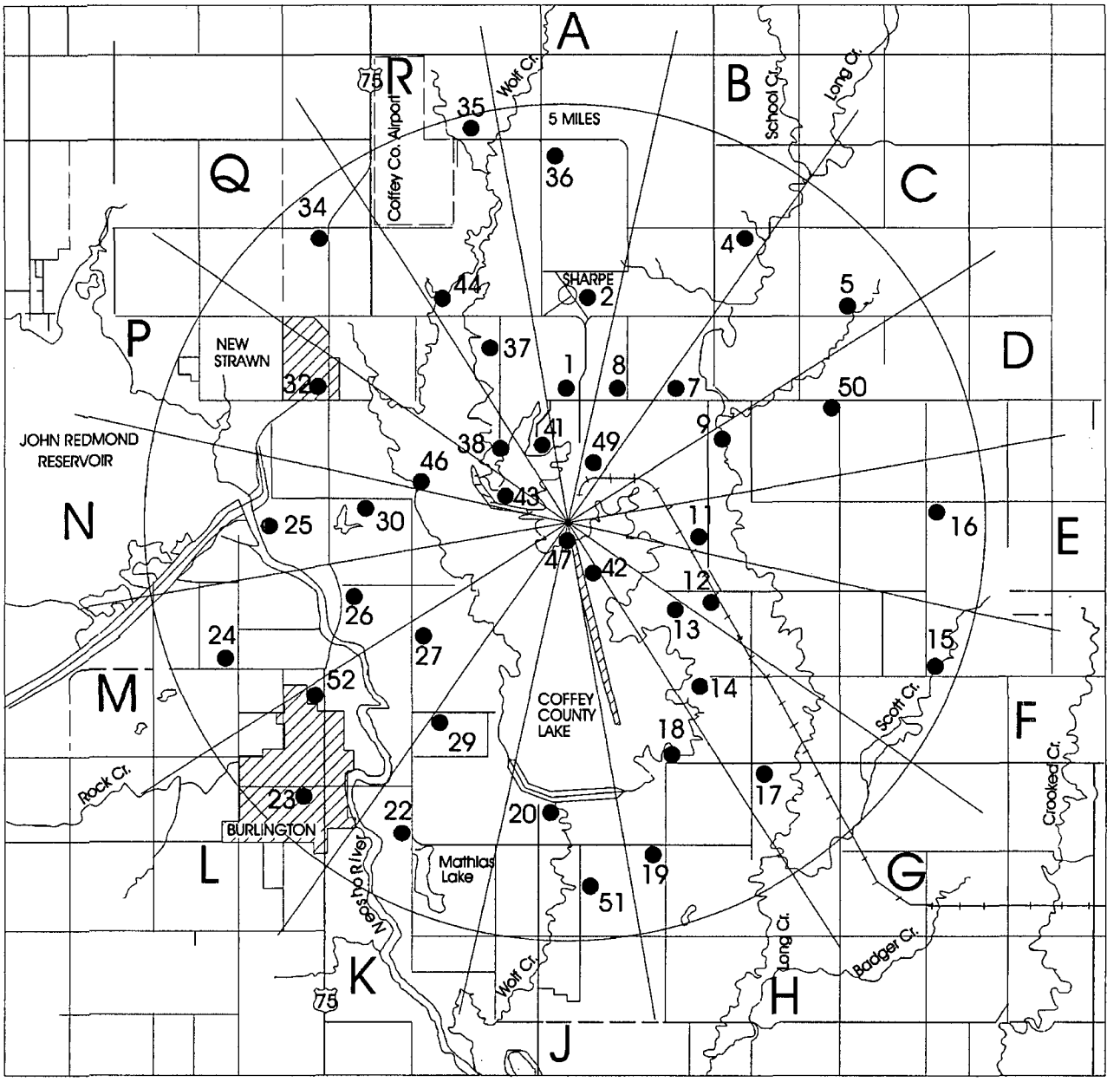

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
75
Wolf Cr.
Coffey Co. Airport
5 MILES
School Cr.
Long Cr.
SHARPE
2
37
NEW
STRAWN
32
JOHN REDMOND
RESERVOIR
49
COFFEY
COUNTY
LAKE
18
Scott Cr.
Crooked Cr.
Rock Cr.
BURLINGTON
Neosho River
Mathias
Lake
Badger Cr.
AIRBORNE PATHWAY SAMPLING LOCATIONS
= AIRBORNE PARTICULATE AND RADIOIODINE

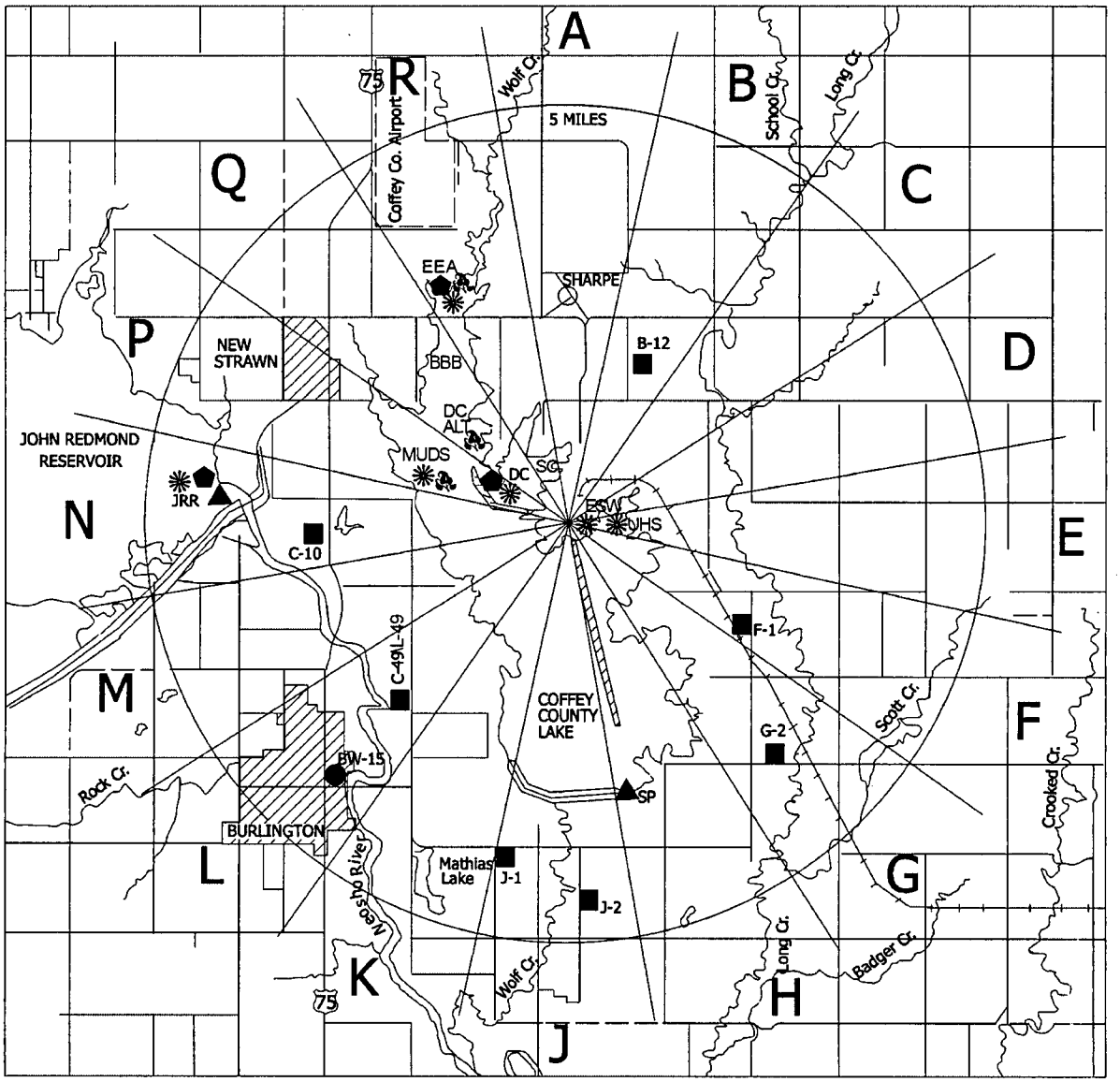
FIGURE 2



DIRECT RADIATION PATHWAY SAMPLING LOCATIONS

● = DOSIMETER LOCATIONS

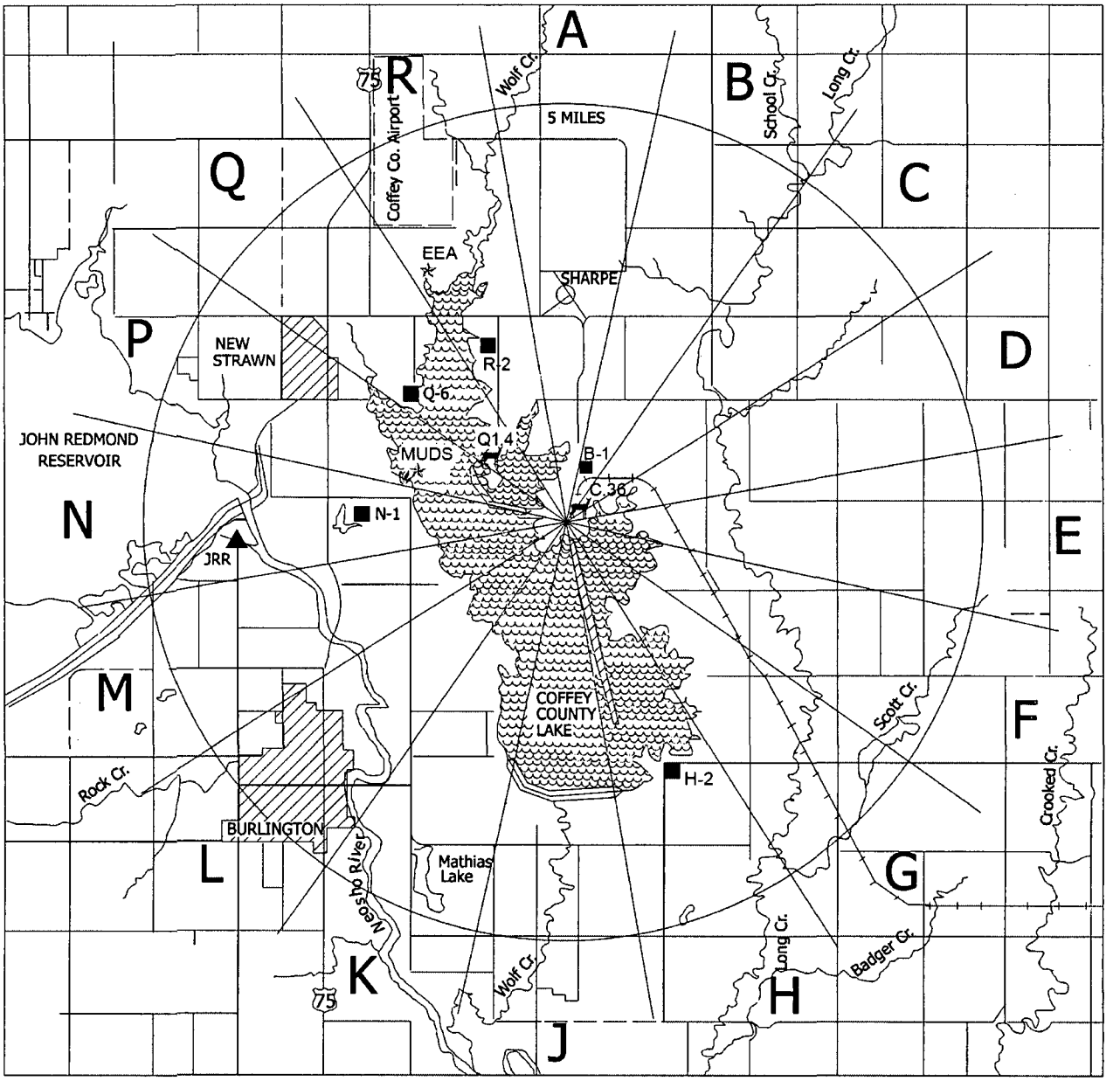
FIGURE 3



WATERBORNE PATHWAY SAMPLING LOCATIONS

● = DRINKING WATER
▲ = SURFACE WATER
■ = GROUND WATER
⬟ = SHORELINE SEDIMENT
✳ = BOTTOM SEDIMENT
= AQUATIC VEGETATION

FIGURE 4



INGESTION PATHWAY SAMPLING LOCATIONS

▲ = FISH (JRR)
= FISH (CCL)
■ = BROADLEAF VEGETATION
= TERRESTRIAL VEGETATION
= SOIL
= DEER

FIGURE 5

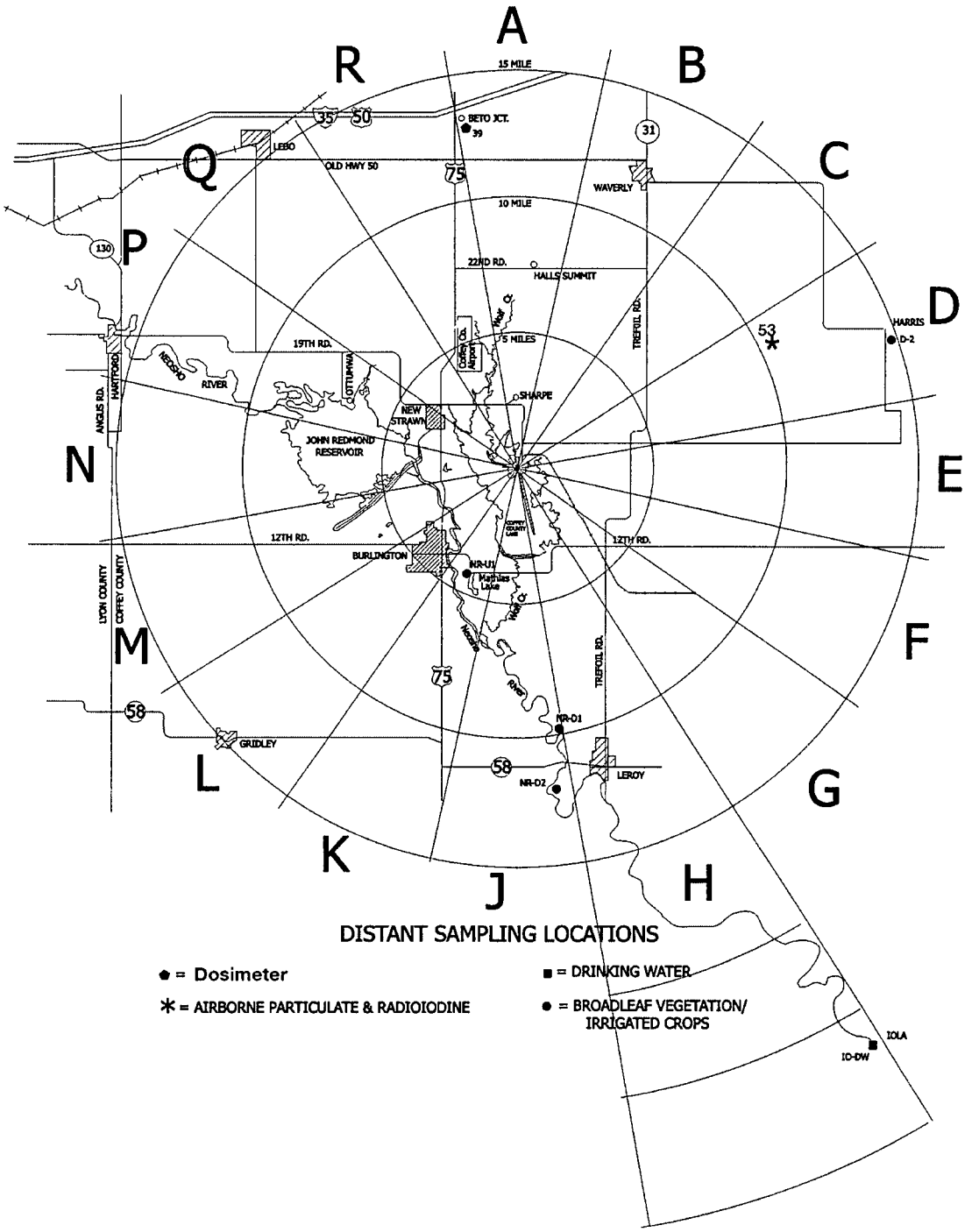

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
15 MILE
10 MILE
5 MILES
BETO JCT.
LEBO
OLD HWY 50
WAVERLY
HALLS SUMMIT
22ND RD.
19TH RD.
12TH RD.
SHARPE
NEW STRAWN
JOHN REDMOND RESERVOIR
NEOSHO RIVER
OTTUMWA
BURLINGTON
GRIDLEY
LEROY
HARRIS
IOLA
ANGLS RD.
HAMILTON
LYON COUNTY
COFFEY COUNTY
TREFOIL RD.
NR-U1
NR-D1
NR-D2
D-2
IO-DW
DISTANT SAMPLING LOCATIONS
= Dosimeter
= AIRBORNE PARTICULATE & RADIOIODINE
= DRINKING WATER
= BROADLEAF VEGETATION/ IRRIGATED CROPS

CHART 1

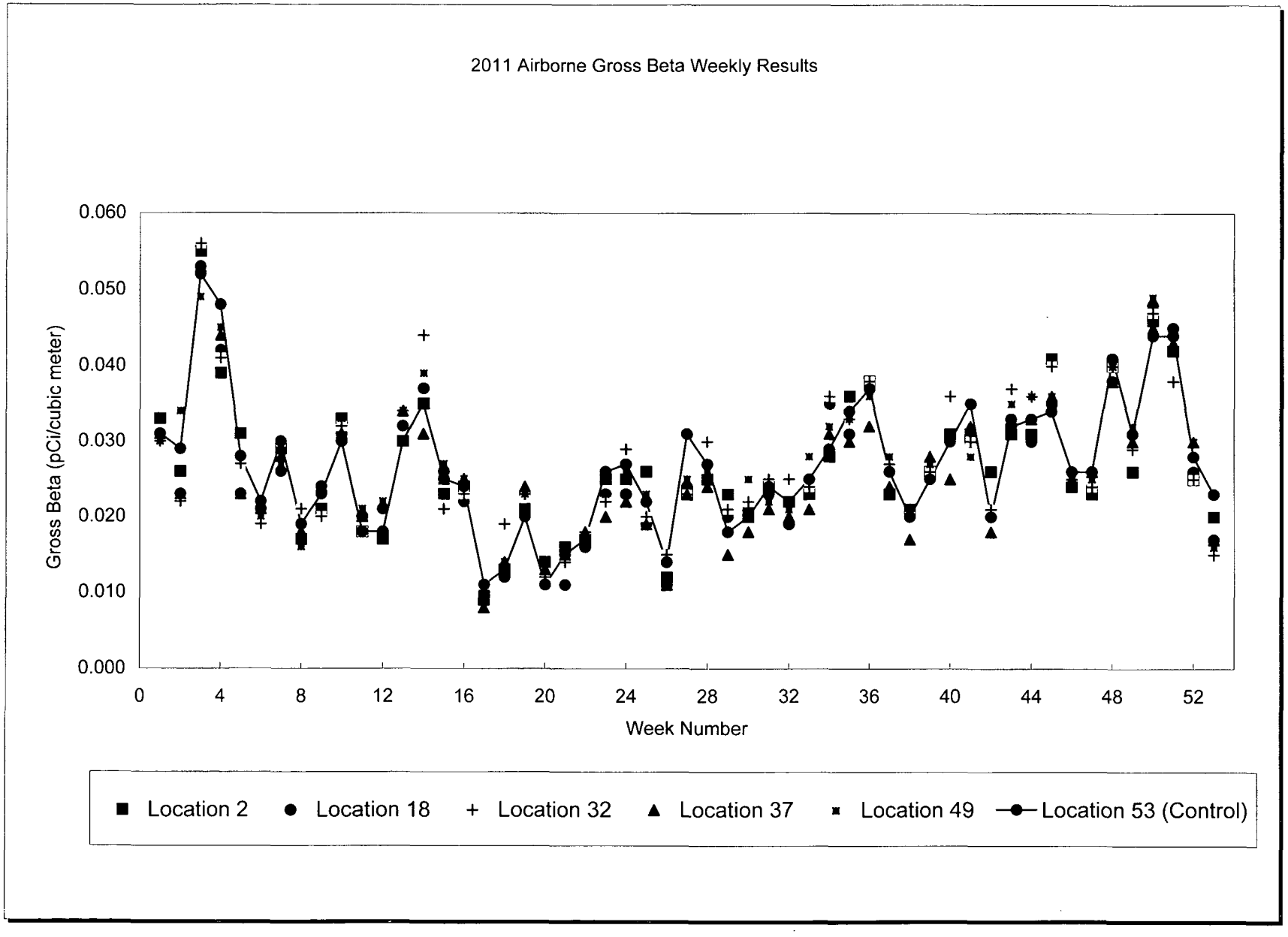

2011 Airborne Gross Beta Weekly Results
Gross Beta (pCi/cubic meter)
0.060
0.050
0.040
0.030
0.020
0.010
0.000
0
4
8
12
16
20
24
28
32
36
40
44
48
52
Week Number
Location 2
Location 18
Location 32
Location 37
Location 49
Location 53 (Control)

CHART 2

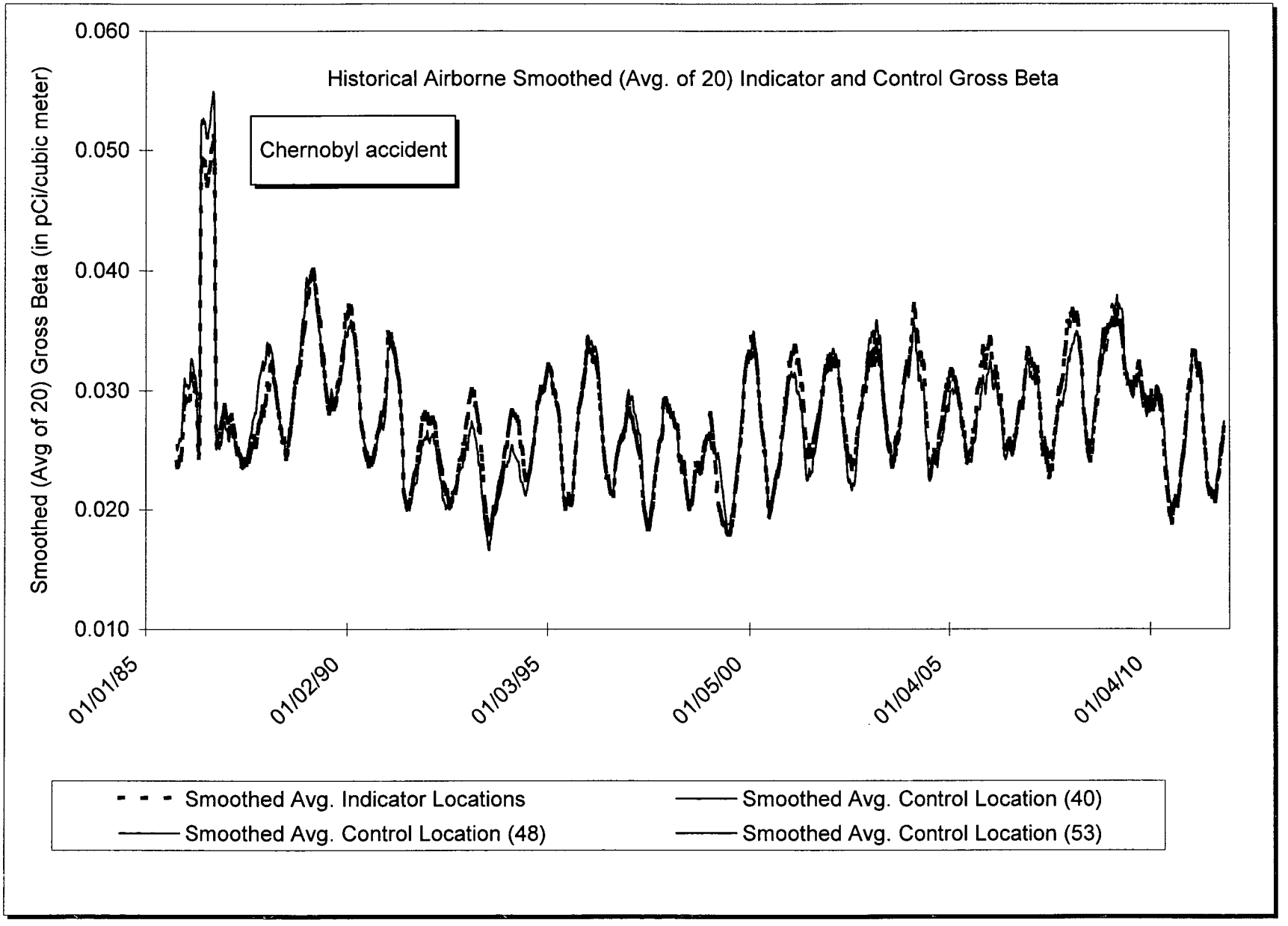

Historical Airborne Smoothed (Avg. of 20) Indicator and Control Gross Beta
Chernobyl accident
Smoothed (Avg of 20) Gross Beta (in pCi/cubic meter)
0.060
0.050
0.040
0.030
0.020
0.010
01/01/85
01/02/90
01/03/95
01/05/00
01/04/05
01/04/10
Smoothed Avg. Indicator Locations
Smoothed Avg. Control Location (40)
Smoothed Avg. Control Location (48)
Smoothed Avg. Control Location (53)

CHART 3

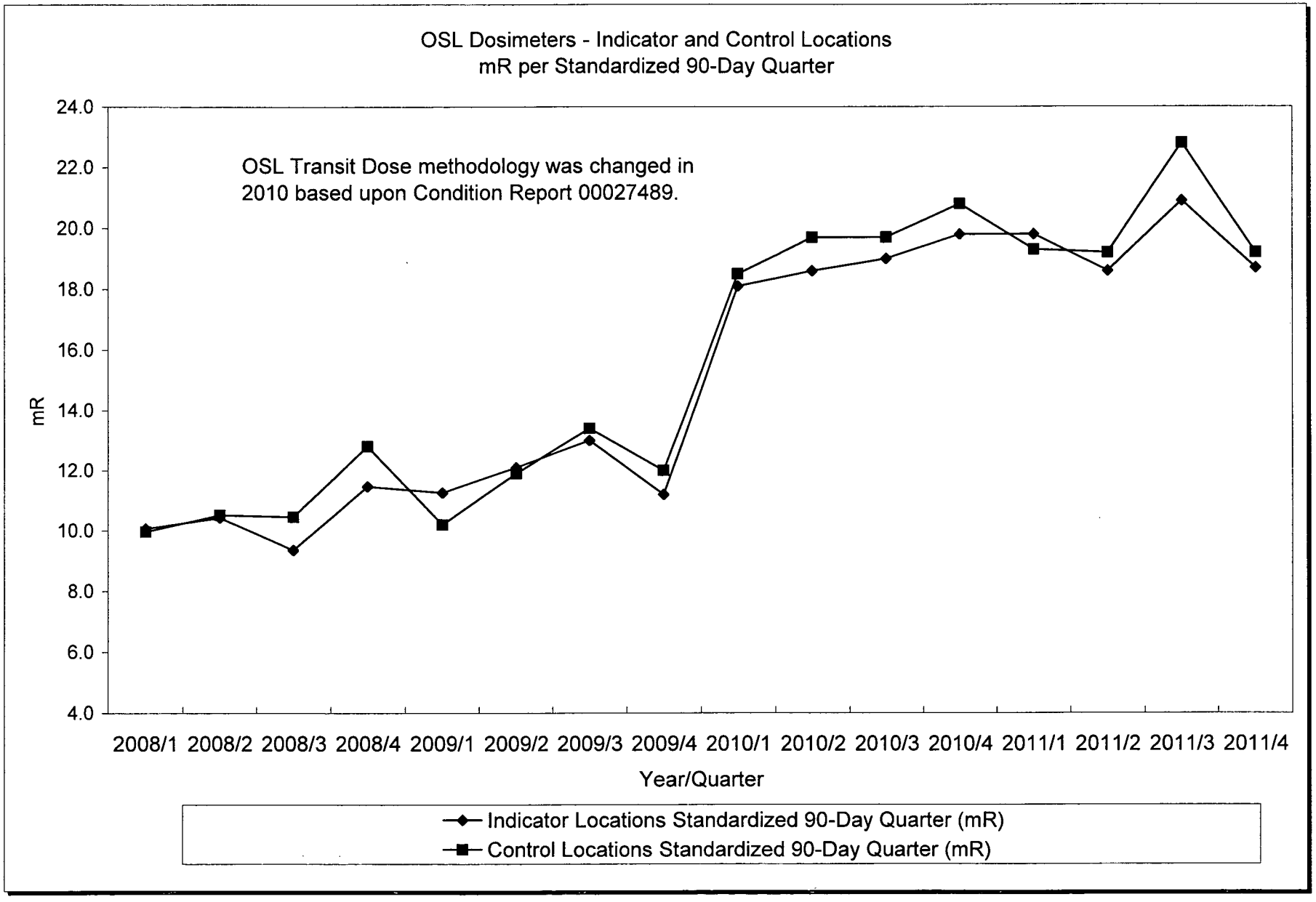

OSL Dosimeters - Indicator and Control Locations
mR per Standardized 90-Day Quarter
OSL Transit Dose methodology was changed in
2010 based upon Condition Report 00027489.
mR
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2008/1 2008/2 2008/3 2008/4 2009/1 2009/2 2009/3 2009/4 2010/1 2010/2 2010/3 2010/4 2011/1 2011/2 2011/3 2011/4
Year/Quarter
Indicator Locations Standardized 90-Day Quarter (mR)
Control Locations Standardized 90-Day Quarter (mR)

CHART 4

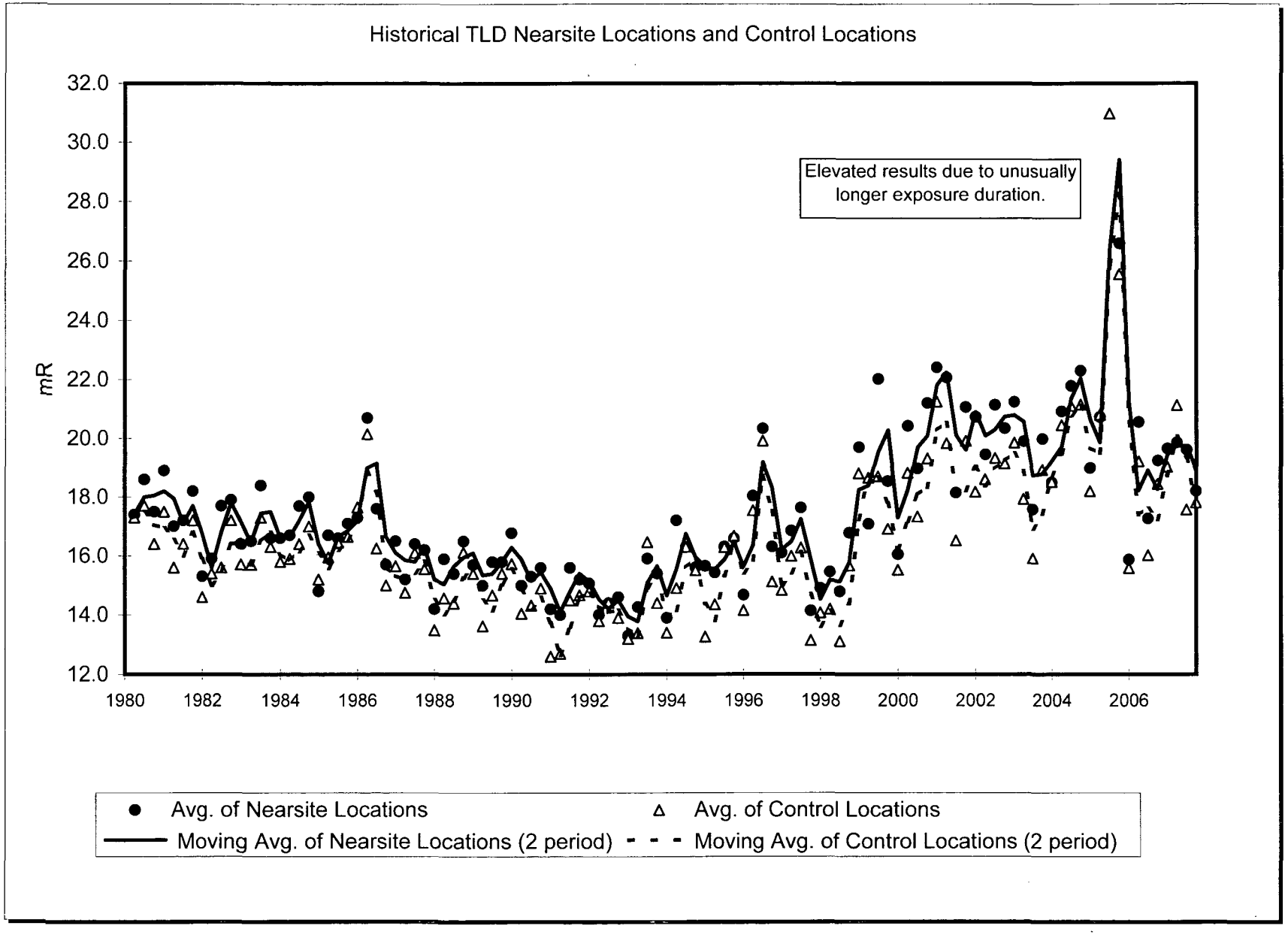

Historical TLD Nearsite Locations and Control Locations
mR
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
Elevated results due to unusually longer exposure duration.
Avg. of Nearsite Locations
Avg. of Control Locations
Moving Avg. of Nearsite Locations (2 period)
Moving Avg. of Control Locations (2 period)

CHART 5

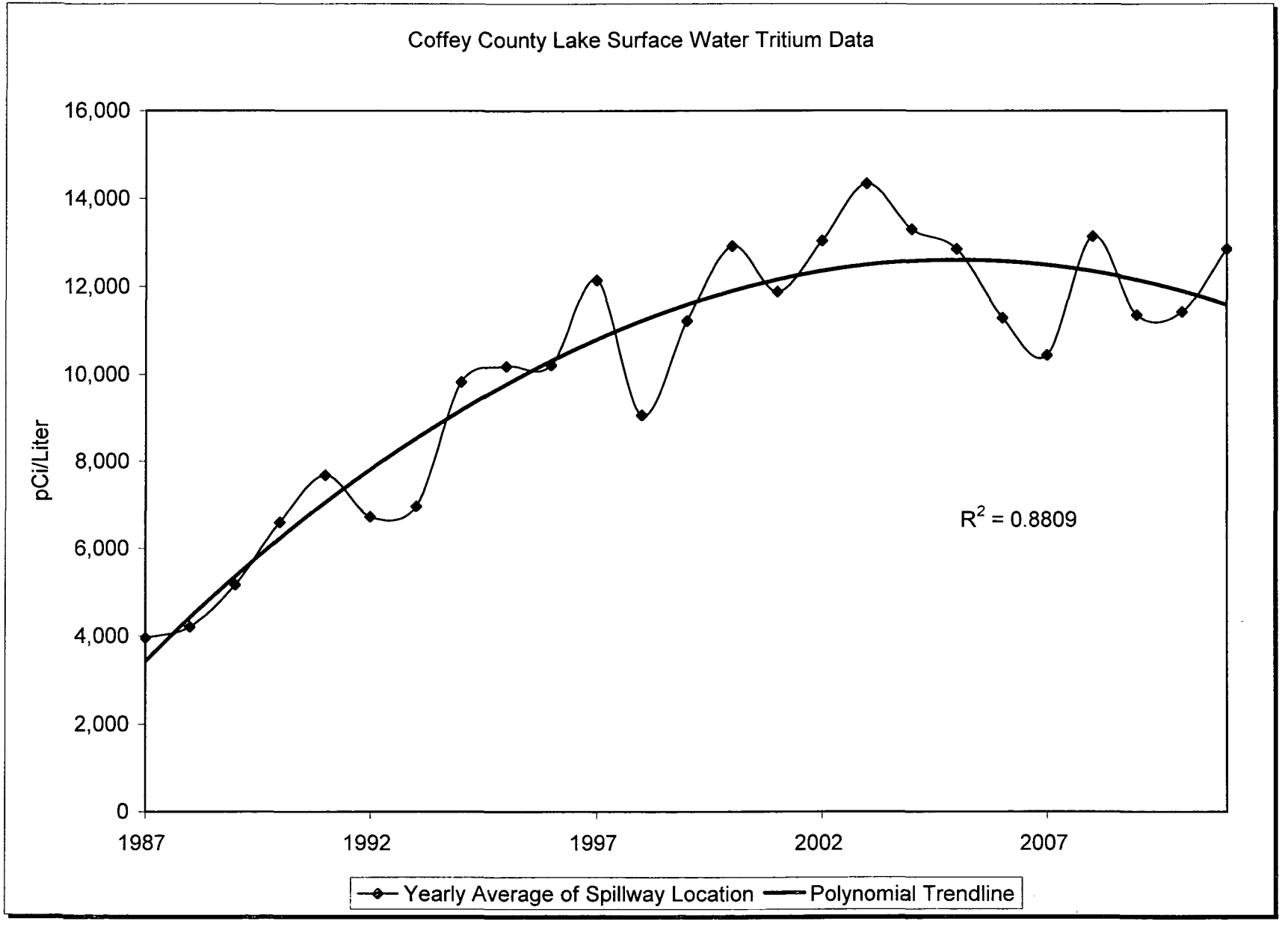

Coffey County Lake Surface Water Tritium Data
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
pCi/Liter
1987
1992
1997
2002
2007
R2 = 0.8809
Yearly Average of Spillway Location
Polynomial Trendline

