WOLF CREEK
NUCLEAR OPERATING CORPORATION

Michael J. Westman
Manager Regulatory Affairs

April 23, 2014

RA 14-0048

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

Subject: Docket No. 50-482: 2013 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, 2013, through December 31, 2013.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4009, or Mr. William Muilenburg, at (620) 364-4186.

Sincerely,

Michael J. Westman

MJW/rlt

Enclosure: 2013 Annual Radiological Environmental Operating Report

cc: M. L. Dapas (NRC), w/e
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IE25
NRR

Enclosure to RA 14-0048

Wolf Creek Nuclear Operating Corporation

Wolf Creek Generating Station

2013 Annual Radiological Environmental Operating Report
(169 pages)

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

2013 ANNUAL RADIOLOGICAL

ENVIRONMENTAL OPERATING REPORT

April 15, 2014

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EXECUTIVE SUMMARY

Plant-related activation, corrosion, or fission products were not detected during 2013 in airborne particulate and radioiodine filters, drinking water, ground water, broadleaf vegetation, shoreline sediment, crops, aquatic vegetation, terrestrial vegetation, bottom sediment, or soil samples. Activation, corrosion or fission products attributable to plant operation were detected during 2013 in surface water, fish, and deer samples.

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

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

INTRODUCTION

The 2013 Annual Radiological Environmental Operating Report for Wolf Creek Generating Station (WCGS) covers the period from January 1 through December 31, 2013. 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 Effluent Release Program. The Interlaboratory Comparison Program results, a summary of results in the 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 and sample locations, sample collection frequency, and type and frequency of analysis. Table 2 lists the sample location identifiers, distances and directions from the plant. Samples in addition to those required by AP 07B-004 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 air particulate and radioiodine samples on 47 mm glass fiber filters and charcoal canisters, respectively. The air particulate filters and charcoal canisters were changed out weekly. Gross beta analysis was performed on the air particulate filters. Air particulate filters were also analyzed quarterly for gamma emitting isotopes. Charcoal canisters were analyzed for I-131.

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 sample locations are shown in Figure 1 and the control sample location is shown in Figure 5.

B. Direct Radiation Pathway

Optically stimulated luminescence (OSL) dosimeters were used continuously 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 and analyzed for gamma dose. Transit dose was measured and subtracted from the ambient dose. Indicator OSL sample locations are illustrated in Figure 2 and control sample locations are shown in Figure 5. Control sample locations were 39 (Beto Junction) and 53 (near the intersection of 20th Road and Yearling Road).

C. Waterborne Pathway

Water samples were analyzed to determine if 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. Four surface water samples from the Coffey County Lake Spillway (SP) location and four surface water samples from the John Redmond Reservoir (JRR) location were also analyzed for Fe-55. The waterborne pathway sample locations are shown in Figures 3 and 5.

Monthly grab samples of surface water were collected from the JRR control location and from the SP indicator location. The SP indicator sample location is located near the spillway of Coffey County Lake, formerly known as Wolf Creek Lake.

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

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

Milk was not collected during the sample year. The Land Use Census did not identify any locations producing milk for human consumption within five miles of the plant.

Fish were sampled semiannually from the Coffey County Lake (indicator sample location) and from the tail waters of JRR (control sample location). These sample locations are identified in Figure 4. Gamma isotopic analyses were performed on the boneless edible 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. Three indicator (B-1, H-2 and Q-6) gardens (Figure 4) and one control (D-2) garden (Figure 5) were sampled. Gamma isotopic analyses were performed on these samples.

Crop samples were obtained from two indicator sample locations (NR-D1 and NR-D2) downstream of the confluence of Wolf Creek and the Neosho River. Crops were also sampled 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 AP 07B-004)

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 sample 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 sample 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.

Shoreline sediment samples were collected from indicator sample location EEA. Gamma isotopic analyses were performed on the samples. These samples were collected as part of a cooperative sampling effort with the KDHE. This sample location is identified on Figure 3.

Aquatic vegetation was collected from indicator sample locations DC ALT, EEA 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 EEA and MUDS indicator sample locations. 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 locations are identified on Figure 4.

Soil was sampled from the EEA and MUDS indicator sample locations. Gamma isotopic analyses were performed on the soil samples. These samples were collected as part of a cooperative sampling effort with the KDHE. The sample locations are identified on Figure 4.

A deer was sampled from indicator sample location R2.7. Gamma isotopic analysis and tritium analysis was performed on the deer sample. This sample was collected as part of a cooperative sampling effort with the KDHE. The sample location is identified on Figure 4.

II. DISCUSSION OF RESULTS

Analysis results for 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.

A. Airborne Pathway

Chart 1 graphically illustrates weekly gross beta results for the sample year for all of the airborne sample locations. Chart 2 represents the gross beta historical airborne smoothed averages of indicator sample locations and control sample locations. Charts 1 and 2 demonstrate how closely the indicator and control sample locations tracked together. Chart 2 reveals a seasonal cyclic trend; the 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 2013 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 2013 weekly gross beta analyses range for indicator locations was 0.009 to 0.050 pCi/m^3. The 2013 weekly gross beta analyses range was lower than the 1983 and 1984 pre-operational range. Additionally, the annual mean for indicator locations for 2013 (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 2013 (0.026 pCi/m^3) was the same as the annual mean of the control location (0.026 pCi/m^3). The indicator location with the highest gross beta annual mean was location 49 (0.027 pCi/m^3) and was slightly higher than the annual mean of the control location (0.026 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 2013, the range for Be-7 detected activity was 0.052 to 0.092 pCi/m^3 for indicator locations and the annual mean for indicator locations was 0.076 pCi/m^3. The annual mean of the indicator locations (0.076 pCi/m^3) was the same as the annual mean of the control location (0.076 pCi/m^3).

I-131 activity was not detected in the weekly analysis of charcoal filters at any location.

The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2013 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 indicator sample locations in 2013 was 18.7 mR per standardized 90-day quarter. The annual mean of the control sample locations in 2013 was 19.5 mR per standardized 90-day quarter.

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

The indicator sample location with the highest annual mean was 47 (24.2 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 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 2013.

Chart 4 displays the TLD nearsite sample locations (1, 2, 7-9, 11-14, 18, 26, 27, 29, 30, 37 and 38) and the control sample 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 surface water samples collected from the Coffey County Lake Spillway (SP) indicator sample location. The annual mean for detected tritium activity at the SP location was 11,100 pCi/L and the range was 9,295 to 13,170 pCi/L. The detected tritium activity was below the 30,000 pCi/L AP 07B-004 reporting level. Chart 5 illustrates the yearly averages of surface water tritium data for the spillway (SP) location. Chart 5 indicates the average tritium concentration of the Coffey County Lake spillway (SP) location has reached equilibrium. Tritium activity was not detected in samples obtained from the control sample location (JRR).

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

The AP 07B-004 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 during 2013 in surface water samples and no unusual trends were noted.

(2) Ground Water

The AP 07B-004 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 2013 in ground water samples.

(3) Drinking Water

Gross beta activity was detected in drinking water samples collected from the indicator sample location and in samples collected from the control sample location. The annual mean of the indicator sample location gross beta activity (2.9 pCi/L) was lower when compared to the annual mean of the control sample location gross beta activity (3.1 pCi/L). The 2013 annual means of gross beta activity for both the indicator and control sample locations were lower than those of the pre-operational monitoring year of 1984. In 1984, the annual mean of the indicator sample location gross beta activity was 7.5 pCi/L and the annual mean of the control sample 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 sample locations.

Radionuclides were not detected by the I-131 or gamma isotopic analyses.

The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2013 in drinking water samples and no unusual trends were noted.

(4) Shoreline Sediment

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

No other radionuclides were detected in the DC or JRR shoreline sediment samples during 2013.

The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2013 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 fish samples obtained from the CCL indicator sample location and in fish samples obtained from the JRR control sample location. K-40 activity was also detected during pre-operational fish monitoring.

Fish samples were also analyzed for tritium. Fish samples collected from Coffey County Lake had tritium activity detected (7,743 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 (8,852 pCi/kg), would receive a committed effective dose equivalent of 0.012 mRem.

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

No other radionuclides were detected in fish samples during 2013. The AP 07B-004 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 sample 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 samples during the year.

The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2013 in broadleaf vegetation samples no unusual trends were noted.

(4) Crop Samples

Gamma analysis detected naturally occurring K-40 activity to be present in the samples collected from the indicator sample locations and in the samples collected from the control sample location. K-40 activity was also detected during pre-operational crop monitoring. K-40 was the only activity detected in the crop samples.

The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2013 in crop samples and no unusual trends were noted.

E. Additional Samples Collected (not required by AP 07B-004)

(1) Bottom Sediment

Gamma analysis detected naturally occurring K-40 activity to be present in the samples collected from the indicator sample locations and in the samples collected from the control sample location. K-40 activity was also detected during pre-operational bottom sediment monitoring.

Cs-137 activity was detected in twelve samples obtained from indicator locations (range 38 to 108 pCi/kg, dry). Cs-137 activity was also detected in one sample obtained from the control sample location (85 pCi/kg, dry).

Cs-137 activity was detected in pre-operational samples. The Cs-137 activity detected in 2013 indicator sample location bottom sediment samples was 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 38 to 457 pCi/kg.)

The detected Cs-137 activity in the samples collected from the indicator sample 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 sample location.

Chart 7 plots the Cs-137 detected activity from the discharge cove indicator sample location and JRR control sample location bottom sediment samples. The detected Cs-137 activity measured from the discharge cove location reflects a decreasing trend. The Chart 7 trendline indicates Cs-137 activity detected at the JRR control location has also been decreasing. Chart 7 also displays that in recent years, the detected Cs-137 activity for the JRR and DC sample locations overlap.

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

Plant-related activation, corrosion, or fission products were not detected during 2013 in bottom sediment samples and no unusual trends were noted.

(2) Aquatic Vegetation

Gamma analyses of aquatic vegetation samples obtained from indicator sample locations detected naturally occurring gamma emitters Be-7 and K-40. Be-7 and K-40 activity were also detected during pre-operational monitoring.

No other radionuclides were detected in aquatic vegetation samples. Plant-related activation, corrosion, or fission products were not detected during 2013 in aquatic vegetation samples and no unusual trends were noted.

(3) Shoreline Sediment

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

Cs-137 activity (89.2 pCi/kg, dry) was detected in a shoreline sediment sample obtained from the EEA indicator sample 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 115 to 218 pCi/kg, dry. The detected Cs-137 activity in the shoreline sediment sample was likely due to fallout since the results are lower than the pre-operational decay corrected range. Additionally, Cs-137 activity is routinely detected in soil and sediment samples collected from the control locations.

No other radionuclides were detected in the EEA shoreline sediment samples. Plant-related activation, corrosion, or fission products were not detected during 2013 and no unusual trends were noted.

(4) Terrestrial Vegetation

Naturally occurring Be-7 and K-40 activity were detected in terrestrial vegetation indicator location samples. No other radionuclides were detected in terrestrial vegetation. Plant-related activation, corrosion or fission products were not detected during 2013 in terrestrial vegetation samples and no unusual trends were noted.

(5) Soil

Naturally occurring K-40 activity was detected in soil samples obtained from the indicator locations. K-40 activity was also detected during pre-operational soil monitoring.

Cs-137 activity (range 148 to 250 pCi/kg) was detected in soil samples obtained from the indicator locations. 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. The decay corrected range of pre-operational Cs-137 activity detected in soil is approximately 134 to 1,137 pCi/kg. The detected Cs-137 activity in soil sampled in 2013 is within the decay corrected pre-operational range and is likely due to fallout.

Plant-related activation, corrosion, or fission products were not detected during 2013 in soil samples and no unusual trends were noted.

(6) Deer

Naturally occurring K-40 activity was detected in the deer sample obtained from the indicator location.

Tritium activity (251 pCi/kg) was also detected in the deer sample. The detected tritium activity was attributable to plant operation.

No other radionuclides were detected in the deer sample. No unusual trends were identified.

III. PROGRAM REVISIONS/CHANGES

Based upon the 2012 Land Use Census Report, Revision 1, broadleaf vegetation sample location A-3 was added to AP 07B-004 and broadleaf vegetation sample location N-1 was changed to an alternate sample location.

AP 07B-004 was revised to update the description of dosimeter location 44 to Wilson Cadman Wildlife Education Area to match the recent name change.

IV. PROGRAM DEVIATIONS

Air Samples

The following air sample locations 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/Comments Condition Report Number
32	06/24/13 – 07/01/13	Unknown	Power Outage / Equipment Malfunction / Condition Report 00071046
37	08/05/13 – 08/12/13	6.17%/10.42	Power Outage / Equipment Operated as Expected / Condition Report 00072632

Dosimeters

During the third quarter, one dosimeter result was not received from the vendor processor for location 16. The vendor processor performed an investigation and the dosimeter was not located at the vendor facility. All of the other dosimeter results for the third quarter were received. The results for the other two dosimeters at location 16 have been received; this meets the requirements of AP 07B-004. (Condition Report 00077756)

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

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 EFFLUENT 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 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 0.165 mRem for 2013.

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 (11,100 pCi/L), would receive a committed effective dose equivalent of 0.507 mRem per year. For an adult eating 21 kg of fish per year from Coffey County Lake, using the average tritium activity (7,743 pCi/kg), would receive a committed effective dose equivalent of 0.010 mRem per year. Based upon the REMP results, the dose from both pathways was calculated to be 0.517 mRem per year.

It should be noted Coffey County Lake is not used as 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

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DESCRIPTION (SAMPLE COLLECTION SPECIFIED BY AP 07B-004)

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 and one supplemental location (Locations 2, 18, 37, or 49 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), Wilson Cadman Wildlife 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 upgradient of the site (Location B-12 on Figure 3).	Quarterly grab sample	Quarterly gamma isotopic analysis 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 A-3 and Q-6 and alternate locations B-1, H-2, N-1 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 (locations will vary from year to year, e.g., 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	4.0	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	4.3	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
	H-2	3.0	SSE	H
	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
	EEA	3.0	NNW	R
	MUDS	1.5	WNW	P

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

Sample Type	Location Identifier	Distance from Reactor	Direction	Sector
Terrestrial Vegetation	EEA	3.0	NNW	R
	MUDS	1.5	WNW	P
Soil	EEA	3.0	NNW	R
	MUDS	1.5	WNW	P
Meat (Deer)	R2.7	2.7	NNW	R

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	19.1	19.6	21.5	21.8	81.9
2	17.8	18.3	18.5	19.4	74.1
4	19.1	20.5	21.4	20.6	81.7
5	17.8	17.2	14.6	17.2	66.9
7	17.5	17.0	18.9	19.2	72.6
8	20.3	18.8	21.7	22.5	83.3
9	18.5	19.2	15.9	17.3	71.0
11	20.1	23.1	19.6	20.6	83.4
12	20.7	20.5	20.1	21.2	82.5
13	20.7	20.4	18.5	17.3	76.9
14	17.5	20.1	18.0	17.8	73.4
15	19.1	18.8	17.8	17.8	73.4
16	17.0	16.2	17.3	16.9	67.3
17	18.2	20.4	17.5	20.9	76.9
18	17.8	20.1	15.4	19.7	72.9
19	20.6	21.8	18.5	20.9	81.9
20	18.0	17.5	18.5	19.5	73.5
22	18.0	18.8	19.6	22.0	78.3
23	15.9	17.0	21.7	20.0	74.6
24	18.4	20.9	19.6	19.5	78.4
25	17.3	16.3	17.3	17.3	68.3
26	18.3	16.6	16.8	19.5	71.2
27	19.2	19.2	20.7	17.7	76.7
29	14.8	14.0	14.3	16.1	59.2
30	19.4	14.9	19.2	21.5	75.1
32	18.4	16.1	17.1	18.3	69.8
34	20.6	17.9	19.2	20.8	78.5
35	19.6	19.2	18.5	20.5	77.8
36	19.6	18.3	19.9	20.0	77.8
37	17.3	16.6	15.3	18.8	68.0
38	19.4	20.1	18.5	21.1	79.1
39	19.6	18.7	17.9	15.4	71.5
41	18.4	20.6	19.4	18.3	76.7
42	13.0	12.7	12.4	12.8	51.0
43	12.4	12.8	12.3	12.5	50.0
44	15.9	20.5	18.5	20.6	75.5
46	18.3	19.2	18.9	20.6	77.0
47	20.4	24.8	24.1	27.6	96.9
49	19.4	16.1	17.5	18.7	71.8
50	20.0	22.2	20.9	19.2	82.3
51	20.1	19.7	21.7	20.4	81.9
52	20.6	20.1	18.2	17.7	76.5
53	20.9	20.7	21.5	21.3	84.3

FIGURE 1

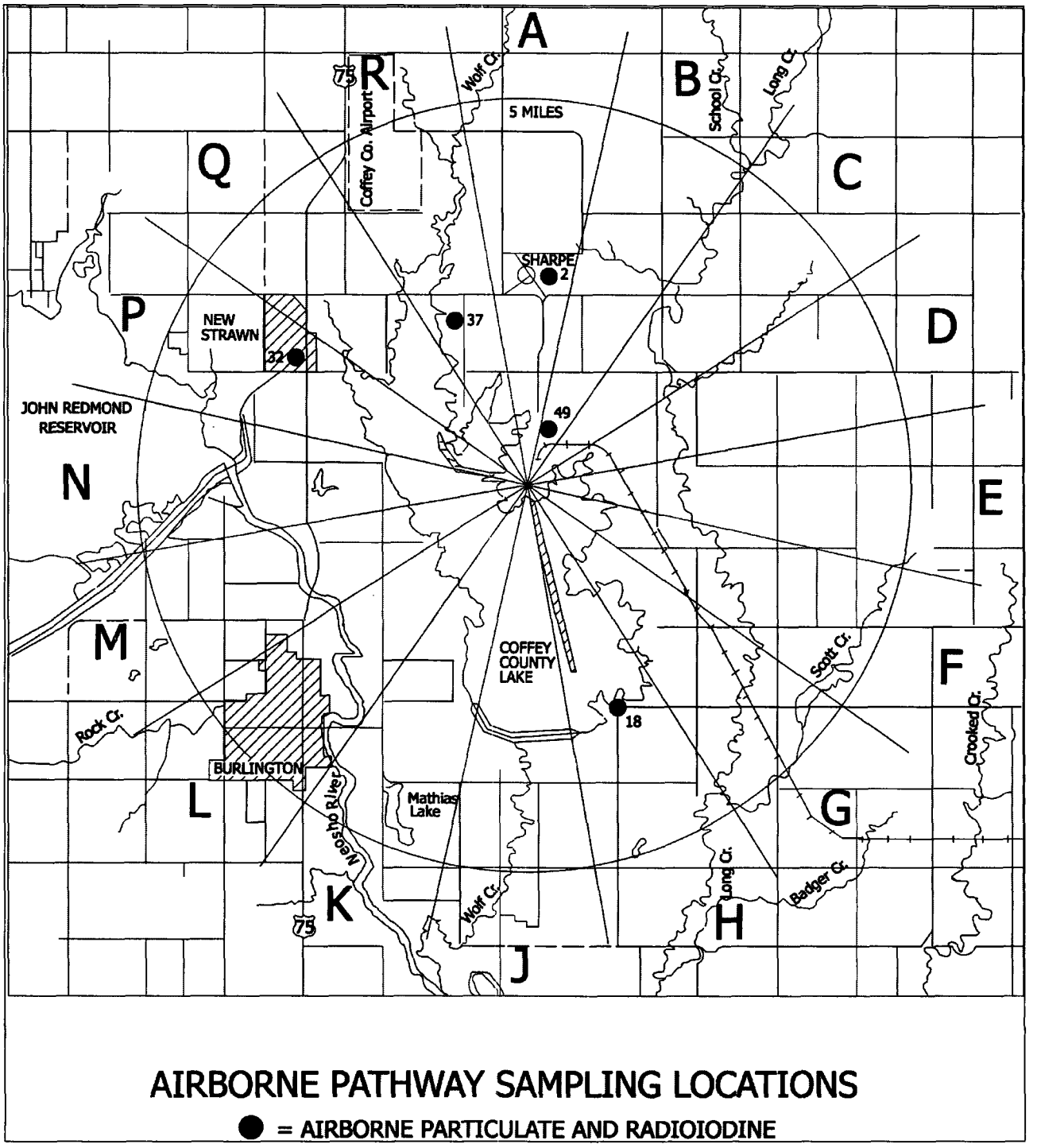
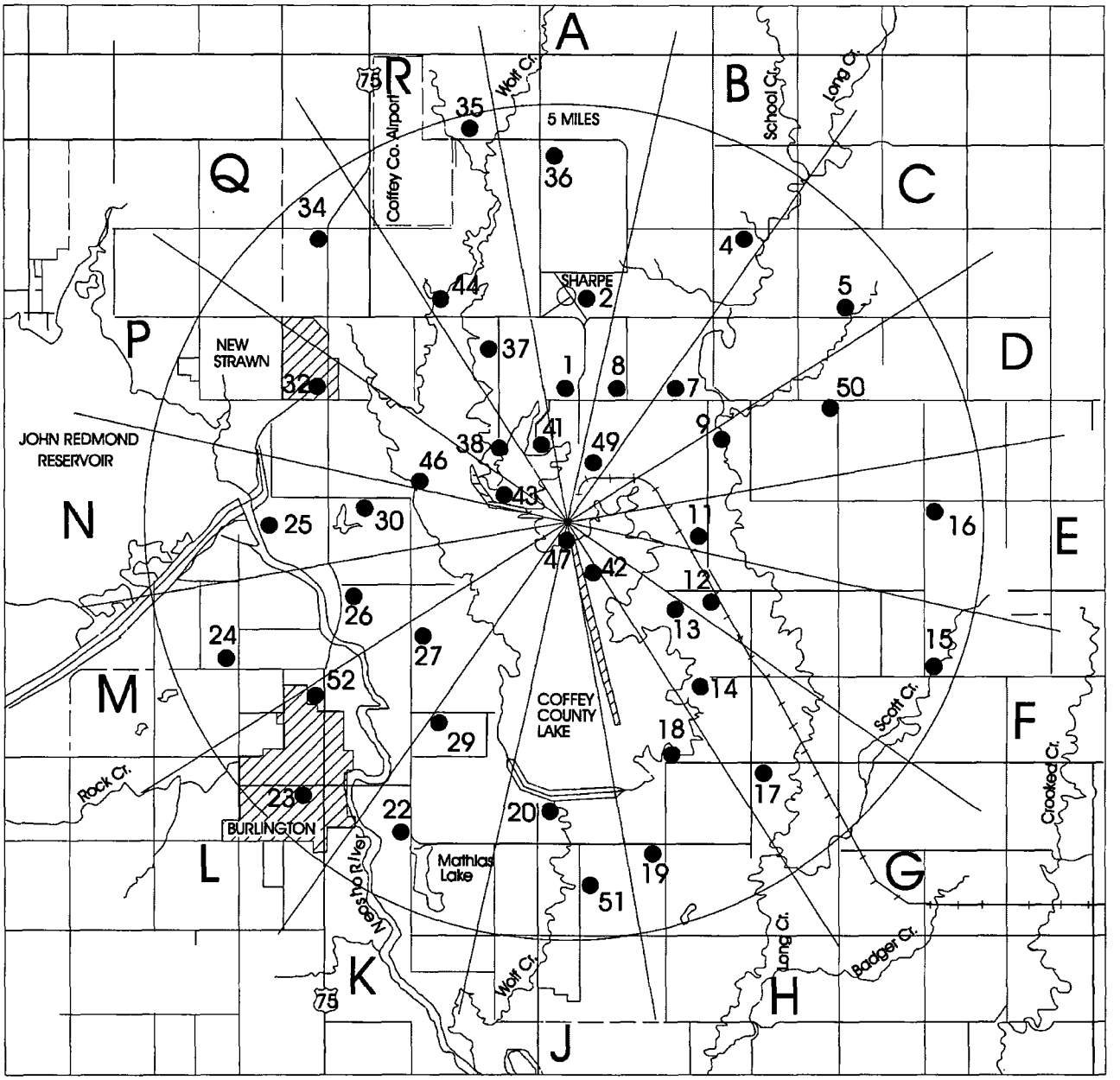

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
5 MILES
Coffey Co. Airport
Wolf Cr.
School Cr.
Long Cr.
SHARPE
2
37
NEW STRAWN
32
JOHN REDMOND RESERVOIR
49
COFFEY COUNTY LAKE
18
Scott Cr.
Crooked Cr.
Rock Cr.
BURLINGTON
Neosho River
Mathias Lake
Badger Cr.
75
AIRBORNE PATHWAY SAMPLING LOCATIONS
● = AIRBORNE PARTICULATE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

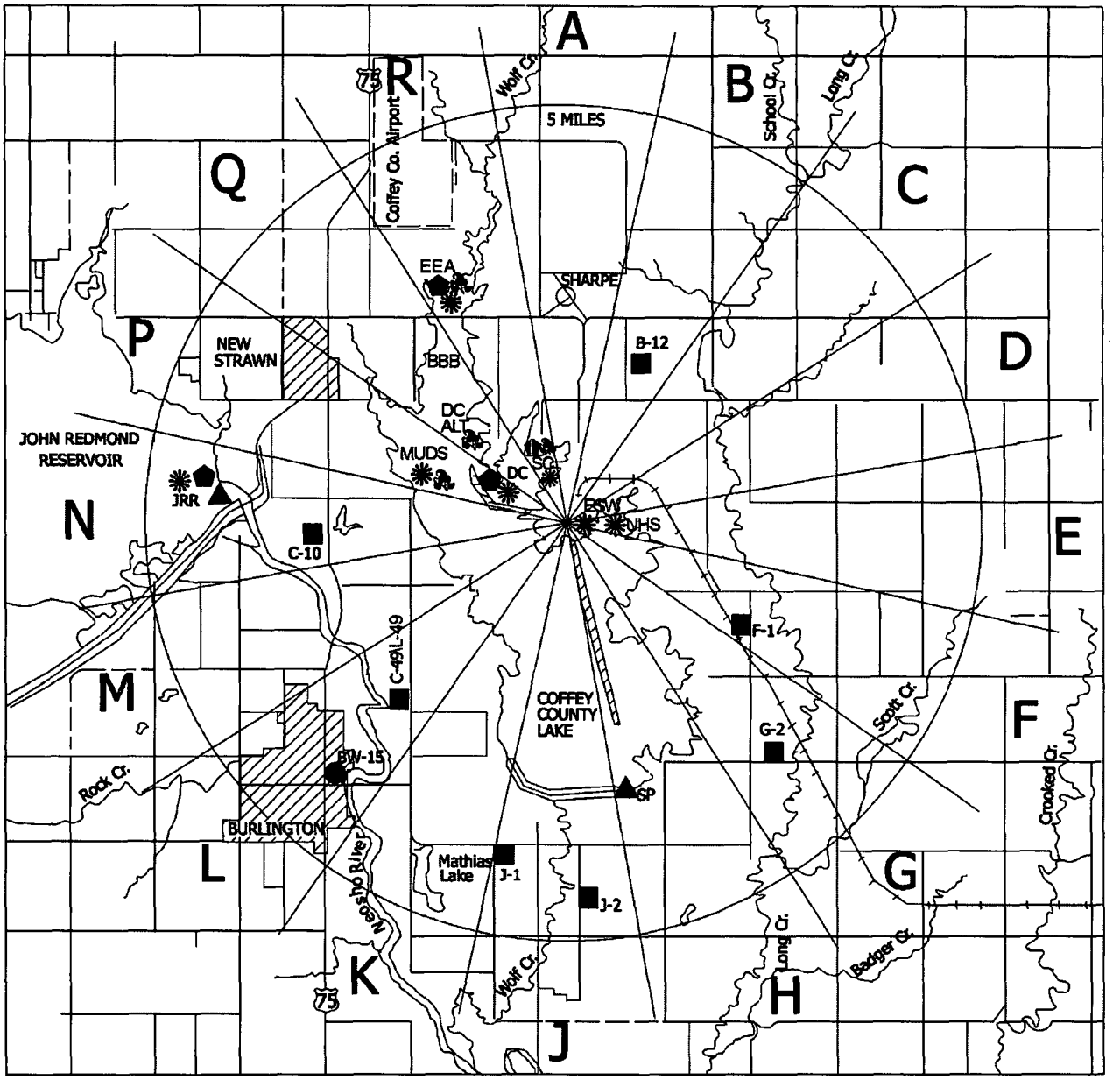
FIGURE 2



DIRECT RADIATION PATHWAY SAMPLING LOCATIONS

● = DOSIMETER LOCATIONS

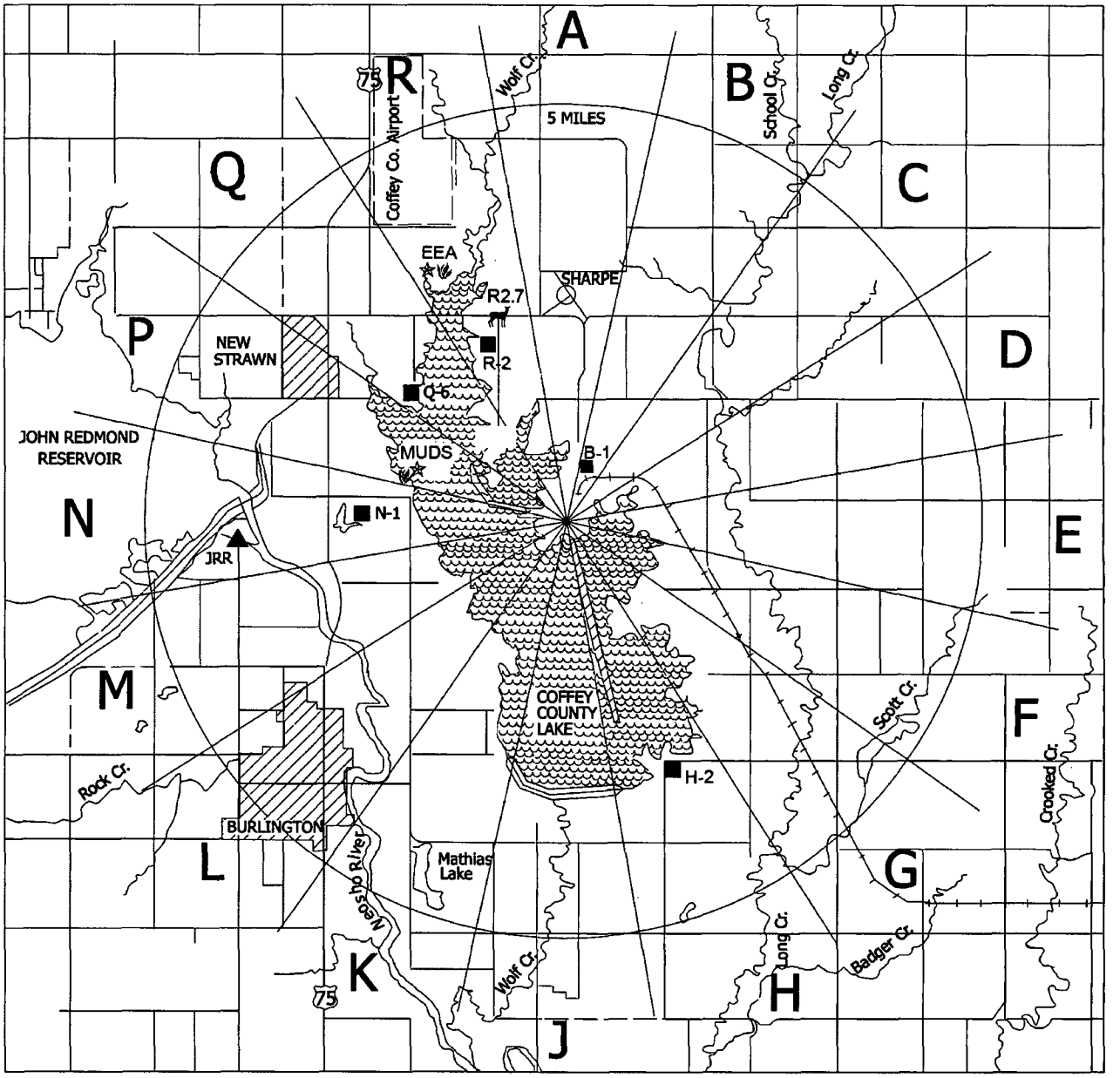
FIGURE 3



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

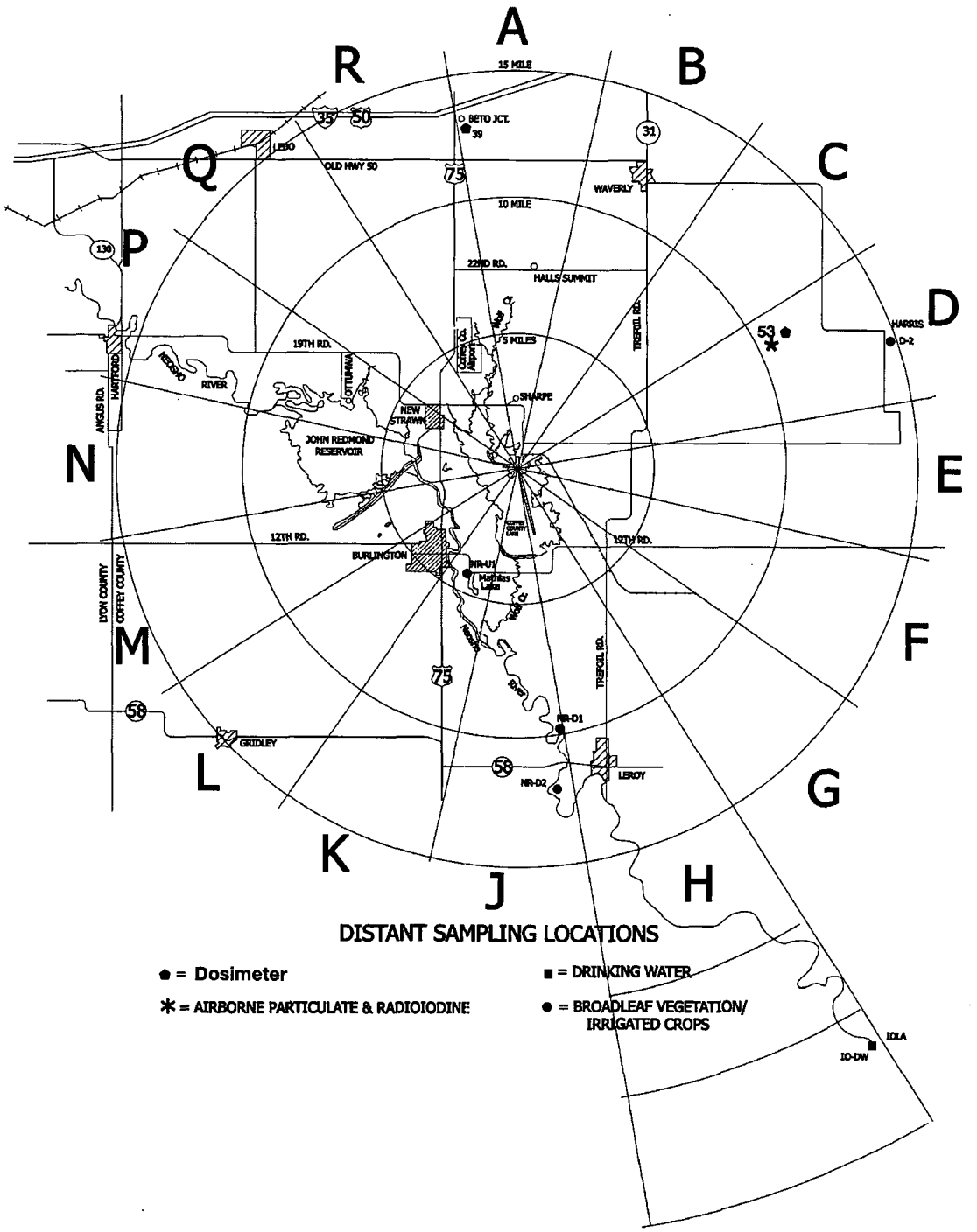

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
15 MILE
10 MILE
OLD HWY 50
22ND RD.
19TH RD.
12TH RD.
BETO JCT.
LEBO
WAVERLY
HALLS SUMMIT
5 MILES
SHARPE
NEW STRAWN
JOHN REDMOND RESERVOIR
BURLINGTON
GRIDLEY
LEROY
HARRIS
HARTFORD
ANGUS RD.
LYON COUNTY
COFFEY COUNTY
TREFOIL RD.
NR-U1
NR-D1
NR-D2
D-2
IDLA
ID-DW
DISTANT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

