Wolf Creek
Nuclear Operating Corporation

Ron Benham
Director Nuclear and Regulatory Affairs

April 28, 2021
RA 21-0041

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

Subject: Docket No. 50-482: 2020 Annual Radiological Environmental Operating Report

Commissioners and Staff:

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 for WCGS for the period of January 1, 2020, through December 31, 2020.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4204.

Sincerely,

Ron Benham

RDB/rlt

Enclosure

cc: S. S. Lee (NRC), w/e
S. A. Morris (NRC), w/e
N. O'Keefe (NRC), w/e
Senior Resident Inspector (NRC), w/e

Enclosure to RA 21-0041

Wolf Creek Generating Station
2020 Annual Radiological Environmental Operating Report

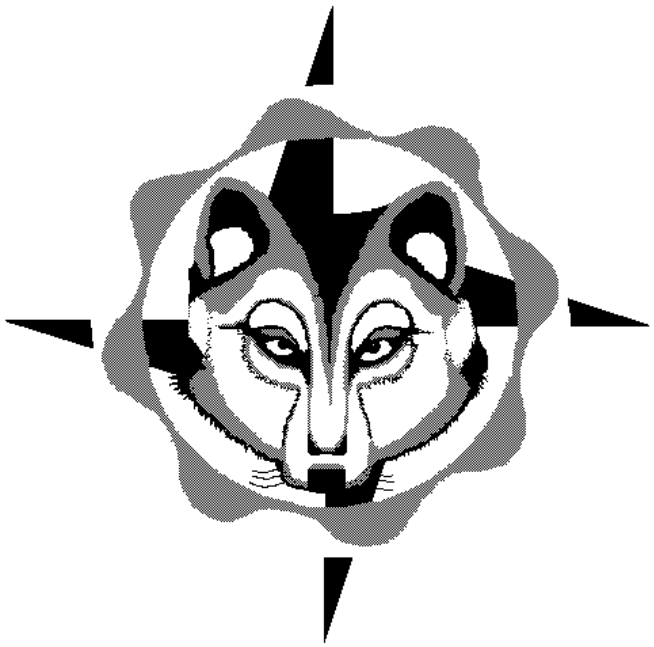
(177 pages including this page)

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

2020 ANNUAL RADIOLOGICAL

ENVIRONMENTAL OPERATING REPORT



March 30, 2021

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EXECUTIVE SUMMARY

Plant-related activation, corrosion, or fission products were not detected during 2020 in air particulate filters, radioiodine canisters, ground water, drinking water, broadleaf vegetation, shoreline sediment, crops, bottom sediment, aquatic vegetation, terrestrial vegetation or soil samples. Activation, corrosion or fission products attributable to plant operation were detected during 2020 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 REMP results, it was concluded station operations had no significant radiological impact on the health and safety of the public or the environment.

INTRODUCTION

The 2020 Annual Radiological Environmental Operating Report for Wolf Creek Generating Station (WCGS) covers the period from January 1 through December 31, 2020. WCGS is 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 the 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 sampled air through 47 mm glass fiber particulate filters and radioiodine canisters, respectively. The air particulate filters and radioiodine canisters were collected weekly. Gross beta analysis was performed weekly on the air particulate filters. Gamma isotopic analysis was also performed quarterly on

the air particulate filters. Radioiodine canisters were analyzed weekly for I-131.

Air samples were collected from six locations. The 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 44 locations during the sample year to measure direct radiation. The OSLs were typically positioned roughly 3 to 4 feet above the ground in plastic thermostat boxes. Three OSLs were placed at each designated location. The OSLs were changed out quarterly and analyzed quarterly 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

Gamma isotopic analysis was performed on the water samples. In addition to gamma isotopic analysis, analysis for I-131 was performed monthly on drinking water and quarterly on ground water samples. Gross beta analysis was performed monthly on drinking water samples. Tritium analysis was performed monthly for surface water and quarterly for drinking water. Tritium analysis was also performed quarterly 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 John Redmond Reservoir (JRR) control location and from the Coffey County Lake Spillway (SP) indicator location.

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 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 Neosho River-Wolf Creek confluence and the Burlington facility is located upstream of the Neosho River-Wolf Creek confluence. Composite samples were obtained monthly from automatic samplers at each location. The automatic drinking water samples 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 John Redmond Reservoir (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 indicator sample location Coffey County Lake (CCL) and from the tail waters of John Redmond Reservoir (JRR) control sample location. These sample locations are identified in Figure 4. Gamma isotopic analyses were performed on the boneless meat portions of the fish. Several species of game fish and rough fish were sampled. Fish were also analyzed for tritium.

Broadleaf vegetation samples were collected monthly when available during the growing season. Indicator (A-3, B-1, H-2 and Q-6) location gardens (Figure 4) and a control (D-2) location garden (Figure 5) were sampled. Gamma isotopic analyses were performed on these samples.

Irrigated crop samples were obtained from indicator location (NR-D1) and non-irrigated samples from indicator location (NR-D2) downstream of the confluence of Wolf Creek and the Neosho River. Irrigated 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)

Bottom sediment samples were collected semiannually from indicator sample locations at the Discharge Cove (DC), and the control sample location at John Redmond Reservoir (JRR). Gamma isotopic analyses were performed on the bottom sediment samples. Two samples collected from indicator location (DC) were also analyzed for Fe-55. No samples were analyzed for Ni-63, Sr-89 and Sr-90 activity (Hard to Detect Metals). One shoreline sediment sample was collected from indicator sample location at Stringtown Cemetery (SC) as part of a cooperative sampling effort with the Kansas Department of Health and Environment (KDHE). The sample locations are identified on Figure 3.

Aquatic vegetation was collected from indicator locations at the Makeup Discharge Structure (MUDS), Environmental Education Area (EEA) and Stringtown Cemetery (SC). 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 Environmental Education Area (EEA) and the Makeup Discharge Structure (MUDS) indicator sample locations. Gamma isotopic analysis was 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 Environmental Education Area (EEA) and Makeup Discharge Structure (MUDS). Gamma isotopic analysis was 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.

Turkey was sampled from indicator sample location R 3.9. Gamma isotopic analysis and tritium analysis was performed on the turkey sample. This sample was collected as part of a cooperative sampling effort with the KDHE. The sample location is identified on Figure 4.

Deer was sampled from indicator sample location G 1.8. 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. 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 2020 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 2020 weekly gross beta analyses range for indicator locations was 0.009 to 0.050 pCi/m^3. The 2020 weekly gross beta analyses range was within the 1983 and 1984 pre-operational range. Additionally, the annual mean for indicator locations for 2020 (0.025 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 2020 (0.025 pCi/m^3) was one point higher than the controlled location (0.024 pCi/m^3). The indicator location with the highest gross beta annual mean was location 32, 37, and 49 (0.025 pCi/m^3). Again, one point higher than the controlled location (0.024 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 2020, the range for Be-7 detected activity was 0.064 to 0.115 pCi/m^3 for indicator locations and the annual mean for indicator locations was 0.089 pCi/m^3. The control location annual mean for Be-7 detected activity (0.080 pCi/m^3) was lower than the annual mean of the indicator locations (0.089 pCi/m^3). The indicator location with the highest annual mean of detected Be-7 activity was location 2 (0.094 pCi/ m^3).

I-131 activity was not detected in the weekly analysis of radioiodine canisters 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 2020 in air particulate filters and radioiodine canisters. 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 2020 was 17.9 mR per standardized 90-day quarter. The annual mean of the control sample locations in 2020 was 19.1 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 location 13 (20.3 mR per standardized 90-day quarter) which is slightly higher than the annual mean of the control sample locations (19.1 mR per standardized 90-day quarter).

Based upon Condition Report 00027489, improvements were made in measuring and subtracting transit dose in 2010. As expected, the OSL results increased during 2010 based on how transit dosimeters are handled. Chart 3 visibly displays the increase of the OSL results since 2010. Chart 3 also displays how closely the indicator and control location OSL dosimeter results are for 2018. Condition Report 00128355 was written to reduce data elimination based on standard deviation starting in Quarter 3 of 2018. In 2020 no change in trend was noted due to this change.

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 10,597 pCi/L and the range was 8,972 to 11,991 pCi/L. The detected tritium activity was below the 30,000 pCi/L AP 07B-004 reporting level. Chart 5 illustrates the yearly average of surface water tritium data for the SP location. Chart 5 indicates the average tritium concentration of the SP location has increased slightly from last year. Tritium activity was not detected in samples obtained from the John Redmond Reservoir (JRR) control sample location.

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 2020 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 2020 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 (2.392 pCi/L) was slightly higher when compared to the annual mean of the control sample location gross beta activity (2.013 pCi/L). The 2020 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.

No tritium was detected in the indicator sample location during 2020. No release limits were exceeded, and results were well below required detection limits. No other radionuclides were detected by the gamma isotopic analyses of the indicator or control location samples.

The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2020 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 2020. The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2020 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 2020 Land Use Census.

(2) Fish

Naturally occurring K-40 activity was detected in fish samples obtained from the Coffey County Lake (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 annual mean (9,110 pCi/kg). The detected tritium activity was attributable to plant operation. An adult consuming 21 kilograms of fish, at the maximum measured tritium concentration (12,561 pCi/kg), would receive a committed effective dose equivalent of 0.017 mRem.

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

No other radionuclides were detected in fish samples during 2020. 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 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 collected 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 2020 in broadleaf vegetation samples and 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 2020 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 the EEA sample we took (124.8 pCi/kg). Cs-137 was not detected in two samples obtained from control location JRR.

Cs-137 activity was detected in pre-operational samples. The Cs-137 activity detected in 2020 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 32 to 380 pCi/kg.

The detected Cs-137 activity in the sample 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.

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 two 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 2020 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 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 2020 in aquatic vegetation samples and no unusual trends were noted.

(3) Terrestrial Vegetation

Naturally occurring Be-7 and K-40 activity were detected in the terrestrial vegetation indicator location samples. No other radionuclides were detected in terrestrial vegetation. Plant-related activation, corrosion or fission products were not detected during 2020 in terrestrial vegetation and no unusual trends were noted.

(4) Soil

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

Cs-137 activity was also detected in the one sample we took in 2020 (154.9 pCi/kg). 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 102 to 862 pCi/kg. The detected Cs-137 activity in soil sampled in 2020 is below and within the decay corrected pre-operational range and is likely due to fallout.

Plant-related activation, corrosion, or fission products were not detected during 2019 in soil samples and no unusual trends were noted.

(5) Turkey (Ingestion Pathway)

Naturally occurring K-40 activity was detected in the turkey sample obtained from the indicator location. No tritium activity was detected in the turkey sample. No activity was attributable to plant operation.

(6) Deer (Ingestion Pathway)

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

Tritium activity (2601.0 pCi/kg) was also detected in the deer sample. The detected tritium activity was attributable to plant operation.

An adult consuming 72.6 kilograms of deer meat, at the measured tritium concentration (2601.0 pCi/kg), would receive a committed effective dose equivalent of 0.012 mRem.

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

III. PROGRAM REVISIONS/CHANGES

No revisions or changes were made to AP 07B-004, *Offsite Dose Calculation Manual (Radiological Environmental Monitoring Program)* during 2020.

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.

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 laboratory participated in the intercomparison studies administered by Environmental Resource Associates, Inc. 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 0.160 mRem for 2020.

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 (10,450 pCi/L), would receive a committed effective dose equivalent of 0.484 mRem per year. For an adult eating 21 kg of fish per year from Coffey County Lake, using the average tritium activity (9,291 pCi/kg), would receive a committed effective dose equivalent of 0.012 mRem per year. Based upon the REMP results, the dose from both pathways was calculated to be 0.496 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.

VII. Condition reports on REMP for 2020

First quarter REMP data lost due to damaged dosimeters. (CR# 00141671)
REMP Air Particulate Sample location 53 melted the outlet. (CR# 00141691)
REMP Horseradish dead at control location D-2. (CR# 00142656)
Digital Flow Meter Linerity Check. (CR# 00143723)
Error indentified in the 2019 AREOR. (CR# 00143767)
REMP sample cooler not shipped. (CR# 00146113)
Tritium above 10,000 pCi/L in 1DW0003. (CR# 141067)
REMP Air Sample loose from power pole. (CR# 00144633)

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)**		
	44 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, 41, 42, 43, 46, 49, 55, & 54 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 Neosho River-Wolf Creek confluence (Location IO-DW on Figure 5); control sample from location upstream of the Neosho River-Wolf Creek confluence (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
	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
	54	0.18	S	K
	55	0.25	SSW	L
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
	SC	0.8	NNW	R
Fish	CCL	0.6	E to NNW	E to R
	JRR	3.7	W	N
Food/Garden	A-3	2.6	N	A
	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
	SC	0.8	NNW	R

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 (Turkey)	R3.9	3.9	NNE	R
Meat (Deer)	G1.8	1.8	SE	G

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	16.6	17.8	22.0	21.9	78.3
2	18.1	18.8	16.8	17.8	71.5
4	17.4	19.4	19.7	19.1	75.6
5	14.5	17.8	16.4	16.3	65.0
7	17.0	16.8	17.4	19.4	67.6
8	17.4	20.1	23.6	19.7	80.8
9	16.7	14.8	16.8	18.4	66.7
11	17.0	20.1	18.1	20.6	75.8
12	17.8	17.8	19.4	20.0	75.0
13	19.9	18.1	21.0	22.2	81.2
14	18.5	19.8	20.0	21.0	79.3
15	17.0	20.1	20.0	19.1	76.2
16	16.7	18.1	19.1	19.1	73.0
17	18.1	17.8	17.1	20.0	73.0
18	18.1	18.1	17.5	17.5	71.2
19	16.3	18.8	20.1	19.4	74.6
20	18.8	18.5	16.8	19.7	73.8
22	17.4	19.8	19.7	21.2	78.1
23	17.7	17.8	17.5	18.8	71.8
24	15.5	18.1	17.8	18.4	69.8
25	16.3	15.2	18.7	17.2	67.4
26	17.4	14.5	16.1	18.1	66.1
27	13.4	17.1	21.7	20.0	72.2
29	17.0	13.8	14.2	17.1	62.1
30	15.5	19.1	19.4	16.6	70.6
32	16.3	17.5	17.8	19.1	70.7
34	17.4	19.4	20.7	19.9	77.4
35	17.0	18.5	20.0	18.8	74.3
36	14.1	16.1	21.0	19.1	70.3
37	15.9	16.1	20.0	19.1	71.1
38	14.1	17.7	19.7	21.9	73.4
39	17.8	16.8	18.1	17.1	69.8
41	11.6	18.8	20.4	20.3	71.1
42	9.1	9.9	10.9	12.5	42.4
43	17.7	11.5	13.2	13.4	55.8
44	18.1	18.1	17.4	19.4	73.0
46	14.8	18.8	19.7	20.6	73.9
49	17.4	14.2	15.2	17.2	64.0
50	17.7	17.8	20.7	21.2	77.4
51	17.7	17.8	19.7	20.0	75.2
52	17.0	18.1	21.7	23.1	79.9
53	15.2	19.4	17.4	20.6	72.6
54	15.6	18.5	17.4	20.9	72.4
55	16.3	17.1	17.7	20.0	71.1