CHART 6

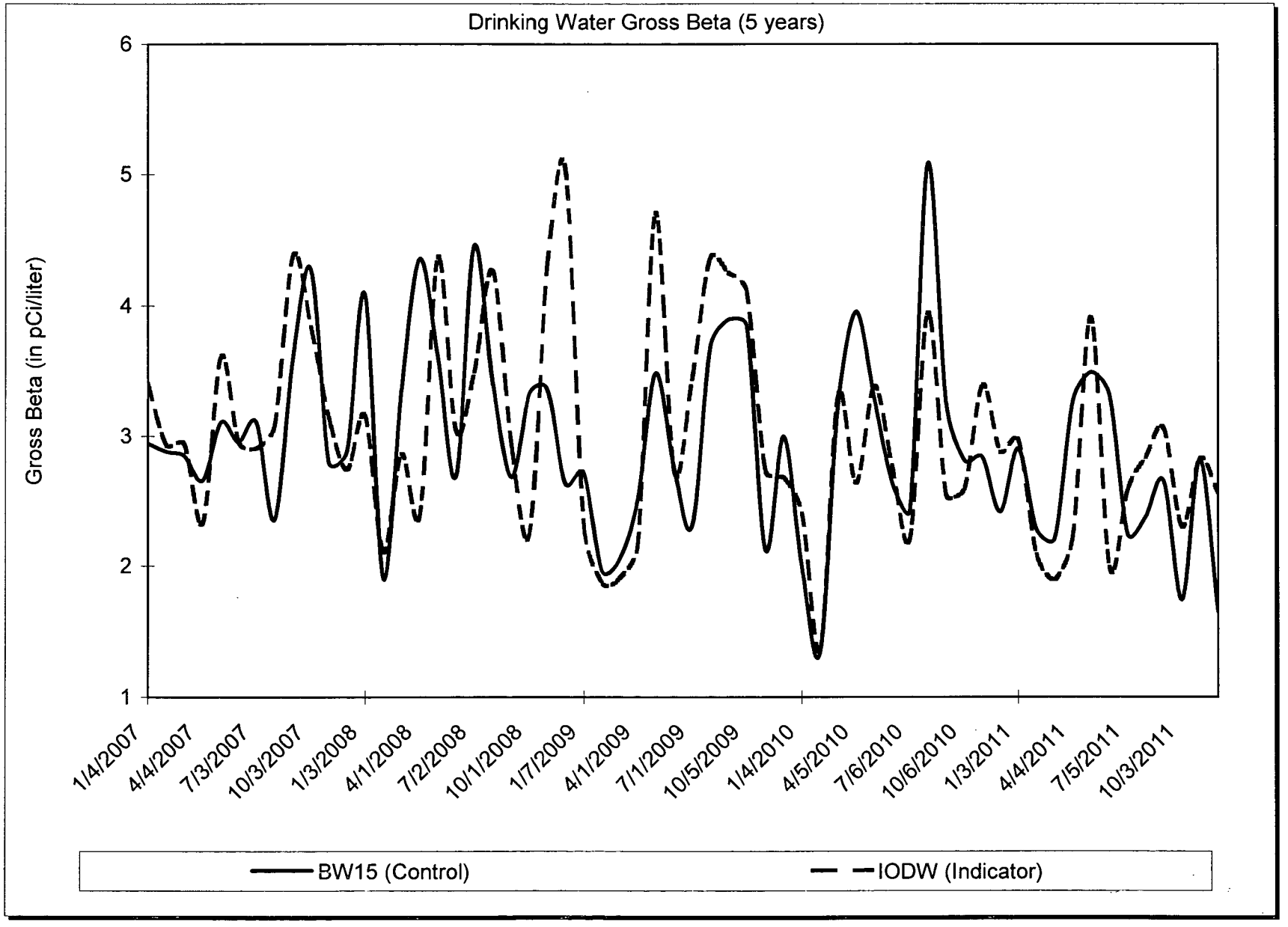

Drinking Water Gross Beta (5 years)
Gross Beta (in pCi/liter)
6
5
4
3
2
1
1/4/2007
4/4/2007
7/3/2007
10/3/2007
1/3/2008
4/1/2008
7/2/2008
10/1/2008
1/7/2009
4/1/2009
7/1/2009
10/5/2009
1/4/2010
4/5/2010
7/6/2010
10/6/2010
1/3/2011
4/4/2011
7/5/2011
10/3/2011
BW15 (Control)
IODW (Indicator)

CHART 7

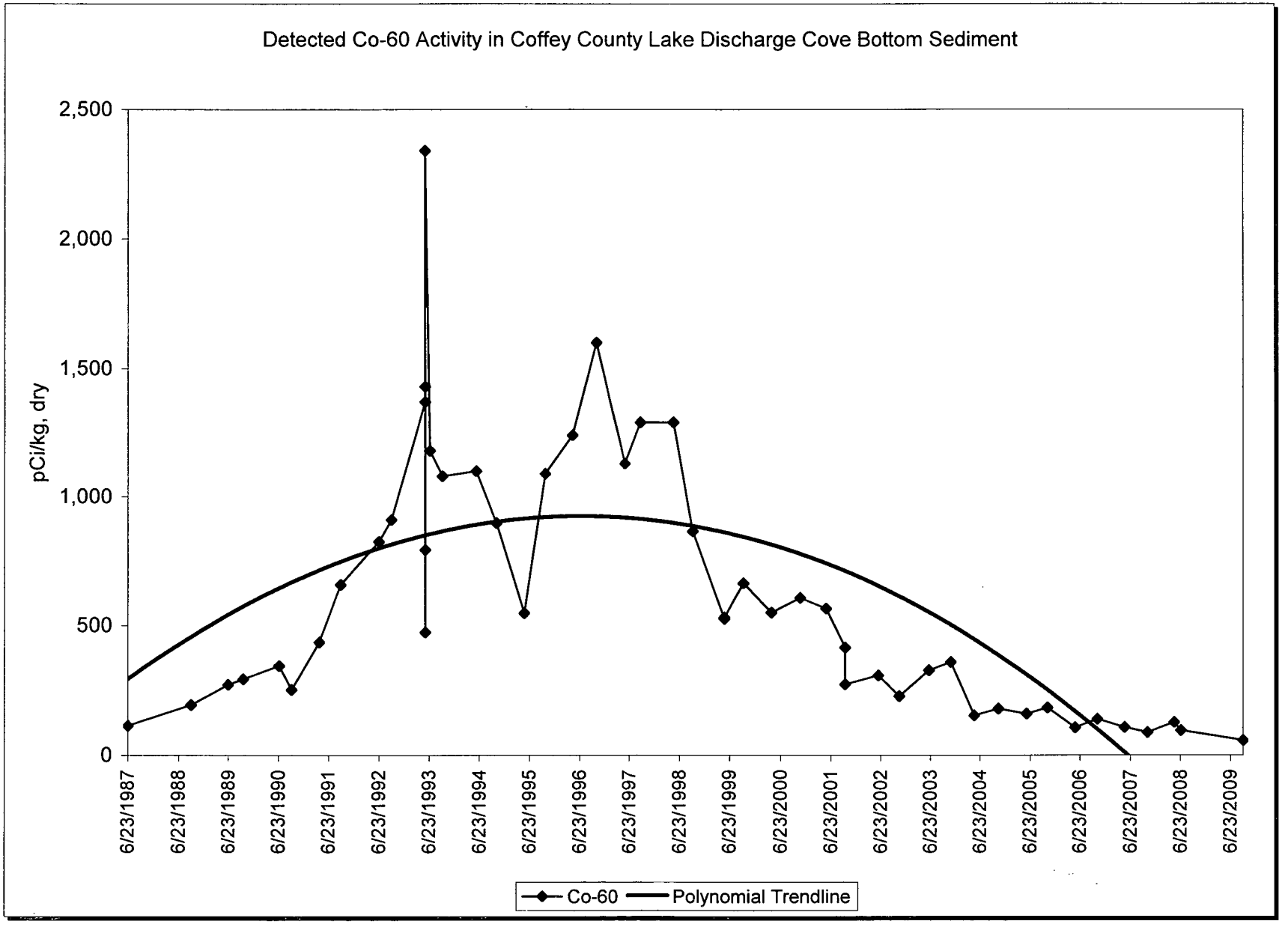
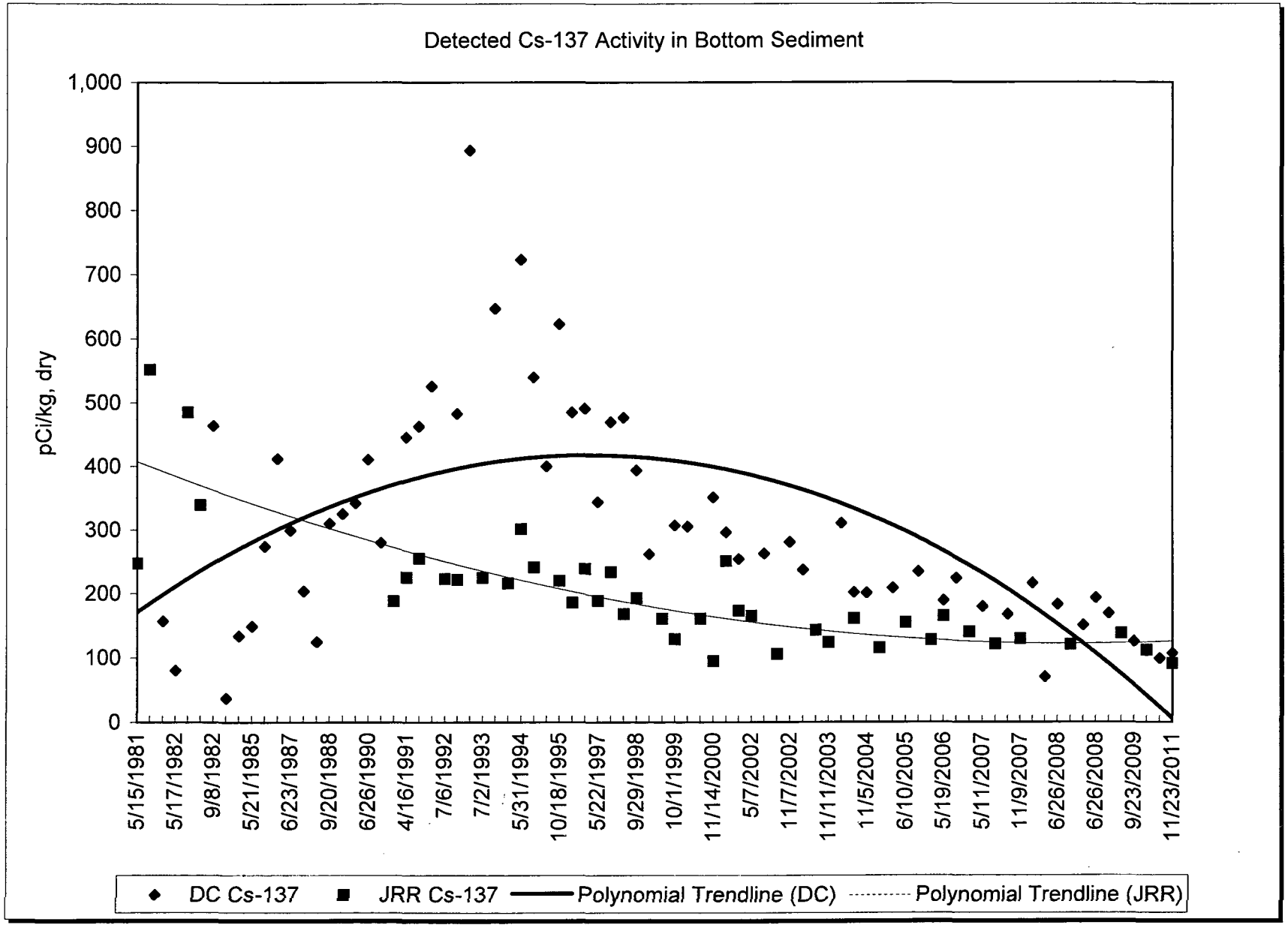

Detected Co-60 Activity in Coffey County Lake Discharge Cove Bottom Sediment
pCi/kg, dry
2,500
2,000
1,500
1,000
500
0
6/23/1987
6/23/1988
6/23/1989
6/23/1990
6/23/1991
6/23/1992
6/23/1993
6/23/1994
6/23/1995
6/23/1996
6/23/1997
6/23/1998
6/23/1999
6/23/2000
6/23/2001
6/23/2002
6/23/2003
6/23/2004
6/23/2005
6/23/2006
6/23/2007
6/23/2008
6/23/2009
Co-60
Polynomial Trendline

CHART 8


Detected Cs-137 Activity in Bottom Sediment
pCi/kg, dry
1,000
900
800
700
600
500
400
300
200
100
0
5/15/1981
5/17/1982
9/8/1982
5/21/1985
6/23/1987
9/20/1988
6/26/1990
4/16/1991
7/6/1992
7/2/1993
5/31/1994
10/18/1995
5/22/1997
9/29/1998
10/1/1999
11/14/2000
5/7/2002
11/7/2002
11/11/2003
11/5/2004
6/10/2005
5/19/2006
5/11/2007
11/9/2007
6/26/2008
6/26/2008
9/23/2009
11/23/2011
DC Cs-137
JRR Cs-137
Polynomial Trendline (DC)
Polynomial Trendline (JRR)

ATI Environmental, Inc.
Midwest Laboratory
700 Landwehr Road • Northbrook, IL 60062-2310
phone (847) 564-0700 • fax (847) 564-4517

APPENDIX A

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, 2011

Appendix A

Interlaboratory Comparison Program Results

Environmental, Inc., Midwest Laboratory has participated in interlaboratory comparison (crosscheck) programs since the formulation of it's 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 A-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.

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

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

Table A-5 lists REMP specific analytical results from 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. Complete analytical data for duplicate analyses is available upon request.

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

Results in Table A-7 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 Environmental Measurement Laboratory Quality Assessment Program (EML).

Attachment A lists the laboratory precision at the 1 sigma level for various analyses. The acceptance criteria in Table A-3 is set at ± 2 sigma.

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	$\pm 1\sigma$ = $169.85 \times (\text{known})^{0.0933}$ 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 pCi/liter 10% of known value
Uranium-238, Nickel-63[b] Technetium-99[b]	≤ 35 pCi/liter > 35 pCi/liter	6 pCi/liter 15% of known value
Iron-55[b]	50 to 100 pCi/liter > 100 pCi/liter	10 pCi/liter 10% of known value
Other Analyses [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 A-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	Acceptance
STW-1243	04/04/11	Sr-89	68.2 ± 5.8	63.2	51.1 - 71.2	Pass
STW-1243	04/04/11	Sr-90	44.3 ± 2.4	42.5	31.3 - 48.8	Pass
STW-1244	04/04/11	Ba-133	69.8 ± 3.9	75.3	63.0 - 82.8	Pass
STW-1244	04/04/11	Co-60	87.9 ± 3.8	88.8	79.9 - 100.0	Pass
STW-1244	04/04/11	Cs-134	69.5 ± 3.7	72.9	59.5 - 80.2	Pass
STW-1244	04/04/11	Cs-137	77.9 ± 5.3	77.0	69.3 - 87.4	Pass
STW-1244	04/04/11	Zn-65	105.2 ± 8.4	98.9	89.0 - 118.0	Pass
STW-1245	04/04/11	Gr. Alpha	41.5 ± 2.3	50.1	26.1 - 62.9	Pass
STW-1245	04/04/11	Gr. Beta	48.9 ± 1.8	49.8	33.8 - 56.9	Pass
STW-1246	04/04/11	I-131	26.6 ± 1.7	27.5	22.9 - 32.3	Pass
STW-1247	04/04/11	Ra-226	13.2 ± 0.6	12.1	9.0 - 14.0	Pass
STW-1247	04/04/11	Ra-228	11.2 ± 0.6	11.6	7.6 - 14.3	Pass
STW-1247	04/04/11	Uranium	36.4 ± 0.6	39.8	32.2 - 44.4	Pass
STW-1248	04/04/11	H-3	10322 ± 285	10200.0	8870 - 11200	Pass
STW-1256	10/07/11	Sr-89	68.7 ± 6.0	69.7	56.9 - 77.9	Pass
STW-1256	10/07/11	Sr-90	36.9 ± 2.4	41.1	30.2 - 47.2	Pass
STW-1257	10/07/11	Ba-133	88.2 ± 7.8	96.9	81.8 - 106.0	Pass
STW-1257	10/07/11	Co-60	116.5 ± 7.1	119.0	107.0 - 133.0	Pass
STW-1257 [d]	10/07/11	Cs-134	38.8 ± 8.0	33.4	26.3 - 36.7	Fail
STW-1257	10/07/11	Cs-137	45.6 ± 7.3	44.3	39.4 - 51.7	Pass
STW-1257	10/07/11	Zn-65	84.9 ± 15.4	76.8	68.9 - 92.5	Pass
STW-1258	10/07/11	Gr. Alpha	35.7 ± 3.8	53.2	27.8 - 66.6	Pass
STW-1258	10/07/11	Gr. Beta	36.1 ± 3.3	45.9	30.9 - 53.1	Pass
STW-1259	10/07/11	I-131	25.0 ± 1.1	27.5	22.9 - 32.3	Pass
STW-1260	10/07/11	Ra-226	12.2 ± 0.6	11.6	8.7 - 13.4	Pass
STW-1260	10/07/11	Ra-228	11.5 ± 1.7	10.3	6.7 - 12.8	Pass
STW-1260	10/07/11	Uranium	46.6 ± 0.5	48.6	39.4 - 54.0	Pass
STW-1261	10/07/11	H-3	17435 ± 382	17400	15200 - 19100	Pass

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

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

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

[d] The sample was reanalyzed. Result of reanalysis was acceptable, 32.9 ± 7.4 pCi/L.

TABLE A-2. Thermoluminescent Dosimetry, (TLD, $CaSO_4$: Dy Cards).

Lab Code	Date	Description	mR Known Value	Lab Result ± 2 sigma	Control Limits	Acceptance
Environmental, Inc.						
2010-2	12/13/2010	100 cm.	4.94	4.65 ± 0.57	3.46 - 6.42	Pass
2010-2	12/13/2010	110 cm.	4.09	3.50 ± 0.74	2.86 - 5.32	Pass
2010-2	12/13/2010	120 cm.	3.43	2.68 ± 0.36	2.40 - 4.46	Pass
2010-2	12/13/2010	150 cm.	2.2	1.75 ± 0.42	1.54 - 2.86	Pass
2010-2	12/13/2010	180 cm.	1.53	1.32 ± 0.52	1.07 - 1.99	Pass
2010-2	12/13/2010	40 cm.	30.89	38.56 ± 2.11	21.62 - 40.16	Pass
2010-2	12/13/2010	50 cm.	19.77	23.35 ± 1.82	13.84 - 25.70	Pass
2010-2	12/13/2010	60 cm.	13.73	14.53 ± 1.24	9.61 - 17.85	Pass
2010-2	12/13/2010	60 cm.	13.73	15.84 ± 1.53	9.61 - 17.85	Pass
2010-2	12/13/2010	80 cm.	7.72	8.33 ± 0.74	5.40 - 10.04	Pass
2010-2	12/13/2010	90 cm.	6.1	5.93 ± 0.73	4.27 - 7.93	Pass
Environmental, Inc.						
2011-1	7/6/2011	100 cm.	6.71	5.64 ± 0.30	4.70 - 8.72	Pass
2011-1	7/6/2011	110 cm.	5.54	4.60 ± 0.46	3.88 - 7.20	Pass
2011-1	7/6/2011	120 cm.	4.66	4.68 ± 0.29	3.26 - 6.06	Pass
2011-1	7/6/2011	150 cm.	2.98	2.93 ± 0.66	2.09 - 3.87	Pass
2011-1	7/6/2011	180 cm.	2.07	2.05 ± 0.18	1.45 - 2.69	Pass
2011-1	7/6/2011	40 cm.	41.92	52.36 ± 3.08	29.34 - 54.50	Pass
2011-1	7/6/2011	45 cm.	33.12	41.83 ± 3.46	23.18 - 43.06	Pass
2011-1	7/6/2011	50 cm.	26.83	28.61 ± 2.63	18.78 - 34.88	Pass
2011-1	7/6/2011	60 cm.	18.63	21.00 ± 1.15	13.04 - 24.22	Pass
2011-1	7/6/2011	70 cm.	13.69	13.24 ± 1.76	9.58 - 17.80	Pass
2011-1	7/6/2011	80 cm.	10.48	12.18 ± 0.65	7.34 - 13.62	Pass
2011-1	7/6/2011	90 cm.	8.28	7.95 ± 0.82	5.80 - 10.76	Pass

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

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
SPW-202	1/17/2011	U-238	4.19 ± 0.19	4.17	0.00 - 16.17	Pass
W-20111	2/1/2011	Ra-226	16.32 ± 0.47	16.77	11.74 - 21.80	Pass
W-20711	2/7/2011	Gr. Alpha	23.02 ± 0.45	20.00	10.00 - 30.00	Pass
W-20711	2/7/2011	Gr. Beta	46.59 ± 0.41	45.20	35.20 - 55.20	Pass
XWW-331	2/11/2011	Ba-133	144.30 ± 8.50	144.40	129.96 - 158.84	Pass
XWW-331	2/11/2011	Cs-134	22.20 ± 3.70	21.50	11.50 - 31.50	Pass
XWW-331	2/11/2011	Cs-137	64.70 ± 7.40	61.00	51.00 - 71.00	Pass
XWW-331	2/11/2011	H-3	13399 ± 334	12538	10030 - 15046	Pass
SPAP-567	2/14/2011	Gr. Beta	46.90 ± 0.11	48.10	28.86 - 67.34	Pass
SPAP-569	2/14/2011	Cs-134	7.70 ± 1.70	7.49	0.00 - 17.49	Pass
SPAP-569	2/14/2011	Cs-137	102.47 ± 3.20	106.79	96.11 - 117.47	Pass
SPAP-571	2/14/2011	H-3	75815 ± 542	73230	58584 - 87876	Pass
SPW-581	2/15/2011	Cs-134	39.91 ± 1.38	37.45	27.45 - 47.45	Pass
SPW-581	2/15/2011	Cs-137	56.28 ± 2.28	53.39	43.39 - 63.39	Pass
SPW-581	2/15/2011	Sr-89	112.92 ± 5.61	121.42	97.14 - 145.70	Pass
SPW-581	2/15/2011	Sr-90	47.80 ± 2.02	42.07	33.66 - 50.48	Pass
SPMI-583	2/15/2011	Cs-137	57.04 ± 2.76	53.39	43.39 - 63.39	Pass
SPMI-583	2/15/2011	Sr-90	36.27 ± 1.47	42.07	33.66 - 50.48	Pass
SPW-602	2/17/2011	U-238	3.98 ± 0.19	4.17	0.00 - 16.17	Pass
SPW-686	2/25/2011	Ni-63	167.41 ± 3.05	208.11	145.68 - 270.54	Pass
SPF-1113	3/17/2011	Cs-137	2369 ± 22	2170	1953 - 2387	Pass
XWW-1602	3/21/2011	Ba-133	26.83 ± 6.35	28.58	18.58 - 38.58	Pass
XWW-1602	3/21/2011	Cs-134	18.90 ± 4.06	16.30	6.30 - 26.30	Pass
XWW-1602	3/21/2011	Cs-137	33.98 ± 5.88	30.50	20.50 - 40.50	Pass
XWW-1602	3/21/2011	H-3	7348 ± 248	7617	6094 - 9140	Pass
XWW-2537	4/4/2011	Ba-133	43.40 ± 4.26	42.70	32.70 - 52.70	Pass
XWW-2537	4/4/2011	Cs-134	13.50 ± 2.40	11.90	1.90 - 21.90	Pass
XWW-2537	4/4/2011	Cs-137	68.30 ± 5.90	60.70	50.70 - 70.70	Pass
XWW-2537	4/4/2011	H-3	7134 ± 257	7234	5787 - 8681	Pass
SPW-2877	5/3/2011	Ra-228	25.23 ± 2.48	31.62	22.13 - 41.11	Pass
SPMI-3167	5/24/2011	Cs-134	33.04 ± 8.25	34.19	24.19 - 44.19	Pass
SPMI-3167	5/24/2011	Cs-137	51.53 ± 8.63	53.06	43.06 - 63.06	Pass
SPMI-3167	5/24/2011	Sr-89	90.89 ± 4.30	93.47	74.78 - 112.16	Pass
SPMI-3167	5/24/2011	Sr-90	41.17 ± 1.53	41.80	33.44 - 50.16	Pass
W-52411	5/24/2011	Ra-226	17.90 ± 0.42	16.80	11.76 - 21.84	Pass
W-60711	6/7/2011	Gr. Alpha	23.00 ± 0.49	20.00	10.00 - 30.00	Pass
W-60711	6/7/2011	Gr. Beta	43.27 ± 0.42	45.20	35.20 - 55.20	Pass
SPAP-4167	7/7/2011	Cs-134	6.92 ± 1.45	6.57	0.00 - 16.57	Pass
SPAP-4167	7/7/2011	Cs-137	108.02 ± 2.84	105.80	95.22 - 116.38	Pass
SPW-4169	7/7/2011	Cs-134	34.52 ± 4.79	32.84	22.84 - 42.84	Pass
SPW-4169	7/7/2011	Cs-137	58.29 ± 6.19	52.92	42.92 - 62.92	Pass

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

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1	Known Activity	Control Limits[c]	Acceptance
SPW-4169	7/7/2011	Sr-89	66.12 ± 4.18	69.64	55.71 - 83.57	Pass
SPW-4169	7/7/2011	Sr-90	41.72 ± 1.79	41.68	33.34 - 50.02	Pass
SPW-4171	7/7/2011	H-3	70582 ± 767	71646	57317 - 85975	Pass
SPW-4180	7/7/2011	Tc-99	95.69 ± 1.65	97.02	67.91 - 126.13	Pass
SPW-41821	7/7/2011	Ra-228	32.57 ± 2.63	30.63	21.44 - 39.82	Pass
SPW-4241	7/7/2011	Ni-63	403.01 ± 4.66	415.20	290.64 - 539.76	Pass
SPW-4180	7/8/2011	Tc-99	100.30 ± 1.75	97.02	67.91 - 126.13	Pass
SPW-5029	7/29/2011	C-14	3991 ± 17	4739	2843 - 6634	Pass
SPW-5031	7/29/2011	Fe-55	13801 ± 331	14895	11916 - 17874	Pass
W-91411	9/14/2011	Gr. Alpha	21.58 ± 0.44	20.00	10.00 - 30.00	Pass
W-91411	9/14/2011	Gr. Beta	43.02 ± 0.40	45.20	35.20 - 55.20	Pass
SPW-91511	9/15/2011	Tc-99	29.92 ± 1.07	32.34	20.34 - 44.34	Pass
W-91911	9/19/2011	Ra-226	17.06 ± 0.42	16.80	11.76 - 21.84	Pass
W-100711	10/7/2011	Gr. Alpha	22.05 ± 0.45	20.00	10.00 - 30.00	Pass
W-100711	10/7/2011	Gr. Beta	45.51 ± 0.41	45.20	35.20 - 55.20	Pass
W-101111	10/11/2011	Ra-226	16.02 ± 0.40	16.80	11.76 - 21.84	Pass
XWW-7220	11/17/2011	Ba-133	25.11 ± 4.36	27.47	17.47 - 37.47	Pass
XWW-7220	11/17/2011	Cs-134	14.09 ± 3.11	16.60	6.60 - 26.60	Pass
XWW-7220	11/17/2011	Cs-137	35.59 ± 4.28	29.98	19.98 - 39.98	Pass
W-113011	11/30/2011	Ra-226	16.12 ± 0.39	16.80	11.76 - 21.84	Pass
W-120111	12/1/2011	Gr. Alpha	21.34 ± 0.43	20.00	10.00 - 30.00	Pass
W-120111	12/1/2011	Gr. Beta	45.55 ± 0.41	45.20	35.20 - 55.20	Pass
SPW-41823	12/9/2011	Ra-228	26.98 ± 2.38	29.40	20.58 - 38.22	Pass
SPMI-8906	12/22/2011	Cs-134	29.11 ± 3.52	28.14	18.14 - 38.14	Pass
SPMI-8906	12/22/2011	Cs-137	58.27 ± 7.62	52.36	42.36 - 62.36	Pass
SPW-8916	12/22/2011	Cs-134	31.74 ± 3.63	28.14	18.14 - 38.14	Pass
SPW-8916	12/22/2011	Cs-137	56.48 ± 6.12	52.36	42.36 - 62.36	Pass
SPAP-8902	12/23/2011	Gr. Beta	45.72 ± 0.11	47.11	28.27 - 65.95	Pass
SPAP-8904	12/23/2011	Cs-134	5.19 ± 0.63	5.63	0.00 - 15.63	Pass
SPAP-8904	12/23/2011	Cs-137	101.21 ± 2.55	104.71	94.24 - 115.18	Pass
SPW-8918	12/23/2011	H-3	136759 ± 1056	137638	110110 - 165166	Pass
SPW-8922	12/23/2011	Ni-63	202.21 ± 3.75	206.88	144.82 - 268.94	Pass
SPW-8924	12/23/2011	Tc-99	126.10 ± 1.86	129.36	90.55 - 168.17	Pass
SPF-8926	12/23/2011	Cs-134	0.34 ± 0.01	0.33	0.20 - 0.47	Pass
SPF-8926	12/23/2011	Cs-137	2.34 ± 0.02	2.09	1.25 - 2.93	Pass

[a] Liquid sample results are reported in pCi/Liter, air filters(pCi/filter), charcoal (pCi/m^3), and solid samples (pCi/g).

[b] Laboratory codes as follows: W (water), MI (milk), AP (air filter), SO (soil), VE (vegetation), CH (charcoal canister), F (fish), U (urine).

[c] Results are based on single determinations.

[d] Control limits are established from the precision values listed in Attachment A of this report, adjusted to ± 2σ.

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

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

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
SPW-202	Water	1/17/2011	U-238	0.10	0.12 ± 0.12	1
W-20111	Water	2/1/2011	Ra-226	0.04	0.05 ± 0.03	1
W-20711	Water	2/7/2011	Gr. Alpha	0.44	-0.02 ± 0.29	1
W-20711	Water	2/7/2011	Gr. Beta	0.75	-0.03 ± 0.53	3.2
SPAP-566	Air Filter	2/14/2011	Gr. Beta	0.64	2.24 ± 0.61	3.2
SPAP-568	Air Filter	2/14/2011	Cs-134	2.34	-	100
SPAP-568	Air Filter	2/14/2011	Cs-137	1.56	-	100
SPAP-570	Air Filter	2/14/2011	H-3	103.20	-49.40 ± 52.50	200
SPW-580	Water	2/15/2011	Cs-134	2.68	-	10
SPW-580	Water	2/15/2011	Cs-137	2.84	-	10
SPW-580	Water	2/15/2011	Sr-89	0.73	0.24 ± 0.57	5
SPW-580	Water	2/15/2011	Sr-90	0.57	0.02 ± 0.27	1
SPMI-582	Milk	2/15/2011	Cs-134	3.49	-	10
SPMI-582	Milk	2/15/2011	Cs-137	3.54	-	10
SPMI-582	Milk	2/15/2011	I-131(G)	4.14	-	20
SPMI-582	Milk	2/15/2011	Sr-89	0.71	0.16 ± 0.67	5
SPMI-582	Milk	2/15/2011	Sr-90	0.55	0.59 ± 0.32	1
SPW-601	Water	2/17/2011	U-238	0.20	0.09 ± 0.17	1
SPW-685	Water	2/25/2011	Ni-63	1.61	0.05 ± 0.98	20
SPF-1112	Fish	3/17/2011	Cs-134	6.74	-	100
SPF-1112	Fish	3/17/2011	Cs-137	5.45	-	100
BKW-40111	Water	4/1/2011	I-131	4.16	-	10
BKW-40111	Water	4/1/2011	Co-60	3.11	-	10
BKW-40111	Water	4/1/2011	Cs-134	4.73	-	10
BKW-40111	Water	4/1/2011	Cs-137	5.04	-	10
SPW-2887	Water	5/3/2011	Ra-228	0.72	0.46 ± 0.39	2
W-52411	Water	5/24/2011	Ra-226	0.04	0.05 ± 0.03	1
W-60711	Water	6/7/2011	Gr. Alpha	0.51	0.00 ± 0.36	1
W-60711	Water	6/7/2011	Gr. Beta	1.58	0.38 ± 1.12	3.2
SPAP-4164	Air Filter	7/7/2011	Gr. Beta	0.72	1.04 ± 0.48	3.2
SPW-4168	Water	7/7/2011	Cs-134	3.41	-	10
SPW-4168	Water	7/7/2011	Cs-137	2.45	-	10
SPW-4168	Water	7/7/2011	Sr-89	0.72	0.40 ± 0.50	5
SPW-4168	Water	7/7/2011	Sr-90	0.51	-0.19 ± 0.21	1
SPW-4171	Water	7/7/2011	H-3	152.00	37.10 ± 81.80	200
SPW-41811	Water	7/7/2011	Ra-228	0.77	0.51 ± 0.42	2

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

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
SPW-4241	Water	7/7/2011	Ni-63	1.70	0.09 ± 1.03	20
SPW-4179	Water	7/8/2011	Tc-99	1.20	-0.96 ± 0.71	10
SPW-5028	Water	7/29/2011	C-14	109.80	61.90 ± 59.20	200
SPW-5031	Water	7/29/2011	Fe-55	140.60	0.00 ± 85.30	1000
W-91411	Water	9/14/2011	Gr. Alpha	0.48	-0.06 ± 0.33	1
W-91411	Water	9/14/2011	Gr. Beta	0.78	-0.43 ± 0.53	3.2
SPW-91511	Water	9/15/2011	Tc-99	1.11	-0.62 ± 0.66	10
W-91911	Water	9/19/2011	Ra-226	0.03	0.04 ± 0.02	1
W-100711	Water	10/7/2011	Gr. Alpha	0.44	-0.26 ± 0.28	1
W-100711	Water	10/7/2011	Gr. Beta	0.76	-0.43 ± 0.52	3.2
W-101111	Water	10/11/2011	Ra-226	0.04	0.05 ± 0.03	1
W-113011	Water	11/30/2011	Ra-226	0.03	0.04 ± 0.02	1
W-120111	Water	12/1/2011	Gr. Alpha	0.41	-0.20 ± 0.27	1
W-120111	Water	12/1/2011	Gr. Beta	0.75	-0.10 ± 0.53	3.2
SPW-41813	Water	12/9/2011	Ra-228	0.71	0.17 ± 0.35	2
SPMI-8905	Milk	12/22/2011	Cs-134	3.27	-	10
SPMI-8905	Milk	12/22/2011	Cs-137	3.38	-	10
SPMI-8905	Milk	12/22/2011	I-131(G)	2.17	-	20
SPW-8915	Water	12/22/2011	Cs-134	3.37	-	10
SPW-8915	Water	12/22/2011	Cs-137	3.45	-	10
SPW-8915	Water	12/22/2011	I-131(G)	3.38	-	20
SPAP-8901	Air Filter	12/23/2011	Gr. Beta	0.78	0.50 ± 0.46	3.2
SPAP-8903	Air Filter	12/23/2011	Cs-134	1.65	-	100
SPAP-8903	Air Filter	12/23/2011	Cs-137	2.41	-	100
SPW-8917	Water	12/23/2011	H-3	150.20	-3.04 ± 78.80	200
SPW-8921	Water	12/23/2011	Ni-63	16.92	-4.60 ± 10.16	20
SPW-8923	Water	12/23/2011	Tc-99	5.66	-5.45 ± 3.34	10
SPF-8925	Fish	12/23/2011	Cs-134	7.15	-	100
SPF-8925	Fish	12/23/2011	Cs-137	9.73	-	100

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

[b] I-131(G); iodine-131 as analyzed by gamma spectroscopy.

[c] Activity reported is a net activity result. For gamma spectroscopic analysis, activity detected below the LLD value is not reported.