CHART 1

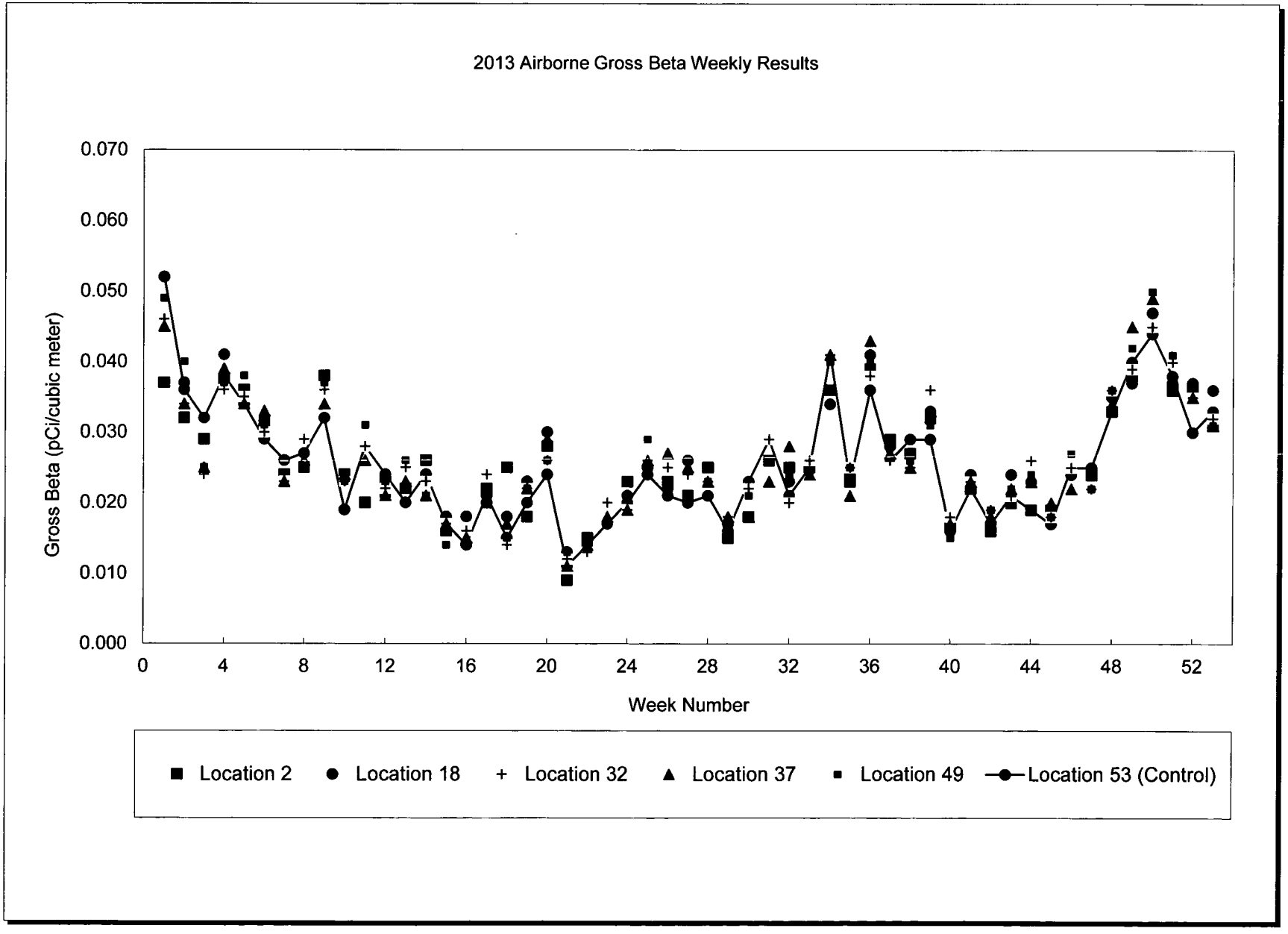

2013 Airborne Gross Beta Weekly Results
Gross Beta (pCi/cubic meter)
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
0
4
8
12
16
20
24
28
32
36
40
44
48
52
Week Number
Location 2
Location 18
Location 32
Location 37
Location 49
Location 53 (Control)

CHART 2

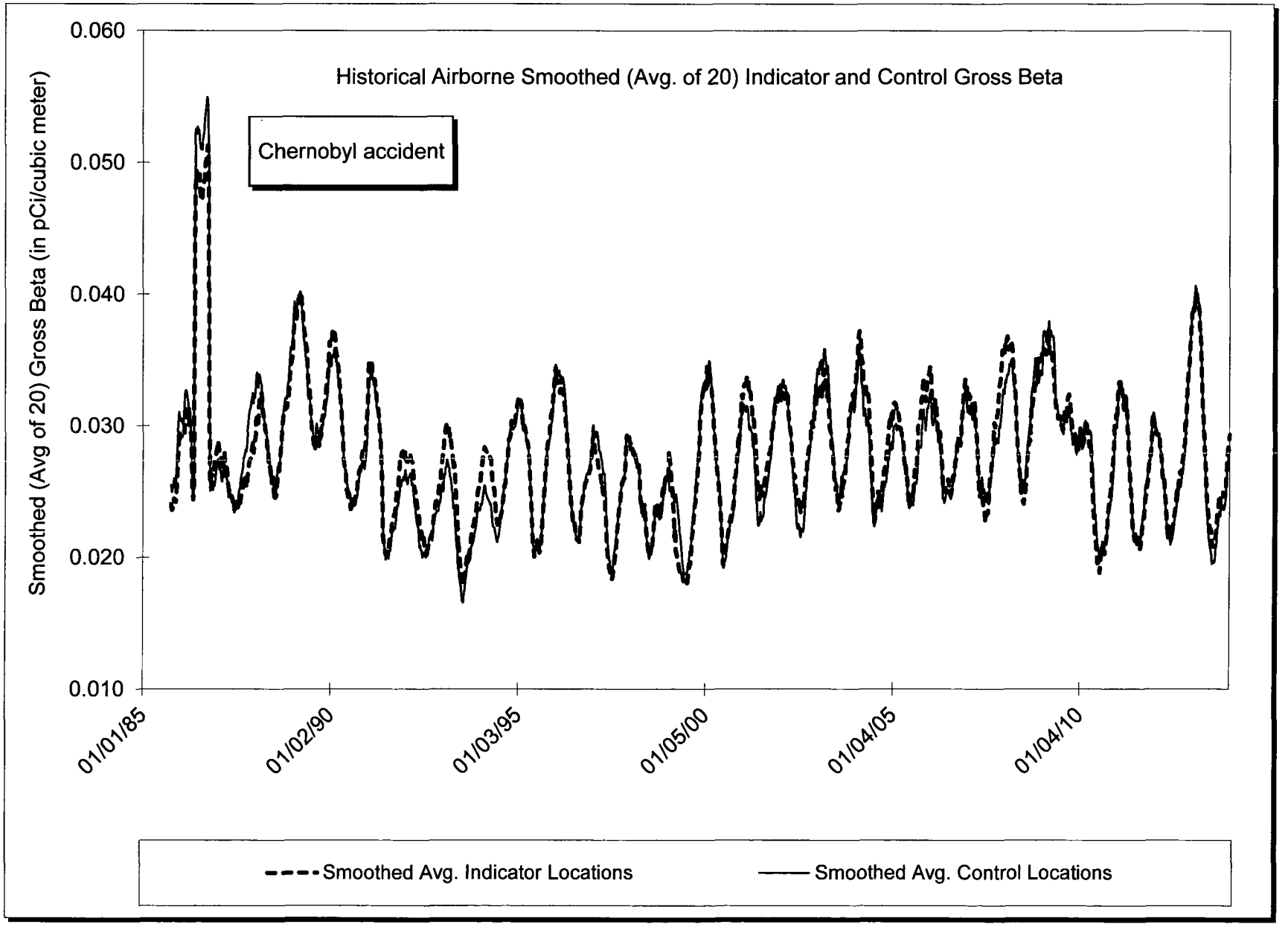

Historical Airborne Smoothed (Avg. of 20) Indicator and Control Gross Beta
Chernobyl accident
Smoothed (Avg of 20) Gross Beta (in pCi/cubic meter)
0.060
0.050
0.040
0.030
0.020
0.010
01/01/85
01/02/90
01/03/95
01/05/00
01/04/05
01/04/10
Smoothed Avg. Indicator Locations
Smoothed Avg. Control Locations

CHART 3

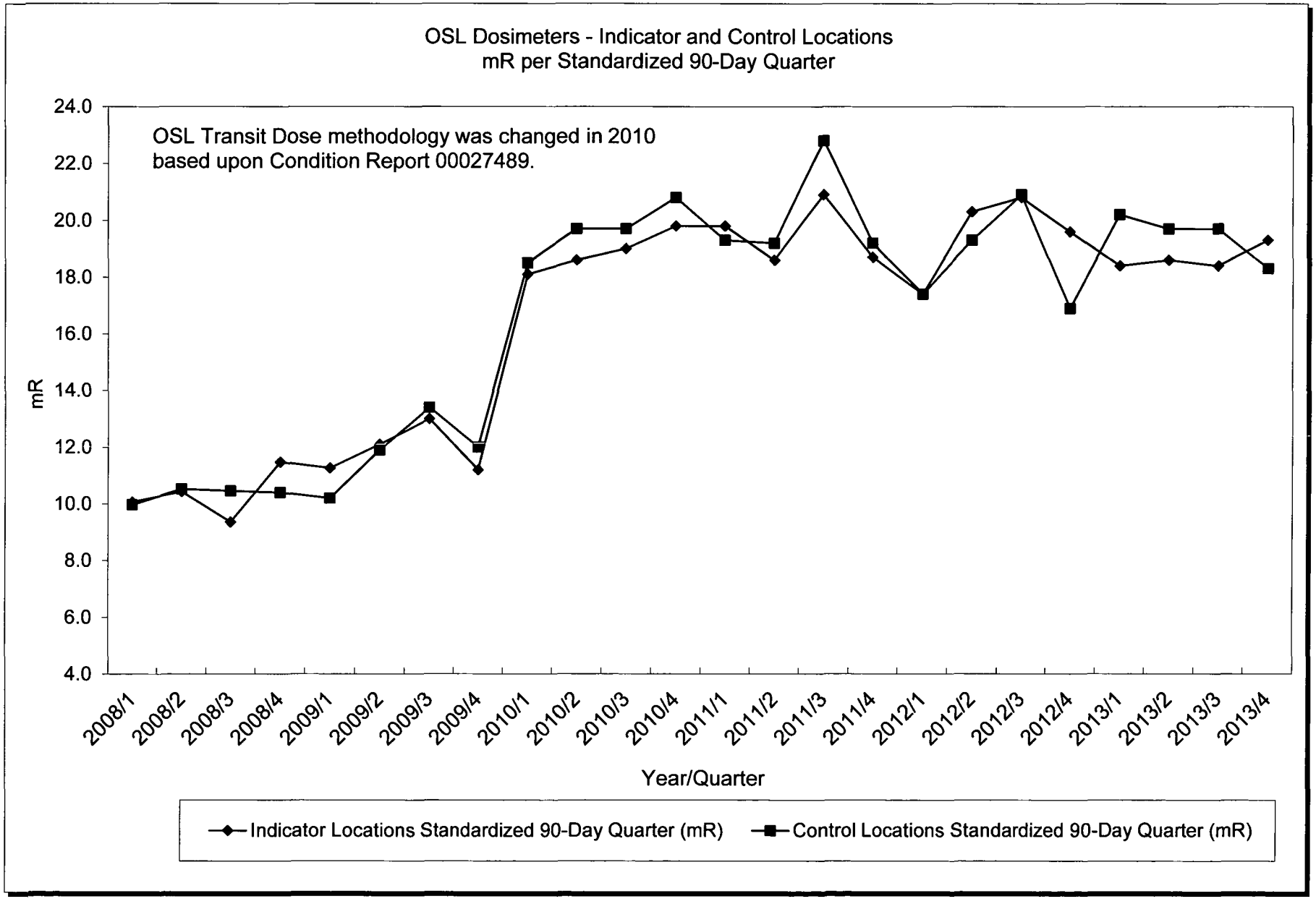

OSL Dosimeters - Indicator and Control Locations
mR per Standardized 90-Day Quarter
OSL Transit Dose methodology was changed in 2010
based upon Condition Report 00027489.
mR
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2008/1
2008/2
2008/3
2008/4
2009/1
2009/2
2009/3
2009/4
2010/1
2010/2
2010/3
2010/4
2011/1
2011/2
2011/3
2011/4
2012/1
2012/2
2012/3
2012/4
2013/1
2013/2
2013/3
2013/4
Year/Quarter
Indicator Locations Standardized 90-Day Quarter (mR)
Control Locations Standardized 90-Day Quarter (mR)

CHART 4

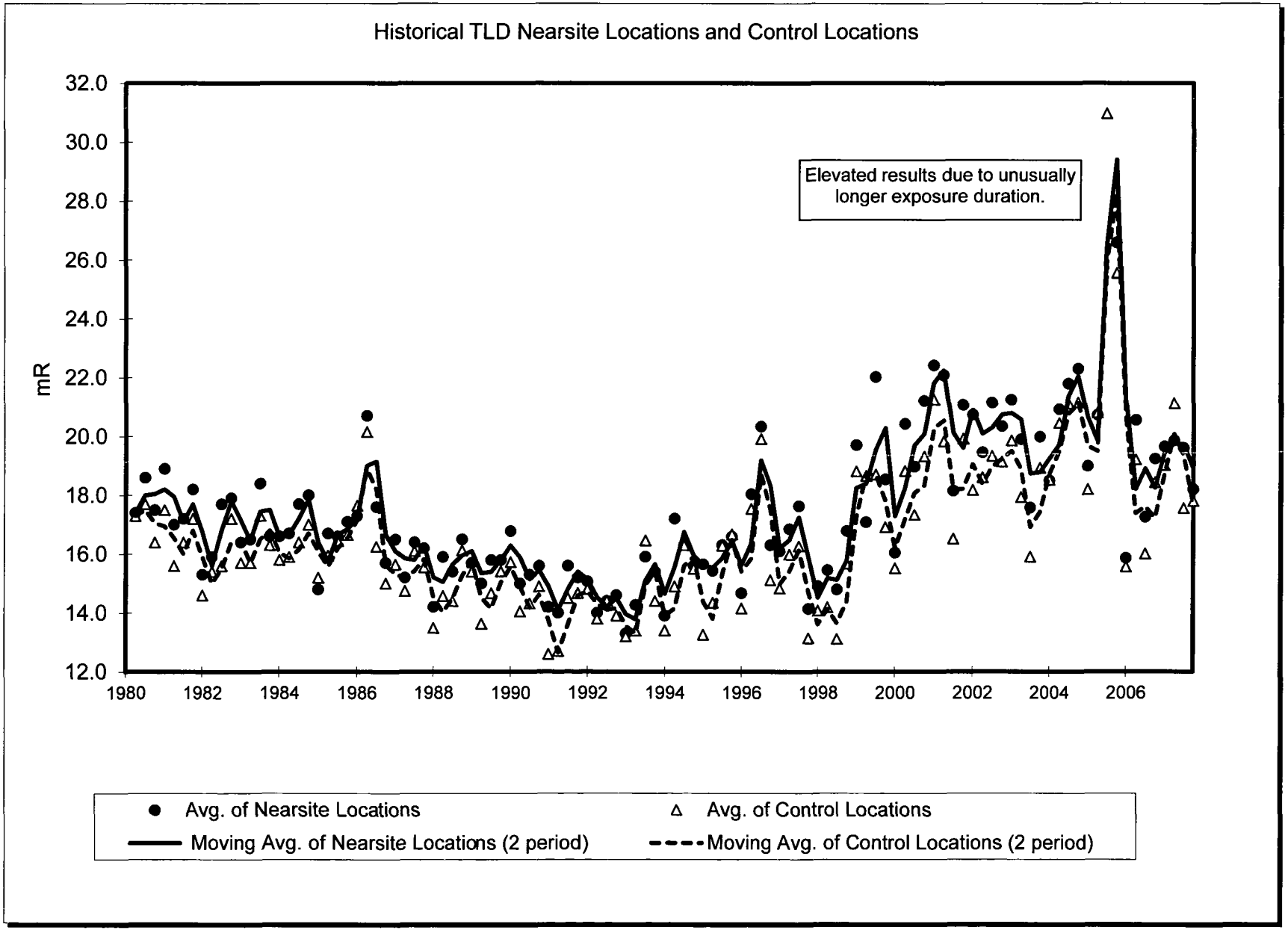

Historical TLD Nearsite Locations and Control Locations
mR
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
Elevated results due to unusually longer exposure duration.
Avg. of Nearsite Locations
Avg. of Control Locations
Moving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

CHART 5

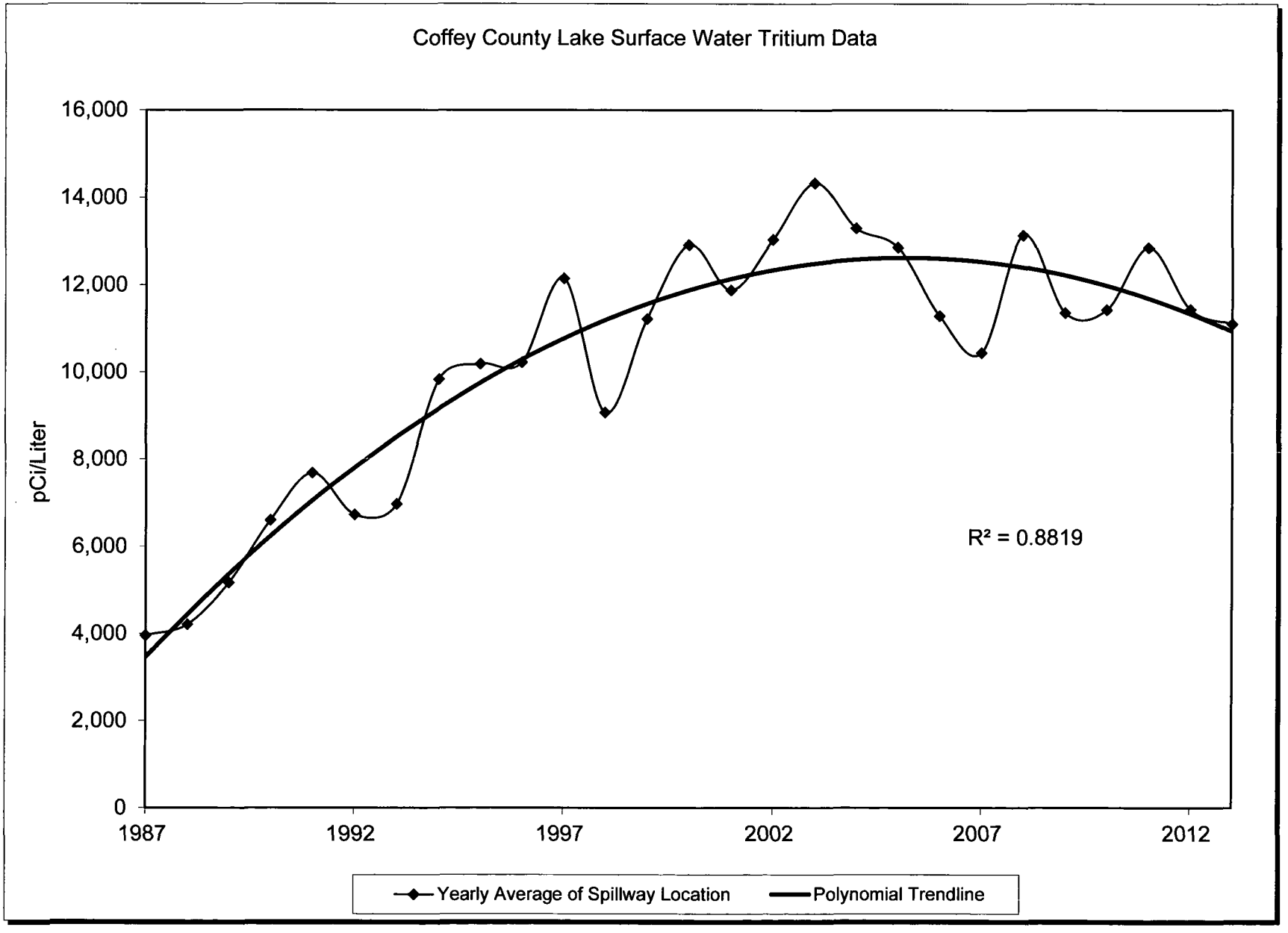

Coffey County Lake Surface Water Tritium Data
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
pCi/Liter
1987
1992
1997
2002
2007
2012
R² = 0.8819
Yearly Average of Spillway Location
Polynomial Trendline

CHART 6

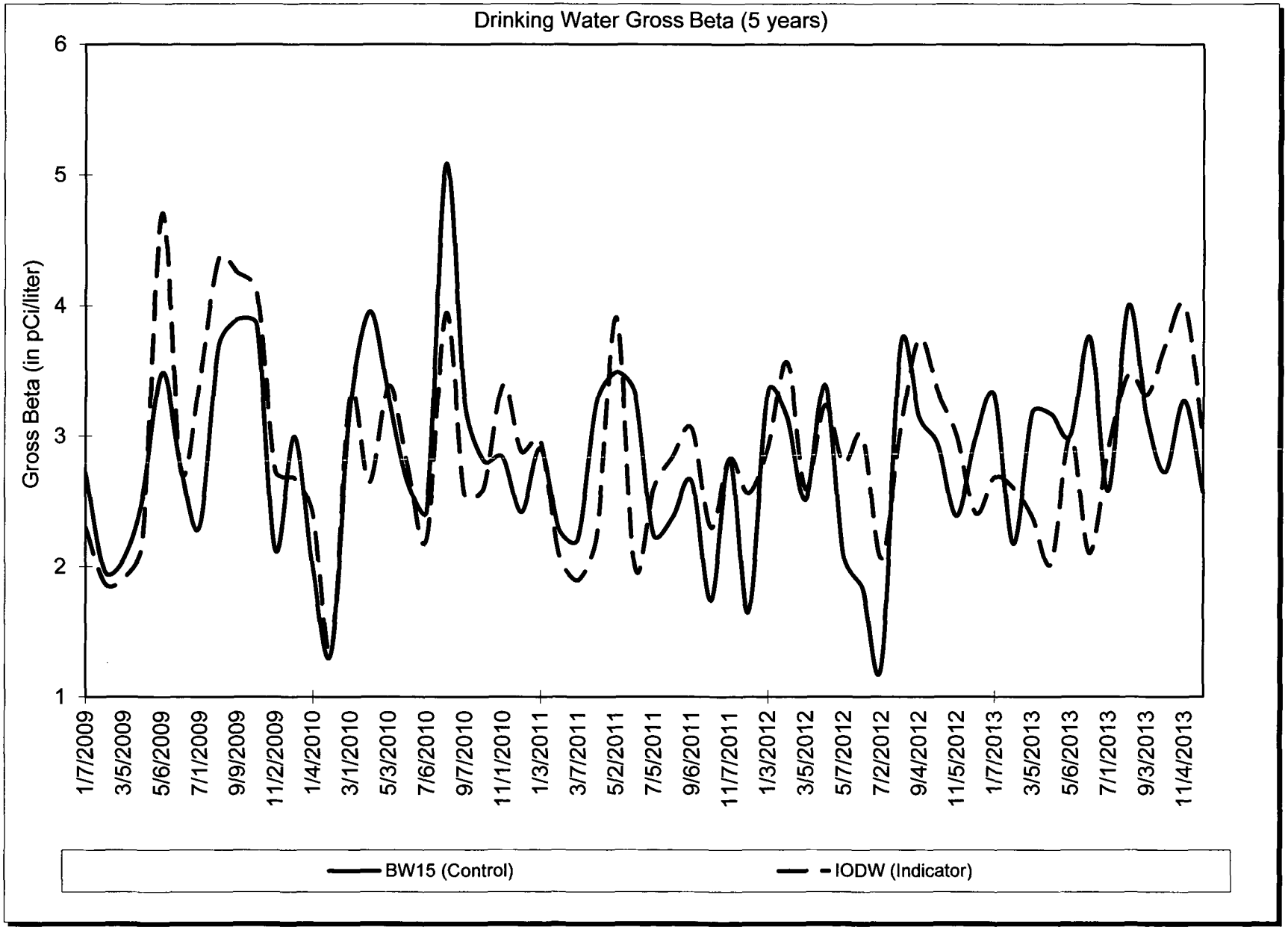
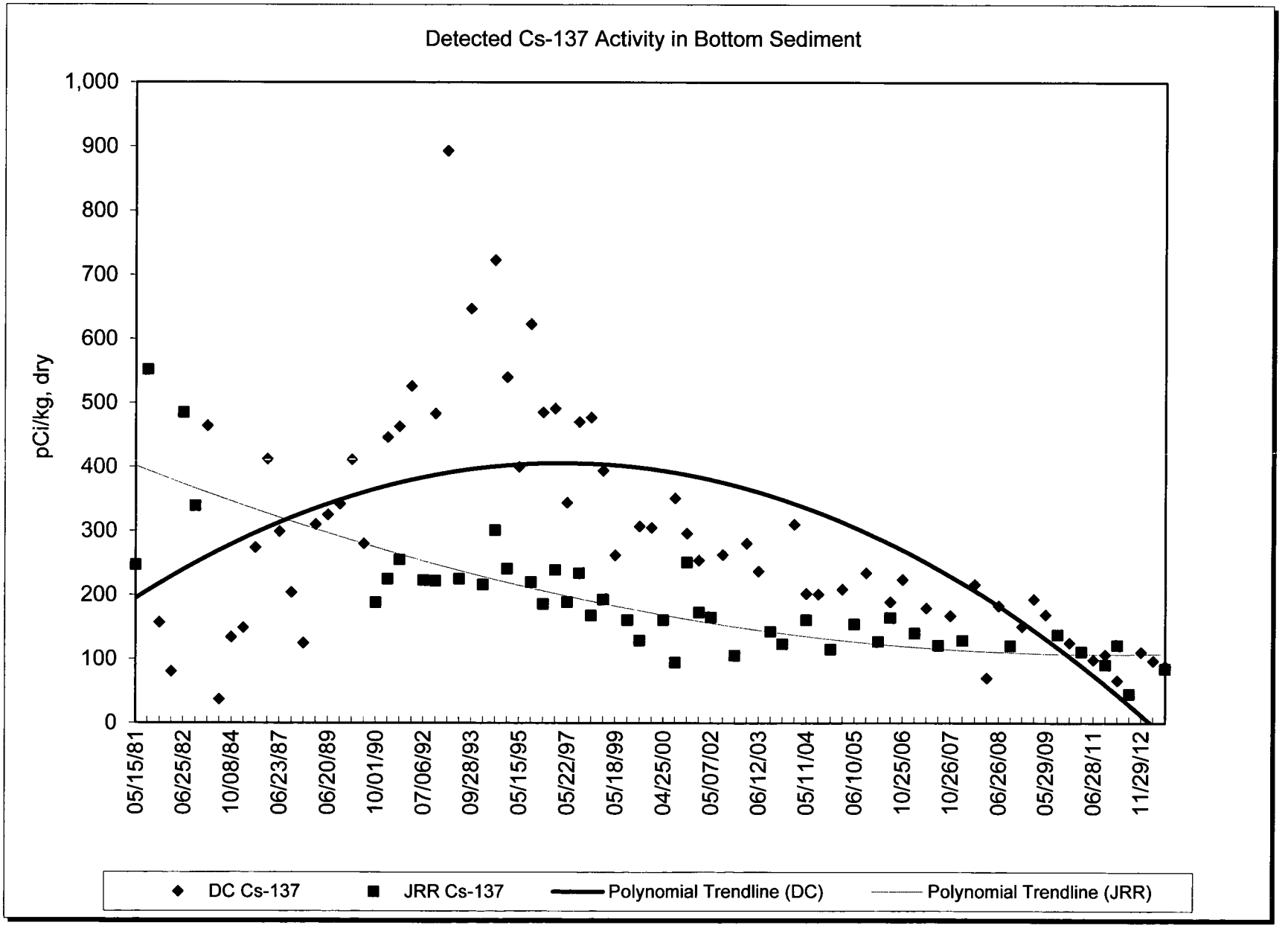

Drinking Water Gross Beta (5 years)
Gross Beta (in pCi/liter)
6
5
4
3
2
1
1/7/2009
3/5/2009
5/6/2009
7/1/2009
9/9/2009
11/2/2009
1/4/2010
3/1/2010
5/3/2010
7/6/2010
9/7/2010
11/1/2010
1/3/2011
3/7/2011
5/2/2011
7/5/2011
9/6/2011
11/7/2011
1/3/2012
3/5/2012
5/7/2012
7/2/2012
9/4/2012
11/5/2012
1/7/2013
3/5/2013
5/6/2013
7/1/2013
9/3/2013
11/4/2013
BW15 (Control)
IODW (Indicator)

CHART 7


Detected Cs-137 Activity in Bottom Sediment
pCi/kg, dry
1,000
900
800
700
600
500
400
300
200
100
0
05/15/81
06/25/82
10/08/84
06/23/87
06/20/89
10/01/90
07/06/92
09/28/93
05/15/95
05/22/97
05/18/99
04/25/00
05/07/02
06/12/03
05/11/04
06/10/05
10/25/06
10/26/07
06/26/08
05/29/09
06/28/11
11/29/12
DC Cs-137
JRR Cs-137
Polynomial Trendline (DC)
Polynomial Trendline (JRR)

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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, 2013

Appendix A

Interlaboratory Comparison Program Results

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

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

Results in Table 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
ERW-76	01/07/13	Ra-226	10.04 ± 0.55	9.91	7.42 - 11.60	Pass
ERW-76	01/07/13	Ra-228	6.11 ± 1.29	5.22	3.14 - 6.96	Pass
ERW-76	01/07/13	Uranium	5.90 ± 0.58	5.96	4.47 - 7.13	Pass
ERW-1593	04/08/13	Sr-89	43.60 ± 4.32	41.30	31.60 - 48.40	Pass
ERW-1593	04/08/13	Sr-90	23.20 ± 1.70	23.90	17.20 - 28.00	Pass
ERW-1596	04/08/13	Ba-133	74.80 ± 4.00	82.10	69.00 - 90.30	Pass
ERW-1596	04/08/13	Co-60	65.50 ± 3.42	65.90	59.30 - 75.00	Pass
ERW-1596	04/08/13	Cs-134	41.10 ± 3.47	42.80	34.20 - 47.10	Pass
ERW-1596	04/08/13	Cs-137	42.30 ± 4.03	41.70	37.00 - 48.80	Pass
ERW-1596	04/08/13	Zn-65	200.3 ± 10.1	189.0	170.0 - 222.0	Pass
ERW-1598	04/08/13	Gr. Alpha	34.30 ± 1.98	40.80	21.10 - 51.90	Pass
ERW-1598	04/08/13	Gr. Beta	18.70 ± 0.98	21.60	13.00 - 29.70	Pass
ERW-1600	04/08/13	I-131	23.00 ± 1.10	23.80	19.70 - 28.30	Pass
ERW-1600	04/08/13	I-131(G)	23.48 ± 9.44	23.80	19.70 - 28.30	Pass
ERW-1605	04/08/13	Ra-226	16.30 ± 0.70	15.40	11.50 - 17.70	Pass
ERW-1605	04/08/13	Ra-228	5.32 ± 1.30	4.36	2.54 - 5.98	Pass
ERW-1605	04/08/13	Uranium	57.30 ± 4.20	61.20	49.80 - 67.90	Pass
ERW-1606	04/08/13	H-3	4041 ± 194	4050	3450 - 4460	Pass
ERW-6009	10/07/13	Sr-89	22.00 ± 2.80	21.90	14.40 ± 28.20	Pass
ERW-6009	10/07/13	Sr-90	17.10 ± 2.55	18.10	12.80 ± 21.50	Pass
ERW-6012	10/07/13	Ba-133	48.20 ± 4.29	54.20	44.70 ± 59.90	Pass
ERW-6012	10/07/13	Co-60	100.8 ± 4.7	102.0	91.80 ± 114.00	Pass
ERW-6012	10/07/13	Cs-134	87.30 ± 4.35	86.70	71.10 ± 95.40	Pass
ERW-6012	10/07/13	Cs-137	199.6 ± 7.4	206.0	185.0 - 228.0	Pass
ERW-6012	10/07/13	Zn-65	356.2 ± 13.2	333.0	300.0 - 389.0	Pass
ERW-6015	10/07/13	Gr. Alpha	30.70 ± 11.90	42.80	22.20 ± 54.30	Pass
ERW-6015	10/07/13	Gr. Beta	25.70 ± 6.48	32.20	20.80 ± 39.90	Pass
ERW-6019	10/07/13	I-131	22.50 ± 1.01	23.60	19.60 ± 28.00	Pass
ERW-6022	10/07/13	Ra-226	12.70 ± 1.62	12.10	9.04 ± 14.00	Pass
ERW-6022 [d]	10/07/13	Ra-228	5.70 ± 0.56	4.02	2.30 ± 5.59	Fail
ERW-6022	10/07/13	Uranium	6.59 ± 0.38	6.24	4.70 ± 7.44	Pass
ERW-6024	10/07/13	H-3	18397 ± 695	17700	15500 - 19500	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 reported result was obtained in the first cycle of counting. It can be positively biased due to extra beta counts contributed by Pb-214 and Bi-214 daughters of Rn-222. Result of second cycle of counting 4.47 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.						
2013-1	5/6/2013	40 cm.	34.26	39.92 ± 2.67	23.98 - 44.54	Pass
2013-1	5/6/2013	50 cm.	21.93	25.44 ± 3.31	15.35 - 28.51	Pass
2013-1	5/6/2013	60 cm.	15.23	15.88 ± 1.12	10.66 - 19.80	Pass
2013-1	5/6/2013	70 cm.	11.19	10.89 ± 0.66	7.83 - 14.55	Pass
2013-1	5/6/2013	80 cm.	8.57	9.21 ± 0.41	6.00 - 11.14	Pass
2013-1	5/6/2013	90 cm.	6.77	6.52 ± 0.34	4.74 - 8.80	Pass
2013-1	5/6/2013	100 cm.	5.48	5.02 ± 0.53	3.84 - 7.12	Pass
2013-1	5/6/2013	110 cm.	4.53	4.51 ± 0.34	3.17 - 5.89	Pass
2013-1	5/6/2013	120 cm.	3.81	4.28 ± 0.35	2.67 - 4.95	Pass
2013-1	5/6/2013	135 cm.	3.01	2.64 ± 0.18	2.11 - 3.91	Pass
2013-1	5/6/2013	150 cm.	2.44	2.10 ± 0.25	1.71 - 3.17	Pass
2013-1	5/6/2013	180 cm.	1.69	1.78 ± 0.33	1.18 - 2.20	Pass
Environmental, Inc.						
2013-2	11/18/2013	50 cm.	19.93	22.75 ± 3.67	13.95 - 25.91	Pass
2013-2	11/18/2013	60 cm.	13.84	15.75 ± 1.94	9.69 - 17.99	Pass
2013-2	11/18/2013	70 cm.	10.17	11.24 ± 0.88	7.12 - 13.22	Pass
2013-2	11/18/2013	75 cm.	8.86	9.18 ± 1.23	6.20 - 11.52	Pass
2013-2	11/18/2013	80 cm.	7.79	7.81 ± 1.10	5.45 - 10.13	Pass
2013-2	11/18/2013	90 cm.	6.15	5.98 ± 0.90	4.31 - 8.00	Pass
2013-2	11/18/2013	100 cm.	4.98	5.13 ± 0.73	3.49 - 6.47	Pass
2013-2	11/18/2013	110 cm.	4.12	3.87 ± 0.32	2.88 - 5.36	Pass
2013-2	11/18/2013	120 cm.	3.46	3.11 ± 0.39	2.42 - 4.50	Pass
2013-2	11/18/2013	135 cm.	2.73	2.71 ± 0.83	1.91 - 3.55	Pass
2013-2	11/18/2013	150 cm.	2.21	2.11 ± 0.63	1.55 - 2.87	Pass
2013-2	11/18/2013	180 cm.	1.54	1.81 ± 0.10	1.08 - 2.00	Pass