FIGURE 1

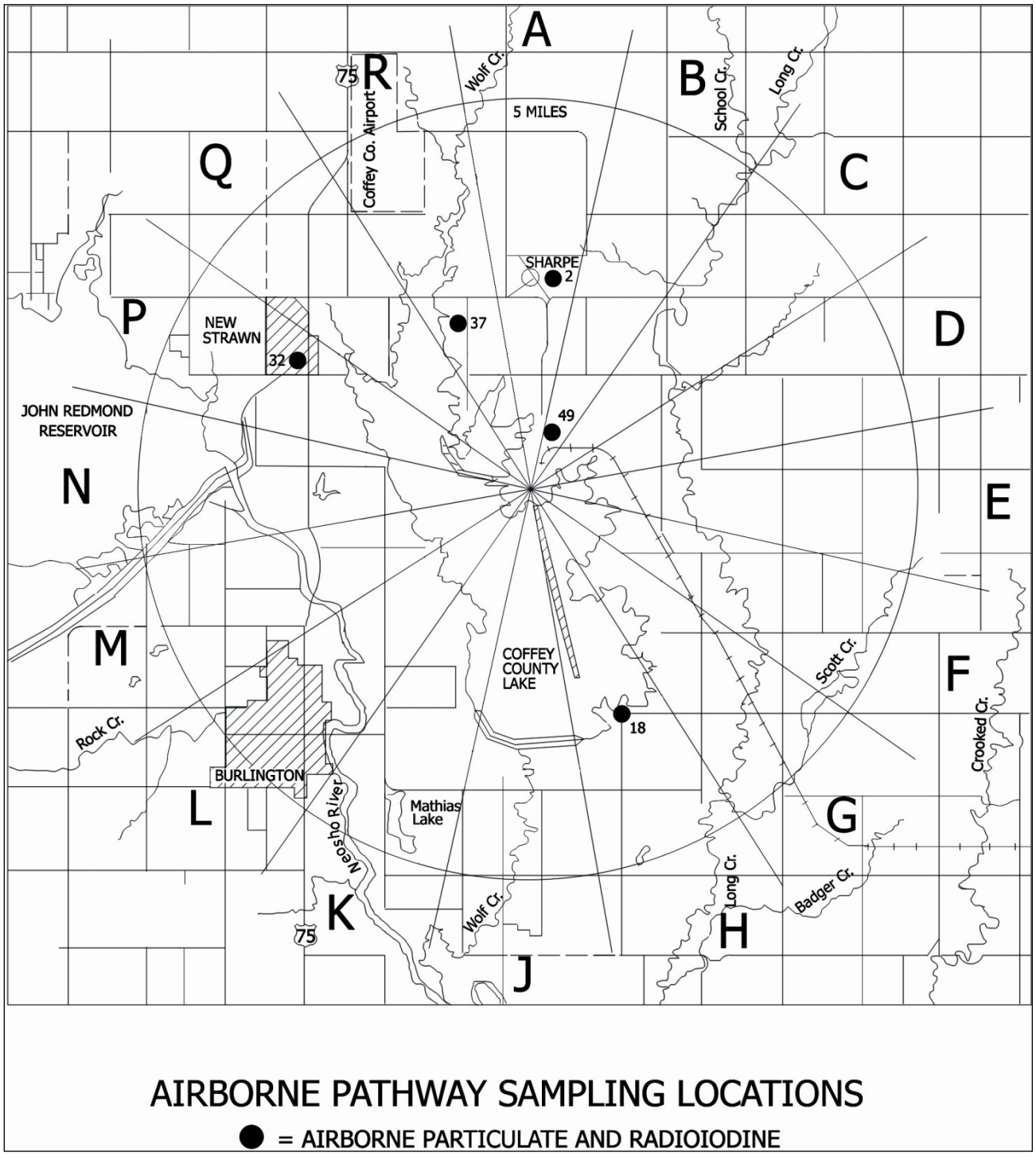
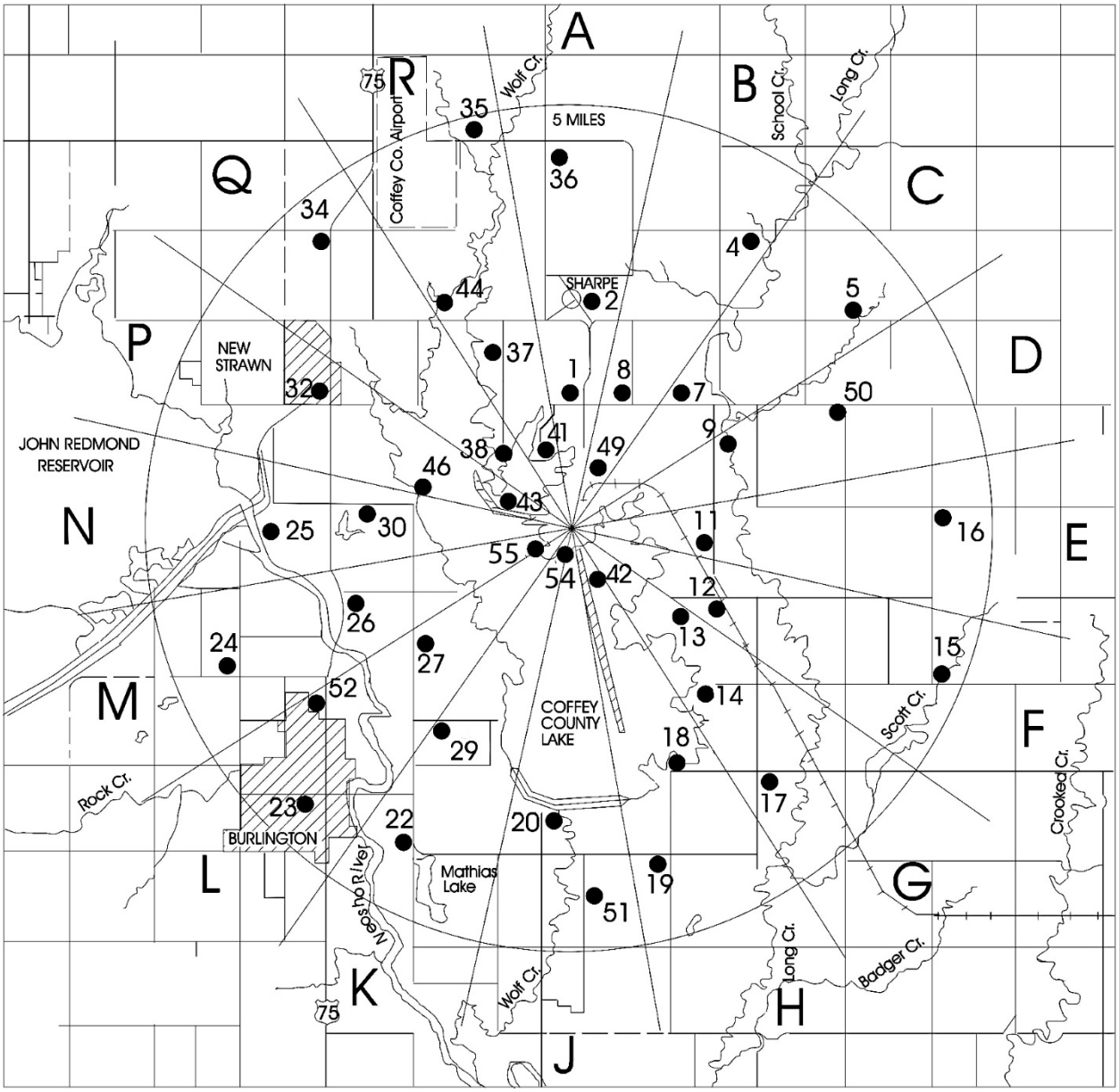

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
75
Wolf Cr.
5 MILES
School Cr.
Long Cr.
Coffey Co. Airport
SHARPE
2
37
NEW
STRAWN
32
JOHN REDMOND
RESERVOIR
49
COFFEY
COUNTY
LAKE
18
Scott Cr.
Crooked Cr.
Rock Cr.
BURLINGTON
Neosho River
Mathias
Lake
Badger Cr.
AIRBORNE PATHWAY SAMPLING LOCATIONS
● = AIRBORNE PARTICULATE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

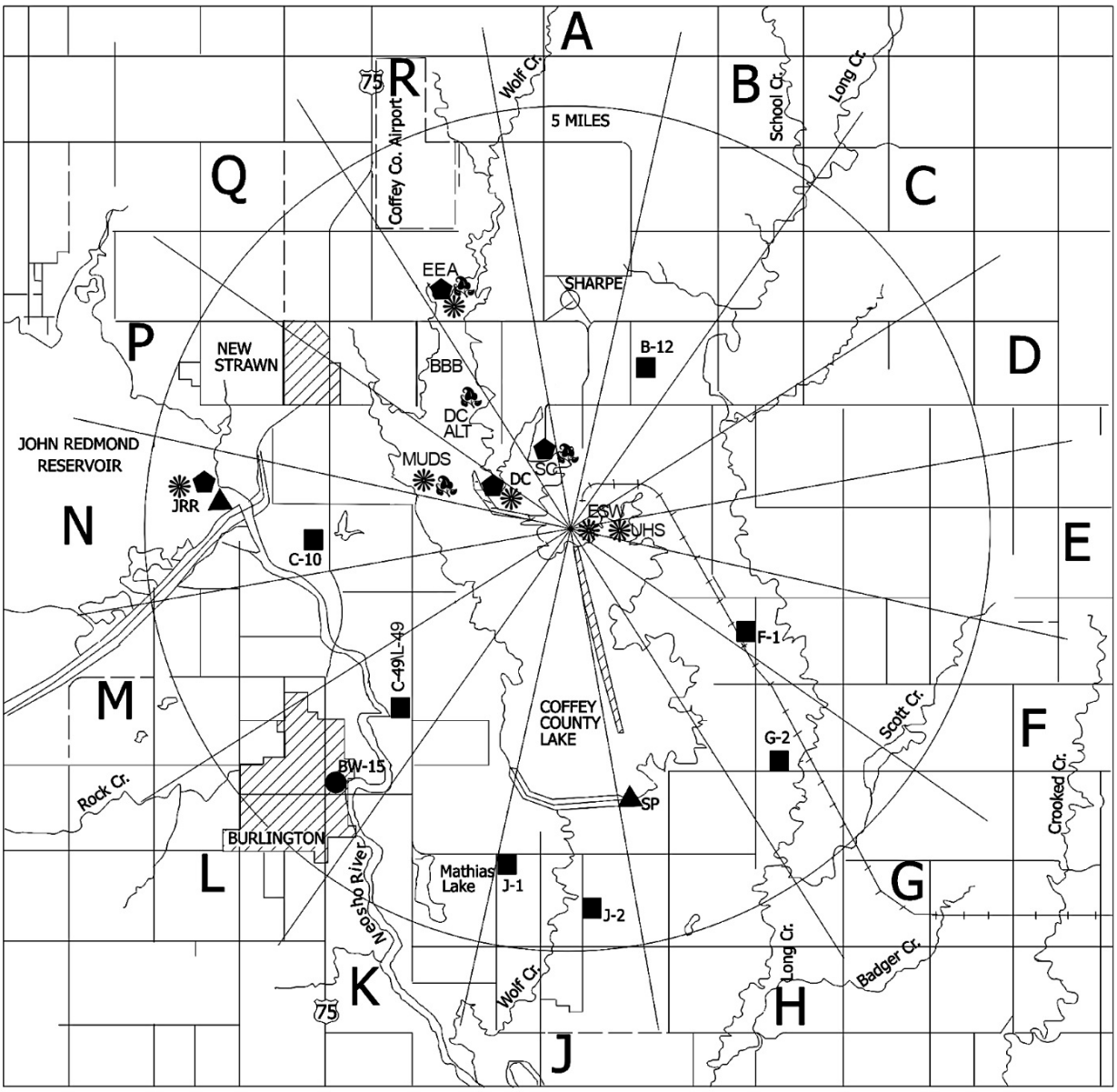
FIGURE 2



DIRECT RADIATION PATHWAY SAMPLING LOCATIONS

● = DOSIMETER LOCATIONS

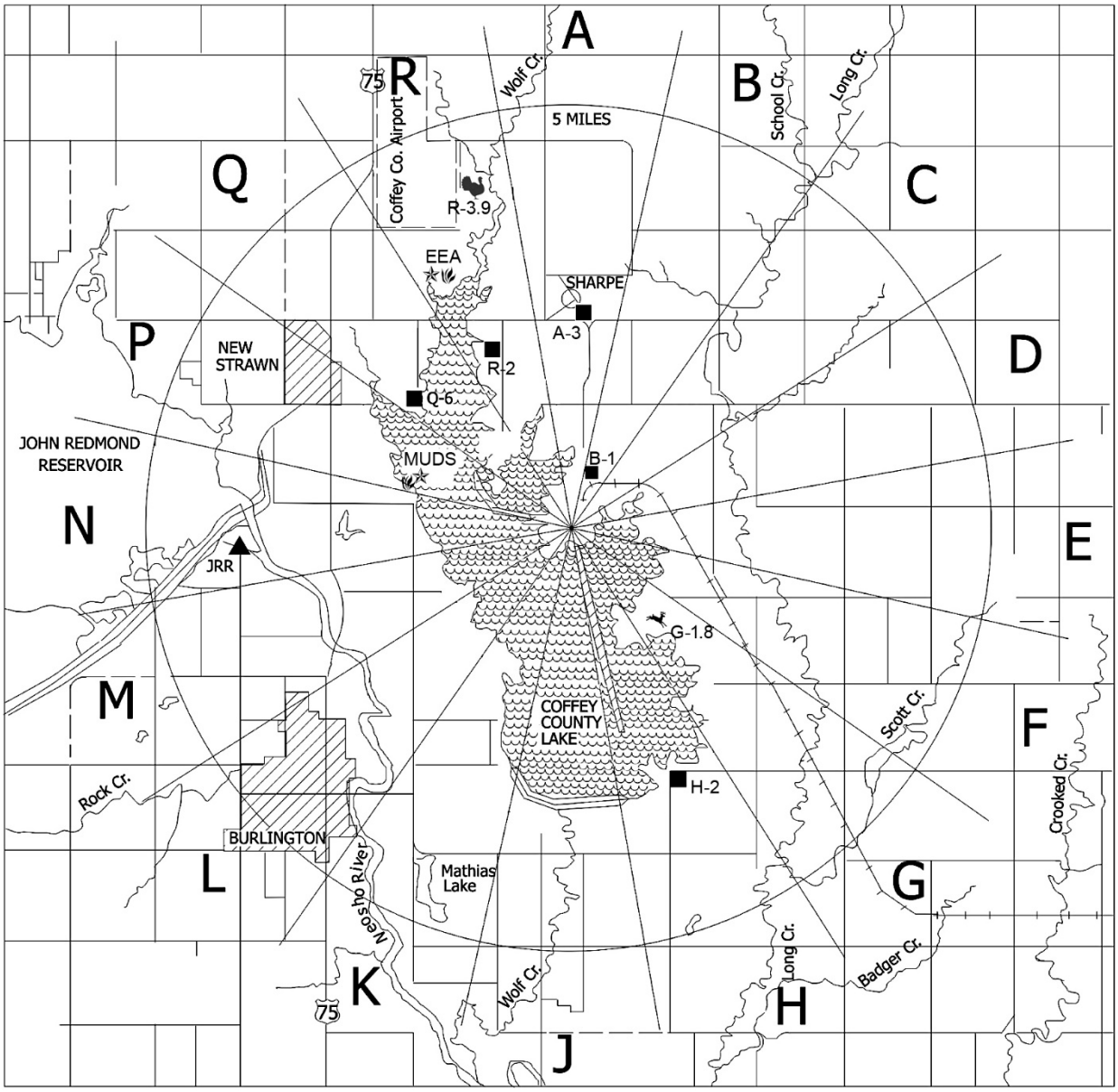
FIGURE 3



WATERBORNE PATHWAY SAMPLING LOCATIONS

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

FIGURE 4



INGESTION PATHWAY SAMPLING LOCATIONS

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

FIGURE 5

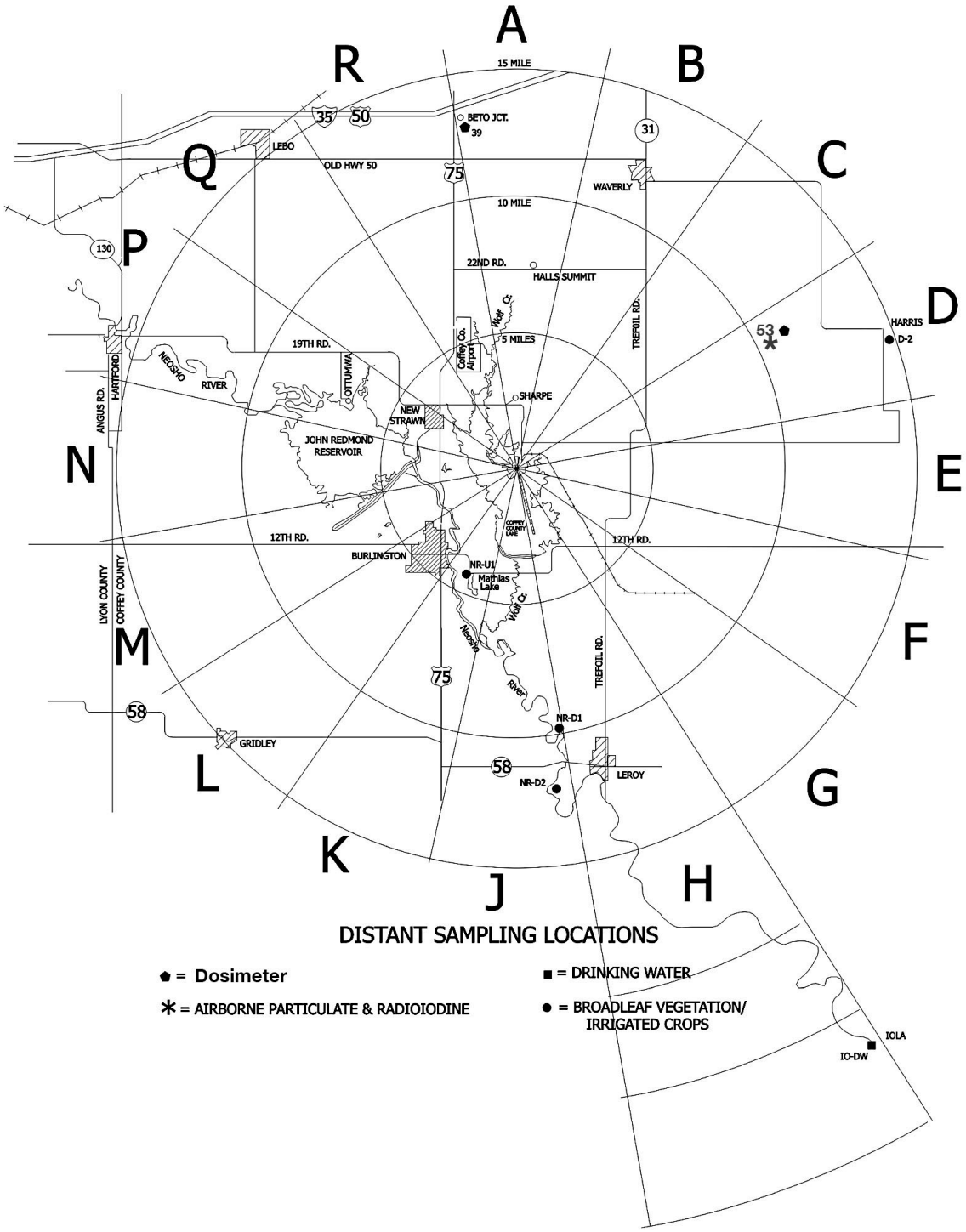

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
15 MILE
10 MILE
5 MILES
OLD HWY 50
BETO JCT.
39
LEBO
WAVERLY
22ND RD.
HALLS SUMMIT
19TH RD.
12TH RD.
HARRIS
D-2
53
SHARPE
NEW STRAWN
JOHN REDMOND RESERVOIR
NEOSHO RIVER
OTTUMWA
HARTFORD
ANGUS RD.
LYON COUNTY
COFFEY COUNTY
BURLINGTON
Coffey County Lake
Coffey Co. Airport
Wolf Ck.
TREFOIL RD.
NR-U1
Mathias Lake
NR-D1
NR-D2
GRIDLEY
LEROY
IOLA
IO-DW
35
50
31
75
130
58
DISTANT SAMPLING LOCATIONS
⬟ = Dosimeter
✱ = AIRBORNE PARTICULATE & RADIOIODINE
■ = DRINKING WATER
● = BROADLEAF VEGETATION/ IRRIGATED CROPS