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
CF-20, 21	1/3/2011	Be-7	0.24 ± 0.14	0.34 ± 0.17	0.29 ± 0.11	Pass
CF-20, 21	1/3/2011	K-40	10.37 ± 0.43	9.76 ± 0.68	10.07 ± 0.40	Pass
CF-20, 21	1/3/2011	Sr-90	0.01 ± 0.01	0.01 ± 0.01	0.01 ± 0.00	Pass
WW-65, 66	1/6/2011	H-3	321.91 ± 97.19	345.76 ± 98.16	333.83 ± 69.06	Pass
BS-165, 166	1/11/2011	Cs-137	0.13 ± 0.02	0.15 ± 0.02	0.14 ± 0.01	Pass
BS-165, 166	1/11/2011	H-3	286.00 ± 80.00	284.00 ± 80.00	285.00 ± 56.57	Pass
BS-165, 166	1/11/2011	K-40	14.11 ± 0.52	13.79 ± 0.60	13.95 ± 0.40	Pass
BS-176, 177	1/11/2011	H-3	391.00 ± 92.00	332.00 ± 89.00	361.50 ± 64.00	Pass
BS-176, 177	1/11/2011	K-40	9.06 ± 0.44	8.28 ± 0.81	8.67 ± 0.46	Pass
BS-197, 198	1/11/2011	Cs-137	0.14 ± 0.03	0.15 ± 0.04	0.15 ± 0.03	Pass
BS-197, 198	1/11/2011	H-3	459.00 ± 103.00	283.00 ± 95.00	371.00 ± 70.06	Pass
BS-197, 198	1/11/2011	K-40	14.40 ± 0.77	14.16 ± 1.23	14.28 ± 0.73	Pass
WW-358, 359	1/17/2011	H-3	331.44 ± 93.05	407.65 ± 95.91	369.55 ± 66.81	Pass
DW-20009, 20010	1/19/2011	Ra-226	3.66 ± 0.57	2.74 ± 0.43	3.20 ± 0.36	Pass
DW-20009, 20010	1/19/2011	Ra-228	1.51 ± 0.64	1.36 ± 0.60	1.44 ± 0.44	Pass
WW-337, 338	1/25/2011	H-3	21986.00 ± 402.00	21896.00 ± 401.00	21941.00 ± 283.90	Pass
W-491, 492	1/27/2011	Ra-226	6.70 ± 0.50	6.10 ± 0.50	6.40 ± 0.35	Pass
W-491, 492	1/27/2011	Ra-228	6.60 ± 1.30	8.40 ± 1.40	7.50 ± 0.96	Pass
DW-20014, 20015	1/28/2011	Gr. Alpha	1.91 ± 0.71	2.34 ± 0.80	2.13 ± 0.53	Pass
SWU-447, 448	1/31/2011	Gr. Beta	7.42 ± 1.17	6.85 ± 1.11	7.14 ± 0.81	Pass
W-694, 695	2/7/2011	H-3	628.26 ± 104.30	692.37 ± 106.89	660.32 ± 74.67	Pass
DW-20022, 20023	2/9/2011	Ra-228	0.71 ± 0.47	1.13 ± 0.54	0.92 ± 0.36	Pass
SW-626, 627	2/16/2011	H-3	1268.17 ± 129.52	1144.65 ± 125.39	1206.41 ± 90.14	Pass
LW-825, 826	2/24/2011	Gr. Beta	2.65 ± 0.82	2.45 ± 0.74	2.55 ± 0.55	Pass
SWT-845, 846	3/1/2011	Gr. Beta	1.11 ± 0.39	0.80 ± 0.37	0.96 ± 0.27	Pass
MI-998, 999	3/7/2011	K-40	1760.10 ± 127.50	1708.50 ± 131.60	1734.30 ± 91.62	Pass
W-1024, 1025	3/7/2011	H-3	489.83 ± 101.09	581.39 ± 105.06	535.61 ± 72.90	Pass
WW-1156, 1157	3/16/2011	Gr. Beta	1.79 ± 0.78	0.47 ± 0.66	1.13 ± 0.51	Pass
P-1198, 1199	3/17/2011	H-3	504.00 ± 133.00	597.00 ± 136.00	550.50 ± 95.11	Pass
SW-1434, 1435	3/28/2011	H-3	15523.00 ± 359.00	15968.00 ± 364.00	15745.50 ± 255.63	Pass
WW-1588, 1589	3/28/2011	Gr. Beta	1.81 ± 1.23	2.81 ± 1.38	2.31 ± 0.92	Pass
SG-1714, 1715	3/28/2011	Gr. Alpha	8.82 ± 0.81	8.58 ± 0.74	8.70 ± 0.55	Pass
SG-1714, 1715	3/28/2011	Gr. Beta	13.78 ± 0.65	12.76 ± 0.58	13.27 ± 0.44	Pass
AP-1862, 1863	3/28/2011	Be-7	0.09 ± 0.02	0.08 ± 0.02	0.08 ± 0.01	Pass
W-2143, 2144	3/28/2011	H-3	536.40 ± 99.37	466.79 ± 96.46	501.59 ± 69.25	Pass
AP-2269, 2270	3/28/2011	Be-7	0.07 ± 0.01	0.08 ± 0.01	0.07 ± 0.01	Pass
DW-20061, 20062	3/28/2011	Gr. Alpha	2.82 ± 1.33	3.89 ± 1.26	3.36 ± 0.92	Pass
SWU-1455, 1456	3/29/2011	Gr. Beta	2.50 ± 0.75	2.75 ± 0.83	2.62 ± 0.56	Pass
SWU-1522, 1523	3/29/2011	Gr. Beta	1.36 ± 0.87	2.14 ± 0.96	1.75 ± 0.65	Pass
PM-1543, 1544	3/29/2011	Gr. Beta	13.81 ± 0.26	13.67 ± 0.27	13.74 ± 0.19	Pass
PM-1543, 1544	3/29/2011	Sr-90	8.12 ± 3.20	7.71 ± 3.25	7.91 ± 2.28	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
SWT-5885, 5886	3/29/2011	Gr. Beta	1.21 ± 0.54	0.77 ± 0.54	0.99 ± 0.38	Pass
AP-1883, 1884	3/30/2011	Be-7	0.07 ± 0.01	0.09 ± 0.02	0.08 ± 0.01	Pass
AP-2248, 2249	3/30/2011	Be-7	0.06 ± 0.01	0.06 ± 0.01	0.06 ± 0.01	Pass
DW-20066, 20067	3/30/2011	Ra-226	2.14 ± 0.16	2.10 ± 0.16	2.12 ± 0.11	Pass
DW-20066, 20067	3/30/2011	Ra-228	2.55 ± 0.65	1.78 ± 0.62	2.17 ± 0.45	Pass
P-1567, 1568	4/1/2011	H-3	289.00 ± 103.00	296.00 ± 103.00	292.50 ± 72.83	Pass
MI-1609, 1610	4/4/2011	I-131	0.85 ± 0.17	0.91 ± 0.18	0.88 ± 0.13	Pass
MI-1609, 1610	4/4/2011	K-40	1323.80 ± 112.00	1323.20 ± 96.22	1323.50 ± 73.83	Pass
MI-1609, 1610	4/4/2011	Sr-90	0.85 ± 0.33	0.97 ± 0.34	0.91 ± 0.24	Pass
S-1651, 1652	4/4/2011	Ac-228	0.88 ± 0.08	1.03 ± 0.22	0.96 ± 0.12	Pass
S-1651, 1652	4/4/2011	Pb-214	1.09 ± 0.12	0.84 ± 0.16	0.97 ± 0.10	Pass
AP-1841, 1842	4/7/2011	Be-7	0.12 ± 0.02	0.12 ± 0.01	0.12 ± 0.01	Pass
AP-1841, 1842	4/7/2011	Cs-137	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	Pass
AP-1841, 1842	4/7/2011	I-131(G)	0.02 ± 0.00	0.03 ± 0.00	0.03 ± 0.00	Pass
S-1990, 1991	4/7/2011	Ac-228	15.83 ± 0.39	16.12 ± 0.64	15.98 ± 0.37	Pass
S-1990, 1991	4/7/2011	Pb-214	11.21 ± 0.23	11.81 ± 1.22	11.51 ± 0.62	Pass
WW-2552, 2553	4/7/2011	H-3	761.09 ± 116.48	759.04 ± 116.41	760.07 ± 82.34	Pass
PM-1904, 1905	4/11/2011	K-40	13585.00 ± 611.00	14278.00 ± 648.00	13931.50 ± 445.32	Pass
PM-1904, 1905	4/11/2011	Sr-90	9.94 ± 3.05	5.62 ± 2.52	7.78 ± 1.98	Pass
P-2011, 2012	4/11/2011	H-3	670.00 ± 108.00	619.00 ± 106.00	644.50 ± 75.66	Pass
WW-2053, 2054	4/13/2011	H-3	220.20 ± 86.50	246.80 ± 87.80	233.50 ± 61.63	Pass
BS-2095, 2096	4/13/2011	K-40	12.88 ± 0.72	13.56 ± 1.08	13.22 ± 0.65	Pass
DW-20099, 20100	4/13/2011	U-233/4	1.64 ± 0.40	1.31 ± 0.34	1.48 ± 0.26	Pass
DW-20099, 20100	4/13/2011	U-238	1.49 ± 0.39	1.28 ± 0.33	1.39 ± 0.26	Pass
WW-2416, 2417	4/19/2011	H-3	217.10 ± 97.00	184.90 ± 95.60	201.00 ± 68.10	Pass
P-2185, 2186	4/20/2011	H-3	405.00 ± 93.00	504.00 ± 98.00	454.50 ± 67.55	Pass
WW-2353, 2354	4/20/2011	H-3	525.54 ± 119.74	399.41 ± 115.99	462.48 ± 83.35	Pass
DW-20115, 20116	4/26/2011	U-233/4	11.94 ± 2.34	10.71 ± 1.19	11.33 ± 1.31	Pass
DW-20115, 20116	4/26/2011	U-238	2.70 ± 1.15	3.89 ± 0.72	3.30 ± 0.68	Pass
SO-2960, 2961	4/27/2011	K-40	22.63 ± 1.36	22.90 ± 0.03	22.77 ± 0.68	Pass
MI-2657, 2658	5/2/2011	K-40	1319.30 ± 101.30	1403.20 ± 131.60	1361.25 ± 83.04	Pass
DW-20130, 20131	5/2/2011	U-233/4	7.59 ± 0.90	7.62 ± 0.83	7.61 ± 0.61	Pass
DW-20130, 20131	5/2/2011	U-238	4.67 ± 0.72	4.84 ± 0.66	4.76 ± 0.49	Pass
DW-20148, 20149	5/3/2011	U-233/4	6.64 ± 0.83	6.35 ± 0.81	6.50 ± 0.58	Pass
DW-20148, 20149	5/3/2011	U-238	6.11 ± 0.83	5.18 ± 0.73	5.65 ± 0.55	Pass
PM-2810, 2811	5/4/2011	Cs-134	18.64 ± 12.16	33.33 ± 11.86	25.99 ± 8.49	Pass
PM-2810, 2811	5/4/2011	Cs-137	28.99 ± 14.92	21.17 ± 12.16	25.08 ± 9.62	Pass
PM-2810, 2811	5/4/2011	K-40	14368.00 ± 720.00	14309.00 ± 638.00	14338.50 ± 481.00	Pass
WW-3065, 3066	5/16/2011	H-3	280.51 ± 86.98	179.46 ± 82.83	229.98 ± 60.05	Pass
WW-3086, 3087	5/16/2011	H-3	341.14 ± 85.94	377.97 ± 87.43	359.56 ± 61.30	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
SG-3134, 3135	5/16/2011	Ac-228	11.19 ± 0.82	12.50 ± 0.84	11.85 ± 0.59	Pass
SG-3134, 3135	5/16/2011	Pb-214	9.12 ± 0.17	9.37 ± 0.42	9.25 ± 0.23	Pass
F-3221, 3222	5/23/2011	K-40	2.73 ± 0.39	2.81 ± 0.42	2.77 ± 0.29	Pass
SS-3434, 3435	5/25/2011	K-40	11533.00 ± 563.70	11236.00 ± 566.10	11384.50 ± 399.45	Pass
AP-3329, 3330	5/26/2011	Be-7	0.24 ± 0.11	0.23 ± 0.13	0.24 ± 0.08	Pass
WW-3350, 3351	6/1/2011	H-3	235.37 ± 83.98	173.12 ± 81.05	204.25 ± 58.36	Pass
G-3413, 3414	6/1/2011	Be-7	0.28 ± 0.10	0.25 ± 0.09	0.27 ± 0.07	Pass
G-3413, 3414	6/1/2011	Gr. Beta	11.04 ± 0.31	10.85 ± 0.31	10.95 ± 0.22	Pass
G-3413, 3414	6/1/2011	K-40	6.80 ± 0.33	6.71 ± 0.38	6.76 ± 0.25	Pass
AP-3602, 3603	6/3/2011	Be-7	0.20 ± 0.08	0.25 ± 0.10	0.22 ± 0.07	Pass
SO-3797, 3798	6/8/2011	Ac-228	0.99 ± 0.05	1.00 ± 0.06	1.00 ± 0.04	Pass
SO-3797, 3798	6/8/2011	Bi-212	1.10 ± 0.12	1.08 ± 0.17	1.09 ± 0.10	Pass
SO-3797, 3798	6/8/2011	Bi-214	0.87 ± 0.02	0.86 ± 0.02	0.87 ± 0.01	Pass
SO-3797, 3798	6/8/2011	Cs-137	0.41 ± 0.01	0.39 ± 0.01	0.40 ± 0.01	Pass
SO-3797, 3798	6/8/2011	K-40	16.08 ± 0.26	16.27 ± 0.29	16.18 ± 0.19	Pass
SO-3797, 3798	6/8/2011	Pb-212	0.98 ± 0.10	0.93 ± 0.02	0.96 ± 0.05	Pass
SO-3797, 3798	6/8/2011	Pb-214	0.95 ± 0.02	0.91 ± 0.02	0.93 ± 0.01	Pass
SO-3797, 3798	6/8/2011	Th-232	0.47 ± 0.05	0.49 ± 0.04	0.48 ± 0.03	Pass
SO-3797, 3798	6/8/2011	U-233/4	0.16 ± 0.02	0.15 ± 0.02	0.16 ± 0.01	Pass
SO-3797, 3798	6/8/2011	U-238	0.16 ± 0.02	0.13 ± 0.02	0.15 ± 0.01	Pass
MI-3935, 3936	6/20/2011	K-40	1764.60 ± 119.40	1843.10 ± 136.50	1803.85 ± 90.68	Pass
BS-4172, 4173	6/21/2011	Cs-137	51.50 ± 23.78	48.57 ± 17.06	50.04 ± 14.63	Pass
BS-4172, 4173	6/21/2011	K-40	11730.00 ± 679.60	11120.00 ± 512.30	11425.00 ± 425.53	Pass
DW-20183, 20184	6/21/2011	U-233/4	10.00 ± 1.00	8.40 ± 0.90	9.20 ± 0.67	Pass
DW-20183, 20184	6/21/2011	U-238	6.70 ± 0.80	6.10 ± 0.80	6.40 ± 0.57	Pass
WW-4019, 4020	6/24/2011	Gr. Beta	3.56 ± 1.20	3.16 ± 1.21	3.36 ± 0.85	Pass
PM-4193, 4194	6/30/2011	K-40	14795.00 ± 759.00	14660.00 ± 750.00	14727.50 ± 533.52	Pass
LW-4235, 4236	6/30/2011	Gr. Beta	2.70 ± 0.72	2.11 ± 0.78	2.41 ± 0.53	Pass
AP-4367, 4368	7/7/2011	Be-7	0.17 ± 0.10	0.19 ± 0.11	0.18 ± 0.07	Pass
MI-4416, 4417	7/11/2011	K-40	1342.40 ± 91.49	1447.00 ± 114.80	1394.70 ± 73.40	Pass
W-4914, 4915	7/11/2011	H-3	576.36 ± 110.35	584.67 ± 110.67	580.52 ± 78.14	Pass
MI-4438, 4439	7/12/2011	K-40	1280.60 ± 107.50	1381.20 ± 112.70	1330.90 ± 77.87	Pass
VE-4481, 4482	7/13/2011	K-40	4452.60 ± 332.40	4767.90 ± 349.70	4610.25 ± 241.24	Pass
AP-4677, 4678	7/15/2011	Be-7	0.18 ± 0.08	0.23 ± 0.09	0.20 ± 0.06	Pass
W-5537, 5538	7/18/2011	H-3	650.13 ± 105.19	695.39 ± 106.94	672.76 ± 75.00	Pass
P-4764, 4765	7/19/2011	H-3	179.82 ± 84.81	138.72 ± 82.79	159.27 ± 59.26	Pass
WW-5211, 5212	7/24/2011	H-3	191.94 ± 85.50	136.22 ± 82.76	164.08 ± 59.50	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
VE-4998, 4999	7/25/2011	Be-7	543.90 ± 158.20	488.30 ± 163.80	516.10 ± 113.86	Pass
VE-4998, 4999	7/25/2011	K-40	2562.20 ± 319.80	2414.00 ± 350.00	2488.10 ± 237.05	Pass
DW-20258, 20259	7/25/2011	U-233/4	21.34 ± 1.52	24.93 ± 2.93	23.14 ± 1.65	Pass
DW-20258, 20259	7/25/2011	U-235	0.57 ± 0.26	0.69 ± 0.26	0.63 ± 0.18	Pass
DW-20258, 20259	7/25/2011	U-238	14.11 ± 1.24	15.81 ± 1.23	14.96 ± 0.87	Pass
DW-20269, 20270	7/25/2011	U-233/4	4.93 ± 0.73	4.65 ± 0.68	4.79 ± 0.50	Pass
DW-20269, 20270	7/25/2011	U-238	3.26 ± 0.60	2.53 ± 0.50	2.90 ± 0.39	Pass
DW-20280, 20281	7/25/2011	U-233/4	3.58 ± 0.58	3.33 ± 0.56	3.46 ± 0.40	Pass
DW-20280, 20281	7/25/2011	U-238	1.64 ± 0.40	2.11 ± 0.45	1.88 ± 0.30	Pass
MI-5019, 5020	7/26/2011	K-40	1348.50 ± 101.00	1347.40 ± 109.70	1347.95 ± 74.56	Pass
W-5447, 5448	7/26/2011	H-3	246.31 ± 99.19	241.99 ± 99.02	244.15 ± 70.08	Pass
G-5124, 5125	7/28/2011	Gr. Beta	7.48 ± 0.20	7.17 ± 0.19	7.33 ± 0.14	Pass
AP-5232, 5233	7/28/2011	Be-7	0.15 ± 0.08	0.22 ± 0.13	0.19 ± 0.08	Pass
SL-5169, 5170	8/1/2011	Be-7	2.37 ± 0.16	2.17 ± 0.17	2.27 ± 0.12	Pass
SL-5169, 5170	8/1/2011	Gr. Beta	4.74 ± 0.45	3.94 ± 0.39	4.34 ± 0.30	Pass
SL-5169, 5170	8/1/2011	K-40	3.12 ± 0.16	2.96 ± 0.21	3.04 ± 0.13	Pass
G-5190, 5191	8/1/2011	Be-7	3.14 ± 0.30	3.44 ± 0.27	3.29 ± 0.20	Pass
G-5190, 5191	8/1/2011	Gr. Beta	8.07 ± 0.28	7.86 ± 0.27	7.97 ± 0.19	Pass
G-5190, 5191	8/1/2011	K-40	5.51 ± 0.46	5.57 ± 0.44	5.54 ± 0.32	Pass
DW-20291, 20292	8/2/2011	U-233/4	3.24 ± 0.54	2.60 ± 0.50	2.92 ± 0.37	Pass
DW-20291, 20292	8/2/2011	U-238	1.59 ± 0.38	2.00 ± 0.43	1.80 ± 0.29	Pass
SG-5342, 5343	8/5/2011	Ac-228	14.41 ± 0.36	14.13 ± 0.48	14.27 ± 0.30	Pass
SG-5342, 5343	8/5/2011	Bi-212	4.14 ± 0.65	4.73 ± 1.21	4.44 ± 0.69	Pass
SG-5342, 5343	8/5/2011	K-40	7.67 ± 0.92	7.95 ± 1.21	7.81 ± 0.76	Pass
SG-5342, 5343	8/5/2011	Pb-214	10.72 ± 0.21	10.67 ± 0.28	10.70 ± 0.18	Pass
SG-5342, 5343	8/5/2011	Tl-208	0.96 ± 0.06	1.00 ± 0.06	0.98 ± 0.04	Pass
MI-5405, 5406	8/8/2011	K-40	1545.30 ± 116.00	1388.00 ± 98.20	1466.65 ± 75.99	Pass
DW-20301, 20302	8/9/2011	Gr. Alpha	6.36 ± 1.09	5.30 ± 1.08	5.83 ± 0.77	Pass
DW-20301, 20302	8/9/2011	Gr. Beta	14.36 ± 0.92	13.51 ± 0.89	13.94 ± 0.64	Pass
DW-5603, 5604	8/16/2011	Ra-228	1.68 ± 0.88	2.26 ± 0.91	1.97 ± 0.63	Pass
VE-5753, 5754	8/22/2011	Be-7	0.78 ± 0.20	0.75 ± 0.23	0.77 ± 0.15	Pass
VE-5753, 5754	8/22/2011	K-40	6.16 ± 0.51	6.63 ± 0.57	6.40 ± 0.38	Pass
S-5801, 5802	8/29/2011	Ac-228	0.43 ± 0.09	0.38 ± 0.07	0.41 ± 0.06	Pass
S-5801, 5802	8/29/2011	K-40	6.54 ± 0.51	5.96 ± 0.49	6.25 ± 0.35	Pass
S-5801, 5802	8/29/2011	Pb-212	0.31 ± 0.03	0.36 ± 0.03	0.34 ± 0.02	Pass
S-5801, 5802	8/29/2011	Pb-214	0.28 ± 0.04	0.25 ± 0.04	0.27 ± 0.03	Pass
S-5801, 5802	8/29/2011	Tl-208	0.14 ± 0.02	0.12 ± 0.02	0.13 ± 0.01	Pass
S-5801, 5802	8/29/2011	U-235	0.05 ± 0.02	0.04 ± 0.01	0.05 ± 0.01	Pass
ME-5996, 5997	9/1/2011	Gr. Alpha	0.03 ± 0.02	0.03 ± 0.02	0.03 ± 0.01	Pass
ME-5996, 5997	9/1/2011	Gr. Beta	2.55 ± 0.07	2.62 ± 0.07	2.58 ± 0.05	Pass
ME-5996, 5997	9/1/2011	K-40	2.66 ± 0.35	2.24 ± 0.58	2.45 ± 0.34	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
SL-6017, 6018	9/6/2011	Be-7	0.47 ± 0.17	0.51 ± 0.19	0.49 ± 0.13	Pass
SL-6017, 6018	9/6/2011	Gr. Beta	4.23 ± 0.16	3.94 ± 0.15	4.09 ± 0.11	Pass
SL-6017, 6018	9/6/2011	K-40	4.43 ± 0.55	4.24 ± 0.53	4.34 ± 0.38	Pass
VE-6038, 6039	9/7/2011	Sr-90	1.86 ± 0.98	2.30 ± 0.92	2.08 ± 0.67	Pass
SW-6059, 6060	9/8/2011	H-3	219.75 ± 97.52	177.41 ± 95.76	198.58 ± 68.34	Pass
VE-6302, 6303	9/13/2011	Be-7	0.76 ± 0.24	0.85 ± 0.20	0.81 ± 0.16	Pass
VE-6302, 6303	9/13/2011	Gr. Beta	27.00 ± 1.02	25.50 ± 0.95	26.25 ± 0.70	Pass
VE-6302, 6303	9/13/2011	H-3	6966.00 ± 249.00	6947.00 ± 249.00	6956.50 ± 176.07	Pass
VE-6302, 6303	9/13/2011	K-40	20.62 ± 0.68	20.63 ± 0.64	20.63 ± 0.47	Pass
W-7098, 7099	9/19/2011	H-3	586.61 ± 103.06	525.71 ± 100.63	556.16 ± 72.02	Pass
W-6407, 6408	9/20/2011	Ra-228	1.61 ± 0.94	0.79 ± 0.81	1.20 ± 0.62	Pass
MI-6479, 6480	9/27/2011	K-40	1384.10 ± 111.10	1411.40 ± 105.00	1397.75 ± 76.43	Pass
W-6579, 6580	9/27/2011	H-3	287.97 ± 99.68	285.95 ± 99.60	286.96 ± 70.45	Pass
AP-7015, 7016	9/27/2011	Be-7	0.08 ± 0.02	0.09 ± 0.02	0.08 ± 0.01	Pass
AP-6105, 6106	9/28/2011	Be-7	0.11 ± 0.02	0.09 ± 0.02	0.10 ± 0.01	Pass
LW-6603, 6604	9/28/2011	Gr. Beta	2.15 ± 1.04	1.65 ± 0.90	1.90 ± 0.69	Pass
AP-7056, 7057	9/29/2011	Be-7	0.08 ± 0.02	0.06 ± 0.01	0.07 ± 0.01	Pass
G-6730, 6731	10/3/2011	Be-7	4.24 ± 0.36	4.47 ± 0.37	4.36 ± 0.26	Pass
G-6730, 6731	10/3/2011	Gr. Beta	8.27 ± 0.33	7.93 ± 0.31	8.10 ± 0.23	Pass
G-6730, 6731	10/3/2011	K-40	6.46 ± 0.56	5.41 ± 0.50	5.94 ± 0.38	Pass
AP-7077, 7078	10/3/2011	Be-7	0.08 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass
AP-7077, 7078	10/3/2011	Be-7	0.08 ± 0.01	0.07 ± 0.01	0.07 ± 0.01	Pass
VE-6798, 6799	10/4/2011	K-40	11.76 ± 0.65	11.91 ± 0.62	11.84 ± 0.45	Pass
AP-6820, 6821	10/6/2011	Be-7	0.22 ± 0.08	0.18 ± 0.10	0.20 ± 0.06	Pass
W-7755, 7756	10/9/2011	H-3	261.92 ± 96.52	221.92 ± 94.80	241.92 ± 67.65	Pass
BS-7944, 7945	10/10/2011	Cs-137	291.17 ± 34.00	330.68 ± 36.40	310.93 ± 24.90	Pass
BS-7944, 7945	10/10/2011	K-40	14237.00 ± 686.40	15359.00 ± 703.80	14798.00 ± 491.55	Pass
BS-7140, 7141	10/13/2011	K-40	2.59 ± 0.35	2.58 ± 0.52	2.59 ± 0.31	Pass
AP-7168, 7169	10/13/2011	Be-7	0.25 ± 0.09	0.25 ± 0.11	0.25 ± 0.07	Pass
DW-20349, 20350	10/13/2011	U-233/4	1.77 ± 0.41	2.25 ± 0.77	2.01 ± 0.44	Pass
DW-20349, 20350	10/13/2011	U-238	0.28 ± 0.19	0.31 ± 0.33	0.30 ± 0.19	Pass
WW-7667, 7668	10/19/2011	H-3	1049.11 ± 116.32	1071.39 ± 117.10	1060.25 ± 82.53	Pass
WW-7381, 7382	10/21/2011	H-3	1904.40 ± 145.45	1813.62 ± 142.91	1859.01 ± 101.95	Pass
SS-7495, 7496	10/26/2011	K-40	10.16 ± 0.55	9.56 ± 0.49	9.86 ± 0.37	Pass
W-7516, 7517	10/27/2011	H-3	191.46 ± 84.47	224.05 ± 86.03	207.76 ± 60.28	Pass
VE-7537, 7538	10/28/2011	K-40	2.08 ± 0.23	2.41 ± 0.21	2.24 ± 0.16	Pass
MI-7622, 7623	10/31/2011	K-40	1386.20 ± 116.80	1407.90 ± 116.50	1397.05 ± 82.48	Pass
DW-20399, 20400	10/31/2011	U-233/4	5.70 ± 0.70	5.70 ± 0.70	5.70 ± 0.49	Pass
DW-20399, 20400	10/31/2011	U-238	3.10 ± 0.50	3.70 ± 0.70	3.40 ± 0.43	Pass
BS-7600, 7601	11/1/2011	Gr. Beta	6.83 ± 1.44	5.31 ± 1.35	6.07 ± 0.98	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
SG-8471, 8472	11/1/2011	Gr. Alpha	13.63 ± 2.32	11.13 ± 2.00	12.38 ± 1.53	Pass
SG-8471, 8472	11/1/2011	Gr. Beta	20.30 ± 1.43	17.65 ± 1.42	18.98 ± 1.01	Pass
DW-20424, 20425	11/7/2011	U-233/4	5.90 ± 0.80	6.10 ± 0.80	6.00 ± 0.57	Pass
DW-20424, 20425	11/7/2011	U-235	0.10 ± 0.10	0.30 ± 0.20	0.20 ± 0.11	Pass
DW-20424, 20425	11/7/2011	U-238	4.30 ± 0.70	3.70 ± 0.60	4.00 ± 0.46	Pass
DW-20424, 20425	11/7/2011	U-238	10.30 ± 1.00	10.10 ± 1.00	10.20 ± 0.71	Pass
DW-20435, 20436	11/8/2011	U-233/4	11.00 ± 1.10	10.60 ± 0.80	10.80 ± 0.68	Pass
DW-20435, 20436	11/8/2011	U-238	5.90 ± 0.80	4.90 ± 0.60	5.40 ± 0.50	Pass
SG-7902, 7903	11/10/2011	Ac-228	21.38 ± 0.47	20.48 ± 0.52	20.93 ± 0.35	Pass
SG-7902, 7903	11/10/2011	K-40	9.72 ± 1.04	9.53 ± 0.92	9.63 ± 0.69	Pass
SG-7902, 7903	11/10/2011	Pb-212	3.99 ± 0.10	3.99 ± 0.10	3.99 ± 0.07	Pass
SG-7902, 7903	11/10/2011	Pb-214	9.15 ± 0.23	9.14 ± 0.21	9.15 ± 0.16	Pass
BS-8033, 8034	11/11/2011	Cs-137	0.03 ± 0.02	0.03 ± 0.02	0.03 ± 0.01	Pass
LW-8075, 8076	11/16/2011	Gr. Beta	1.93 ± 0.62	2.55 ± 0.64	2.24 ± 0.44	Pass
AP-8193, 8194	11/17/2011	Be-7	0.21 ± 0.11	0.26 ± 0.13	0.24 ± 0.08	Pass
F-8663, 8664	11/19/2011	Cs-137	0.03 ± 0.02	0.03 ± 0.02	0.03 ± 0.01	Pass
F-8663, 8664	11/19/2011	Gr. Beta	3.55 ± 0.10	3.71 ± 0.10	3.63 ± 0.07	Pass
F-8663, 8664	11/19/2011	K-40	3.04 ± 0.42	3.05 ± 0.35	3.05 ± 0.27	Pass
DW-20449, 20450	11/28/2011	U-233/4	0.70 ± 0.20	0.80 ± 0.20	0.75 ± 0.14	Pass
DW-20449, 20450	11/28/2011	U-238	0.60 ± 0.20	0.60 ± 0.20	0.60 ± 0.14	Pass
SWU-8388, 8389	11/29/2011	Gr. Beta	1.66 ± 0.57	1.65 ± 0.59	1.66 ± 0.41	Pass
AP-8841, 8842	12/15/2011	Be-7	0.23 ± 0.12	0.19 ± 0.09	0.21 ± 0.07	Pass
W-8886, 8887	12/15/2011	Gr. Alpha	0.83 ± 0.81	1.58 ± 0.99	1.21 ± 0.64	Pass
W-8886, 8887	12/15/2011	Gr. Beta	6.80 ± 1.25	5.94 ± 1.22	6.37 ± 0.87	Pass
W-8886, 8887	12/15/2011	Ra-226	0.23 ± 0.15	0.41 ± 0.16	0.32 ± 0.11	Pass
SO-8958, 8959	12/21/2011	K-40	14.58 ± 0.86	15.07 ± 0.87	14.83 ± 0.61	Pass
AP-8907, 8908	12/22/2011	Be-7	0.15 ± 0.06	0.11 ± 0.07	0.13 ± 0.05	Pass
AP-9196, 9197	12/28/2011	Be-7	0.06 ± 0.01	0.07 ± 0.01	0.06 ± 0.01	Pass
LW-9091, 9092	12/29/2011	Gr. Beta	1.97 ± 0.63	1.74 ± 0.60	1.86 ± 0.44	Pass

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).

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)[a].

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1237 [e]	02/01/11	Am-241	0.35 ± 0.10	0.53	0.37 - 0.69	Fail
STW-1237	02/01/11	Co-57	< 0.2	0.00	-	Pass
STW-1237	02/01/11	Co-60	24.10 ± 0.40	24.60	17.20 - 32.00	Pass
STW-1237	02/01/11	Cs-134	19.80 ± 0.40	21.50	15.10 - 28.00	Pass
STW-1237	02/01/11	Cs-137	29.40 ± 0.50	29.40	20.60 - 38.20	Pass
STW-1237	02/01/11	H-3	238.90 ± 8.80	243.00	170.00 - 316.00	Pass
STW-1237	02/01/11	K-40	95.40 ± 3.10	91.00	64.00 - 118.00	Pass
STW-1237	02/01/11	Mn-54	32.50 ± 0.60	31.60	22.10 - 41.10	Pass
STW-1237	02/01/11	Ni-63	16.30 ± 0.60	18.60	13.00 - 24.20	Pass
STW-1237	02/01/11	Pu-238	1.11 ± 0.12	1.06	0.75 - 1.38	Pass
STW-1237	02/01/11	Pu-239/40	0.88 ± 0.12	0.81	0.57 - 1.05	Pass
STW-1237	02/01/11	Sr-90	8.70 ± 0.70	8.72	6.10 - 11.34	Pass
STW-1237	02/01/11	Tc-99	7.60 ± 0.60	8.99	6.29 - 11.69	Pass
STW-1237	02/01/11	Zn-65	< 0.5	0.00	-	Pass
STW-1238	02/01/11	Gr. Alpha	0.82 ± 0.07	1.14	0.34 - 1.93	Pass
STW-1238	02/01/11	Gr. Beta	2.82 ± 0.07	2.96	1.48 - 4.44	Pass
STVE-1239	02/01/11	Co-57	11.27 ± 0.21	9.94	6.96 - 12.92	Pass
STVE-1239	02/01/11	Co-60	4.95 ± 0.16	4.91	3.44 - 6.38	Pass
STVE-1239	02/01/11	Cs-134	5.18 ± 0.19	5.50	3.85 - 7.15	Pass
STVE-1239	02/01/11	Cs-137	< 0.09	0.00	-	Pass
STVE-1239	02/01/11	Mn-54	6.91 ± 0.25	6.40	4.48 - 8.32	Pass
STVE-1239	02/01/11	Zn-65	3.10 ± 0.32	2.99	2.09 - 3.89	Pass
STSO-1240	02/01/11	Co-57	984.10 ± 4.10	927.00	649.00 - 1205.00	Pass
STSO-1240	02/01/11	Co-60	540.70 ± 3.00	482.00	337.00 - 627.00	Pass
STSO-1240	02/01/11	Cs-134	726.70 ± 5.92	680.00	476.00 - 884.00	Pass
STSO-1240	02/01/11	Cs-137	883.10 ± 4.70	758.00	531.00 - 985.00	Pass
STSO-1240	02/01/11	K-40	622.70 ± 16.70	540.00	378.00 - 702.00	Pass
STSO-1240	02/01/11	Mn-54	-0.30 ± 1.00	0.00	-	Pass
STSO-1240 [f]	02/01/11	Ni-63	384.00 ± 16.90	582.00	407.00 - 757.00	Fail
STSO-1240	02/01/11	U-233/4	166.60 ± 7.30	176.00	123.00 - 229.00	Pass
STSO-1240	02/01/11	U-238	172.00 ± 7.40	184.00	129.00 - 239.00	Pass
STSO-1240	02/01/11	Zn-65	1671.00 ± 13.10	1359.00	951.00 - 1767.00	Pass
STAP-1241	02/01/11	Am-241	0.00 ± 0.01	0.00	-0.10 - 0.10	Pass
STAP-1241	02/01/11	Co-57	3.48 ± 0.06	3.33	2.33 - 4.33	Pass
STAP-1241	02/01/11	Co-60	0.00 ± 0.02	0.00	-0.10 - 0.10	Pass
STAP-1241	02/01/11	Cs-134	3.44 ± 0.27	3.49	2.44 - 4.54	Pass
STAP-1241	02/01/11	Cs-137	2.46 ± 0.27	2.28	1.60 - 2.96	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)[a].

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STAP-1241	02/01/11	Gr. Alpha	0.39 ± 0.05	0.66	0.20 - 1.12	Pass
STAP-1241	02/01/11	Gr. Beta	1.54 ± 0.07	1.32	0.66 - 1.99	Pass
STAP-1241	02/01/11	Mn-54	2.90 ± 0.10	2.64	1.85 - 3.43	Pass
STAP-1241	02/01/11	Pu-238	0.07 ± 0.02	0.10	0.07 - 0.13	Pass
STAP-1241	02/01/11	Pu-239/40	0.06 ± 0.02	0.08	0.05 - 0.10	Pass
STAP-1241 [g]	02/01/11	Sr-90	1.89 ± 0.15	1.36	0.95 - 1.77	Fail
STAP-1241	02/01/11	U-233/4	0.13 ± 0.02	0.18	0.13 - 0.23	Pass
STAP-1241	02/01/11	U-238	0.14 ± 0.02	0.19	0.13 - 0.24	Pass
STAP-1241	02/01/11	Zn-65	3.80 ± 0.18	3.18	2.23 - 4.13	Pass
STW-1249	08/01/11	I-129	7.32 ± 0.30	9.50	6.70 - 12.40	Pass
STVE-1250	08/01/11	Co-57	0.01 ± 0.02	0.00	-	Pass
STVE-1250	08/01/11	Co-60	3.57 ± 0.13	3.38	2.37 - 4.39	Pass
STVE-1250	08/01/11	Cs-134	-0.02 ± 0.04	0.00	-0.10 - 0.10	Pass
STVE-1250	08/01/11	Cs-137	5.28 ± 0.20	4.71	3.30 - 6.12	Pass
STVE-1250	08/01/11	Mn-54	6.48 ± 0.22	5.71	4.00 - 7.42	Pass
STVE-1250	08/01/11	Zn-65	7.35 ± 0.34	6.39	4.47 - 8.31	Pass
STSO-1251	08/01/11	Co-57	1333.90 ± 4.20	1180.00	826.00 - 1534.00	Pass
STSO-1251	08/01/11	Co-60	701.30 ± 3.40	644.00	451.00 - 837.00	Pass
STSO-1251	08/01/11	Cs-134	0.71 ± 1.05	0.00	-	Pass
STSO-1251	08/01/11	Cs-137	1106.00 ± 5.60	979.00	685.00 - 1273.00	Pass
STSO-1251	08/01/11	K-40	749.20 ± 19.00	625.00	438.00 - 813.00	Pass
STSO-1251	08/01/11	Mn-54	984.30 ± 5.40	848.00	594.00 - 1102.00	Pass
STSO-1251	08/01/11	Ni-63	0.11 ± 1.21	0.00	-	Pass
STSO-1251	08/01/11	Pu-238	97.90 ± 7.40	93.60	65.50 - 121.70	Pass
STSO-1251	08/01/11	Pu-239/40	78.80 ± 6.40	77.40	54.20 - 100.60	Pass
STSO-1251 [h]	08/01/11	Sr-90	219.40 ± 16.70	320.00	224.00 - 416.00	Fail
STSO-1251 [i]	08/01/11	Tc-99	110.00 ± 8.00	182.00	127.00 - 237.00	Fail
STSO-1251	08/01/11	U-233/4	267.00 ± 10.20	263.00	184.00 - 342.00	Pass
STSO-1251	08/01/11	U-238	280.30 ± 10.40	274.00	192.00 - 356.00	Pass
STSO-1251	08/01/11	Zn-65	1639.90 ± 11.40	1560.00	1092.00 - 2028.00	Pass
STAP-1252	08/01/11	Co-57	5.06 ± 0.08	5.09	3.56 - 6.62	Pass
STAP-1252	08/01/11	Co-60	3.13 ± 0.09	3.20	2.24 - 4.16	Pass
STAP-1252	08/01/11	Cs-134	0.01 ± 0.03	0.00	-0.10 - 0.10	Pass
STAP-1252	08/01/11	Cs-137	2.61 ± 0.09	2.60	1.82 - 3.38	Pass
STAP-1252	08/01/11	Mn-54	0.01 ± 0.03	0.00	-0.10 - 0.10	Pass
STAP-1252	08/01/11	Pu-238	0.13 ± 0.02	0.12	0.08 - 0.15	Pass
STAP-1252	08/01/11	Pu-239/40	0.15 ± 0.02	0.14	0.10 - 0.18	Pass
STAP-1252	08/01/11	Sr-90	1.65 ± 0.16	1.67	1.17 - 2.17	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP)[a].