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

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
SPW-66	1/9/2013	Tc-99	1009 ± 5	1078	754.9 - 1402.0	Pass
SPW-1891	1/18/2013	Ra-228	35.60 ± 2.75	30.85	21.60 - 40.11	Pass
SPSO-12313S	1/23/2013	Tc-99	103.5 ± 2.2	107.8	75.46 - 140.14	Pass
SPMI-264	1/25/2013	Cs-134	110.9 ± 6.7	107.5	96.73 - 118.23	Pass
SPMI-264	1/25/2013	Cs-137	82.84 ± 7.47	77.48	67.48 - 87.48	Pass
SPMI-264	1/25/2013	Sr-90	38.19 ± 1.49	40.11	32.09 - 48.13	Pass
SPW-266	1/25/2013	Co-60	46.89 ± 4.68	44.48	34.48 - 54.48	Pass
SPW-266	1/25/2013	Cs-134	105.9 ± 8.0	107.5	96.73 - 118.23	Pass
SPW-266	1/25/2013	Cs-137	42.17 ± 5.65	39.49	29.49 - 49.49	Pass
SPW-266	1/25/2013	Sr-90	39.84 ± 1.65	40.11	32.09 - 48.13	Pass
SPAP-376	2/1/2013	Gr. Beta	44.20 ± 0.11	45.68	27.41 - 63.95	Pass
SPAP-378	2/1/2013	Cs-134	3.71 ± 0.65	3.87	2.32 - 5.42	Pass
SPAP-378	2/1/2013	Cs-137	97.47 ± 2.50	102.9	92.61 - 113.19	Pass
SPW-391	2/1/2013	H-3	63719 ± 703	65626	52501 - 78751	Pass
SPW-380	2/10/2013	Ni-63	217.0 ± 3.7	205.3	143.7 - 266.9	Pass
W-30413	3/4/2013	Gr. Alpha	19.77 ± 0.40	20.00	10.00 - 30.00	Pass
W-30413	3/4/2013	Gr. Beta	30.48 ± 0.34	30.90	20.90 - 40.90	Pass
W-30713	3/7/2013	Ra-226	18.06 ± 0.51	16.70	11.69 - 21.71	Pass
W-42713	4/27/2013	Gr. Alpha	20.67 ± 0.40	20.00	10.00 - 30.00	Pass
W-42713	4/27/2013	Gr. Beta	28.44 ± 0.32	30.90	20.90 - 40.90	Pass
WW-2870	5/7/2013	Co-60	166.1 ± 7.4	161.6	145.4 - 177.8	Pass
WW-2870	5/7/2013	Cs-137	161.2 ± 9.3	149.0	134.1 - 163.9	Pass
WW-2870	5/7/2013	H-3	6853 ± 250	6735	5388 - 8082	Pass
W-53113	5/31/2013	Ra-226	16.83 ± 0.41	16.70	11.69 - 21.71	Pass
SPAP-3332	6/19/2013	Am-241	4.60 ± 0.14	4.00	2.40 - 5.60	Pass
SPW-3334	6/19/2013	Th-230	4.36 ± 0.34	4.00	2.40 - 5.60	Pass
SPW-3458	6/24/2013	C-14	3825 ± 13	4736	2842 - 6630	Pass
SPAP-3529	6/27/2013	Cs-134	3.49 ± 1.26	3.30	1.98 - 4.62	Pass
SPAP-3529	6/27/2013	Cs-137	102.0 ± 2.9	101.1	90.99 - 111.21	Pass
SPAP-3531	6/27/2013	Gr. Beta	45.64 ± 0.11	45.42	27.25 - 63.59	Pass
SPF-3533	6/27/2013	Cs-134	1.31 ± 0.14	1.50	0.90 - 2.10	Pass
SPF-3533	6/27/2013	Cs-137	2.77 ± 0.27	2.43	1.46 - 3.40	Pass
SPW-3535	6/27/2013	Ni-63	204.3 ± 3.5	204.8	143.4 - 266.2	Pass
SPW-3537	6/27/2013	Tc-99	104.5 ± 1.7	107.8	75.46 - 140.14	Pass
SPW-3539	6/27/2013	Fe-55	97015 ± 860	90677	72542 - 108812	Pass
SPW-1893	6/28/2013	Ra-228	30.16 - 2.73	30.85	21.60 - 40.11	Pass

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

Lab Code [b]	Date	Analysis	Concentration (pCi/L)[a] Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
SPW-72913S	7/29/2013	Tc-99	126.6 ± 2.2	107.8	75.46 ± 140.14	Pass
SPW-4373	7/31/2013	Cs-134	91.71 ± 6.02	90.94	80.94 ± 100.94	Pass
SPW-4373	7/31/2013	Cs-137	83.05 ± 7.20	76.57	66.57 ± 86.57	Pass
SPW-4373	7/31/2013	Sr-90	39.28 ± 1.77	39.64	31.71 ± 47.57	Pass
SPW-4374	7/31/2013	Sr-90	42.17 ± 1.71	39.64	31.71 ± 47.57	Pass
SPMI-4376	7/31/2013	Cs-134	82.22 - 7.23	90.94	80.94 ± 100.94	Pass
SPMI-4376	7/31/2013	Cs-137	83.31 - 8.29	76.57	66.57 ± 86.57	Pass
SPMI-4376A	7/31/2013	Sr-90	35.00 ± 1.63	39.64	31.71 ± 47.57	Pass
W-73113	7/31/2013	Ra-226	17.61 ± 0.41	16.70	11.69 ± 21.71	Pass
SPS-4514	8/5/2013	Sr-90	78.63 ± 2.95	79.28	63.42 ± 95.14	Pass
W-82013	8/20/2013	Gr. Alpha	21.53 ± 0.45	20.00	10.00 ± 30.00	Pass
W-82013	8/20/2013	Gr. Beta	28.03 ± 0.32	30.90	20.90 ± 40.90	Pass
SPW-1894	8/28/2013	Ra-228	32.49 ± 3.00	30.85	21.60 ± 40.11	Pass
W-90913	9/9/2013	Gr. Alpha	19.08 ± 0.51	20.10	10.05 ± 30.15	Pass
W-90913	9/9/2013	Gr. Beta	32.12 ± 0.35	32.10	22.10 ± 42.10	Pass
WW-5623	10/3/2013	Co-60	157.0 ± 7.0	155.3	139.8 - 170.8	Pass
WW-5623	10/3/2013	Cs-137	156.0 ± 8.8	148.1	133.3 - 162.9	Pass
WW-5623	10/3/2013	H-3	6590 ± 245	6322	5058 - 7586	Pass
WW-5750	10/3/2013	Co-60	87.00 ± 7.80	77.40	77.00 ± 97.00	Pass
WW-5750	10/3/2013	Cs-137	82.30 ± 7.80	78.80	68.80 ± 88.80	Pass
WW-5750	10/3/2013	H-3	6181 ± 238	6322	5058 - 7586	Pass
W-102813	10/28/2013	Ra-226	15.69 ± 0.37	16.70	11.69 ± 21.71	Pass
SPW-1898	12/17/2013	Ra-228	28.15 ± 2.37	30.85	21.60 ± 40.11	Pass
W-122313	12/23/2013	Gr. Alpha	20.96 ± 0.47	20.10	10.05 ± 30.15	Pass
W-122313	12/23/2013	Gr. Beta	31.00 ± 0.34	32.10	22.10 ± 42.10	Pass

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

[b] Laboratory codes : 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 ± 2s.

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-67	Water	1/9/2013	Tc-99	1.10	0.69 ± 0.68	10
SPW-190	Water	1/18/2013	Ra-228	0.74	0.66 ± 0.43	2
SPW-1901	Water	1/18/2013	Ra-228	0.74	0.66 ± 0.43	2
SPMI-263	Milk	1/25/2013	Sr-90	0.64	0.31 ± 0.34	1
SPMI-263	Milk	1/25/2013	Sr-90	0.64	0.31 ± 0.34	1
SPW-265	Water	1/25/2013	Co-60	2.86	2.10 ± 1.72	10
SPW-265	Water	1/25/2013	Cs-134	2.98	2.25 ± 1.57	10
SPW-265	Water	1/25/2013	Cs-137	2.71	0.44 ± 1.61	10
SPW-266	Water	1/25/2013	Sr-90	0.72	-0.12 ± 0.32	1
SPAP-375	Air Filter	2/1/2013	Gr. Beta	0.003	0.016 ± 0.003	0.010
SPAP-377	Air Filter	2/1/2013	Co-60	2.31	-0.34 ± 1.75	100
SPAP-377	Air Filter	2/1/2013	Cs-134	2.72	1.22 ± 1.62	100
SPAP-377	Air Filter	2/1/2013	Cs-137	1.50	-0.52 ± 1.80	100
SPW-391	Water	2/1/2013	H-3	92.04	-29.44 ± 69.24	200
SPW-379	Water	2/10/2013	Ni-63	2.11	0.91 ± 1.30	20
W-30413	Water	3/4/2013	Gr. Alpha	0.35	0.08 ± 0.26	1
W-30413	Water	3/4/2013	Gr. Beta	0.73	0.10 ± 0.51	3.2
W-30713	Water	3/7/2013	Ra-226	0.031	0.032 ± 0.024	1
W-42713	Water	4/27/2013	Gr. Alpha	0.45	-0.14 ± 0.30	1
W-42713	Water	4/27/2013	Gr. Beta	0.72	-0.23 ± 0.50	3.2
W-53113	Water	5/31/2013	Ra-226	0.03	0.01 ± 0.02	1
SPW-3335	Water	6/19/2013	Th-230	0.01	0.01 ± 0.01	1
SPW-3459	Water	6/24/2013	C-14	10.89	10.44 ± 6.82	200
SPAP-3528	Air Filter	6/27/2013	Cs-134	2.10	-0.98 ± 1.11	100
SPAP-3528	Air Filter	6/27/2013	Cs-137	2.71	-0.24 ± 1.36	100
SPAP-3530	Air Filter	6/27/2013	Gr. Beta	0.004	0.018 ± 0.003	0.010
SPF-3532	Fish	6/27/2013	Cs-134	8.38	-1.39 ± 5.69	100
SPF-3532	Fish	6/27/2013	Cs-137	8.37	-1.88 ± 6.41	100
SPW-3534	Water	6/27/2013	Ni-63	2.47	-1.04 ± 1.48	20
SPW-3536	Water	6/27/2013	Tc-99	1.15	-1.11 ± 0.68	10
SPW-3538	water	6/27/2013	Fe-55	170.27	-17.50 ± 102.70	1000
SPW-1903	Water	6/28/2013	Ra-228	0.85	-0.02 ± 0.39	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-72913B	Water	7/29/2013	Tc-99	1.44	-0.33 ± 0.87	10
SPW-4372	Water	7/31/2013	Co-60	1.41	-1.42 ± 3.00	10
SPW-4372	Water	7/31/2013	Cs-134	3.68	-2.66 ± 3.46	10
SPW-4372	Water	7/31/2013	Cs-137	3.53	0.29 ± 3.31	10
SPMI-4375	Milk	7/31/2013	Co-60	3.92	2.65 ± 2.26	10
SPMI-4375	Milk	7/31/2013	Cs-134	4.67	0.68 ± 2.54	10
SPMI-4375	Milk	7/31/2013	Cs-137	4.79	1.30 ± 2.68	10
SPMI-4375	Milk	7/31/2013	Sr-90	0.57	0.32 ± 0.30	1
W-73113	Water	7/31/2013	Ra-226	0.02	0.04 ± 0.02	1
SPS-4515	Powder	8/5/2013	Sr-90	0.09	-0.01 ± 0.04	1
W-82013	Water	8/20/2013	Gr. Alpha	0.42	-0.15 ± 0.28	1
W-82013	Water	8/20/2013	Gr. Beta	0.74	-0.24 ± 0.51	3.2
SPW-1904	Water	8/28/2013	Ra-228	0.96	0.85 ± 0.56	2
CHW-90913	Water	9/9/2013	Gr. Alpha	0.25	0.20 ± 0.29	1
CHW-90913	Water	9/9/2013	Gr. Beta	0.49	-0.18 ± 0.53	3.2
CHW-102013	Water	10/20/2013	Gr. Alpha	0.29	0.24 ± 0.33	1
CHW-102013	Water	10/20/2013	Gr. Beta	0.54	-0.32 ± 0.54	3.2
W-102813	Water	10/28/2013	Ra-226	0.02	0.02 ± 0.01	1
SPW-1908	Water	12/17/2013	Ra-228	0.69	0.55 ± 0.39	2
CHW-122313	Water	12/23/2013	Gr. Alpha	0.25	-0.09 ± 0.26	1
CHW-122313	Water	12/23/2013	Gr. Beta	0.48	0.05 ± 0.53	3.2
CHW-122713	Water	12/27/2013	Gr. Alpha	0.28	0.04 ± 0.31	1
CHW-122713	Water	12/27/2013	Gr. Beta	0.49	-0.33 ± 0.53	3.2

[a] Liquid sample results are reported in pCi/Liter, air filters(pCi/m^3), 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.

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
CF-41, 42	1/2/2013	Gr. Beta	8.45 ± 0.37	7.90 ± 0.35	8.17 ± 0.26	Pass
CF-41, 42	1/2/2013	Sr-90	0.030 ± 0.015	0.029 ± 0.014	0.030 ± 0.010	Pass
SWT-8243, 8244	1/2/2013	Gr. Beta	1.07 ± 0.54	0.98 ± 0.51	1.03 ± 0.37	Pass
AP-8454, 8455	1/2/2013	Be-7	0.053 ± 0.010	0.042 ± 0.010	0.048 ± 0.007	Pass
AP-8517, 8518	1/3/2013	Be-7	0.051 ± 0.015	0.049 ± 0.017	0.050 ± 0.011	Pass
MI-62, 63	1/8/2013	K-40	1317.70 ± 91.70	1351.90 ± 72.50	1334.80 ± 58.45	Pass
WW-151, 152	1/8/2013	H-3	222.70 ± 81.00	289.70 ± 84.10	256.20 ± 58.38	Pass
SG-107, 108	1/11/2013	Ra-226	55.20 ± 5.53	58.60 ± 5.94	56.90 ± 4.06	Pass
SG-107, 108	1/11/2013	Ra-228	71.60 ± 1.10	74.30 ± 1.70	72.95 ± 1.01	Pass
SG-130, 131	1/14/2013	Ra-226	3.91 ± 0.20	3.45 ± 0.27	3.68 ± 0.17	Pass
SG-130, 131	1/14/2013	Ra-228	2.40 ± 0.33	2.70 ± 0.39	2.55 ± 0.26	Pass
WW-277, 278	1/17/2013	H-3	159.71 ± 77.91	196.57 ± 79.72	178.14 ± 55.73	Pass
WW-256, 257	1/22/2013	H-3	502.70 ± 93.40	483.30 ± 92.60	493.00 ± 65.76	Pass
DW-40010, 40011	1/24/2013	Ra-226	2.55 ± 0.18	2.86 ± 0.20	2.71 ± 0.13	Pass
DW-40010, 40011	1/24/2013	Ra-228	1.78 ± 0.62	2.22 ± 0.62	2.00 ± 0.44	Pass
SWT-361, 362	1/29/2013	Gr. Beta	0.90 ± 0.40	1.01 ± 0.38	0.96 ± 0.28	Pass
DW-484, 485	1/29/2013	Gr. Beta	14.85 ± 1.93	14.81 ± 2.06	14.83 ± 1.41	Pass
S-945, 946	1/29/2013	Cs-137	14.50 ± 0.18	14.45 ± 0.19	14.48 ± 0.13	Pass
S-945, 946	1/29/2013	K-40	7.90 ± 0.74	8.00 ± 0.73	7.95 ± 0.52	Pass
S-340, 341	1/31/2013	Cs-137	0.16 ± 0.05	0.15 ± 0.06	0.15 ± 0.04	Pass
S-340, 341	1/31/2013	K-40	17.35 ± 1.34	19.75 ± 1.25	18.55 ± 0.92	Pass
AP-463, 464	1/31/2013	Be-7	0.27 ± 0.10	0.26 ± 0.10	0.26 ± 0.07	Pass
MI-631, 632	2/13/2013	K-40	1350.50 ± 105.20	1413.70 ± 85.94	1382.10 ± 67.92	Pass
WW-769, 770	2/25/2013	Gr. Beta	1.20 ± 0.33	1.35 ± 0.34	1.28 ± 0.24	Pass
DW-736, 737	2/26/2013	Gr. Beta	1.09 ± 0.54	1.57 ± 0.58	1.33 ± 0.40	Pass
SWU-790, 791	2/26/2013	Gr. Beta	2.68 ± 0.96	2.08 ± 0.95	2.38 ± 0.67	Pass
W-925, 926	2/27/2013	H-3	2265.00 ± 153.00	2329.00 ± 154.00	2297.00 ± 108.54	Pass
AP-1034, 1035	3/7/2013	Be-7	0.17 ± 0.08	0.16 ± 0.09	0.17 ± 0.06	Pass
MI-1076, 1077	3/13/2013	K-40	1347.70 ± 99.32	1396.10 ± 108.00	1371.90 ± 73.36	Pass
CH-1118, 1119	3/14/2013	I-131(G)	109.41 ± 5.69	103.88 ± 7.76	106.65 ± 4.81	Pass
WW-1221, 1222	3/14/2013	H-3	452.11 ± 97.43	403.29 ± 95.46	427.70 ± 68.20	Pass
P-1368, 1369	3/15/2013	H-3	735.24 ± 113.99	666.04 ± 111.41	700.64 ± 79.70	Pass
DW-40017, 40018	3/19/2013	Gr. Alpha	1.43 ± 0.94	1.61 ± 1.00	1.52 ± 0.69	Pass
MI-1473, 1474	4/1/2013	K-40	1618.00 ± 107.00	1767.00 ± 129.00	1692.50 ± 83.80	Pass
AP-2014, 2015	4/1/2013	Be-7	0.055 ± 0.008	0.057 ± 0.006	0.056 ± 0.005	Pass
DW-40023, 40024	4/1/2013	Ra-226	2.29 ± 0.18	2.54 ± 0.20	2.42 ± 0.13	Pass
DW-40023, 40024	4/1/2013	Ra-228	2.99 ± 0.69	2.96 ± 0.67	2.98 ± 0.48	Pass
SWU-736, 737	4/2/2013	Gr. Beta	4.80 ± 0.95	4.43 ± 0.86	4.62 ± 0.64	Pass
AP-2035, 2036	4/2/2013	Be-7	0.070 ± 0.013	0.065 ± 0.013	0.068 ± 0.009	Pass
BS-1680, 1681	4/8/2013	K-40	1995.30 ± 265.70	1992.00 ± 289.40	1993.65 ± 196.44	Pass
SW-1638, 1639	4/9/2013	H-3	1350.77 ± 130.08	1320.45 ± 129.25	1335.61 ± 91.69	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
WW-2394, 2395	4/9/2013	H-3	348.08 ± 88.40	302.43 ± 86.41	325.25 ± 61.81	Pass
DW-40035, 40036	4/12/2013	Ra-226	1.36 ± 0.15	1.29 ± 0.13	1.33 ± 0.10	Pass
DW-40035, 40036	4/12/2013	Ra-228	1.22 ± 0.49	1.38 ± 0.53	1.30 ± 0.36	Pass
MI-1825, 1826	4/15/2013	K-40	1290.20 ± 113.80	1378.60 ± 91.99	1334.40 ± 73.17	Pass
MI-1825, 1826	4/15/2013	Sr-90	0.68 ± 0.32	0.46 ± 0.31	0.57 ± 0.22	Pass
DW-40049, 40050	4/15/2013	Gr. Alpha	1.88 ± 0.69	2.51 ± 0.71	2.20 ± 0.50	Pass
WW-1909, 1910	4/16/2013	H-3	2145.68 ± 156.65	2108.32 ± 155.80	2127.00 ± 110.47	Pass
DW-40064, 40065	4/23/2013	Gr. Alpha	1.95 ± 0.79	1.80 ± 0.81	1.88 ± 0.57	Pass
DW-40066, 40067	4/23/2013	Ra-226	1.98 ± 0.17	1.66 ± 0.16	1.82 ± 0.12	Pass
DW-40066, 40067	4/23/2013	Ra-228	2.30 ± 0.59	2.32 ± 0.59	2.31 ± 0.42	Pass
F-2225, 2226	5/1/2013	K-40	2.81 ± 0.37	2.67 ± 0.39	2.74 ± 0.27	Pass
BS-2267, 2268	5/1/2013	K-40	13.46 ± 0.64	13.59 ± 0.62	13.52 ± 0.45	Pass
SG-2235, 2236	5/2/2013	Ac-228	18.30 ± 0.60	18.50 ± 0.60	18.40 ± 0.42	Pass
SG-2235, 2236	5/2/2013	Gr. Alpha	54.00 ± 3.70	51.90 ± 3.40	52.95 ± 2.51	Pass
SG-2235, 2236	5/2/2013	Pb-214	11.30 ± 0.30	11.20 ± 0.20	11.25 ± 0.18	Pass
AP-2288, 2289	5/2/2013	Be-7	0.19 ± 0.10	0.19 ± 0.08	0.19 ± 0.07	Pass
WW-3091, 3092	5/2/2013	H-3	1107.91 ± 153.49	1263.37 ± 157.43	1185.64 ± 109.94	Pass
SW-2373, 2374	5/8/2013	H-3	324.80 ± 86.81	364.61 ± 88.53	344.71 ± 62.00	Pass
W-2352, 2353	5/9/2013	Ra-226	0.91 ± 0.20	1.29 ± 0.22	1.10 ± 0.15	Pass
W-2352, 2353	5/9/2013	Ra-228	1.28 ± 0.87	1.03 ± 0.94	1.16 ± 0.64	Pass
CF-2499, 2500	5/13/2013	K-40	11.52 ± 0.45	12.55 ± 0.61	12.04 ± 0.38	Pass
F-3987, 3988	5/20/2013	K-40	3.07 ± 0.48	3.05 ± 0.43	3.06 ± 0.32	Pass
BS-4113, 4114	5/20/2013	K-40	8.06 ± 0.44	7.99 ± 0.44	8.02 ± 0.31	Pass
SO-2902, 2903	5/22/2013	Th-228	0.57 ± 0.07	0.51 ± 0.06	0.54 ± 0.05	Pass
SO-2902, 2903	5/22/2013	Th-230	0.39 ± 0.06	0.40 ± 0.05	0.40 ± 0.04	Pass
SO-2902, 2903	5/22/2013	Th-232	0.55 ± 0.07	0.62 ± 0.06	0.59 ± 0.05	Pass
WW-2776, 2777	5/23/2013	H-3	261.76 ± 100.85	283.17 ± 101.68	272.46 ± 71.61	Pass
WW-2818, 2819	5/23/2013	H-3	999.35 ± 126.15	880.63 ± 122.43	939.99 ± 87.90	Pass
S-7271, 7272	5/27/2013	Cs-137	2.82 ± 0.10	2.91 ± 0.09	2.86 ± 0.07	Pass
S-7271, 7272	5/27/2013	K-40	21.52 ± 0.97	21.13 ± 1.02	21.32 ± 0.70	Pass
P-2923, 2924	5/29/2013	H-3	441.31 ± 92.75	374.30 ± 89.94	407.80 ± 64.60	Pass
WW-3133, 3134	6/1/2013	H-3	278.42 ± 86.54	209.45 ± 83.44	243.93 ± 60.11	Pass
WW-3049, 3050	6/5/2013	H-3	156.08 ± 79.16	244.66 ± 83.86	200.37 ± 57.66	Pass
DW-40079, 40080	6/5/2013	Ra-226	6.67 ± 0.30	7.03 ± 0.35	6.85 ± 0.23	Pass
DW-40079, 40080	6/5/2013	Ra-228	5.55 ± 0.75	6.11 ± 0.77	5.83 ± 0.54	Pass
DW-40089, 40090	6/5/2013	Gr. Alpha	6.82 ± 0.90	5.64 ± 1.02	6.23 ± 0.68	Pass
DW-40091, 40092	6/5/2013	Ra-226	3.44 ± 0.19	3.66 ± 0.19	3.55 ± 0.13	Pass
DW-40091, 40092	6/5/2013	Ra-228	3.70 ± 0.68	4.69 ± 0.73	4.20 ± 0.50	Pass
DW-40103, 40104	6/5/2013	Ra-226	0.98 ± 0.22	0.62 ± 0.15	0.80 ± 0.13	Pass
MI-3154, 3155	6/12/2013	K-40	1513.00 ± 128.10	1456.70 ± 110.30	1484.85 ± 84.52	Pass
P-3385, 3386	6/14/2013	H-3	236.88 ± 87.87	242.87 ± 88.14	239.88 ± 62.23	Pass
F-3776, 3777	6/16/2013	Cs-137	0.039 ± 0.015	0.048 ± 0.019	0.044 ± 0.012	Pass
F-3776, 3777	6/16/2013	Gr. Beta	4.52 ± 0.09	4.63 ± 0.09	4.57 ± 0.06	Pass
F-3776, 3777	6/16/2013	K-40	3.40 ± 0.41	3.52 ± 0.39	3.46 ± 0.29	Pass

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

			Concentration (pCi/L)[a]			
Lab Code	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
S-3238, 3239	6/17/2013	Be-7	1139.80 ± 215.00	1102.00 ± 194.70	1120.90 ± 145.03	Pass
S-3238, 3239	6/17/2013	Cs-134	26.23 ± 13.23	39.91 ± 11.73	33.07 ± 8.84	Pass
S-3238, 3239	6/17/2013	Cs-137	72.75 ± 25.99	85.91 ± 22.58	79.33 ± 17.21	Pass
S-3238, 3239	6/17/2013	K-40	21847.00 ± 656.50	22158.00 ± 622.80	22002.50 ± 452.46	Pass
SO-3343, 3344	6/17/2013	Cs-137	0.087 ± 0.022	0.084 ± 0.017	0.086 ± 0.014	Pass
SO-3343, 3344	6/17/2013	K-40	8.90 ± 0.53	9.47 ± 0.49	9.19 ± 0.36	Pass
DW-40118, 40119	6/26/2013	Gr. Alpha	3.56 ± 1.07	4.51 ± 0.96	4.04 ± 0.72	Pass
DW-40118, 40119	6/26/2013	Ra-226	2.52 ± 0.22	2.48 ± 0.19	2.50 ± 0.15	Pass
DW-40118, 40119	6/26/2013	Ra-228	2.75 ± 0.71	2.86 ± 0.75	2.81 ± 0.52	Pass
WW-3583, 3584	6/27/2013	H-3	6732.57 ± 246.74	6807.94 ± 247.98	6770.26 ± 174.91	Pass
AP-4092, 4093	6/28/2013	Be-7	0.078 ± 0.015	0.083 ± 0.017	0.080 ± 0.011	Pass
E-3608, 3609	7/1/2013	K-40	1.28 ± 0.13	1.29 ± 0.11	1.28 ± 0.09	Pass
MI-3629, 3630	7/1/2013	K-40	1840.70 ± 130.10	1804.90 ± 143.00	1822.80 ± 96.66	Pass
AP-4050, 4051	7/1/2013	Be-7	0.094 ± 0.009	0.093 ± 0.009	0.093 ± 0.006	Pass
DW-40134, 40135	7/1/2013	Ra-226	1.75 ± 0.15	1.56 ± 0.15	1.66 ± 0.11	Pass
DW-40134, 40135	7/1/2013	Ra-228	2.07 ± 0.60	1.61 ± 0.57	1.84 ± 0.41	Pass
AP-4071, 4072	7/3/2013	Be-7	0.066 ± 0.009	0.069 ± 0.011	0.067 ± 0.007	Pass
DW-40144, 40145	7/9/2013	Gr. Alpha	3.66 ± 0.85	2.85 ± 0.79	3.26 ± 0.58	Pass
DW-40146, 40147	7/9/2013	Ra-226	0.70 ± 0.11	0.72 ± 0.11	0.71 ± 0.08	Pass
DW-40146, 40147	7/9/2013	Ra-228	1.00 ± 0.58	0.70 ± 0.52	0.85 ± 0.39	Pass
VE-3818, 3819	7/9/2013	Be-7	0.41 ± 0.11	0.46 ± 0.18	0.43 ± 0.11	Pass
VE-3818, 3819	7/9/2013	K-40	4.67 ± 0.30	4.52 ± 0.43	4.60 ± 0.26	Pass
XW-4646, 4647	7/15/2013	H-3	465.00 ± 111.00	525.00 ± 114.00	495.00 ± 79.56	Pass
WW-4134, 4135	7/16/2013	H-3	315.86 ± 123.54	264.98 ± 121.78	290.42 ± 86.73	Pass
AP-4155, 4156	7/18/2013	Be-7	0.20 ± 0.11	0.16 ± 0.09	0.18 ± 0.07	Pass
MI-4218, 4219	7/22/2013	K-40	1426.80 ± 117.50	1335.70 ± 110.60	1381.25 ± 80.68	Pass
MI-4218, 4219	7/22/2013	Sr-90	0.62 ± 0.32	0.67 ± 0.32	0.65 ± 0.23	Pass
WW-4239, 4240	7/23/2013	H-3	223.71 ± 92.64	221.74 ± 92.56	222.73 ± 65.48	Pass
WW-4394, 4395	7/30/2013	Gr. Alpha	2.63 ± 1.49	2.57 ± 1.11	2.60 ± 0.93	Pass
WW-4394, 4395	7/30/2013	Gr. Beta	3.72 ± 1.17	2.63 ± 1.29	3.18 ± 0.87	Pass
WW-4394, 4395	7/30/2013	H-3	271.50 ± 91.30	297.60 ± 91.50	284.55 ± 64.63	Pass
SWU-4478, 4479	7/30/2013	Gr. Beta	2.07 ± 0.54	2.24 ± 0.55	2.16 ± 0.39	Pass
DW-40159, 40160	7/31/2013	Ra-226	3.39 ± 0.63	2.39 ± 0.45	2.89 ± 0.39	Pass
DW-40159, 40160	7/31/2013	Ra-228	3.29 ± 0.73	2.94 ± 0.68	3.12 ± 0.50	Pass
VE-4436, 4437	8/1/2013	Be-7	0.98 ± 0.21	0.89 ± 0.17	0.94 ± 0.14	Pass
VE-4436, 4437	8/1/2013	K-40	3.95 ± 0.39	3.75 ± 0.31	3.85 ± 0.25	Pass
G-4457, 4458	8/1/2013	Be-7	0.78 ± 0.19	0.67 ± 0.16	0.72 ± 0.12	Pass
G-4457, 4458	8/1/2013	Gr. Beta	6.15 ± 0.14	6.10 ± 0.14	6.13 ± 0.10	Pass
G-4457, 4458	8/1/2013	K-40	4.25 ± 0.36	4.60 ± 0.41	4.42 ± 0.27	Pass
VE-4520, 4521	8/1/2013	K-40	2.20 ± 0.16	2.09 ± 0.17	2.15 ± 0.12	Pass
WW-4772, 4773	8/6/2013	H-3	143.80 ± 86.70	157.80 ± 87.30	150.80 ± 61.52	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
VE-4709, 4710	8/8/2013	Gr. Beta	31.40 ± 1.00	30.70 ± 1.00	31.05 ± 0.71	Pass
VE-4709, 4710	8/8/2013	H-3	1504.00 ± 132.00	1468.00 ± 131.00	1486.00 ± 92.99	Pass
VE-4709, 4710	8/8/2013	U-233/4	0.009 ± 0.002	0.005 ± 0.002	0.007 ± 0.001	Pass
VE-4709, 4710	8/8/2013	U-238	0.005 ± 0.002	0.004 ± 0.001	0.005 ± 0.001	Pass
WW-4562, 4563	8/8/2013	H-3	208.82 ± 105.55	213.13 ± 105.73	210.97 ± 74.70	Pass
SG-4651, 4652	8/13/2013	Gr. Alpha	29.00 ± 3.10	28.80 ± 3.20	28.90 ± 2.23	Pass
SG-4651, 4652	8/13/2013	Gr. Beta	34.10 ± 1.80	34.00 ± 1.80	34.05 ± 1.27	Pass
SG-4651, 4652	8/13/2013	Ra-226	9.00 ± 0.20	8.70 ± 0.20	8.85 ± 0.14	Pass
VE-4835, 4836	8/13/2013	K-40	3.01 ± 0.24	3.08 ± 0.28	3.04 ± 0.19	Pass
WW-4877, 4878	8/14/2013	H-3	217.35 ± 87.57	276.63 ± 90.20	246.99 ± 62.86	Pass
LW-4856, 4857	8/15/2013	Gr. Beta	0.96 ± 0.40	0.94 ± 0.38	0.95 ± 0.28	Pass
W-4982, 4983	8/16/2013	H-3	757.43 ± 112.40	767.56 ± 112.76	762.50 ± 79.60	Pass
VE-4919, 4920	8/19/2013	K-40	4891.90 ± 407.90	4907.40 ± 350.40	4899.65 ± 268.87	Pass
VE-4919, 4920	8/19/2013	Be-7	470.50 ± 159.60	325.10 ± 104.10	397.80 ± 95.27	Pass
DW-40184, 40185	8/19/2013	Ra-228	2.35 ± 0.72	2.53 ± 0.70	2.44 ± 0.50	Pass
DW-40184, 40185	8/19/2013	Ra-228	1.44 ± 0.35	2.30 ± 0.56	1.87 ± 0.33	Pass
AP-5003, 5004	8/22/2013	Be-7	0.23 ± 0.10	0.21 ± 0.10	0.22 ± 0.07	Pass
LW-5229, 5230	8/29/2013	Gr. Beta	1.09 ± 0.86	2.28 ± 0.96	1.69 ± 0.64	Pass
SS-5333, 5334	9/3/2013	Cs-137	89.20 ± 41.60	97.80 ± 34.60	93.50 ± 27.05	Pass
SS-5333, 5334	9/3/2013	K-40	11893.00 ± 681.30	12353.00 ± 778.90	12123.00 ± 517.41	Pass
VE-5313, 5314	9/3/2013	K-40	1.84 ± 0.20	1.85 ± 0.20	1.85 ± 0.14	Pass
VE-5313, 5314	9/3/2013	Gr. Beta	2.38 ± 0.04	2.43 ± 0.04	2.41 ± 0.03	Pass
WW-5617, 5618	9/5/2013	H-3	1987.00 ± 147.00	2094.00 ± 150.00	2040.50 ± 105.01	Pass
AP-5355, 5356	9/5/2013	Be-7	0.22 ± 0.12	0.27 ± 0.14	0.25 ± 0.09	Pass
XW-5694, 5695	9/8/2013	C-14	0.94 ± 0.09	0.78 ± 0.10	0.86 ± 0.07	Pass
VE-5409, 5410	9/9/2013	K-40	3.60 ± 0.26	3.33 ± 0.29	3.46 ± 0.19	Pass
AP-5430, 5431	9/12/2013	Be-7	0.26 ± 0.10	0.26 ± 0.10	0.26 ± 0.07	Pass
MI-5401, 5402	9/12/2013	K-40	1404.60 ± 114.10	1356.10 ± 128.60	1380.35 ± 85.96	Pass
WW-5451, 5452	9/12/2013	H-3	196.66 ± 84.44	200.78 ± 84.64	198.72 ± 59.78	Pass
MI-5484, 5485	9/16/2013	K-40	1398.50 ± 88.93	1364.60 ± 113.30	1381.55 ± 72.02	Pass
WW-5568, 5569	9/17/2013	H-3	274.69 ± 87.95	203.72 ± 84.71	239.20 ± 61.05	Pass
BS-5764, 5765	9/20/2013	Cs-137	0.40 ± 0.03	0.37 ± 0.02	0.39 ± 0.02	Pass
BS-5764, 5765	9/20/2013	K-40	17.97 ± 0.59	17.54 ± 0.55	17.76 ± 0.40	Pass
VE-5638, 5639	9/23/2013	K-40	4.15 ± 0.33	4.46 ± 0.38	4.31 ± 0.25	Pass
WW-5596, 5597	9/23/2013	Gr. Beta	5.97 ± 1.39	5.95 ± 1.45	5.96 ± 1.01	Pass
G-5680, 5681	9/25/2013	Be-7	0.36 ± 0.13	0.35 ± 0.09	0.35 ± 0.08	Pass
G-5680, 5681	9/25/2013	Gr. Beta	3.81 ± 0.11	3.77 ± 0.11	3.79 ± 0.08	Pass
G-5680, 5681	9/25/2013	K-40	3.23 ± 0.32	2.99 ± 0.24	3.11 ± 0.20	Pass
S-5659, 5660	9/26/2013	Ac-228	1.19 ± 0.21	1.06 ± 0.21	1.13 ± 0.15	Pass
S-5659, 5660	9/26/2013	Cs-137	0.13 ± 0.04	0.14 ± 0.05	0.14 ± 0.03	Pass
S-5659, 5660	9/26/2013	K-40	16.08 ± 1.39	16.65 ± 1.46	16.37 ± 1.01	Pass
S-5659, 5660	9/26/2013	Pb-214	0.97 ± 0.15	1.10 ± 0.16	1.04 ± 0.11	Pass
AP-6345, 6346	9/30/2013	Be-7	0.077 ± 0.010	0.081 ± 0.008	0.079 ± 0.006	Pass
AP-6366, 6367	9/30/2013	Be-7	0.078 ± 0.012	0.083 ± 0.014	0.081 ± 0.009	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
DW-5701, 5702	9/30/2013	Gr. Beta	14.48 ± 2.04	13.32 ± 1.84	13.90 ± 1.37	Pass
SG-5722, 5723	9/30/2013	Ra-226	12.41 ± 0.47	11.98 ± 0.59	12.20 ± 0.38	Pass
SG-5722, 5723	9/30/2013	Ra-228	7.84 ± 0.71	8.13 ± 0.97	7.99 ± 0.60	Pass
G-5806, 5807	10/1/2013	Be-7	3.26 ± 0.30	3.11 ± 0.13	3.19 ± 0.16	Pass
G-5806, 5807	10/1/2013	K-40	6.65 ± 0.21	6.68 ± 0.50	6.67 ± 0.27	Pass
SG-5827, 5828	10/1/2013	Ac-228	4.08 ± 0.33	3.92 ± 0.40	4.00 ± 0.26	Pass
SG-5827, 5828	10/1/2013	K-40	2.55 ± 0.65	2.37 ± 0.63	2.46 ± 0.45	Pass
SG-5827, 5828	10/1/2013	Pb-214	3.82 ± 0.17	3.93 ± 0.20	3.88 ± 0.13	Pass
VE-5848, 5849	10/1/2013	K-40	1.62 ± 0.16	1.57 ± 0.14	1.60 ± 0.11	Pass
AP-6408, 6409	10/3/2013	Be-7	0.072 ± 0.015	0.063 ± 0.012	0.068 ± 0.010	Pass
f-5954, 5955	10/3/2013	K-40	2.74 ± 0.36	3.02 ± 0.34	2.88 ± 0.25	Pass
P-6035, 6036	10/7/2013	H-3	198.41 ± 85.00	288.60 ± 89.15	243.51 ± 61.59	Pass
SG-6115, 6116	10/8/2013	Ac-228	5.22 ± 0.50	4.87 ± 0.48	5.05 ± 0.35	Pass
SG-6115, 6116	10/8/2013	K-40	5.61 ± 1.08	6.61 ± 1.04	6.11 ± 0.75	Pass
SG-6115, 6116	10/8/2013	Pb-214	4.29 ± 0.24	4.24 ± 0.20	4.27 ± 0.16	Pass
VE-6136, 6137	10/8/2013	Be-7	0.55 ± 0.18	0.60 ± 0.15	0.58 ± 0.12	Pass
VE-6136, 6137	10/8/2013	K-40	2.78 ± 0.35	2.61 ± 0.33	2.69 ± 0.24	Pass
WW-6198, 6199	10/8/2013	H-3	12973.70 ± 332.60	12757.80 ± 330.00	12865.75 ± 234.27	Pass
VE-6240, 6241	10/9/2013	K-40	14.29 ± 0.29	14.95 ± 0.54	14.62 ± 0.31	Pass
W-5996, 5997	10/9/2013	Gr. Alpha	3.87 ± 1.18	4.07 ± 1.08	3.97 ± 0.80	Pass
W-5996, 5997	10/9/2013	Gr. Beta	9.82 ± 0.85	8.53 ± 0.82	9.18 ± 0.59	Pass
W-5996, 5997	10/9/2013	Ra-228	3.42 ± 1.02	3.39 ± 1.01	3.41 ± 0.72	Pass
DW-40224, 40225	10/11/2013	Ra-226	0.62 ± 0.10	0.76 ± 0.10	0.69 ± 0.07	Pass
DW-40224, 40225	10/11/2013	Ra-228	0.87 ± 0.55	1.00 ± 0.54	0.94 ± 0.39	Pass
WW-6219, 6220	10/11/2013	H-3	455.41 ± 111.54	354.66 ± 107.84	405.03 ± 77.57	Pass
CF-6261, 6262	10/14/2013	Be-7	1.97 ± 0.24	2.06 ± 0.22	2.01 ± 0.16	Pass
CF-6261, 6262	10/14/2013	K-40	11.55 ± 0.56	12.06 ± 0.61	11.80 ± 0.41	Pass
MI-6303, 6304	10/14/2013	K-40	1507.30 ± 110.80	1482.40 ± 110.00	1494.85 ± 78.07	Pass
VE-6534, 6535	10/17/2013	K-40	15.96 ± 0.17	16.16 ± 0.36	16.06 ± 0.20	Pass
S-6471, 6472	10/18/2013	Ac-228	0.94 ± 0.19	0.78 ± 0.18	0.86 ± 0.13	Pass
S-6471, 6472	10/18/2013	K-40	12.82 ± 1.05	12.90 ± 1.17	12.86 ± 0.79	Pass
S-6471, 6472	10/18/2013	Pb-214	0.88 ± 0.11	0.72 ± 0.12	0.80 ± 0.08	Pass
VE-6597, 6598	10/22/2013	K-40	2.46 ± 0.22	2.58 ± 0.20	2.52 ± 0.15	Pass
WW-6576, 6577	10/22/2013	H-3	745.60 ± 110.70	663.30 ± 107.60	704.45 ± 77.19	Pass
LW-6681, 6682	10/29/2013	Gr. Beta	2.00 ± 0.92	2.17 ± 0.98	2.09 ± 0.67	Pass
SWU-6765, 6766	10/29/2013	Gr. Beta	3.07 ± 0.61	2.90 ± 0.65	2.99 ± 0.45	Pass
WW-6849, 6850	10/29/2013	H-3	863.00 ± 113.80	826.60 ± 112.50	844.80 ± 80.01	Pass
MI-6786, 6787	10/30/2013	K-40	1370.60 ± 109.60	1449.20 ± 105.50	1409.90 ± 76.06	Pass
SO-6744, 6745	10/30/2013	Ac-228	0.46 ± 0.11	0.51 ± 0.11	0.48 ± 0.08	Pass
SO-6744, 6745	10/30/2013	Bi-214	0.48 ± 0.10	0.30 ± 0.10	0.39 ± 0.07	Pass
SO-6744, 6745	10/30/2013	Cs-137	0.21 ± 0.04	0.24 ± 0.04	0.23 ± 0.03	Pass
SO-6744, 6745	10/30/2013	Gr. Beta	27.40 ± 1.14	27.44 ± 1.11	27.42 ± 0.80	Pass
SO-6744, 6745	10/30/2013	K-40	14.93 ± 0.88	15.20 ± 0.90	15.07 ± 0.63	Pass
SO-6744, 6745	10/30/2013	Pb-212	0.43 ± 0.04	0.40 ± 0.05	0.42 ± 0.03	Pass
SO-6744, 6745	10/30/2013	Ra-226	1.47 ± 0.35	1.31 ± 0.36	1.39 ± 0.25	Pass
SO-6744, 6745	10/30/2013	Tl-208	0.16 ± 0.04	0.16 ± 0.04	0.16 ± 0.03	Pass