CHART 1

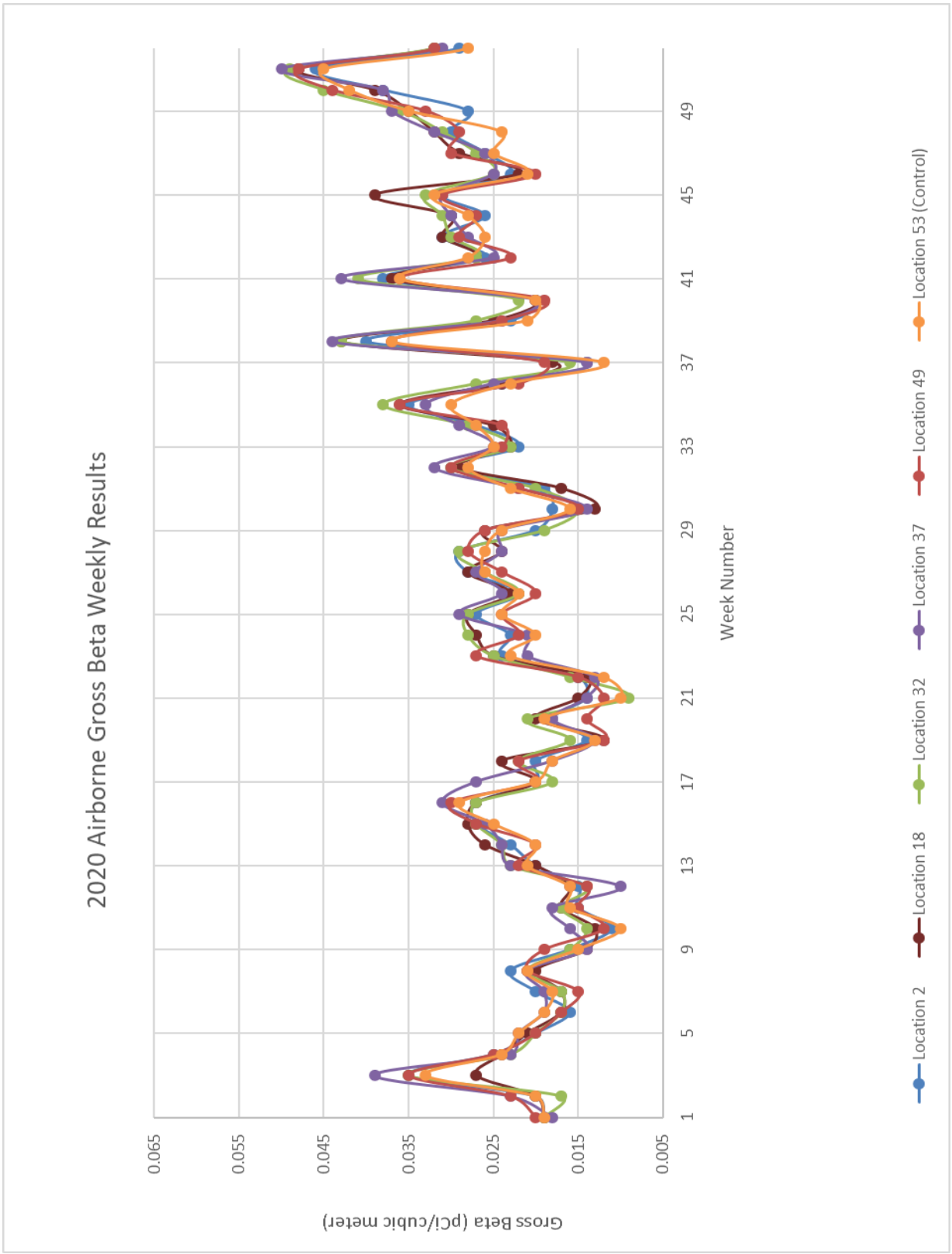

2020 Airborne Gross Beta Weekly Results
Gross Beta (pCi/cubic meter)
0.065
0.055
0.045
0.035
0.025
0.015
0.005
1
5
9
13
17
21
25
29
33
37
41
45
49
Week Number
Location 2
Location 18
Location 32
Location 37
Location 49
Location 53 (Control)

CHART 2

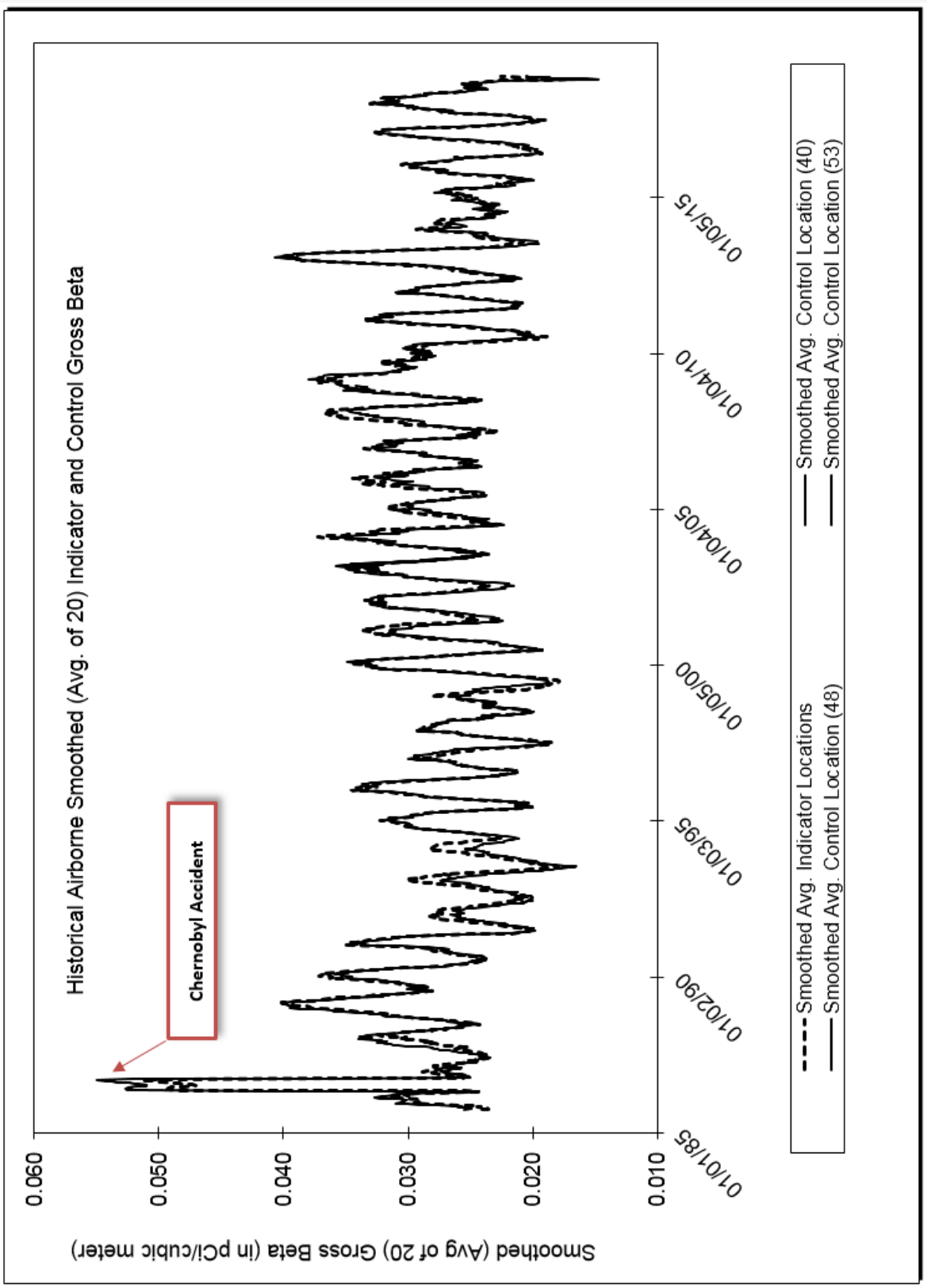

Historical Airborne Smoothed (Avg. of 20) Indicator and Control Gross Beta
Chernobyl Accident
Smoothed (Avg of 20) Gross Beta (in pCi/cubic meter)
0.060
0.050
0.040
0.030
0.020
0.010
01/01/85
01/02/90
01/03/95
01/05/00
01/04/05
01/04/10
01/05/15
Smoothed Avg. Indicator Locations
Smoothed Avg. Control Location (48)
Smoothed Avg. Control Location (40)
Smoothed Avg. Control Location (53)

CHART 3

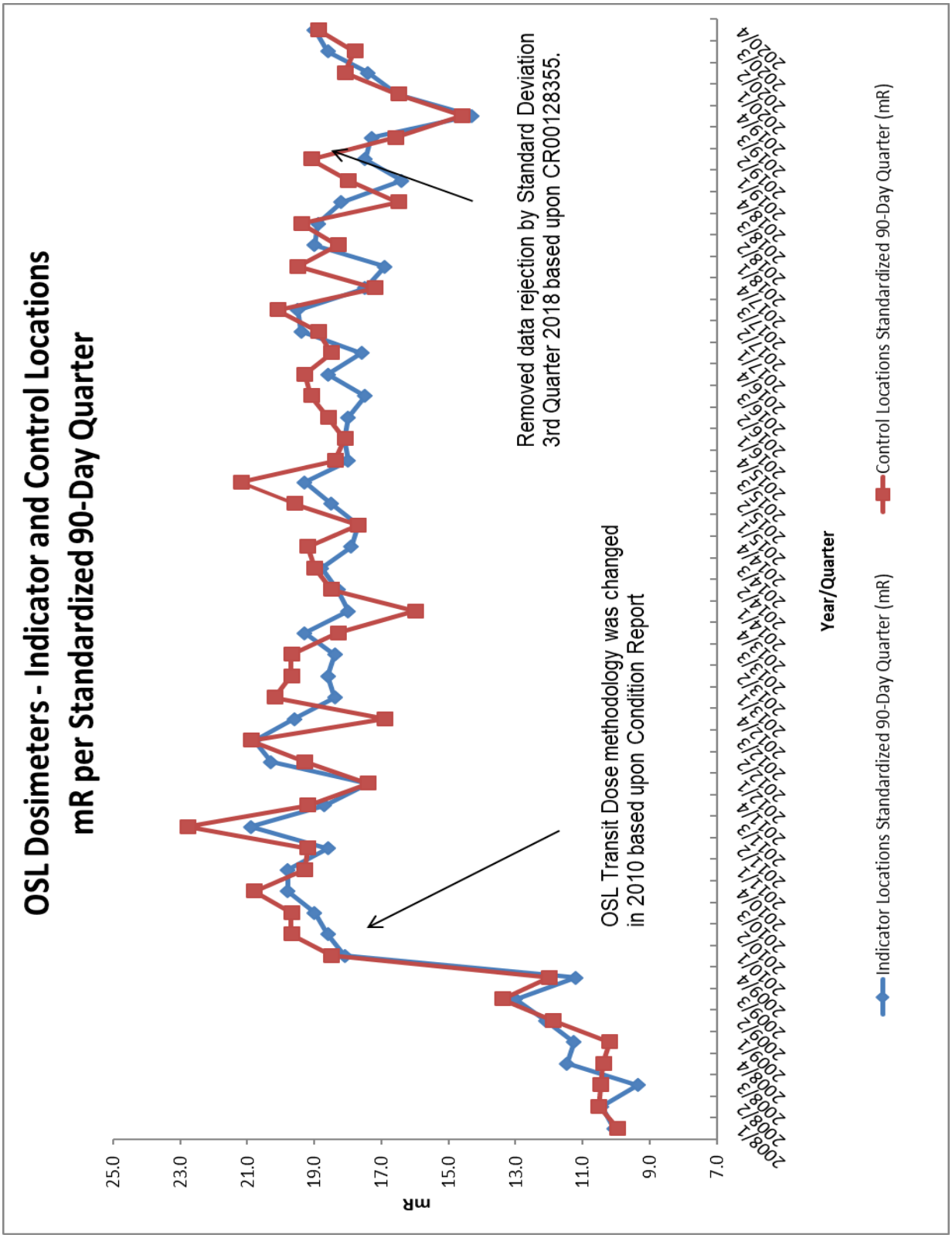

OSL Dosimeters - Indicator and Control Locations
mR per Standardized 90-Day Quarter
Removed data rejection by Standard Deviation
3rd Quarter 2018 based upon CR00128355.
OSL Transit Dose methodology was changed
in 2010 based upon Condition Report
mR
25.0
23.0
21.0
19.0
17.0
15.0
13.0
11.0
9.0
7.0
Year/Quarter
Indicator Locations Standardized 90-Day Quarter (mR)
Control Locations Standardized 90-Day Quarter (mR)

CHART 4

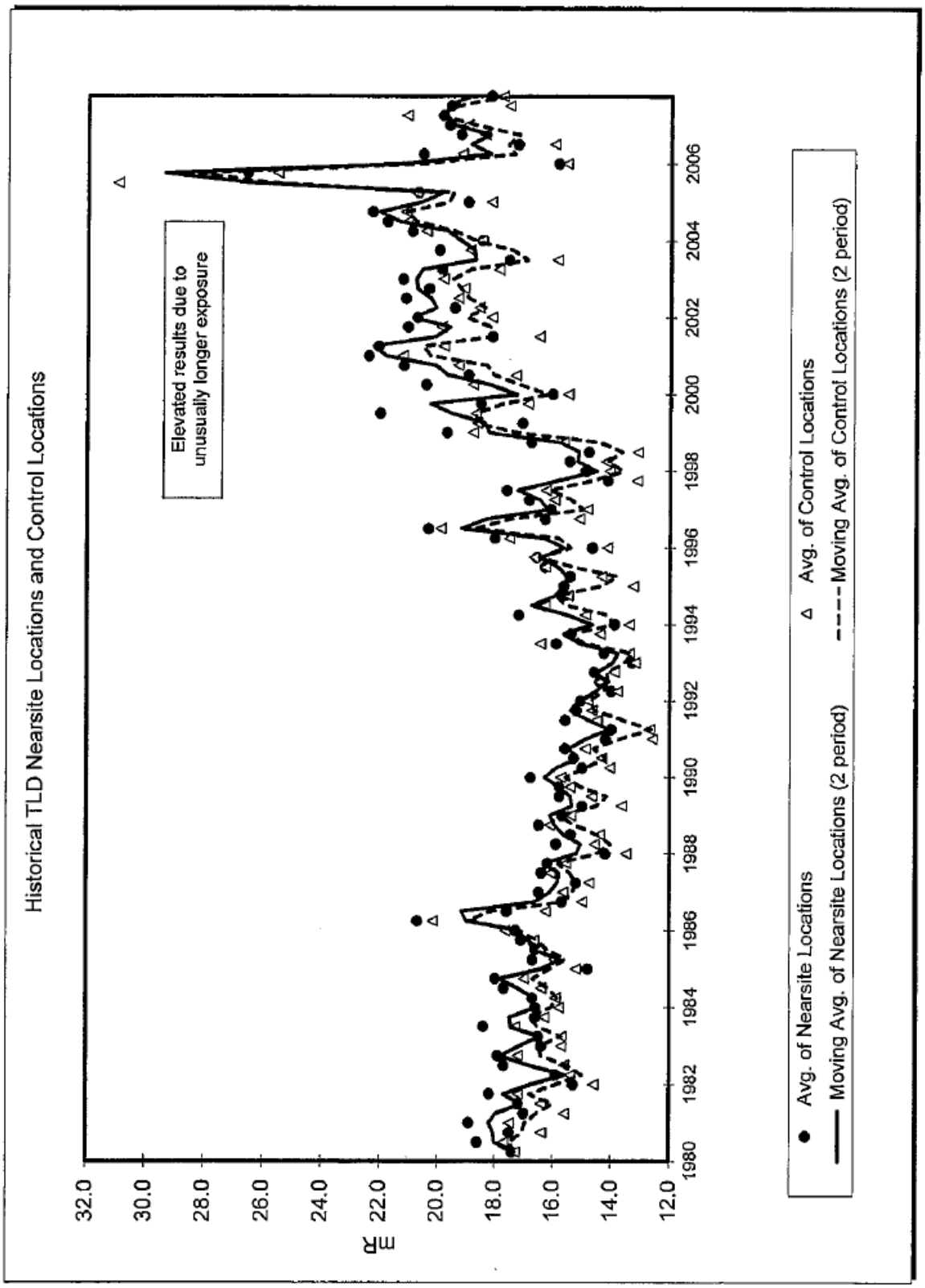

Historical TLD Nearsite Locations and Control Locations
Elevated results due to unusually longer exposure
mR
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
Avg. of Nearsite Locations
Moving Avg. of Nearsite Locations (2 period)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