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STAP-1252	08/01/11	U-233/4	0.17 ± 0.02	0.16	0.11 - 0.21	Pass
STAP-1252	08/01/11	U-238	0.17 ± 0.02	0.17	0.12 - 0.22	Pass
STAP-1252	08/01/11	Zn-65	4.46 ± 0.23	4.11	2.88 - 5.34	Pass
STW-1254	08/01/11	Co-57	37.20 ± 0.50	36.60	25.60 - 47.60	Pass
STW-1254	08/01/11	Co-60	28.80 ± 0.40	29.30	20.50 - 38.10	Pass
STW-1254	08/01/11	Cs-134	18.00 ± 0.60	19.10	13.40 - 24.80	Pass
STW-1254	08/01/11	Cs-137	0.06 ± 0.13	0.00	-	Pass
STW-1254	08/01/11	H-3	1039.90 ± 17.90	1014.00	710.00 - 1318.00	Pass
STW-1254	08/01/11	K-40	161.40 ± 4.10	156.00	109.00 - 203.00	Pass
STW-1254	08/01/11	Mn-54	25.70 ± 0.50	25.00	17.50 - 32.50	Pass
STW-1254	08/01/11	Ni-63	0.60 ± 2.00	0.00	-	Pass
STW-1254	08/01/11	Pu-238	0.04 ± 0.02	0.02	0.00 - 1.00	Pass
STW-1254	08/01/11	Pu-239/40	2.27 ± 0.14	2.40	1.68 - 3.12	Pass
STW-1254	08/01/11	Sr-90	15.60 ± 1.80	14.20	9.90 - 18.50	Pass
STW-1254	08/01/11	Tc-99	-0.30 ± 0.50	0.00	-	Pass
STW-1254	08/01/11	U-233/4	2.78 ± 0.20	2.78	1.95 - 3.61	Pass
STW-1254	08/01/11	U-238	2.86 ± 0.21	2.89	2.02 - 3.76	Pass
STW-1254	08/01/11	Zn-65	30.20 ± 0.90	28.50	20.00 - 37.10	Pass
STW-1255	08/01/11	Gr. Alpha	0.72 ± 0.12	0.87	0.26 - 1.47	Pass
STW-1255	08/01/11	Gr. Beta	4.71 ± 0.15	4.81	2.41 - 7.22	Pass

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

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

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

[d] MAPEP results are presented as the known values and expected laboratory precision (1 sigma, 1 determination) and control limits as defined by the MAPEP. A known value of "zero" indicates an analysis was included in the testing series as a "false positive". MAPEP does not provide control limits.

[e] Result of a repeat analysis was still unacceptable. ERA crosschecks for Am-241 were acceptable, but biased low. Matrix spikes were prepared, (5.17 and 51.7 pCi/L), to verify method; results were acceptable, 4.4 and 47.5 pCi/L. Am-241 has been added to the internal spike and blank program for 2012.

[f] An error in percent recovery was found, result of recalculation, 427.3 ± 18.8 Bq/kg dry.

[g] No errors found in calculation or procedure, results of reanalysis; 1.73 Bq/filter.

[h] The analyses were repeated through a strontium column; mean result of triplicate analyses, 304.2 Bq/kg.

[i] The lab does not currently analyze soil for Tc-99, but is evaluating the procedure. After consultation with Eichrom, the analysis was repeated using a matrix spike correction. Mean result of triplicate reanalyses; 183.3 Bq/kg.

TABLE A-7. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

Lab Code [b]	Date	Analysis	Concentration (pCi/L) [b] Laboratory Result [c]	ERA Result [d]	Control Limits	Acceptance
STAP-1230	03/21/11	Am-241	46.0 ± 1.8	62.5	36.6 - 85.7	Pass
STAP-1230	03/21/11	Co-60	401.2 ± 12.1	390.0	302.0 - 487.0	Pass
STAP-1230	03/21/11	Cs-134	268.2 ± 24.8	279.0	182.0 - 345.0	Pass
STAP-1230	03/21/11	Cs-137	345.3 ± 24.9	312.0	234.0 - 410.0	Pass
STAP-1230	03/21/11	Mn-54	< 1.9	0.0	-	Pass
STAP-1230	03/21/11	Pu-238	76.1 ± 3.2	69.0	47.4 - 90.7	Pass
STAP-1230	03/21/11	Pu-239/40	70.50 ± 3.10	65.5	47.5 - 85	Pass
STAP-1230	03/21/11	Sr-90	208.40 ± 18.70	185.0	81.4 - 288	Pass
STAP-1230	03/21/11	U-233/4	56.10 ± 2.10	61.5	38.7 - 91	Pass
STAP-1230	03/21/11	U-238	58.90 ± 2.60	61.0	39.0 - 87	Pass
STAP-1230	03/21/11	Uranium	118.50 ± 5.52	125.0	63.9 - 199	Pass
STAP-1230	03/21/11	Zn-65	312.60 ± 23.40	279.0	193.0 - 386	Pass
STAP-1231	03/21/11	Gr. Alpha	88.40 ± 3.70	74.3	38.5 - 112	Pass
STAP-1231	03/21/11	Gr. Beta	85.10 ± 2.80	69.5	42.8 - 102	Pass
STSO-1232	03/21/11	Ac-228	1327.8 ± 97.5	1490.0	958.0 - 2100.0	Pass
STSO-1232	03/21/11	Am-241	662.8 ± 88.1	914.0	546.0 - 1170.0	Pass
STSO-1232	03/21/11	Bi-212	1396.2 ± 185.3	1400.0	368.0 - 2090.0	Pass
STSO-1232	03/21/11	Bi-214	841.1 ± 33.2	725.0	445.0 - 1040.0	Pass
STSO-1232	03/21/11	Co-60	2423.7 ± 27.1	2220.0	1620.0 - 2980.0	Pass
STSO-1232	03/21/11	Cs-134	2481.3 ± 42.2	2450.0	1580.0 - 2950.0	Pass
STSO-1232	03/21/11	Cs-137	2108.2 ± 30.2	1920.0	1470.0 - 2490.0	Pass
STSO-1232	03/21/11	K-40	11497.3 ± 276.6	11500.0	8320.0 - 15600.0	Pass
STSO-1232	03/21/11	Mn-54	< 17.4	0.0	-	Pass
STSO-1232	03/21/11	Pb-212	994.7 ± 30.0	1440.0	931.0 - 2030.0	Pass
STSO-1232	03/21/11	Pb-214	918.3 ± 42.6	805.0	482.0 - 1200.0	Pass
STSO-1232	03/21/11	Pu-238	1593.6 ± 156.7	1420.0	813.0 - 2000.0	Pass
STSO-1232	03/21/11	Pu-239/40	1428.9 ± 143.4	1400.0	956.0 - 1860.0	Pass
STSO-1232	03/21/11	Sr-90	8638.0 ± 442.8	7590.0	2740.0 - 12400.0	Pass
STSO-1232	03/21/11	Th-234	1350.1 ± 180.0	962.0	305.0 - 1830.0	Pass
STSO-1232	03/21/11	U-233/4	748.0 ± 94.4	972.0	616.0 - 1210.0	Pass
STSO-1232	03/21/11	U-238	909.0 ± 104.9	962.0	588.0 - 1220.0	Pass
STSO-1232	03/21/11	Uranium	1690.8 ± 104.9	1980.0	1130.0 - 2670.0	Pass
STSO-1232	03/21/11	Zn-65	2356.2 ± 57.1	1990.0	1580.0 - 2670.0	Pass

TABLE A-7. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

Lab Code [b]	Date	Analysis	Concentration (pCi/L) [b] Laboratory Result [c]	ERA Result [d]	Control Limits	Acceptance
STVE-1233	03/21/11	Am-241	2377.5 ± 83.2	3200.0	1820.0 - 4400.0	Pass
STVE-1233	03/21/11	Cm-244	602.9 ± 38.4	812.0	400.0 - 1260.0	Pass
STVE-1233	03/21/11	Co-60	810.2 ± 32.4	733.0	496.0 - 1050.0	Pass
STVE-1233	03/21/11	Cs-134	849.4 ± 54.5	770.0	441.0 - 1070.0	Pass
STVE-1233	03/21/11	Cs-137	889.9 ± 36.3	829.0	608.0 - 1150.0	Pass
STVE-1233	03/21/11	K-40	28146.70 ± 698.80	25800.0	18500.0 - 36500	Pass
STVE-1233	03/21/11	Mn-54	< 19.3	0.0	-	Pass
STVE-1233	03/21/11	Pu-238	3068.10 ± 170.70	2990.0	1610.0 - 4380	Pass
STVE-1233	03/21/11	Pu-239/40	3180.00 ± 88.90	3100.0	1920.0 - 4230	Pass
STVE-1233	03/21/11	Sr-90	8549.20 ± 675.00	7890.0	4410.0 - 10500	Pass
STVE-1233	03/21/11	U-233/4	2418.60 ± 142.50	2610.0	1790.0 - 3460	Pass
STVE-1233	03/21/11	U-238	2417.00 ± 142.50	2590.0	1820.0 - 3270	Pass
STVE-1233	03/21/11	Uranium	4929.80 ± 142.50	5320.0	3660.0 - 6860	Pass
STVE-1233	03/21/11	Zn-65	962.40 ± 62.50	799.0	577.0 - 1090	Pass
STW-1234	03/21/11	Am-241	100.0 ± 6.4	135.0	92.5 - 182.0	Pass
STW-1234	03/21/11	Co-60	401.6 ± 7.2	411.0	358.0 - 486.0	Pass
STW-1234	03/21/11	Cs-134	222.7 ± 12.3	231.0	171.0 - 265.0	Pass
STW-1234	03/21/11	Cs-137	410.3 ± 9.5	417.0	354.0 - 500.0	Pass
STW-1234	03/21/11	Mn-54	< 3.0	0.0	-	Pass
STW-1234	03/21/11	Pu-238	130.9 ± 5.5	131.0	99.1 - 162.0	Pass
STW-1234	03/21/11	Pu-239/40	113.0 ± 5.0	119.0	92.1 - 147.0	Pass
STW-1234	03/21/11	Sr-90	739.6 ± 13.0	773.0	491.0 - 1030.0	Pass
STW-1234	03/21/11	U-233/4	83.4 ± 3.8	94.3	71.1 - 122.0	Pass
STW-1234	03/21/11	U-238	85.5 ± 3.9	93.5	71.4 - 116.0	Pass
STW-1234	03/21/11	Uranium	172.0 ± 8.5	192.0	138.0 - 256.0	Pass
STW-1234	03/21/11	Zn-65	114.5 ± 10.8	111.0	94.1 - 138.0	Pass
STW-1235	03/21/11	Gr. Alpha	97.6 ± 2.9	112.0	49.7 - 166.0	Pass
STW-1235	03/21/11	Gr. Beta	99.6 ± 2.0	99.8	58.4 - 146.0	Pass
STW-1236	03/21/11	H-3	16307.0 ± 377.0	15200.0	9900.0 - 22500.0	Pass

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the Environmental Measurements Laboratory Quality Assessment Program (EML).

[b] Laboratory codes as follows: STW (water), STAP (air filter), STSO (soil), STVE (vegetation). Results are reported in units of pCi/L, except for air filters (pCi/Filter), vegetation and soil (pCi/kg).

[c] Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

[d] Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA. A known value of "zero" indicates an analysis was included in the testing series as a "false positive". Control limits are not provided.

Appendix B

Summary Tables in the format of NRC Radiological Assessment Branch Technical Position
Revision 1, November 1979

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

Name of Facility: Wolf Creek Generating Station Docket No.: 50-482

Location of Facility: Coffey County, Kansas Reporting Period: Annual 2011

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	ODCM Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Indicator Location with Highest Annual Mean Name Distance and Direction	 ** Mean (f) ** Range	Control Locations ** Mean (f) ** Range	Number of Nonroutine Reported Measurements **
Air Particulate (pCi/m^3)	Gross Beta (317)	0.01	0.026 (264/264) (0.008 - 0.056)	49 0.8 miles NNE	0.027 (53/53) (0.008 - 0.049)	Station 53 0.027 (53/53) (0.011 - 0.052)	0
	Gamma (24) Be-7	-	0.080 (20/20) (0.063 - 0.118)	32 3.1 miles WNW	0.087 (4/4) (0.067 - 0.118)	0.079 (4/4) (0.068 - 0.087)	0
Air Radioiodine (pCi/m^3)	I-131 (317)	0.07	0.115 (10/264) (0.094 - 0.131)	18 3.0 miles SSE	0.117 (2/53) (0.103 - 0.131)	Station 53 0.131 (2/53) (0.124 - 0.138)	0
Direct Radiation Dosimeters (mR per std. 90-day Qtr.)	Gamma Dose (172)	-	19.5 (164/164) (10.1 – 29.5)	47 0.16 miles S	25.1 (4/4) (17.6 – 29.5)	Stations 39 & 53 20.1 (8/8) (16.9 – 25.9)	0
Surface Water (pCi/l)	Gamma (24)		- (0/12)	N/A	N/A	JRR - (0/12)	0
	Tritium (24)	3,000	12,848 (12/12) (9,847 – 15,523)	SP 3.2 miles SSE	12,848 (12/12) (9,847 – 15,523)	- (0/12)	0
	Fe-55 (4)	-	- (0/2)	N/A	N/A	- (0/2)	0
Ground Water (pCi/l)	I-131 (32)	1	- (0/28)	N/A	N/A	B-12 - (0/4)	0
	Gamma (32)		- (0/28)	N/A	N/A	- (0/4)	0
	Tritium (32)	2,000	- (0/28)	N/A	N/A	- (0/4)	0

** Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

Name of Facility: Wolf Creek Generating Station Docket No.: 50-482

Location of Facility: Coffey County, Kansas Reporting Period: Annual 2011

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	ODCM Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Indicator Location with Highest Annual Mean Name Distance and Direction	 ** Mean (f) ** Range	Control Locations ** Mean (f) ** Range	Number of Nonroutine Reported Measurements **
Drinking Water (pCi/l)	I-131 (24)	1	- (0/12)	N/A	N/A	BW-15 - (0/12)	0
	Gross Beta (24)	4	2.6 (12/12) (1.9 – 3.9)	IO-DW 26.1 miles SSE	2.6 (12/12) (1.9 – 3.9)	2.7 (11/12) (1.7 – 3.5)	0
	Gamma (24)		- (0/12)	N/A	N/A	- (0/12)	0
	Tritium (8)	2,000	- (0/4)	N/A	N/A	- (0/4)	0
Shoreline Sediment (pCi/kg dry)	Gamma (5)					JRR	
	K-40	-	9,611 (3/3) (7,582 – 10,655)	EEA 3.0 miles NNW	10,655 (1/1)	7,928 (2/2) (6,479 – 9,377)	0
	Cs-137	180	197.5 (2/3) (144.5 – 250.5)	EEA 3.0 miles NNW	250.5 (1/1)	- (0/2)	0
Fish (pCi/kg wet)	Gamma (17)					JRR	
	K-40	-	3,125 (11/11) (1,955 – 3,538)	CCL 0.6 miles E to NNW	3,125 (11/11) (1,955 – 3,538)	3,138 (6/6) (2,319 – 3,534)	0
	Tritium (17)	-	8,230 (11/11) (7,513 – 9,461)	CCL 0.6 miles E to NNW	8,230 (11/11) (7,513 – 9,461)	- (0/6)	0

** Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

Name of Facility: Wolf Creek Generating Station Docket No.: 50-482

Location of Facility: Coffey County, Kansas Reporting Period: Annual 2011

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	ODCM Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Indicator Location with Highest Annual Mean Name Distance and Direction	 ** Mean (f) ** Range	Control Locations ** Mean (f) ** Range	Number of Nonroutine Reported Measurements **
Food and Garden (pCi/kg wet)	Gamma (18)					D-2	
	Be-7	-	1,145 (12/12) (382 – 4,453)	Q-6 2.4 miles NW	1,863 (4/4) (713 – 4,453)	848 (6/6) (402 – 1,253)	0
	K-40	-	4,625 (12/12) (2,562 – 9,049)	B-1 0.8 miles NNE	9,049 (1/1)	6,453 (6/6) (3,532 – 12,023)	0
						NR-U1	
Crops (pCi/kg wet)	Gamma (4)						
	K-40	-	14,794 (2/2) (14,440–15,148)	NR-D1 8.9 miles S	15,148 (1/1)	7,795 (2/2) (3,379 – 12,212)	0
Bottom Sediment (pCi/kg dry)	Gamma (19)					JRR	
	K-40	-	10,600 (17/17) (8,906 – 12,271)	DC 0.8 miles WNW	11,185 (2/2) (10,099–12,271)	11,826 (2/2) (11,650 – 12,002)	0
	Cs-137	-	97 (10/17) (66 – 120)	UHS 0.6 miles E	105 (6/10) (84 – 120)	91 (1/2)	0
	Fe-55 (14)	-	- (0/14)	N/A	N/A		0

** Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY
Name of Facility: Wolf Creek Generating Station Docket No.: 50-482
Location of Facility: Coffey County, Kansas Reporting Period: Annual 2011

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	ODCM Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Indicator Location with Highest Annual Mean Name Distance and Direction	** Mean (f) ** Range	Control Locations ** Mean (f) ** Range	Number of Nonroutine Reported Measurements **
Aquatic Vegetation (pCi/kg wet)	Gamma (3)					No Control	
	Be-7	-	1,269 (3/3) (289 – 3,208)	MUDS 1.5 miles WNW	1,748 (2/2) (289 – 3,208)		0
	K-40	-	2,960 (3/3) (2,612 – 3,630)	DC-ALT 1.5 miles NW	3,630 (1/1)		0
Terrestrial Vegetation (pCi/kg wet)	Gamma (2)					No Control	
	Be-7	-	3,765 (2/2) (2,559 – 4,972)	MUDS 1.5 miles WNW	3,765 (2/2) (2,559 – 4,972)		0
	K-40	-	3,735 (2/2) (3,310 – 4,161)	MUDS 1.5 miles WNW	3,735 (2/2) (3,310 – 4,161)		0
Soil (pCi/kg dry)	Gamma (1)					No Control	
	K-40	-	10,054 (1/1)	MUDS 1.5 miles WNW	10,054 (1/1)		0
	Cs-137	-	112 (1/1)	MUDS 1.5 miles WNW	112 (1/1)		0
Deer (pCi/kg wet)	Gamma (2)					No Control	
	K-40	-	2,940 (2/2) (2,756 – 3,124)	C.36 .36 miles NE	3,124 (1/1)		0
	Tritium (2)	-	748 (2/2) (126 – 1,370)	Q1.4 1.4 miles NW	1,370 (1/1)		0

** Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

Air Particulate and Charcoal Filters

Location: 002

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
27-DEC-10	03-JAN-11	303	0.033 +/- 0.004	< 0.010	
03-JAN-11	10-JAN-11	299	0.026 +/- 0.004	< 0.010	
10-JAN-11	17-JAN-11	315	0.055 +/- 0.005	< 0.011	
10-JAN-11	17-JAN-11	315	0.048 +/- 0.005		ReCount
17-JAN-11	24-JAN-11	304	0.039 +/- 0.004	< 0.015	
24-JAN-11	31-JAN-11	292	0.031 +/- 0.004	< 0.015	
07-FEB-11	15-FEB-11	328	0.029 +/- 0.004	< 0.007	
15-FEB-11	21-FEB-11	257	0.017 +/- 0.004	< 0.014	
21-FEB-11	01-MAR-11	339	0.021 +/- 0.003	< 0.007	
01-MAR-11	07-MAR-11	260	0.033 +/- 0.005	< 0.011	
07-MAR-11	14-MAR-11	295	0.018 +/- 0.004	< 0.012	
14-MAR-11	21-MAR-11	302	0.017 +/- 0.004	< 0.023	
21-MAR-11	28-MAR-11	305	0.030 +/- 0.004	0.099 +/- 0.029	
28-MAR-11	04-APR-11	295	0.035 +/- 0.004	0.128 +/- 0.027	
04-APR-11	11-APR-11	291	0.023 +/- 0.004	< 0.023	
11-APR-11	19-APR-11	345	0.024 +/- 0.004	< 0.013	
19-APR-11	25-APR-11	252	0.009 +/- 0.004	< 0.020	
25-APR-11	02-MAY-11	310	0.013 +/- 0.004	< 0.011	
02-MAY-11	09-MAY-11	293	0.021 +/- 0.004	< 0.012	
09-MAY-11	16-MAY-11	305	0.014 +/- 0.004	< 0.010	
16-MAY-11	23-MAY-11	297	0.016 +/- 0.004	< 0.010	
23-MAY-11	31-MAY-11	347	0.017 +/- 0.003	< 0.006	
31-MAY-11	06-JUN-11	247	0.025 +/- 0.005	< 0.013	
31-MAY-11	06-JUN-11	247	0.027 +/- 0.005		Duplicate
06-JUN-11	14-JUN-11	343	0.025 +/- 0.004	< 0.019	
06-JUN-11	14-JUN-11	343	0.029 +/- 0.004		Duplicate
14-JUN-11	20-JUN-11	253	0.026 +/- 0.004	< 0.010	
14-JUN-11	20-JUN-11	253	0.024 +/- 0.004		Duplicate
20-JUN-11	27-JUN-11	303	0.012 +/- 0.004	< 0.011	
27-JUN-11	05-JUL-11	341	0.023 +/- 0.004	< 0.010	
05-JUL-11	11-JUL-11	246	0.025 +/- 0.005	< 0.013	
11-JUL-11	18-JUL-11	292	0.023 +/- 0.004	< 0.020	
11-JUL-11	18-JUL-11	292	0.022 +/- 0.004		Duplicate
18-JUL-11	25-JUL-11	292	0.020 +/- 0.004	< 0.012	
25-JUL-11	01-AUG-11	291	0.024 +/- 0.004	< 0.017	
01-AUG-11	08-AUG-11	297	0.022 +/- 0.004	< 0.015	
08-AUG-11	15-AUG-11	289	0.023 +/- 0.004	< 0.011	
15-AUG-11	22-AUG-11	292	0.028 +/- 0.004	< 0.013	
22-AUG-11	30-AUG-11	351	0.036 +/- 0.004	< 0.007	
30-AUG-11	06-SEP-11	301	0.038 +/- 0.004	< 0.011	

Air Particulate and Charcoal Filters

Location: 002

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
06-SEP-11	12-SEP-11	259	0.023 +/- 0.004	< 0.009	
12-SEP-11	19-SEP-11	292	0.021 +/- 0.004	< 0.014	
19-SEP-11	26-SEP-11	301	0.026 +/- 0.004	< 0.019	
26-SEP-11	03-OCT-11	295	0.031 +/- 0.004	< 0.011	
26-SEP-11	03-OCT-11	295	0.027 +/- 0.004		Duplicate
03-OCT-11	10-OCT-11	297	0.031 +/- 0.004	< 0.013	
10-OCT-11	17-OCT-11	292	0.026 +/- 0.004	< 0.013	
17-OCT-11	24-OCT-11	299	0.031 +/- 0.004	< 0.008	
24-OCT-11	31-OCT-11	296	0.031 +/- 0.004	< 0.015	
31-OCT-11	07-NOV-11	300	0.041 +/- 0.004	< 0.013	
07-NOV-11	14-NOV-11	314	0.024 +/- 0.004	< 0.014	
14-NOV-11	21-NOV-11	303	0.023 +/- 0.004	< 0.017	
21-NOV-11	28-NOV-11	304	0.040 +/- 0.005	< 0.013	
28-NOV-11	05-DEC-11	310	0.026 +/- 0.004	< 0.017	
05-DEC-11	12-DEC-11	299	0.046 +/- 0.005	< 0.010	
12-DEC-11	19-DEC-11	285	0.042 +/- 0.005	< 0.013	
19-DEC-11	27-DEC-11	353	0.025 +/- 0.004	< 0.011	
27-DEC-11	03-JAN-12	305	0.020 +/- 0.004	< 0.010	

Air Particulate and Charcoal Filters

Location: 018

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
27-DEC-10	03-JAN-11	301	0.033 +/- 0.004	< 0.010	
03-JAN-11	10-JAN-11	310	0.023 +/- 0.004	< 0.010	
10-JAN-11	17-JAN-11	301	0.053 +/- 0.005	< 0.012	
10-JAN-11	17-JAN-11	301	0.054 +/- 0.005		ReCount
17-JAN-11	24-JAN-11	303	0.042 +/- 0.005	< 0.015	
24-JAN-11	31-JAN-11	229	0.023 +/- 0.005	< 0.019	
31-JAN-11	07-FEB-11	320	0.021 +/- 0.004	< 0.008	
07-FEB-11	15-FEB-11	336	0.026 +/- 0.003	< 0.007	
15-FEB-11	21-FEB-11	260	0.019 +/- 0.004	< 0.014	
21-FEB-11	01-MAR-11	345	0.024 +/- 0.004	< 0.007	
01-MAR-11	07-MAR-11	259	0.031 +/- 0.005	< 0.011	
07-MAR-11	14-MAR-11	288	0.020 +/- 0.004	< 0.012	
14-MAR-11	21-MAR-11	298	0.021 +/- 0.004	< 0.028	
21-MAR-11	28-MAR-11	309	0.032 +/- 0.004	0.103 +/- 0.023	
28-MAR-11	04-APR-11	288	0.037 +/- 0.005	0.131 +/- 0.026	
04-APR-11	11-APR-11	297	0.026 +/- 0.004	< 0.022	
11-APR-11	19-APR-11	337	0.022 +/- 0.004	< 0.015	
19-APR-11	25-APR-11	250	0.010 +/- 0.004	< 0.019	
25-APR-11	02-MAY-11	305	0.012 +/- 0.004	< 0.011	
02-MAY-11	09-MAY-11	296	0.023 +/- 0.004	< 0.012	
09-MAY-11	16-MAY-11	306	0.014 +/- 0.004	< 0.010	
16-MAY-11	23-MAY-11	297	0.011 +/- 0.004	< 0.010	
23-MAY-11	31-MAY-11	351	0.016 +/- 0.003	< 0.006	
23-MAY-11	31-MAY-11	351	0.013 +/- 0.003		Duplicate
31-MAY-11	06-JUN-11	250	0.023 +/- 0.005	< 0.013	
06-JUN-11	14-JUN-11	344	0.023 +/- 0.004	< 0.019	
14-JUN-11	20-JUN-11	261	0.019 +/- 0.004	< 0.009	
20-JUN-11	27-JUN-11	305	0.011 +/- 0.003	< 0.011	
27-JUN-11	05-JUL-11	346	0.024 +/- 0.004	< 0.010	
05-JUL-11	11-JUL-11	257	0.027 +/- 0.005	< 0.012	
11-JUL-11	18-JUL-11	295	0.020 +/- 0.004	< 0.020	
18-JUL-11	25-JUL-11	296	0.021 +/- 0.004	< 0.012	
25-JUL-11	01-AUG-11	295	0.023 +/- 0.004	< 0.017	
01-AUG-11	08-AUG-11	298	0.019 +/- 0.004	< 0.015	
08-AUG-11	15-AUG-11	292	0.025 +/- 0.004	< 0.011	
15-AUG-11	22-AUG-11	300	0.035 +/- 0.004	< 0.012	
22-AUG-11	30-AUG-11	344	0.031 +/- 0.004	< 0.007	
30-AUG-11	06-SEP-11	300	0.037 +/- 0.004	< 0.011	
06-SEP-11	12-SEP-11	259	0.026 +/- 0.005	< 0.009	
12-SEP-11	19-SEP-11	293	0.020 +/- 0.004	< 0.014	

Air Particulate and Charcoal Filters

Location: 018

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
19-SEP-11	26-SEP-11	307	0.025 +/- 0.004	< 0.019	
26-SEP-11	03-OCT-11	297	0.030 +/- 0.004	< 0.011	
03-OCT-11	10-OCT-11	300	0.030 +/- 0.004	< 0.013	
10-OCT-11	17-OCT-11	295	0.020 +/- 0.004	< 0.013	
17-OCT-11	24-OCT-11	309	0.033 +/- 0.004	< 0.008	
24-OCT-11	31-OCT-11	296	0.030 +/- 0.004	< 0.015	
24-OCT-11	31-OCT-11	296	0.028 +/- 0.004		Duplicate
31-OCT-11	07-NOV-11	301	0.035 +/- 0.004	< 0.013	
07-NOV-11	14-NOV-11	311	0.024 +/- 0.004	< 0.014	
14-NOV-11	21-NOV-11	306	0.024 +/- 0.004	< 0.016	
21-NOV-11	28-NOV-11	297	0.038 +/- 0.005	< 0.013	
28-NOV-11	05-DEC-11	314	0.031 +/- 0.004	< 0.017	
05-DEC-11	12-DEC-11	301	0.048 +/- 0.005	< 0.010	
12-DEC-11	19-DEC-11	277	0.045 +/- 0.005	< 0.014	
19-DEC-11	27-DEC-11	357	0.026 +/- 0.004	< 0.011	
27-DEC-11	03-JAN-12	305	0.017 +/- 0.004	< 0.010	

Air Particulate and Charcoal Filters

Location: 032

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
27-DEC-10	03-JAN-11	291	0.030 +/- 0.004	< 0.010	
03-JAN-11	10-JAN-11	309	0.022 +/- 0.004	< 0.010	
10-JAN-11	17-JAN-11	313	0.056 +/- 0.005	< 0.011	
10-JAN-11	17-JAN-11	313	0.053 +/- 0.005		ReCount
17-JAN-11	24-JAN-11	306	0.041 +/- 0.004	< 0.015	
24-JAN-11	31-JAN-11	291	0.027 +/- 0.004	< 0.015	
31-JAN-11	07-FEB-11	312	0.019 +/- 0.004	< 0.008	
07-FEB-11	15-FEB-11	331	0.030 +/- 0.004	< 0.007	
15-FEB-11	21-FEB-11	263	0.021 +/- 0.004	< 0.014	
21-FEB-11	01-MAR-11	349	0.020 +/- 0.003	< 0.007	
01-MAR-11	07-MAR-11	267	0.032 +/- 0.004	< 0.011	
07-MAR-11	14-MAR-11	299	0.018 +/- 0.004	< 0.012	
14-MAR-11	21-MAR-11	298	0.018 +/- 0.004	< 0.017	
21-MAR-11	28-MAR-11	314	0.034 +/- 0.004	0.110 +/- 0.022	
28-MAR-11	04-APR-11	288	0.044 +/- 0.005	0.120 +/- 0.032	
04-APR-11	11-APR-11	297	0.021 +/- 0.004	< 0.024	
11-APR-11	19-APR-11	346	0.023 +/- 0.004	< 0.018	
19-APR-11	25-APR-11	258	0.011 +/- 0.004	< 0.019	
25-APR-11	02-MAY-11	311	0.019 +/- 0.004	< 0.011	
02-MAY-11	09-MAY-11	295	0.023 +/- 0.004	< 0.012	
09-MAY-11	16-MAY-11	308	0.012 +/- 0.003	< 0.010	
09-MAY-11	16-MAY-11	308	0.012 +/- 0.003		Duplicate
16-MAY-11	23-MAY-11	302	0.014 +/- 0.004	< 0.010	
23-MAY-11	31-MAY-11	359	0.018 +/- 0.003	< 0.006	
31-MAY-11	06-JUN-11	252	0.022 +/- 0.005	< 0.013	
06-JUN-11	14-JUN-11	345	0.029 +/- 0.004	< 0.019	
14-JUN-11	20-JUN-11	265	0.020 +/- 0.004	< 0.009	
20-JUN-11	27-JUN-11	306	0.015 +/- 0.004	< 0.010	
27-JUN-11	05-JUL-11	342	0.023 +/- 0.004	< 0.010	
05-JUL-11	11-JUL-11	254	0.030 +/- 0.005	< 0.012	
11-JUL-11	18-JUL-11	296	0.021 +/- 0.004	< 0.019	
18-JUL-11	25-JUL-11	296	0.022 +/- 0.004	< 0.012	
25-JUL-11	01-AUG-11	296	0.025 +/- 0.004	< 0.017	
01-AUG-11	08-AUG-11	298	0.025 +/- 0.004	< 0.015	
01-AUG-11	08-AUG-11	298	0.025 +/- 0.004		Duplicate
08-AUG-11	15-AUG-11	297	0.024 +/- 0.004	< 0.011	
15-AUG-11	22-AUG-11	301	0.036 +/- 0.004	< 0.012	
22-AUG-11	30-AUG-11	352	0.033 +/- 0.004	< 0.007	
30-AUG-11	06-SEP-11	311	0.038 +/- 0.004	< 0.010	
06-SEP-11	12-SEP-11	254	0.027 +/- 0.005	< 0.010	

Air Particulate and Charcoal Filters

Location: 032

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
12-SEP-11	19-SEP-11	294	0.020 +/- 0.004	< 0.014	
19-SEP-11	26-SEP-11	304	0.026 +/- 0.004	< 0.019	
19-SEP-11	26-SEP-11	304	0.024 +/- 0.004		Duplicate
26-SEP-11	03-OCT-11	306	0.036 +/- 0.004	< 0.010	
03-OCT-11	10-OCT-11	293	0.030 +/- 0.004	< 0.013	
10-OCT-11	17-OCT-11	296	0.021 +/- 0.004	< 0.013	
17-OCT-11	24-OCT-11	301	0.037 +/- 0.004	< 0.008	
24-OCT-11	31-OCT-11	298	0.036 +/- 0.004	< 0.015	
31-OCT-11	07-NOV-11	300	0.040 +/- 0.004	< 0.013	
07-NOV-11	14-NOV-11	313	0.025 +/- 0.004	< 0.014	
14-NOV-11	21-NOV-11	306	0.024 +/- 0.004	< 0.016	
21-NOV-11	28-NOV-11	303	0.040 +/- 0.005	< 0.013	
28-NOV-11	05-DEC-11	311	0.029 +/- 0.004	< 0.017	
05-DEC-11	12-DEC-11	301	0.047 +/- 0.005	< 0.010	
12-DEC-11	19-DEC-11	285	0.038 +/- 0.005	< 0.013	
19-DEC-11	27-DEC-11	356	0.025 +/- 0.004	< 0.011	
19-DEC-11	27-DEC-11	356	0.030 +/- 0.004		Duplicate
27-DEC-11	03-JAN-12	307	0.015 +/- 0.004	< 0.010	

Air Particulate and Charcoal Filters

Location: 037

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
27-DEC-10	03-JAN-11	290	0.031 +/- 0.004	< 0.010	
03-JAN-11	10-JAN-11	314	0.023 +/- 0.004	< 0.010	
03-JAN-11	10-JAN-11	314	0.025 +/- 0.004		Duplicate
10-JAN-11	17-JAN-11	326	0.053 +/- 0.005	< 0.011	
10-JAN-11	17-JAN-11	326	0.058 +/- 0.005		ReCount
17-JAN-11	24-JAN-11	316	0.044 +/- 0.004	< 0.015	
24-JAN-11	31-JAN-11	299	0.023 +/- 0.004	< 0.015	
31-JAN-11	07-FEB-11	313	0.021 +/- 0.004	< 0.008	
07-FEB-11	15-FEB-11	328	0.028 +/- 0.003	< 0.007	
15-FEB-11	21-FEB-11	254	0.018 +/- 0.004	< 0.014	
21-FEB-11	01-MAR-11	348	0.024 +/- 0.004	< 0.007	
21-FEB-11	01-MAR-11	348	0.022 +/- 0.003		Duplicate
01-MAR-11	07-MAR-11	266	0.031 +/- 0.004	< 0.011	
07-MAR-11	14-MAR-11	290	0.020 +/- 0.004	< 0.012	
14-MAR-11	21-MAR-11	300	0.018 +/- 0.004	< 0.020	
21-MAR-11	28-MAR-11	316	0.034 +/- 0.004	0.105 +/- 0.021	
28-MAR-11	04-APR-11	291	0.031 +/- 0.004	0.127 +/- 0.031	
04-APR-11	11-APR-11	299	0.025 +/- 0.004	< 0.026	
04-APR-11	11-APR-11	299	0.023 +/- 0.004		Duplicate
11-APR-11	19-APR-11	347	0.025 +/- 0.004	< 0.018	
19-APR-11	25-APR-11	256	0.008 +/- 0.004	< 0.019	
25-APR-11	02-MAY-11	314	0.014 +/- 0.004	< 0.011	
25-APR-11	02-MAY-11	314	0.015 +/- 0.004		Duplicate
02-MAY-11	09-MAY-11	298	0.024 +/- 0.004	< 0.012	
09-MAY-11	16-MAY-11	315	0.013 +/- 0.003	< 0.009	
16-MAY-11	23-MAY-11	295	0.015 +/- 0.004	< 0.010	
16-MAY-11	23-MAY-11	295	0.013 +/- 0.004		Duplicate
23-MAY-11	31-MAY-11	353	0.018 +/- 0.003	< 0.006	
31-MAY-11	06-JUN-11	248	0.020 +/- 0.004	< 0.013	
06-JUN-11	14-JUN-11	338	0.022 +/- 0.004	< 0.020	
14-JUN-11	20-JUN-11	261	0.019 +/- 0.004	< 0.009	
20-JUN-11	27-JUN-11	309	0.011 +/- 0.003	< 0.010	
27-JUN-11	05-JUL-11	347	0.023 +/- 0.003	< 0.010	
05-JUL-11	11-JUL-11	249	0.024 +/- 0.005	< 0.013	
11-JUL-11	18-JUL-11	294	0.015 +/- 0.004	< 0.020	
18-JUL-11	25-JUL-11	296	0.018 +/- 0.004	< 0.012	
25-JUL-11	01-AUG-11	295	0.021 +/- 0.004	< 0.017	
01-AUG-11	08-AUG-11	297	0.020 +/- 0.004	< 0.015	
08-AUG-11	15-AUG-11	293	0.021 +/- 0.004	< 0.011	
08-AUG-11	15-AUG-11	293	0.023 +/- 0.004		Duplicate