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

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
DW-40238, 40239	10/31/2013	Ra-228	0.94 ± 0.41	1.60 ± 0.55	1.27 ± 0.34	Pass
WW-7018, 7019	11/1/2013	H-3	593.09 ± 104.72	648.69 ± 106.89	620.89 ± 74.82	Pass
CF-6870, 6871	11/4/2013	K-40	12.67 ± 0.49	13.30 ± 0.47	12.98 ± 0.34	Pass
XW-6828, 6829	11/4/2013	K-40	97.99 ± 55.33	160.21 ± 74.99	129.10 ± 46.60	Pass
BS-6891, 6892	11/5/2013	Cs-137	0.018 ± 0.010	0.018 ± 0.009	0.018 ± 0.007	Pass
BS-6891, 6892	11/5/2013	Gr. Beta	12.41 ± 1.74	9.97 ± 1.57	11.19 ± 1.17	Pass
BS-6891, 6892	11/5/2013	K-40	6.49 ± 0.33	6.28 ± 0.40	6.39 ± 0.26	Pass
WW-6912, 6913	11/5/2013	Gr. Alpha	2.87 ± 1.30	4.46 ± 1.47	3.67 ± 0.98	Pass
WW-6912, 6913	11/5/2013	Gr. Beta	3.18 ± 0.87	3.18 ± 0.87	3.18 ± 0.62	Pass
WW-6912, 6913	11/5/2013	H-3	349.01 ± 101.42	430.14 ± 98.06	389.58 ± 70.54	Pass
SO-6954, 6955	11/6/2013	Cs-137	0.14 ± 0.03	0.12 ± 0.02	0.13 ± 0.02	Pass
SO-6954, 6955	11/6/2013	K-40	15.16 ± 0.72	14.11 ± 0.64	14.64 ± 0.48	Pass
S-6976, 6977	11/13/2013	K-40	22.36 ± 0.69	22.62 ± 0.72	22.49 ± 0.50	Pass
DW-40246, 40247	11/15/2013	Gr. Alpha	15.00 ± 3.41	20.31 ± 4.00	17.65 ± 2.63	Pass
CF-7102, 7103	11/18/2013	Be-7	17.79 ± 0.51	18.09 ± 0.80	17.94 ± 0.48	Pass
DW-40250, 40251	11/18/2013	Ra-226	27.77 ± 2.84	26.15 ± 2.67	26.96 ± 1.95	Pass
DW-40250, 40251	11/18/2013	Ra-228	7.91 ± 0.94	6.32 ± 0.84	7.12 ± 0.63	Pass
WW-7164, 7165	11/19/2013	H-3	266.90 ± 91.10	268.90 ± 91.20	267.90 ± 64.45	Pass
SS-7334, 7335	11/20/2013	K-40	15.51 ± 0.72	14.14 ± 0.80	14.83 ± 0.54	Pass
WW-7558, 7559	11/22/2013	H-3	229.86 ± 83.89	191.77 ± 82.05	210.82 ± 58.67	Pass
LW-7292, 7293	11/26/2013	Gr. Beta	1.92 ± 0.75	2.38 ± 0.77	2.15 ± 0.54	Pass
W-7229, 7230	12/1/2013	Ra-226	0.87 ± 0.23	0.88 ± 0.25	0.88 ± 0.17	Pass
W-7229, 7230	12/1/2013	Ra-228	3.00 ± 0.98	3.27 ± 1.16	3.14 ± 0.76	Pass
SG-7313, 7314	12/2/2013	Ac-228	6.33 ± 0.23	6.69 ± 0.30	6.51 ± 0.19	Pass
SG-7313, 7314	12/2/2013	K-40	5.47 ± 0.61	6.24 ± 0.74	5.86 ± 0.48	Pass
SG-7313, 7314	12/2/2013	Pb-214	5.60 ± 0.14	5.37 ± 0.16	5.49 ± 0.11	Pass
W-7432, 7433	12/4/2013	Gr. Beta	5.35 ± 1.20	3.89 ± 1.23	4.62 ± 0.86	Pass
WW-7516, 7517	12/10/2013	H-3	369.30 ± 95.64	269.22 ± 91.35	319.26 ± 66.13	Pass
SG-7579, 7580	12/20/2013	Ra-226	3.72 ± 0.11	3.85 ± 0.30	3.79 ± 0.16	Pass
SG-7579, 7580	12/20/2013	Ra-228	2.38 ± 0.18	2.77 ± 0.44	2.58 ± 0.24	Pass
LW-7684, 7685	12/23/2013	Gr. Beta	0.84 ± 0.51	1.96 ± 0.61	1.40 ± 0.40	Pass
DW-40261, 40262	12/27/2013	Ra-226	0.54 ± 0.10	0.67 ± 0.10	0.61 ± 0.07	Pass
DW-40261, 40262	12/27/2013	Ra-228	1.09 ± 0.51	1.12 ± 0.43	1.11 ± 0.33	Pass
SWU-7663, 7664	12/30/2013	Gr. Beta	2.85 ± 0.71	3.88 ± 0.77	3.37 ± 0.52	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).

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAAP-738	02/01/13	Am-241	0.10 ± 0.02	0.10	0.07 - 0.14	Pass
MAAP-738	02/01/13	Co-57	2.58 ± 0.06	2.36	1.65 - 3.07	Pass
MAAP-738	02/01/13	Co-60	0.01 ± 0.03	0.00	NA [c]	Pass
MAAP-738	02/01/13	Cs-134	1.82 ± 0.13	1.78	1.25 - 2.31	Pass
MAAP-738	02/01/13	Cs-137	2.93 ± 0.10	2.60	1.82 - 3.38	Pass
MAAP-738	02/01/13	Mn-54	4.87 ± 0.13	4.26	2.98 - 5.54	Pass
MAAP-738	02/01/13	Pu-238	0.12 ± 0.02	0.13	0.09 - 0.17	Pass
MAAP-738	02/01/13	Pu-239/40	0.11 ± 0.02	0.12	0.09 - 0.16	Pass
MAAP-738	02/01/13	Sr-90	1.39 ± 0.14	1.49	1.04 - 1.94	Pass
MAAP-738	02/01/13	U-233/4	0.03 ± 0.01	0.03	0.02 - 0.04	Pass
MAAP-738	02/01/13	U-238	0.23 ± 0.03	0.23	0.16 - 0.30	Pass
MAAP-738	02/01/13	Zn-65	3.84 ± 0.20	3.13	2.19 - 4.07	Pass
MAAP-738 [e]	02/01/13	Gr. Alpha	0.14 ± 0.03	1.20	0.36 - 2.04	Fail
MAAP-738	02/01/13	Gr. Beta	0.93 ± 0.06	0.85	0.43 - 1.28	Pass
MAW-806	02/01/13	Am-241	0.71 ± 0.08	0.69	0.48 - 0.90	Pass
MAW-806	02/01/13	Co-57	31.20 ± 0.40	30.90	21.60 - 40.20	Pass
MAW-806	02/01/13	Co-60	19.70 ± 0.30	16.56	13.69 - 25.43	Pass
MAW-806	02/01/13	Cs-134	23.20 ± 0.50	24.40	17.10 - 31.70	Pass
MAW-806	02/01/13	Cs-137	0.03 ± 0.12	0.00	NA [c]	Pass
MAW-806	02/01/13	Fe-55	34.00 ± 3.30	44.00	30.80 - 57.20	Pass
MAW-806	02/01/13	H-3	511.60 ± 12.50	507.00	355.00 - 659.00	Pass
MAW-806	02/01/13	K-40	2.20 ± 0.90	0.00	NA [c]	Pass
MAW-806	02/01/13	Mn-54	27.60 ± 0.50	27.40	19.20 - 35.60	Pass
MAW-806	02/01/13	Ni-63	34.30 ± 2.80	33.40	23.40 - 43.40	Pass
MAW-806	02/01/13	Pu-238	0.83 ± 0.10	0.88	0.62 - 1.15	Pass
MAW-806	02/01/13	Pu-239/40	0.02 ± 0.02	0.01	NA [d]	Pass
MAW-806	02/01/13	Sr-90	9.30 ± 0.80	10.50	7.40 - 13.70	Pass
MAW-806	02/01/13	Tc-99	10.25 ± 0.40	13.10	9.20 - 17.00	Pass
MAW-806	02/01/13	U-233/4	0.31 ± 0.05	0.32	0.22 - 0.41	Pass
MAW-806	02/01/13	U-238	1.91 ± 0.13	1.95	1.37 - 2.54	Pass
MAW-806	02/01/13	Zn-65	31.60 ± 0.80	30.40	21.30 - 39.50	Pass
MAW-811	02/01/13	Gr. Alpha	1.87 ± 0.09	2.31	0.69 - 3.93	Pass
MAW-811	02/01/13	Gr. Beta	13.04 ± 0.13	13.00	6.50 - 19.50	Pass
MAW-811	02/01/13	I-129	4.60 ± 0.19	6.06	4.24 - 7.88	Pass

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

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MASO-739	02/01/13	Am-241	106.90 ± 11.40	113.00	79.00 - 147.00	Pass
MASO-739	02/01/13	Co-57	0.60 ± 0.50	0.00	NA [c]	Pass
MASO-739	02/01/13	Co-60	739.20 ± 28.50	691.00	484.00 - 898.00	Pass
MASO-739	02/01/13	Cs-134	863.30 ± 34.10	887.00	621.00 - 1153.00	Pass
MASO-739	02/01/13	Cs-137	661.80 ± 25.70	587.00	411.00 - 763.00	Pass
MASO-739	02/01/13	K-40	745.80 ± 33.30	625.30	437.70 - 812.90	Pass
MASO-739	02/01/13	Mn-54	1.10 ± 1.00	0.00	NA [c]	Pass
MASO-739	02/01/13	Zn-65	1109.60 ± 44.10	995.00	697.00 - 1294.00	Pass
MASO-744	02/01/13	Ni-63	682.60 ± 16.80	670.00	469.00 - 871.00	Pass
MASO-744	02/01/13	Pu-238	0.20 ± 0.90	0.52	NA [d]	Pass
MASO-744	02/01/13	Pu-239/40	88.30 ± 9.00	79.50	55.70 - 103.40	Pass
MASO-744 [f]	02/01/13	Sr-90	408.40 ± 14.00	628.00	440.00 - 816.00	Fail
MASO-744	02/01/13	Tc-99	380.50 ± 16.80	444.00	311.00 - 577.00	Pass
MASO-744	02/01/13	U-233/4	53.20 ± 4.80	62.50	43.80 - 81.30	Pass
MASO-744	02/01/13	U-238	242.10 ± 10.20	281.00	197.00 - 365.00	Pass
MAVE-747	02/01/13	Co-57	10.37 ± 0.17	8.68	6.08 - 11.28	Pass
MAVE-747	02/01/13	Co-60	6.48 ± 0.17	5.85	4.10 - 7.61	Pass
MAVE-747	02/01/13	Cs-134	0.02 ± 0.04	0.00	NA [c]	Pass
MAVE-747	02/01/13	Cs-137	7.79 ± 0.21	6.87	4.81 - 8.93	Pass
MAVE-747	02/01/13	Mn-54	0.00 ± 0.05	0.00	NA [c]	Pass
MAVE-747	02/01/13	Zn-65	7.29 ± 0.33	6.25	4.38 - 8.13	Pass
MASO-5043	08/01/13	Am-241	1.40 ± 1.70	0.00	NA [c]	Pass
MASO-5043 [g]	08/01/13	Co-57	699.60 ± 3.90	0.00	NA [c]	Fail
MASO-5043	08/01/13	Cs-134	1191.70 ± 23.00	1172.00	820.00 - 1524.00	Pass
MASO-5043	08/01/13	Cs-137	1072.00 ± 5.10	977.00	684.00 - 1270.00	Pass
MASO-5043	08/01/13	K-40	760.00 ± 16.20	633.00	443.00 - 823.00	Pass
MASO-5043	08/01/13	Mn-54	753.80 ± 4.90	674.00	472.00 - 876.00	Pass
MASO-5043	08/01/13	Ni-63	560.00 ± 23.70	571.00	400.00 - 742.00	Pass
MASO-5043	08/01/13	Pu-238	68.40 ± 7.50	61.50	43.10 - 80.00	Pass
MASO-5043	08/01/13	Pu-239/40	0.40 ± 0.80	0.36	NA [d]	Pass
MASO-5043	08/01/13	Sr-90	383.90 ± 14.50	460.00	322.00 - 598.00	Pass
MASO-5043	08/01/13	Tc-99	-1.00 ± 10.50	0.00	NA [c]	Pass
MASO-5043	08/01/13	U-233/4	23.80 ± 3.30	30.00	21.00 - 39.00	Pass
MASO-5043	08/01/13	U-238	26.80 ± 3.50	34.00	23.80 - 44.20	Pass
MASO-5043	08/01/13	Zn-65	-351.50 ± 5.50	0.00	NA [c]	Pass

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

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAW-5052	08/01/13	I-129	2.75 ± 0.20	3.79	2.65 - 4.93	Pass
MAW-5094	08/01/13	Am-241	0.00 ± 0.01	0.00	NA [c]	Pass
MAW-5094	08/01/13	Co-57	0.01 ± 0.09	0.00	NA [c]	Pass
MAW-5094	08/01/13	Co-60	23.20 ± 0.32	23.58	16.51 - 30.65	Pass
MAW-5094	08/01/13	Cs-134	27.60 ± 0.58	30.40	21.00 - 39.00	Pass
MAW-5094	08/01/13	Cs-137	32.31 ± 0.52	31.60	22.10 - 41.10	Pass
MAW-5094	08/01/13	Fe-55	39.20 ± 3.50	53.30	37.30 - 69.30	Pass
MAW-5094	08/01/13	Gr. Alpha	0.54 ± 0.05	0.70	0.21 - 1.19	Pass
MAW-5094	08/01/13	Gr. Beta	5.85 ± 0.09	5.94	2.97 - 8.91	Pass
MAW-5094	08/01/13	H-3	1.20 ± 3.00	0.00	NA [c]	Pass
MAW-5094	08/01/13	K-40	2.22 ± 0.90	0.00	NA [c]	Pass
MAW-5094	08/01/13	Mn-54	0.01 ± 0.11	0.00	NA [c]	Pass
MAW-5094	08/01/13	Ni-63	21.80 ± 3.30	26.40	18.50 - 34.30	Pass
MAW-5094	08/01/13	Pu-238	1.30 ± 0.11	1.22	0.85 - 1.58	Pass
MAW-5094	08/01/13	Pu-239/40	0.98 ± 0.09	1.00	0.70 - 1.30	Pass
MAW-5094	08/01/13	Sr-90	6.40 ± 0.60	7.22	5.05 - 9.39	Pass
MAW-5094	08/01/13	Tc-99	13.10 ± 0.70	16.20	11.30 - 21.10	Pass
MAW-5094	08/01/13	U-233/4	0.08 ± 0.02	0.07	NA [d]	Pass
MAW-5094	08/01/13	U-238	0.03 ± 0.01	0.03	NA [d]	Pass
MAW-5094	08/01/13	Zn-65	35.30 ± 0.90	34.60	24.20 - 45.00	Pass
MAVE-5046	08/01/13	Co-57	0.01 ± 0.03	0.00	NA [c]	Pass
MAVE-5046	08/01/13	Co-60	0.00 ± 0.04	0.00	NA [c]	Pass
MAVE-5046	08/01/13	Cs-134	5.71 ± 0.23	5.20	3.64 - 6.76	Pass
MAVE-5046	08/01/13	Cs-137	7.64 ± 0.20	6.60	4.62 - 8.58	Pass
MAVE-5046	08/01/13	Mn-54	9.08 ± 0.24	7.88	5.52 - 10.24	Pass
MAVE-5046	08/01/13	Zn-65	2.92 ± 0.25	2.63	1.84 - 3.42	Pass

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

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAAP-5046	08/01/13	Am-241	0.01 ± 0.02	0.00	NA [c]	Pass
MAAP-5046	08/01/13	Co-57	3.48 ± 0.14	3.40	1.90 - 3.50	Pass
MAAP-5046	08/01/13	Co-60	2.44 ± 0.08	3.40	1.60 - 3.00	Pass
MAAP-5046	08/01/13	Cs-134	0.01 ± 0.03	0.00	NA [c]	Pass
MAAP-5046	08/01/13	Cs-137	3.09 ± 0.13	2.70	1.90 - 3.50	Pass
MAAP-5046	08/01/13	Gr. Alpha	0.28 ± 0.04	0.90	0.27 - 1.53	Pass
MAAP-5046	08/01/13	Gr. Beta	1.90 ± 0.08	1.63	0.82 - 2.45	Pass
MAAP-5046	08/01/13	Mn-54	3.95 ± 0.12	3.50	2.50 - 4.60	Pass
MAAP-5046	08/01/13	Pu-238	0.14 ± 0.028	0.12	0.087 - 0.16	Pass
MAAP-5046	08/01/13	Pu-239/40	0.10 ± 0.022	0.092	0.064 - 0.12	Pass
MAAP-5046	08/01/13	Sr-90	1.69 ± 4.10	1.81	1.27 - 2.35	Pass
MAAP-5046 [h]	08/01/13	U-233/4	0.04 ± 0.01	0.03	0.02 - 0.04	Fail
MAAP-5046	08/01/13	U-238	0.19 ± 0.027	0.21	0.14 - 0.27	Pass
MAAP-5046	08/01/13	Zn-65	3.27 ± 0.18	2.70	2.50 - 4.60	Pass

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

[b] Laboratory codes as follows: MAW (water), MAAP (air filter), MASO (soil), MAVE (vegetation).

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

[d] Provided in the series for "sensitivity evaluation". MAPEP does not provide control limits.

[e] The filter was recounted overnight, no significant alpha activity could be detected.

[f] The sample was reanalyzed using additional fuming nitric separations. Result of reanalysis: 574.4 ± 35.2 Bq/kg.

[g] Interference from Eu-152 resulted in misidentification of Co-57.

[h] Result of repeat analysis: 0.031 ± 0.013 pCi/filter.

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
ERAP-1174	03/18/13	Am-241	65.2 ± 4.4	66.8	41.2 - 90.4	Pass
ERAP-1174	03/18/13	Co-60	226.5 ± 4.1	214.0	166.0 - 267.0	Pass
ERAP-1174	03/18/13	Cs-134	1101.2 ± 23.6	1110.0	706.0 - 1380.0	Pass
ERAP-1174	03/18/13	Cs-137	1065.6 ± 21.4	940.0	706.0 - 1230.0	Pass
ERAP-1174	03/18/13	Fe-55	178.8 ± 88.0	225.0	69.8 - 440.0	Pass
ERAP-1174	03/18/13	Mn-54	< 3.1	0.0	0.0 - 50.0	Pass
ERAP-1174	03/18/13	Pu-238	50.0 ± 3.0	51.1	34.3 - 65.9	Pass
ERAP-1174	03/18/13	Pu-239/40	65.7 ± 2.6	65.2	47.2 - 85.2	Pass
ERAP-1174	03/18/13	U-233/4	54.0 ± 2.5	59.4	36.8 - 89.6	Pass
ERAP-1174	03/18/13	U-238	55.6 ± 2.6	58.9	38.1 - 81.4	Pass
ERAP-1174	03/18/13	Uranium	112.0 ± 5.6	121.0	67.0 - 184.0	Pass
ERAP-1174	03/18/13	Zn-65	236.6 ± 13.8	199.0	142.0 - 275.0	Pass
ERAP-1175	03/18/13	Gr. Alpha	52.3 ± 2.8	42.3	14.2 - 65.7	Pass
ERAP-1175	03/18/13	Gr. Beta	36.2 ± 2.0	25.1	15.9 - 36.6	Pass
ERSO-1176	03/18/13	Am-241	293.1 ± 97.4	229.0	134.0 - 297.0	Pass
ERSO-1176	03/18/13	Pu-238	909.0 ± 180.0	788.0	474.0 - 1090.0	Pass
ERSO-1176	03/18/13	Pu-239/40	432.0 ± 120.0	366.0	239.0 - 506.0	Pass
ERSO-1176	03/18/13	Sr-90	8050.8 ± 376.0	8530.0	3250.0 - 13500.0	Pass
ERSO-1176	03/18/13	U-233/4	1662.6 ± 150.0	1920.0	1170.0 - 2460.0	Pass
ERSO-1176	03/18/13	U-238	1682.8 ± 160.0	1900.0	1180.0 - 2410.0	Pass
ERSO-1176	03/18/13	Uranium	3404.0 ± 330.5	3920.0	2130.0 - 5170.0	Pass
ERSO-1176	03/18/13	Ac-228	1335.0 ± 132.0	1240.0	795.0 - 1720.0	Pass
ERSO-1176	03/18/13	Bi-212	1420.0 ± 311.0	1240.0	330.0 - 1820.0	Pass
ERSO-1176	03/18/13	Bi-214	2626.0 ± 60.0	3660.0	2200.0 - 5270.0	Pass
ERSO-1176	03/18/13	Co-60	7951.0 ± 45.4	7920.0	5360.0 - 10900.0	Pass
ERSO-1176	03/18/13	Cs-134	5785.0 ± 51.0	6370.0	4160.0 - 7650.0	Pass
ERSO-1176	03/18/13	Cs-137	6106.0 ± 47.9	6120.0	4690.0 - 7870.0	Pass
ERSO-1176	03/18/13	K-40	11756.0 ± 284.3	10300.0	7520.0 - 13800.0	Pass
ERSO-1176	03/18/13	Mn-54	< 28.0	0.0	0.0 - 1000.0	Pass
ERSO-1176	03/18/13	Pb-212	1096.0 ± 29.1	1240.0	812.0 - 1730.0	Pass
ERSO-1176	03/18/13	Pb-214	2875.0 ± 60.0	3660.0	2140.0 - 5460.0	Pass
ERSO-1176	03/18/13	Th-234	2404.0 ± 218.3	1900.0	601.0 - 3570.0	Pass
ERSO-1176	03/18/13	Zn-65	1542.0 ± 56.4	1400.0	1110.0 - 1860.0	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
ERVE-1180	03/18/13	Am-241	569.8 ± 81.7	553.0	338.0 - 735.0	Pass
ERVE-1180	03/18/13	Cm-244	1260.9 ± 107.3	1340.0	657.0 - 2090.0	Pass
ERVE-1180	03/18/13	Co-60	2130.5 ± 48.0	1920.0	1320.0 - 2680.0	Pass
ERVE-1180	03/18/13	Cs-134	1296.5 ± 68.0	1240.0	797.0 - 1610.0	Pass
ERVE-1180	03/18/13	Cs-137	600.1 ± 34.3	544.0	394.0 - 757.0	Pass
ERVE-1180	03/18/13	K-40	34078.0 ± 787.0	31900.0	23000.0 - 44800.0	Pass
ERVE-1180	03/18/13	Mn-54	< 28.7	0.0	0.0 - 300.0	Pass
ERVE-1180	03/18/13	Pu-238	2476.5 ± 259.4	1980.0	1180.0 - 2710.0	Pass
ERVE-1180	03/18/13	Pu-239/40	2659.3 ± 273.2	2260.0	1390.0 - 3110.0	Pass
ERVE-1180	03/18/13	Sr-90	3809.7 ± 420.5	3840.0	2190.0 - 5090.0	Pass
ERVE-1180	03/18/13	U-233/4	2460.6 ± 205.0	2460.0	1620.0 - 3160.0	Pass
ERVE-1180	03/18/13	U-238	2319.1 ± 189.6	2440.0	1630.0 - 3100.0	Pass
ERVE-1180	03/18/13	Uranium	4866.3 ± 375.6	5010.0	3390.0 - 6230.0	Pass
ERVE-1180	03/18/13	Zn-65	1052.5 ± 82.1	878.0	633.0 - 1230.0	Pass
ERW-1184	03/18/13	Am-241	114.5 ± 8.1	118.0	79.5 - 158.0	Pass
ERW-1184	03/18/13	Co-60	2221.8 ± 17.0	2270.0	1970.0 - 2660.0	Pass
ERW-1184	03/18/13	Cs-134	1309.4 ± 58.4	1400.0	1030.0 - 1610.0	Pass
ERW-1184	03/18/13	Cs-137	1865.9 ± 22.0	1880.0	1600.0 - 2250.0	Pass
ERW-1184	03/18/13	Fe-55	503.1 ± 105.0	712.0	424.0 - 966.0	Pass
ERW-1184	03/18/13	Mn-54	< 9.4	0.0	0.0 - 100.0	Pass
ERW-1184	03/18/13	Pu-238	98.4 ± 5.6	98.8	73.1 - 123.0	Pass
ERW-1184	03/18/13	Pu-239/40	184.5 ± 7.7	185.0	144.0 - 233.0	Pass
ERW-1184	03/18/13	Sr-90	125.7 ± 6.0	137.0	89.2 - 181.0	Pass
ERW-1184	03/18/13	U-233/4	44.9 ± 3.4	48.8	36.7 - 62.9	Pass
ERW-1184	03/18/13	U-238	46.5 ± 3.5	48.4	36.9 - 59.4	Pass
ERW-1184	03/18/13	Uranium	93.3 ± 7.1	99.5	73.1 - 129.0	Pass
ERW-1184	03/18/13	Zn-65	412.8 ± 32.0	384.0	320.0 - 484.0	Pass
ERW-1186	03/18/13	Gr. Alpha	109.1 ± 5.7	130.0	46.2 - 201.0	Pass
ERW-1186	03/18/13	Gr. Beta	74.5 ± 6.4	78.9	45.2 - 117.0	Pass
ERW-1188	03/18/13	H-3	12279.0 ± 319.0	12300.0	8240.0 - 17500.0	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: ERW (water), ERAP (air filter), ERSO (soil), ERVE (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 2013

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 (318)	0.01	0.026 (265/265) (0.009 - 0.050)	49 0.8 miles NNE	0.027 (53/53) (0.013 - 0.050)	Station 53 0.026 (53/53) (0.011 - 0.052)	0
	Gamma (24) Be-7	-	0.076 (20/20) (0.052 - 0.092)	32 3.1 miles WNW	0.081 (4/4) (0.070 - 0.088)	0.076 (4/4) (0.063 - 0.087)	0
Air Radioiodine (pCi/m^3)	I-131 (318)	0.07	- (0/265)	N/A	N/A	Station 53 - (0/53)	0
Direct Radiation Dosimeters (mR per std. 90-day Qtr.)	Gamma Dose (172)	-	18.7 (164/164) (12.3 – 27.6)	47 0.16 miles S	24.2 (4/4) (20.4 – 27.6)	Stations 39 & 53 19.5 (8/8) (15.4 – 21.5)	0
Surface Water (pCi/l)	Gamma (24)		- (0/12)	N/A	N/A	JRR - (0/12)	0
	Tritium (24)	3,000	11,100 (12/12) (9,295–13,170)	SP 3.2 miles SSE	11,100 (12/12) (9,295–13,170)	- (0/12)	0
	Fe-55 (8)	-	- (0/4)	N/A	N/A	- (0/4)	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 2013

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	2.9 (12/12) (2.0 – 4.0)	IO-DW 26.1 miles SSE	2.9 (12/12) (2.0 – 4.0)	3.1 (12/12) (2.2 – 4.0)	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 (6)					JRR	
	K-40	-	9,209 (4/4) (6,368 – 11,893)	EEA 3.0 miles NNW	11,557 (2/2) (11,221–11,893)	11,994 (2/2) (10,926 – 13,061)	0
	Cs-137	180	89 (1/4)	EEA 3.0 miles NNW	89 (1/2)	- (0/2)	0
Fish (pCi/kg wet)	Gamma (16)					JRR	
	K-40	-	3,129 (10/10) (2,698 – 3,690)	CCL 0.6 miles E to NNW	3,129 (10/10) (2,698 – 3,690)	3,416 (6/6) (2,990 – 3,669)	0
	Tritium (16)	-	7,743 (10/10) (6,985 – 8,852)	CCL 0.6 miles E to NNW	7,743 (10/10) (6,985 – 8,852)	- (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 2013

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	-	657 (11/12) (281 – 1,691)	Q-6 2.4 miles NW	1,031 (2/2) (372 – 1,691)	756 (5/6) (397 – 1,259)	0
	K-40	-	5,346 (12/12) (4,689 – 6,915)	H-2 3.0 miles SSE	5,640 (4/4) (5,157 – 6,915)	5,871 (6/6) (4,719 – 6,804)	0
						NR-U1	
Crops (pCi/kg wet)	Gamma (4)						
	K-40	-	14,612 (2/2) (12,882–16,342)	NR-D1 8.9 miles S	16,342 (1/1)	7,606 (2/2) (2,544 – 12,669)	0
Bottom Sediment (pCi/kg dry)	Gamma (19)					JRR	
	K-40	-	10,118 (17/17) (5,110 – 12,602)	EEA 3.0 miles NNW	11,461 (2/2) (11,346-11,576)	12,206 (2/2) (11,660 – 12,752)	0
	Cs-137	-	72 (12/17) (38 – 108)	DC 0.9 miles WNW	93 (2/2) (90 – 97)	85 (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 2013