CHART 5

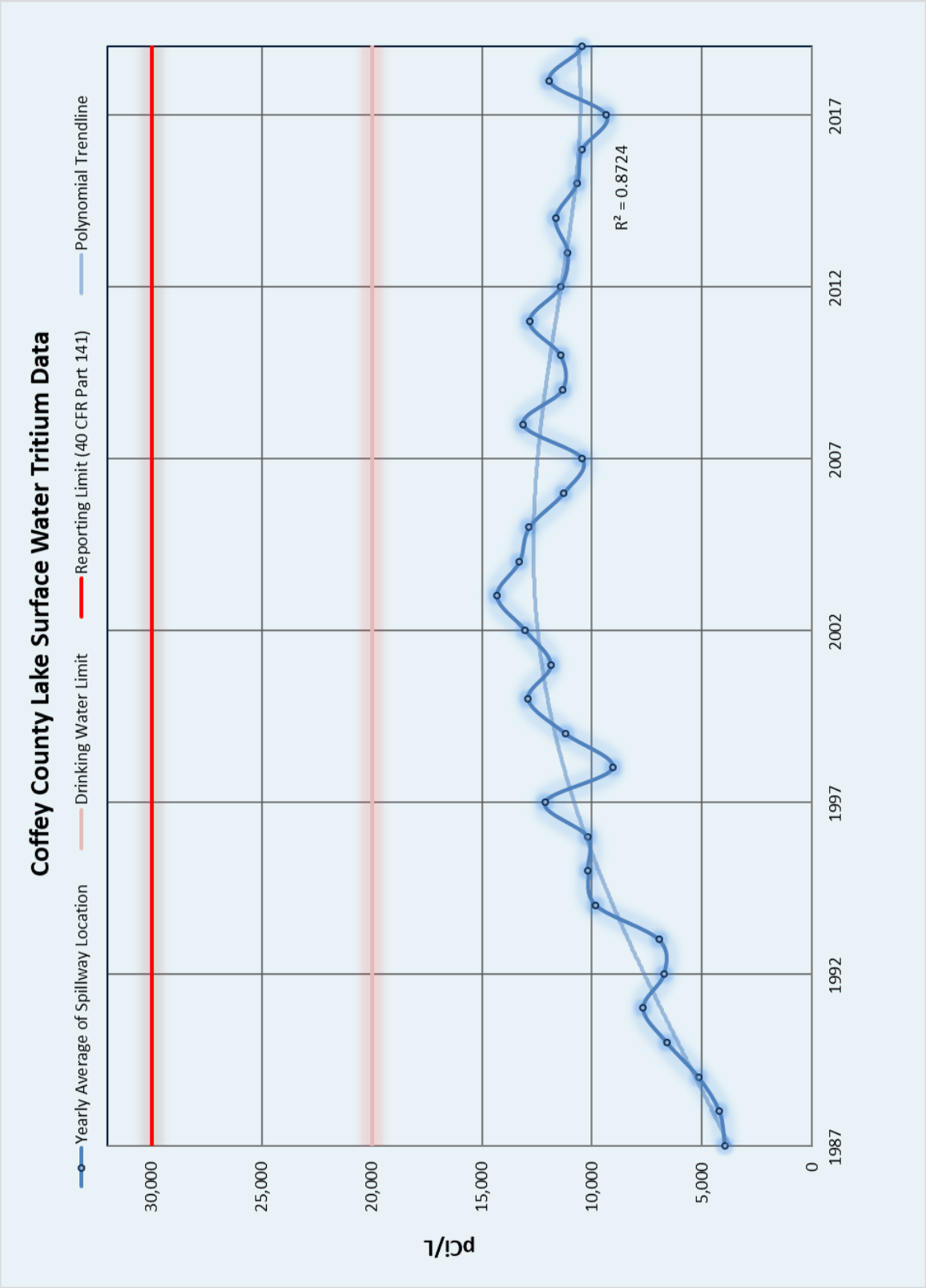

Coffey County Lake Surface Water Tritium Data
Yearly Average of Spillway Location
Drinking Water Limit
Reporting Limit (40 CFR Part 141)
Polynomial Trendline
R² = 0.8724
pCi/L
30,000
25,000
20,000
15,000
10,000
5,000
0
1987
1992
1997
2002
2007
2012
2017

CHART 6

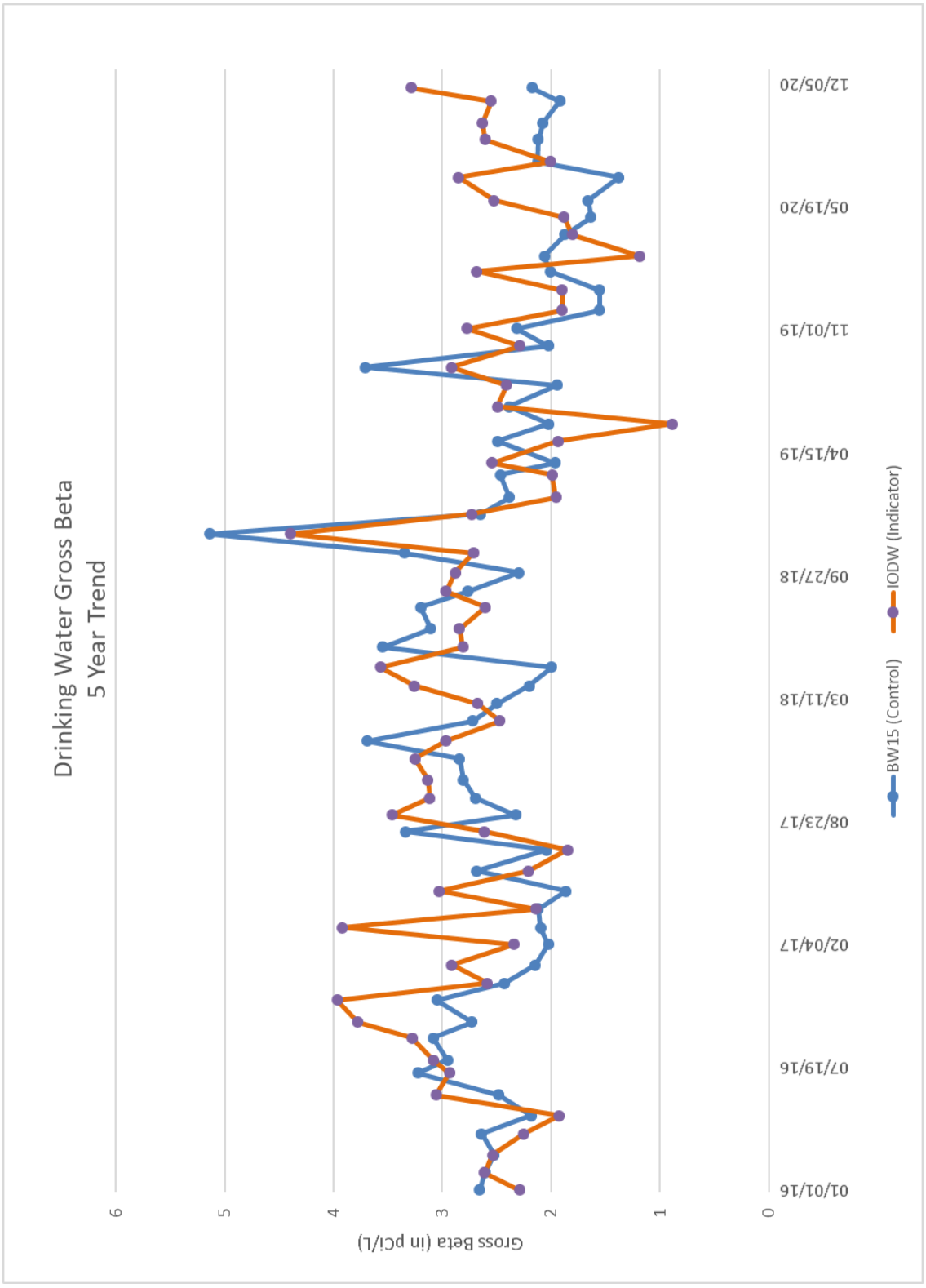
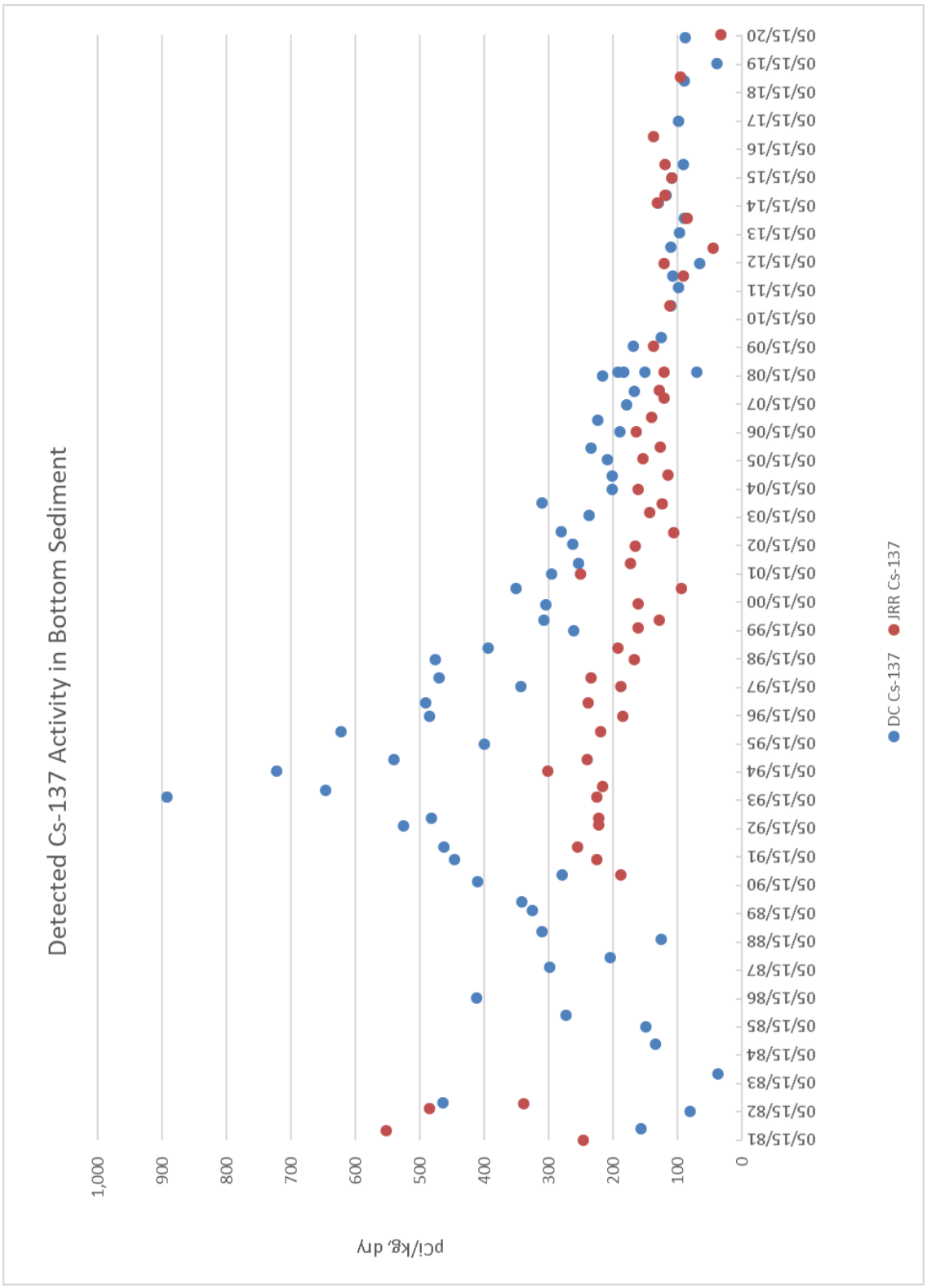

Drinking Water Gross Beta
5 Year Trend
Gross Beta (in pCi/L)
0
1
2
3
4
5
6
01/01/16
07/19/16
02/04/17
08/23/17
03/11/18
09/27/18
04/15/19
11/01/19
05/19/20
12/05/20
BW15 (Control)
IODW (Indicator)

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
05/15/82
05/15/83
05/15/84
05/15/85
05/15/86
05/15/87
05/15/88
05/15/89
05/15/90
05/15/91
05/15/92
05/15/93
05/15/94
05/15/95
05/15/96
05/15/97
05/15/98
05/15/99
05/15/00
05/15/01
05/15/02
05/15/03
05/15/04
05/15/05
05/15/06
05/15/07
05/15/08
05/15/09
05/15/10
05/15/11
05/15/12
05/15/13
05/15/14
05/15/15
05/15/16
05/15/17
05/15/18
05/15/19
05/15/20
DC Cs-137
JRR Cs-137

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APPENDIX A

INTERLABORATORY AND INTRALABORATORY COMPARISON PROGRAM RESULTS

NOTE: Appendix A is updated four times a year. The complete appendix is included in March, June, September and December monthly progress reports only.

January, 2020 through December, 2020

Appendix A

Interlaboratory/ Intralaboratory Comparison Program Results

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

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

Results in Table A-1 were obtained through participation in the RAD PT Study Proficiency Testing Program administered by Environmental Resource Associates, serving as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada.

Results in Table A-2 were obtained through participation in the New York Department of Health Environmental Laboratory Approval Program (ELAP) PT.

Table A-3 lists results for thermoluminescent dosimeters (TLDs), via irradiation and evaluation by the University of Wisconsin-Madison Radiation Calibration Laboratory at the University of Wisconsin Medical Radiation Research Center.

Table A-4 lists results of the analyses on intralaboratory "spiked" samples for the past twelve months. All samples are prepared using NIST traceable sources. Data for previous years available upon request.

Table A-5 lists results of the analyses on intralaboratory "blank" samples for the past twelve months. Data for previous years available upon request.

Table A-6 lists analytical results from the intralaboratory "duplicate" program for the past twelve months. Acceptance is based on each result being within 25% of the mean of the two results or the two sigma uncertainties of each result overlap.

The results in Table A-7 were obtained through participation in the Mixed Analyte Performance Evaluation Program.

Results in Table A-8 were obtained through participation in the MRAD PT Study Proficiency Testing Program administered by Environmental Resource Associates, serving as a replacement for studies conducted previously by the Environmental Measurement Laboratory Quality Assessment Program (EML).

Attachment A lists the laboratory acceptance criteria for various analyses.

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

Attachment A

ACCEPTANCE CRITERIA FOR INTRALABORATORY “SPIKED” SAMPLES

Analysis	Ratio of lab result to known value.
Gamma Emitters	0.8 to 1.2
Strontium-89, Strontium-90	0.8 to 1.2
Potassium-40	0.8 to 1.2
Gross alpha	0.5 to 1.5
Gross beta	0.8 to 1.2
Tritium	0.8 to 1.2
Radium-226, Radium-228	0.7 to 1.3
Plutonium	0.8 to 1.2
Iodine-129, Iodine-131	0.8 to 1.2
Nickel-63, Technetium-99, Uranium-238	0.7 to 1.3
Iron-55	0.8 to 1.2
Other Analyses	0.8 to 1.2

TABLE A-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

RAD study

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result	ERA Result	Control Limits	Acceptance
RAD-120 Study						
ERW-49	1/6/2020	Ba-133	60.8 ± 4.4	64.5	53.7 - 71.0	Pass
ERW-49	1/6/2020	Cs-134	22.7 ± 2.8	22.9	17.5 - 25.6	Pass
ERW-49	1/6/2020	Cs-137	225 ± 8	220	198 - 244	Pass
ERW-49	1/6/2020	Co-60	94.6 ± 4.6	91.2	82.1 - 103	Pass
ERW-49	1/6/2020	Zn-65	331 ± 13	298	268 - 348	Pass
ERDW-51	1/6/2020	Gr. Alpha	52.3 ± 2.4	58.9	30.8 - 73.3	Pass
ERDW-51	1/6/2020	Gr. Beta	19.9 ± 1.0	21.0	12.6 - 29.1	Pass
ERDW-53	1/6/2020	Ra-226	12.8 ± 0.5	17.4	12.9 - 19.9	Fail[b]
ERDW-53	1/6/2020	Ra-228	7.13 ± 0.9	7.95	5.06 - 10.1	Pass
ERDW-53	1/6/2020	Uranium	63.8 ± 1.0	68.2	55.7 - 75.0	Pass
ERW-55	1/6/2020	H-3	18,200 ± 408	17,800	15,600 - 19,600	Pass
RAD-121 Study						
ERDW-1034	4/6/2020	Ra-226	17.8 ± 0.5	18.4	13.7 - 21.0	Pass
ERDW-1034	4/6/2020	Ra-228	6.30 ± 0.86	5.81	3.56 - 7.64	Pass
ERDW-1034	4/6/2020	Uranium	18.7 ± 1.3	18.6	14.9 - 20.9	Pass
RAD-122 Study						
ERW-2297	7/6/2020	Ba-133	43.8 ± 3.4	58.6	48.6 - 64.6	Fail[c]
ERW-2297	7/6/2020	Cs-134	19.8 ± 2.4	22.3	17.0 - 25.0	Pass
ERW-2297	7/6/2020	Cs-137	73.2 ± 5.4	73.0	65.7 - 83.0	Pass
ERW-2297	7/6/2020	Co-60	90.0 ± 4.0	86.1	77.5 - 97.0	Pass
ERW-2297	7/6/2020	Zn-65	84.9 ± 7.5	82.9	74.6 - 99.6	Pass
ERDW-2299	7/6/2020	Gr. Alpha	40.3 ± 2.2	52.40	27.30 - 65.6	Pass
ERDW-2299	7/6/2020	Gr. Beta	19.9 ± 1.0	24.3	15.0 - 32.3	Pass
ERDW-2303	7/6/2020	Ra-226	8.91 ± 0.43	10.8	8.08 - 12.5	Pass
ERDW-2303	7/6/2020	Ra-228	4.79 ± 0.80	5.42	3.28 - 7.19	Pass
ERDW-2303	7/6/2020	Uranium	27.7 ± 0.9	29.3	23.7 - 32.5	Pass
ERW-2305	7/6/2020	H-3	21,100 ± 400	20,300	17,800 - 22,300	Pass
ERW-2301	7/6/2020	I-131	27.8 ± 1.2	26.1	21.7 - 30.8	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 Resource Associates (ERA).