Air Particulate and Charcoal Filters

Location: 037

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
15-AUG-11	22-AUG-11	301	0.031 +/- 0.004	< 0.012	
22-AUG-11	30-AUG-11	352	0.030 +/- 0.004	< 0.007	
30-AUG-11	06-SEP-11	306	0.032 +/- 0.004	< 0.011	
06-SEP-11	12-SEP-11	253	0.024 +/- 0.005	< 0.010	
12-SEP-11	19-SEP-11	292	0.017 +/- 0.004	< 0.014	
19-SEP-11	26-SEP-11	300	0.028 +/- 0.004	< 0.019	
26-SEP-11	03-OCT-11	307	0.025 +/- 0.004	< 0.010	
03-OCT-11	10-OCT-11	293	0.032 +/- 0.004	< 0.013	
10-OCT-11	17-OCT-11	299	0.018 +/- 0.004	< 0.013	
17-OCT-11	24-OCT-11	299	0.033 +/- 0.004	< 0.008	
24-OCT-11	31-OCT-11	301	0.033 +/- 0.004	< 0.015	
31-OCT-11	07-NOV-11	299	0.036 +/- 0.004	< 0.013	
07-NOV-11	14-NOV-11	308	0.025 +/- 0.004	< 0.014	
14-NOV-11	21-NOV-11	303	0.026 +/- 0.004	< 0.017	
21-NOV-11	28-NOV-11	304	0.038 +/- 0.005	< 0.013	
28-NOV-11	05-DEC-11	311	0.030 +/- 0.004	< 0.017	
05-DEC-11	12-DEC-11	299	0.045 +/- 0.005	< 0.010	
12-DEC-11	19-DEC-11	286	0.043 +/- 0.005	< 0.013	
19-DEC-11	27-DEC-11	353	0.030 +/- 0.004	< 0.011	
27-DEC-11	03-JAN-12	306	0.017 +/- 0.004	< 0.010	
27-DEC-11	03-JAN-12	306	0.015 +/- 0.004		Duplicate

Air Particulate and Charcoal Filters

Location: 049

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
27-DEC-10	03-JAN-11	313	0.030 +/- 0.004	< 0.010	
27-DEC-10	03-JAN-11	313	0.027 +/- 0.004		Duplicate
03-JAN-11	10-JAN-11	314	0.034 +/- 0.004	< 0.010	
10-JAN-11	17-JAN-11	318	0.049 +/- 0.005	< 0.011	
10-JAN-11	17-JAN-11	318	0.053 +/- 0.005		ReCount
17-JAN-11	24-JAN-11	309	0.045 +/- 0.005	< 0.015	
24-JAN-11	31-JAN-11	292	0.028 +/- 0.004	< 0.015	
31-JAN-11	07-FEB-11	316	0.020 +/- 0.004	< 0.008	
07-FEB-11	15-FEB-11	332	0.027 +/- 0.003	< 0.007	
15-FEB-11	21-FEB-11	264	0.016 +/- 0.004	< 0.014	
21-FEB-11	01-MAR-11	343	0.023 +/- 0.004	< 0.007	
01-MAR-11	07-MAR-11	262	0.033 +/- 0.005	< 0.011	
07-MAR-11	14-MAR-11	294	0.021 +/- 0.004	< 0.012	
14-MAR-11	21-MAR-11	307	0.022 +/- 0.004	< 0.017	
21-MAR-11	28-MAR-11	306	0.034 +/- 0.004	0.094 +/- 0.028	
28-MAR-11	04-APR-11	294	0.039 +/- 0.005	0.131 +/- 0.032	
04-APR-11	11-APR-11	287	0.027 +/- 0.004	< 0.028	
11-APR-11	19-APR-11	343	0.025 +/- 0.004	< 0.020	
11-APR-11	19-APR-11	343	0.026 +/- 0.004		Duplicate
19-APR-11	25-APR-11	258	0.008 +/- 0.004	< 0.023	
19-APR-11	25-APR-11	258	0.010 +/- 0.004		Duplicate
25-APR-11	02-MAY-11	311	0.014 +/- 0.004	< 0.011	
02-MAY-11	09-MAY-11	298	0.023 +/- 0.004	< 0.012	
09-MAY-11	16-MAY-11	302	0.013 +/- 0.004	< 0.010	
16-MAY-11	23-MAY-11	298	0.016 +/- 0.004	< 0.010	
23-MAY-11	31-MAY-11	350	0.016 +/- 0.003	< 0.006	
31-MAY-11	06-JUN-11	251	0.023 +/- 0.005	< 0.013	
06-JUN-11	14-JUN-11	344	0.026 +/- 0.004	< 0.019	
14-JUN-11	20-JUN-11	260	0.023 +/- 0.004	< 0.009	
20-JUN-11	27-JUN-11	313	0.011 +/- 0.003	< 0.010	
27-JUN-11	05-JUL-11	342	0.025 +/- 0.004	< 0.010	
27-JUN-11	05-JUL-11	342	0.023 +/- 0.004		Duplicate
05-JUL-11	11-JUL-11	250	0.026 +/- 0.005	< 0.013	
11-JUL-11	18-JUL-11	294	0.023 +/- 0.004	< 0.020	
18-JUL-11	25-JUL-11	296	0.025 +/- 0.004	< 0.012	
25-JUL-11	01-AUG-11	297	0.022 +/- 0.004	< 0.017	
01-AUG-11	08-AUG-11	298	0.021 +/- 0.004	< 0.015	
08-AUG-11	15-AUG-11	295	0.028 +/- 0.004	< 0.011	
15-AUG-11	22-AUG-11	299	0.032 +/- 0.004	< 0.012	
15-AUG-11	22-AUG-11	299	0.032 +/- 0.004		Duplicate

Location: 049

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
22-AUG-11	30-AUG-11	349	0.033 +/- 0.004	< 0.007	
30-AUG-11	06-SEP-11	298	0.036 +/- 0.004	< 0.011	
06-SEP-11	12-SEP-11	262	0.028 +/- 0.005	< 0.009	
12-SEP-11	19-SEP-11	298	0.021 +/- 0.004	< 0.014	
19-SEP-11	26-SEP-11	302	0.027 +/- 0.004	< 0.019	
26-SEP-11	03-OCT-11	299	0.030 +/- 0.004	< 0.011	
03-OCT-11	10-OCT-11	308	0.028 +/- 0.004	< 0.012	
10-OCT-11	17-OCT-11	295	0.020 +/- 0.004	< 0.013	
17-OCT-11	24-OCT-11	309	0.035 +/- 0.004	< 0.008	
24-OCT-11	31-OCT-11	300	0.036 +/- 0.004	< 0.015	
31-OCT-11	07-NOV-11	302	0.036 +/- 0.004	< 0.013	
07-NOV-11	14-NOV-11	317	0.025 +/- 0.004	< 0.014	
14-NOV-11	21-NOV-11	318	0.025 +/- 0.004	< 0.016	
21-NOV-11	28-NOV-11	304	0.040 +/- 0.005	< 0.013	
28-NOV-11	05-DEC-11	312	0.032 +/- 0.004	< 0.017	
28-NOV-11	05-DEC-11	312	0.028 +/- 0.004		Duplicate
05-DEC-11	12-DEC-11	298	0.049 +/- 0.005	< 0.010	
12-DEC-11	19-DEC-11	285	0.045 +/- 0.005	< 0.013	
19-DEC-11	27-DEC-11	359	0.030 +/- 0.004	< 0.011	
27-DEC-11	03-JAN-12	312	0.016 +/- 0.004	< 0.010	

Air Particulate and Charcoal Filters

Location: 053

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
27-DEC-10	03-JAN-11	295	0.031 +/- 0.004	< 0.010	
03-JAN-11	10-JAN-11	309	0.029 +/- 0.004	< 0.010	
10-JAN-11	17-JAN-11	317	0.052 +/- 0.005	< 0.011	
10-JAN-11	17-JAN-11	317	0.056 +/- 0.005		Duplicate
10-JAN-11	17-JAN-11	317	0.053 +/- 0.005		ReCount
17-JAN-11	24-JAN-11	303	0.048 +/- 0.005	< 0.015	
24-JAN-11	31-JAN-11	298	0.028 +/- 0.004	< 0.015	
31-JAN-11	07-FEB-11	302	0.022 +/- 0.004	< 0.008	
07-FEB-11	15-FEB-11	333	0.030 +/- 0.004	< 0.007	
15-FEB-11	21-FEB-11	241	0.019 +/- 0.004	< 0.015	
21-FEB-11	01-MAR-11	344	0.023 +/- 0.004	< 0.007	
01-MAR-11	07-MAR-11	263	0.030 +/- 0.004	< 0.011	
07-MAR-11	14-MAR-11	287	0.018 +/- 0.004	< 0.012	
14-MAR-11	21-MAR-11	297	0.018 +/- 0.004	< 0.023	
21-MAR-11	28-MAR-11	329	0.030 +/- 0.004	0.124 +/- 0.026	
28-MAR-11	04-APR-11	295	0.035 +/- 0.004	0.138 +/- 0.035	
04-APR-11	11-APR-11	291	0.025 +/- 0.004	< 0.021	
11-APR-11	19-APR-11	349	0.024 +/- 0.004	< 0.016	
19-APR-11	25-APR-11	257	0.011 +/- 0.004	< 0.034	
25-APR-11	02-MAY-11	319	0.013 +/- 0.003	< 0.010	
02-MAY-11	09-MAY-11	306	0.020 +/- 0.004	< 0.012	
09-MAY-11	16-MAY-11	312	0.011 +/- 0.003	< 0.009	
16-MAY-11	23-MAY-11	299	0.015 +/- 0.004	< 0.010	
23-MAY-11	31-MAY-11	335	0.017 +/- 0.003	< 0.006	
31-MAY-11	06-JUN-11	249	0.026 +/- 0.005	< 0.013	
06-JUN-11	14-JUN-11	343	0.027 +/- 0.004	< 0.019	
14-JUN-11	20-JUN-11	261	0.022 +/- 0.004	< 0.009	
20-JUN-11	27-JUN-11	303	0.014 +/- 0.004	< 0.011	
27-JUN-11	05-JUL-11	344	0.031 +/- 0.004	< 0.010	
05-JUL-11	11-JUL-11	255	0.027 +/- 0.005	< 0.012	
11-JUL-11	18-JUL-11	289	0.018 +/- 0.004	< 0.020	
18-JUL-11	25-JUL-11	297	0.020 +/- 0.004	< 0.012	
25-JUL-11	01-AUG-11	296	0.024 +/- 0.004	< 0.017	
01-AUG-11	08-AUG-11	299	0.022 +/- 0.004	< 0.015	
08-AUG-11	15-AUG-11	296	0.025 +/- 0.004	< 0.011	
15-AUG-11	22-AUG-11	305	0.029 +/- 0.004	< 0.012	
22-AUG-11	30-AUG-11	351	0.034 +/- 0.004	< 0.007	
30-AUG-11	06-SEP-11	301	0.037 +/- 0.004	< 0.011	
06-SEP-11	12-SEP-11	257	0.026 +/- 0.005	< 0.009	
12-SEP-11	19-SEP-11	296	0.020 +/- 0.004	< 0.014	

Location: 053

Collection Start Date	Collection End Date	Volume m^3	Gross Beta Concentration (pCi/m^3)	I-131 Concentration (pCi/m^3)	Duplicate Analysis
19-SEP-11	26-SEP-11	305	0.025 +/- 0.004	< 0.019	
26-SEP-11	03-OCT-11	297	0.030 +/- 0.004	< 0.011	
03-OCT-11	10-OCT-11	302	0.035 +/- 0.004	< 0.013	
10-OCT-11	17-OCT-11	295	0.020 +/- 0.004	< 0.013	
17-OCT-11	24-OCT-11	306	0.032 +/- 0.004	< 0.008	
24-OCT-11	31-OCT-11	299	0.033 +/- 0.004	< 0.015	
31-OCT-11	07-NOV-11	302	0.034 +/- 0.004	< 0.013	
07-NOV-11	14-NOV-11	307	0.026 +/- 0.004	< 0.014	
14-NOV-11	21-NOV-11	298	0.026 +/- 0.004	< 0.017	
21-NOV-11	28-NOV-11	302	0.041 +/- 0.005	< 0.013	
21-NOV-11	28-NOV-11	302	0.040 +/- 0.005		Duplicate
28-NOV-11	05-DEC-11	303	0.031 +/- 0.004	< 0.017	
05-DEC-11	12-DEC-11	307	0.044 +/- 0.005	< 0.009	
12-DEC-11	19-DEC-11	287	0.044 +/- 0.005	< 0.013	
19-DEC-11	27-DEC-11	350	0.028 +/- 0.004	< 0.011	
27-DEC-11	03-JAN-12	305	0.023 +/- 0.004	< 0.010	

Location: 002

28-MAR-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.066+/-	0.013
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

27-JUN-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.092+/-	0.016
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

03-OCT-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.087+/-	0.016
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

03-JAN-12

Nuclide	Concentration (pCi/m^3)	
BE-7	0.081+/-	0.013
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

*** Duplicate Analysis**

Location: 018

28-MAR-11

Nuclide	Concentration (pCi/m^3)
BE-7	0.064+/- 0.013
MN-54	< 0.001
CO-58	< 0.001
FE-59	< 0.001
CO-60	< 0.001
ZN-65	< 0.001
ZR-NB-95	< 0.001
CS-134	< 0.001
CS-137	< 0.001

27-JUN-11

Nuclide	Concentration (pCi/m^3)
BE-7	0.084+/- 0.013
MN-54	< 0.001
CO-58	< 0.001
FE-59	< 0.002
CO-60	< 0.001
ZN-65	< 0.001
ZR-NB-95	< 0.001
CS-134	< 0.001
CS-137	< 0.001

03-OCT-11

Nuclide	Concentration (pCi/m^3)
BE-7	0.088+/- 0.015
MN-54	< 0.001
CO-58	< 0.001
FE-59	< 0.002
CO-60	< 0.001
ZN-65	< 0.001
ZR-NB-95	< 0.001
CS-134	< 0.001
CS-137	< 0.001

03-JAN-12

Nuclide	Concentration (pCi/m^3)
BE-7	0.063+/- 0.011
MN-54	< 0.001
CO-58	< 0.001
FE-59	< 0.001
CO-60	< 0.001
ZN-65	< 0.001
ZR-NB-95	< 0.001
CS-134	< 0.001
CS-137	< 0.001

*** Duplicate Analysis**

Quarterly Air Particulate - Gamma

Location: 032

28-MAR-11

Nuclide	Concentration (pCi/m^3)		
BE-7	0.067+/-	0.013	
BE-7	0.067+/-	0.019	*
MN-54	<	0.001	*
MN-54	<	0.001	
CO-58	<	0.001	*
CO-58	<	0.001	
FE-59	<	0.001	
FE-59	<	0.002	*
CO-60	<	0.001	*
CO-60	<	0.001	
ZN-65	<	0.001	*
ZN-65	<	0.001	
ZR-NB-95	<	0.001	*
ZR-NB-95	<	0.001	
CS-134	<	0.001	*
CS-134	<	0.001	
CS-137	<	0.001	*
CS-137	<	0.001	

27-JUN-11

Nuclide	Concentration (pCi/m^3)		
BE-7	0.090+/-	0.020	
BE-7	0.093+/-	0.014	*
MN-54	<	0.001	*
MN-54	<	0.001	
CO-58	<	0.001	*
CO-58	<	0.001	
FE-59	<	0.001	*
FE-59	<	0.002	
CO-60	<	0.001	*
CO-60	<	0.001	
ZN-65	<	0.001	*
ZN-65	<	0.001	
ZR-NB-95	<	0.001	*
ZR-NB-95	<	0.001	
CS-134	<	0.001	*
CS-134	<	0.001	
CS-137	<	0.001	*
CS-137	<	0.001	

*** Duplicate Analysis**

Location: 032

03-OCT-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.118+/-	0.016
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

03-JAN-12

Nuclide	Concentration (pCi/m^3)	
BE-7	0.071+/-	0.012
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

*** Duplicate Analysis**

Location: 037

28-MAR-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.079+/-	0.018
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

27-JUN-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.092+/-	0.015
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

03-OCT-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.075+/-	0.013
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

03-JAN-12

Nuclide	Concentration (pCi/m^3)	
BE-7	0.073+/-	0.013
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

*** Duplicate Analysis**

Location: 049

28-MAR-11

Nuclide	Concentration (pCi/m^3)
BE-7	0.071+/- 0.015
MN-54	< 0.001
CO-58	< 0.001
FE-59	< 0.001
CO-60	< 0.001
ZN-65	< 0.001
ZR-NB-95	< 0.001
CS-134	< 0.001
CS-137	< 0.001

27-JUN-11

Nuclide	Concentration (pCi/m^3)
BE-7	0.087+/- 0.017
MN-54	< 0.001
CO-58	< 0.001
FE-59	< 0.003
CO-60	< 0.001
ZN-65	< 0.001
ZR-NB-95	< 0.001
CS-134	< 0.001
CS-137	< 0.001

03-OCT-11

Nuclide	Concentration (pCi/m^3)
BE-7	0.082+/- 0.011
MN-54	< 0.001
CO-58	< 0.001
FE-59	< 0.001
CO-60	< 0.001
ZN-65	< 0.001
ZR-NB-95	< 0.001
CS-134	< 0.001
CS-137	< 0.001

03-JAN-12

Nuclide	Concentration (pCi/m^3)
BE-7	0.068+/- 0.012
MN-54	< 0.001
CO-58	< 0.001
FE-59	< 0.001
CO-60	< 0.001
ZN-65	< 0.001
ZR-NB-95	< 0.001
CS-134	< 0.001
CS-137	< 0.001

*** Duplicate Analysis**

Location: 053

28-MAR-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.068+/-	0.014
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

27-JUN-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.087+/-	0.014
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

03-OCT-11

Nuclide	Concentration (pCi/m^3)	
BE-7	0.085+/-	0.014
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

03-JAN-12

Nuclide	Concentration (pCi/m^3)	
BE-7	0.075+/-	0.011
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

*** Duplicate Analysis**

Location JRR

Collection Date	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Liter)		Duplicate Analysis
31-JAN-11	MN-54	<	3.0	
31-JAN-11	CO-58	<	2.1	
31-JAN-11	FE-59	<	5.9	
31-JAN-11	CO-60	<	3.1	
31-JAN-11	ZN-65	<	3.4	
31-JAN-11	ZR-NB-95	<	2.4	
31-JAN-11	I-131	<	4.3	
31-JAN-11	CS-134	<	3.1	
31-JAN-11	CS-137	<	2.3	
31-JAN-11	BA-LA-140	<	1.4	
31-JAN-11	H-3	<	143.0	
21-FEB-11	MN-54	<	2.1	
21-FEB-11	CO-58	<	2.1	
21-FEB-11	FE-59	<	2.9	
21-FEB-11	CO-60	<	2.2	
21-FEB-11	ZN-65	<	4.7	
21-FEB-11	ZR-NB-95	<	2.9	
21-FEB-11	I-131	<	2.4	
21-FEB-11	CS-134	<	2.5	
21-FEB-11	CS-137	<	2.5	
21-FEB-11	BA-LA-140	<	2.4	
21-FEB-11	H-3	<	147.0	
28-MAR-11	MN-54	<	2.6	
28-MAR-11	CO-58	<	3.7	
28-MAR-11	FE-59	<	4.3	
28-MAR-11	CO-60	<	1.9	
28-MAR-11	ZN-65	<	5.1	
28-MAR-11	ZR-NB-95	<	3.6	
28-MAR-11	I-131	<	5.9	
28-MAR-11	CS-134	<	3.9	
28-MAR-11	CS-137	<	4.1	
28-MAR-11	BA-LA-140	<	5.3	
28-MAR-11	H-3	<	146.0	
20-APR-11	MN-54	<	2.9	
20-APR-11	CO-58	<	1.5	
20-APR-11	FE-59	<	3.6	
20-APR-11	CO-60	<	2.6	
20-APR-11	ZN-65	<	4.3	
20-APR-11	ZR-NB-95	<	3.4	
20-APR-11	I-131	<	6.6	

Location JRR

Collection Date	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Liter)		Duplicate Analysis
20-APR-11	CS-134	<	4.0	
20-APR-11	CS-137	<	2.7	
20-APR-11	BA-LA-140	<	3.7	
20-APR-11	H-3	<	141.0	
19-MAY-11	MN-54	<	2.2	
19-MAY-11	CO-58	<	1.8	
19-MAY-11	FE-59	<	3.7	
19-MAY-11	CO-60	<	1.0	
19-MAY-11	ZN-65	<	4.3	
19-MAY-11	ZR-NB-95	<	3.1	
19-MAY-11	I-131	<	6.4	
19-MAY-11	CS-134	<	2.8	
19-MAY-11	CS-137	<	2.4	
19-MAY-11	BA-LA-140	<	2.9	
19-MAY-11	H-3	<	141.0	
20-JUN-11	MN-54	<	2.2	
20-JUN-11	CO-58	<	1.8	
20-JUN-11	FE-59	<	4.0	
20-JUN-11	CO-60	<	2.5	
20-JUN-11	ZN-65	<	3.9	
20-JUN-11	ZR-NB-95	<	3.7	
20-JUN-11	I-131	<	5.7	
20-JUN-11	CS-134	<	2.7	
20-JUN-11	CS-137	<	2.8	
20-JUN-11	BA-LA-140	<	1.6	
20-JUN-11	H-3	<	148.0	
18-JUL-11	MN-54	<	5.2	
18-JUL-11	CO-58	<	4.2	
18-JUL-11	FE-59	<	10.4	
18-JUL-11	CO-60	<	1.1	
18-JUL-11	ZN-65	<	3.6	
18-JUL-11	ZR-NB-95	<	2.4	
18-JUL-11	I-131	<	5.6	
18-JUL-11	CS-134	<	3.7	
18-JUL-11	CS-137	<	4.9	
18-JUL-11	BA-LA-140	<	2.7	
18-JUL-11	H-3	<	152.0	
08-AUG-11	MN-54	<	2.9	
08-AUG-11	CO-58	<	2.2	
08-AUG-11	FE-59	<	3.4	

Location JRR

Collection Date	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Liter)		Duplicate Analysis
08-AUG-11	CO-60	<	2.7	
08-AUG-11	ZN-65	<	4.0	
08-AUG-11	ZR-NB-95	<	2.7	
08-AUG-11	I-131	<	3.3	
08-AUG-11	CS-134	<	2.8	
08-AUG-11	CS-137	<	2.6	
08-AUG-11	BA-LA-140	<	3.4	
08-AUG-11	H-3	<	185.0	
08-AUG-11	FE-55	<	158.0	
14-SEP-11	MN-54	<	2.8	
14-SEP-11	CO-58	<	1.7	
14-SEP-11	FE-59	<	4.4	
14-SEP-11	CO-60	<	2.2	
14-SEP-11	ZN-65	<	2.6	
14-SEP-11	ZR-NB-95	<	1.9	
14-SEP-11	I-131	<	5.2	
14-SEP-11	CS-134	<	2.4	
14-SEP-11	CS-137	<	3.0	
14-SEP-11	BA-LA-140	<	1.7	
14-SEP-11	H-3	<	144.0	
17-OCT-11	MN-54	<	2.0	
17-OCT-11	CO-58	<	2.7	
17-OCT-11	FE-59	<	5.2	
17-OCT-11	CO-60	<	1.5	
17-OCT-11	ZN-65	<	4.1	
17-OCT-11	ZR-NB-95	<	2.8	
17-OCT-11	I-131	<	4.1	
17-OCT-11	CS-134	<	2.3	
17-OCT-11	CS-137	<	1.7	
17-OCT-11	BA-LA-140	<	2.0	
17-OCT-11	H-3	<	145.0	
21-NOV-11	MN-54	<	3.7	
21-NOV-11	CO-58	<	6.3	
21-NOV-11	FE-59	<	10.9	
21-NOV-11	CO-60	<	5.9	
21-NOV-11	ZN-65	<	5.3	
21-NOV-11	ZR-NB-95	<	3.5	
21-NOV-11	I-131	<	10.5	
21-NOV-11	CS-134	<	4.1	
21-NOV-11	CS-137	<	3.9	

Exposure Pathway - Waterborne
Surface Water

Location JRR

Collection Date	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Liter)		Duplicate Analysis
21-NOV-11	BA-LA-140	<	6.7	
21-NOV-11	H-3	<	137.0	
21-NOV-11	FE-55	<	177.0	
21-DEC-11	MN-54	<	2.3	
21-DEC-11	CO-58	<	2.8	
21-DEC-11	FE-59	<	2.9	
21-DEC-11	CO-60	<	2.6	
21-DEC-11	ZN-65	<	2.0	
21-DEC-11	ZR-NB-95	<	3.2	
21-DEC-11	I-131	<	5.9	
21-DEC-11	CS-134	<	3.3	
21-DEC-11	CS-137	<	3.4	
21-DEC-11	BA-LA-140	<	2.0	
21-DEC-11	H-3	<	151.0	

Exposure Pathway - Waterborne
Surface Water

Location SP

Collection Date	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Liter)			Duplicate Analysis
31-JAN-11	MN-54		<	1.8	
31-JAN-11	CO-58		<	2.4	
31-JAN-11	FE-59		<	3.3	
31-JAN-11	CO-60		<	1.0	
31-JAN-11	ZN-65		<	5.8	
31-JAN-11	ZR-NB-95		<	1.8	
31-JAN-11	I-131		<	4.2	
31-JAN-11	CS-134		<	2.5	
31-JAN-11	CS-137		<	3.5	
31-JAN-11	BA-LA-140		<	2.7	
31-JAN-11	H-3	13,458	+/-	330.0	
21-FEB-11	MN-54		<	1.5	
21-FEB-11	CO-58		<	1.9	
21-FEB-11	FE-59		<	3.8	
21-FEB-11	CO-60		<	0.9	
21-FEB-11	ZN-65		<	2.7	
21-FEB-11	ZR-NB-95		<	2.9	
21-FEB-11	I-131		<	3.0	
21-FEB-11	CS-134		<	2.4	
21-FEB-11	CS-137		<	2.7	
21-FEB-11	BA-LA-140		<	2.8	
21-FEB-11	H-3	13,787	+/-	349.0	
28-MAR-11	MN-54		<	2.6	Duplicate
28-MAR-11	MN-54		<	2.8	
28-MAR-11	CO-58		<	1.7	Duplicate
28-MAR-11	CO-58		<	2.8	
28-MAR-11	FE-59		<	5.8	Duplicate
28-MAR-11	FE-59		<	6.3	
28-MAR-11	CO-60		<	1.9	Duplicate
28-MAR-11	CO-60		<	3.9	
28-MAR-11	ZN-65		<	3.6	Duplicate
28-MAR-11	ZN-65		<	4.3	
28-MAR-11	ZR-NB-95		<	1.9	Duplicate
28-MAR-11	ZR-NB-95		<	3.2	
28-MAR-11	I-131		<	4.5	Duplicate
28-MAR-11	I-131		<	5.4	
28-MAR-11	CS-134		<	2.1	Duplicate
28-MAR-11	CS-134		<	5.5	
28-MAR-11	CS-137		<	4.2	Duplicate
28-MAR-11	CS-137		<	3.5	

Location SP

Collection Date	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Liter)			Duplicate Analysis
28-MAR-11	BA-LA-140		<	4.2	Duplicate
28-MAR-11	BA-LA-140		<	5.9	
28-MAR-11	H-3	15,968	+/-	364.0	Duplicate
28-MAR-11	H-3	15,523	+/-	359.0	
20-APR-11	MN-54		<	2.9	
20-APR-11	CO-58		<	2.3	
20-APR-11	FE-59		<	2.5	
20-APR-11	CO-60		<	3.2	
20-APR-11	ZN-65		<	3.4	
20-APR-11	ZR-NB-95		<	3.2	
20-APR-11	I-131		<	5.3	
20-APR-11	CS-134		<	2.7	
20-APR-11	CS-137		<	2.2	
20-APR-11	BA-LA-140		<	3.0	
20-APR-11	H-3	14,785	+/-	354.0	
19-MAY-11	MN-54		<	1.7	
19-MAY-11	CO-58		<	2.6	
19-MAY-11	FE-59		<	7.0	
19-MAY-11	CO-60		<	1.1	
19-MAY-11	ZN-65		<	3.6	
19-MAY-11	ZR-NB-95		<	2.5	
19-MAY-11	I-131		<	5.1	
19-MAY-11	CS-134		<	3.1	
19-MAY-11	CS-137		<	3.3	
19-MAY-11	BA-LA-140		<	1.7	
19-MAY-11	H-3	14,066	+/-	340.0	
20-JUN-11	MN-54		<	2.4	
20-JUN-11	CO-58		<	2.5	
20-JUN-11	FE-59		<	4.8	
20-JUN-11	CO-60		<	1.9	
20-JUN-11	ZN-65		<	3.1	
20-JUN-11	ZR-NB-95		<	3.1	
20-JUN-11	I-131		<	4.6	
20-JUN-11	CS-134		<	2.6	
20-JUN-11	CS-137		<	2.1	
20-JUN-11	BA-LA-140		<	5.0	
20-JUN-11	H-3	14,374	+/-	353.0	
18-JUL-11	MN-54		<	2.3	
18-JUL-11	CO-58		<	2.3	
18-JUL-11	FE-59		<	4.8	

Location SP

Collection Date	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Liter)			Duplicate Analysis
18-JUL-11	CO-60		<	2.5	
18-JUL-11	ZN-65		<	2.6	
18-JUL-11	ZR-NB-95		<	3.1	
18-JUL-11	I-131		<	2.5	
18-JUL-11	CS-134		<	2.4	
18-JUL-11	CS-137		<	2.0	
18-JUL-11	BA-LA-140		<	2.1	
18-JUL-11	H-3	12,794	+/-	334.0	
08-AUG-11	MN-54		<	2.5	
08-AUG-11	CO-58		<	3.3	
08-AUG-11	FE-59		<	4.5	
08-AUG-11	CO-60		<	1.7	
08-AUG-11	ZN-65		<	4.1	
08-AUG-11	ZR-NB-95		<	4.7	
08-AUG-11	I-131		<	6.3	
08-AUG-11	CS-134		<	3.0	
08-AUG-11	CS-137		<	4.3	
08-AUG-11	BA-LA-140		<	4.8	
08-AUG-11	H-3	12,670	+/-	336.0	
08-AUG-11	FE-55		<	161.0	
14-SEP-11	MN-54		<	2.5	
14-SEP-11	CO-58		<	3.9	
14-SEP-11	FE-59		<	5.5	
14-SEP-11	CO-60		<	2.0	
14-SEP-11	ZN-65		<	8.7	
14-SEP-11	ZR-NB-95		<	5.1	
14-SEP-11	I-131		<	6.6	
14-SEP-11	CS-134		<	2.9	
14-SEP-11	CS-137		<	3.7	
14-SEP-11	BA-LA-140		<	4.2	
14-SEP-11	H-3	11,590	+/-	315.0	
17-OCT-11	MN-54		<	4.1	
17-OCT-11	CO-58		<	3.2	
17-OCT-11	FE-59		<	7.5	
17-OCT-11	CO-60		<	4.0	
17-OCT-11	ZN-65		<	3.9	
17-OCT-11	ZR-NB-95		<	4.7	
17-OCT-11	I-131		<	3.9	
17-OCT-11	CS-134		<	5.6	
17-OCT-11	CS-137		<	5.2	

Location SP

Collection Date	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Liter)			Duplicate Analysis
17-OCT-11	BA-LA-140		<	5.4	
17-OCT-11	H-3	11,095	+/-	307.0	
21-NOV-11	MN-54		<	3.1	
21-NOV-11	CO-58		<	3.9	
21-NOV-11	FE-59		<	5.5	
21-NOV-11	CO-60		<	2.8	
21-NOV-11	ZN-65		<	5.0	
21-NOV-11	ZR-NB-95		<	3.3	
21-NOV-11	I-131		<	8.2	
21-NOV-11	CS-134		<	3.9	
21-NOV-11	CS-137		<	4.3	
21-NOV-11	BA-LA-140		<	5.7	
21-NOV-11	H-3	9,847	+/-	292.0	
21-NOV-11	FE-55		<	176.0	
21-DEC-11	MN-54		<	2.0	
21-DEC-11	CO-58		<	2.5	
21-DEC-11	FE-59		<	4.2	
21-DEC-11	CO-60		<	1.8	
21-DEC-11	ZN-65		<	3.6	
21-DEC-11	ZR-NB-95		<	3.0	
21-DEC-11	I-131		<	4.6	
21-DEC-11	CS-134		<	2.2	
21-DEC-11	CS-137		<	2.1	
21-DEC-11	BA-LA-140		<	1.7	
21-DEC-11	H-3	10,186	+/-	299.0	

Exposure Pathway - Waterborne
Ground Water

Location B-12

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
28-FEB-11	MN-54	< 2.5	
28-FEB-11	CO-58	< 1.6	
28-FEB-11	FE-59	< 2.5	
28-FEB-11	CO-60	< 2.1	
28-FEB-11	ZN-65	< 2.8	
28-FEB-11	ZR-NB-95	< 2.6	
28-FEB-11	CS-134	< 2.9	
28-FEB-11	CS-137	< 3.2	
28-FEB-11	BA-LA-140	< 2.9	
28-FEB-11	H-3	< 152.0	
28-FEB-11	I-131 (CHEM)	< 0.347	
23-MAY-11	MN-54	< 4.1	
23-MAY-11	CO-58	< 3.6	
23-MAY-11	FE-59	< 4.4	
23-MAY-11	CO-60	< 2.7	
23-MAY-11	ZN-65	< 5.7	
23-MAY-11	ZR-NB-95	< 2.8	
23-MAY-11	CS-134	< 4.0	
23-MAY-11	CS-137	< 4.3	
23-MAY-11	BA-LA-140	< 6.2	
23-MAY-11	H-3	< 141.0	
23-MAY-11	I-131 (CHEM)	< 0.457	
08-AUG-11	MN-54	< 2.6	
08-AUG-11	CO-58	< 2.5	
08-AUG-11	FE-59	< 4.4	
08-AUG-11	CO-60	< 3.0	
08-AUG-11	ZN-65	< 3.1	
08-AUG-11	ZR-NB-95	< 3.0	
08-AUG-11	CS-134	< 3.3	
08-AUG-11	CS-137	< 3.4	
08-AUG-11	BA-LA-140	< 1.7	
08-AUG-11	H-3	< 185.0	
08-AUG-11	I-131 (CHEM)	< 0.179	
21-NOV-11	MN-54	< 3.2	
21-NOV-11	CO-58	< 1.8	
21-NOV-11	FE-59	< 3.3	
21-NOV-11	CO-60	< 1.8	
21-NOV-11	ZN-65	< 3.0	
21-NOV-11	ZR-NB-95	< 3.2	
21-NOV-11	CS-134	< 2.9	
21-NOV-11	CS-137	< 4.1	

Exposure Pathway - Waterborne
Ground Water

Location B-12

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-NOV-11	BA-LA-140	< 2.8	
21-NOV-11	H-3	< 137.0	
21-NOV-11	I-131 (CHEM)	< 0.264	

Exposure Pathway - Waterborne
Ground Water

Location C-10

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
28-FEB-11	MN-54	< 2.5	
28-FEB-11	CO-58	< 2.7	
28-FEB-11	FE-59	< 4.1	
28-FEB-11	CO-60	< 2.5	
28-FEB-11	ZN-65	< 4.1	
28-FEB-11	ZR-NB-95	< 2.5	
28-FEB-11	CS-134	< 2.3	
28-FEB-11	CS-137	< 2.4	
28-FEB-11	BA-LA-140	< 1.4	
28-FEB-11	H-3	< 152.0	
28-FEB-11	I-131 (CHEM)	< 0.364	
23-MAY-11	MN-54	< 1.7	
23-MAY-11	CO-58	< 2.2	
23-MAY-11	FE-59	< 2.7	
23-MAY-11	CO-60	< 2.7	
23-MAY-11	ZN-65	< 4.5	
23-MAY-11	ZR-NB-95	< 2.5	
23-MAY-11	CS-134	< 3.5	
23-MAY-11	CS-137	< 3.3	
23-MAY-11	BA-LA-140	< 3.6	
23-MAY-11	H-3	< 141.0	
23-MAY-11	I-131 (CHEM)	< 0.449	
08-AUG-11	MN-54	< 2.8	
08-AUG-11	CO-58	< 3.4	
08-AUG-11	FE-59	< 5.8	
08-AUG-11	CO-60	< 1.9	
08-AUG-11	ZN-65	< 3.6	
08-AUG-11	ZR-NB-95	< 2.9	
08-AUG-11	CS-134	< 3.4	
08-AUG-11	CS-137	< 3.3	
08-AUG-11	BA-LA-140	< 3.9	
08-AUG-11	H-3	< 185.0	
08-AUG-11	I-131 (CHEM)	< 0.247	
21-NOV-11	MN-54	< 2.7	
21-NOV-11	CO-58	< 2.0	
21-NOV-11	FE-59	< 4.9	
21-NOV-11	CO-60	< 2.4	
21-NOV-11	ZN-65	< 3.2	
21-NOV-11	ZR-NB-95	< 3.2	
21-NOV-11	CS-134	< 1.8	
21-NOV-11	CS-137	< 2.4	