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	-	1,086 (2/3) (299 – 1,873)	DC-ALT 1.5 miles NW	1,873 (1/1)		0
	K-40	-	3,047 (3/3) (1,861 – 4,998)	EEA 3.0 miles NNW	4,998 (1/1)		0
Terrestrial Vegetation (pCi/kg wet)	Gamma (2)					No Control	
	Be-7	-	1,424 (2/2) (1,018 – 1,830)	MUDS 1.5 miles WNW	1,830 (1/1)		0
	K-40	-	6,667 (2/2) (5,868 – 7,467)	EEA 3.0 miles NNW	7,467 (1/1)		0
Soil (pCi/kg dry)	Gamma (3)					No Control	
	K-40	-	10,441 (3/3) (8,935 - 11,641)	MUDS 1.5 miles WNW	11,641 (1/1)		0
	Cs-137	-	191 (3/3) (148 – 250)	EEA 3.0 miles NNW	212 (2/2) (174 – 250)		0
Deer (pCi/kg wet)	Gamma (1)					No Control	
	K-40	-	3,071 (1/1)	R2.7 2.7 miles NNW	3,071 (1/1)		0
	Tritium (1)	-	251 (1/1)	R2.7 2.7 miles NNW	251 (1/1)		0

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

Appendix C

Individual Sample Results

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
31-DEC-12	07-JAN-13	313	0.037 +/- 0.004	< 0.013	
07-JAN-13	14-JAN-13	293	0.032 +/- 0.005	< 0.019	
14-JAN-13	21-JAN-13	297	0.029 +/- 0.004	< 0.012	
21-JAN-13	28-JAN-13	295	0.037 +/- 0.005	< 0.008	
28-JAN-13	05-FEB-13	355	0.036 +/- 0.004	< 0.013	
05-FEB-13	12-FEB-13	280	0.031 +/- 0.005	< 0.010	
12-FEB-13	19-FEB-13	301	0.024 +/- 0.004	< 0.011	
19-FEB-13	25-FEB-13	258	0.025 +/- 0.005	< 0.011	
25-FEB-13	05-MAR-13	338	0.038 +/- 0.004	< 0.009	
05-MAR-13	12-MAR-13	302	0.024 +/- 0.004	< 0.012	
12-MAR-13	19-MAR-13	295	0.020 +/- 0.004	< 0.017	
19-MAR-13	26-MAR-13	308	0.023 +/- 0.004	< 0.013	
26-MAR-13	01-APR-13	247	0.022 +/- 0.005	< 0.017	
01-APR-13	08-APR-13	294	0.026 +/- 0.004		
01-APR-13	08-APR-13	294		< 0.017	
08-APR-13	15-APR-13	300	0.016 +/- 0.004	< 0.006	
15-APR-13	22-APR-13	309	0.016 +/- 0.004	< 0.007	
15-APR-13	22-APR-13	309	0.017 +/- 0.004		Duplicate
22-APR-13	29-APR-13	301	0.022 +/- 0.004	< 0.009	
29-APR-13	06-MAY-13	310	0.025 +/- 0.004	< 0.007	
06-MAY-13	13-MAY-13	294	0.018 +/- 0.004	< 0.014	
06-MAY-13	13-MAY-13	294	0.018 +/- 0.004		Duplicate
13-MAY-13	20-MAY-13	290	0.028 +/- 0.004	< 0.014	
20-MAY-13	28-MAY-13	349	0.009 +/- 0.003	< 0.013	
28-MAY-13	03-JUN-13	262	0.015 +/- 0.004	< 0.013	
03-JUN-13	10-JUN-13	288	0.020 +/- 0.004	< 0.011	
10-JUN-13	17-JUN-13	304	0.023 +/- 0.004	< 0.013	
17-JUN-13	24-JUN-13	301	0.026 +/- 0.004	< 0.010	
24-JUN-13	01-JUL-13	293	0.023 +/- 0.005	< 0.015	
01-JUL-13	08-JUL-13	296	0.021 +/- 0.004	< 0.011	
08-JUL-13	15-JUL-13	301	0.025 +/- 0.004	< 0.012	
15-JUL-13	22-JUL-13	298	0.015 +/- 0.004	< 0.010	
22-JUL-13	29-JUL-13	306	0.018 +/- 0.004	< 0.011	
29-JUL-13	05-AUG-13	297	0.026 +/- 0.004	< 0.010	
05-AUG-13	12-AUG-13	303	0.025 +/- 0.004	< 0.008	
12-AUG-13	19-AUG-13	297	0.025 +/- 0.004	< 0.012	
19-AUG-13	26-AUG-13	300	0.036 +/- 0.005	< 0.011	
26-AUG-13	03-SEP-13	339	0.023 +/- 0.004	< 0.014	

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
03-SEP-13	09-SEP-13	261	0.039 +/- 0.005	< 0.017	
09-SEP-13	17-SEP-13	349	0.029 +/- 0.004	< 0.012	
17-SEP-13	23-SEP-13	255	0.027 +/- 0.005	< 0.010	
23-SEP-13	30-SEP-13	294	0.032 +/- 0.005	< 0.014	
30-SEP-13	07-OCT-13	301	0.017 +/- 0.004	< 0.007	
07-OCT-13	14-OCT-13	299	0.022 +/- 0.004	< 0.020	
14-OCT-13	21-OCT-13	300	0.016 +/- 0.004	< 0.015	
21-OCT-13	29-OCT-13	337	0.020 +/- 0.004	< 0.007	
29-OCT-13	04-NOV-13	260	0.019 +/- 0.005	< 0.011	
04-NOV-13	11-NOV-13	299	0.019 +/- 0.004	< 0.011	
11-NOV-13	18-NOV-13	306	0.025 +/- 0.004	< 0.009	
18-NOV-13	25-NOV-13	311	0.024 +/- 0.004	< 0.010	
25-NOV-13	02-DEC-13	302	0.033 +/- 0.004	< 0.013	
02-DEC-13	09-DEC-13	306	0.038 +/- 0.005	< 0.018	
09-DEC-13	16-DEC-13	289	0.045 +/- 0.005	< 0.011	
16-DEC-13	23-DEC-13	308	0.036 +/- 0.005	< 0.015	
23-DEC-13	30-DEC-13	299	0.036 +/- 0.005	< 0.012	
30-DEC-13	07-JAN-14	353	0.031 +/- 0.004	< 0.008	

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
31-DEC-12	07-JAN-13	315	0.046 +/- 0.005	< 0.013	
07-JAN-13	14-JAN-13	299	0.037 +/- 0.005	< 0.019	
14-JAN-13	21-JAN-13	297	0.029 +/- 0.004	< 0.012	
21-JAN-13	28-JAN-13	302	0.041 +/- 0.005	< 0.008	
28-JAN-13	05-FEB-13	349	0.036 +/- 0.004	< 0.014	
05-FEB-13	12-FEB-13	302	0.032 +/- 0.004	< 0.009	
12-FEB-13	19-FEB-13	304	0.024 +/- 0.004	< 0.011	
19-FEB-13	25-FEB-13	257	0.027 +/- 0.005	< 0.011	
25-FEB-13	05-MAR-13	340	0.036 +/- 0.004	< 0.009	
05-MAR-13	12-MAR-13	299	0.026 +/- 0.004		Duplicate
05-MAR-13	12-MAR-13	299	0.023 +/- 0.004	< 0.012	
12-MAR-13	19-MAR-13	300	0.028 +/- 0.004	< 0.017	
19-MAR-13	26-MAR-13	311	0.021 +/- 0.004	< 0.013	
26-MAR-13	01-APR-13	248	0.025 +/- 0.005	< 0.017	
01-APR-13	08-APR-13	293	0.023 +/- 0.004		
01-APR-13	08-APR-13	293	0.021 +/- 0.004		Duplicate
01-APR-13	08-APR-13	293		< 0.017	
08-APR-13	15-APR-13	300	0.018 +/- 0.004	< 0.006	
15-APR-13	22-APR-13	314	0.018 +/- 0.004	< 0.007	
22-APR-13	29-APR-13	299	0.020 +/- 0.004	< 0.009	
29-APR-13	06-MAY-13	311	0.018 +/- 0.004	< 0.007	
06-MAY-13	13-MAY-13	294	0.023 +/- 0.004	< 0.014	
13-MAY-13	20-MAY-13	298	0.025 +/- 0.004		Duplicate
13-MAY-13	20-MAY-13	298	0.030 +/- 0.004	< 0.014	
20-MAY-13	28-MAY-13	360	0.013 +/- 0.003	< 0.013	
28-MAY-13	03-JUN-13	254	0.014 +/- 0.004	< 0.013	
03-JUN-13	10-JUN-13	295	0.020 +/- 0.004	< 0.011	
10-JUN-13	17-JUN-13	310	0.021 +/- 0.004	< 0.013	
17-JUN-13	24-JUN-13	303	0.025 +/- 0.004	< 0.010	
24-JUN-13	01-JUL-13	299	0.022 +/- 0.004	< 0.015	
01-JUL-13	08-JUL-13	302	0.026 +/- 0.005	< 0.011	
08-JUL-13	15-JUL-13	300	0.021 +/- 0.004	< 0.012	
15-JUL-13	22-JUL-13	293	0.017 +/- 0.004	< 0.010	
22-JUL-13	29-JUL-13	303	0.023 +/- 0.004	< 0.011	
29-JUL-13	05-AUG-13	298	0.026 +/- 0.004	< 0.010	
05-AUG-13	12-AUG-13	298	0.023 +/- 0.004	< 0.008	
12-AUG-13	19-AUG-13	298	0.026 +/- 0.004	< 0.012	
19-AUG-13	26-AUG-13	306	0.034 +/- 0.005	< 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
26-AUG-13	03-SEP-13	337	0.024 +/- 0.004	< 0.014	
03-SEP-13	09-SEP-13	263	0.041 +/- 0.005	< 0.017	
09-SEP-13	17-SEP-13	349	0.028 +/- 0.004	< 0.012	
17-SEP-13	23-SEP-13	254	0.029 +/- 0.005	< 0.010	
23-SEP-13	30-SEP-13	303	0.033 +/- 0.005	< 0.014	
30-SEP-13	07-OCT-13	297	0.016 +/- 0.004	< 0.007	
07-OCT-13	14-OCT-13	302	0.024 +/- 0.004	< 0.020	
14-OCT-13	21-OCT-13	302	0.016 +/- 0.004	< 0.015	
21-OCT-13	29-OCT-13	342	0.024 +/- 0.004	< 0.007	
29-OCT-13	04-NOV-13	260	0.023 +/- 0.005	< 0.011	
04-NOV-13	11-NOV-13	307	0.018 +/- 0.004	< 0.011	
11-NOV-13	18-NOV-13	312	0.024 +/- 0.004	< 0.009	
18-NOV-13	25-NOV-13	318	0.025 +/- 0.004	< 0.009	
25-NOV-13	02-DEC-13	305	0.035 +/- 0.004	< 0.013	
02-DEC-13	09-DEC-13	315	0.037 +/- 0.004	< 0.017	
09-DEC-13	16-DEC-13	296	0.047 +/- 0.005	< 0.011	
16-DEC-13	23-DEC-13	308	0.037 +/- 0.005	< 0.015	
23-DEC-13	30-DEC-13	294	0.037 +/- 0.005	< 0.013	
30-DEC-13	07-JAN-14	351	0.036 +/- 0.004	< 0.008	

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
31-DEC-12	07-JAN-13	318	0.046 +/- 0.005	< 0.013	
07-JAN-13	14-JAN-13	296	0.034 +/- 0.005	< 0.019	
14-JAN-13	21-JAN-13	297	0.024 +/- 0.004	< 0.012	
21-JAN-13	28-JAN-13	307	0.036 +/- 0.005	< 0.008	
28-JAN-13	05-FEB-13	347	0.035 +/- 0.004	< 0.014	
05-FEB-13	12-FEB-13	304	0.030 +/- 0.004	< 0.009	
12-FEB-13	19-FEB-13	302	0.023 +/- 0.004	< 0.011	
19-FEB-13	25-FEB-13	254	0.029 +/- 0.005	< 0.011	
25-FEB-13	05-MAR-13	343	0.036 +/- 0.004	< 0.009	
05-MAR-13	12-MAR-13	302	0.023 +/- 0.004	< 0.012	
12-MAR-13	19-MAR-13	300	0.028 +/- 0.004	< 0.017	
19-MAR-13	26-MAR-13	309	0.022 +/- 0.004	< 0.013	
26-MAR-13	01-APR-13	248	0.025 +/- 0.005	< 0.017	
26-MAR-13	01-APR-13	248	0.022 +/- 0.005		Duplicate
01-APR-13	08-APR-13	299		< 0.017	
01-APR-13	08-APR-13	299	0.023 +/- 0.004		
08-APR-13	15-APR-13	304	0.017 +/- 0.004	< 0.006	
15-APR-13	22-APR-13	311	0.016 +/- 0.004	< 0.007	
22-APR-13	29-APR-13	301	0.024 +/- 0.004	< 0.009	
29-APR-13	06-MAY-13	306	0.014 +/- 0.004	< 0.007	
06-MAY-13	13-MAY-13	295	0.022 +/- 0.004	< 0.014	
13-MAY-13	20-MAY-13	304	0.026 +/- 0.004	< 0.013	
20-MAY-13	28-MAY-13	344	0.012 +/- 0.003	< 0.013	
28-MAY-13	03-JUN-13	260	0.013 +/- 0.004	< 0.013	
03-JUN-13	10-JUN-13	294	0.020 +/- 0.004	< 0.011	
10-JUN-13	17-JUN-13	305	0.019 +/- 0.004	< 0.013	
17-JUN-13	24-JUN-13	304	0.026 +/- 0.004	< 0.010	
24-JUN-13	27-JUN-13	140	0.025 +/- 0.009	< 0.037	
01-JUL-13	08-JUL-13	289	0.024 +/- 0.005	< 0.011	
08-JUL-13	15-JUL-13	298	0.023 +/- 0.004	< 0.012	
15-JUL-13	22-JUL-13	296	0.018 +/- 0.004	< 0.010	
22-JUL-13	29-JUL-13	303	0.022 +/- 0.004	< 0.011	
29-JUL-13	05-AUG-13	298	0.029 +/- 0.004	< 0.010	
05-AUG-13	12-AUG-13	302	0.020 +/- 0.004	< 0.008	
12-AUG-13	19-AUG-13	297	0.026 +/- 0.004	< 0.012	
19-AUG-13	26-AUG-13	300	0.041 +/- 0.005	< 0.011	
26-AUG-13	03-SEP-13	335	0.025 +/- 0.004	< 0.015	
03-SEP-13	09-SEP-13	264	0.038 +/- 0.005	< 0.017	

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
09-SEP-13	17-SEP-13	337	0.026 +/- 0.004	< 0.012	
17-SEP-13	23-SEP-13	256	0.025 +/- 0.005	< 0.010	
23-SEP-13	30-SEP-13	296	0.036 +/- 0.005	< 0.014	
30-SEP-13	07-OCT-13	299	0.018 +/- 0.004	< 0.007	
07-OCT-13	14-OCT-13	300	0.023 +/- 0.004	< 0.020	
14-OCT-13	21-OCT-13	301	0.019 +/- 0.004	< 0.015	
21-OCT-13	29-OCT-13	341	0.021 +/- 0.004	< 0.007	
29-OCT-13	04-NOV-13	258	0.026 +/- 0.005	< 0.011	
04-NOV-13	11-NOV-13	311	0.018 +/- 0.004	< 0.011	
11-NOV-13	18-NOV-13	304	0.025 +/- 0.004	< 0.009	
18-NOV-13	25-NOV-13	314	0.022 +/- 0.004	< 0.010	
25-NOV-13	02-DEC-13	308	0.036 +/- 0.004	< 0.012	
25-NOV-13	02-DEC-13	308	0.037 +/- 0.005		Duplicate
02-DEC-13	09-DEC-13	305	0.039 +/- 0.005	< 0.018	
09-DEC-13	16-DEC-13	289	0.045 +/- 0.005	< 0.011	
16-DEC-13	23-DEC-13	307	0.040 +/- 0.005	< 0.015	
23-DEC-13	30-DEC-13	289	0.035 +/- 0.005	< 0.013	
30-DEC-13	07-JAN-14	341	0.032 +/- 0.004	< 0.008	

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
31-DEC-12	07-JAN-13	321	0.045 +/- 0.005	< 0.013	
07-JAN-13	14-JAN-13	297	0.034 +/- 0.005	< 0.019	
14-JAN-13	21-JAN-13	296	0.025 +/- 0.004	< 0.012	
21-JAN-13	28-JAN-13	301	0.037 +/- 0.005		Duplicate
21-JAN-13	28-JAN-13	301	0.039 +/- 0.005	< 0.008	
28-JAN-13	05-FEB-13	360	0.034 +/- 0.004	< 0.013	
05-FEB-13	12-FEB-13	303	0.033 +/- 0.004	< 0.009	
05-FEB-13	12-FEB-13	303	0.031 +/- 0.004		Duplicate
12-FEB-13	19-FEB-13	301	0.023 +/- 0.004	< 0.011	
19-FEB-13	25-FEB-13	260	0.026 +/- 0.005	< 0.010	
25-FEB-13	05-MAR-13	345	0.034 +/- 0.004	< 0.009	
05-MAR-13	12-MAR-13	300	0.024 +/- 0.004	< 0.012	
12-MAR-13	19-MAR-13	299	0.026 +/- 0.004	< 0.017	
12-MAR-13	19-MAR-13	299	0.027 +/- 0.004		Duplicate
19-MAR-13	26-MAR-13	313	0.022 +/- 0.004		Duplicate
19-MAR-13	26-MAR-13	313	0.021 +/- 0.004	< 0.013	
26-MAR-13	01-APR-13	249	0.023 +/- 0.005	< 0.017	
01-APR-13	08-APR-13	295		< 0.017	
01-APR-13	08-APR-13	295	0.021 +/- 0.004		
08-APR-13	15-APR-13	305	0.017 +/- 0.004	< 0.006	
15-APR-13	22-APR-13	311	0.015 +/- 0.004	< 0.007	
22-APR-13	29-APR-13	304	0.020 +/- 0.004	< 0.009	
29-APR-13	06-MAY-13	309	0.017 +/- 0.004	< 0.007	
29-APR-13	06-MAY-13	309	0.015 +/- 0.004		Duplicate
06-MAY-13	13-MAY-13	296	0.022 +/- 0.004	< 0.014	
13-MAY-13	20-MAY-13	300	0.029 +/- 0.004	< 0.013	
20-MAY-13	28-MAY-13	347	0.011 +/- 0.003	< 0.013	
28-MAY-13	03-JUN-13	257	0.014 +/- 0.004	< 0.013	
03-JUN-13	10-JUN-13	293	0.018 +/- 0.004	< 0.011	
10-JUN-13	17-JUN-13	303	0.019 +/- 0.004	< 0.013	
17-JUN-13	24-JUN-13	302	0.026 +/- 0.004	< 0.010	
24-JUN-13	01-JUL-13	288	0.027 +/- 0.005	< 0.015	
01-JUL-13	08-JUL-13	301	0.025 +/- 0.004	< 0.011	
08-JUL-13	15-JUL-13	299	0.023 +/- 0.004	< 0.012	
15-JUL-13	22-JUL-13	300	0.018 +/- 0.004	< 0.010	
22-JUL-13	29-JUL-13	307	0.018 +/- 0.004	< 0.011	
29-JUL-13	05-AUG-13	299	0.023 +/- 0.004	< 0.010	
05-AUG-13	12-AUG-13	285	0.028 +/- 0.005	< 0.009	

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
12-AUG-13	19-AUG-13	300	0.024 +/- 0.004	< 0.012	
19-AUG-13	26-AUG-13	300	0.041 +/- 0.005	< 0.011	
26-AUG-13	03-SEP-13	341	0.021 +/- 0.004	< 0.014	
26-AUG-13	03-SEP-13	341	0.026 +/- 0.004		Duplicate
03-SEP-13	09-SEP-13	264	0.043 +/- 0.005	< 0.017	
09-SEP-13	17-SEP-13	338	0.027 +/- 0.004	< 0.012	
17-SEP-13	23-SEP-13	255	0.025 +/- 0.005	< 0.010	
23-SEP-13	30-SEP-13	297	0.033 +/- 0.005	< 0.014	
30-SEP-13	07-OCT-13	301	0.017 +/- 0.004	< 0.007	
07-OCT-13	14-OCT-13	297	0.023 +/- 0.004	< 0.020	
14-OCT-13	21-OCT-13	303	0.018 +/- 0.004	< 0.015	
21-OCT-13	29-OCT-13	340	0.022 +/- 0.004	< 0.007	
29-OCT-13	04-NOV-13	261	0.023 +/- 0.005	< 0.011	
04-NOV-13	11-NOV-13	301	0.020 +/- 0.004	< 0.011	
11-NOV-13	18-NOV-13	308	0.022 +/- 0.004	< 0.009	
18-NOV-13	25-NOV-13	320	0.024 +/- 0.004	< 0.009	
25-NOV-13	02-DEC-13	306	0.034 +/- 0.004	< 0.012	
02-DEC-13	09-DEC-13	315	0.045 +/- 0.005	< 0.017	
09-DEC-13	16-DEC-13	289	0.049 +/- 0.005	< 0.011	
16-DEC-13	23-DEC-13	309	0.037 +/- 0.005	< 0.015	
23-DEC-13	30-DEC-13	289	0.035 +/- 0.005	< 0.013	
30-DEC-13	07-JAN-14	353	0.031 +/- 0.004	< 0.008	

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
31-DEC-12	07-JAN-13	307	0.049 +/- 0.005	< 0.013	
07-JAN-13	14-JAN-13	297	0.040 +/- 0.005	< 0.019	
14-JAN-13	21-JAN-13	296	0.025 +/- 0.004	< 0.012	
21-JAN-13	28-JAN-13	302	0.037 +/- 0.005	< 0.008	
28-JAN-13	05-FEB-13	355	0.038 +/- 0.004	< 0.013	
05-FEB-13	12-FEB-13	303	0.031 +/- 0.004	< 0.009	
12-FEB-13	19-FEB-13	300	0.026 +/- 0.004	< 0.011	
19-FEB-13	25-FEB-13	263	0.027 +/- 0.005	< 0.010	
25-FEB-13	05-MAR-13	347	0.037 +/- 0.004	< 0.009	
05-MAR-13	12-MAR-13	297	0.023 +/- 0.004	< 0.012	
12-MAR-13	19-MAR-13	297	0.031 +/- 0.004	< 0.017	
19-MAR-13	26-MAR-13	312	0.023 +/- 0.004	< 0.013	
26-MAR-13	01-APR-13	248	0.026 +/- 0.005	< 0.017	
01-APR-13	08-APR-13	294		< 0.017	
01-APR-13	08-APR-13	294	0.021 +/- 0.004		
08-APR-13	15-APR-13	306	0.014 +/- 0.004	< 0.006	
15-APR-13	22-APR-13	310	0.018 +/- 0.004	< 0.007	
22-APR-13	29-APR-13	301	0.021 +/- 0.004	< 0.009	
29-APR-13	06-MAY-13	311	0.015 +/- 0.004	< 0.007	
06-MAY-13	13-MAY-13	296	0.022 +/- 0.004	< 0.014	
13-MAY-13	20-MAY-13	296	0.026 +/- 0.004	< 0.014	
20-MAY-13	28-MAY-13	348	0.013 +/- 0.003	< 0.013	
28-MAY-13	03-JUN-13	258	0.014 +/- 0.004	< 0.013	
03-JUN-13	10-JUN-13	291	0.017 +/- 0.004	< 0.011	
10-JUN-13	17-JUN-13	302	0.023 +/- 0.004	< 0.013	
17-JUN-13	24-JUN-13	302	0.029 +/- 0.005	< 0.010	
24-JUN-13	01-JUL-13	295	0.023 +/- 0.004	< 0.015	
01-JUL-13	08-JUL-13	299	0.021 +/- 0.004	< 0.011	
08-JUL-13	15-JUL-13	299	0.023 +/- 0.004	< 0.012	
15-JUL-13	22-JUL-13	297	0.016 +/- 0.004	< 0.010	
22-JUL-13	29-JUL-13	304	0.021 +/- 0.004	< 0.011	
29-JUL-13	05-AUG-13	295	0.026 +/- 0.004	< 0.010	
05-AUG-13	12-AUG-13	304	0.024 +/- 0.004	< 0.008	
12-AUG-13	19-AUG-13	300	0.024 +/- 0.004	< 0.012	
19-AUG-13	26-AUG-13	300	0.040 +/- 0.005	< 0.011	
26-AUG-13	03-SEP-13	341	0.025 +/- 0.004	< 0.014	
03-SEP-13	09-SEP-13	261	0.040 +/- 0.005	< 0.017	
09-SEP-13	17-SEP-13	350	0.029 +/- 0.004	< 0.012	

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
09-SEP-13	17-SEP-13	350	0.026 +/- 0.004		Duplicate
17-SEP-13	23-SEP-13	256	0.026 +/- 0.005	< 0.010	
23-SEP-13	30-SEP-13	300	0.031 +/- 0.005	< 0.014	
30-SEP-13	07-OCT-13	300	0.015 +/- 0.004	< 0.007	
07-OCT-13	14-OCT-13	299	0.022 +/- 0.004	< 0.020	
14-OCT-13	21-OCT-13	303	0.019 +/- 0.004	< 0.015	
21-OCT-13	29-OCT-13	343	0.022 +/- 0.004	< 0.007	
29-OCT-13	04-NOV-13	261	0.024 +/- 0.005	< 0.011	
29-OCT-13	04-NOV-13	261	0.025 +/- 0.005		Duplicate
04-NOV-13	11-NOV-13	329	0.018 +/- 0.004	< 0.010	
11-NOV-13	18-NOV-13	309	0.027 +/- 0.004	< 0.009	
18-NOV-13	25-NOV-13	314	0.022 +/- 0.004	< 0.010	
25-NOV-13	02-DEC-13	309	0.036 +/- 0.004	< 0.012	
02-DEC-13	09-DEC-13	311	0.042 +/- 0.005	< 0.018	
09-DEC-13	16-DEC-13	290	0.050 +/- 0.005	< 0.011	
16-DEC-13	23-DEC-13	309	0.041 +/- 0.005	< 0.015	
23-DEC-13	30-DEC-13	291	0.037 +/- 0.005	< 0.013	
30-DEC-13	07-JAN-14	353	0.031 +/- 0.004	< 0.008	

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
31-DEC-12	07-JAN-13	304	0.052 +/- 0.005	< 0.013	
07-JAN-13	14-JAN-13	298	0.036 +/- 0.005	< 0.019	
14-JAN-13	21-JAN-13	297	0.025 +/- 0.004		Duplicate
14-JAN-13	21-JAN-13	297	0.032 +/- 0.005	< 0.012	
21-JAN-13	28-JAN-13	298	0.038 +/- 0.005	< 0.008	
28-JAN-13	05-FEB-13	351	0.034 +/- 0.004	< 0.014	
05-FEB-13	12-FEB-13	299	0.029 +/- 0.004	< 0.009	
12-FEB-13	19-FEB-13	300	0.026 +/- 0.004	< 0.011	
19-FEB-13	25-FEB-13	258	0.027 +/- 0.005	< 0.011	
25-FEB-13	05-MAR-13	334	0.032 +/- 0.004	< 0.009	
05-MAR-13	12-MAR-13	296	0.019 +/- 0.004	< 0.012	
12-MAR-13	19-MAR-13	294	0.028 +/- 0.004	< 0.017	
19-MAR-13	26-MAR-13	313	0.024 +/- 0.004	< 0.013	
26-MAR-13	01-APR-13	247	0.020 +/- 0.005	< 0.017	
01-APR-13	08-APR-13	293	0.024 +/- 0.004		
01-APR-13	08-APR-13	293		< 0.017	
08-APR-13	15-APR-13	305	0.017 +/- 0.004	< 0.006	
15-APR-13	22-APR-13	313	0.014 +/- 0.004	< 0.007	
22-APR-13	29-APR-13	299	0.021 +/- 0.004	< 0.009	
29-APR-13	06-MAY-13	308	0.015 +/- 0.004	< 0.007	
06-MAY-13	13-MAY-13	261	0.020 +/- 0.005	< 0.016	
13-MAY-13	20-MAY-13	292	0.024 +/- 0.004	< 0.014	
20-MAY-13	28-MAY-13	351	0.011 +/- 0.003	< 0.013	
20-MAY-13	28-MAY-13	351	0.012 +/- 0.003		Duplicate
28-MAY-13	03-JUN-13	255	0.014 +/- 0.004	< 0.013	
03-JUN-13	10-JUN-13	293	0.017 +/- 0.004	< 0.011	
10-JUN-13	17-JUN-13	304	0.020 +/- 0.004	< 0.013	
17-JUN-13	24-JUN-13	304	0.024 +/- 0.004	< 0.010	
24-JUN-13	01-JUL-13	295	0.021 +/- 0.004	< 0.015	
01-JUL-13	08-JUL-13	296	0.020 +/- 0.004	< 0.011	
08-JUL-13	15-JUL-13	297	0.021 +/- 0.004	< 0.012	
15-JUL-13	22-JUL-13	294	0.016 +/- 0.004	< 0.010	
22-JUL-13	29-JUL-13	303	0.023 +/- 0.004	< 0.011	
29-JUL-13	05-AUG-13	299	0.029 +/- 0.004	< 0.010	
05-AUG-13	12-AUG-13	299	0.021 +/- 0.004	< 0.008	
12-AUG-13	19-AUG-13	298	0.025 +/- 0.004	< 0.012	
19-AUG-13	26-AUG-13	305	0.041 +/- 0.005	< 0.010	
26-AUG-13	03-SEP-13	335	0.023 +/- 0.004	< 0.015	

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
03-SEP-13	09-SEP-13	261	0.036 +/- 0.005	< 0.017	
09-SEP-13	17-SEP-13	338	0.026 +/- 0.004	< 0.012	
17-SEP-13	23-SEP-13	261	0.029 +/- 0.005	< 0.010	
23-SEP-13	30-SEP-13	302	0.029 +/- 0.004	< 0.014	
30-SEP-13	07-OCT-13	295	0.016 +/- 0.004	< 0.007	
07-OCT-13	14-OCT-13	300	0.022 +/- 0.004	< 0.020	
14-OCT-13	21-OCT-13	301	0.017 +/- 0.004	< 0.015	
21-OCT-13	29-OCT-13	339	0.021 +/- 0.004	< 0.007	
29-OCT-13	04-NOV-13	263	0.019 +/- 0.005	< 0.010	
04-NOV-13	11-NOV-13	312	0.017 +/- 0.004	< 0.011	
11-NOV-13	18-NOV-13	304	0.025 +/- 0.004	< 0.009	
18-NOV-13	25-NOV-13	314	0.025 +/- 0.004	< 0.010	
25-NOV-13	02-DEC-13	306	0.033 +/- 0.004	< 0.012	
02-DEC-13	09-DEC-13	306	0.040 +/- 0.005	< 0.018	
09-DEC-13	16-DEC-13	290	0.044 +/- 0.005	< 0.011	
16-DEC-13	23-DEC-13	308	0.038 +/- 0.005	< 0.015	
23-DEC-13	30-DEC-13	293	0.030 +/- 0.004	< 0.013	
30-DEC-13	07-JAN-14	347	0.033 +/- 0.004	< 0.008	

Quarterly Air Particulate - Gamma

Location: 002

01-APR-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.064+/-	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

01-JUL-13

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

30-SEP-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.080+/-	0.017
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: 002

30-DEC-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.052+/-	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

Quarterly Air Particulate - Gamma

Location: 018

01-APR-13

Nuclide	Concentration (pCi/m^3)
BE-7	0.079+/- 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

01-JUL-13

Nuclide	Concentration (pCi/m^3)
BE-7	0.079+/- 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

30-SEP-13

Nuclide	Concentration (pCi/m^3)
BE-7	0.070+/- 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**

Quarterly Air Particulate - Gamma

Location: 018

30-DEC-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.065+/-	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

Quarterly Air Particulate - Gamma

Location: 032

01-APR-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.080+/-	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

01-JUL-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.084+/-	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

30-SEP-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.088+/-	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

* Duplicate Analysis

Quarterly Air Particulate - Gamma

Location: 032

30-DEC-13 Nuclide	Concentration (pCi/m^3)	
BE-7	0.070+/-	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

* Duplicate Analysis

Quarterly Air Particulate - Gamma

Location: 037

01-APR-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.075+/-	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

01-JUL-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.083+/-	0.010
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

30-SEP-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.074+/-	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

*** Duplicate Analysis**

Quarterly Air Particulate - Gamma

Location: 037

30-DEC-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.069+/-	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

*** Duplicate Analysis**

Quarterly Air Particulate - Gamma

Location: 049

01-APR-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.080+/-	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

01-JUL-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.088+/-	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

30-SEP-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.083+/-	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

*** Duplicate Analysis**

Quarterly Air Particulate - Gamma

Location: 049

30-DEC-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.063+/-	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

Quarterly Air Particulate - Gamma

Location: 053

01-APR-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.073+/-	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

01-JUL-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.087+/-	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

30-SEP-13

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**

Quarterly Air Particulate - Gamma

Location: 053

30-DEC-13

Nuclide	Concentration (pCi/m^3)	
BE-7	0.063+/-	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

* Duplicate Analysis

Exposure Pathway - Waterborne
Surface Water
Location JRR

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-JAN-13	MN-54	<	3.5	
14-JAN-13	CO-58	<	2.9	
14-JAN-13	FE-59	<	4.1	
14-JAN-13	CO-60	<	3.3	
14-JAN-13	ZN-65	<	5.9	
14-JAN-13	ZR-NB-95	<	5.3	
14-JAN-13	I-131	<	7.5	
14-JAN-13	CS-134	<	4.0	
14-JAN-13	CS-137	<	4.8	
14-JAN-13	BA-LA-140	<	4.6	
14-JAN-13	H-3	<	138.0	
19-FEB-13	MN-54	<	3.7	
19-FEB-13	CO-58	<	3.9	
19-FEB-13	FE-59	<	4.1	
19-FEB-13	CO-60	<	4.9	
19-FEB-13	ZN-65	<	6.8	
19-FEB-13	ZR-NB-95	<	1.9	
19-FEB-13	I-131	<	3.7	
19-FEB-13	CS-134	<	3.0	
19-FEB-13	CS-137	<	4.8	
19-FEB-13	BA-LA-140	<	5.3	
19-FEB-13	H-3	<	143.0	
19-FEB-13	FE-55	<	157.8	
14-MAR-13	MN-54	<	4.9	Duplicate
14-MAR-13	MN-54	<	2.6	
14-MAR-13	CO-58	<	5.6	Duplicate
14-MAR-13	CO-58	<	1.6	
14-MAR-13	FE-59	<	8.7	Duplicate
14-MAR-13	FE-59	<	7.0	
14-MAR-13	CO-60	<	1.8	Duplicate
14-MAR-13	CO-60	<	2.8	
14-MAR-13	ZN-65	<	4.9	Duplicate
14-MAR-13	ZN-65	<	3.4	
14-MAR-13	ZR-NB-95	<	4.0	Duplicate
14-MAR-13	ZR-NB-95	<	3.5	
14-MAR-13	I-131	<	6.0	Duplicate
14-MAR-13	I-131	<	3.6	
14-MAR-13	CS-134	<	4.9	Duplicate
14-MAR-13	CS-134	<	2.8	

Exposure Pathway - Waterborne
Surface Water
Location JRR

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-MAR-13	CS-137	<	2.7	Duplicate
14-MAR-13	CS-137	<	3.6	
14-MAR-13	BA-LA-140	<	6.9	Duplicate
14-MAR-13	BA-LA-140	<	3.6	
14-MAR-13	H-3	<	145.0	Duplicate
14-MAR-13	H-3	<	145.0	
16-APR-13	MN-54	<	2.6	
16-APR-13	CO-58	<	2.6	
16-APR-13	FE-59	<	4.7	
16-APR-13	CO-60	<	2.2	
16-APR-13	ZN-65	<	5.6	
16-APR-13	ZR-NB-95	<	1.7	
16-APR-13	I-131	<	5.4	
16-APR-13	CS-134	<	3.0	
16-APR-13	CS-137	<	2.8	
16-APR-13	BA-LA-140	<	2.3	
16-APR-13	H-3	<	145.0	
20-MAY-13	MN-54	<	2.0	
20-MAY-13	CO-58	<	1.9	
20-MAY-13	FE-59	<	3.6	
20-MAY-13	CO-60	<	2.4	
20-MAY-13	ZN-65	<	3.0	
20-MAY-13	ZR-NB-95	<	3.0	
20-MAY-13	I-131	<	7.8	
20-MAY-13	CS-134	<	2.9	
20-MAY-13	CS-137	<	2.9	
20-MAY-13	BA-LA-140	<	1.9	
20-MAY-13	H-3	<	145.0	
20-MAY-13	FE-55	<	150.3	
11-JUN-13	MN-54	<	3.3	
11-JUN-13	CO-58	<	2.4	
11-JUN-13	FE-59	<	2.6	
11-JUN-13	CO-60	<	2.5	
11-JUN-13	ZN-65	<	2.4	
11-JUN-13	ZR-NB-95	<	2.6	
11-JUN-13	I-131	<	5.5	
11-JUN-13	CS-134	<	2.7	
11-JUN-13	CS-137	<	3.5	
11-JUN-13	BA-LA-140	<	2.6	