[b] Ra-226 was slightly below the lower limit of the study. The reported value was the mean of two results (12.5 & 13.0). The sample was re-run in duplicate and both results, 15.6 and 13.8 pCi/L, were within the acceptance band.

[c] Ba-133 was below the lower acceptable limit of the study. No cause for the failure could be identified. Going forward gamma results will be monitored to see if any trend develops.

TABLE A-2. Interlaboratory Comparison Crosscheck program, New York Department of Health (ELAP)[a].

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result	Assigned Value	Acceptance Limits	Acceptance
			Shipment 437R			
NYW-3307	9/15/2020	H-3	11,500 ± 465	11,208	9760 - 12,300	Pass
NYW-3331	9/15/2020	Gross Alpha	43.7 ± 2.5	64.9	34.0 - 80.4	Pass
NYW-3331	9/15/2020	Gross Beta	11.1 ± 1.1	8.85	3.62 - 17.4	Pass
NYW-3335	9/15/2020	I-131	14.1 ± 1.4	12.6	10.3 - 16.0	Pass
NYW-3333	9/15/2020	Ra-226	2.24 ± 0.27	2.63	2.06 - 3.44	Pass
NYW-3333	9/15/2020	Ra-228	4.91 ± 1.12	5.41	3.27 - 7.18	Pass
NYW-3333	9/15/2020	Uranium	42.8 ± 1.94	37.1	30.1 - 41.0	Fail[b]
NYW-3337	9/15/2020	Co-60	46.4 ± 3.8	42.3	38.1 - 49.2	Pass
NYW-3337	9/15/2020	Zn-65	133 ± 9	116	104 - 138	Pass
NYW-3337	9/15/2020	Ba-133	49.5 ± 4.1	46.4	38.0 - 51.6	Pass
NYW-3337	9/15/2020	Cs-134	32.5 ± 3.1	33.0	26.0 - 36.3	Pass
NYW-3337	9/15/2020	Cs-137	147 ± 7	134	121 - 150	Pass

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing in drinking water conducted by the New York Department of Health Laboratory Approval Program(NY ELAP).

[b] Lab passed all ERA and MAPEP studies for uranium in 2020.(See tables A-1, A-7 and A-8) Uncertainty overlaped upper acceptance limit. Lab will continue to monitor results going forward for trends.

TABLE A-3. Thermoluminescent Dosimetry, (TLD, $CaSO_4$: Dy Cards).[a]

Lab Code	Irradiation Date	Description	Delivered Dose (mrem)	Reported[b] Dose (mrem)	Performance[c] Quotient (P)	
Environmental, Inc.		Group 1				
2020-1	10/28/2020	Spike 1	172.0	180.0	0.05	
2020-1	10/28/2020	Spike 2	172.0	174.5	0.01	
2020-1	10/28/2020	Spike 3	172.0	174.3	0.01	
2020-1	10/28/2020	Spike 4	172.0	174.0	0.01	
2020-1	10/28/2020	Spike 5	172.0	167.1	-0.03	
2020-1	10/28/2020	Spike 6	172.0	161.9	-0.06	
2020-1	10/28/2020	Spike 7	172.0	167.9	-0.02	
2020-1	10/28/2020	Spike 8	172.0	171.0	-0.01	
2020-1	10/28/2020	Spike 9	172.0	170.7	-0.01	
2020-1	10/28/2020	Spike 10	172.0	170.1	-0.01	
2020-1	10/28/2020	Spike 11	172.0	173.8	0.01	
2020-1	10/28/2020	Spike 12	172.0	178.3	0.04	
2020-1	10/28/2020	Spike 13	172.0	178.2	0.04	
2020-1	10/28/2020	Spike 14	172.0	171.9	0.00	
2020-1	10/28/2020	Spike 15	172.0	190.4	0.11	
2020-1	10/28/2020	Spike 16	172.0	170.9	-0.01	
2020-1	10/28/2020	Spike 17	172.0	183.3	0.07	
2020-1	10/28/2020	Spike 18	172.0	170.6	-0.01	
2020-1	10/28/2020	Spike 19	172.0	164.9	-0.04	
2020-1	10/28/2020	Spike 20	172.0	175.7	0.02	
Mean (Spike 1-20)				173.5	0.01	Pass[d]
Standard Deviation (Spike 1-20)				6.5	0.04	Pass[d]

a TLD's were irradiated by the University of Wisconsin-Madison Radiation Calibration Laboratory following ANSI N13.37 protocol from a known air kerma rate. TLD's were read and the results were submitted by Environmental Inc. to the University of Wisconsin-Madison Radiation Calibration Laboratory for comparison to the delivered dose.

b Reported dose was converted from exposure (R) to Air Kerma (cGy) using a conversion of 0.876. Conversion from air kerma to ambient dose equivalent for Cs-137 at the reference dose point $H^*(10)K_a = 1.20$. mrem/cGy = 1000.

c Performance Quotient (P) is calculated as ((reported dose - conventially true value) ÷ conventially true value) where the conventially true value is the delivered dose.

d Acceptance is achieved when neither the absolute value of the mean of the P values, nor the standard deviation of the P values exceed 0.15.

TABLE A-3. Thermoluminescent Dosimetry, (TLD, $CaSO_4$: Dy Cards).[a]

				mrem		
Lab Code	Irradiation Date	Description	Delivered Dose	Reported[b] Dose	Performance[c] Quotient (P)	
Environmental, Inc.		Group 2				
2020-2	10/28/2020	Spike 21	114.0	117.3	0.03	
2020-2	10/28/2020	Spike 22	114.0	103.3	-0.09	
2020-2	10/28/2020	Spike 23	114.0	106.2	-0.07	
2020-2	10/28/2020	Spike 24	114.0	110.1	-0.03	
2020-2	10/28/2020	Spike 25	114.0	114.9	0.01	
2020-2	10/28/2020	Spike 26	114.0	115.5	0.01	
2020-2	10/28/2020	Spike 27	114.0	110.4	-0.03	
2020-2	10/28/2020	Spike 28	114.0	111.7	-0.02	
2020-2	10/28/2020	Spike 29	114.0	111.3	-0.02	
2020-2	10/28/2020	Spike 30	114.0	113.1	-0.01	
2020-2	10/28/2020	Spike 31	114.0	116.4	0.02	
2020-2	10/28/2020	Spike 32	114.0	111.8	-0.02	
2020-2	10/28/2020	Spike 33	114.0	112.6	-0.01	
2020-2	10/28/2020	Spike 34	114.0	105.7	-0.07	
2020-2	10/28/2020	Spike 35	114.0	104.5	-0.08	
2020-2	10/28/2020	Spike 36	114.0	103.6	-0.09	
2020-2	10/28/2020	Spike 37	114.0	104.4	-0.08	
2020-2	10/28/2020	Spike 38	114.0	104.5	-0.08	
2020-2	10/28/2020	Spike 39	114.0	106.4	-0.07	
2020-2	10/28/2020	Spike 40	114.0	107.7	-0.06	
Mean (Spike 21-40)				109.6	-0.04	Pass[d]
Standard Deviation (Spike 21-40)				4.6	0.04	Pass[d]

a TLD's were irradiated by the University of Wisconsin-Madison Radiation Calibration Laboratory following ANSI N13.37 protocol from a known air kerma rate. TLD's were read and the results were submitted by Environmental Inc. to the University of Wisconsin-Madison Radiation Calibration Laboratory for comparison to the delivered dose.

b Reported dose was converted from exposure (R) to Air Kerma (cGy) using a conversion of 0.876. Conversion from air kerma to ambient dose equivalent for Cs-137 at the reference dose point $H^*(10)K_a = 1.20$. mrem/cGy = 1000.

c Performance Quotient (P) is calculated as ((reported dose - conventially true value) ÷ conventially true value) where the conventially true value is the delivered dose.

d Acceptance is achieved when neither the absolute value of the mean of the P values, nor the standard deviation of the P values exceed 0.15.

TABLE A-4. Intralaboratory "Spiked" Samples

Lab Code[b]	Date	Concentration[a] Analysis	Laboratory results 2s, n=1[c]	Known Activity	Control Limits[d]	Acceptance	Ratio Lab/Known
SPW-481	1/1/2020	Ra-226	10.4 ± 0.3	12.3	8.6 - 16.0	Pass	0.85
SPW-110	1/16/2020	H-3	2,101 ± 154	2,110	1,688 - 2,532	Pass	1.00
W-041620	4/29/2016	Cs-134	35.7 ± 8.8	36.2	29.0 - 43.4	Pass	0.99
W-041620	4/29/2016	Cs-137	75.0 ± 6.6	71.9	57.5 - 86.3	Pass	1.04
W-042020	4/29/2016	Cs-134	40.6 ± 10.2	36.2	29.0 - 43.4	Pass	1.12
W-042020	4/29/2016	Cs-137	71.2 ± 7.0	71.9	57.5 - 86.3	Pass	0.99
SPW-190	1/23/2020	H-3	2,058 ± 153	2,110	1,688 - 2,532	Pass	0.98
SPW-205	1/28/2020	Sr-90	17.6 ± 1.2	17.9	14.3 - 21.5	Pass	0.99
SPW-217	1/31/2020	H-3	2,005 ± 152	2,110	1,688 - 2,532	Pass	0.95
SPW-270	2/7/2020	H-3	2,153 ± 157	2,110	1,688 - 2,532	Pass	1.02
SPW-288	2/11/2020	Ra-228	13.1 ± 1.7	14.9	10.4 - 19.3	Pass	0.88
W-021220	4/29/2016	Cs-134	39.3 ± 18.9	36.2	29.0 - 43.4	Pass	1.09
W-021220	4/29/2016	Cs-137	73.9 ± 15.8	71.9	57.5 - 86.3	Pass	1.03
SPW-396	2/14/2020	H-3	2,298 ± 160	2,110	1,688 - 2,532	Pass	1.09
W-022420	4/29/2016	Cs-134	33.4 ± 10.5	36.2	29.0 - 43.4	Pass	0.92
W-022420	4/29/2016	Cs-137	75.6 ± 7.8	71.9	57.5 - 86.3	Pass	1.05
SPW-716	2/26/2020	Ra-226	11.3 ± 0.4	12.3	8.6 - 16.0	Pass	0.92
W-022820	4/29/2016	Cs-134	34.9 ± 11.6	36.2	29.0 - 43.4	Pass	0.96
W-022820	4/29/2016	Cs-137	82.9 ± 8.5	71.9	57.5 - 86.3	Pass	1.15
SPW-532	2/28/2020	H-3	2,054 ± 153	2,110	1,688 - 2,532	Pass	0.97
W-030420	4/29/2016	Cs-134	29.7 ± 9.6	36.2	29.0 - 43.4	Pass	0.82
W-030420	4/29/2016	Cs-137	74.2 ± 7.3	71.9	57.5 - 86.3	Pass	1.03
W-031020	4/29/2016	Cs-134	41.6 ± 17.8	36.2	29.0 - 43.4	Pass	1.15
W-031020	4/29/2016	Cs-137	78.6 ± 14.3	71.9	57.5 - 86.3	Pass	1.09
SPW-711	3/12/2020	H-3	2,083 ± 154	2,110	1,688 - 2,532	Pass	0.99
SPW-825	3/12/2020	Ra-226	12.4 ± 0.4	12.3	8.6 - 16.0	Pass	1.01
SPW-774	3/18/2020	H-3	2,021 ± 151	2,110	1,688 - 2,532	Pass	0.96
W-031820	4/29/2016	Cs-134	29.7 ± 10.6	36.2	29.0 - 43.4	Pass	0.82
W-031820	4/29/2016	Cs-137	75.5 ± 9.2	71.9	57.5 - 86.3	Pass	1.05
W-032520	4/29/2016	Cs-134	36.4 ± 9.2	36.2	29.0 - 43.4	Pass	1.01
W-032520	4/29/2016	Cs-137	74.9 ± 7.0	71.9	57.5 - 86.3	Pass	1.04
SPW-877	3/31/2020	Ra-228	13.0 ± 2.0	14.9	10.4 - 19.3	Pass	0.88
SPW-925	3/23/2020	Ra-226	10.7 ± 0.4	12.3	8.6 - 16.0	Pass	0.87
SPW-859	3/27/2020	H-3	2,065 ± 153	2,110	1,688 - 2,532	Pass	0.98
W-040320	4/29/2016	Cs-134	38.1 ± 10.3	36.2	29.0 - 43.4	Pass	1.05
W-040320	4/29/2016	Cs-137	78.6 ± 7.5	71.9	57.5 - 86.3	Pass	1.09
SPDW-1009	4/8/2020	Gr. Alpha	11.5 ± 0.9	18.7	9.4 - 28.1	Pass	0.61
SPDW-1009	4/8/2020	Gr. Beta	22.0 ± 1.0	26.1	20.9 - 31.3	Pass	0.84
SPW-1033	4/9/2020	H-3	2,041 ± 153	2,110	1,688 - 2,532	Pass	0.97
W-040920	4/29/2016	Cs-134	34.3 ± 9.4	36.2	29.0 - 43.4	Pass	0.95
W-040920	4/29/2016	Cs-137	77.9 ± 8.0	71.9	57.5 - 86.3	Pass	1.08
SPW-1145	4/15/2020	Ra-228	14.3 ± 2.0	14.9	10.4 - 19.3	Pass	0.96
SPW-1186	4/17/2020	H-3	1,972 ± 151	2,110	1,688 - 2,532	Pass	0.93

[a] Liquid sample results are reported in pCi/Liter, air filters (pCi/m3), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).
[b] Laboratory codes : W & SPW (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] Acceptance criteria are listed in Attachment A of this report.

TABLE A-4. Intralaboratory "Spiked" Samples

Lab Code[b]	Date	Concentration[a] Analysis	Laboratory results 2s, n=1[c]	Known Activity	Control Limits[d]	Acceptance	Ratio Lab/Known
SPW-1284	4/24/2020	H-3	2,015 ± 153	2,110	1,688 - 2,532	Pass	0.95
SPW-1745	4/24/2020	Ra-226	11.9 ± 0.3	12.3	8.6 - 16.0	Pass	0.97
W-042220	4/29/2016	Cs-134	33.7 ± 9.2	36.2	29.0 - 43.4	Pass	0.93
W-042220	4/29/2016	Cs-137	74.9 ± 6.6	71.9	57.5 - 86.3	Pass	1.04
W-042420	4/29/2016	Cs-134	33.3 ± 10.8	36.2	29.0 - 43.4	Pass	0.92
W-042420	4/29/2016	Cs-137	73.7 ± 8.5	71.9	57.5 - 86.3	Pass	1.03
W-043020	4/29/2016	Cs-134	33.7 ± 15.7	36.2	29.0 - 43.4	Pass	0.93
W-043020	4/29/2016	Cs-137	72.5 ± 7.1	71.9	57.5 - 86.3	Pass	1.01
SPW-1327	5/1/2020	H-3	2,071 ± 153	2,110	1,688 - 2,532	Pass	0.98
W-050520	4/29/2016	Cs-134	31.1 ± 11.9	36.2	29.0 - 43.4	Pass	0.86
W-050520	4/29/2016	Cs-137	73.2 ± 8.3	71.9	57.5 - 86.3	Pass	1.02
SPW-1394	5/5/2020	Sr-90	18.1 ± 1.1	17.9	14.3 - 21.5	Pass	1.01
W-050720	4/29/2016	Cs-134	39.9 ± 2.0	36.2	29.0 - 43.4	Pass	1.10
W-050720	4/29/2016	Cs-137	75.2 ± 14.3	71.9	57.5 - 86.3	Pass	1.05
SPW-1500	5/18/2020	Ra-228	13.8 ± 1.9	14.9	10.4 - 19.3	Pass	0.93
W-052020	4/29/2016	Cs-134	33.1 ± 1.2	36.2	29.0 - 43.4	Pass	0.91
W-052020	4/29/2016	Cs-137	80.8 ± 8.3	71.9	57.5 - 86.3	Pass	1.12
SPW-1613	5/22/2020	H-3	1,953 ± 149	2,110	1,688 - 2,532	Pass	0.93
W-052620	4/29/2016	Cs-134	31.0 ± 9.2	36.2	29.0 - 43.4	Pass	0.86
W-052620	4/29/2016	Cs-137	74.6 ± 7.5	71.9	57.5 - 86.3	Pass	1.04
SPW-2061	5/21/2020	Ra-226	10.4 ± 0.3	12.3	8.6 - 16.0	Pass	0.85
W-052620	4/29/2016	Cs-134	33.6 ± 12.8	36.2	29.0 - 43.4	Pass	0.93
W-052620	4/29/2016	Cs-137	69.2 ± 7.7	71.9	57.5 - 86.3	Pass	0.96
SPW-1741	5/27/2020	H-3	1,925 ± 150	2,110	1,688 - 2,532	Pass	0.91
SPW-1824	6/3/2020	H-3	1,971 ± 151	2,110	1,688 - 2,532	Pass	0.93
SPW-1853	6/4/2020	H-3	2,027 ± 153	2,110	1,688 - 2,532	Pass	0.96
W-061120	4/29/2016	Cs-134	39.8 ± 21.0	36.2	29.0 - 43.4	Pass	1.10
W-061120	4/29/2016	Cs-137	79.3 ± 13.5	71.9	57.5 - 86.3	Pass	1.10
SPW-1982	6/12/2020	H-3	2,065 ± 154	2,110	1,688 - 2,532	Pass	0.98
SPW-2038	6/18/2020	H-3	2,012 ± 154	2,110	1,688 - 2,532	Pass	0.95
SPW-2116	6/25/2020	H-3	2,051 ± 159	2,110	1,688 - 2,532	Pass	0.97
SPW-2173	7/1/2020	H-3	2,010 ± 154	2,110	1,688 - 2,532	Pass	0.95
SPW-2328	7/10/2020	H-3	1,924 ± 151	2,110	1,688 - 2,532	Pass	0.91
SPW-2458	7/16/2020	H-3	1,932 ± 151	2,110	1,688 - 2,532	Pass	0.92
SPW-2556	7/27/2020	Sr-90	16.8 ± 1.1	17.9	14.3 - 21.5	Pass	0.94
SPW-2558	7/6/2020	Gr. Alpha	29.9 ± 2.1	58.9	29.5 - 88.4	Pass	0.51
SPW-2558	7/6/2020	Gr. Beta	20.0 ± 1.0	21.0	16.8 - 25.2	Pass	0.95
SPW-2640	7/31/2020	H-3	1,984 ± 154	2,110	1,688 - 2,532	Pass	0.94
SPW-2778	8/7/2020	H-3	1,936 ± 151	2,110	1,688 - 2,532	Pass	0.92
SPW-2797	6/22/2020	Ra-226	10.4 ± 0.3	12.3	8.6 - 16.0	Pass	0.85
SPW-2852	8/11/2020	Ra-228	10.2 ± 1.6	12.5	8.7 - 16.2	Pass	0.82

[a] Liquid sample results are reported in pCi/Liter, air filters (pCi/m3), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).
[b] Laboratory codes : W & SPW (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] Acceptance criteria are listed in Attachment A of this report.