Exposure Pathway - Waterborne
Ground Water

Location C-10

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-NOV-11	BA-LA-140	< 2.3	
21-NOV-11	H-3	< 137.0	
21-NOV-11	I-131 (CHEM)	< 0.306	

Exposure Pathway - Waterborne
Ground Water

Location C-49

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
28-FEB-11	MN-54	< 3.7	
28-FEB-11	CO-58	< 1.8	
28-FEB-11	FE-59	< 3.9	
28-FEB-11	CO-60	< 1.4	
28-FEB-11	ZN-65	< 5.1	
28-FEB-11	ZR-NB-95	< 2.2	
28-FEB-11	CS-134	< 2.4	
28-FEB-11	CS-137	< 3.5	
28-FEB-11	BA-LA-140	< 1.5	
28-FEB-11	H-3	< 152.0	
28-FEB-11	I-131 (CHEM)	< 0.426	
23-MAY-11	MN-54	< 2.4	
23-MAY-11	CO-58	< 1.8	
23-MAY-11	FE-59	< 3.5	
23-MAY-11	CO-60	< 1.6	
23-MAY-11	ZN-65	< 3.7	
23-MAY-11	ZR-NB-95	< 3.5	
23-MAY-11	CS-134	< 2.4	
23-MAY-11	CS-137	< 2.1	
23-MAY-11	BA-LA-140	< 3.7	
23-MAY-11	H-3	< 141.0	
23-MAY-11	I-131 (CHEM)	< 0.486	
08-AUG-11	MN-54	< 2.2	
08-AUG-11	MN-54	< 5.6	Duplicate
08-AUG-11	CO-58	< 2.2	
08-AUG-11	CO-58	< 2.9	Duplicate
08-AUG-11	FE-59	< 4.6	
08-AUG-11	FE-59	< 5.9	Duplicate
08-AUG-11	CO-60	< 2.3	
08-AUG-11	CO-60	< 3.9	Duplicate
08-AUG-11	ZN-65	< 7.6	
08-AUG-11	ZN-65	< 9.1	Duplicate
08-AUG-11	ZR-NB-95	< 3.8	
08-AUG-11	ZR-NB-95	< 5.3	Duplicate
08-AUG-11	CS-134	< 2.2	
08-AUG-11	CS-134	< 4.2	Duplicate
08-AUG-11	CS-137	< 2.6	
08-AUG-11	CS-137	< 5.3	Duplicate
08-AUG-11	BA-LA-140	< 2.6	
08-AUG-11	BA-LA-140	< 4.5	Duplicate
08-AUG-11	H-3	< 185.0	

Exposure Pathway - Waterborne
Ground Water

Location C-49

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
08-AUG-11	H-3	<	185.0	Duplicate
08-AUG-11	I-131 (CHEM)	<	0.26	
08-AUG-11	I-131 (CHEM)	<	0.301	Duplicate
21-NOV-11	MN-54	<	1.9	
21-NOV-11	CO-58	<	1.5	
21-NOV-11	FE-59	<	4.9	
21-NOV-11	CO-60	<	1.7	
21-NOV-11	ZN-65	<	2.1	
21-NOV-11	ZR-NB-95	<	3.6	
21-NOV-11	CS-134	<	2.2	
21-NOV-11	CS-137	<	3.6	
21-NOV-11	BA-LA-140	<	4.1	
21-NOV-11	H-3	<	137.0	
21-NOV-11	I-131 (CHEM)	<	0.315	

Exposure Pathway - Waterborne
Ground Water

Location F-1

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
28-FEB-11	MN-54	< 3.1	
28-FEB-11	CO-58	< 1.8	
28-FEB-11	FE-59	< 4.0	
28-FEB-11	CO-60	< 2.4	
28-FEB-11	ZN-65	< 3.5	
28-FEB-11	ZR-NB-95	< 2.5	
28-FEB-11	CS-134	< 2.7	
28-FEB-11	CS-137	< 2.8	
28-FEB-11	BA-LA-140	< 1.3	
28-FEB-11	H-3	< 152.0	
28-FEB-11	I-131 (CHEM)	< 0.379	
23-MAY-11	MN-54	< 2.1	
23-MAY-11	CO-58	< 1.7	
23-MAY-11	FE-59	< 2.8	
23-MAY-11	CO-60	< 1.1	
23-MAY-11	ZN-65	< 2.0	
23-MAY-11	ZR-NB-95	< 3.4	
23-MAY-11	CS-134	< 2.4	
23-MAY-11	CS-137	< 2.0	
23-MAY-11	BA-LA-140	< 1.7	
23-MAY-11	H-3	< 141.0	
23-MAY-11	I-131 (CHEM)	< 0.339	
08-AUG-11	MN-54	< 3.0	
08-AUG-11	CO-58	< 3.0	
08-AUG-11	FE-59	< 3.5	
08-AUG-11	CO-60	< 1.6	
08-AUG-11	ZN-65	< 4.9	
08-AUG-11	ZR-NB-95	< 2.2	
08-AUG-11	CS-134	< 2.5	
08-AUG-11	CS-137	< 3.5	
08-AUG-11	BA-LA-140	< 1.5	
08-AUG-11	H-3	< 185.0	
08-AUG-11	I-131 (CHEM)	< 0.215	
21-NOV-11	MN-54	< 4.8	
21-NOV-11	CO-58	< 3.3	
21-NOV-11	FE-59	< 9.9	
21-NOV-11	CO-60	< 6.0	
21-NOV-11	ZN-65	< 7.4	
21-NOV-11	ZR-NB-95	< 6.0	
21-NOV-11	CS-134	< 4.8	
21-NOV-11	CS-137	< 5.4	

Exposure Pathway - Waterborne
Ground Water

Location F-1

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-NOV-11	BA-LA-140	< 3.4	
21-NOV-11	H-3	< 137.0	
21-NOV-11	I-131 (CHEM)	< 0.257	

Exposure Pathway - Waterborne
Ground Water

Location G-2

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
28-FEB-11	MN-54	< 1.9	
28-FEB-11	CO-58	< 2.6	
28-FEB-11	FE-59	< 5.9	
28-FEB-11	CO-60	< 1.4	
28-FEB-11	ZN-65	< 4.8	
28-FEB-11	ZR-NB-95	< 1.6	
28-FEB-11	CS-134	< 2.4	
28-FEB-11	CS-137	< 2.6	
28-FEB-11	BA-LA-140	< 2.4	
28-FEB-11	H-3	< 152.0	
28-FEB-11	I-131 (CHEM)	< 0.379	
23-MAY-11	MN-54	< 1.9	
23-MAY-11	CO-58	< 1.7	
23-MAY-11	FE-59	< 4.6	
23-MAY-11	CO-60	< 1.5	
23-MAY-11	ZN-65	< 3.5	
23-MAY-11	ZR-NB-95	< 2.4	
23-MAY-11	CS-134	< 2.0	
23-MAY-11	CS-137	< 3.0	
23-MAY-11	BA-LA-140	< 2.3	
23-MAY-11	H-3	< 141.0	
23-MAY-11	I-131 (CHEM)	< 0.402	
08-AUG-11	MN-54	< 2.8	
08-AUG-11	CO-58	< 4.2	
08-AUG-11	FE-59	< 8.8	
08-AUG-11	CO-60	< 2.9	
08-AUG-11	ZN-65	< 8.2	
08-AUG-11	ZR-NB-95	< 7.7	
08-AUG-11	CS-134	< 3.5	
08-AUG-11	CS-137	< 3.4	
08-AUG-11	BA-LA-140	< 4.5	
08-AUG-11	H-3	< 185.0	
08-AUG-11	I-131 (CHEM)	< 0.199	
21-NOV-11	MN-54	< 1.9	
21-NOV-11	CO-58	< 2.0	
21-NOV-11	FE-59	< 5.0	
21-NOV-11	CO-60	< 2.4	
21-NOV-11	ZN-65	< 3.4	
21-NOV-11	ZR-NB-95	< 3.0	
21-NOV-11	CS-134	< 2.9	
21-NOV-11	CS-137	< 2.3	

Exposure Pathway - Waterborne
Ground Water

Location G-2

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-NOV-11	BA-LA-140	< 4.1	
21-NOV-11	H-3	< 137.0	
21-NOV-11	I-131 (CHEM)	< 0.265	

Exposure Pathway - Waterborne
Ground Water

Location J-1

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
28-FEB-11	MN-54	<	3.4	
28-FEB-11	MN-54	<	5.5	Duplicate
28-FEB-11	CO-58	<	2.8	
28-FEB-11	CO-58	<	6.4	Duplicate
28-FEB-11	FE-59	<	6.4	
28-FEB-11	FE-59	<	7.5	Duplicate
28-FEB-11	CO-60	<	3.2	
28-FEB-11	CO-60	<	4.3	Duplicate
28-FEB-11	ZN-65	<	6.1	
28-FEB-11	ZN-65	<	11.2	Duplicate
28-FEB-11	ZR-NB-95	<	5.2	
28-FEB-11	ZR-NB-95	<	6.6	Duplicate
28-FEB-11	CS-134	<	4.8	
28-FEB-11	CS-134	<	5.2	Duplicate
28-FEB-11	CS-137	<	2.6	
28-FEB-11	CS-137	<	6.0	Duplicate
28-FEB-11	BA-LA-140	<	4.3	
28-FEB-11	BA-LA-140	<	5.7	Duplicate
28-FEB-11	H-3	<	152.0	
28-FEB-11	H-3	<	152.0	Duplicate
28-FEB-11	I-131 (CHEM)	<	0.459	
28-FEB-11	I-131 (CHEM)	<	0.467	Duplicate
23-MAY-11	MN-54	<	3.8	
23-MAY-11	CO-58	<	3.4	
23-MAY-11	FE-59	<	5.5	
23-MAY-11	CO-60	<	2.7	
23-MAY-11	ZN-65	<	6.6	
23-MAY-11	ZR-NB-95	<	2.5	
23-MAY-11	CS-134	<	3.6	
23-MAY-11	CS-137	<	3.4	
23-MAY-11	BA-LA-140	<	5.6	
23-MAY-11	H-3	<	141.0	
23-MAY-11	I-131 (CHEM)	<	0.367	
08-AUG-11	MN-54	<	2.4	
08-AUG-11	CO-58	<	2.2	
08-AUG-11	FE-59	<	2.6	
08-AUG-11	CO-60	<	2.2	
08-AUG-11	ZN-65	<	5.3	
08-AUG-11	ZR-NB-95	<	5.7	
08-AUG-11	CS-134	<	3.2	
08-AUG-11	CS-137	<	2.8	

Exposure Pathway - Waterborne
Ground Water

Location J-1

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-AUG-11	BA-LA-140	< 3.7	
08-AUG-11	H-3	< 185.0	
08-AUG-11	I-131 (CHEM)	< 0.261	
21-NOV-11	MN-54	< 4.3	
21-NOV-11	CO-58	< 2.3	
21-NOV-11	FE-59	< 8.5	
21-NOV-11	CO-60	< 4.4	
21-NOV-11	ZN-65	< 8.5	
21-NOV-11	ZR-NB-95	< 5.3	
21-NOV-11	CS-134	< 3.7	
21-NOV-11	CS-137	< 4.8	
21-NOV-11	BA-LA-140	< 4.5	
21-NOV-11	H-3	< 137.0	
21-NOV-11	I-131 (CHEM)	< 0.265	

Exposure Pathway - Waterborne
Ground Water

Location J-2

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
28-FEB-11	MN-54	< 3.9	
28-FEB-11	CO-58	< 3.1	
28-FEB-11	FE-59	< 6.7	
28-FEB-11	CO-60	< 4.1	
28-FEB-11	ZN-65	< 10.0	
28-FEB-11	ZR-NB-95	< 2.7	
28-FEB-11	CS-134	< 3.2	
28-FEB-11	CS-137	< 5.0	
28-FEB-11	BA-LA-140	< 2.5	
28-FEB-11	H-3	< 152.0	
28-FEB-11	I-131 (CHEM)	< 0.395	
23-MAY-11	MN-54	< 3.8	
23-MAY-11	CO-58	< 2.2	
23-MAY-11	FE-59	< 5.2	
23-MAY-11	CO-60	< 2.5	
23-MAY-11	ZN-65	< 6.8	
23-MAY-11	ZR-NB-95	< 5.2	
23-MAY-11	CS-134	< 2.8	
23-MAY-11	CS-137	< 3.3	
23-MAY-11	BA-LA-140	< 3.1	
23-MAY-11	H-3	< 141.0	
23-MAY-11	I-131 (CHEM)	< 0.205	
08-AUG-11	MN-54	< 3.3	
08-AUG-11	CO-58	< 1.9	
08-AUG-11	FE-59	< 4.5	
08-AUG-11	CO-60	< 2.8	
08-AUG-11	ZN-65	< 4.6	
08-AUG-11	ZR-NB-95	< 3.7	
08-AUG-11	CS-134	< 2.7	
08-AUG-11	CS-137	< 3.5	
08-AUG-11	BA-LA-140	< 4.7	
08-AUG-11	H-3	< 185.0	
08-AUG-11	I-131 (CHEM)	< 0.23	
21-NOV-11	MN-54	< 3.6	
21-NOV-11	CO-58	< 2.3	
21-NOV-11	FE-59	< 7.4	
21-NOV-11	CO-60	< 2.7	
21-NOV-11	ZN-65	< 11.4	
21-NOV-11	ZR-NB-95	< 5.9	
21-NOV-11	CS-134	< 3.0	
21-NOV-11	CS-137	< 5.2	

Exposure Pathway - Waterborne
Ground Water

Location J-2

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-NOV-11	BA-LA-140	< 7.7	
21-NOV-11	H-3	< 137.0	
21-NOV-11	I-131 (CHEM)	< 0.276	

Exposure Pathway - Waterborne
Ground Water

Location L-49

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
28-FEB-11	MN-54	< 5.1	
28-FEB-11	CO-58	< 6.4	
28-FEB-11	FE-59	< 9.1	
28-FEB-11	CO-60	< 1.9	
28-FEB-11	ZN-65	< 10.2	
28-FEB-11	ZR-NB-95	< 5.4	
28-FEB-11	CS-134	< 5.9	
28-FEB-11	CS-137	< 3.7	
28-FEB-11	BA-LA-140	< 6.7	
28-FEB-11	H-3	< 152.0	
28-FEB-11	I-131 (CHEM)	< 0.376	
23-MAY-11	MN-54	< 2.9	
23-MAY-11	CO-58	< 4.3	
23-MAY-11	FE-59	< 5.4	
23-MAY-11	CO-60	< 3.1	
23-MAY-11	ZN-65	< 9.7	
23-MAY-11	ZR-NB-95	< 2.8	
23-MAY-11	CS-134	< 3.5	
23-MAY-11	CS-137	< 4.3	
23-MAY-11	BA-LA-140	< 4.1	
23-MAY-11	H-3	< 141.0	
23-MAY-11	I-131 (CHEM)	< 0.194	
08-AUG-11	MN-54	< 2.4	
08-AUG-11	CO-58	< 1.6	
08-AUG-11	FE-59	< 2.5	
08-AUG-11	CO-60	< 1.9	
08-AUG-11	ZN-65	< 3.7	
08-AUG-11	ZR-NB-95	< 3.0	
08-AUG-11	CS-134	< 2.6	
08-AUG-11	CS-137	< 2.5	
08-AUG-11	BA-LA-140	< 2.5	
08-AUG-11	H-3	< 185.0	
08-AUG-11	I-131 (CHEM)	< 0.257	
21-NOV-11	MN-54	< 2.2	
21-NOV-11	CO-58	< 2.6	
21-NOV-11	FE-59	< 5.7	
21-NOV-11	CO-60	< 0.9	
21-NOV-11	ZN-65	< 2.6	
21-NOV-11	ZR-NB-95	< 3.4	
21-NOV-11	CS-134	< 2.4	
21-NOV-11	CS-137	< 2.5	

Exposure Pathway - Waterborne
Ground Water

Location L-49

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-NOV-11	BA-LA-140	< 3.2	
21-NOV-11	H-3	< 137.0	
21-NOV-11	I-131 (CHEM)	< 0.272	

Exposure Pathway - Waterborne
Drinking Water

Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-FEB-11	MN-54	< 2.8	
07-FEB-11	CO-58	< 2.9	
07-FEB-11	FE-59	< 4.6	
07-FEB-11	CO-60	< 3.1	
07-FEB-11	ZN-65	< 5.6	
07-FEB-11	ZR-NB-95	< 2.2	
07-FEB-11	CS-134	< 4.0	
07-FEB-11	CS-137	< 4.2	
07-FEB-11	BA-LA-140	< 2.4	
07-FEB-11	GROSS BETA	2.904 +/- 0.501	
07-FEB-11	I-131 (CHEM)	< 0.301	
07-MAR-11	MN-54	< 2.3	
07-MAR-11	CO-58	< 3.8	
07-MAR-11	FE-59	< 4.7	
07-MAR-11	CO-60	< 2.9	
07-MAR-11	ZN-65	< 4.0	
07-MAR-11	ZR-NB-95	< 3.3	
07-MAR-11	CS-134	< 2.3	
07-MAR-11	CS-137	< 4.5	
07-MAR-11	BA-LA-140	< 1.8	
07-MAR-11	GROSS BETA	2.280 +/- 0.638	
07-MAR-11	I-131 (CHEM)	< 0.369	
04-APR-11	MN-54	< 2.4	
04-APR-11	CO-58	< 1.9	
04-APR-11	FE-59	< 2.7	
04-APR-11	CO-60	< 1.9	
04-APR-11	ZN-65	< 3.8	
04-APR-11	ZR-NB-95	< 1.7	
04-APR-11	CS-134	< 2.1	
04-APR-11	CS-137	< 2.8	
04-APR-11	BA-LA-140	< 2.6	
04-APR-11	GROSS BETA	2.209 +/- 0.337	
04-APR-11	I-131 (CHEM)	< 0.398	
02-MAY-11	MN-54	< 4.6	
02-MAY-11	CO-58	< 3.5	
02-MAY-11	FE-59	< 7.2	
02-MAY-11	CO-60	< 3.1	
02-MAY-11	ZN-65	< 7.6	
02-MAY-11	ZR-NB-95	< 4.5	
02-MAY-11	CS-134	< 3.7	

Exposure Pathway - Waterborne
Drinking Water

Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
02-MAY-11	CS-137	< 3.7	
02-MAY-11	BA-LA-140	< 4.3	
02-MAY-11	GROSS BETA	3.268 +/- 0.835	
02-MAY-11	I-131 (CHEM)	< 0.163	
06-JUN-11	MN-54	< 2.7	
06-JUN-11	CO-58	< 3.8	
06-JUN-11	FE-59	< 8.9	
06-JUN-11	CO-60	< 3.5	
06-JUN-11	ZN-65	< 12.8	
06-JUN-11	ZR-NB-95	< 5.4	
06-JUN-11	CS-134	< 5.2	
06-JUN-11	CS-137	< 2.8	
06-JUN-11	BA-LA-140	< 5.7	
06-JUN-11	GROSS BETA	3.490 +/- 1.109	
06-JUN-11	I-131 (CHEM)	< 0.287	
05-JUL-11	MN-54	< 2.2	
05-JUL-11	CO-58	< 2.6	
05-JUL-11	FE-59	< 5.5	
05-JUL-11	CO-60	< 2.8	
05-JUL-11	ZN-65	< 3.5	
05-JUL-11	ZR-NB-95	< 3.4	
05-JUL-11	CS-134	< 2.4	
05-JUL-11	CS-137	< 2.9	
05-JUL-11	BA-LA-140	< 3.4	
05-JUL-11	GROSS BETA	3.319 +/- 0.981	
05-JUL-11	I-131 (CHEM)	< 0.351	
01-AUG-11	MN-54	< 2.5	
01-AUG-11	CO-58	< 2.3	
01-AUG-11	FE-59	< 2.4	
01-AUG-11	CO-60	< 1.4	
01-AUG-11	ZN-65	< 3.5	
01-AUG-11	ZR-NB-95	< 1.7	
01-AUG-11	CS-134	< 2.5	
01-AUG-11	CS-137	< 2.8	
01-AUG-11	BA-LA-140	< 2.5	
01-AUG-11	GROSS BETA	2.243 +/- 0.617	
01-AUG-11	I-131 (CHEM)	< 0.391	
06-SEP-11	MN-54	< 2.0	
06-SEP-11	CO-58	< 1.4	
06-SEP-11	FE-59	< 4.5	

Exposure Pathway - Waterborne
Drinking Water

Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
06-SEP-11	CO-60	< 2.2	
06-SEP-11	ZN-65	< 3.2	
06-SEP-11	ZR-NB-95	< 1.5	
06-SEP-11	CS-134	< 2.4	
06-SEP-11	CS-137	< 3.1	
06-SEP-11	BA-LA-140	< 2.2	
06-SEP-11	GROSS BETA	2.375 +/- 0.639	
06-SEP-11	I-131 (CHEM)	< 0.318	
03-OCT-11	MN-54	< 2.6	
03-OCT-11	CO-58	< 1.7	
03-OCT-11	FE-59	< 3.4	
03-OCT-11	CO-60	< 1.8	
03-OCT-11	ZN-65	< 4.5	
03-OCT-11	ZR-NB-95	< 2.1	
03-OCT-11	CS-134	< 2.3	
03-OCT-11	CS-137	< 2.7	
03-OCT-11	BA-LA-140	< 3.9	
03-OCT-11	GROSS BETA	2.650 +/- 0.663	
03-OCT-11	I-131 (CHEM)	< 0.402	
07-NOV-11	MN-54	< 3.2	
07-NOV-11	CO-58	< 2.5	
07-NOV-11	FE-59	< 4.9	
07-NOV-11	CO-60	< 1.8	
07-NOV-11	ZN-65	< 3.6	
07-NOV-11	ZR-NB-95	< 2.2	
07-NOV-11	CS-134	< 2.7	
07-NOV-11	CS-137	< 3.5	
07-NOV-11	BA-LA-140	< 3.3	
07-NOV-11	GROSS BETA	< 1.74	
07-NOV-11	I-131 (CHEM)	< 0.315	
05-DEC-11	MN-54	< 2.7	
05-DEC-11	CO-58	< 0.7	
05-DEC-11	FE-59	< 3.6	
05-DEC-11	CO-60	< 1.4	
05-DEC-11	ZN-65	< 4.7	
05-DEC-11	ZR-NB-95	< 1.9	
05-DEC-11	CS-134	< 1.7	
05-DEC-11	CS-137	< 1.7	
05-DEC-11	BA-LA-140	< 1.8	
05-DEC-11	GROSS BETA	2.820 +/- 0.488	

Exposure Pathway - Waterborne
Drinking Water

Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-DEC-11	I-131 (CHEM)	< 0.412	
03-JAN-12	MN-54	< 2.6	
03-JAN-12	CO-58	< 2.1	
03-JAN-12	FE-59	< 4.6	
03-JAN-12	CO-60	< 0.9	
03-JAN-12	ZN-65	< 4.9	
03-JAN-12	ZR-NB-95	< 2.3	
03-JAN-12	CS-134	< 3.0	
03-JAN-12	CS-137	< 2.7	
03-JAN-12	BA-LA-140	< 2.0	
03-JAN-12	GROSS BETA	1.650 +/- 0.585	
03-JAN-12	I-131 (CHEM)	< 0.325	

Exposure Pathway - Waterborne
Drinking Water

Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-FEB-11	MN-54	< 3.2	
07-FEB-11	CO-58	< 2.1	
07-FEB-11	FE-59	< 5.7	
07-FEB-11	CO-60	< 2.7	
07-FEB-11	ZN-65	< 5.1	
07-FEB-11	ZR-NB-95	< 3.4	
07-FEB-11	CS-134	< 2.7	
07-FEB-11	CS-137	< 3.7	
07-FEB-11	BA-LA-140	< 4.0	
07-FEB-11	GROSS BETA	2.969 +/- 0.538	
07-FEB-11	I-131 (CHEM)	< 0.296	
07-MAR-11	MN-54	< 3.1	
07-MAR-11	CO-58	< 3.0	
07-MAR-11	FE-59	< 3.7	
07-MAR-11	CO-60	< 2.9	
07-MAR-11	ZN-65	< 7.9	
07-MAR-11	ZR-NB-95	< 2.0	
07-MAR-11	CS-134	< 3.1	
07-MAR-11	CS-137	< 3.9	
07-MAR-11	BA-LA-140	< 2.1	
07-MAR-11	GROSS BETA	2.086 +/- 0.63	
07-MAR-11	I-131 (CHEM)	< 0.388	
04-APR-11	MN-54	< 1.9	
04-APR-11	CO-58	< 1.8	
04-APR-11	FE-59	< 3.6	
04-APR-11	CO-60	< 1.8	
04-APR-11	ZN-65	< 2.7	
04-APR-11	ZR-NB-95	< 2.1	
04-APR-11	CS-134	< 2.7	
04-APR-11	CS-137	< 3.3	
04-APR-11	BA-LA-140	< 2.8	
04-APR-11	GROSS BETA	1.894 +/- 0.363	
04-APR-11	I-131 (CHEM)	< 0.422	
02-MAY-11	MN-54	< 2.9	
02-MAY-11	CO-58	< 2.2	
02-MAY-11	FE-59	< 5.2	
02-MAY-11	CO-60	< 3.4	
02-MAY-11	ZN-65	< 6.0	
02-MAY-11	ZR-NB-95	< 1.5	
02-MAY-11	CS-134	< 3.7	

Exposure Pathway - Waterborne
Drinking Water

Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
02-MAY-11	CS-137	< 3.9	
02-MAY-11	BA-LA-140	< 3.9	
02-MAY-11	GROSS BETA	2.229 +/- 0.876	
02-MAY-11	I-131 (CHEM)	< 0.292	
06-JUN-11	MN-54	< 2.9	
06-JUN-11	CO-58	< 3.2	
06-JUN-11	FE-59	< 3.3	
06-JUN-11	CO-60	< 2.6	
06-JUN-11	ZN-65	< 6.5	
06-JUN-11	ZR-NB-95	< 2.9	
06-JUN-11	CS-134	< 3.6	
06-JUN-11	CS-137	< 4.0	
06-JUN-11	BA-LA-140	< 3.4	
06-JUN-11	GROSS BETA	3.910 +/- 1.044	
06-JUN-11	I-131 (CHEM)	< 0.384	
05-JUL-11	MN-54	< 1.7	
05-JUL-11	CO-58	< 1.8	
05-JUL-11	FE-59	< 4.9	
05-JUL-11	CO-60	< 2.4	
05-JUL-11	ZN-65	< 2.9	
05-JUL-11	ZR-NB-95	< 2.2	
05-JUL-11	CS-134	< 3.1	
05-JUL-11	CS-137	< 2.5	
05-JUL-11	BA-LA-140	< 2.9	
05-JUL-11	GROSS BETA	1.992 +/- 0.629	
05-JUL-11	I-131 (CHEM)	< 0.483	
01-AUG-11	MN-54	< 2.1	
01-AUG-11	CO-58	< 1.9	
01-AUG-11	FE-59	< 4.6	
01-AUG-11	CO-60	< 1.6	
01-AUG-11	ZN-65	< 2.4	
01-AUG-11	ZR-NB-95	< 2.7	
01-AUG-11	CS-134	< 2.7	
01-AUG-11	CS-137	< 2.7	
01-AUG-11	BA-LA-140	< 2.9	
01-AUG-11	GROSS BETA	2.587 +/- 0.702	
01-AUG-11	I-131 (CHEM)	< 0.397	
06-SEP-11	MN-54	< 2.5	
06-SEP-11	CO-58	< 2.0	
06-SEP-11	FE-59	< 5.9	

Exposure Pathway - Waterborne
Drinking Water

Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
06-SEP-11	CO-60	< 2.0	
06-SEP-11	ZN-65	< 3.9	
06-SEP-11	ZR-NB-95	< 1.5	
06-SEP-11	CS-134	< 3.7	
06-SEP-11	CS-137	< 3.4	
06-SEP-11	BA-LA-140	< 1.4	
06-SEP-11	GROSS BETA	2.838 +/- 0.686	
06-SEP-11	I-131 (CHEM)	< 0.305	
03-OCT-11	MN-54	< 4.4	
03-OCT-11	CO-58	< 2.9	
03-OCT-11	FE-59	< 6.1	
03-OCT-11	CO-60	< 2.1	
03-OCT-11	ZN-65	< 2.5	
03-OCT-11	ZR-NB-95	< 3.5	
03-OCT-11	CS-134	< 3.5	
03-OCT-11	CS-137	< 3.7	
03-OCT-11	BA-LA-140	< 5.0	
03-OCT-11	GROSS BETA	3.055 +/- 0.695	
03-OCT-11	I-131 (CHEM)	< 0.418	
07-NOV-11	MN-54	< 3.3	
07-NOV-11	CO-58	< 1.8	
07-NOV-11	FE-59	< 4.9	
07-NOV-11	CO-60	< 2.0	
07-NOV-11	ZN-65	< 4.2	
07-NOV-11	ZR-NB-95	< 3.4	
07-NOV-11	CS-134	< 2.4	
07-NOV-11	CS-137	< 3.0	
07-NOV-11	BA-LA-140	< 2.8	
07-NOV-11	GROSS BETA	2.299 +/- 1.04	
07-NOV-11	I-131 (CHEM)	< 0.348	
05-DEC-11	MN-54	< 2.6	
05-DEC-11	CO-58	< 2.3	
05-DEC-11	FE-59	< 5.7	
05-DEC-11	CO-60	< 2.3	
05-DEC-11	ZN-65	< 5.8	
05-DEC-11	ZR-NB-95	< 2.5	
05-DEC-11	CS-134	< 2.8	
05-DEC-11	CS-137	< 4.1	
05-DEC-11	BA-LA-140	< 3.5	
05-DEC-11	GROSS BETA	2.827 +/- 0.529	

Exposure Pathway - Waterborne
Drinking Water

Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-DEC-11	I-131 (CHEM)	< 0.422	
03-JAN-12	MN-54	< 5.0	
03-JAN-12	CO-58	< 4.1	
03-JAN-12	FE-59	< 7.2	
03-JAN-12	CO-60	< 3.6	
03-JAN-12	ZN-65	< 4.1	
03-JAN-12	ZR-NB-95	< 4.3	
03-JAN-12	CS-134	< 3.0	
03-JAN-12	CS-137	< 3.7	
03-JAN-12	BA-LA-140	< 4.3	
03-JAN-12	GROSS BETA	2.562 +/- 0.671	
03-JAN-12	I-131 (CHEM)	< 0.347	

Exposure Pathway - Waterborne
Drinking Water
Quarterly Tritium Analysis

Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
04-APR-11	H-3	< 141	
05-JUL-11	H-3	< 148	
03-OCT-11	H-3	< 143	
03-JAN-12	H-3	< 144	

Exposure Pathway - Waterborne
Drinking Water
Quarterly Tritium Analysis

Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
04-APR-11	H-3	< 141	
05-JUL-11	H-3	< 148	
03-OCT-11	H-3	< 143	
03-JAN-12	H-3	< 144	

Exposure Pathway - Waterborne
Shoreline Sediment

Location DC

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
28-JUN-11	K-40	10,597.0 +/- 653.9	
28-JUN-11	MN-54	< 26.6	
28-JUN-11	CO-58	< 23.3	
28-JUN-11	FE-59	< 32.7	
28-JUN-11	CO-60	< 24.9	
28-JUN-11	ZN-65	< 41.6	
28-JUN-11	CS-134	< 22.5	
28-JUN-11	CS-137	144.5 +/- 37.7	
23-NOV-11	K-40	7,581.8 +/- 496.8	
23-NOV-11	MN-54	< 18.9	
23-NOV-11	CO-58	< 19.0	
23-NOV-11	FE-59	< 36.8	
23-NOV-11	CO-60	< 10.0	
23-NOV-11	ZN-65	< 47.3	
23-NOV-11	CS-134	< 17.5	
23-NOV-11	CS-137	< 20.2	

Exposure Pathway - Waterborne
Shoreline Sediment

Location EEA

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
12-APR-11	K-40	10,655.0 +/- 663.3	
12-APR-11	MN-54	< 27.6	
12-APR-11	CO-58	< 22.1	
12-APR-11	FE-59	< 34.8	
12-APR-11	CO-60	< 18.4	
12-APR-11	ZN-65	< 49.0	
12-APR-11	CS-134	< 12.3	
12-APR-11	CS-137	250.5 +/- 33.7	

Exposure Pathway - Waterborne
Shoreline Sediment

Location JRR

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
30-JUN-11	K-40	9,377.3 +/- 973.6	
30-JUN-11	MN-54	< 40.1	
30-JUN-11	CO-58	< 42.3	
30-JUN-11	FE-59	< 82.1	
30-JUN-11	CO-60	< 24.1	
30-JUN-11	ZN-65	< 74.6	
30-JUN-11	CS-134	< 39.4	
30-JUN-11	CS-137	< 30.6	
23-NOV-11	K-40	6,478.7 +/- 402.8	
23-NOV-11	MN-54	< 15.8	
23-NOV-11	CO-58	< 12.5	
23-NOV-11	FE-59	< 19.9	
23-NOV-11	CO-60	< 6.0	
23-NOV-11	ZN-65	< 31.7	
23-NOV-11	CS-134	< 9.2	
23-NOV-11	CS-137	< 12.4	

Exposure Pathway - Ingestion
Fish

Location CCL

Collection Date	Sample Description	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Kg Wet)	Duplicate Analysis
26-JUL-11	CHANNEL CATFISH	K-40	3,538.1 +/- 413.7	
26-JUL-11	CHANNEL CATFISH	MN-54	< 7.8	
26-JUL-11	CHANNEL CATFISH	CO-58	< 8.0	
26-JUL-11	CHANNEL CATFISH	FE-59	< 19.4	
26-JUL-11	CHANNEL CATFISH	CO-60	< 11.3	
26-JUL-11	CHANNEL CATFISH	ZN-65	< 32.5	
26-JUL-11	CHANNEL CATFISH	I-131	< 23.3	
26-JUL-11	CHANNEL CATFISH	CS-134	< 10.6	
26-JUL-11	CHANNEL CATFISH	CS-137	< 7.7	
26-JUL-11	CHANNEL CATFISH	H-3	9,461.0 +/- 262.0	
26-JUL-11	COMMON CARP	K-40	3,215.8 +/- 398.9	
26-JUL-11	COMMON CARP	MN-54	< 8.5	
26-JUL-11	COMMON CARP	CO-58	< 4.3	
26-JUL-11	COMMON CARP	FE-59	< 21.1	
26-JUL-11	COMMON CARP	CO-60	< 10.3	
26-JUL-11	COMMON CARP	ZN-65	< 21.4	
26-JUL-11	COMMON CARP	I-131	< 19.4	
26-JUL-11	COMMON CARP	CS-134	< 8.5	
26-JUL-11	COMMON CARP	CS-137	< 12.6	
26-JUL-11	COMMON CARP	H-3	9,032.0 +/- 255.0	
26-JUL-11	SMALLMOUTH BASS	K-40	3,228.5 +/- 417.1	
26-JUL-11	SMALLMOUTH BASS	MN-54	< 9.2	
26-JUL-11	SMALLMOUTH BASS	CO-58	< 7.6	
26-JUL-11	SMALLMOUTH BASS	FE-59	< 20.4	
26-JUL-11	SMALLMOUTH BASS	CO-60	< 11.4	
26-JUL-11	SMALLMOUTH BASS	ZN-65	< 18.4	
26-JUL-11	SMALLMOUTH BASS	I-131	< 13.1	
26-JUL-11	SMALLMOUTH BASS	CS-134	< 9.1	
26-JUL-11	SMALLMOUTH BASS	CS-137	< 10.0	
26-JUL-11	SMALLMOUTH BASS	H-3	8,149.0 +/- 243.0	
26-JUL-11	WHITE BASS	K-40	3,329.4 +/- 382.3	
26-JUL-11	WHITE BASS	MN-54	< 9.1	
26-JUL-11	WHITE BASS	CO-58	< 11.1	
26-JUL-11	WHITE BASS	FE-59	< 23.9	
26-JUL-11	WHITE BASS	CO-60	< 10.1	
26-JUL-11	WHITE BASS	ZN-65	< 10.6	
26-JUL-11	WHITE BASS	I-131	< 17.4	
26-JUL-11	WHITE BASS	CS-134	< 10.3	
26-JUL-11	WHITE BASS	CS-137	< 14.1	
26-JUL-11	WHITE BASS	H-3	8,807.0 +/- 249.0	
18-OCT-11	BLUE CATFISH	K-40	2,553.2 +/- 468.5	