Exposure Pathway - Waterborne
Surface Water
Location JRR

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
11-JUN-13	H-3	<	142.0	
15-JUL-13	MN-54	<	5.7	
15-JUL-13	CO-58	<	3.4	
15-JUL-13	FE-59	<	7.9	
15-JUL-13	CO-60	<	5.0	
15-JUL-13	ZN-65	<	6.1	
15-JUL-13	ZR-NB-95	<	4.7	
15-JUL-13	I-131	<	8.5	
15-JUL-13	CS-134	<	5.2	
15-JUL-13	CS-137	<	3.8	
15-JUL-13	BA-LA-140	<	3.5	
15-JUL-13	H-3	<	159.0	
26-AUG-13	MN-54	<	2.4	
26-AUG-13	CO-58	<	1.7	
26-AUG-13	FE-59	<	6.2	
26-AUG-13	CO-60	<	4.3	
26-AUG-13	ZN-65	<	2.0	
26-AUG-13	ZR-NB-95	<	3.8	
26-AUG-13	I-131	<	6.9	
26-AUG-13	CS-134	<	3.7	
26-AUG-13	CS-137	<	3.5	
26-AUG-13	BA-LA-140	<	3.1	
26-AUG-13	H-3	<	149.0	
26-AUG-13	FE-55	<	148.6	
23-SEP-13	MN-54	<	1.5	
23-SEP-13	CO-58	<	1.8	
23-SEP-13	FE-59	<	5.4	
23-SEP-13	CO-60	<	0.9	
23-SEP-13	ZN-65	<	4.3	
23-SEP-13	ZR-NB-95	<	2.8	
23-SEP-13	I-131	<	4.0	
23-SEP-13	CS-134	<	2.9	
23-SEP-13	CS-137	<	3.3	
23-SEP-13	BA-LA-140	<	1.4	
23-SEP-13	H-3	<	146.0	
21-OCT-13	MN-54	<	6.2	
21-OCT-13	CO-58	<	3.5	
21-OCT-13	FE-59	<	2.7	
21-OCT-13	CO-60	<	4.1	

Exposure Pathway - Waterborne
Surface Water
Location JRR

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
21-OCT-13	ZN-65	<	4.1	
21-OCT-13	ZR-NB-95	<	5.2	
21-OCT-13	I-131	<	6.8	
21-OCT-13	CS-134	<	5.6	
21-OCT-13	CS-137	<	5.6	
21-OCT-13	BA-LA-140	<	3.6	
21-OCT-13	H-3	<	148.0	
18-NOV-13	MN-54	<	4.3	
18-NOV-13	CO-58	<	1.9	
18-NOV-13	FE-59	<	3.5	
18-NOV-13	CO-60	<	2.5	
18-NOV-13	ZN-65	<	6.5	
18-NOV-13	ZR-NB-95	<	5.0	
18-NOV-13	I-131	<	6.6	
18-NOV-13	CS-134	<	4.3	
18-NOV-13	CS-137	<	4.8	
18-NOV-13	BA-LA-140	<	2.0	
18-NOV-13	H-3	<	149.0	
18-NOV-13	FE-55	<	157.3	
16-DEC-13	MN-54	<	1.8	
16-DEC-13	CO-58	<	2.5	
16-DEC-13	FE-59	<	5.2	
16-DEC-13	CO-60	<	1.4	
16-DEC-13	ZN-65	<	3.3	
16-DEC-13	ZR-NB-95	<	3.1	
16-DEC-13	I-131	<	2.8	
16-DEC-13	CS-134	<	2.9	
16-DEC-13	CS-137	<	3.2	
16-DEC-13	BA-LA-140	<	2.5	
16-DEC-13	H-3	<	145.0	

Exposure Pathway - Waterborne
Surface Water
Location SP

Collection Date	Nuclide	Concentration (pCi/Liter)			Duplicate Analysis
14-JAN-13	MN-54		<	2.4	
14-JAN-13	CO-58		<	2.8	
14-JAN-13	FE-59		<	5.0	
14-JAN-13	CO-60		<	2.3	
14-JAN-13	ZN-65		<	5.1	
14-JAN-13	ZR-NB-95		<	2.6	
14-JAN-13	I-131		<	3.8	
14-JAN-13	CS-134		<	2.9	
14-JAN-13	CS-137		<	2.6	
14-JAN-13	BA-LA-140		<	3.0	
14-JAN-13	H-3	11,358	+/-	305.0	
19-FEB-13	MN-54		<	2.5	
19-FEB-13	CO-58		<	3.3	
19-FEB-13	FE-59		<	4.8	
19-FEB-13	CO-60		<	3.4	
19-FEB-13	ZN-65		<	8.2	
19-FEB-13	ZR-NB-95		<	5.3	
19-FEB-13	I-131		<	5.0	
19-FEB-13	CS-134		<	3.2	
19-FEB-13	CS-137		<	3.8	
19-FEB-13	BA-LA-140		<	4.2	
19-FEB-13	H-3	13,170	+/-	324.0	
19-FEB-13	FE-55		<	151.1	
14-MAR-13	MN-54		<	3.4	
14-MAR-13	CO-58		<	3.5	
14-MAR-13	FE-59		<	6.1	
14-MAR-13	CO-60		<	3.0	
14-MAR-13	ZN-65		<	5.3	
14-MAR-13	ZR-NB-95		<	3.7	
14-MAR-13	I-131		<	5.2	
14-MAR-13	CS-134		<	3.0	
14-MAR-13	CS-137		<	3.7	
14-MAR-13	BA-LA-140		<	4.6	
14-MAR-13	H-3	12,805	+/-	328.0	
16-APR-13	MN-54		<	3.2	
16-APR-13	CO-58		<	3.2	
16-APR-13	FE-59		<	5.3	
16-APR-13	CO-60		<	3.6	
16-APR-13	ZN-65		<	7.3	

Exposure Pathway - Waterborne
Surface Water
Location SP

Collection Date	Nuclide	Concentration (pCi/Liter)			Duplicate Analysis
16-APR-13	ZR-NB-95		<	5.5	
16-APR-13	I-131		<	7.9	
16-APR-13	CS-134		<	2.5	
16-APR-13	CS-137		<	4.2	
16-APR-13	BA-LA-140		<	5.2	
16-APR-13	H-3	12,354	+/-	320.0	
20-MAY-13	MN-54		<	2.4	
20-MAY-13	CO-58		<	1.9	
20-MAY-13	FE-59		<	4.3	
20-MAY-13	CO-60		<	1.6	
20-MAY-13	ZN-65		<	2.6	
20-MAY-13	ZR-NB-95		<	3.1	
20-MAY-13	I-131		<	6.4	
20-MAY-13	CS-134		<	2.8	
20-MAY-13	CS-137		<	2.0	
20-MAY-13	BA-LA-140		<	5.3	
20-MAY-13	H-3	11,536	+/-	306.0	
20-MAY-13	FE-55		<	151.2	
11-JUN-13	MN-54		<	4.8	
11-JUN-13	CO-58		<	2.3	
11-JUN-13	FE-59		<	6.3	
11-JUN-13	CO-60		<	4.1	
11-JUN-13	ZN-65		<	3.9	
11-JUN-13	ZR-NB-95		<	3.9	
11-JUN-13	I-131		<	9.3	
11-JUN-13	CS-134		<	4.3	
11-JUN-13	CS-137		<	5.0	
11-JUN-13	BA-LA-140		<	4.9	
11-JUN-13	H-3	11,175	+/-	305.0	
15-JUL-13	MN-54		<	2.8	
15-JUL-13	CO-58		<	3.6	
15-JUL-13	FE-59		<	5.0	
15-JUL-13	CO-60		<	2.9	
15-JUL-13	ZN-65		<	6.9	
15-JUL-13	ZR-NB-95		<	4.3	
15-JUL-13	I-131		<	5.6	
15-JUL-13	CS-134		<	3.8	
15-JUL-13	CS-137		<	4.1	
15-JUL-13	BA-LA-140		<	4.8	

Exposure Pathway - Waterborne
Surface Water
Location SP

Collection Date	Nuclide	Concentration (pCi/Liter)			Duplicate Analysis
15-JUL-13	H-3	10,867	+/-	309.0	
26-AUG-13	MN-54		<	5.5	
26-AUG-13	CO-58		<	2.7	
26-AUG-13	FE-59		<	9.2	
26-AUG-13	CO-60		<	3.3	
26-AUG-13	ZN-65		<	6.0	
26-AUG-13	ZR-NB-95		<	5.3	
26-AUG-13	I-131		<	4.9	
26-AUG-13	CS-134		<	3.7	
26-AUG-13	CS-137		<	5.0	
26-AUG-13	BA-LA-140		<	4.8	
26-AUG-13	H-3	9,295	+/-	280.0	
26-AUG-13	FE-55		<	153.9	
23-SEP-13	MN-54		<	1.3	
23-SEP-13	CO-58		<	1.6	
23-SEP-13	FE-59		<	3.2	
23-SEP-13	CO-60		<	1.8	
23-SEP-13	ZN-65		<	2.2	
23-SEP-13	ZR-NB-95		<	1.6	
23-SEP-13	I-131		<	3.8	
23-SEP-13	CS-134		<	1.7	
23-SEP-13	CS-137		<	3.3	
23-SEP-13	BA-LA-140		<	2.8	
23-SEP-13	H-3	9,340	+/-	282.0	
21-OCT-13	MN-54		<	6.0	
21-OCT-13	CO-58		<	2.3	
21-OCT-13	FE-59		<	5.0	
21-OCT-13	CO-60		<	2.1	
21-OCT-13	ZN-65		<	8.8	
21-OCT-13	ZR-NB-95		<	7.3	
21-OCT-13	I-131		<	4.4	
21-OCT-13	CS-134		<	5.7	
21-OCT-13	CS-137		<	6.3	
21-OCT-13	BA-LA-140		<	5.5	
21-OCT-13	H-3	9,970	+/-	293.0	
18-NOV-13	MN-54		<	3.0	
18-NOV-13	CO-58		<	1.5	
18-NOV-13	FE-59		<	4.3	
18-NOV-13	CO-60		<	2.2	

Exposure Pathway - Waterborne
Surface Water

Location SP

Collection Date	Nuclide	Concentration (pCi/Liter)			Duplicate Analysis
18-NOV-13	ZN-65		<	6.2	
18-NOV-13	ZR-NB-95		<	2.6	
18-NOV-13	I-131		<	5.2	
18-NOV-13	CS-134		<	3.4	
18-NOV-13	CS-137		<	3.3	
18-NOV-13	BA-LA-140		<	3.2	
18-NOV-13	H-3	11,024	+/-	309.0	
18-NOV-13	FE-55		<	155.4	
16-DEC-13	MN-54		<	2.6	
16-DEC-13	CO-58		<	2.1	
16-DEC-13	FE-59		<	4.6	
16-DEC-13	CO-60		<	1.5	
16-DEC-13	ZN-65		<	2.2	
16-DEC-13	ZR-NB-95		<	2.1	
16-DEC-13	I-131		<	4.0	
16-DEC-13	CS-134		<	2.4	
16-DEC-13	CS-137		<	2.7	
16-DEC-13	BA-LA-140		<	1.1	
16-DEC-13	H-3	10,309	+/-	296.0	

Exposure Pathway - Waterborne
Ground Water
Location B-12

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-MAR-13	MN-54	< 2.6	
08-MAR-13	CO-58	< 2.3	
08-MAR-13	FE-59	< 4.2	
08-MAR-13	CO-60	< 3.1	
08-MAR-13	ZN-65	< 3.9	
08-MAR-13	ZR-NB-95	< 2.8	
08-MAR-13	CS-134	< 2.4	
08-MAR-13	CS-137	< 3.4	
08-MAR-13	BA-LA-140	< 1.6	
08-MAR-13	H-3	< 141.0	
08-MAR-13	I-131 (CHEM)	< 0.291	
20-MAY-13	MN-54	< 4.1	
20-MAY-13	CO-58	< 3.2	
20-MAY-13	FE-59	< 7.5	
20-MAY-13	CO-60	< 2.9	
20-MAY-13	ZN-65	< 4.6	
20-MAY-13	ZR-NB-95	< 2.9	
20-MAY-13	CS-134	< 2.8	
20-MAY-13	CS-137	< 3.9	
20-MAY-13	BA-LA-140	< 3.3	
20-MAY-13	H-3	< 145.0	
20-MAY-13	I-131 (CHEM)	< 0.273	
26-AUG-13	MN-54	< 3.4	
26-AUG-13	CO-58	< 2.8	
26-AUG-13	FE-59	< 8.4	
26-AUG-13	CO-60	< 4.0	
26-AUG-13	ZN-65	< 5.9	
26-AUG-13	ZR-NB-95	< 4.0	
26-AUG-13	CS-134	< 3.0	
26-AUG-13	CS-137	< 3.9	
26-AUG-13	BA-LA-140	< 3.4	
26-AUG-13	H-3	< 149.0	
26-AUG-13	I-131 (CHEM)	< 0.224	
18-NOV-13	MN-54	< 4.9	
18-NOV-13	CO-58	< 5.2	
18-NOV-13	FE-59	< 7.0	
18-NOV-13	CO-60	< 6.2	
18-NOV-13	ZN-65	< 7.9	
18-NOV-13	ZR-NB-95	< 5.2	

Exposure Pathway - Waterborne
Ground Water
Location B-12

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
18-NOV-13	CS-134	< 5.8	
18-NOV-13	CS-137	< 4.3	
18-NOV-13	BA-LA-140	< 2.4	
18-NOV-13	H-3	< 149.0	
18-NOV-13	I-131 (CHEM)	< 0.441	

Exposure Pathway - Waterborne
Ground Water
Location C-10

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-MAR-13	MN-54	< 3.6	
08-MAR-13	CO-58	< 3.3	
08-MAR-13	FE-59	< 4.4	
08-MAR-13	CO-60	< 2.6	
08-MAR-13	ZN-65	< 5.3	
08-MAR-13	ZR-NB-95	< 3.3	
08-MAR-13	CS-134	< 2.9	
08-MAR-13	CS-137	< 3.2	
08-MAR-13	BA-LA-140	< 3.3	
08-MAR-13	H-3	< 141.0	
08-MAR-13	I-131 (CHEM)	< 0.283	
20-MAY-13	MN-54	< 2.5	
20-MAY-13	CO-58	< 2.7	
20-MAY-13	FE-59	< 3.2	
20-MAY-13	CO-60	< 2.5	
20-MAY-13	ZN-65	< 3.0	
20-MAY-13	ZR-NB-95	< 3.2	
20-MAY-13	CS-134	< 2.8	
20-MAY-13	CS-137	< 3.6	
20-MAY-13	BA-LA-140	< 6.1	
20-MAY-13	H-3	< 145.0	
20-MAY-13	I-131 (CHEM)	< 0.249	
26-AUG-13	MN-54	< 3.4	
26-AUG-13	CO-58	< 2.3	
26-AUG-13	FE-59	< 5.6	
26-AUG-13	CO-60	< 2.9	
26-AUG-13	ZN-65	< 5.7	
26-AUG-13	ZR-NB-95	< 5.0	
26-AUG-13	CS-134	< 3.1	
26-AUG-13	CS-137	< 2.4	
26-AUG-13	BA-LA-140	< 2.7	
26-AUG-13	H-3	< 149.0	
26-AUG-13	I-131 (CHEM)	< 0.236	
25-NOV-13	MN-54	< 4.0	
25-NOV-13	CO-58	< 2.5	
25-NOV-13	FE-59	< 3.8	
25-NOV-13	CO-60	< 3.2	
25-NOV-13	ZN-65	< 3.5	
25-NOV-13	ZR-NB-95	< 4.2	

Exposure Pathway - Waterborne
Ground Water
Location C-10

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
25-NOV-13	CS-134	< 4.1	
25-NOV-13	CS-137	< 2.2	
25-NOV-13	BA-LA-140	< 3.2	
25-NOV-13	H-3	< 155.0	
25-NOV-13	I-131 (CHEM)	< 0.376	

Exposure Pathway - Waterborne
Ground Water
Location C-49

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-MAR-13	MN-54	< 2.6	
08-MAR-13	CO-58	< 2.4	
08-MAR-13	FE-59	< 4.4	
08-MAR-13	CO-60	< 2.7	
08-MAR-13	ZN-65	< 4.1	
08-MAR-13	ZR-NB-95	< 2.9	
08-MAR-13	CS-134	< 3.2	
08-MAR-13	CS-137	< 3.3	
08-MAR-13	BA-LA-140	< 2.3	
08-MAR-13	H-3	< 140.0	
08-MAR-13	I-131 (CHEM)	< 0.399	
20-MAY-13	MN-54	< 2.2	
20-MAY-13	CO-58	< 2.8	
20-MAY-13	FE-59	< 6.3	
20-MAY-13	CO-60	< 2.3	
20-MAY-13	ZN-65	< 6.4	
20-MAY-13	ZR-NB-95	< 4.2	
20-MAY-13	CS-134	< 3.2	
20-MAY-13	CS-137	< 3.7	
20-MAY-13	BA-LA-140	< 4.0	
20-MAY-13	H-3	< 145.0	
20-MAY-13	I-131 (CHEM)	< 0.496	
26-AUG-13	MN-54	< 3.1	
26-AUG-13	CO-58	< 1.9	
26-AUG-13	FE-59	< 4.6	
26-AUG-13	CO-60	< 2.0	
26-AUG-13	ZN-65	< 2.2	
26-AUG-13	ZR-NB-95	< 2.5	
26-AUG-13	CS-134	< 2.3	
26-AUG-13	CS-137	< 3.5	
26-AUG-13	BA-LA-140	< 2.5	
26-AUG-13	H-3	< 149.0	
26-AUG-13	I-131 (CHEM)	< 0.259	
18-NOV-13	MN-54	< 5.0	
18-NOV-13	CO-58	< 3.3	
18-NOV-13	FE-59	< 4.7	
18-NOV-13	CO-60	< 5.5	
18-NOV-13	ZN-65	< 11.2	
18-NOV-13	ZR-NB-95	< 4.3	

Exposure Pathway - Waterborne
Ground Water
Location C-49

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
18-NOV-13	CS-134	< 6.3	
18-NOV-13	CS-137	< 4.9	
18-NOV-13	BA-LA-140	< 2.8	
18-NOV-13	H-3	< 149.0	
18-NOV-13	I-131 (CHEM)	< 0.292	

Exposure Pathway - Waterborne
Ground Water
Location F-1

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-MAR-13	MN-54	< 2.9	
08-MAR-13	CO-58	< 1.7	
08-MAR-13	FE-59	< 4.6	
08-MAR-13	CO-60	< 2.6	
08-MAR-13	ZN-65	< 4.1	
08-MAR-13	ZR-NB-95	< 2.9	
08-MAR-13	CS-134	< 2.9	
08-MAR-13	CS-137	< 2.9	
08-MAR-13	BA-LA-140	< 2.3	
08-MAR-13	H-3	< 141.0	
08-MAR-13	I-131 (CHEM)	< 0.403	
20-MAY-13	MN-54	< 1.8	
20-MAY-13	CO-58	< 1.4	
20-MAY-13	FE-59	< 3.4	
20-MAY-13	CO-60	< 2.0	
20-MAY-13	ZN-65	< 2.9	
20-MAY-13	ZR-NB-95	< 1.8	
20-MAY-13	CS-134	< 2.5	
20-MAY-13	CS-137	< 2.4	
20-MAY-13	BA-LA-140	< 4.0	
20-MAY-13	H-3	< 145.0	
20-MAY-13	I-131 (CHEM)	< 0.281	
26-AUG-13	MN-54	< 3.2	
26-AUG-13	MN-54	< 3.7	Duplicate
26-AUG-13	CO-58	< 3.2	Duplicate
26-AUG-13	CO-58	< 1.7	
26-AUG-13	FE-59	< 6.8	Duplicate
26-AUG-13	FE-59	< 3.8	
26-AUG-13	CO-60	< 1.5	
26-AUG-13	CO-60	< 2.5	Duplicate
26-AUG-13	ZN-65	< 5.6	Duplicate
26-AUG-13	ZN-65	< 3.2	
26-AUG-13	ZR-NB-95	< 4.5	Duplicate
26-AUG-13	ZR-NB-95	< 1.9	
26-AUG-13	CS-134	< 3.7	
26-AUG-13	CS-134	< 4.7	Duplicate
26-AUG-13	CS-137	< 4.0	Duplicate
26-AUG-13	CS-137	< 3.6	
26-AUG-13	BA-LA-140	< 1.3	

Exposure Pathway - Waterborne
Ground Water
Location F-1

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
26-AUG-13	BA-LA-140	< 3.1	Duplicate
26-AUG-13	H-3	< 149.0	Duplicate
26-AUG-13	H-3	< 149.0	
26-AUG-13	I-131 (CHEM)	< 0.319	
26-AUG-13	I-131 (CHEM)	< 0.303	Duplicate
18-NOV-13	MN-54	< 2.3	
18-NOV-13	CO-58	< 2.9	
18-NOV-13	FE-59	< 4.2	
18-NOV-13	CO-60	< 2.8	
18-NOV-13	ZN-65	< 4.2	
18-NOV-13	ZR-NB-95	< 3.6	
18-NOV-13	CS-134	< 3.2	
18-NOV-13	CS-137	< 2.7	
18-NOV-13	BA-LA-140	< 4.2	
18-NOV-13	H-3	< 149.0	
18-NOV-13	I-131 (CHEM)	< 0.459	

Exposure Pathway - Waterborne
Ground Water
Location G-2

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
08-MAR-13	MN-54	<	3.3	
08-MAR-13	CO-58	<	3.2	
08-MAR-13	FE-59	<	6.5	
08-MAR-13	CO-60	<	3.5	
08-MAR-13	ZN-65	<	7.8	
08-MAR-13	ZR-NB-95	<	2.9	
08-MAR-13	CS-134	<	3.1	
08-MAR-13	CS-137	<	2.3	
08-MAR-13	BA-LA-140	<	4.2	
08-MAR-13	H-3	<	141.0	
08-MAR-13	I-131 (CHEM)	<	0.608	
20-MAY-13	MN-54	<	2.9	
20-MAY-13	CO-58	<	2.8	
20-MAY-13	FE-59	<	4.3	
20-MAY-13	CO-60	<	2.3	
20-MAY-13	ZN-65	<	5.6	
20-MAY-13	ZR-NB-95	<	4.7	
20-MAY-13	CS-134	<	3.9	
20-MAY-13	CS-137	<	3.0	
20-MAY-13	BA-LA-140	<	3.9	
20-MAY-13	H-3	<	145.0	
20-MAY-13	I-131 (CHEM)	<	0.298	
26-AUG-13	MN-54	<	2.7	
26-AUG-13	CO-58	<	3.5	
26-AUG-13	FE-59	<	7.4	
26-AUG-13	CO-60	<	2.7	
26-AUG-13	ZN-65	<	6.3	
26-AUG-13	ZR-NB-95	<	3.9	
26-AUG-13	CS-134	<	3.1	
26-AUG-13	CS-137	<	2.9	
26-AUG-13	BA-LA-140	<	2.3	
26-AUG-13	H-3	<	149.0	
26-AUG-13	I-131 (CHEM)	<	0.218	
18-NOV-13	MN-54	<	4.6	Duplicate
18-NOV-13	MN-54	<	2.4	
18-NOV-13	CO-58	<	1.9	
18-NOV-13	CO-58	<	5.2	Duplicate
18-NOV-13	FE-59	<	4.7	Duplicate
18-NOV-13	FE-59	<	4.3	

Exposure Pathway - Waterborne
Ground Water
Location G-2

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
18-NOV-13	CO-60	<	5.9	Duplicate
18-NOV-13	CO-60	<	1.7	
18-NOV-13	ZN-65	<	5.8	Duplicate
18-NOV-13	ZN-65	<	4.2	
18-NOV-13	ZR-NB-95	<	3.0	
18-NOV-13	ZR-NB-95	<	3.0	Duplicate
18-NOV-13	CS-134	<	2.6	
18-NOV-13	CS-134	<	5.6	Duplicate
18-NOV-13	CS-137	<	2.4	
18-NOV-13	CS-137	<	4.2	Duplicate
18-NOV-13	BA-LA-140	<	3.2	Duplicate
18-NOV-13	BA-LA-140	<	2.2	
18-NOV-13	H-3	<	149.0	
18-NOV-13	H-3	<	149.0	Duplicate
18-NOV-13	I-131 (CHEM)	<	0.456	Duplicate
18-NOV-13	I-131 (CHEM)	<	0.233	

Exposure Pathway - Waterborne
Ground Water
Location J-1

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
08-MAR-13	MN-54	<	3.1	
08-MAR-13	CO-58	<	2.8	
08-MAR-13	FE-59	<	4.9	
08-MAR-13	CO-60	<	3.3	
08-MAR-13	ZN-65	<	6.8	
08-MAR-13	ZR-NB-95	<	4.5	
08-MAR-13	CS-134	<	2.4	
08-MAR-13	CS-137	<	2.9	
08-MAR-13	BA-LA-140	<	3.1	
08-MAR-13	H-3	<	141.0	
08-MAR-13	I-131 (CHEM)	<	0.364	
20-MAY-13	MN-54	<	3.2	
20-MAY-13	CO-58	<	1.7	
20-MAY-13	FE-59	<	2.1	
20-MAY-13	CO-60	<	1.8	
20-MAY-13	ZN-65	<	3.7	
20-MAY-13	ZR-NB-95	<	2.5	
20-MAY-13	CS-134	<	3.2	
20-MAY-13	CS-137	<	3.4	
20-MAY-13	BA-LA-140	<	2.8	
20-MAY-13	H-3	<	145.0	
20-MAY-13	I-131 (CHEM)	<	0.286	
26-AUG-13	MN-54	<	2.1	
26-AUG-13	CO-58	<	2.2	
26-AUG-13	FE-59	<	2.9	
26-AUG-13	CO-60	<	2.3	
26-AUG-13	ZN-65	<	5.7	
26-AUG-13	ZR-NB-95	<	2.3	
26-AUG-13	CS-134	<	2.5	
26-AUG-13	CS-137	<	2.7	
26-AUG-13	BA-LA-140	<	1.9	
26-AUG-13	H-3	<	149.0	
26-AUG-13	I-131 (CHEM)	<	0.236	
18-NOV-13	MN-54	<	3.2	
18-NOV-13	CO-58	<	3.2	
18-NOV-13	FE-59	<	4.9	
18-NOV-13	CO-60	<	3.1	
18-NOV-13	ZN-65	<	6.1	
18-NOV-13	ZR-NB-95	<	3.9	

Exposure Pathway - Waterborne
Ground Water
Location J-1

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
18-NOV-13	CS-134	< 3.5	
18-NOV-13	CS-137	< 3.1	
18-NOV-13	BA-LA-140	< 2.0	
18-NOV-13	H-3	< 149.0	
18-NOV-13	I-131 (CHEM)	< 0.262	

Exposure Pathway - Waterborne
Ground Water
Location J-2

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-MAR-13	MN-54	< 3.4	
08-MAR-13	CO-58	< 1.9	
08-MAR-13	FE-59	< 3.9	
08-MAR-13	CO-60	< 2.6	
08-MAR-13	ZN-65	< 5.8	
08-MAR-13	ZR-NB-95	< 3.2	
08-MAR-13	CS-134	< 2.9	
08-MAR-13	CS-137	< 4.1	
08-MAR-13	BA-LA-140	< 5.9	
08-MAR-13	H-3	< 141.0	
08-MAR-13	I-131 (CHEM)	< 0.399	
20-MAY-13	MN-54	< 2.7	
20-MAY-13	CO-58	< 3.2	
20-MAY-13	FE-59	< 3.6	
20-MAY-13	CO-60	< 1.8	
20-MAY-13	ZN-65	< 3.9	
20-MAY-13	ZR-NB-95	< 3.4	
20-MAY-13	CS-134	< 3.1	
20-MAY-13	CS-137	< 2.8	
20-MAY-13	BA-LA-140	< 4.9	
20-MAY-13	H-3	< 145.0	
20-MAY-13	I-131 (CHEM)	< 0.347	
26-AUG-13	MN-54	< 3.2	
26-AUG-13	CO-58	< 2.7	
26-AUG-13	FE-59	< 4.0	
26-AUG-13	CO-60	< 2.2	
26-AUG-13	ZN-65	< 4.6	
26-AUG-13	ZR-NB-95	< 3.4	
26-AUG-13	CS-134	< 2.4	
26-AUG-13	CS-137	< 2.9	
26-AUG-13	BA-LA-140	< 2.8	
26-AUG-13	H-3	< 149.0	
26-AUG-13	I-131 (CHEM)	< 0.21	
25-NOV-13	MN-54	< 3.2	
25-NOV-13	CO-58	< 1.6	
25-NOV-13	FE-59	< 5.2	
25-NOV-13	CO-60	< 2.7	
25-NOV-13	ZN-65	< 4.1	
25-NOV-13	ZR-NB-95	< 3.1	

Exposure Pathway - Waterborne
Ground Water
Location J-2

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
25-NOV-13	CS-134	< 4.1	
25-NOV-13	CS-137	< 2.3	
25-NOV-13	BA-LA-140	< 3.4	
25-NOV-13	H-3	< 155.0	
25-NOV-13	I-131 (CHEM)	< 0.369	

Exposure Pathway - Waterborne
Ground Water
Location L-49

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-MAR-13	MN-54	< 2.0	
08-MAR-13	CO-58	< 2.6	
08-MAR-13	FE-59	< 3.5	
08-MAR-13	CO-60	< 2.0	
08-MAR-13	ZN-65	< 3.1	
08-MAR-13	ZR-NB-95	< 2.4	
08-MAR-13	CS-134	< 3.1	
08-MAR-13	CS-137	< 2.5	
08-MAR-13	BA-LA-140	< 1.8	
08-MAR-13	H-3	< 141.0	
08-MAR-13	I-131 (CHEM)	< 0.423	
20-MAY-13	MN-54	< 4.3	
20-MAY-13	CO-58	< 2.3	
20-MAY-13	FE-59	< 4.7	
20-MAY-13	CO-60	< 2.3	
20-MAY-13	ZN-65	< 6.8	
20-MAY-13	ZR-NB-95	< 3.8	
20-MAY-13	CS-134	< 3.1	
20-MAY-13	CS-137	< 3.0	
20-MAY-13	BA-LA-140	< 3.8	
20-MAY-13	H-3	< 145.0	
20-MAY-13	I-131 (CHEM)	< 0.284	
26-AUG-13	MN-54	< 2.5	
26-AUG-13	CO-58	< 2.2	
26-AUG-13	FE-59	< 2.5	
26-AUG-13	CO-60	< 2.5	
26-AUG-13	ZN-65	< 2.9	
26-AUG-13	ZR-NB-95	< 2.4	
26-AUG-13	CS-134	< 2.6	
26-AUG-13	CS-137	< 2.7	
26-AUG-13	BA-LA-140	< 1.3	
26-AUG-13	H-3	< 149.0	
26-AUG-13	I-131 (CHEM)	< 0.21	
18-NOV-13	MN-54	< 2.6	
18-NOV-13	CO-58	< 2.6	
18-NOV-13	FE-59	< 6.2	
18-NOV-13	CO-60	< 3.3	
18-NOV-13	ZN-65	< 4.5	
18-NOV-13	ZR-NB-95	< 2.7	

Exposure Pathway - Waterborne
Ground Water
Location L-49

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
18-NOV-13	CS-134	< 3.8	
18-NOV-13	CS-137	< 2.7	
18-NOV-13	BA-LA-140	< 2.1	
18-NOV-13	H-3	< 149.0	
18-NOV-13	I-131 (CHEM)	< 0.267	

Exposure Pathway - Waterborne
Drinking Water
Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-FEB-13	MN-54	< 2.8	
05-FEB-13	CO-58	< 3.0	
05-FEB-13	FE-59	< 6.9	
05-FEB-13	CO-60	< 3.5	
05-FEB-13	ZN-65	< 3.7	
05-FEB-13	ZR-NB-95	< 4.4	
05-FEB-13	CS-134	< 2.9	
05-FEB-13	CS-137	< 4.7	
05-FEB-13	BA-LA-140	< 3.9	
05-FEB-13	GROSS BETA	3.302 +/- 0.53	
05-FEB-13	I-131 (CHEM)	< 0.376	
05-MAR-13	MN-54	< 4.5	
05-MAR-13	CO-58	< 5.5	
05-MAR-13	FE-59	< 11.5	
05-MAR-13	CO-60	< 4.2	
05-MAR-13	ZN-65	< 5.8	
05-MAR-13	ZR-NB-95	< 4.5	
05-MAR-13	CS-134	< 4.4	
05-MAR-13	CS-137	< 6.0	
05-MAR-13	BA-LA-140	< 6.8	
05-MAR-13	GROSS BETA	2.173 +/- 0.639	
05-MAR-13	I-131 (CHEM)	< 0.282	
01-APR-13	MN-54	< 2.0	
01-APR-13	CO-58	< 2.5	
01-APR-13	FE-59	< 4.5	
01-APR-13	CO-60	< 2.5	
01-APR-13	ZN-65	< 3.7	
01-APR-13	ZR-NB-95	< 2.6	
01-APR-13	CS-134	< 2.4	
01-APR-13	CS-137	< 2.3	
01-APR-13	BA-LA-140	< 1.7	
01-APR-13	GROSS BETA	3.181 +/- 0.532	
01-APR-13	I-131 (CHEM)	< 0.293	
06-MAY-13	MN-54	< 2.1	
06-MAY-13	CO-58	< 2.7	
06-MAY-13	FE-59	< 1.6	
06-MAY-13	CO-60	< 1.9	
06-MAY-13	ZN-65	< 1.7	

Exposure Pathway - Waterborne
Drinking Water

Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
06-MAY-13	ZR-NB-95	< 2.8	
06-MAY-13	CS-134	< 2.0	
06-MAY-13	CS-137	< 3.9	
06-MAY-13	BA-LA-140	< 1.4	
06-MAY-13	GROSS BETA	3.167 +/- 0.71	
06-MAY-13	I-131 (CHEM)	< 0.308	
03-JUN-13	MN-54	< 4.3	
03-JUN-13	CO-58	< 2.5	
03-JUN-13	FE-59	< 4.8	
03-JUN-13	CO-60	< 2.9	
03-JUN-13	ZN-65	< 7.6	
03-JUN-13	ZR-NB-95	< 3.7	
03-JUN-13	CS-134	< 4.4	
03-JUN-13	CS-137	< 3.6	
03-JUN-13	BA-LA-140	< 2.9	
03-JUN-13	GROSS BETA	3.006 +/- 0.689	
03-JUN-13	I-131 (CHEM)	< 0.43	
01-JUL-13	MN-54	< 3.7	
01-JUL-13	CO-58	< 2.3	
01-JUL-13	FE-59	< 5.8	
01-JUL-13	CO-60	< 2.9	
01-JUL-13	ZN-65	< 4.1	
01-JUL-13	ZR-NB-95	< 2.6	
01-JUL-13	CS-134	< 3.0	
01-JUL-13	CS-137	< 2.9	
01-JUL-13	BA-LA-140	< 3.6	
01-JUL-13	GROSS BETA	3.758 +/- 0.743	
01-JUL-13	I-131 (CHEM)	< 0.278	
05-AUG-13	MN-54	< 2.8	
05-AUG-13	CO-58	< 1.6	
05-AUG-13	FE-59	< 4.8	
05-AUG-13	CO-60	< 1.7	
05-AUG-13	ZN-65	< 3.5	
05-AUG-13	ZR-NB-95	< 3.1	
05-AUG-13	CS-134	< 2.9	
05-AUG-13	CS-137	< 3.4	
05-AUG-13	BA-LA-140	< 2.2	
05-AUG-13	GROSS BETA	2.579 +/- 0.647	