TABLE A-4. Intralaboratory "Spiked" Samples

Lab Code[b]	Date	Concentration[a] Analysis	Laboratory results 2s, n=1[c]	Known Activity	Control Limits[d]	Acceptance	Ratio Lab/Known
SPW-2854	8/14/2020	H-3	1,927 ± 153	2,110	1,688 - 2,532	Pass	0.91
SPW-2890	8/4/2020	Ra-226	11.6 ± 0.4	12.3	8.6 - 16.0	Pass	0.95
SPW-3013	8/24/2020	H-3	2,005 ± 153	2,110	1,688 - 2,532	Pass	0.95
SPW-3053	8/28/2020	H-3	1,904 ± 149	2,110	1,688 - 2,532	Pass	0.90
SPW-3123	8/19/2020	Ra-226	10.4 ± 0.3	12.3	8.6 - 16.0	Pass	0.85
SPW-3447	9/3/2020	Ra-226	9.8 ± 0.3	12.3	8.6 - 16.0	Pass	0.80
SPW-3241	9/11/2020	H-3	1,952 ± 154	2,110	1,688 - 2,532	Pass	0.93
SPW-3425	9/23/2020	Ra-228	10.7 ± 1.6	12.3	8.6 - 16.0	Pass	0.87
SPW-3412	9/25/2020	H-3	2,099 ± 155	2,110	1,688 - 2,532	Pass	0.99
SPW-4131	9/30/2020	Ra-226	13.2 ± 0.4	12.3	8.6 - 16.0	Pass	1.07
SPW-3482	10/2/2020	H-3	1,984 ± 154	2,110	1,688 - 2,532	Pass	0.94
SPW-3624	10/9/2020	H-3	1,924 ± 152	2,110	1,688 - 2,532	Pass	0.91
SPW-3794	10/16/2020	H-3	2,109 ± 156	2,110	1,688 - 2,532	Pass	1.00
SPW-3836	10/20/2020	Sr-90	16.8 ± 1.1	17.9	14.3 - 21.5	Pass	0.94
SPW-4043	10/23/2020	H-3	1893.4 ± 148.8	2,110	1,688 - 2,532	Pass	0.90
SPW-4179	10/28/2020	Ra-228	15.4 ± 2.4	12.1	8.5 - 15.7	Pass	1.27
SPW-4422	10/30/2020	Ra-226	12.3 ± 0.3	12.3	8.6 - 16.0	Pass	1.00
SPW-4234	11/11/2020	H-3	2,008 ± 154	2,110	1,688 - 2,532	Pass	0.95
SPW-4634	11/23/2020	Ra-226	11.4 ± 0.3	12.3	8.6 - 16.0	Pass	0.93
SPW-4509	12/4/2020	H-3	1,873 ± 149	2,110	1,688 - 2,532	Pass	0.89
SPW-4625	12/18/2020	H-3	1,940 ± 152	2,110	1,688 - 2,532	Pass	0.92
SPW-4741	12/18/2020	Ra-226	12.5 ± 0.4	12.3	8.6 - 16.0	Pass	1.02

[a] Liquid sample results are reported in pCi/Liter, air filters (pCi/m3), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).
[b] Laboratory codes : W & SPW (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] Acceptance criteria are listed in Attachment A of this report.

TABLE A-5. Intralaboratory "Blank" Samples

Lab Code[b]	Sample Type	Date	Analysis[c]	Concentration[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[d]	Criteria (4.66 σ)
SPW-480	Water	1/1/2020	Ra-226	0.03	0.12 ± 0.02	2
SPW-93	Water	1/7/2020	Gr. Alpha	0.35	0.47 ± 0.29	2
SPW-93	Water	1/7/2020	Gr. Beta	0.74	0.18 ± 0.53	4
SPW-109	Water	1/16/2020	H-3	157	-6 ± 73	200
SPW-154	Water	1/16/2020	I-131	0.47	-0.22 ± 0.21	1
SPW-189	Water	1/23/2020	H-3	158	0 ± 73	200
SPW-204	Water	1/28/2020	Sr-89	0.64	-0.16 ± 0.50	5
SPW-204	Water	1/28/2020	Sr-90	0.54	0.11 ± 0.27	1
SPW-216	Water	1/31/2020	H-3	156	86 ± 78	200
SPW-269	Water	2/7/2020	H-3	153	79 ± 80	200
SPW-287	Water	2/11/2020	Ra-228	0.81	1.49 ± 0.53	2
SPW-395	Water	2/14/2020	H-3	154	46 ± 75	200
SPW-463	Water	2/25/2020	I-131	0.16	0.02 ± 0.09	1
SPW-715	Water	2/26/2020	Ra-226	0.01	0.17 ± 0.01	2
SPW-531	Water	2/28/2020	H-3	156	44 ± 75	200
SPW-710	Water	3/12/2020	H-3	157	-16 ± 72	200
SPW-824	Water	3/12/2020	Ra-226	0.03	0.15 ± 0.03	2
SPW-773	Water	3/18/2020	H-3	151	76 ± 76	200
SPW-876	Water	3/31/2020	Ra-228	0.88	0.57 ± 0.47	2
SPW-924	Water	3/23/2020	Ra-226	0.04	0.18 ± 0.03	2
SPW-1032	Water	4/9/2020	H-3	157	68 ± 77	200
SPW-1144	Water	4/15/2020	Ra-228	0.89	0.03 ± 0.42	2
SPW-1185	Water	4/17/2020	H-3	158	8 ± 74	200
SPW-1283	Water	4/24/2020	H-3	156	10 ± 75	200
SPW-1744	Water	4/24/2020	Ra-226	0.03	-0.01 ± 0.03	2
SPW-1326	Water	5/1/2020	H-3	153	67 ± 75	200
SPW-1393	Water	5/5/2020	Sr-89	0.66	0.11 ± 0.44	5
SPW-1393	Water	5/5/2020	Sr-90	0.63	-0.27 ± 0.26	1
SPW-1499	Water	5/18/2020	Ra-228	0.88	0.03 ± 0.41	2
SPW-1541	Water	5/19/2020	I-131	0.20	0.00 ± 0.11	1
SPW-2060	Water	5/21/2020	Ra-226	0.03	-0.01 ± 0.02	2
SPW-1612	Water	5/22/2020	H-3	153	91 ± 76	200
SPW-1740	Water	5/27/2020	H-3	158	-26 ± 71	200
SPW-1823	Water	6/3/2020	H-3	157	18 ± 74	200
SPW-1852	Water	6/4/2020	H-3	159	33 ± 76	200
SPW-1981	Water	6/12/2020	H-3	149	52 ± 77	200
SPW-2037	Water	6/18/2020	H-3	156	101 ± 81	200
SPW-2115	Water	6/25/2020	H-3	158	56 ± 86	200

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

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

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

[d] Activity reported is a net activity result.

TABLE A-5. Intralaboratory "Blank" Samples

Lab Code[b]	Sample Type	Date	Analysis[c]	Concentration[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[d]	Criteria (4.66 σ)
SPW-2172	Water	7/1/2020	H-3	159	-15 ± 75	200
SPW-2327	Water	7/10/2020	H-3	158	50 ± 77	200
SPW-2457	Water	7/16/2020	H-3	159	-46 ± 71	200
SPW-2555	Water	7/27/2020	Sr-89	0.48	0.18 ± 0.40	5
SPW-2555	Water	7/27/2020	Sr-90	0.54	0.03 ± 0.25	1
SPW-2557	Water	7/6/2020	Gr. Alpha	0.37	0.25 ± 0.28	2
SPW-2557	Water	7/6/2020	Gr. Beta	0.75	-0.23 ± 0.52	4
SPW-2639	Water	7/31/2020	H-3	158	80 ± 81	200
SPW-2777	Water	8/7/2020	H-3	157	0 ± 74	200
SPW-2796	Water	6/22/2020	Ra-226	0.03	-0.02 ± 0.03	2
SPW-2851	Water	8/11/2020	Ra-228	0.85	0.44 ± 0.45	2
SPW-2853	Water	8/14/2020	H-3	158	18 ± 77	200
SPW-2880	Water	8/18/2020	I-131	0.42	-0.04 ± 0.22	1
SPW-2889	Water	8/4/2020	Ra-228	0.05	0.13 ± 0.11	2
SPW-3012	Water	8/24/2020	H-3	159	59 ± 77	200
SPW-3052	Water	8/28/2020	H-3	155	46 ± 75	200
SPW-3122	Water	9/3/2020	Ra-226	0.03	0.20 ± 0.03	2
SPW-3240	Water	9/11/2020	H-3	161	3 ± 78	200
SPW-3446	Water	9/3/2020	Ra-226	0.01	0.12 ± 0.02	2
SPW-3424	Water	9/23/2020	Ra-228	0.85	0.81 ± 0.48	2
SPW-3411	Water	9/25/2020	H-3	158	82 ± 78	200
SPW-4130	Water	9/30/2020	Ra-226	0.04	0.01 ± 0.04	2
SPW-3481	Water	10/2/2020	H-3	154	63 ± 80	200
SPW-3623	Water	10/9/2020	H-3	156	57 ± 81	200
SPW-3793	Water	10/16/2020	H-3	157	3 ± 73	200
SPW-3835	Water	10/20/2020	Sr-89	0.55	-0.10 ± 0.43	5
SPW-3835	Water	10/20/2020	Sr-90	0.59	0.09 ± 0.28	1
SPW-4042	Water	10/23/2020	H-3	155	-6 ± 72	200
SPW-4178	Water	10/28/2020	Ra-228	1.04	0.33 ± 0.52	2
SPW-4421	Water	10/30/2020	Ra-226	0.03	0.07 ± 0.03	2
SPW-4233	Water	11/11/2020	H-3	155	78 ± 79	200
SPW-4356	Water	11/20/2020	H-3	157	52 ± 76	200
SPW-4633	Water	11/23/2020	Ra-226	0.05	0.04 ± 0.11	2
SPW-4508	Water	12/4/2020	H-3	159	-68 ± 69	200
SPW-4624	Water	12/18/2020	H-3	160	8 ± 77	200
SPW-4740	Water	12/18/2020	Ra-226	0.04	0.02 ± 0.03	2

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

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

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

[d] Activity reported is a net activity result.

TABLE A-6. Intralaboratory "Duplicate" Samples

			Concentration[a]			
Lab Code[b]	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
SG-20,21	1/2/2020	Pb-214	2.23 ± 0.12	1.61 ± 0.09	1.92 ± 0.08	Pass
SG-20,21	1/2/2020	Ac-228	1.49 ± 0.20	1.42 ± 0.18	1.46 ± 0.13	Pass
AP-5060,5061	1/3/2020	Be-7	0.052 ± 0.014	0.063 ± 0.012	0.057 ± 0.009	Pass
AP-010720A,B	1/7/2020	Gr. Beta	0.023 ± 0.004	0.022 ± 0.004	0.022 ± 0.003	Pass
WW-72,73	1/7/2020	H-3	547 ± 101	478 ± 98	513 ± 70	Pass
WW-184,185	1/21/2020	H-3	265 ± 88	311 ± 90	288 ± 63	Pass
SWU-253,254	1/28/2020	Gr. Beta	1.73 ± 0.58	2.10 ± 0.62	1.92 ± 0.42	Pass
DW-20014,20015	1/29/2020	Ra-228	3.34 ± 0.74	2.25 ± 0.70	2.80 ± 0.51	Pass
DW-20014,20015	1/29/2020	Ra-226	1.05 ± 0.15	0.64 ± 0.24	0.85 ± 0.14	Pass
S-209,210	1/31/2020	K-40	8.28 ± 0.20	7.95 ± 0.42	8.12 ± 0.23	Pass
LW-383,384	1/31/2020	Gr. Beta	1.67 ± 0.58	0.77 ± 0.52	1.22 ± 0.39	Pass
AP-020320A,B	2/3/2020	Gr. Beta	0.021 ± 0.004	0.024 ± 0.004	0.023 ± 0.003	Pass
S-362,363	2/7/2020	Pb-214	2.39 ± 0.11	2.25 ± 0.10	2.32 ± 0.07	Pass
S-362,363	2/7/2020	Ac-228	1.84 ± 0.18	1.95 ± 0.17	1.90 ± 0.12	Pass
DW-20018,20019	2/7/2020	Gr. Alpha	0.23 ± 0.86	0.37 ± 0.88	0.30 ± 0.62	Pass
DW-20018,20019	2/7/2020	Gr. Beta	0.50 ± 0.56	1.19 ± 0.63	0.85 ± 0.42	Pass
DW-20026,20027	2/7/2020	Ra-226	2.40 ± 0.21	2.11 ± 0.15	2.26 ± 0.13	Pass
DW-20026,20027	2/7/2020	Ra-228	2.60 ± 0.68	1.81 ± 0.57	2.21 ± 0.44	Pass
WW-452,453	2/17/2020	H-3	583 ± 102	678 ± 106	630 ± 74	Pass
DW-20031,20032	2/25/2020	Gr. Alpha	1.02 ± 0.77	0.80 ± 0.81	0.91 ± 0.56	Pass
DW-20031,20032	2/25/2020	Gr. Beta	1.11 ± 0.59	1.19 ± 0.58	1.15 ± 0.41	Pass
DW-20038,20039	3/3/2020	Ra-226	8.39 ± 0.43	8.78 ± 0.49	8.59 ± 0.33	Pass
DW-20038,20039	3/3/2020	Ra-228	2.81 ± 1.00	2.31 ± 0.86	2.56 ± 0.66	Pass
WW-752,753	3/13/2020	H-3	435 ± 94	393 ± 92	414 ± 66	Pass
S-868,869	3/13/2020	Pb-214	0.97 ± 0.10	0.99 ± 0.09	0.98 ± 0.07	Pass
S-868,869	3/13/2020	Ac-228	0.93 ± 0.18	1.01 ± 0.23	0.97 ± 0.15	Pass
LW-977,978	3/25/2020	Gr. Beta	0.98 ± 0.53	0.92 ± 0.51	0.95 ± 0.37	Pass
AP-1220,1221	3/31/2020	Be-7	0.063 ± 0.011	0.062 ± 0.013	0.063 ± 0.009	Pass
SWT-912,913	3/31/2020	Gr. Beta	0.79 ± 0.53	0.49 ± 0.50	0.64 ± 0.37	Pass
AP-956,957	4/2/2020	Be-7	0.189 ± 0.097	0.256 ± 0.130	0.222 ± 0.081	Pass
AP-1110,1111	4/3/2020	Be-7	0.069 ± 0.012	0.072 ± 0.013	0.071 ± 0.009	Pass
WW-1047,1048	4/7/2020	H-3	438 ± 96	478 ± 98	458 ± 69	Pass
VE-1022,1023	4/8/2020	Be-7	9.28 ± 0.57	8.00 ± 0.62	8.64 ± 0.42	Pass
VE-1022,1023	4/8/2020	K-40	3.89 ± 0.67	3.94 ± 0.73	3.92 ± 0.49	Pass
S-1199,1200	4/12/2020	Pb-214	0.77 ± 0.07	0.98 ± 0.08	0.88 ± 0.05	Pass
S-1199,1200	4/12/2020	Ac-228	1.09 ± 0.15	1.18 ± 0.17	1.14 ± 0.11	Pass
SS-1419,1420	4/14/2020	K-40	10.8 ± 0.6	9.4 ± 0.4	10.1 ± 0.4	Pass
AP-1241,1242	4/16/2020	Be-7	0.203 ± 0.113	0.245 ± 0.145	0.224 ± 0.092	Pass
DW-20051,20052	4/23/2020	Ra-228	3.50 ± 0.85	4.60 ± 0.89	4.05 ± 0.62	Pass
DW-20051,20052	4/23/2020	Ra-226	0.80 ± 0.10	0.60 ± 0.10	0.70 ± 0.07	Pass
SS-1310,1311	4/23/2020	K-40	7,827 ± 492	8,157 ± 505	7,992 ± 352	Pass
LW-1375,1376	4/29/2020	Gr. Beta	1.62 ± 0.59	1.61 ± 0.58	1.62 ± 0.41	Pass