Location CCL

Collection Date	Sample Description	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Kg Wet)		Duplicate Analysis
18-OCT-11	BLUE CATFISH	MN-54	<	16.6	
18-OCT-11	BLUE CATFISH	CO-58	<	17.9	
18-OCT-11	BLUE CATFISH	FE-59	<	45.1	
18-OCT-11	BLUE CATFISH	CO-60	<	19.7	
18-OCT-11	BLUE CATFISH	ZN-65	<	35.3	
18-OCT-11	BLUE CATFISH	I-131	<	98.5	
18-OCT-11	BLUE CATFISH	CS-134	<	13.7	
18-OCT-11	BLUE CATFISH	CS-137	<	14.7	
18-OCT-11	BLUE CATFISH	H-3	8,021.0 +/-	240.0	
18-OCT-11	CHANNEL CATFISH	K-40	3,268.3 +/-	358.1	Duplicate
18-OCT-11	CHANNEL CATFISH	K-40	3,531.4 +/-	455.5	
18-OCT-11	CHANNEL CATFISH	MN-54	<	17.6	Duplicate
18-OCT-11	CHANNEL CATFISH	MN-54	<	12.5	
18-OCT-11	CHANNEL CATFISH	CO-58	<	18.6	Duplicate
18-OCT-11	CHANNEL CATFISH	CO-58	<	8.2	
18-OCT-11	CHANNEL CATFISH	FE-59	<	40.2	Duplicate
18-OCT-11	CHANNEL CATFISH	FE-59	<	36.8	
18-OCT-11	CHANNEL CATFISH	CO-60	<	14.0	Duplicate
18-OCT-11	CHANNEL CATFISH	CO-60	<	10.4	
18-OCT-11	CHANNEL CATFISH	ZN-65	<	19.0	Duplicate
18-OCT-11	CHANNEL CATFISH	ZN-65	<	14.7	
18-OCT-11	CHANNEL CATFISH	I-131	<	99.3	Duplicate
18-OCT-11	CHANNEL CATFISH	I-131	<	65.9	
18-OCT-11	CHANNEL CATFISH	CS-134	<	12.4	Duplicate
18-OCT-11	CHANNEL CATFISH	CS-134	<	9.6	
18-OCT-11	CHANNEL CATFISH	CS-137	<	14.9	Duplicate
18-OCT-11	CHANNEL CATFISH	CS-137	<	10.5	
18-OCT-11	CHANNEL CATFISH	H-3	8,129.0 +/-	240.0	Duplicate
18-OCT-11	CHANNEL CATFISH	H-3	8,069.0 +/-	239.0	
18-OCT-11	COMMON CARP	K-40	3,117.9 +/-	390.1	
18-OCT-11	COMMON CARP	MN-54	<	16.9	
18-OCT-11	COMMON CARP	CO-58	<	17.5	
18-OCT-11	COMMON CARP	FE-59	<	48.1	
18-OCT-11	COMMON CARP	CO-60	<	12.1	
18-OCT-11	COMMON CARP	ZN-65	<	29.2	
18-OCT-11	COMMON CARP	I-131	<	116.3	
18-OCT-11	COMMON CARP	CS-134	<	13.8	
18-OCT-11	COMMON CARP	CS-137	<	20.5	
18-OCT-11	COMMON CARP	H-3	7,879.0 +/-	235.0	
18-OCT-11	RIVER CARPSUCKER	K-40	1,955.3 +/-	564.4	
18-OCT-11	RIVER CARPSUCKER	MN-54	<	9.7	

Exposure Pathway - Ingestion
Fish

Location CCL

Collection Date	Sample Description	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Kg Wet)		Duplicate Analysis
18-OCT-11	RIVER CARPSUCKER	CO-58	<	16.1	
18-OCT-11	RIVER CARPSUCKER	FE-59	<	37.3	
18-OCT-11	RIVER CARPSUCKER	CO-60	<	7.3	
18-OCT-11	RIVER CARPSUCKER	ZN-65	<	21.6	
18-OCT-11	RIVER CARPSUCKER	I-131	<	125.6	
18-OCT-11	RIVER CARPSUCKER	CS-134	<	11.6	
18-OCT-11	RIVER CARPSUCKER	CS-137	<	11.8	
18-OCT-11	RIVER CARPSUCKER	H-3	7,513.0 +/-	217.0	
18-OCT-11	WALLEYE	K-40	3,385.1 +/-	373.5	
18-OCT-11	WALLEYE	MN-54	<	8.4	
18-OCT-11	WALLEYE	CO-58	<	9.8	
18-OCT-11	WALLEYE	FE-59	<	34.5	
18-OCT-11	WALLEYE	CO-60	<	12.4	
18-OCT-11	WALLEYE	ZN-65	<	29.3	
18-OCT-11	WALLEYE	I-131	<	144.6	
18-OCT-11	WALLEYE	CS-134	<	12.2	
18-OCT-11	WALLEYE	CS-137	<	16.4	
18-OCT-11	WALLEYE	H-3	7,583.0 +/-	230.0	
18-OCT-11	WHITE BASS	K-40	3,294.5 +/-	350.4	
18-OCT-11	WHITE BASS	MN-54	<	11.8	
18-OCT-11	WHITE BASS	CO-58	<	13.5	
18-OCT-11	WHITE BASS	FE-59	<	35.3	
18-OCT-11	WHITE BASS	CO-60	<	9.9	
18-OCT-11	WHITE BASS	ZN-65	<	22.3	
18-OCT-11	WHITE BASS	I-131	<	150.5	
18-OCT-11	WHITE BASS	CS-134	<	12.0	
18-OCT-11	WHITE BASS	CS-137	<	12.9	
18-OCT-11	WHITE BASS	H-3	8,289.0 +/-	238.0	
18-OCT-11	WHITE CRAPPIE	K-40	3,230.1 +/-	342.9	
18-OCT-11	WHITE CRAPPIE	MN-54	<	12.6	
18-OCT-11	WHITE CRAPPIE	CO-58	<	16.6	
18-OCT-11	WHITE CRAPPIE	FE-59	<	32.4	
18-OCT-11	WHITE CRAPPIE	CO-60	<	11.1	
18-OCT-11	WHITE CRAPPIE	ZN-65	<	15.9	
18-OCT-11	WHITE CRAPPIE	I-131	<	125.1	
18-OCT-11	WHITE CRAPPIE	CS-134	<	12.0	
18-OCT-11	WHITE CRAPPIE	CS-137	<	14.1	
18-OCT-11	WHITE CRAPPIE	H-3	7,726.0 +/-	232.0	

Exposure Pathway - Ingestion
Fish

Location JRR

Collection Date	Sample Description	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Kg Wet)		Duplicate Analysis
30-JUN-11	COMMON CARP	K-40	3,310.9 +/-	398.1	
30-JUN-11	COMMON CARP	MN-54	<	8.6	
30-JUN-11	COMMON CARP	CO-58	<	8.3	
30-JUN-11	COMMON CARP	FE-59	<	21.3	
30-JUN-11	COMMON CARP	CO-60	<	10.9	
30-JUN-11	COMMON CARP	ZN-65	<	9.6	
30-JUN-11	COMMON CARP	I-131	<	19.4	
30-JUN-11	COMMON CARP	CS-134	<	6.3	
30-JUN-11	COMMON CARP	CS-137	<	9.6	
30-JUN-11	COMMON CARP	H-3	<	116.0	
30-JUN-11	SMALLMOUTH BUFFALO	K-40	3,454.1 +/-	379.2	
30-JUN-11	SMALLMOUTH BUFFALO	MN-54	<	12.3	
30-JUN-11	SMALLMOUTH BUFFALO	CO-58	<	7.9	
30-JUN-11	SMALLMOUTH BUFFALO	FE-59	<	18.8	
30-JUN-11	SMALLMOUTH BUFFALO	CO-60	<	7.9	
30-JUN-11	SMALLMOUTH BUFFALO	ZN-65	<	23.7	
30-JUN-11	SMALLMOUTH BUFFALO	I-131	<	37.1	
30-JUN-11	SMALLMOUTH BUFFALO	CS-134	<	12.8	
30-JUN-11	SMALLMOUTH BUFFALO	CS-137	<	10.7	
30-JUN-11	SMALLMOUTH BUFFALO	H-3	<	114.0	
30-JUN-11	WHITE CRAPPIE	K-40	3,052.4 +/-	367.5	
30-JUN-11	WHITE CRAPPIE	MN-54	<	11.3	
30-JUN-11	WHITE CRAPPIE	CO-58	<	9.0	
30-JUN-11	WHITE CRAPPIE	FE-59	<	19.3	
30-JUN-11	WHITE CRAPPIE	CO-60	<	8.5	
30-JUN-11	WHITE CRAPPIE	ZN-65	<	16.9	
30-JUN-11	WHITE CRAPPIE	I-131	<	19.4	
30-JUN-11	WHITE CRAPPIE	CS-134	<	10.8	
30-JUN-11	WHITE CRAPPIE	CS-137	<	11.8	
30-JUN-11	WHITE CRAPPIE	H-3	<	116.0	
23-NOV-11	CHANNEL CATFISH	K-40	3,533.6 +/-	333.0	
23-NOV-11	CHANNEL CATFISH	MN-54	<	5.2	
23-NOV-11	CHANNEL CATFISH	CO-58	<	8.7	
23-NOV-11	CHANNEL CATFISH	FE-59	<	11.7	
23-NOV-11	CHANNEL CATFISH	CO-60	<	13.1	
23-NOV-11	CHANNEL CATFISH	ZN-65	<	22.1	
23-NOV-11	CHANNEL CATFISH	I-131	<	24.5	
23-NOV-11	CHANNEL CATFISH	CS-134	<	10.0	
23-NOV-11	CHANNEL CATFISH	CS-137	<	11.7	
23-NOV-11	CHANNEL CATFISH	H-3	<	110.0	
23-NOV-11	COMMON CARP	K-40	3,156.6 +/-	358.0	

Exposure Pathway - Ingestion
Fish

Location JRR

Collection Date	Sample Description	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Kg Wet)	Duplicate Analysis
23-NOV-11	COMMON CARP	MN-54	< 6.5	
23-NOV-11	COMMON CARP	CO-58	< 11.3	
23-NOV-11	COMMON CARP	FE-59	< 23.9	
23-NOV-11	COMMON CARP	CO-60	< 8.3	
23-NOV-11	COMMON CARP	ZN-65	< 28.8	
23-NOV-11	COMMON CARP	I-131	< 23.1	
23-NOV-11	COMMON CARP	CS-134	< 11.5	
23-NOV-11	COMMON CARP	CS-137	< 13.2	
23-NOV-11	COMMON CARP	H-3	< 110.0	
23-NOV-11	SMALLMOUTH BUFFALO	K-40	2,318.5 +/- 375.5	
23-NOV-11	SMALLMOUTH BUFFALO	MN-54	< 8.3	
23-NOV-11	SMALLMOUTH BUFFALO	CO-58	< 16.4	
23-NOV-11	SMALLMOUTH BUFFALO	FE-59	< 29.5	
23-NOV-11	SMALLMOUTH BUFFALO	CO-60	< 14.1	
23-NOV-11	SMALLMOUTH BUFFALO	ZN-65	< 19.5	
23-NOV-11	SMALLMOUTH BUFFALO	I-131	< 31.6	
23-NOV-11	SMALLMOUTH BUFFALO	CS-134	< 16.3	
23-NOV-11	SMALLMOUTH BUFFALO	CS-137	< 11.2	
23-NOV-11	SMALLMOUTH BUFFALO	H-3	< 113.0	

Exposure Pathway - Ingestion
Food/Garden

Location B-1

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)	Duplicate Analysis
28-NOV-11	HORSERADISH LEAVES	BE-7	1,028.1 +/- 285.1	
28-NOV-11	HORSERADISH LEAVES	K-40	9,049.2 +/- 695.0	
28-NOV-11	HORSERADISH LEAVES	MN-54	< 27.4	
28-NOV-11	HORSERADISH LEAVES	CO-58	< 18.9	
28-NOV-11	HORSERADISH LEAVES	FE-59	< 46.3	
28-NOV-11	HORSERADISH LEAVES	CO-60	< 16.1	
28-NOV-11	HORSERADISH LEAVES	ZN-65	< 49.2	
28-NOV-11	HORSERADISH LEAVES	ZR-NB-95	< 25.7	
28-NOV-11	HORSERADISH LEAVES	I-131	< 42.2	
28-NOV-11	HORSERADISH LEAVES	CS-134	< 26.1	
28-NOV-11	HORSERADISH LEAVES	CS-137	< 23.9	

Exposure Pathway - Ingestion
Food/Garden

Location D-2

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)	Duplicate Analysis
25-APR-11	HORSERADISH LEAVES	BE-7	402.2 +/- 144.5	
25-APR-11	HORSERADISH LEAVES	K-40	3,531.7 +/- 410.4	
25-APR-11	HORSERADISH LEAVES	MN-54	< 13.9	
25-APR-11	HORSERADISH LEAVES	CO-58	< 8.2	
25-APR-11	HORSERADISH LEAVES	FE-59	< 23.1	
25-APR-11	HORSERADISH LEAVES	CO-60	< 9.3	
25-APR-11	HORSERADISH LEAVES	ZN-65	< 21.9	
25-APR-11	HORSERADISH LEAVES	ZR-NB-95	< 8.3	
25-APR-11	HORSERADISH LEAVES	I-131	< 19.7	
25-APR-11	HORSERADISH LEAVES	CS-134	< 11.2	
25-APR-11	HORSERADISH LEAVES	CS-137	< 11.5	
25-MAY-11	HORSERADISH LEAVES	BE-7	822.0 +/- 230.2	
25-MAY-11	HORSERADISH LEAVES	K-40	4,303.3 +/- 419.7	
25-MAY-11	HORSERADISH LEAVES	MN-54	< 18.4	
25-MAY-11	HORSERADISH LEAVES	CO-58	< 12.1	
25-MAY-11	HORSERADISH LEAVES	FE-59	< 26.4	
25-MAY-11	HORSERADISH LEAVES	CO-60	< 12.3	
25-MAY-11	HORSERADISH LEAVES	ZN-65	< 33.9	
25-MAY-11	HORSERADISH LEAVES	ZR-NB-95	< 18.2	
25-MAY-11	HORSERADISH LEAVES	I-131	< 26.8	
25-MAY-11	HORSERADISH LEAVES	CS-134	< 16.2	
25-MAY-11	HORSERADISH LEAVES	CS-137	< 12.1	
29-JUN-11	HORSERADISH LEAVES	BE-7	870.0 +/- 188.5	
29-JUN-11	HORSERADISH LEAVES	K-40	5,609.7 +/- 501.8	
29-JUN-11	HORSERADISH LEAVES	MN-54	< 18.0	
29-JUN-11	HORSERADISH LEAVES	CO-58	< 17.9	
29-JUN-11	HORSERADISH LEAVES	FE-59	< 32.2	
29-JUN-11	HORSERADISH LEAVES	CO-60	< 15.4	
29-JUN-11	HORSERADISH LEAVES	ZN-65	< 19.2	
29-JUN-11	HORSERADISH LEAVES	ZR-NB-95	< 10.7	
29-JUN-11	HORSERADISH LEAVES	I-131	< 28.7	
29-JUN-11	HORSERADISH LEAVES	CS-134	< 18.0	
29-JUN-11	HORSERADISH LEAVES	CS-137	< 14.4	
25-JUL-11	HORSERADISH LEAVES	BE-7	992.4 +/- 238.1	
25-JUL-11	HORSERADISH LEAVES	K-40	6,336.9 +/- 537.9	
25-JUL-11	HORSERADISH LEAVES	MN-54	< 15.1	
25-JUL-11	HORSERADISH LEAVES	CO-58	< 14.5	
25-JUL-11	HORSERADISH LEAVES	FE-59	< 22.1	
25-JUL-11	HORSERADISH LEAVES	CO-60	< 16.5	
25-JUL-11	HORSERADISH LEAVES	ZN-65	< 34.1	
25-JUL-11	HORSERADISH LEAVES	ZR-NB-95	< 25.3	

Exposure Pathway - Ingestion
Food/Garden

Location D-2

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)			Duplicate Analysis
25-JUL-11	HORSERADISH LEAVES	I-131		<	19.5	
25-JUL-11	HORSERADISH LEAVES	CS-134		<	16.6	
25-JUL-11	HORSERADISH LEAVES	CS-137		<	15.3	
22-AUG-11	HORSERADISH LEAVES	BE-7	746.2	+/-	176.0	
22-AUG-11	HORSERADISH LEAVES	K-40	6,915.9	+/-	477.9	
22-AUG-11	HORSERADISH LEAVES	MN-54		<	12.2	
22-AUG-11	HORSERADISH LEAVES	CO-58		<	9.0	
22-AUG-11	HORSERADISH LEAVES	FE-59		<	26.3	
22-AUG-11	HORSERADISH LEAVES	CO-60		<	7.9	
22-AUG-11	HORSERADISH LEAVES	ZN-65		<	36.3	
22-AUG-11	HORSERADISH LEAVES	ZR-NB-95		<	16.7	
22-AUG-11	HORSERADISH LEAVES	I-131		<	21.1	
22-AUG-11	HORSERADISH LEAVES	CS-134		<	16.1	
22-AUG-11	HORSERADISH LEAVES	CS-137		<	15.1	
26-SEP-11	HORSERADISH LEAVES	BE-7	1,253.2	+/-	157.7	
26-SEP-11	HORSERADISH LEAVES	K-40	12,023.0	+/-	416.7	
26-SEP-11	HORSERADISH LEAVES	MN-54		<	12.2	
26-SEP-11	HORSERADISH LEAVES	CO-58		<	14.7	
26-SEP-11	HORSERADISH LEAVES	FE-59		<	32.3	
26-SEP-11	HORSERADISH LEAVES	CO-60		<	12.4	
26-SEP-11	HORSERADISH LEAVES	ZN-65		<	33.8	
26-SEP-11	HORSERADISH LEAVES	ZR-NB-95		<	16.9	
26-SEP-11	HORSERADISH LEAVES	I-131		<	33.1	
26-SEP-11	HORSERADISH LEAVES	CS-134		<	8.7	
26-SEP-11	HORSERADISH LEAVES	CS-137		<	11.7	

Exposure Pathway - Ingestion
Food/Garden

Location N-1

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)	Duplicate Analysis
25-APR-11	HORSERADISH LEAVES	BE-7	381.6 +/- 138.5	
25-APR-11	HORSERADISH LEAVES	K-40	2,772.9 +/- 350.9	
25-APR-11	HORSERADISH LEAVES	MN-54	< 11.9	
25-APR-11	HORSERADISH LEAVES	CO-58	< 6.5	
25-APR-11	HORSERADISH LEAVES	FE-59	< 27.0	
25-APR-11	HORSERADISH LEAVES	CO-60	< 10.9	
25-APR-11	HORSERADISH LEAVES	ZN-65	< 16.9	
25-APR-11	HORSERADISH LEAVES	ZR-NB-95	< 3.8	
25-APR-11	HORSERADISH LEAVES	I-131	< 9.3	
25-APR-11	HORSERADISH LEAVES	CS-134	< 7.3	
25-APR-11	HORSERADISH LEAVES	CS-137	< 7.0	
25-MAY-11	HORSERADISH LEAVES	BE-7	747.9 +/- 238.5	
25-MAY-11	HORSERADISH LEAVES	K-40	3,757.3 +/- 454.4	
25-MAY-11	HORSERADISH LEAVES	MN-54	< 14.3	
25-MAY-11	HORSERADISH LEAVES	CO-58	< 12.4	
25-MAY-11	HORSERADISH LEAVES	FE-59	< 28.2	
25-MAY-11	HORSERADISH LEAVES	CO-60	< 12.8	
25-MAY-11	HORSERADISH LEAVES	ZN-65	< 31.8	
25-MAY-11	HORSERADISH LEAVES	ZR-NB-95	< 19.7	
25-MAY-11	HORSERADISH LEAVES	I-131	< 33.0	
25-MAY-11	HORSERADISH LEAVES	CS-134	< 12.5	
25-MAY-11	HORSERADISH LEAVES	CS-137	< 19.0	
29-JUN-11	HORSERADISH LEAVES	BE-7	840.9 +/- 211.9	
29-JUN-11	HORSERADISH LEAVES	K-40	3,271.6 +/- 385.5	
29-JUN-11	HORSERADISH LEAVES	MN-54	< 16.3	
29-JUN-11	HORSERADISH LEAVES	CO-58	< 15.3	
29-JUN-11	HORSERADISH LEAVES	FE-59	< 34.9	
29-JUN-11	HORSERADISH LEAVES	CO-60	< 14.0	
29-JUN-11	HORSERADISH LEAVES	ZN-65	< 25.4	
29-JUN-11	HORSERADISH LEAVES	ZR-NB-95	< 12.8	
29-JUN-11	HORSERADISH LEAVES	I-131	< 18.7	
29-JUN-11	HORSERADISH LEAVES	CS-134	< 12.4	
29-JUN-11	HORSERADISH LEAVES	CS-137	< 18.6	
25-JUL-11	HORSERADISH LEAVES	BE-7	488.3 +/- 163.8	Duplicate
25-JUL-11	HORSERADISH LEAVES	BE-7	543.9 +/- 158.2	
25-JUL-11	HORSERADISH LEAVES	K-40	2,414.0 +/- 350.0	Duplicate
25-JUL-11	HORSERADISH LEAVES	K-40	2,562.2 +/- 319.8	
25-JUL-11	HORSERADISH LEAVES	MN-54	< 16.8	Duplicate
25-JUL-11	HORSERADISH LEAVES	MN-54	< 11.6	
25-JUL-11	HORSERADISH LEAVES	CO-58	< 15.3	Duplicate
25-JUL-11	HORSERADISH LEAVES	CO-58	< 11.8	

Location N-1

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)			Duplicate Analysis
25-JUL-11	HORSERADISH LEAVES	FE-59	<		26.9	Duplicate
25-JUL-11	HORSERADISH LEAVES	FE-59	<		23.7	
25-JUL-11	HORSERADISH LEAVES	CO-60	<		11.0	Duplicate
25-JUL-11	HORSERADISH LEAVES	CO-60	<		10.2	
25-JUL-11	HORSERADISH LEAVES	ZN-65	<		22.8	Duplicate
25-JUL-11	HORSERADISH LEAVES	ZN-65	<		19.0	
25-JUL-11	HORSERADISH LEAVES	ZR-NB-95	<		15.6	Duplicate
25-JUL-11	HORSERADISH LEAVES	ZR-NB-95	<		14.7	
25-JUL-11	HORSERADISH LEAVES	I-131	<		28.2	Duplicate
25-JUL-11	HORSERADISH LEAVES	I-131	<		14.8	
25-JUL-11	HORSERADISH LEAVES	CS-134	<		17.3	Duplicate
25-JUL-11	HORSERADISH LEAVES	CS-134	<		12.1	
25-JUL-11	HORSERADISH LEAVES	CS-137	<		19.6	Duplicate
25-JUL-11	HORSERADISH LEAVES	CS-137	<		14.3	
22-AUG-11	HORSERADISH LEAVES	BE-7	739.1	+/-	168.3	
22-AUG-11	HORSERADISH LEAVES	K-40	3,782.0	+/-	403.2	
22-AUG-11	HORSERADISH LEAVES	MN-54	<		8.3	
22-AUG-11	HORSERADISH LEAVES	CO-58	<		13.5	
22-AUG-11	HORSERADISH LEAVES	FE-59	<		31.8	
22-AUG-11	HORSERADISH LEAVES	CO-60	<		9.3	
22-AUG-11	HORSERADISH LEAVES	ZN-65	<		27.3	
22-AUG-11	HORSERADISH LEAVES	ZR-NB-95	<		13.0	
22-AUG-11	HORSERADISH LEAVES	I-131	<		16.6	
22-AUG-11	HORSERADISH LEAVES	CS-134	<		12.8	
22-AUG-11	HORSERADISH LEAVES	CS-137	<		18.3	
26-SEP-11	HORSERADISH LEAVES	BE-7	1,238.3	+/-	108.9	
26-SEP-11	HORSERADISH LEAVES	K-40	4,349.9	+/-	220.5	
26-SEP-11	HORSERADISH LEAVES	MN-54	<		6.8	
26-SEP-11	HORSERADISH LEAVES	CO-58	<		4.5	
26-SEP-11	HORSERADISH LEAVES	FE-59	<		13.9	
26-SEP-11	HORSERADISH LEAVES	CO-60	<		4.9	
26-SEP-11	HORSERADISH LEAVES	ZN-65	<		20.3	
26-SEP-11	HORSERADISH LEAVES	ZR-NB-95	<		11.9	
26-SEP-11	HORSERADISH LEAVES	I-131	<		26.8	
26-SEP-11	HORSERADISH LEAVES	CS-134	<		7.4	
26-SEP-11	HORSERADISH LEAVES	CS-137	<		8.3	
24-OCT-11	HORSERADISH LEAVES	BE-7	765.7	+/-	196.6	
24-OCT-11	HORSERADISH LEAVES	K-40	4,056.3	+/-	412.6	
24-OCT-11	HORSERADISH LEAVES	MN-54	<		15.0	
24-OCT-11	HORSERADISH LEAVES	CO-58	<		16.1	
24-OCT-11	HORSERADISH LEAVES	FE-59	<		31.7	

Exposure Pathway - Ingestion
Food/Garden

Location N-1

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)		Duplicate Analysis
24-OCT-11	HORSERADISH LEAVES	CO-60	<	10.1	
24-OCT-11	HORSERADISH LEAVES	ZN-65	<	28.3	
24-OCT-11	HORSERADISH LEAVES	ZR-NB-95	<	20.3	
24-OCT-11	HORSERADISH LEAVES	I-131	<	36.6	
24-OCT-11	HORSERADISH LEAVES	CS-134	<	12.5	
24-OCT-11	HORSERADISH LEAVES	CS-137	<	15.7	

Exposure Pathway - Ingestion
Food/Garden

Location Q-6

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)	Duplicate Analysis
29-JUN-11	HORSERADISH LEAVES	BE-7	1,509.6 +/- 230.6	
29-JUN-11	HORSERADISH LEAVES	K-40	4,649.0 +/- 443.8	
29-JUN-11	HORSERADISH LEAVES	MN-54	< 12.8	
29-JUN-11	HORSERADISH LEAVES	CO-58	< 10.7	
29-JUN-11	HORSERADISH LEAVES	FE-59	< 24.0	
29-JUN-11	HORSERADISH LEAVES	CO-60	< 10.0	
29-JUN-11	HORSERADISH LEAVES	ZN-65	< 29.7	
29-JUN-11	HORSERADISH LEAVES	ZR-NB-95	< 19.0	
29-JUN-11	HORSERADISH LEAVES	I-131	< 19.4	
29-JUN-11	HORSERADISH LEAVES	CS-134	< 15.2	
29-JUN-11	HORSERADISH LEAVES	CS-137	< 12.8	
25-JUL-11	SQUASH LEAVES	BE-7	712.8 +/- 222.4	
25-JUL-11	SQUASH LEAVES	K-40	6,477.5 +/- 553.8	
25-JUL-11	SQUASH LEAVES	MN-54	< 13.3	
25-JUL-11	SQUASH LEAVES	CO-58	< 20.3	
25-JUL-11	SQUASH LEAVES	FE-59	< 45.8	
25-JUL-11	SQUASH LEAVES	CO-60	< 19.5	
25-JUL-11	SQUASH LEAVES	ZN-65	< 17.6	
25-JUL-11	SQUASH LEAVES	ZR-NB-95	< 20.0	
25-JUL-11	SQUASH LEAVES	I-131	< 31.1	
25-JUL-11	SQUASH LEAVES	CS-134	< 14.5	
25-JUL-11	SQUASH LEAVES	CS-137	< 17.8	
22-AUG-11	SQUASH LEAVES	BE-7	746.4 +/- 228.4	Duplicate
22-AUG-11	SQUASH LEAVES	BE-7	777.5 +/- 199.8	
22-AUG-11	SQUASH LEAVES	K-40	6,631.1 +/- 571.0	Duplicate
22-AUG-11	SQUASH LEAVES	K-40	6,156.8 +/- 512.6	
22-AUG-11	SQUASH LEAVES	MN-54	< 22.8	Duplicate
22-AUG-11	SQUASH LEAVES	MN-54	< 10.2	
22-AUG-11	SQUASH LEAVES	CO-58	< 20.9	Duplicate
22-AUG-11	SQUASH LEAVES	CO-58	< 13.1	
22-AUG-11	SQUASH LEAVES	FE-59	< 42.9	Duplicate
22-AUG-11	SQUASH LEAVES	FE-59	< 26.4	
22-AUG-11	SQUASH LEAVES	CO-60	< 21.3	Duplicate
22-AUG-11	SQUASH LEAVES	CO-60	< 11.8	
22-AUG-11	SQUASH LEAVES	ZN-65	< 27.7	Duplicate
22-AUG-11	SQUASH LEAVES	ZN-65	< 28.5	
22-AUG-11	SQUASH LEAVES	ZR-NB-95	< 21.2	Duplicate
22-AUG-11	SQUASH LEAVES	ZR-NB-95	< 14.5	
22-AUG-11	SQUASH LEAVES	I-131	< 37.1	Duplicate
22-AUG-11	SQUASH LEAVES	I-131	< 25.1	
22-AUG-11	SQUASH LEAVES	CS-134	< 16.5	Duplicate

Exposure Pathway - Ingestion
Food/Garden

Location Q-6

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)			Duplicate Analysis
22-AUG-11	SQUASH LEAVES	CS-134	<		11.6	
22-AUG-11	SQUASH LEAVES	CS-137	<		23.5	Duplicate
22-AUG-11	SQUASH LEAVES	CS-137	<		11.0	
26-SEP-11	SQUASH LEAVES	BE-7	4,453.3	+/-	260.0	
26-SEP-11	SQUASH LEAVES	K-40	4,610.7	+/-	362.4	
26-SEP-11	SQUASH LEAVES	MN-54	<		9.9	
26-SEP-11	SQUASH LEAVES	CO-58	<		6.0	
26-SEP-11	SQUASH LEAVES	FE-59	<		30.1	
26-SEP-11	SQUASH LEAVES	CO-60	<		12.0	
26-SEP-11	SQUASH LEAVES	ZN-65	<		21.9	
26-SEP-11	SQUASH LEAVES	ZR-NB-95	<		11.8	
26-SEP-11	SQUASH LEAVES	I-131	<		15.6	
26-SEP-11	SQUASH LEAVES	CS-134	<		11.4	
26-SEP-11	SQUASH LEAVES	CS-137	<		12.2	

Exposure Pathway - Ingestion
Feed and Forage

Location NR-D1

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)		Duplicate Analysis
14-OCT-11	IRRIGATED SOYBEANS	BE-7	<	70.1	
14-OCT-11	IRRIGATED SOYBEANS	K-40	15,148.0 +/-	611.2	
14-OCT-11	IRRIGATED SOYBEANS	MN-54	<	7.2	
14-OCT-11	IRRIGATED SOYBEANS	CO-58	<	8.0	
14-OCT-11	IRRIGATED SOYBEANS	FE-59	<	22.9	
14-OCT-11	IRRIGATED SOYBEANS	CO-60	<	11.0	
14-OCT-11	IRRIGATED SOYBEANS	ZN-65	<	28.9	
14-OCT-11	IRRIGATED SOYBEANS	ZR-NB-95	<	10.4	
14-OCT-11	IRRIGATED SOYBEANS	I-131	<	17.4	
14-OCT-11	IRRIGATED SOYBEANS	CS-134	<	7.9	
14-OCT-11	IRRIGATED SOYBEANS	CS-137	<	15.5	

Exposure Pathway - Ingestion
Feed and Forage

Location NR-D2

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)		Duplicate Analysis
05-OCT-11	IRRIGATED SOYBEANS	BE-7	<	129.6	
05-OCT-11	IRRIGATED SOYBEANS	K-40	14,440.0 +/-	634.3	
05-OCT-11	IRRIGATED SOYBEANS	MN-54	<	13.0	
05-OCT-11	IRRIGATED SOYBEANS	CO-58	<	13.4	
05-OCT-11	IRRIGATED SOYBEANS	FE-59	<	34.3	
05-OCT-11	IRRIGATED SOYBEANS	CO-60	<	19.3	
05-OCT-11	IRRIGATED SOYBEANS	ZN-65	<	34.6	
05-OCT-11	IRRIGATED SOYBEANS	ZR-NB-95	<	12.5	
05-OCT-11	IRRIGATED SOYBEANS	I-131	<	29.2	
05-OCT-11	IRRIGATED SOYBEANS	CS-134	<	14.2	
05-OCT-11	IRRIGATED SOYBEANS	CS-137	<	14.3	

Exposure Pathway - Ingestion
Feed and Forage

Location NR-U1

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)		Duplicate Analysis
02-SEP-11	IRRIGATED CORN	BE-7	<	40.2	
02-SEP-11	IRRIGATED CORN	K-40	3,378.6 +/-	162.0	
02-SEP-11	IRRIGATED CORN	MN-54	<	4.3	
02-SEP-11	IRRIGATED CORN	CO-58	<	4.5	
02-SEP-11	IRRIGATED CORN	FE-59	<	7.9	
02-SEP-11	IRRIGATED CORN	CO-60	<	4.4	
02-SEP-11	IRRIGATED CORN	ZN-65	<	9.1	
02-SEP-11	IRRIGATED CORN	ZR-NB-95	<	6.2	
02-SEP-11	IRRIGATED CORN	I-131	<	11.3	
02-SEP-11	IRRIGATED CORN	CS-134	<	4.8	
02-SEP-11	IRRIGATED CORN	CS-137	<	4.0	
01-OCT-11	IRRIGATED SOYBEANS	BE-7	<	85.1	
01-OCT-11	IRRIGATED SOYBEANS	K-40	12,212.0 +/-	488.4	
01-OCT-11	IRRIGATED SOYBEANS	MN-54	<	9.1	
01-OCT-11	IRRIGATED SOYBEANS	CO-58	<	14.3	
01-OCT-11	IRRIGATED SOYBEANS	FE-59	<	23.5	
01-OCT-11	IRRIGATED SOYBEANS	CO-60	<	6.2	
01-OCT-11	IRRIGATED SOYBEANS	ZN-65	<	32.8	
01-OCT-11	IRRIGATED SOYBEANS	ZR-NB-95	<	14.7	
01-OCT-11	IRRIGATED SOYBEANS	I-131	<	31.9	
01-OCT-11	IRRIGATED SOYBEANS	CS-134	<	6.9	
01-OCT-11	IRRIGATED SOYBEANS	CS-137	<	8.5	

Exposure Pathway - Aquatic
Bottom Sediment

Location DC

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
28-JUN-11	K-40	10,099.0 +/- 1,028.0	
28-JUN-11	MN-54	< 45.4	
28-JUN-11	CO-58	< 41.9	
28-JUN-11	FE-59	< 79.2	
28-JUN-11	CO-60	< 52.6	
28-JUN-11	ZN-65	< 98.2	
28-JUN-11	CS-134	< 30.8	
28-JUN-11	CS-137	99.0 +/- 48.2	
28-JUN-11	FE-55	< 14,545.2	
23-NOV-11	K-40	12,271.0 +/- 1,040.0	
23-NOV-11	MN-54	< 40.7	
23-NOV-11	CO-58	< 51.0	
23-NOV-11	FE-59	< 117.1	
23-NOV-11	CO-60	< 32.4	
23-NOV-11	ZN-65	< 78.0	
23-NOV-11	CS-134	< 39.8	
23-NOV-11	CS-137	107.1 +/- 42.1	
23-NOV-11	FE-55	< 16,337.0	

Exposure Pathway - Aquatic
Bottom Sediment

Location EEA

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
12-APR-11	K-40	11,062.0 +/- 622.5	
12-APR-11	MN-54	< 24.3	
12-APR-11	CO-58	< 25.7	
12-APR-11	FE-59	< 52.7	
12-APR-11	CO-60	< 12.7	
12-APR-11	ZN-65	< 42.2	
12-APR-11	CS-134	< 17.7	
12-APR-11	CS-137	66.4 +/- 33.1	

Exposure Pathway - Aquatic
Bottom Sediment

Location ESW 2011-1

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
28-JUN-11	K-40	11,888.0 +/- 1,065.0	
28-JUN-11	MN-54	< 35.9	
28-JUN-11	CO-58	< 48.0	
28-JUN-11	FE-59	< 136.3	
28-JUN-11	CO-60	< 27.8	
28-JUN-11	ZN-65	< 93.8	
28-JUN-11	CS-134	< 45.0	
28-JUN-11	CS-137	67.2 +/- 35.7	
28-JUN-11	FE-55	< 14,684.7	

Exposure Pathway - Aquatic
Bottom Sediment

Location ESW 2011-2

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
07-DEC-11	K-40	10,184.0 +/- 1,128.0	
07-DEC-11	MN-54	< 42.2	
07-DEC-11	CO-58	< 47.3	
07-DEC-11	FE-59	< 92.7	
07-DEC-11	CO-60	< 34.7	
07-DEC-11	ZN-65	< 77.5	
07-DEC-11	CS-134	< 32.1	
07-DEC-11	CS-137	< 38.2	
07-DEC-11	FE-55	< 17,084.1	

Exposure Pathway - Aquatic
Bottom Sediment

Location JRR

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
30-JUN-11	K-40	11,650.0 +/- 1,074.0	
30-JUN-11	MN-54	< 43.6	
30-JUN-11	CO-58	< 56.7	
30-JUN-11	FE-59	< 42.1	
30-JUN-11	CO-60	< 29.3	
30-JUN-11	ZN-65	< 76.2	
30-JUN-11	CS-134	< 41.3	
30-JUN-11	CS-137	< 62.5	
23-NOV-11	K-40	12,002.0 +/- 1,002.0	
23-NOV-11	MN-54	< 54.6	
23-NOV-11	CO-58	< 19.7	
23-NOV-11	FE-59	< 84.6	
23-NOV-11	CO-60	< 12.6	
23-NOV-11	ZN-65	< 96.0	
23-NOV-11	CS-134	< 38.9	
23-NOV-11	CS-137	91.2 +/- 49.4	

Exposure Pathway - Aquatic
Bottom Sediment

Location MUDS

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
22-JUN-11	K-40	9,567.9 +/- 580.1	
22-JUN-11	MN-54	< 26.5	
22-JUN-11	CO-58	< 29.3	
22-JUN-11	FE-59	< 66.3	
22-JUN-11	CO-60	< 19.1	
22-JUN-11	ZN-65	< 52.4	
22-JUN-11	CS-134	< 24.5	
22-JUN-11	CS-137	< 27.0	
06-SEP-11	K-40	9,989.6 +/- 659.4	
06-SEP-11	MN-54	< 28.9	
06-SEP-11	CO-58	< 19.8	
06-SEP-11	FE-59	< 18.9	
06-SEP-11	CO-60	< 11.1	
06-SEP-11	ZN-65	< 41.5	
06-SEP-11	CS-134	< 23.5	
06-SEP-11	CS-137	< 20.7	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2011-1