Exposure Pathway - Waterborne
Drinking Water

Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-AUG-13	I-131 (CHEM)	< 0.189	
03-SEP-13	MN-54	< 1.9	
03-SEP-13	CO-58	< 3.0	
03-SEP-13	FE-59	< 3.4	
03-SEP-13	CO-60	< 1.4	
03-SEP-13	ZN-65	< 2.1	
03-SEP-13	ZR-NB-95	< 1.9	
03-SEP-13	CS-134	< 2.4	
03-SEP-13	CS-137	< 2.9	
03-SEP-13	BA-LA-140	< 1.2	
03-SEP-13	GROSS BETA	3.997 +/- 0.746	
03-SEP-13	I-131 (CHEM)	< 0.288	
07-OCT-13	MN-54	< 3.9	
07-OCT-13	CO-58	< 3.3	
07-OCT-13	FE-59	< 5.6	
07-OCT-13	CO-60	< 1.0	
07-OCT-13	ZN-65	< 6.5	
07-OCT-13	ZR-NB-95	< 3.0	
07-OCT-13	CS-134	< 2.9	
07-OCT-13	CS-137	< 2.3	
07-OCT-13	BA-LA-140	< 1.3	
07-OCT-13	GROSS BETA	3.152 +/- 0.691	
07-OCT-13	I-131 (CHEM)	< 0.353	
04-NOV-13	MN-54	< 3.8	
04-NOV-13	CO-58	< 3.1	
04-NOV-13	FE-59	< 7.2	
04-NOV-13	CO-60	< 3.6	
04-NOV-13	ZN-65	< 8.3	
04-NOV-13	ZR-NB-95	< 4.0	
04-NOV-13	CS-134	< 5.0	
04-NOV-13	CS-137	< 4.5	
04-NOV-13	BA-LA-140	< 5.6	
04-NOV-13	GROSS BETA	2.724 +/- 0.492	
04-NOV-13	I-131 (CHEM)	< 0.262	
05-DEC-13	MN-54	< 4.0	
05-DEC-13	CO-58	< 3.5	
05-DEC-13	FE-59	< 5.4	
05-DEC-13	CO-60	< 2.1	

Exposure Pathway - Waterborne
Drinking Water

Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-DEC-13	ZN-65	< 3.7	
05-DEC-13	ZR-NB-95	< 2.5	
05-DEC-13	CS-134	< 4.1	
05-DEC-13	CS-137	< 3.3	
05-DEC-13	BA-LA-140	< 2.6	
05-DEC-13	GROSS BETA	3.273 +/- 0.691	
05-DEC-13	I-131 (CHEM)	< 0.339	
07-JAN-14	MN-54	< 2.0	
07-JAN-14	CO-58	< 1.4	
07-JAN-14	FE-59	< 2.8	
07-JAN-14	CO-60	< 2.2	
07-JAN-14	ZN-65	< 1.7	
07-JAN-14	ZR-NB-95	< 2.5	
07-JAN-14	CS-134	< 3.4	
07-JAN-14	CS-137	< 3.3	
07-JAN-14	BA-LA-140	< 2.7	
07-JAN-14	GROSS BETA	2.568 +/- 0.667	
07-JAN-14	I-131 (CHEM)	< 0.456	

Exposure Pathway - Waterborne
Drinking Water
Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-FEB-13	MN-54	< 3.6	
05-FEB-13	CO-58	< 2.8	
05-FEB-13	FE-59	< 3.7	
05-FEB-13	CO-60	< 3.1	
05-FEB-13	ZN-65	< 6.1	
05-FEB-13	ZR-NB-95	< 2.5	
05-FEB-13	CS-134	< 2.7	
05-FEB-13	CS-137	< 2.8	
05-FEB-13	BA-LA-140	< 2.4	
05-FEB-13	GROSS BETA	2.680 +/- 0.502	
05-FEB-13	I-131 (CHEM)	< 0.458	
05-MAR-13	MN-54	< 4.1	
05-MAR-13	CO-58	< 4.6	
05-MAR-13	FE-59	< 6.1	
05-MAR-13	CO-60	< 4.8	
05-MAR-13	ZN-65	< 4.9	
05-MAR-13	ZR-NB-95	< 3.6	
05-MAR-13	CS-134	< 2.6	
05-MAR-13	CS-137	< 4.7	
05-MAR-13	BA-LA-140	< 4.1	
05-MAR-13	GROSS BETA	2.602 +/- 0.707	
05-MAR-13	I-131 (CHEM)	< 0.3	
01-APR-13	MN-54	< 3.0	
01-APR-13	CO-58	< 1.9	
01-APR-13	FE-59	< 4.9	
01-APR-13	CO-60	< 2.7	
01-APR-13	ZN-65	< 4.3	
01-APR-13	ZR-NB-95	< 2.0	
01-APR-13	CS-134	< 2.7	
01-APR-13	CS-137	< 2.6	
01-APR-13	BA-LA-140	< 2.0	
01-APR-13	GROSS BETA	2.378 +/- 0.501	
01-APR-13	I-131 (CHEM)	< 0.316	
06-MAY-13	MN-54	< 2.0	
06-MAY-13	CO-58	< 2.7	
06-MAY-13	FE-59	< 4.2	
06-MAY-13	CO-60	< 1.6	
06-MAY-13	ZN-65	< 3.9	

Exposure Pathway - Waterborne
Drinking Water
Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
06-MAY-13	ZR-NB-95	< 3.0	
06-MAY-13	CS-134	< 2.6	
06-MAY-13	CS-137	< 2.8	
06-MAY-13	BA-LA-140	< 2.1	
06-MAY-13	GROSS BETA	2.026 +/- 0.66	
06-MAY-13	I-131 (CHEM)	< 0.31	
03-JUN-13	MN-54	< 3.6	
03-JUN-13	CO-58	< 2.0	
03-JUN-13	FE-59	< 5.3	
03-JUN-13	CO-60	< 2.2	
03-JUN-13	ZN-65	< 3.6	
03-JUN-13	ZR-NB-95	< 3.6	
03-JUN-13	CS-134	< 3.2	
03-JUN-13	CS-137	< 2.3	
03-JUN-13	BA-LA-140	< 4.3	
03-JUN-13	GROSS BETA	3.007 +/- 0.696	
03-JUN-13	I-131 (CHEM)	< 0.312	
01-JUL-13	MN-54	< 2.2	
01-JUL-13	CO-58	< 2.4	
01-JUL-13	FE-59	< 1.8	
01-JUL-13	CO-60	< 2.2	
01-JUL-13	ZN-65	< 2.8	
01-JUL-13	ZR-NB-95	< 2.7	
01-JUL-13	CS-134	< 2.5	
01-JUL-13	CS-137	< 2.8	
01-JUL-13	BA-LA-140	< 3.1	
01-JUL-13	GROSS BETA	2.101 +/- 0.667	
01-JUL-13	I-131 (CHEM)	< 0.29	
05-AUG-13	MN-54	< 2.0	
05-AUG-13	CO-58	< 3.2	
05-AUG-13	FE-59	< 6.3	
05-AUG-13	CO-60	< 3.5	
05-AUG-13	ZN-65	< 3.8	
05-AUG-13	ZR-NB-95	< 2.4	
05-AUG-13	CS-134	< 2.7	
05-AUG-13	CS-137	< 3.9	
05-AUG-13	BA-LA-140	< 3.9	
05-AUG-13	GROSS BETA	2.903 +/- 0.674	

Exposure Pathway - Waterborne
Drinking Water

Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-AUG-13	I-131 (CHEM)	< 0.334	
03-SEP-13	MN-54	< 3.4	
03-SEP-13	CO-58	< 3.1	
03-SEP-13	FE-59	< 8.5	
03-SEP-13	CO-60	< 3.1	
03-SEP-13	ZN-65	< 3.9	
03-SEP-13	ZR-NB-95	< 2.9	
03-SEP-13	CS-134	< 4.4	
03-SEP-13	CS-137	< 4.5	
03-SEP-13	BA-LA-140	< 2.4	
03-SEP-13	GROSS BETA	3.471 +/- 0.76	
03-SEP-13	I-131 (CHEM)	< 0.272	
07-OCT-13	MN-54	< 3.3	
07-OCT-13	CO-58	< 2.6	
07-OCT-13	FE-59	< 5.6	
07-OCT-13	CO-60	< 3.5	
07-OCT-13	ZN-65	< 4.9	
07-OCT-13	ZR-NB-95	< 3.2	
07-OCT-13	CS-134	< 2.7	
07-OCT-13	CS-137	< 2.5	
07-OCT-13	BA-LA-140	< 3.2	
07-OCT-13	GROSS BETA	3.316 +/- 0.703	
07-OCT-13	I-131 (CHEM)	< 0.259	
04-NOV-13	MN-54	< 2.5	
04-NOV-13	CO-58	< 1.0	
04-NOV-13	FE-59	< 3.7	
04-NOV-13	CO-60	< 2.4	
04-NOV-13	ZN-65	< 3.0	
04-NOV-13	ZR-NB-95	< 1.8	
04-NOV-13	CS-134	< 2.5	
04-NOV-13	CS-137	< 3.1	
04-NOV-13	BA-LA-140	< 2.5	
04-NOV-13	GROSS BETA	3.703 +/- 0.567	
04-NOV-13	I-131 (CHEM)	< 0.279	
05-DEC-13	MN-54	< 3.6	
05-DEC-13	CO-58	< 2.8	
05-DEC-13	FE-59	< 3.5	
05-DEC-13	CO-60	< 3.7	

Exposure Pathway - Waterborne
Drinking Water

Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-DEC-13	ZN-65	< 3.6	
05-DEC-13	ZR-NB-95	< 2.7	
05-DEC-13	CS-134	< 3.5	
05-DEC-13	CS-137	< 3.6	
05-DEC-13	BA-LA-140	< 3.0	
05-DEC-13	GROSS BETA	3.996 +/- 0.78	
05-DEC-13	I-131 (CHEM)	< 0.334	
07-JAN-14	MN-54	< 3.4	
07-JAN-14	CO-58	< 2.0	
07-JAN-14	FE-59	< 4.1	
07-JAN-14	CO-60	< 3.1	
07-JAN-14	ZN-65	< 6.0	
07-JAN-14	ZR-NB-95	< 3.0	
07-JAN-14	CS-134	< 4.0	
07-JAN-14	CS-137	< 3.5	
07-JAN-14	BA-LA-140	< 2.9	
07-JAN-14	GROSS BETA	2.979 +/- 0.704	
07-JAN-14	I-131 (CHEM)	< 0.283	

Exposure Pathway - Waterborne
Drinking Water
Quarterly Tritium Analysis
Location BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-APR-13	H-3	< 150	
01-JUL-13	H-3	< 151	
07-OCT-13	H-3	< 151	
07-JAN-14	H-3	< 149	

Exposure Pathway - Waterborne
Drinking Water
Quarterly Tritium Analysis
Location IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-APR-13	H-3	< 150	
01-JUL-13	H-3	< 151	
07-OCT-13	H-3	< 151	
07-JAN-14	H-3	< 149	

Exposure Pathway - Waterborne
Shoreline Sediment

Location DC

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
06-JUN-13	K-40	7,355.9 +/- 498.8	
06-JUN-13	MN-54	< 24.4	
06-JUN-13	CO-58	< 24.7	
06-JUN-13	FE-59	< 40.4	
06-JUN-13	CO-60	< 9.8	
06-JUN-13	ZN-65	< 39.6	
06-JUN-13	CS-134	< 16.5	
06-JUN-13	CS-137	< 19.3	
03-DEC-13	K-40	6,367.6 +/- 442.0	
03-DEC-13	MN-54	< 13.2	
03-DEC-13	CO-58	< 15.0	
03-DEC-13	FE-59	< 40.4	
03-DEC-13	CO-60	< 12.2	
03-DEC-13	ZN-65	< 38.9	
03-DEC-13	CS-134	< 15.8	
03-DEC-13	CS-137	< 17.7	

Exposure Pathway - Waterborne
Shoreline Sediment

Location EEA

Collection Date	Nuclide	Concentration (pCi/Kg Dry)			Duplicate Analysis
30-APR-13	K-40	11,221.0	+/-	701.1	
30-APR-13	MN-54		<	23.4	
30-APR-13	CO-58		<	22.1	
30-APR-13	FE-59		<	28.6	
30-APR-13	CO-60		<	19.4	
30-APR-13	ZN-65		<	40.4	
30-APR-13	CS-134		<	21.2	
30-APR-13	CS-137		<	24.4	
03-SEP-13	K-40	12,353.0	+/-	778.9	Duplicate
03-SEP-13	K-40	11,893.0	+/-	681.3	
03-SEP-13	MN-54		<	28.0	Duplicate
03-SEP-13	MN-54		<	24.4	
03-SEP-13	CO-58		<	42.8	Duplicate
03-SEP-13	CO-58		<	22.1	
03-SEP-13	FE-59		<	78.8	
03-SEP-13	FE-59		<	103.8	Duplicate
03-SEP-13	CO-60		<	21.2	Duplicate
03-SEP-13	CO-60		<	9.6	
03-SEP-13	ZN-65		<	46.4	
03-SEP-13	ZN-65		<	65.6	Duplicate
03-SEP-13	CS-134		<	21.5	
03-SEP-13	CS-134		<	19.6	Duplicate
03-SEP-13	CS-137	97.8	+/-	34.6	Duplicate
03-SEP-13	CS-137	89.2	+/-	41.6	

Exposure Pathway - Waterborne
Shoreline Sediment

Location JRR

Collection Date	Nuclide	Concentration (pCi/Kg Dry)			Duplicate Analysis
11-JUN-13	K-40	12,349.0	+/-	663.0	Duplicate
11-JUN-13	K-40	13,061.0	+/-	712.2	
11-JUN-13	MN-54		<	23.8	Duplicate
11-JUN-13	MN-54		<	27.6	
11-JUN-13	CO-58		<	23.6	
11-JUN-13	CO-58		<	29.0	Duplicate
11-JUN-13	FE-59		<	59.3	Duplicate
11-JUN-13	FE-59		<	59.4	
11-JUN-13	CO-60		<	26.2	Duplicate
11-JUN-13	CO-60		<	18.9	
11-JUN-13	ZN-65		<	58.0	
11-JUN-13	ZN-65		<	57.4	Duplicate
11-JUN-13	CS-134		<	17.6	Duplicate
11-JUN-13	CS-134		<	19.2	
11-JUN-13	CS-137		<	25.0	
11-JUN-13	CS-137		<	23.9	Duplicate
03-DEC-13	K-40	10,926.0	+/-	595.2	
03-DEC-13	MN-54		<	23.3	
03-DEC-13	CO-58		<	28.2	
03-DEC-13	FE-59		<	69.7	
03-DEC-13	CO-60		<	10.9	
03-DEC-13	ZN-65		<	45.0	
03-DEC-13	CS-134		<	19.0	
03-DEC-13	CS-137		<	23.5	

Exposure Pathway - Ingestion
Fish

Location CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
21-MAY-13	CHANNEL CATFISH	K-40	3,689.8 +/- 421.3	
21-MAY-13	CHANNEL CATFISH	MN-54	< 13.7	
21-MAY-13	CHANNEL CATFISH	CO-58	< 8.2	
21-MAY-13	CHANNEL CATFISH	FE-59	< 16.8	
21-MAY-13	CHANNEL CATFISH	CO-60	< 6.1	
21-MAY-13	CHANNEL CATFISH	ZN-65	< 27.5	
21-MAY-13	CHANNEL CATFISH	I-131	< 13.3	
21-MAY-13	CHANNEL CATFISH	CS-134	< 11.0	
21-MAY-13	CHANNEL CATFISH	CS-137	< 7.4	
21-MAY-13	CHANNEL CATFISH	H-3	8,852.0 +/- 242.0	
21-MAY-13	COMMON CARP	K-40	3,604.5 +/- 402.7	
21-MAY-13	COMMON CARP	MN-54	< 12.7	
21-MAY-13	COMMON CARP	CO-58	< 7.1	
21-MAY-13	COMMON CARP	FE-59	< 28.2	
21-MAY-13	COMMON CARP	CO-60	< 4.8	
21-MAY-13	COMMON CARP	ZN-65	< 16.4	
21-MAY-13	COMMON CARP	I-131	< 24.8	
21-MAY-13	COMMON CARP	CS-134	< 10.6	
21-MAY-13	COMMON CARP	CS-137	< 10.0	
21-MAY-13	COMMON CARP	H-3	8,158.0 +/- 229.0	
21-MAY-13	SMALLMOUTH BASS	K-40	3,188.4 +/- 364.2	
21-MAY-13	SMALLMOUTH BASS	MN-54	< 10.8	
21-MAY-13	SMALLMOUTH BASS	CO-58	< 4.7	
21-MAY-13	SMALLMOUTH BASS	FE-59	< 17.7	
21-MAY-13	SMALLMOUTH BASS	CO-60	< 4.4	
21-MAY-13	SMALLMOUTH BASS	ZN-65	< 20.2	
21-MAY-13	SMALLMOUTH BASS	I-131	< 12.6	
21-MAY-13	SMALLMOUTH BASS	CS-134	< 7.2	
21-MAY-13	SMALLMOUTH BASS	CS-137	< 12.4	
21-MAY-13	SMALLMOUTH BASS	H-3	8,140.0 +/- 233.0	
21-MAY-13	SMALLMOUTH BUFFALO	K-40	3,000.9 +/- 359.9	
21-MAY-13	SMALLMOUTH BUFFALO	MN-54	< 12.2	
21-MAY-13	SMALLMOUTH BUFFALO	CO-58	< 6.6	
21-MAY-13	SMALLMOUTH BUFFALO	FE-59	< 27.9	
21-MAY-13	SMALLMOUTH BUFFALO	CO-60	< 6.9	
21-MAY-13	SMALLMOUTH BUFFALO	ZN-65	< 17.7	
21-MAY-13	SMALLMOUTH BUFFALO	I-131	< 13.4	
21-MAY-13	SMALLMOUTH BUFFALO	CS-134	< 12.6	
21-MAY-13	SMALLMOUTH BUFFALO	CS-137	< 11.0	

Exposure Pathway - Ingestion
Fish

Location CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
21-MAY-13	SMALLMOUTH BUFFALO	H-3	8,022.0 +/- 223.0	
17-OCT-13	BLUE CATFISH	K-40	2,697.7 +/- 304.7	
17-OCT-13	BLUE CATFISH	MN-54	< 15.6	
17-OCT-13	BLUE CATFISH	CO-58	< 9.2	
17-OCT-13	BLUE CATFISH	FE-59	< 25.7	
17-OCT-13	BLUE CATFISH	CO-60	< 4.5	
17-OCT-13	BLUE CATFISH	ZN-65	< 12.6	
17-OCT-13	BLUE CATFISH	I-131	< 47.5	
17-OCT-13	BLUE CATFISH	CS-134	< 11.9	
17-OCT-13	BLUE CATFISH	CS-137	< 12.4	
17-OCT-13	BLUE CATFISH	H-3	7,004.0 +/- 228.0	
17-OCT-13	CHANNEL CATFISH	K-40	2,984.0 +/- 360.9	
17-OCT-13	CHANNEL CATFISH	MN-54	< 12.6	
17-OCT-13	CHANNEL CATFISH	CO-58	< 14.5	
17-OCT-13	CHANNEL CATFISH	FE-59	< 22.6	
17-OCT-13	CHANNEL CATFISH	CO-60	< 3.4	
17-OCT-13	CHANNEL CATFISH	ZN-65	< 26.3	
17-OCT-13	CHANNEL CATFISH	I-131	< 46.6	
17-OCT-13	CHANNEL CATFISH	CS-134	< 12.2	
17-OCT-13	CHANNEL CATFISH	CS-137	< 10.6	
17-OCT-13	CHANNEL CATFISH	H-3	8,007.0 +/- 242.0	
17-OCT-13	COMMON CARP	K-40	2,799.4 +/- 346.7	
17-OCT-13	COMMON CARP	MN-54	< 13.3	
17-OCT-13	COMMON CARP	CO-58	< 8.1	
17-OCT-13	COMMON CARP	FE-59	< 42.1	
17-OCT-13	COMMON CARP	CO-60	< 8.7	
17-OCT-13	COMMON CARP	ZN-65	< 27.7	
17-OCT-13	COMMON CARP	I-131	< 58.0	
17-OCT-13	COMMON CARP	CS-134	< 12.8	
17-OCT-13	COMMON CARP	CS-137	< 17.1	
17-OCT-13	COMMON CARP	H-3	7,348.0 +/- 223.0	
17-OCT-13	SMALLMOUTH BUFFALO	K-40	2,840.3 +/- 353.8	
17-OCT-13	SMALLMOUTH BUFFALO	MN-54	< 12.8	
17-OCT-13	SMALLMOUTH BUFFALO	CO-58	< 9.9	
17-OCT-13	SMALLMOUTH BUFFALO	FE-59	< 32.0	
17-OCT-13	SMALLMOUTH BUFFALO	CO-60	< 10.8	
17-OCT-13	SMALLMOUTH BUFFALO	ZN-65	< 32.2	
17-OCT-13	SMALLMOUTH BUFFALO	I-131	< 71.2	
17-OCT-13	SMALLMOUTH BUFFALO	CS-134	< 13.9	

Exposure Pathway - Ingestion
Fish

Location CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
17-OCT-13	SMALLMOUTH BUFFALO	CS-137	< 12.4	
17-OCT-13	SMALLMOUTH BUFFALO	H-3	6,985.0 +/- 220.0	
17-OCT-13	WALLEYE	K-40	3,391.0 +/- 315.5	
17-OCT-13	WALLEYE	MN-54	< 8.9	
17-OCT-13	WALLEYE	CO-58	< 12.0	
17-OCT-13	WALLEYE	FE-59	< 27.0	
17-OCT-13	WALLEYE	CO-60	< 11.2	
17-OCT-13	WALLEYE	ZN-65	< 14.5	
17-OCT-13	WALLEYE	I-131	< 41.0	
17-OCT-13	WALLEYE	CS-134	< 12.7	
17-OCT-13	WALLEYE	CS-137	< 12.1	
17-OCT-13	WALLEYE	H-3	7,414.0 +/- 228.0	
17-OCT-13	WHITE BASS	K-40	3,095.1 +/- 312.8	
17-OCT-13	WHITE BASS	MN-54	< 9.9	
17-OCT-13	WHITE BASS	CO-58	< 11.5	
17-OCT-13	WHITE BASS	FE-59	< 28.7	
17-OCT-13	WHITE BASS	CO-60	< 9.0	
17-OCT-13	WHITE BASS	ZN-65	< 25.8	
17-OCT-13	WHITE BASS	I-131	< 78.3	
17-OCT-13	WHITE BASS	CS-134	< 13.1	
17-OCT-13	WHITE BASS	CS-137	< 13.2	
17-OCT-13	WHITE BASS	H-3	7,496.0 +/- 227.0	

Exposure Pathway - Ingestion
Fish

Location JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
11-JUN-13	CHANNEL CATFISH	K-40	3,669.4 +/- 376.5	
11-JUN-13	CHANNEL CATFISH	MN-54	< 11.1	
11-JUN-13	CHANNEL CATFISH	CO-58	< 10.4	
11-JUN-13	CHANNEL CATFISH	FE-59	< 20.8	
11-JUN-13	CHANNEL CATFISH	CO-60	< 8.0	
11-JUN-13	CHANNEL CATFISH	ZN-65	< 29.1	
11-JUN-13	CHANNEL CATFISH	I-131	< 27.4	
11-JUN-13	CHANNEL CATFISH	CS-134	< 13.6	
11-JUN-13	CHANNEL CATFISH	CS-137	< 13.1	
11-JUN-13	CHANNEL CATFISH	H-3	< 156.0	
11-JUN-13	COMMON CARP	K-40	3,660.4 +/- 415.6	
11-JUN-13	COMMON CARP	MN-54	< 16.1	
11-JUN-13	COMMON CARP	CO-58	< 9.2	
11-JUN-13	COMMON CARP	FE-59	< 27.7	
11-JUN-13	COMMON CARP	CO-60	< 10.2	
11-JUN-13	COMMON CARP	ZN-65	< 25.0	
11-JUN-13	COMMON CARP	I-131	< 27.1	
11-JUN-13	COMMON CARP	CS-134	< 14.8	
11-JUN-13	COMMON CARP	CS-137	< 14.0	
11-JUN-13	COMMON CARP	H-3	< 156.0	
11-JUN-13	SMALLMOUTH BUFFALO	K-40	3,661.9 +/- 378.2	
11-JUN-13	SMALLMOUTH BUFFALO	MN-54	< 10.1	
11-JUN-13	SMALLMOUTH BUFFALO	CO-58	< 11.8	
11-JUN-13	SMALLMOUTH BUFFALO	FE-59	< 25.9	
11-JUN-13	SMALLMOUTH BUFFALO	CO-60	< 10.6	
11-JUN-13	SMALLMOUTH BUFFALO	ZN-65	< 22.1	
11-JUN-13	SMALLMOUTH BUFFALO	I-131	< 19.2	
11-JUN-13	SMALLMOUTH BUFFALO	CS-134	< 14.0	
11-JUN-13	SMALLMOUTH BUFFALO	CS-137	< 12.7	
11-JUN-13	SMALLMOUTH BUFFALO	H-3	< 156.0	
03-DEC-13	CHANNEL CATFISH	K-40	3,334.1 +/- 375.3	
03-DEC-13	CHANNEL CATFISH	MN-54	< 8.9	
03-DEC-13	CHANNEL CATFISH	CO-58	< 10.2	
03-DEC-13	CHANNEL CATFISH	FE-59	< 15.4	
03-DEC-13	CHANNEL CATFISH	CO-60	< 4.3	
03-DEC-13	CHANNEL CATFISH	ZN-65	< 10.4	
03-DEC-13	CHANNEL CATFISH	I-131	< 27.5	
03-DEC-13	CHANNEL CATFISH	CS-134	< 16.0	
03-DEC-13	CHANNEL CATFISH	CS-137	< 7.3	

Exposure Pathway - Ingestion
Fish

Location JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
03-DEC-13	CHANNEL CATFISH	H-3	< 113.0	
03-DEC-13	COMMON CARP	K-40	2,990.1 +/- 364.1	
03-DEC-13	COMMON CARP	MN-54	< 12.3	
03-DEC-13	COMMON CARP	CO-58	< 8.3	
03-DEC-13	COMMON CARP	FE-59	< 32.2	
03-DEC-13	COMMON CARP	CO-60	< 11.1	
03-DEC-13	COMMON CARP	ZN-65	< 27.3	
03-DEC-13	COMMON CARP	I-131	< 26.1	
03-DEC-13	COMMON CARP	CS-134	< 14.9	
03-DEC-13	COMMON CARP	CS-137	< 12.3	
03-DEC-13	COMMON CARP	H-3	< 118.0	
03-DEC-13	FRESHWATER DRUM	K-40	3,179.5 +/- 299.7	
03-DEC-13	FRESHWATER DRUM	MN-54	< 11.4	
03-DEC-13	FRESHWATER DRUM	CO-58	< 6.3	
03-DEC-13	FRESHWATER DRUM	FE-59	< 24.2	
03-DEC-13	FRESHWATER DRUM	CO-60	< 6.4	
03-DEC-13	FRESHWATER DRUM	ZN-65	< 26.0	
03-DEC-13	FRESHWATER DRUM	I-131	< 19.1	
03-DEC-13	FRESHWATER DRUM	CS-134	< 11.2	
03-DEC-13	FRESHWATER DRUM	CS-137	< 14.5	
03-DEC-13	FRESHWATER DRUM	H-3	< 122.0	

Exposure Pathway - Ingestion
Food/Garden
Location B-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)			Duplicate Analysis
28-MAY-13	HORSERADISH LEAVES	BE-7	362.5	+/-	101.6	
28-MAY-13	HORSERADISH LEAVES	K-40	5,075.4	+/-	337.9	
28-MAY-13	HORSERADISH LEAVES	MN-54		<	11.0	
28-MAY-13	HORSERADISH LEAVES	CO-58		<	10.5	
28-MAY-13	HORSERADISH LEAVES	FE-59		<	22.0	
28-MAY-13	HORSERADISH LEAVES	CO-60		<	12.6	
28-MAY-13	HORSERADISH LEAVES	ZN-65		<	25.0	
28-MAY-13	HORSERADISH LEAVES	ZR-NB-95		<	8.1	
28-MAY-13	HORSERADISH LEAVES	I-131		<	21.1	
28-MAY-13	HORSERADISH LEAVES	CS-134		<	11.0	
28-MAY-13	HORSERADISH LEAVES	CS-137		<	10.3	
24-JUN-13	HORSERADISH LEAVES	BE-7	831.1	+/-	157.6	
24-JUN-13	HORSERADISH LEAVES	K-40	5,710.0	+/-	418.8	
24-JUN-13	HORSERADISH LEAVES	MN-54		<	11.4	
24-JUN-13	HORSERADISH LEAVES	CO-58		<	9.0	
24-JUN-13	HORSERADISH LEAVES	FE-59		<	13.4	
24-JUN-13	HORSERADISH LEAVES	CO-60		<	10.4	
24-JUN-13	HORSERADISH LEAVES	ZN-65		<	28.2	
24-JUN-13	HORSERADISH LEAVES	ZR-NB-95		<	11.2	
24-JUN-13	HORSERADISH LEAVES	I-131		<	22.7	
24-JUN-13	HORSERADISH LEAVES	CS-134		<	9.9	
24-JUN-13	HORSERADISH LEAVES	CS-137		<	10.8	
22-JUL-13	HORSERADISH LEAVES	BE-7	1,107.5	+/-	254.4	
22-JUL-13	HORSERADISH LEAVES	K-40	5,193.3	+/-	391.2	
22-JUL-13	HORSERADISH LEAVES	MN-54		<	9.9	
22-JUL-13	HORSERADISH LEAVES	CO-58		<	10.9	
22-JUL-13	HORSERADISH LEAVES	FE-59		<	25.5	
22-JUL-13	HORSERADISH LEAVES	CO-60		<	7.2	
22-JUL-13	HORSERADISH LEAVES	ZN-65		<	33.9	
22-JUL-13	HORSERADISH LEAVES	ZR-NB-95		<	11.5	
22-JUL-13	HORSERADISH LEAVES	I-131		<	19.3	
22-JUL-13	HORSERADISH LEAVES	CS-134		<	9.9	
22-JUL-13	HORSERADISH LEAVES	CS-137		<	9.8	
19-AUG-13	HORSERADISH LEAVES	BE-7	325.1	+/-	104.1	Duplicate
19-AUG-13	HORSERADISH LEAVES	BE-7	470.5	+/-	159.6	
19-AUG-13	HORSERADISH LEAVES	K-40	4,907.4	+/-	350.4	Duplicate
19-AUG-13	HORSERADISH LEAVES	K-40	4,891.9	+/-	407.9	
19-AUG-13	HORSERADISH LEAVES	MN-54		<	11.5	
19-AUG-13	HORSERADISH LEAVES	MN-54		<	6.8	Duplicate

Exposure Pathway - Ingestion
Food/Garden
Location B-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)			Duplicate Analysis
19-AUG-13	HORSERADISH LEAVES	CO-58		<	9.1	Duplicate
19-AUG-13	HORSERADISH LEAVES	CO-58		<	14.6	
19-AUG-13	HORSERADISH LEAVES	FE-59		<	14.3	Duplicate
19-AUG-13	HORSERADISH LEAVES	FE-59		<	23.1	
19-AUG-13	HORSERADISH LEAVES	CO-60		<	6.7	Duplicate
19-AUG-13	HORSERADISH LEAVES	CO-60		<	12.1	
19-AUG-13	HORSERADISH LEAVES	ZN-65		<	27.0	Duplicate
19-AUG-13	HORSERADISH LEAVES	ZN-65		<	21.5	
19-AUG-13	HORSERADISH LEAVES	ZR-NB-95		<	17.0	
19-AUG-13	HORSERADISH LEAVES	ZR-NB-95		<	9.3	Duplicate
19-AUG-13	HORSERADISH LEAVES	I-131		<	21.5	
19-AUG-13	HORSERADISH LEAVES	I-131		<	17.8	Duplicate
19-AUG-13	HORSERADISH LEAVES	CS-134		<	9.5	Duplicate
19-AUG-13	HORSERADISH LEAVES	CS-134		<	11.4	
19-AUG-13	HORSERADISH LEAVES	CS-137		<	7.9	
19-AUG-13	HORSERADISH LEAVES	CS-137		<	11.0	Duplicate
17-SEP-13	HORSERADISH LEAVES	BE-7	281.4	+/-	147.4	
17-SEP-13	HORSERADISH LEAVES	K-40	5,745.2	+/-	408.3	
17-SEP-13	HORSERADISH LEAVES	MN-54		<	11.4	
17-SEP-13	HORSERADISH LEAVES	CO-58		<	12.9	
17-SEP-13	HORSERADISH LEAVES	FE-59		<	19.3	
17-SEP-13	HORSERADISH LEAVES	CO-60		<	14.3	
17-SEP-13	HORSERADISH LEAVES	ZN-65		<	26.3	
17-SEP-13	HORSERADISH LEAVES	ZR-NB-95		<	13.6	
17-SEP-13	HORSERADISH LEAVES	I-131		<	28.1	
17-SEP-13	HORSERADISH LEAVES	CS-134		<	9.6	
17-SEP-13	HORSERADISH LEAVES	CS-137		<	12.5	
14-OCT-13	HORSERADISH LEAVES	BE-7	623.5	+/-	177.2	
14-OCT-13	HORSERADISH LEAVES	K-40	4,688.5	+/-	395.8	
14-OCT-13	HORSERADISH LEAVES	MN-54		<	8.2	
14-OCT-13	HORSERADISH LEAVES	CO-58		<	8.7	
14-OCT-13	HORSERADISH LEAVES	FE-59		<	19.3	
14-OCT-13	HORSERADISH LEAVES	CO-60		<	9.3	
14-OCT-13	HORSERADISH LEAVES	ZN-65		<	20.6	
14-OCT-13	HORSERADISH LEAVES	ZR-NB-95		<	10.1	
14-OCT-13	HORSERADISH LEAVES	I-131		<	35.1	
14-OCT-13	HORSERADISH LEAVES	CS-134		<	13.7	
14-OCT-13	HORSERADISH LEAVES	CS-137		<	13.8	

Exposure Pathway - Ingestion
Food/Garden
Location D-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
28-MAY-13	HORSERADISH LEAVES	BE-7	411.8 +/- 132.9	
28-MAY-13	HORSERADISH LEAVES	K-40	5,011.0 +/- 344.2	
28-MAY-13	HORSERADISH LEAVES	MN-54	< 10.2	
28-MAY-13	HORSERADISH LEAVES	CO-58	< 10.9	
28-MAY-13	HORSERADISH LEAVES	FE-59	< 13.4	
28-MAY-13	HORSERADISH LEAVES	CO-60	< 9.3	
28-MAY-13	HORSERADISH LEAVES	ZN-65	< 22.8	
28-MAY-13	HORSERADISH LEAVES	ZR-NB-95	< 8.7	
28-MAY-13	HORSERADISH LEAVES	I-131	< 24.5	
28-MAY-13	HORSERADISH LEAVES	CS-134	< 12.2	
28-MAY-13	HORSERADISH LEAVES	CS-137	< 10.6	
24-JUN-13	HORSERADISH LEAVES	BE-7	802.9 +/- 206.8	
24-JUN-13	HORSERADISH LEAVES	K-40	6,803.9 +/- 530.0	
24-JUN-13	HORSERADISH LEAVES	MN-54	< 13.7	
24-JUN-13	HORSERADISH LEAVES	CO-58	< 12.3	
24-JUN-13	HORSERADISH LEAVES	FE-59	< 29.8	
24-JUN-13	HORSERADISH LEAVES	CO-60	< 15.8	
24-JUN-13	HORSERADISH LEAVES	ZN-65	< 44.3	
24-JUN-13	HORSERADISH LEAVES	ZR-NB-95	< 17.8	
24-JUN-13	HORSERADISH LEAVES	I-131	< 31.0	
24-JUN-13	HORSERADISH LEAVES	CS-134	< 13.3	
24-JUN-13	HORSERADISH LEAVES	CS-137	< 18.0	
22-JUL-13	HORSERADISH LEAVES	BE-7	1,259.3 +/- 189.9	
22-JUL-13	HORSERADISH LEAVES	K-40	5,725.8 +/- 410.5	
22-JUL-13	HORSERADISH LEAVES	MN-54	< 12.5	
22-JUL-13	HORSERADISH LEAVES	CO-58	< 6.0	
22-JUL-13	HORSERADISH LEAVES	FE-59	< 18.0	
22-JUL-13	HORSERADISH LEAVES	CO-60	< 12.3	
22-JUL-13	HORSERADISH LEAVES	ZN-65	< 12.3	
22-JUL-13	HORSERADISH LEAVES	ZR-NB-95	< 16.4	
22-JUL-13	HORSERADISH LEAVES	I-131	< 29.9	
22-JUL-13	HORSERADISH LEAVES	CS-134	< 12.1	
22-JUL-13	HORSERADISH LEAVES	CS-137	< 14.9	
19-AUG-13	HORSERADISH LEAVES	BE-7	908.3 +/- 164.6	
19-AUG-13	HORSERADISH LEAVES	K-40	4,718.7 +/- 409.4	
19-AUG-13	HORSERADISH LEAVES	MN-54	< 12.7	
19-AUG-13	HORSERADISH LEAVES	CO-58	< 11.9	
19-AUG-13	HORSERADISH LEAVES	FE-59	< 34.4	
19-AUG-13	HORSERADISH LEAVES	CO-60	< 10.0	