TABLE A-6. Intralaboratory "Duplicate" Samples

			Concentration[a]			
Lab Code[b]	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
F-1828,1829	4/29/2020	K-40	1.35 ± 0.41	0.98 ± 0.33	1.16 ± 0.27	Pass
SG-1398,1399	5/5/2020	Pb-214	7.51 ± 0.19	8.62 ± 0.17	8.07 ± 0.13	Pass
SG-1398,1399	5/5/2020	Ac-228	6.80 ± 0.31	6.77 ± 0.27	6.79 ± 0.21	Pass
SW-1461,1462	5/7/2020	H-3	315 ± 88	320 ± 89	317 ± 63	Pass
AP-1610,1611	5/14/2020	Be-7	0.179 ± 0.101	0.172 ± 0.086	0.176 ± 0.066	Pass
DW-20062,20063	5/19/2020	Gr. Alpha	6.20 ± 1.30	5.00 ± 1.30	5.60 ± 0.92	Pass
DW-20062,20063	5/19/2020	Gr. Beta	6.09 ± 0.77	5.51 ± 0.72	5.80 ± 0.53	Pass
W-1805,1806	5/25/2020	Ra-226	0.42 ± 0.16	0.24 ± 0.17	0.33 ± 0.12	Pass
F-1763,1764	5/26/2020	K-40	2.82 ± 0.47	3.01 ± 0.45	2.92 ± 0.33	Pass
AP-052620A,B	5/26/2020	Gr. Beta	0.014 ± 0.003	0.016 ± 0.003	0.015 ± 0.002	Pass
DW-20066,20067	6/1/2020	Ra-226	0.21 ± 0.09	0.33 ± 0.12	0.27 ± 0.08	Pass
DW-20066,20067	6/1/2020	Ra-228	0.05 ± 0.43	0.03 ± 0.39	0.04 ± 0.29	Pass
P-1849,1850	6/1/2020	H-3	547 ± 102	700 ± 108	624 ± 74	Pass
AP-1893,1894	6/4/2020	Be-7	0.164 ± 0.080	0.251 ± 0.140	0.208 ± 0.081	Pass
SW-1872,1873	6/4/2020	H-3	385 ± 94	400 ± 95	393 ± 67	Pass
AP-052620A,B	6/8/2020	Gr. Beta	0.024 ± 0.004	0.025 ± 0.005	0.024 ± 0.003	Pass
WW-2025,2026	6/16/2020	H-3	318 ± 92	320 ± 92	319 ± 65	Pass
AP-061620A,B	6/16/2020	Gr. Beta	0.017 ± 0.003	0.019 ± 0.003	0.018 ± 0.002	Pass
DW-20078,20079	6/17/2020	Ra-226	0.53 ± 0.11	0.50 ± 0.10	0.52 ± 0.07	Pass
DW-20078,20079	6/17/2020	Ra-228	1.10 ± 0.50	1.11 ± 0.50	1.11 ± 0.35	Pass
AP-2048,2049	6/18/2020	Be-7	0.222 ± 0.087	0.221 ± 0.092	0.221 ± 0.063	Pass
SW-2157,2158	6/23/2020	H-3	175 ± 86	235 ± 89	205 ± 62	Pass
AP-062320A,B	6/23/2020	Gr. Beta	0.021 ± 0.003	0.023 ± 0.004	0.022 ± 0.003	Pass
AP-2136,2137	6/25/2020	Be-7	0.242 ± 0.099	0.343 ± 0.115	0.292 ± 0.076	Pass
AP-2366,2367	6/30/2020	Be-7	0.144 ± 0.018	0.177 ± 0.019	0.161 ± 0.013	Pass
SWU-2180,2181	6/30/2020	H-3	105 ± 82	199 ± 87	152 ± 60	Pass
AP-2473,2474	7/1/2020	Be-7	0.079 ± 0.011	0.089 ± 0.012	0.084 ± 0.008	Pass
AP-2473,2474	7/1/2020	K-40	0.010 ± 0.006	0.015 ± 0.009	0.013 ± 0.005	Pass
AP-2408,2409	7/2/2020	Be-7	0.084 ± 0.016	0.085 ± 0.014	0.085 ± 0.011	Pass
P-2264,2265	7/6/2020	H-3	149 ± 83	144 ± 83	147 ± 59	Pass
DW-20091,20092	7/10/2020	Ra-226	0.77 ± 0.17	0.69 ± 0.24	0.73 ± 0.15	Pass
DW-20091,20092	7/10/2020	Ra-228	0.61 ± 0.56	0.59 ± 0.55	0.60 ± 0.39	Pass
SW-2450,2451	7/14/2020	H-3	410 ± 96	487 ± 99	448 ± 69	Pass
VE-2494,2495	7/16/2020	K-40	1.68 ± 0.25	2.08 ± 0.26	1.88 ± 0.18	Pass
DW-20102,20103	7/17/2020	Gr. Alpha	1.98 ± 0.82	2.65 ± 0.82	2.32 ± 0.58	Pass
DW-20102,20103	7/17/2020	Ra-226	0.84 ± 0.20	0.89 ± 0.20	0.87 ± 0.14	Pass
DW-20102,20103	7/17/2020	Ra-228	1.24 ± 0.67	1.57 ± 0.70	1.41 ± 0.48	Pass
WW-2604,2605	7/20/2020	H-3	35,989 ± 576	36,039 ± 577	36,014 ± 408	Pass
SWU-2669,2670	7/28/2020	H-3	103 ± 80	101 ± 80	102 ± 57	Pass
SWU-2669,2670	7/28/2020	Gr. Beta	1.49 ± 0.56	1.05 ± 0.51	1.27 ± 0.38	Pass
S-2711,2712	7/29/2020	K-40	17.4 ± 0.9	19.6 ± 1.0	18.5 ± 0.7	Pass

TABLE A-6. Intralaboratory "Duplicate" Samples

Lab Code[b]	Date	Analysis	Concentration[a] First Result	Second Result	Averaged Result	Acceptance
WW-2799,2800	8/4/2020	H-3	471 ± 100	437 ± 99	454 ± 70	Pass
WW-2933,2934	8/4/2020	H-3	316 ± 91	300 ± 90	308 ± 64	Pass
S-2774,2775	8/4/2020	K-40	5.9 ± 0.9	6.1 ± 0.8	6.0 ± 0.6	Pass
WW-2912,2913	8/5/2020	H-3	176 ± 84	226 ± 87	201 ± 60	Pass
F-3040,3041	8/7/2020	Gr. Beta	4.55 ± 0.12	4.63 ± 0.12	4.59 ± 0.09	Pass
F-3040,3041	8/7/2020	K-40	3.58 ± 0.42	3.32 ± 0.41	3.45 ± 0.29	Pass
WW-2867,2868	8/12/2020	H-3	169 ± 85	219 ± 86	194 ± 61	Pass
VE-2842,2843	8/12/2020	K-40	3.18 ± 0.30	3.14 ± 0.37	3.16 ± 0.24	Pass
F-2891,2892	8/14/2020	K-40	2.98 ± 0.39	2.82 ± 0.35	2.90 ± 0.26	Pass
VE-2954,2955	8/20/2020	Be-7	0.222 ± 0.106	0.283 ± 0.166	0.252 ± 0.099	Pass
VE-2954,2955	8/20/2020	K-40	4.09 ± 0.37	3.75 ± 0.38	3.92 ± 0.27	Pass
DW-20126,20127	8/25/2020	Ra-226	0.90 ± 0.14	0.73 ± 0.12	0.82 ± 0.09	Pass
DW-20126,20127	8/25/2020	Ra-228	1.55 ± 0.52	2.30 ± 0.58	1.93 ± 0.39	Pass
LW-3154,3155	8/26/2020	Gr. Beta	1.43 ± 0.60	1.33 ± 0.55	1.38 ± 0.41	Pass
VE-3084,3085	8/28/2020	Be-7	0.52 ± 0.12	0.48 ± 0.07	0.50 ± 0.07	Pass
VE-3084,3085	8/28/2020	K-40	3.87 ± 0.16	3.36 ± 0.31	3.62 ± 0.17	Pass
SWU-3133,3134	9/1/2020	H-3	107 ± 84	116 ± 84	111 ± 59	Pass
VE-3208,3209	9/8/2020	K-40	5.99 ± 0.43	5.85 ± 0.35	5.92 ± 0.28	Pass
VE-3187,3188	9/8/2020	Be-7	0.50 ± 0.17	0.61 ± 0.23	0.55 ± 0.14	Pass
VE-3187,3188	9/8/2020	K-40	4.64 ± 0.54	4.97 ± 0.45	4.81 ± 0.35	Pass
WW-3427,3428	9/10/2020	H-3	2,321 ± 163	2,323 ± 164	2,322 ± 116	Pass
DW-21033,21034	9/14/2020	Gr. Alpha	1.27 ± 0.79	0.94 ± 0.75	1.11 ± 0.54	Pass
DW-21033,21034	9/14/2020	Gr. Beta	1.02 ± 0.60	1.01 ± 0.59	1.02 ± 0.42	Pass
SG-3265,3266	9/14/2020	Pb-214	11.8 ± 0.49	10.4 ± 0.57	11.1 ± 0.38	Pass
SG-3265,3266	9/14/2020	Ac-228	18.8 ± 1.27	17.3 ± 1.36	18.0 ± 0.93	Pass
SG-3265,3266	9/14/2020	Gr. Alpha	28.0 ± 4.6	33.5 ± 4.9	30.8 ± 3.4	Pass
SG-3265,3266	9/14/2020	Gr. Beta	42.1 ± 2.8	44.5 ± 3.0	43.3 ± 2.1	Pass
VE-3315,3316	9/15/2020	Be-7	0.25 ± 0.10	0.28 ± 0.16	0.27 ± 0.09	Pass
VE-3315,3316	9/15/2020	K-40	5.48 ± 0.34	5.16 ± 0.36	5.32 ± 0.25	Pass
WW-3339,3340	9/16/2020	H-3	196 ± 85	199 ± 85	198 ± 60	Pass
CF-3381,3382	9/21/2020	Be-7	0.20 ± 0.10	0.19 ± 0.11	0.20 ± 0.07	Pass
CF-3381,3382	9/21/2020	K-40	5.94 ± 0.30	5.72 ± 0.29	5.83 ± 0.21	Pass
AP-092120A,B	9/21/2020	Gr. Beta	0.043 ± 0.005	0.041 ± 0.005	0.042 ± 0.004	Pass
F-3706,3707	9/26/2020	K-40	1.86 ± 0.35	1.83 ± 0.39	1.84 ± 0.26	Pass
AP-092820A,B	9/28/2020	Gr. Beta	0.021 ± 0.004	0.023 ± 0.004	0.022 ± 0.003	Pass
XW-3620,3621	9/30/2020	Sr-89	11,760 ± 140	12,487 ± 133	12,124 ± 97	Pass
XW-3620,3621	9/30/2020	Sr-90	2,287 ± 45	2,831 ± 50	2,559 ± 34	Pass
XW-3620,3621	9/30/2020	Fe-55	1,623 ± 462	1,833 ± 474	1,728 ± 331	Pass

TABLE A-6. Intralaboratory "Duplicate" Samples

Lab Code[b]	Date	Analysis	Concentration[a] First Result	Second Result	Averaged Result	Acceptance
SW-3515,3516	10/1/2020	H-3	154 ± 86	111 ± 84	133 ± 60	Pass
DW-20141,20142	10/1/2020	Ra-226	1.34 ± 0.16	1.39 ± 0.16	1.37 ± 0.11	Pass
DW-20141,20142	10/1/2020	Ra-228	1.74 ± 0.62	2.09 ± 0.64	1.92 ± 0.45	Pass
SW-3536,3537	10/5/2020	H-3	376 ± 97	378 ± 97	377 ± 68	Pass
WW-3727,3728	10/8/2020	H-3	152 ± 82	190 ± 84	171 ± 59	Pass
VE-3748,3749	10/12/2020	K-40	3.07 ± 0.25	2.88 ± 0.26	2.98 ± 0.18	Pass
VE-3769,3770	10/12/2020	Be-7	0.80 ± 0.31	0.51 ± 0.15	0.66 ± 0.17	Pass
VE-3769,3770	10/12/2020	K-40	5.69 ± 0.61	5.79 ± 0.39	5.74 ± 0.36	Pass
WW-4092,4093	10/13/2020	H-3	6,484 ± 252	6,275 ± 248	6,380 ± 177	Pass
WW-3838,3839	10/14/2020	H-3	313 ± 90	263 ± 88	288 ± 63	Pass
WW-4394,4395	11/3/2020	H-3	161 ± 83	199 ± 85	180 ± 60	Pass
WW-4587,4588	11/4/2020	H-3	6,468 ± 252	6,638 ± 255	6,553 ± 179	Pass
WW-4524,4525	11/5/2020	H-3	160 ± 86	131 ± 84	145 ± 60	Pass
VE-4415,4416	11/24/2020	Be-7	0.28 ± 0.08	0.22 ± 0.07	0.25 ± 0.05	Pass
VE-4415,4416	11/24/2020	K-40	2.25 ± 0.21	2.20 ± 0.19	2.23 ± 0.14	Pass
AP-4845,4846	12/31/2020	Be-7	0.07 ± 0.01	0.06 ± 0.02	0.06 ± 0.01	Pass

Note: Duplicate analyses are performed on every twentieth sample received. 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 or pCi/m3), food products, vegetation, soil and sediment (pCi/g).

[b] AP (Air Particulate), AV (Aquatic Vegetation), BS (Bottom Sediment), CF (Cattle Feed), CH (Charcoal Canister), DW (Drinking Water), E (Egg), F (Fish), G (Grass), LW (Lake Water), MI (Milk), P (Precipitation), PM (Powdered Milk), S (Solid), SG (Sludge), SO (Soil), SS (Shoreline Sediment), SW (Surface Water), SWT (Surface Water Treated), SWU (Surface Water Untreated), VE (Vegetation), W (Water), WW (Well Water).

TABLE A-7. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP).

			Concentration[a]			
Lab Code [b]	Reference Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAAP-664	2/1/2020	Gross Alpha	2.26 ± 0.14	1.24	0.37 - 2.11	Fail [d]
MAAP-664	2/1/2020	Gross Beta	2.40 ± 0.07	2.00	1.00 - 3.00	Pass
MAW-536	2/1/2020	Gross Alpha	0.86 ± 0.06	1.03	0.31 - 1.75	Pass
MAW-536	2/1/2020	Gross Beta	3.79 ± 0.07	4.24	2.12 - 6.36	Pass
MASO-662	2/1/2020	Cs-134	955 ± 9	1114	780 - 1448	Pass
MASO-662	2/1/2020	Cs-137	1089 ± 12	1020	714 - 1326	Pass
MASO-662	2/1/2020	Co-57	1106 ± 8	1071	750 - 1392	Pass
MASO-662	2/1/2020	Co-60	0.33 ± 1.26	0	NA [c]	Pass
MASO-662	2/1/2020	Mn-54	1022 ± 27	945	662 - 1229	Pass
MASO-662	2/1/2020	Zn-65	842 ± 17	751	526 - 976	Pass
MASO-662	2/1/2020	K-40	710 ± 42	625	438 - 813	Pass
MAW-534	2/1/2020	I-129	0.81 ± 0.09	1.001	0.701 - 1.301	Pass
MAW-599	2/1/2020	H-3	202 ± 9	196	137 - 255	Pass
MAW-599	2/1/2020	Am-241	0.41 ± 0.09	0.547	0.383 - 0.711	Pass
MAW-599	2/1/2020	Cs-134	16.1 ± 0.3	18.5	13.0 - 24.1	Pass
MAW-599	2/1/2020	Cs-137	11.5 ± 0.4	11.3	7.9 - 14.7	Pass
MAW-599	2/1/2020	Co-57	20.0 ± 0.30	19.7	13.8 - 25.6	Pass
MAW-599	2/1/2020	Co-60	10.6 ± 0.2	10.6	7.4 - 13.8	Pass
MAW-599	2/1/2020	Mn-54	20.5 ± 0.4	19.6	13.7 - 25.5	Pass
MAW-599	2/1/2020	Zn-65	24.1 ± 0.70	22.2	15.5 - 28.9	Pass
MAW-599	2/1/2020	K-40	0.57 ± 1.54	0	NA [c]	Pass
MAW-599	2/1/2020	Fe-55	13.3 ± 12.2	17.8	12.5 - 23.1	Pass
MAW-599	2/1/2020	Ni-63	9.72 ± 0.43	11.1	7.8 - 14.4	Pass
MAW-599	2/1/2020	Sr-90	0.07 ± 0.18	0	NA [c]	Pass
MAW-599	2/1/2020	Tc-99	3.41 ± 0.31	3.63	2.54 - 4.72	Pass
MAW-599	2/1/2020	Ra-226	0.56 ± 0.06	0.365	0.256 - 0.475	Fail [e]
MAW-599	2/1/2020	Pu-238	0.69 ± 0.08	0.94	0.66 - 1.22	Pass
MAW-599	2/1/2020	Pu-239/240	0.48 ± 0.07	0.737	0.516 - 0.958	Fail [f]
MAW-599	2/1/2020	U-234	1.04 ± 0.08	0.97	0.68 - 1.26	Pass
MAW-599	2/1/2020	U-238	1.02 ± 0.08	0.95	0.67 - 1.24	Pass

TABLE A-7. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP).