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
28-JUN-11	K-40	11,598.0 +/- 1,156.0	
28-JUN-11	MN-54	< 46.7	
28-JUN-11	CO-58	< 42.8	
28-JUN-11	FE-59	< 48.6	
28-JUN-11	CO-60	< 27.0	
28-JUN-11	ZN-65	< 83.9	
28-JUN-11	CS-134	< 44.9	
28-JUN-11	CS-137	119.5 +/- 53.5	
28-JUN-11	FE-55	< 14,458.7	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2011-2

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
28-JUN-11	K-40	9,608.0 +/- 868.4	
28-JUN-11	MN-54	< 42.5	
28-JUN-11	CO-58	< 38.2	
28-JUN-11	FE-59	< 53.1	
28-JUN-11	CO-60	< 39.4	
28-JUN-11	ZN-65	< 73.1	
28-JUN-11	CS-134	< 32.1	
28-JUN-11	CS-137	89.6 +/- 47.9	
28-JUN-11	FE-55	< 14,528.1	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2011-3

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
28-JUN-11	K-40	11,466.0 +/- 994.4	
28-JUN-11	MN-54	< 42.3	
28-JUN-11	CO-58	< 37.2	
28-JUN-11	FE-59	< 87.1	
28-JUN-11	CO-60	< 41.1	
28-JUN-11	ZN-65	< 87.6	
28-JUN-11	CS-134	< 28.8	
28-JUN-11	CS-137	< 36.1	
28-JUN-11	FE-55	< 14,398.4	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2011-4

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
28-JUN-11	K-40	10,420.0 +/- 968.6	
28-JUN-11	MN-54	< 47.8	
28-JUN-11	CO-58	< 45.4	
28-JUN-11	FE-59	< 68.2	
28-JUN-11	CO-60	< 38.9	
28-JUN-11	ZN-65	< 99.6	
28-JUN-11	CS-134	< 42.2	
28-JUN-11	CS-137	83.8 +/- 44.8	
28-JUN-11	FE-55	< 14,787.2	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2011-5

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
07-DEC-11	K-40	8,906.0 +/- 845.9	
07-DEC-11	MN-54	< 37.1	
07-DEC-11	CO-58	< 19.0	
07-DEC-11	FE-59	< 36.6	
07-DEC-11	CO-60	< 21.5	
07-DEC-11	ZN-65	< 76.9	
07-DEC-11	CS-134	< 29.3	
07-DEC-11	CS-137	< 36.4	
07-DEC-11	FE-55	< 16,710.3	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2011-6

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
07-DEC-11	K-40	10,735.0 +/- 1,048.0	
07-DEC-11	MN-54	< 41.8	
07-DEC-11	CO-58	< 33.3	
07-DEC-11	FE-59	< 132.9	
07-DEC-11	CO-60	< 29.6	
07-DEC-11	ZN-65	< 70.9	
07-DEC-11	CS-134	< 40.7	
07-DEC-11	CS-137	< 45.6	
07-DEC-11	FE-55	< 16,970.5	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2011-7

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
07-DEC-11	K-40	10,245.0 +/- 1,029.0	
07-DEC-11	MN-54	< 31.8	
07-DEC-11	CO-58	< 49.2	
07-DEC-11	FE-59	< 104.1	
07-DEC-11	CO-60	< 20.4	
07-DEC-11	ZN-65	< 104.2	
07-DEC-11	CS-134	< 37.5	
07-DEC-11	CS-137	< 48.6	
07-DEC-11	FE-55	< 15,818.6	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2011-8

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
07-DEC-11	K-40	10,843.0 +/- 1,017.0	
07-DEC-11	MN-54	< 49.5	
07-DEC-11	CO-58	< 33.2	
07-DEC-11	FE-59	< 110.2	
07-DEC-11	CO-60	< 22.1	
07-DEC-11	ZN-65	< 63.0	
07-DEC-11	CS-134	< 34.3	
07-DEC-11	CS-137	114.5 +/- 57.4	
07-DEC-11	FE-55	< 16,880.1	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS HS-1

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
28-JUN-11	K-40	12,059.0 +/- 1,126.0	
28-JUN-11	MN-54	< 49.9	
28-JUN-11	CO-58	< 35.2	
28-JUN-11	FE-59	< 86.8	
28-JUN-11	CO-60	< 51.5	
28-JUN-11	ZN-65	< 98.2	
28-JUN-11	CS-134	< 47.1	
28-JUN-11	CS-137	109.1 +/- 40.6	
28-JUN-11	FE-55	< 14,258.7	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS HS-2

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
07-DEC-11	K-40	9,261.6 +/- 888.0	
07-DEC-11	MN-54	< 49.0	
07-DEC-11	CO-58	< 59.0	
07-DEC-11	FE-59	< 79.9	
07-DEC-11	CO-60	< 40.4	
07-DEC-11	ZN-65	< 73.5	
07-DEC-11	CS-134	< 35.6	
07-DEC-11	CS-137	113.1 +/- 61.9	
07-DEC-11	FE-55	< 16,923.5	

Exposure Pathway - Aquatic Vegetation

Location DC-ALT

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)		Duplicate Sample
27-JUL-11	AMERICAN LOTUS	BE-7	309.3 +/-	127.1	
27-JUL-11	AMERICAN LOTUS	K-40	3,629.9 +/-	310.3	
27-JUL-11	AMERICAN LOTUS	MN-54	<	10.3	
27-JUL-11	AMERICAN LOTUS	CO-58	<	9.3	
27-JUL-11	AMERICAN LOTUS	FE-59	<	21.3	
27-JUL-11	AMERICAN LOTUS	CO-60	<	11.8	
27-JUL-11	AMERICAN LOTUS	ZN-65	<	23.2	
27-JUL-11	AMERICAN LOTUS	ZR-NB-95	<	11.3	
27-JUL-11	AMERICAN LOTUS	I-131	<	18.4	
27-JUL-11	AMERICAN LOTUS	CS-134	<	8.4	
27-JUL-11	AMERICAN LOTUS	CS-137	<	9.9	

Exposure Pathway - Aquatic Vegetation

Location MUDS

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)	Duplicate Sample
22-JUN-11	ALGAE	BE-7	3,207.8 +/- 241.2	
22-JUN-11	ALGAE	K-40	2,611.7 +/- 328.9	
22-JUN-11	ALGAE	MN-54	< 10.5	
22-JUN-11	ALGAE	CO-58	< 6.1	
22-JUN-11	ALGAE	FE-59	< 16.2	
22-JUN-11	ALGAE	CO-60	< 11.1	
22-JUN-11	ALGAE	ZN-65	< 25.4	
22-JUN-11	ALGAE	ZR-NB-95	< 12.7	
22-JUN-11	ALGAE	I-131	< 24.6	
22-JUN-11	ALGAE	CS-134	< 13.4	
22-JUN-11	ALGAE	CS-137	< 16.4	
06-SEP-11	PONDWEED	BE-7	288.7 +/- 132.1	
06-SEP-11	PONDWEED	K-40	2,637.7 +/- 316.1	
06-SEP-11	PONDWEED	MN-54	< 11.6	
06-SEP-11	PONDWEED	CO-58	< 8.2	
06-SEP-11	PONDWEED	FE-59	< 20.4	
06-SEP-11	PONDWEED	CO-60	< 8.4	
06-SEP-11	PONDWEED	ZN-65	< 12.2	
06-SEP-11	PONDWEED	ZR-NB-95	< 12.0	
06-SEP-11	PONDWEED	I-131	< 19.1	
06-SEP-11	PONDWEED	CS-134	< 13.5	
06-SEP-11	PONDWEED	CS-137	< 13.4	

Exposure Pathway - Terrestrial Vegetation

Location MUDS

Collection Date	Sample Description	Nuclide	Gamma Spectrum Concentration (pCi/Kg Wet)	Duplicate Analysis
22-JUN-11	GRASS	BE-7	4,971.5 +/- 426.5	
22-JUN-11	GRASS	K-40	4,160.7 +/- 478.1	
22-JUN-11	GRASS	MN-54	< 20.5	
22-JUN-11	GRASS	CO-58	< 9.9	
22-JUN-11	GRASS	FE-59	< 31.9	
22-JUN-11	GRASS	CO-60	< 10.3	
22-JUN-11	GRASS	ZN-65	< 33.6	
22-JUN-11	GRASS	ZR-NB-95	< 22.1	
22-JUN-11	GRASS	I-131	< 40.4	
22-JUN-11	GRASS	CS-134	< 18.2	
22-JUN-11	GRASS	CS-137	< 21.6	
06-SEP-11	GRASS	BE-7	2,558.7 +/- 309.3	
06-SEP-11	GRASS	K-40	3,310.2 +/- 480.8	
06-SEP-11	GRASS	MN-54	< 18.9	
06-SEP-11	GRASS	CO-58	< 13.9	
06-SEP-11	GRASS	FE-59	< 38.7	
06-SEP-11	GRASS	CO-60	< 12.9	
06-SEP-11	GRASS	ZN-65	< 20.1	
06-SEP-11	GRASS	ZR-NB-95	< 23.1	
06-SEP-11	GRASS	I-131	< 41.1	
06-SEP-11	GRASS	CS-134	< 20.0	
06-SEP-11	GRASS	CS-137	< 27.4	

Exposure Pathway - Terrestrial
Soil

Location MUDS

Collection Date	Nuclide	Gamma Spectrum Concentration (pCi/Kg Dry)	Duplicate Analysis
07-JUN-11	K-40	10,054.0 +/- 609.3	
07-JUN-11	MN-54	< 27.3	
07-JUN-11	CO-58	< 25.2	
07-JUN-11	FE-59	< 90.0	
07-JUN-11	CO-60	< 23.4	
07-JUN-11	ZN-65	< 51.4	
07-JUN-11	CS-134	< 17.4	
07-JUN-11	CS-137	112.3 +/- 21.7	

Exposure Pathway - Ingestion
Meat

Location C.36

Collection Date	Sample Description	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Kg Wet)	Duplicate Analysis
29-JUN-11	DEER	K-40	3,124.4 +/- 360.6	
29-JUN-11	DEER	MN-54	< 7.2	
29-JUN-11	DEER	CO-58	< 9.8	
29-JUN-11	DEER	FE-59	< 22.1	
29-JUN-11	DEER	CO-60	< 8.0	
29-JUN-11	DEER	ZN-65	< 11.7	
29-JUN-11	DEER	CS-134	< 10.0	
29-JUN-11	DEER	CS-137	< 8.4	
29-JUN-11	DEER	H-3	126.0 +/- 63.0	

Exposure Pathway - Ingestion
Meat

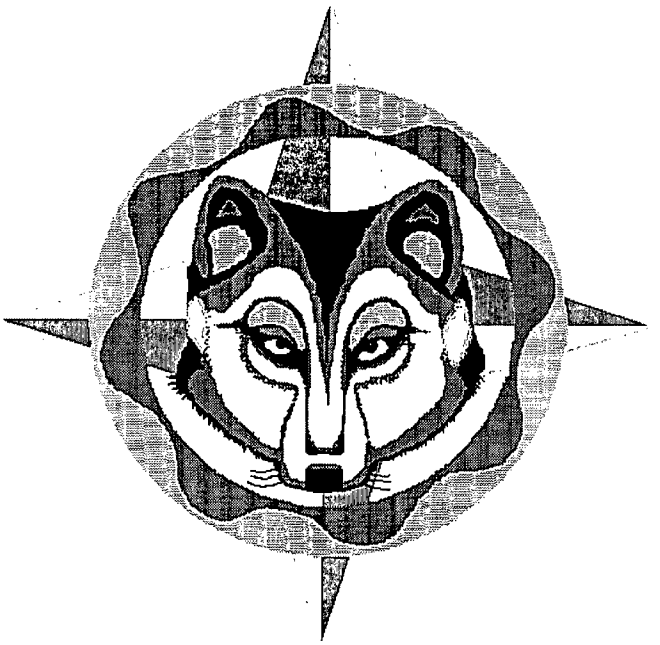
Location Q1.4

Collection Date	Sample Description	Nuclide	Gamma Spectrum & H-3 Concentration (pCi/Kg Wet)	Duplicate Analysis
02-OCT-11	DEER	K-40	2,756.1 +/- 379.9	
02-OCT-11	DEER	MN-54	< 10.4	
02-OCT-11	DEER	CO-58	< 5.8	
02-OCT-11	DEER	FE-59	< 24.9	
02-OCT-11	DEER	CO-60	< 8.7	
02-OCT-11	DEER	ZN-65	< 20.0	
02-OCT-11	DEER	CS-134	< 11.7	
02-OCT-11	DEER	CS-137	< 11.2	
02-OCT-11	DEER	H-3	1,529.0 +/- 102.0	ReCount
02-OCT-11	DEER	H-3	1,370.0 +/- 104.0	

WOLF CREEK GENERATING STATION

2011 LAND USE CENSUS REPORT

Revision 1



Prepared by:	Teresa L. Rice	3/13/12
	Teresa L. Rice	Date
Peer Review:	Dan Haines	3/20/12
	Dan E. Haines	Date
Approved by:	Robert Hammond	3/21/12
	Robert A. Hammond	Date

EXECUTIVE SUMMARY

The 2011 Land Use Census Report has been revised to re-calculate the D/Qs for the broadleaf vegetation locations. The rental property located at R2.08-NALN1650 is now vacant. The D/Qs have been re-calculated, omitting the R2.08-NALN1650 location.

The annual Land Use Census of rural residents within five miles of the Wolf Creek Generating Station (WCGS) has been completed for 2011 in accordance with AP 07B-004, [Offsite Dose Calculation Manual (Radiological Environmental Monitoring Program)].

No program changes are necessary regarding milk locations. Again, no milk sampling locations were identified.

The two broadleaf vegetation locations with the highest calculated annual average D/Q rankings are Q2.35-MILA1619 and N2.38-RODR9. The landowners of these gardens have agreed to participate in the 2012 sample program.

BACKGROUND

Section 5.2, Attachment A, of the ODCM procedure (AP 07B-004), directs that "a Land Use Census shall be conducted annually during the growing season to identify the nearest (1) milk animal, (2) residence, and (3) garden of greater than 500 square feet producing broadleaf vegetation in each of the 16 meteorological sections within five miles of the WCGS site" and "the results of the Land Use Census shall be included in the Annual Radiological Environmental Operating Report."

Table 5-1, Attachment A, of the ODCM (AP 07B-004) requires that broadleaf vegetation samples be collected from "two indicator locations (using the criteria from the "Land Use Census" section) with highest calculated annual average D/Q."

Table 5-1, Attachment A, of the ODCM (AP 07B-004) also requires that milk samples be collected from "three indicator locations within 5 miles of the site having the highest dose potential."

METHODOLOGY

Over two hundred surveys were mailed to the rural residents living within five miles of WCGS. A follow-up survey was sent to residents who did not respond. The survey excluded the residents of New Strawn, Burlington, and a trailer park north of Burlington. These locations were excluded due to the large number of households and the low likelihood that information gained from these residences would affect the locations chosen for REMP sampling. Drive-by information was collected for the nearest residences that did not return surveys.

The information collected was compiled and the results are identified in Tables 1-3. Calculations were performed so that garden locations could be ranked by their respective D/Q. These results are contained in Table 4.

RESULTS

NOTE: A Global Positioning System was used to verify residence distances and sectors.

Three changes were noted for the nearest occupied residences in each sector. Those changes were in sectors E, F, and N.

Seven location changes were noted for the nearest garden producing broadleaf vegetation. These changes are identified in Table 3.

There were no changes regarding milk sample locations. Again, no locations were identified that routinely milked animals for human consumption.

TABLE 1

2011 Land Use Census Data

Location of Nearest:

Sector	Residence	Milking Animals	Broadleaf Garden
A	A2.60-17TE1520	None	A4.91-OXRD1940
B	B3.53-QURD1755	None	None
C	C1.92-16RD1655	None	C4.63-RERD1825
D	D2.03-QULA1571	None	D2.41-RERD1541
E	E1.78-QULA1451	None	None
F	F1.84-QULA1419	None	F2.39-14RD1802
G	G3.03-13RD1820	None	G3.77-12RD1831
H	H3.09-12RD1711	None	H3.30-QURD1175
J	J3.70-11RD1540	None	J4.00-PLRD1080
K	K2.70-12LA1439	None	K4.10-NARD1120
L	L2.10-NARD1339	None	None
M	M2.34-14RD1330	None	M3.10-13LA1290
N	N2.08-15RD1350	None	N2.38-RODR9
P	P2.76-HW751534	None	P2.76-HW751534
Q	Q2.35-MILA1619	None	Q2.35-MILA1619
R	R2.08-NALN1650	None	None

Identifiers are based upon the following protocol:

EXAMPLE: A1.4-16RD1525

"A" = Sector A

"1.4" = 1.4 miles from the reactor

"16RD1525" = address

TABLE 2

SECTOR	2010 NEAREST RESIDENCE	2011 NEAREST RESIDENCE
A	A2.60-17TE1520	A2.60-17TE1520
B	B3.53-QURD1755	B3.53-QURD1755
C	C1.92-16RD1655	C1.92-16RD1655
D	D2.03-QULA1571	D2.03-QULA1571
E	E1.77-QULA1485	E1.78-QULA1451
F	F2.28-14RD1785	F1.84-QULA1419
G	G3.03-13RD1820	G3.03-13RD1820
H	H3.09-12RD1711	H3.09-12RD1711
J	J3.70-11RD1540	J3.70-11RD1540
K	K2.70-12LA1439	K2.70-12LA1439
L	L2.10-NARD1339	L2.10-NARD1339
M	M2.34-14RD1330	M2.34-14RD1330
N	N1.71-NARD1441	N2.08-15RD1350
P	P2.76-HW751534	P2.76-HW751534
Q	Q2.35-MILA1619	Q2.35-MILA1619
R	R4.43-NARD1891	R4.43-NARD1891

NOTE: Entries underlined indicate changes from the 2010 Land Use Census.

Locations are identified based upon the following protocol:
EXAMPLE: A1.4-16RD1525

First letter is based upon sector, thus "A" designates this residence is in sector A.

The number immediately following the first letter designates the distance (in miles) from the reactor.

The characters following the dash represent a unique identifier based upon location address.

The example is in sector A, 1.4 miles from the reactor, at 1525 16th Road.

TABLE 3

2011 Land Use Census Milk and Garden Data

SECTOR	2010 MILKING ANIMALS	2011 MILKING ANIMALS	2010 CLOSEST GARDEN PRODUCING BROADLEAF VEGETATION	2011 CLOSEST GARDEN PRODUCING BROADLEAF VEGETATION
A	None	None	None	A4.91-OXRD1940
B	None	None	None	None
C	None	None	C4.89-18RD1859	C4.63-RERD1825
D	None	None	D3.00-16RD1829	D2.41-RERD1541
E	None	None	None	None
F	None	None	F2.44-RERD1391	F2.39-14RD1802
G	None	None	G3.77-12RD1831	G3.77-12RD1831
H	None	None	H3.30-QURD1175	H3.30-QURD1175
J	None	None	J3.90-11RD1531	J4.00-PLRD1080
K	None	None	None	K4.10-NARD1120
L	None	None	L2.39-NARD1309	None
M	None	None	M3.10-13LA1290	M3.10-13LA1290
N	None	None	N2.38-RODR9	N2.38-RODR9
P	None	None	P2.76-HW751534	P2.76-HW751534
Q	None	None	Q2.35-MILA1619	Q2.35-MILA1619
R	None	None	None	None

NOTE: Underlined entries indicate changes from the 2010 Land Use Census.

Locations are identified based upon the following protocol:
EXAMPLE: A1.4-16RD1525

First letter is based upon sector, thus "A" designates this residence is in sector A.

The number immediately following the first letter designates the distance (in miles) from the reactor.

The characters following the dash represent a unique identifier based upon location address.

The example is in sector A, 1.4 miles from the reactor, at 1525 16th Road.

2011 Land Use Census Report, Revision 1

TABLE 4

Information Used for D/Q Calculations

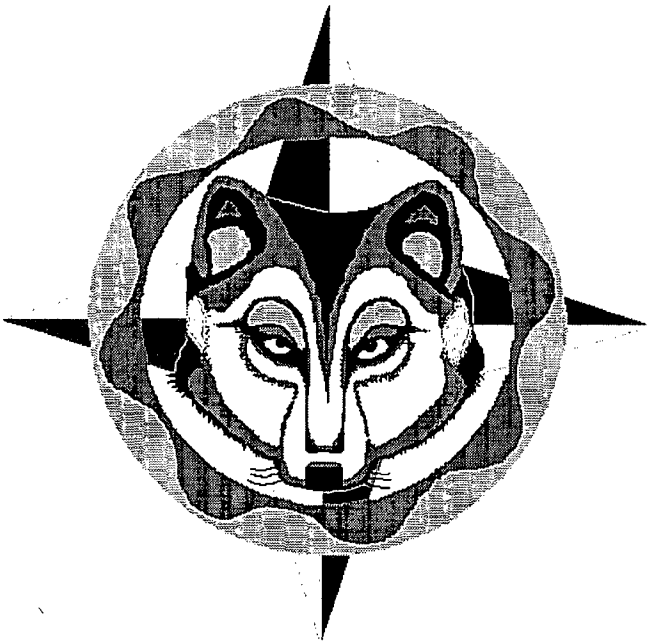
FROM LAND USE CENSUS			FROM SA-10-004 Eval.					
	DIST	CALC	NEAR	NEAR	FAR	FAR		SECTOR
SECTOR	(MI)	(METERS)	DIST	D / Q	DIST	D / Q	CALC	RANKING
A	4.91	7902	7000	6.53E-10	8000	5.27E-10	5.39E-10	5
B								
C	4.63	7451	7000	1.66E-10	8000	1.34E-10	1.52E-10	12
D	2.41	3879	3000	4.46E-10	4000	2.67E-10	2.89E-10	11
E								
F	2.39	3846	3000	7.22E-10	4000	4.33E-10	4.78E-10	6
G	3.77	6067	6000	3.57E-10	7000	2.65E-10	3.51E-10	9
H	3.30	5311	5000	7.01E-10	6000	5.16E-10	6.43E-10	3
J	4.00	6437	6000	4.33E-10	7000	3.22E-10	3.84E-10	8
K	4.10	6598	6000	3.82E-10	7000	2.84E-10	3.23E-10	10
L								
M	3.10	4989	4000	5.73E-10	5000	3.90E-10	3.92E-10	7
N	2.38	3830	3000	1.25E-09	4000	7.51E-10	8.36E-10	2
P	2.76	4442	4000	6.88E-10	5000	4.68E-10	5.91E-10	4
Q	2.35	3782	3000	1.53E-09	4000	9.17E-10	1.05E-09	1
R								

Originated by: Teresa L. Rice Date: 3/13/12

Verified by: Dan Haines Date: 3/20/12

WOLF CREEK GENERATING STATION

2011 LAND USE CENSUS REPORT



Prepared by:	Teresa L. Rice	11/3/11
	Teresa L. Rice	Date
Peer Review:	Dan Haines	11/3/11
	Dan E. Haines	Date
Approved by:	Robert Hammond	11/3/11
	Robert A. Hammond	Date

EXECUTIVE SUMMARY

The annual Land Use Census of rural residents within five miles of the Wolf Creek Generating Station (WCGS) has been completed for 2011 in accordance with AP 07B-004, [Offsite Dose Calculation Manual (Radiological Environmental Monitoring Program)].

No program changes are necessary regarding milk locations. Again, no milk sampling locations were identified.

Changes may be necessary for the Radiological Environmental Monitoring Program (REMP) broadleaf vegetation sample locations for 2012. The two broadleaf vegetation locations with the highest calculated annual average D/Q rankings are R2.08-NALN1650 and Q2.35-MILA1619. AP 07B-004 specifies that an "alternate location may be used to provide continued monitoring". The third-ranked garden is N2.38-RODR9. Prior to the 2012 growing season the residents should be contacted and based upon their cooperation, the program should be changed accordingly.

BACKGROUND

Section 5.2, Attachment A, of the ODCM procedure (AP 07B-004), directs that "a Land Use Census shall be conducted annually during the growing season to identify the nearest (1) milk animal, (2) residence, and (3) garden of greater than 500 square feet producing broadleaf vegetation in each of the 16 meteorological sections within five miles of the WCGS site" and "the results of the Land Use Census shall be included in the Annual Radiological Environmental Operating Report."

Table 5-1, Attachment A, of the ODCM (AP 07B-004) requires that broadleaf vegetation samples be collected from "two indicator locations (using the criteria from the "Land Use Census" section) with highest calculated annual average D/Q."

Table 5-1, Attachment A, of the ODCM (AP 07B-004) also requires that milk samples be collected from "three indicator locations within 5 miles of the site having the highest dose potential."

METHODOLOGY

Over two hundred surveys were mailed to the rural residents living within five miles of WCGS. A follow-up survey was sent to residents who did not respond. The survey excluded the residents of New Strawn, Burlington, and a trailer park north of Burlington. These locations were excluded due to the large number of households and the low likelihood that information gained from these residences would affect the locations chosen for REMP sampling. Drive-by information was collected for the nearest residences that did not return surveys.

The information collected was compiled and the results are identified in Tables 1-3. Calculations were performed so that garden locations could be ranked by their respective D/Q. These results are contained in Table 4.

RESULTS

NOTE: A Global Positioning System was used to verify residence distances and sectors.

Four changes were noted for the nearest occupied residences in each sector. Those changes were in sectors E, F, N, and R.

Seven location changes were noted for the nearest garden producing broadleaf vegetation. These changes are identified in Table 3.

There were no changes regarding milk sample locations. Again, no locations were identified that routinely milked animals for human consumption.

TABLE 1

2011 Land Use Census Data

Location of Nearest:

Sector	Residence	Milking Animals	Broadleaf Garden
A	A2.60-17TE1520	None	A4.91-OXRD1940
B	B3.53-QURD1755	None	None
C	C1.92-16RD1655	None	C4.63-RERD1825
D	D2.03-QULA1571	None	D2.41-RERD1541
E	E1.78-QULA1451	None	None
F	F1.84-QULA1419	None	F2.39-14RD1802
G	G3.03-13RD1820	None	G3.77-12RD1831
H	H3.09-12RD1711	None	H3.30-QURD1175
J	J3.70-11RD1540	None	J4.00-PLRD1080
K	K2.70-12LA1439	None	K4.10-NARD1120
L	L2.10-NARD1339	None	None
M	M2.34-14RD1330	None	M3.10-13LA1290
N	N2.08-15RD1350	None	N2.38-RODR9
P	P2.76-HW751534	None	P2.76-HW751534
Q	Q2.35-MILA1619	None	Q2.35-MILA1619
R	R2.08-NALN1650	None	R2.08-NALN1650

Identifiers are based upon the following protocol:

EXAMPLE: A1.4-16RD1525

"A" = Sector A

"1.4" = 1.4 miles from the reactor

"16RD1525" = address

TABLE 2

SECTOR	2010 NEAREST RESIDENCE	2011 NEAREST RESIDENCE
A	A2.60-17TE1520	A2.60-17TE1520
B	B3.53-QURD1755	B3.53-QURD1755
C	C1.92-16RD1655	C1.92-16RD1655
D	D2.03-QULA1571	D2.03-QULA1571
E	E1.77-QULA1485	E1.78-QULA1451
F	F2.28-14RD1785	F1.84-QULA1419
G	G3.03-13RD1820	G3.03-13RD1820
H	H3.09-12RD1711	H3.09-12RD1711
J	J3.70-11RD1540	J3.70-11RD1540
K	K2.70-12LA1439	K2.70-12LA1439
L	L2.10-NARD1339	L2.10-NARD1339
M	M2.34-14RD1330	M2.34-14RD1330
N	N1.71-NARD1441	N2.08-15RD1350
P	P2.76-HW751534	P2.76-HW751534
Q	Q2.35-MILA1619	Q2.35-MILA1619
R	R4.43-NARD1891	R2.08-NALN1650

NOTE: Entries underlined indicate changes from the 2010 Land Use Census.

Locations are identified based upon the following protocol:
EXAMPLE: A1.4-16RD1525

First letter is based upon sector, thus "A" designates this residence is in sector A.

The number immediately following the first letter designates the distance (in miles) from the reactor.

The characters following the dash represent a unique identifier based upon location address.

The example is in sector A, 1.4 miles from the reactor, at 1525 16th Road.

TABLE 3

2011 Land Use Census Milk and Garden Data

SECTOR	2010 MILKING ANIMALS	2011 MILKING ANIMALS	2010 CLOSEST GARDEN PRODUCING BROADLEAF VEGETATION	2011 CLOSEST GARDEN PRODUCING BROADLEAF VEGETATION
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B	None	None	None	None
C	None	None	C4.89-18RD1859	C4.63-RERD1825
D	None	None	D3.00-16RD1829	D2.41-RERD1541
E	None	None	None	None
F	None	None	F2.44-RERD1391	F2.39-14RD1802
G	None	None	G3.77-12RD1831	G3.77-12RD1831
H	None	None	H3.30-QURD1175	H3.30-QURD1175
J	None	None	J3.90-11RD1531	J4.00-PLRD1080
K	None	None	None	K4.10-NARD1120
L	None	None	L2.39-NARD1309	None
M	None	None	M3.10-13LA1290	M3.10-13LA1290
N	None	None	N2.38-RODR9	N2.38-RODR9
P	None	None	P2.76-HW751534	P2.76-HW751534
Q	None	None	Q2.35-MILA1619	Q2.35-MILA1619
R	None	None	None	R2.08-NALN1650

NOTE: Underlined entries indicate changes from the 2010 Land Use Census.

Locations are identified based upon the following protocol:
EXAMPLE: A1.4-16RD1525

First letter is based upon sector, thus "A" designates this residence is in sector A.

The number immediately following the first letter designates the distance (in miles) from the reactor.

The characters following the dash represent a unique identifier based upon location address.

The example is in sector A, 1.4 miles from the reactor, at 1525 16th Road.

TABLE 4

Information Used for D/Q Calculations

FROM LAND USE CENSUS			FROM SA-10-004 Eval.					
	DIST	CALC	NEAR	NEAR	FAR	FAR		SECTOR
SECTOR	(MI)	(METERS)	DIST	D / Q	DIST	D / Q	CALC	RANKING
A	4.91	7902	7000	6.53E-10	8000	5.27E-10	5.39E-10	6
B								
C	4.63	7451	7000	1.66E-10	8000	1.34E-10	1.52E-10	13
D	2.41	3879	3000	4.46E-10	4000	2.67E-10	2.89E-10	12
E								
F	2.39	3846	3000	7.22E-10	4000	4.33E-10	4.78E-10	7
G	3.77	6067	6000	3.57E-10	7000	2.65E-10	3.51E-10	10
H	3.30	5311	5000	7.01E-10	6000	5.16E-10	6.43E-10	4
J	4.00	6437	6000	4.33E-10	7000	3.22E-10	3.84E-10	9
K	4.10	6598	6000	3.82E-10	7000	2.84E-10	3.23E-10	11
L								
M	3.10	4989	4000	5.73E-10	5000	3.90E-10	3.92E-10	8
N	2.38	3830	3000	1.25E-09	4000	7.51E-10	8.36E-10	3
P	2.76	4442	4000	6.88E-10	5000	4.68E-10	5.91E-10	5
Q	2.35	3782	3000	1.53E-09	4000	9.17E-10	1.05E-09	2
R	2.08	3347	3000	2.61E-09	4000	1.57E-09	2.25E-09	1

Originated by: Teresa L. Rice Date: 11/03/11

Verified by: Dan Haines Date: 11/3/11

Enclosure to Letter RA 12-0053

Corrected pages from 2009 and 2010 reports (3 pages)

A. Airborne Pathway

Low volume air sampling pumps with digital flow meters continuously collected particulate and radioiodine samples on 47 mm glass fiber filters and charcoal canisters, respectively. The filters and charcoal canisters were changed out weekly, labeled, and shipped to Environmental, Inc. for analyses.

Gross beta analyses of the air particulate filters were performed after a nominal 72-hour period to allow the radon and thoron daughter products to decay.

Weekly air particulate filters were combined into quarterly composites for each location and analyzed for gamma emitting isotopes.

Charcoal canisters were routinely counted to determine the presence or absence of I-131. Positive indication of I-131 would have resulted in analysis of each individual charcoal canister.

Air samples were collected from six locations. Indicator locations 2, 37 and 18 are located in the three sectors with the highest ground level deposition constants (D/Q). Air sampling stations are also located in the community of New Strawn (indicator location 32) and a control location near the intersection of 20th Road and Yearling Road (location 53). Supplemental indicator location (location 49) was also sampled during the year. Indicator locations are shown in Figure 1 and the control location is shown in Figure 5.

B. Direct Radiation Pathway

Optically stimulated luminescence (OSL) dosimeters were used at 44 locations during the sample year to measure direct radiation. The OSLs were typically positioned roughly 3 to 4 feet above the ground in plastic thermostat boxes. Two OSLs were placed at each designated location. The OSLs were changed out quarterly. Transit dose was measured and subtracted from the ambient dose. Indicator OSL sample locations are illustrated in Figure 2 and control locations are shown in Figure 5. Control locations were 39 (Beto Junction), 48 (Harris) and 53 (near the intersection of 20th Road and Yearling Road).

C. Waterborne Pathway

All water samples were analyzed to determine whether gamma emitters were present. In addition to gamma isotopic analysis, radiochemical analysis for I-131 was performed on drinking water and ground water samples. Gross beta analysis was also performed on drinking water samples. Tritium analysis was performed monthly by liquid scintillation for surface water and quarterly for drinking water. Tritium analysis was also performed on ground water samples. Water sampling locations are shown in Figures 3 and 5.

Monthly grab samples of surface water were collected from John Redmond Reservoir (JRR) as a control location and from the "SP" location, which is located near the spillway of Coffey County Lake, formerly known as Wolf Creek Lake, as an indicator location.

Quarterly grab samples of ground water were collected from seven wells. Location B-12 is hydrologically up gradient from the site and was used as a control location. Six locations (C-10, C-49, F-1, G-2, J-1 and J-2) are hydrologically down gradient from the site and were used as indicator sample locations.

A. Airborne Pathway

Low volume air sampling pumps with digital flow meters continuously collected particulate and radioiodine samples on 47 mm glass fiber filters and charcoal canisters, respectively. The filters and charcoal canisters were changed out weekly, labeled, and shipped to Environmental, Inc. for analyses.

Gross beta analyses of the air particulate filters were performed after a nominal 72-hour period to allow the radon and thoron daughter products to decay.

Weekly air particulate filters were combined into quarterly composites for each location and analyzed for gamma emitting isotopes.

Charcoal canisters were routinely counted to determine the presence or absence of I-131. Positive indication of I-131 would have resulted in analysis of each individual charcoal canister.

Air samples were collected from six locations. Indicator locations 2, 37, and 18 are located in the three sectors with the highest ground level deposition constants (D/Q). Air sampling stations are also located in the community of New Strawn (indicator location 32) and a control location near the intersection of 20th Road and Yearling Road (location 53). Supplemental indicator location (location 49) was also sampled during the year. Indicator locations are shown in Figure 1 and the control location is shown in Figure 5.

B. Direct Radiation Pathway

Optically stimulated luminescence (OSL) dosimeters were used at 44 locations during the sample year to measure direct radiation. The OSLs were typically positioned roughly 3 to 4 feet above the ground in plastic thermostat boxes. Two OSLs were placed at each designated location. The OSLs were changed out quarterly. Transit dose was measured and subtracted from the ambient dose. Indicator OSL sample locations are illustrated in Figure 2 and control locations are shown in Figure 5. Control locations were 39 (Beto Junction), 48 (Harris) and 53 (near the intersection of 20th Road and Yearling Road).

C. Waterborne Pathway

All water samples were analyzed to determine whether gamma emitters were present. In addition to gamma isotopic analysis, radiochemical analysis for I-131 was performed on drinking water and ground water samples. Gross beta analysis was also performed on drinking water samples. Tritium analysis was performed monthly by liquid scintillation for surface water and quarterly for drinking water. Tritium analysis was also performed on ground water samples. One surface water sample from the SP location was also analyzed for Fe-55. Water sampling locations are shown in Figures 3 and 5.

Monthly grab samples of surface water were collected from John Redmond Reservoir (JRR) as a control location and from the "SP" location, which is located near the spillway of Coffey County Lake, formerly known as Wolf Creek Lake, as an indicator location.

TABLE 2 (Cont.)
SAMPLE LOCATION IDENTIFIERS, DISTANCES (Miles) AND DIRECTIONS (Sectors)

Sample Type	Location Identifier	Distance from Reactor	Direction	Sector
Dosimeters	46	1.6	WNW	P
	47	0.16	S	J
	48	14.7	ENE	D
	49	0.8	NNE	B
	50	3.6	ENE	D
	51	4.0	S	J
	52	3.6	SW	L
	53	10.8	ENE	D
Surface Water	JRR	3.7	W	N
	SP	3.2	SSE	H
Ground Water	B-12	1.9	NNE	B
	C-10	2.7	W	N
	C-49/L-49	2.8	SW	L
	F-1	2.5	ESE	F
	G-2	3.6	SE	G
	J-1	3.8	S	J
	J-2	4.3	S	J
Drinking Water	BW-15	3.9	SW	L
	IO-DW	26.1	SSE	H
Shoreline Sediment	DC	0.8	WNW	P
	EEA	3.0	NNW	R
	JRR	3.6	W	N
Fish	CCL	0.6	E to NNW	E to R
	JRR	3.7	W	N
Food/Garden	D-2	14.8	ENE	D
	H-2	3.0	SSE	H
	N-1	2.4	W	N
	Q-6	2.4	NW	Q
Crops	NR-D1	8.9	S	J
	NR-D2	11.5	S	J
	NR-U1	4.0	SSW	K
Bottom Sediment	DC	0.9	WNW	P
	JRR	3.7	W	N
	MUDS	1.5	WNW	P
	UHS	0.6	E	E
Aquatic Vegetation	DC ALT	1.5	NW	Q
	EEA	3.0	NNW	R
Soil	EEA	3.0	NNW	R
	MUDS	1.5	WNW	P
Meat (Alligator)	CCL	1.5	WNW	P
Meat (Deer)	R2.5	2.5	NNW	R