Exposure Pathway - Ingestion
Food/Garden
Location D-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)			Duplicate Analysis
19-AUG-13	HORSERADISH LEAVES	ZN-65		<	24.7	
19-AUG-13	HORSERADISH LEAVES	ZR-NB-95		<	15.1	
19-AUG-13	HORSERADISH LEAVES	I-131		<	20.4	
19-AUG-13	HORSERADISH LEAVES	CS-134		<	10.6	
19-AUG-13	HORSERADISH LEAVES	CS-137		<	12.8	
17-SEP-13	HORSERADISH LEAVES	BE-7	396.7	+/-	143.3	
17-SEP-13	HORSERADISH LEAVES	K-40	6,644.2	+/-	455.4	
17-SEP-13	HORSERADISH LEAVES	MN-54		<	10.0	
17-SEP-13	HORSERADISH LEAVES	CO-58		<	15.2	
17-SEP-13	HORSERADISH LEAVES	FE-59		<	34.6	
17-SEP-13	HORSERADISH LEAVES	CO-60		<	8.2	
17-SEP-13	HORSERADISH LEAVES	ZN-65		<	22.2	
17-SEP-13	HORSERADISH LEAVES	ZR-NB-95		<	8.8	
17-SEP-13	HORSERADISH LEAVES	I-131		<	22.8	
17-SEP-13	HORSERADISH LEAVES	CS-134		<	11.3	
17-SEP-13	HORSERADISH LEAVES	CS-137		<	13.8	
14-OCT-13	HORSERADISH LEAVES	BE-7		<	214.6	
14-OCT-13	HORSERADISH LEAVES	K-40	6,321.7	+/-	531.2	
14-OCT-13	HORSERADISH LEAVES	MN-54		<	18.2	
14-OCT-13	HORSERADISH LEAVES	CO-58		<	14.8	
14-OCT-13	HORSERADISH LEAVES	FE-59		<	33.7	
14-OCT-13	HORSERADISH LEAVES	CO-60		<	15.9	
14-OCT-13	HORSERADISH LEAVES	ZN-65		<	23.3	
14-OCT-13	HORSERADISH LEAVES	ZR-NB-95		<	17.1	
14-OCT-13	HORSERADISH LEAVES	I-131		<	39.2	
14-OCT-13	HORSERADISH LEAVES	CS-134		<	20.0	
14-OCT-13	HORSERADISH LEAVES	CS-137		<	18.0	

Exposure Pathway - Ingestion
Food/Garden
Location H-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
28-MAY-13	HORSERADISH LEAVES	BE-7	323.1 +/- 120.6	
28-MAY-13	HORSERADISH LEAVES	K-40	5,285.6 +/- 375.2	
28-MAY-13	HORSERADISH LEAVES	MN-54	< 10.5	
28-MAY-13	HORSERADISH LEAVES	CO-58	< 13.5	
28-MAY-13	HORSERADISH LEAVES	FE-59	< 17.5	
28-MAY-13	HORSERADISH LEAVES	CO-60	< 11.5	
28-MAY-13	HORSERADISH LEAVES	ZN-65	< 23.4	
28-MAY-13	HORSERADISH LEAVES	ZR-NB-95	< 13.1	
28-MAY-13	HORSERADISH LEAVES	I-131	< 24.2	
28-MAY-13	HORSERADISH LEAVES	CS-134	< 9.3	
28-MAY-13	HORSERADISH LEAVES	CS-137	< 11.8	
19-AUG-13	HORSERADISH LEAVES	BE-7	763.8 +/- 141.9	
19-AUG-13	HORSERADISH LEAVES	K-40	5,157.1 +/- 374.3	
19-AUG-13	HORSERADISH LEAVES	MN-54	< 8.7	
19-AUG-13	HORSERADISH LEAVES	CO-58	< 7.9	
19-AUG-13	HORSERADISH LEAVES	FE-59	< 15.7	
19-AUG-13	HORSERADISH LEAVES	CO-60	< 8.9	
19-AUG-13	HORSERADISH LEAVES	ZN-65	< 26.3	
19-AUG-13	HORSERADISH LEAVES	ZR-NB-95	< 14.0	
19-AUG-13	HORSERADISH LEAVES	I-131	< 17.1	
19-AUG-13	HORSERADISH LEAVES	CS-134	< 6.7	
19-AUG-13	HORSERADISH LEAVES	CS-137	< 7.2	
17-SEP-13	HORSERADISH LEAVES	BE-7	< 131.1	
17-SEP-13	HORSERADISH LEAVES	K-40	5,201.6 +/- 400.6	
17-SEP-13	HORSERADISH LEAVES	MN-54	< 9.4	
17-SEP-13	HORSERADISH LEAVES	CO-58	< 10.5	
17-SEP-13	HORSERADISH LEAVES	FE-59	< 24.1	
17-SEP-13	HORSERADISH LEAVES	CO-60	< 8.5	
17-SEP-13	HORSERADISH LEAVES	ZN-65	< 24.4	
17-SEP-13	HORSERADISH LEAVES	ZR-NB-95	< 9.8	
17-SEP-13	HORSERADISH LEAVES	I-131	< 29.7	
17-SEP-13	HORSERADISH LEAVES	CS-134	< 12.1	
17-SEP-13	HORSERADISH LEAVES	CS-137	< 7.7	
14-OCT-13	HORSERADISH LEAVES	BE-7	399.7 +/- 205.1	
14-OCT-13	HORSERADISH LEAVES	K-40	6,914.9 +/- 536.5	
14-OCT-13	HORSERADISH LEAVES	MN-54	< 17.0	
14-OCT-13	HORSERADISH LEAVES	CO-58	< 17.5	
14-OCT-13	HORSERADISH LEAVES	FE-59	< 24.0	
14-OCT-13	HORSERADISH LEAVES	CO-60	< 14.9	

Exposure Pathway - Ingestion
Food/Garden
Location H-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-OCT-13	HORSERADISH LEAVES	ZN-65	<	28.9	
14-OCT-13	HORSERADISH LEAVES	ZR-NB-95	<	18.6	
14-OCT-13	HORSERADISH LEAVES	I-131	<	35.1	
14-OCT-13	HORSERADISH LEAVES	CS-134	<	16.0	
14-OCT-13	HORSERADISH LEAVES	CS-137	<	10.7	

Exposure Pathway - Ingestion
Food/Garden
Location Q-6

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)			Duplicate Analysis
24-JUN-13	WATERMELON LEAVES	BE-7	371.6	+/-	138.4	
24-JUN-13	WATERMELON LEAVES	K-40	5,584.6	+/-	454.8	
24-JUN-13	WATERMELON LEAVES	MN-54		<	13.2	
24-JUN-13	WATERMELON LEAVES	CO-58		<	13.3	
24-JUN-13	WATERMELON LEAVES	FE-59		<	15.9	
24-JUN-13	WATERMELON LEAVES	CO-60		<	12.3	
24-JUN-13	WATERMELON LEAVES	ZN-65		<	23.3	
24-JUN-13	WATERMELON LEAVES	ZR-NB-95		<	16.0	
24-JUN-13	WATERMELON LEAVES	I-131		<	25.2	
24-JUN-13	WATERMELON LEAVES	CS-134		<	13.0	
24-JUN-13	WATERMELON LEAVES	CS-137		<	13.1	
22-JUL-13	SQUASH LEAVES	BE-7	1,690.7	+/-	208.8	
22-JUL-13	SQUASH LEAVES	K-40	4,698.5	+/-	357.2	
22-JUL-13	SQUASH LEAVES	MN-54		<	10.1	
22-JUL-13	SQUASH LEAVES	CO-58		<	12.6	
22-JUL-13	SQUASH LEAVES	FE-59		<	16.3	
22-JUL-13	SQUASH LEAVES	CO-60		<	10.0	
22-JUL-13	SQUASH LEAVES	ZN-65		<	14.4	
22-JUL-13	SQUASH LEAVES	ZR-NB-95		<	10.4	
22-JUL-13	SQUASH LEAVES	I-131		<	28.0	
22-JUL-13	SQUASH LEAVES	CS-134		<	10.4	
22-JUL-13	SQUASH LEAVES	CS-137		<	11.8	

Exposure Pathway - Ingestion
Feed and Forage

Location NR-D1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
29-OCT-13	NON-IRRIGATED SOYBEANS	BE-7	<	65.4	
29-OCT-13	NON-IRRIGATED SOYBEANS	K-40	16,342.0 +/-	514.3	
29-OCT-13	NON-IRRIGATED SOYBEANS	MN-54	<	8.8	
29-OCT-13	NON-IRRIGATED SOYBEANS	CO-58	<	11.8	
29-OCT-13	NON-IRRIGATED SOYBEANS	FE-59	<	27.9	
29-OCT-13	NON-IRRIGATED SOYBEANS	CO-60	<	9.0	
29-OCT-13	NON-IRRIGATED SOYBEANS	ZN-65	<	14.0	
29-OCT-13	NON-IRRIGATED SOYBEANS	ZR-NB-95	<	5.5	
29-OCT-13	NON-IRRIGATED SOYBEANS	I-131	<	11.4	
29-OCT-13	NON-IRRIGATED SOYBEANS	CS-134	<	10.2	
29-OCT-13	NON-IRRIGATED SOYBEANS	CS-137	<	6.1	

Exposure Pathway - Ingestion
Feed and Forage

Location NR-D2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-OCT-13	IRRIGATED SOYBEANS	BE-7	<	60.2	
14-OCT-13	IRRIGATED SOYBEANS	K-40	12,882.0 +/-	496.4	
14-OCT-13	IRRIGATED SOYBEANS	MN-54	<	5.1	
14-OCT-13	IRRIGATED SOYBEANS	CO-58	<	5.6	
14-OCT-13	IRRIGATED SOYBEANS	FE-59	<	18.6	
14-OCT-13	IRRIGATED SOYBEANS	CO-60	<	9.2	
14-OCT-13	IRRIGATED SOYBEANS	ZN-65	<	28.7	
14-OCT-13	IRRIGATED SOYBEANS	ZR-NB-95	<	11.8	
14-OCT-13	IRRIGATED SOYBEANS	I-131	<	16.3	
14-OCT-13	IRRIGATED SOYBEANS	CS-134	<	11.2	
14-OCT-13	IRRIGATED SOYBEANS	CS-137	<	7.3	

Exposure Pathway - Ingestion
Feed and Forage
Location NR-U1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
10-OCT-13	IRRIGATED CORN	BE-7	<	57.4	
10-OCT-13	IRRIGATED CORN	K-40	2,543.7 +/-	201.9	
10-OCT-13	IRRIGATED CORN	MN-54	<	4.8	
10-OCT-13	IRRIGATED CORN	CO-58	<	3.9	
10-OCT-13	IRRIGATED CORN	FE-59	<	12.7	
10-OCT-13	IRRIGATED CORN	CO-60	<	5.4	
10-OCT-13	IRRIGATED CORN	ZN-65	<	18.9	
10-OCT-13	IRRIGATED CORN	ZR-NB-95	<	9.9	
10-OCT-13	IRRIGATED CORN	I-131	<	17.2	
10-OCT-13	IRRIGATED CORN	CS-134	<	6.3	
10-OCT-13	IRRIGATED CORN	CS-137	<	4.7	
04-NOV-13	NON-IRRIGATED SOYBEANS	BE-7	<	66.9	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	BE-7	<	57.1	
04-NOV-13	NON-IRRIGATED SOYBEANS	K-40	13,299.0 +/-	474.3	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	K-40	12,669.0 +/-	487.5	
04-NOV-13	NON-IRRIGATED SOYBEANS	MN-54	<	8.6	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	MN-54	<	6.6	
04-NOV-13	NON-IRRIGATED SOYBEANS	CO-58	<	9.7	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	CO-58	<	7.8	
04-NOV-13	NON-IRRIGATED SOYBEANS	FE-59	<	25.6	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	FE-59	<	15.4	
04-NOV-13	NON-IRRIGATED SOYBEANS	CO-60	<	11.3	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	CO-60	<	4.9	
04-NOV-13	NON-IRRIGATED SOYBEANS	ZN-65	<	33.3	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	ZN-65	<	11.8	
04-NOV-13	NON-IRRIGATED SOYBEANS	ZR-NB-95	<	11.1	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	ZR-NB-95	<	6.1	
04-NOV-13	NON-IRRIGATED SOYBEANS	I-131	<	14.0	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	I-131	<	8.0	
04-NOV-13	NON-IRRIGATED SOYBEANS	CS-134	<	10.0	
04-NOV-13	NON-IRRIGATED SOYBEANS	CS-134	<	10.3	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	CS-137	<	6.3	Duplicate
04-NOV-13	NON-IRRIGATED SOYBEANS	CS-137	<	10.5	

Exposure Pathway - Aquatic
Bottom Sediment

Location DC

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
06-JUN-13	K-40	11,336.0 +/- 1,043.0	
06-JUN-13	MN-54	< 48.2	
06-JUN-13	CO-58	< 61.0	
06-JUN-13	FE-59	< 94.5	
06-JUN-13	CO-60	< 33.7	
06-JUN-13	ZN-65	< 86.8	
06-JUN-13	CS-134	< 35.0	
06-JUN-13	CS-137	97.4 +/- 40.6	
06-JUN-13	FE-55	< 15,032.4	
03-DEC-13	K-40	9,402.3 +/- 944.4	
03-DEC-13	MN-54	< 39.0	
03-DEC-13	CO-58	< 52.2	
03-DEC-13	FE-59	< 51.0	
03-DEC-13	CO-60	< 29.2	
03-DEC-13	ZN-65	< 67.0	
03-DEC-13	CS-134	< 39.9	
03-DEC-13	CS-137	89.5 +/- 52.9	
03-DEC-13	FE-55	< 15,670.0	

Exposure Pathway - Aquatic
Bottom Sediment

Location EEA

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
30-APR-13	K-40	11,576.0 +/- 574.2	
30-APR-13	MN-54	< 19.3	
30-APR-13	CO-58	< 17.9	
30-APR-13	FE-59	< 47.1	
30-APR-13	CO-60	< 12.3	
30-APR-13	ZN-65	< 51.9	
30-APR-13	CS-134	< 19.1	
30-APR-13	CS-137	55.8 +/- 15.7	
26-AUG-13	K-40	11,346.0 +/- 669.6	
26-AUG-13	MN-54	< 26.0	
26-AUG-13	CO-58	< 26.9	
26-AUG-13	FE-59	< 68.3	
26-AUG-13	CO-60	< 12.2	
26-AUG-13	ZN-65	< 54.7	
26-AUG-13	CS-134	< 23.6	
26-AUG-13	CS-137	67.0 +/- 29.5	

Exposure Pathway - Aquatic
Bottom Sediment

Location ESW 2013-5

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
06-JUN-13	K-40	9,303.1 +/- 901.4	
06-JUN-13	MN-54	< 45.9	
06-JUN-13	CO-58	< 73.0	
06-JUN-13	FE-59	< 125.7	
06-JUN-13	CO-60	< 36.4	
06-JUN-13	ZN-65	< 108.5	
06-JUN-13	CS-134	< 37.7	
06-JUN-13	CS-137	< 47.7	
06-JUN-13	FE-55	< 14,371.1	

Exposure Pathway - Aquatic
Bottom Sediment

Location ESW 2013-6

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
03-DEC-13	K-40	5,110.1 +/- 683.3	
03-DEC-13	MN-54	< 26.7	
03-DEC-13	CO-58	< 30.4	
03-DEC-13	FE-59	< 64.1	
03-DEC-13	CO-60	< 10.5	
03-DEC-13	ZN-65	< 66.1	
03-DEC-13	CS-134	< 30.6	
03-DEC-13	CS-137	< 32.7	
03-DEC-13	FE-55	< 16,091.5	

Exposure Pathway - Aquatic
Bottom Sediment

Location JRR

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
11-JUN-13	K-40	12,752.0 +/- 1,135.0	
11-JUN-13	MN-54	< 57.2	
11-JUN-13	CO-58	< 29.9	
11-JUN-13	FE-59	< 121.9	
11-JUN-13	CO-60	< 27.3	
11-JUN-13	ZN-65	< 94.4	
11-JUN-13	CS-134	< 39.6	
11-JUN-13	CS-137	< 54.8	
03-DEC-13	K-40	11,660.0 +/- 993.4	
03-DEC-13	MN-54	< 38.1	
03-DEC-13	CO-58	< 54.4	
03-DEC-13	FE-59	< 134.2	
03-DEC-13	CO-60	< 13.3	
03-DEC-13	ZN-65	< 99.4	
03-DEC-13	CS-134	< 33.0	
03-DEC-13	CS-137	84.8 +/- 43.3	

Exposure Pathway - Aquatic
Bottom Sediment

Location MUDS

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
16-SEP-13	K-40	10,357.0 +/- 645.8	
16-SEP-13	MN-54	< 22.2	
16-SEP-13	CO-58	< 23.1	
16-SEP-13	FE-59	< 106.0	
16-SEP-13	CO-60	< 9.8	
16-SEP-13	ZN-65	< 58.7	
16-SEP-13	CS-134	< 21.7	
16-SEP-13	CS-137	38.4 +/- 22.6	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2013-17

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
06-JUN-13	K-40	12,602.0 +/- 690.7	
06-JUN-13	MN-54	< 34.6	
06-JUN-13	CO-58	< 43.8	
06-JUN-13	FE-59	< 75.2	
06-JUN-13	CO-60	< 22.1	
06-JUN-13	ZN-65	< 78.0	
06-JUN-13	CS-134	< 20.5	
06-JUN-13	CS-137	65.8 +/- 27.9	
06-JUN-13	FE-55	< 11,670.2	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2013-18

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
06-JUN-13	K-40	9,387.0 +/- 822.3	
06-JUN-13	MN-54	< 39.2	
06-JUN-13	CO-58	< 47.8	
06-JUN-13	FE-59	< 116.9	
06-JUN-13	CO-60	< 33.8	
06-JUN-13	ZN-65	< 80.6	
06-JUN-13	CS-134	< 24.4	
06-JUN-13	CS-137	55.7 +/- 31.4	
06-JUN-13	FE-55	< 14,371.1	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2013-19

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
06-JUN-13	K-40	9,395.4 +/- 937.7	
06-JUN-13	MN-54	< 45.2	
06-JUN-13	CO-58	< 46.7	
06-JUN-13	FE-59	< 100.2	
06-JUN-13	CO-60	< 26.1	
06-JUN-13	ZN-65	< 69.6	
06-JUN-13	CS-134	< 31.1	
06-JUN-13	CS-137	103.3 +/- 39.2	
06-JUN-13	FE-55	< 14,371.1	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2013-20

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
06-JUN-13	K-40	10,289.0 +/- 692.4	
06-JUN-13	MN-54	< 32.9	
06-JUN-13	CO-58	< 41.7	
06-JUN-13	FE-59	< 112.5	
06-JUN-13	CO-60	< 12.8	
06-JUN-13	ZN-65	< 80.8	
06-JUN-13	CS-134	< 20.6	
06-JUN-13	CS-137	< 26.8	
06-JUN-13	FE-55	< 14,371.1	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2013-21

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
03-DEC-13	K-40	9,508.7 +/- 749.2	
03-DEC-13	MN-54	< 32.7	
03-DEC-13	CO-58	< 40.0	
03-DEC-13	FE-59	< 75.8	
03-DEC-13	CO-60	< 24.2	
03-DEC-13	ZN-65	< 48.0	
03-DEC-13	CS-134	< 26.2	
03-DEC-13	CS-137	58.1 +/- 22.0	
03-DEC-13	FE-55	< 15,538.2	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2013-22

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
03-DEC-13	K-40	11,707.0 +/- 820.3	
03-DEC-13	MN-54	< 29.6	
03-DEC-13	CO-58	< 34.9	
03-DEC-13	FE-59	< 56.8	
03-DEC-13	CO-60	< 29.2	
03-DEC-13	ZN-65	< 87.4	
03-DEC-13	CS-134	< 27.3	
03-DEC-13	CS-137	64.5 +/- 29.2	
03-DEC-13	FE-55	< 15,918.5	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2013-23

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
03-DEC-13	K-40	8,718.5 +/- 782.4	
03-DEC-13	MN-54	< 24.6	
03-DEC-13	CO-58	< 32.8	
03-DEC-13	FE-59	< 72.7	
03-DEC-13	CO-60	< 21.1	
03-DEC-13	ZN-65	< 67.2	
03-DEC-13	CS-134	< 29.0	
03-DEC-13	CS-137	< 34.4	
03-DEC-13	FE-55	< 15,778.3	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS 2013-24

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
03-DEC-13	K-40	11,811.0 +/- 1,010.0	
03-DEC-13	MN-54	< 54.7	
03-DEC-13	CO-58	< 52.7	
03-DEC-13	FE-59	< 101.3	
03-DEC-13	CO-60	< 46.8	
03-DEC-13	ZN-65	< 94.3	
03-DEC-13	CS-134	< 47.4	
03-DEC-13	CS-137	< 62.9	
03-DEC-13	FE-55	< 15,876.2	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS HS-5

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
06-JUN-13	K-40	9,468.8 +/- 864.3	
06-JUN-13	MN-54	< 47.6	
06-JUN-13	CO-58	< 34.1	
06-JUN-13	FE-59	< 133.5	
06-JUN-13	CO-60	< 16.5	
06-JUN-13	ZN-65	< 99.8	
06-JUN-13	CS-134	< 28.9	
06-JUN-13	CS-137	62.7 +/- 33.7	
06-JUN-13	FE-55	< 14,942.8	

Exposure Pathway - Aquatic
Bottom Sediment

Location UHS HS-6

Collection Date	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
03-DEC-13	K-40	10,688.0 +/- 963.5	
03-DEC-13	MN-54	< 51.6	
03-DEC-13	CO-58	< 44.9	
03-DEC-13	FE-59	< 108.8	
03-DEC-13	CO-60	< 16.3	
03-DEC-13	ZN-65	< 102.9	
03-DEC-13	CS-134	< 40.0	
03-DEC-13	CS-137	108.2 +/- 42.5	
03-DEC-13	FE-55	< 15,915.3	

Exposure Pathway - Aquatic
Vegetation
Location DC-ALT

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Sample
01-AUG-13	AMERICAN LOTUS	BE-7	1,872.6 +/-	269.9	
01-AUG-13	AMERICAN LOTUS	K-40	2,282.7 +/-	388.3	
01-AUG-13	AMERICAN LOTUS	MN-54	<	19.3	
01-AUG-13	AMERICAN LOTUS	CO-58	<	20.5	
01-AUG-13	AMERICAN LOTUS	FE-59	<	21.6	
01-AUG-13	AMERICAN LOTUS	CO-60	<	15.5	
01-AUG-13	AMERICAN LOTUS	ZN-65	<	36.9	
01-AUG-13	AMERICAN LOTUS	ZR-NB-95	<	27.3	
01-AUG-13	AMERICAN LOTUS	I-131	<	40.4	
01-AUG-13	AMERICAN LOTUS	CS-134	<	15.5	
01-AUG-13	AMERICAN LOTUS	CS-137	<	18.5	

Exposure Pathway - Aquatic
Vegetation
Location EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Sample
03-SEP-13	ARROWHEAD	BE-7	< 146.7	
03-SEP-13	ARROWHEAD	K-40	4,998.3 +/- 424.1	
03-SEP-13	ARROWHEAD	MN-54	< 13.3	
03-SEP-13	ARROWHEAD	CO-58	< 16.0	
03-SEP-13	ARROWHEAD	FE-59	< 15.8	
03-SEP-13	ARROWHEAD	CO-60	< 17.3	
03-SEP-13	ARROWHEAD	ZN-65	< 21.8	
03-SEP-13	ARROWHEAD	ZR-NB-95	< 13.6	
03-SEP-13	ARROWHEAD	I-131	< 22.5	
03-SEP-13	ARROWHEAD	CS-134	< 14.5	
03-SEP-13	ARROWHEAD	CS-137	< 9.8	

Exposure Pathway - Aquatic
Vegetation
Location MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Sample
16-SEP-13	AMERICAN PONDWEED	BE-7	299.4 +/-	67.4	
16-SEP-13	AMERICAN PONDWEED	K-40	1,861.0 +/-	164.7	
16-SEP-13	AMERICAN PONDWEED	MN-54	<	6.1	
16-SEP-13	AMERICAN PONDWEED	CO-58	<	4.7	
16-SEP-13	AMERICAN PONDWEED	FE-59	<	4.6	
16-SEP-13	AMERICAN PONDWEED	CO-60	<	5.2	
16-SEP-13	AMERICAN PONDWEED	ZN-65	<	9.2	
16-SEP-13	AMERICAN PONDWEED	ZR-NB-95	<	4.9	
16-SEP-13	AMERICAN PONDWEED	I-131	<	12.8	
16-SEP-13	AMERICAN PONDWEED	CS-134	<	5.3	
16-SEP-13	AMERICAN PONDWEED	CS-137	<	6.7	

Exposure Pathway - Terrestrial
Vegetation

Location EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
03-JUN-13	PASTURAGE	BE-7	1,017.9 +/- 200.4	
03-JUN-13	PASTURAGE	K-40	7,466.5 +/- 475.6	
03-JUN-13	PASTURAGE	MN-54	< 14.0	
03-JUN-13	PASTURAGE	CO-58	< 15.0	
03-JUN-13	PASTURAGE	FE-59	< 26.1	
03-JUN-13	PASTURAGE	CO-60	< 12.5	
03-JUN-13	PASTURAGE	ZN-65	< 32.4	
03-JUN-13	PASTURAGE	ZR-NB-95	< 16.6	
03-JUN-13	PASTURAGE	I-131	< 33.2	
03-JUN-13	PASTURAGE	CS-134	< 11.9	
03-JUN-13	PASTURAGE	CS-137	< 14.4	

Exposure Pathway - Terrestrial Vegetation

Location MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
03-JUN-13	PASTURAGE	BE-7	1,830.1 +/- 342.4	
03-JUN-13	PASTURAGE	K-40	5,868.0 +/- 644.2	
03-JUN-13	PASTURAGE	MN-54	< 24.4	
03-JUN-13	PASTURAGE	CO-58	< 19.5	
03-JUN-13	PASTURAGE	FE-59	< 41.4	
03-JUN-13	PASTURAGE	CO-60	< 16.2	
03-JUN-13	PASTURAGE	ZN-65	< 36.8	
03-JUN-13	PASTURAGE	ZR-NB-95	< 24.3	
03-JUN-13	PASTURAGE	I-131	< 37.8	
03-JUN-13	PASTURAGE	CS-134	< 19.7	
03-JUN-13	PASTURAGE	CS-137	< 28.5	

Exposure Pathway - Terrestrial
Soil
Location EEA

Collection Date	Nuclide	Concentration (pCi/Kg Dry)			Duplicate Analysis
23-JAN-13	K-40	8,935.2	+/-	626.4	
23-JAN-13	MN-54		<	28.5	
23-JAN-13	CO-58		<	37.6	
23-JAN-13	FE-59		<	113.7	
23-JAN-13	CO-60		<	17.5	
23-JAN-13	ZN-65		<	58.3	
23-JAN-13	CS-134		<	26.0	
23-JAN-13	CS-137	173.8	+/-	29.5	
28-OCT-13	K-40	10,747.0	+/-	678.9	
28-OCT-13	MN-54		<	25.5	
28-OCT-13	CO-58		<	20.5	
28-OCT-13	FE-59		<	36.1	
28-OCT-13	CO-60		<	25.8	
28-OCT-13	ZN-65		<	45.0	
28-OCT-13	CS-134		<	26.9	
28-OCT-13	CS-137	249.6	+/-	40.4	

Exposure Pathway - Terrestrial
Soil
Location MUDS

Collection Date	Nuclide	Concentration (pCi/Kg Dry)			Duplicate Analysis
23-JAN-13	K-40	11,641.0	+/-	718.7	
23-JAN-13	MN-54		<	34.0	
23-JAN-13	CO-58		<	31.5	
23-JAN-13	FE-59		<	104.2	
23-JAN-13	CO-60		<	9.8	
23-JAN-13	ZN-65		<	60.2	
23-JAN-13	CS-134		<	25.2	
23-JAN-13	CS-137	148.3	+/-	39.1	

Exposure Pathway - Ingestion
Meat

Location R2.7

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
18-NOV-13	DEER	K-40	3,070.6 +/- 355.7	
18-NOV-13	DEER	MN-54	< 14.0	
18-NOV-13	DEER	CO-58	< 9.5	
18-NOV-13	DEER	FE-59	< 12.3	
18-NOV-13	DEER	CO-60	< 9.7	
18-NOV-13	DEER	ZN-65	< 11.9	
18-NOV-13	DEER	CS-134	< 15.0	
18-NOV-13	DEER	CS-137	< 10.1	
18-NOV-13	DEER	H-3	251.0 +/- 74.0	

WOLF CREEK GENERATING STATION

2013 LAND USE CENSUS REPORT

REVISION 1

Prepared by:	Teresa L. Rice	12-31-13
	Teresa L. Rice	Date
Peer Review:	Dan Haines	1/7/14
	Dan E. Haines	Date
Approved by:	Robert Hammond	1/13/14
	Robert A. Hammond	Date

EXECUTIVE SUMMARY

The 2013 Land Use Census Report has been revised to incorporate the re-calculated D/Qs for the broadleaf vegetation locations using the data from Engineering Evaluation SA-13-002.

The annual Land Use Census of rural residents within five miles of the Wolf Creek Generating Station (WCGS) has been completed in 2013 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 A2.60-17TE1527 and Q2.35-MILA1619. AP 07B-004 specifies, "Alternate sampling locations may be used to provide continued monitoring". The third-ranked garden is N2.38-RODR9. Since these gardens are currently listed as sample locations for the Radiological Environmental Monitoring Program in procedure AP 07B-004 (locations A-3, Q-6 and N-1), no program changes are necessary regarding broadleaf vegetation locations.

BACKGROUND

Section 5.2, Attachment A, of 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."

Table 5-1, Attachment A, of procedure 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 procedure 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 and 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 in each sector 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.

Two changes were noted for the nearest occupied residences in each sector. These changes occurred in sectors A and E.

Seven 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.

It should be noted that since the last Land Use Census some of the address numbers were changed by the County. Addresses that were affected are identified by an asterisk on Table 2 and Table 3.

TABLE 1

2013 Land Use Census Data

Location of Nearest:

Sector	Residence	Milking Animals	Broadleaf Garden
A	A2.47-17RD1474	None	A2.60-17TE1527
B	B3.53-QURD1755	None	None
C	C1.92-16RD1703	None	C3.58-RERD1675
D	D2.03-QULA1571	None	D3.00-16RD1829
E	E1.77-QULA1485	None	None
F	F1.84-QULA1419	None	F2.44-RERD1391
G	G3.03-13RD1820	None	G3.77-12RD1831
H	H3.09-12RD1711	None	H3.89-11RD1655
J	J3.70-11RD1540	None	J3.70-11RD1540
K	K2.70-12LA1439	None	K4.10-NARD1120
L	L2.10-NARD1339	None	L2.39-NARD1309
M	M2.34-14RD1346	None	M3.78-LYRD1390
N	N2.08-15RD1350	None	N2.38-RODR9
P	P2.76-HW751534	None	P2.93-BRST250
Q	Q2.35-MILA1619	None	Q2.35-MILA1619
R	R2.08-NALN1650	None	None

Identifiers are based upon the following protocol:

EXAMPLE: A2.47-17RD1474

"A" = Sector A

"2.47" = 2.47 miles from the reactor

"17RD1474" = address

TABLE 2

SECTOR	2012 NEAREST RESIDENCE	2013 NEAREST RESIDENCE
A	A2.60-17TE1520	A2.47-17RD1474
B	B3.53-QURD1755	B3.53-QURD1755
C	C1.92-16RD1655	C1.92-16RD1703*
D	D2.03-QULA1571	D2.03-QULA1571
E	E1.78-QULA1451	E1.77-QULA1485
F	F1.84-QULA1419	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	M2.34-14RD1346*
N	N2.08-15RD1350	N2.08-15RD1350
P	P2.76-HW751534	P2.76-HW751534
Q	Q2.35-MILA1619	Q2.35-MILA1619
R	R2.08-NALN1650	R2.08-NALN1650

NOTE: Entries underlined indicate changes from the 2012 Land Use Census.

TABLE 3

2013 Land Use Census Milk and Garden Data

SECTOR	2012 MILKING ANIMALS	2013 MILKING ANIMALS	2012 NEAREST GARDEN PRODUCING BROADLEAF VEGETATION	2013 NEAREST GARDEN PRODUCING BROADLEAF VEGETATION
A	None	None	A2.60-17TE1520	A2.60-17TE1527*
B	None	None	None	None
C	None	None	C3.38-17RD1755	C3.58-RERD1675
D	None	None	D2.33-RERD1520	D3.00-16RD1829
E	None	None	None	None
F	None	None	F2.44-RERD1391	F2.44-RERD1391
G	None	None	None	G3.77-12RD1831
H	None	None	H4.87-10RD1670	H3.89-11RD1655
J	None	None	J3.84-11RD1499	J3.70-11RD1540
K	None	None	K4.10-NARD1120	K4.10-NARD1120
L	None	None	L2.39-NARD1309	L2.39-NARD1309
M	None	None	M4.42-LYRD1231	M3.78-LYRD1390
N	None	None	N2.38-RODR9	N2.38-RODR9
P	None	None	P3.17-WDST425	P2.93-BRST250
Q	None	None	Q2.35-MILA1619	Q2.35-MILA1619
R	None	None	None	None

NOTE: Underlined entries indicate changes from the 2012 Land Use Census.

TABLE 4

Information Used for D/Q Calculations

FROM LAND USE			FROM SA-13-002					
	DIST	CALC	NEAR	NEAR	FAR	FAR		SECTOR
SECTOR	(MI)	(METERS)	DIST	D / Q	DIST	D / Q	CALC	RANKING
A	2.60	4184	4000	1.86E-09	5000	1.26E-09	1.75E-09	1
B								
C	3.58	5761	5000	2.51E-10	6000	1.85E-10	2.01E-10	13
D	3.00	4828	4000	2.93E-10	5000	1.99E-10	2.15E-10	12
E								
F	2.44	3927	3000	6.15E-10	4000	3.69E-10	3.87E-10	8
G	3.77	6067	6000	3.57E-10	7000	2.65E-10	3.51E-10	10
H	3.89	6260	6000	5.16E-10	7000	3.83E-10	4.81E-10	6
J	3.70	5955	5000	6.06E-10	6000	4.46E-10	4.53E-10	7
K	4.10	6598	6000	4.46E-10	7000	3.31E-10	3.77E-10	9
L	2.39	3846	3000	1.10E-09	4000	6.62E-10	7.29E-10	4
M	3.78	6083	6000	2.67E-10	7000	1.99E-10	2.61E-10	11
N	2.38	3830	3000	1.17E-09	4000	7.00E-10	7.80E-10	3
P	2.93	4715	4000	7.64E-10	5000	5.19E-10	5.89E-10	5
Q	2.35	3782	3000	1.46E-09	4000	8.79E-10	1.01E-09	2
R								

Originated by: Teresa L. Rice Date: 12-31-13

Verified by: Dan Haines Date: 1/7/14