			Concentration[a]			
Lab Code [b]	Reference Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAVE-668	2/1/2020	Cs-134	3.51 ± 0.22	3.82	2.67 - 4.97	Pass
MAVE-668	2/1/2020	Cs-137	3.04 ± 0.18	2.77	1.94 - 3.60	Pass
MAVE-668	2/1/2020	Co-57	0.02 ± 0.03	0	NA [c]	Pass
MAVE-668	2/1/2020	Co-60	2.92 ± 0.08	2.79	1.95 - 3.63	Pass
MAVE-668	2/1/2020	Mn-54	5.16 ± 0.14	4.58	3.21 - 5.95	Pass
MAVE-668	2/1/2020	Zn-65	4.36 ± 0.16	3.79	2.65 - 4.93	Pass
MAW-689	2/1/2020	Ra-226	172 ± 1	189	132 - 246	Pass
MAW-689	2/1/2020	Ra-228	65 ± 1	75	53 - 98	Pass
MAAP-3181	8/1/2020	Gross Alpha	0.45 ± 0.06	0.528	0.158 - 0.898	Pass
MAAP-3181	8/1/2020	Gross Beta	0.97 ± 0.04	0.915	0.458 - 1.373	Pass
MADW-3101	8/1/2020	Gross Alpha	0.57 ± 0.04	0.62	0.19 - 1.05	Pass
MADW-3101	8/1/2020	Gross Beta	0.75 ± 0.04	0.83	0.42 - 1.25	Pass
MASO-3179	8/1/2020	Cs-134	599 ± 7	710	497 - 923	Pass
MASO-3179	8/1/2020	Cs-137	3.33 ± 4.81	0	NA [c]	Pass
MASO-3179	8/1/2020	Co-57	1145 ± 8	1100	770 - 1430	Pass
MASO-3179	8/1/2020	Co-60	965 ± 9	1000	700 - 1300	Pass
MASO-3179	8/1/2020	Mn-54	651 ± 11	610	427 - 793	Pass
MASO-3179	8/1/2020	Zn-65	524 ± 14	470	329 - 611	Pass
MASO-3179	8/1/2020	K-40	684 ± 58	622	435 - 809	Pass
MAW-3175	8/1/2020	Cs-134	13.9 ± 0.3	15.2	10.6 - 19.8	Pass
MAW-3175	8/1/2020	Cs-137	15.4 ± 0.4	14.3	10.0 - 18.6	Pass
MAW-3175	8/1/2020	Co-57	0.10 ± 0.16	0	NA [c]	Pass
MAW-3175	8/1/2020	Co-60	12.5 ± 0.3	12.2	8.5 - 15.9	Pass
MAW-3175	8/1/2020	Mn-54	0.07 ± 0.17	0	NA [c]	Pass
MAW-3175	8/1/2020	Zn-65	18.3 ± 0.6	16.9	11.8 - 22.0	Pass
MAW-3175	8/1/2020	K-40	1.06 ± 1.65	0	NA [c]	Pass

TABLE A-7. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP).

			Concentration[a]			
Lab Code [b]	Reference Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAAP-3177	8/1/2020	Cs-134	1.28 ± 0.05	1.83	1.28 - 2.38	Fail[g]
MAAP-3177	8/1/2020	Cs-137	0.981 ± 0.068	0.996	0.697 - 1.295	Pass
MAAP-3177	8/1/2020	Co-57	0.020 ± 0.027	0	NA [c]	Pass
MAAP-3177	8/1/2020	Co-60	1.57 ± 0.06	1.73	1.21 - 2.25	Pass
MAAP-3177	8/1/2020	Mn-54	0.751 ± 0.077	1.400	0.98 - 1.82	Fail[h]
MAAP-3177	8/1/2020	Zn-65	2.07 ± 0.15	2.00	1.40 - 2.60	Pass
MAVE-3185	8/1/2020	Cs-134	4.73 ± 0.10	4.94	3.46 - 6.42	Pass
MAVE-3185	8/1/2020	Cs-137	0.03 ± 0.06	0	NA [c]	Pass
MAVE-3185	8/1/2020	Co-57	7.83 ± 0.12	6.67	4.67 - 8.67	Pass
MAVE-3185	8/1/2020	Co-60	4.41 ± 0.10	4.13	2.89 - 5.37	Pass
MAVE-3185	8/1/2020	Mn-54	6.52 ± 0.18	5.84	4.09 - 7.59	Pass
MAVE-3185	8/1/2020	Zn-65	7.26 ± 0.19	6.38	4.47 - 8.29	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), MADW (water), MAAP (air filter), MASO (soil) and 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] The lab utilized a MAPEP specific gross alpha/beta filter calibration as discussed in the MAPEP test instructions for MAAP-664. Using the MAPEP specific calibration for MAAP-664 caused the bias to shift from low to high. The subsequent MAPEP study result was acceptable. See Lab code MAAP-3101 (reference date 8/1/2020).

[e] An investigation of the Radium-226 failure was inconclusive. Subsequent Ra-226 PT analyses were satisifactory. See ERA RAD-121 and RAD-122 studies Table A-1 and NY ELAP shipment 437R Table A-2.

[f] Analysis was repeated in duplicate with acceptable results: Pu-238 (0.97 & 1.10 Bq/Kg); Pu-239 (0.83 & 0.83 Bq/Kg). The cause of the failure could not be determined.

[g] Lab result barely missed lower contol limit.

[h] A data transcription error resulted in an erroneous reported value. The actual result (1.36 ± 0.08 Bq/L) passes.

TABLE A-8. Interlaboratory Comparison Crosscheck Program, Environmental Resource Associates (ERA)[a].

MRAD-30 Study

Lab Code [b]	Date	Analysis	Concentration [a] Laboratory Result	ERA Value [c]	Control Limits [d]	Acceptance
ERAP-769	3/16/2020	Am-241	71.0	74.7	53.3 - 99.6	Pass
ERAP-769	3/16/2020	Cs-134	1210	1390	902 - 1700	Pass
ERAP-769	3/16/2020	Cs-137	393	351	288 - 460	Pass
ERAP-769	3/16/2020	Co-60	450.0	422.0	359.0 - 536	Pass
ERAP-769	3/16/2020	Fe-55	1200	1260	460 - 2010	Pass
ERAP-769	3/16/2020	Mn-54	< 2.4	< 50.0	0.00 - 50.0	Pass
ERAP-769	3/16/2020	Zn-65	856	694	569 - 1060	Pass
ERAP-769	3/16/2020	Pu-238	31.4	28.0	21.1 - 34.4	Pass
ERAP-769	3/16/2020	Pu-239	43.9	40.1	30.0 - 48.4	Pass
ERAP-769	3/16/2020	Sr-90	190	175	111 - 238	Pass
ERAP-769	3/16/2020	U-234	56.7	56.2	41.7 - 65.9	Pass
ERAP-769	3/16/2020	U-238	57.0	55.7	42.1 - 66.5	Pass
ERAP-771	3/16/2020	Gross Alpha	33.4	29.3	15.3 - 48.3	Pass
ERAP-771	3/16/2020	Gross Beta	68.3	66.4	40.3 - 100	Pass

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

[b] Laboratory code ERAP (air filter). Results are reported in units of (pCi/Filter).

[c] The ERA Assigned values for the air filter standards are equal to 100% of the parameter present in the standard as determined by the gravimetric and/or volumetric measurements made during standard preparation as applicable.

[d] The acceptance limits are established per the guidelines contained in the Department of Energy (DOE) report EML-564, Analysis of Environmental Measurements Laboratory (EML) Quality Assessment Program (QAP) Data Determination of Operational Criteria and Control Limits for Performance Evaluation Purposes or ERA's SOP for the generation of Performance Acceptance Limits.

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 2020

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	0.025 (265/265) (0.009 - 0.050)	32,49 3.1 miles WNW 0.8 miles NNE	0.025 (53/53) (0.010 - 0.050)	Station 53 0.025 (53/53) (0.010 - 0.045)	0
Air Radioiodine (pCi/m^3)	Gamma (24) Be-7	-	0.089 (20/20) (0.064 - 0.115)	2 2.7 miles N	0.081 (4/4) (0.064 - 0.103)	0.080 (4/4) (0.056 - 0.100)	0
	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 (176)	-	17.9(168/168) (9.1 – 23.6)	13 1.6 miles SE	18.1 (4/4) (18.1 – 22.2)	Stations 39 & 53 19.1 (8/8) (15.2 – 23.1)	0
Surface Water (pCi/l)	Gamma (24)		- (0/12)	N/A	N/A	JRR - (0/12)	0
	Tritium (24)	30,000	10,597 (12/12) (8,972 – 11,991)	SP 3.2 miles SSE	10,597 (12/12) (8,972 – 11,991)	- (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)	20,000	- (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 2020

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	2.4 (12/12) (1.1 – 3.3)	IO-DW 26.1 miles SSE	2.4 (12/12) (1.1 – 3.3)	2.0 (12/12) (1.4 - 3.1)	0
	Gamma (24)		- (0/12)	N/A	N/A	- (0/12)	0
	Tritium (8)	2,000	- (0/4)	N/A	- (1/4)	- (0/4)	0
Shoreline Sediment (pCi/kg dry)	Gamma (4)					JRR	
	K-40	-	7,234 (2/2) (5,674 – 8,794)	DC 0.8 miles WNW	7,234 (2/2) (5,674 - 8,794)	8,578 (2/2) (7,827 – 9,328)	0
	Cs-137	-	(0-2)	N/A	N/A	(0-2)	0
Fish – Flesh (pCi/kg wet)	Gamma (23)					JRR	
	K-40	-	3,944 (13/13) (3,304 – 4,971)	CCL 0.6 miles E to NNW	3,944 (13/13) (3,304 – 4,971)	4,133(10/10) (3,291- 5,196)	0
	Tritium (23)	-	9,110 (13/13) (6,907 – 12,561)	CCL 0.6 miles E to NNW	9,110 (13/13) (6,907 – 12,561)	- (0/10)	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 2020

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 (23)					D-2	
	Be-7	-	1,160 (18/18) (441 – 2,277)	Q-6	1,268(2/2) (852 – 1,685)	1,028 (5/5) (551 – 1,747)	0
	K-40	-	6,157 (18/18) (2,845 – 9,460)	A-3 2.6 miles N	7,875 (4/4) (5,477 – 9,460)	7,569 (5/5) (5,883 – 10,478)	0
Crops (pCi/kg wet)	Gamma (4)					NR-D1	
	K-40	-	6,914 (3/3) (2,651-14,538)	NR-U1 4.0 miles SSW	14,538 (1/1) (14,538-14,538)	18-345 (1/1) (18,435-18,435)	0
Bottom Sediment (pCi/kg dry)	Gamma (4)					JRR	
	K-40	-	9,814 (2/2) (8,345-11,282)	DC 0.9 miles WNW	9,814 (2/2) (8,345-11,282)	13,007 (2/2) (12,966 – 13,048)	0
	Cs-137	-	33 (1/2) (33 - 33)	DC 0.9 miles WNW	33 (1/2) (33 - 33)	- (0/2)	0
	Fe-55 (2)	-	- (0/2)	N/A	N/A	No Control	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 2020

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	-	552 (3/3) (267 - 702)	EEA 3.0 miles NNW	702 (1/1) (702 - 702)	-	0
	K-40	-	3,458 (3/3) (2,797- 4,449)	SC 0.8 miles NNW	4,449 (1/1) (4,449 - 4,449)	-	0
	Cs-137	-	- (0/3)	N/A	N/A	-	0
Terrestrial Vegetation (pCi/kg wet)	Gamma (2)					No Control	
	Be-7	-	1,377 (2/2) (493 – 2,262)	MUDS 1.5 miles WNW	2,262 (1/1) (2,262 – 2,262)	-	0
	K-40	-	5,116 (2/2) (2,715 – 7,517)	EEA 3.0 miles NNW	7,517 (1/1) (7,517 – 7,517)	-	0
Soil (pCi/kg dry)	Gamma (1)					No Control	
	K-40	-	12,640 (1/1) (12,640-12,640)	EEA 3.0 miles NNW	12,640 (1/1) (12,640-12,640)	-	0
	Cs-137	-	155 (1/1) (155-155)	EEA 3.0 miles NNW	155 (1/1) (155-155)	-	0
Meat (pCi/kg wet) Deer/Turkey	Gamma (2)					No Control	
	K-40	-	3,592 (2/2) (3,278 – 3,906)	R3.9 (Turkey) 3.9 miles NNW	3,592 (2/2) (3,278 – 3,906)	-	0
	Tritium	-	2,601 (1/1) (2,601-2,601)	G1.8 (Deer) 1.8 miles SE	2,601 (1/1) (2,601-2,601)	No Control	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 Filters and Radioiodine Canisters

Location: 002

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
30-Dec-19	07-Jan-20	344	0.019	+/-	0.004	<	0.012	
30-Dec-19	07-Jan-20	344	0.020	+/-	0.004			Duplicate
07-Jan-20	13-Jan-20	261	0.020	+/-	0.005	<	0.015	
13-Jan-20	20-Jan-20	308	0.035	+/-	0.005	<	0.012	
20-Jan-20	27-Jan-20	287	0.025	+/-	0.005	<	0.011	
27-Jan-20	03-Feb-20	300	0.020	+/-	0.004	<	0.010	
03-Feb-20	10-Feb-20	308	0.016	+/-	0.004	<	0.009	
10-Feb-20	17-Feb-20	306	0.020	+/-	0.004	<	0.015	
17-Feb-20	24-Feb-20	315	0.023	+/-	0.004	<	0.012	
24-Feb-20	02-Mar-20	304	0.016	+/-	0.004	<	0.010	
02-Mar-20	09-Mar-20	300	0.011	+/-	0.004	<	0.010	
09-Mar-20	16-Mar-20	308	0.015	+/-	0.004	<	0.016	
16-Mar-20	23-Mar-20	293	0.015	+/-	0.004	<	0.016	
23-Mar-20	30-Mar-20	299	0.020	+/-	0.004	<	0.011	
30-Mar-20	06-Apr-20	304	0.023	+/-	0.004	<	0.018	
06-Apr-20	13-Apr-20	298	0.027	+/-	0.005	<	0.015	
13-Apr-20	20-Apr-20	296	0.027	+/-	0.004	<	0.009	
20-Apr-20	27-Apr-20	301	0.020	+/-	0.004	<	0.011	
27-Apr-20	04-May-20	293	0.020	+/-	0.004	<	0.010	
04-May-20	11-May-20	310	0.014	+/-	0.004	<	0.012	
11-May-20	18-May-20	297	0.018	+/-	0.004	<	0.012	
18-May-20	26-May-20	334	0.014	+/-	0.004	<	0.006	
18-May-20	26-May-20	334	0.010	+/-	0.004			Duplicate
26-May-20	01-Jun-20	255	0.015	+/-	0.005	<	0.007	
01-Jun-20	08-Jun-20	294	0.024	+/-	0.004	<	0.010	
08-Jun-20	15-Jun-20	301	0.023	+/-	0.004	<	0.011	
15-Jun-20	23-Jun-20	334	0.027	+/-	0.004	<	0.010	
23-Jun-20	29-Jun-20	244	0.022	+/-	0.005	<	0.007	
29-Jun-20	06-Jul-20	294	0.028	+/-	0.004	<	0.007	
06-Jul-20	14-Jul-20	342	0.029	+/-	0.004	<	0.010	
14-Jul-20	20-Jul-20	254	0.020	+/-	0.005	<	0.005	
20-Jul-20	28-Jul-20	327	0.018	+/-	0.004	<	0.012	
28-Jul-20	03-Aug-20	255	0.019	+/-	0.005	<	0.022	
03-Aug-20	10-Aug-20	293	0.030	+/-	0.005	<	0.007	
10-Aug-20	17-Aug-20	320	0.022	+/-	0.004	<	0.007	
17-Aug-20	24-Aug-20	294	0.027	+/-	0.005	<	0.007	
24-Aug-20	31-Aug-20	296	0.035	+/-	0.005	<	0.015	
31-Aug-20	08-Sep-20	347	0.024	+/-	0.004	<	0.010	
08-Sep-20	14-Sep-20	263	0.014	+/-	0.004	<	0.018	
14-Sep-20	21-Sep-20	295	0.040	+/-	0.005	<	0.006	
21-Sep-20	28-Sep-20	301	0.023	+/-	0.004	<	0.005	

Air Particulate Filters and Radioiodine Canisters

Location: 002

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
28-Sep-20	05-Oct-20	299	0.020	+/-	0.004	<	0.007	
05-Oct-20	12-Oct-20	289	0.038	+/-	0.005	<	0.005	
12-Oct-20	19-Oct-20	307	0.026	+/-	0.004	<	0.012	
12-Oct-20	19-Oct-20	307	0.025	+/-	0.004			Duplicate
19-Oct-20	26-Oct-20	293	0.031	+/-	0.005	<	0.028	
26-Oct-20	02-Nov-20	292	0.026	+/-	0.005	<	0.009	
02-Nov-20	09-Nov-20	292	0.031	+/-	0.005	<	0.017	
09-Nov-20	16-Nov-20	299	0.023	+/-	0.004	<	0.008	
16-Nov-20	23-Nov-20	296	0.026	+/-	0.005	<	0.017	
23-Nov-20	30-Nov-20	300	0.030	+/-	0.005	<	0.010	
30-Nov-20	07-Dec-20	294	0.028	+/-	0.005	<	0.017	
07-Dec-20	14-Dec-20	297	0.038	+/-	0.005	<	0.010	
14-Dec-20	21-Dec-20	300	0.046	+/-	0.005	<	0.017	
21-Dec-20	28-Dec-20	303	0.029	+/-	0.005	<	0.012	
28-Dec-20	04-Jan-21	300	0.034	+/-	0.005	<	0.008	

Air Particulate Filters and Radioiodine Canisters

Location: 018

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)	I-131 Concentration (pCi/m3)	Duplicate Analysis
30-Dec-19	07-Jan-20	340	0.019 +/- 0.004	< 0.012	
07-Jan-20	13-Jan-20	257	0.020 +/- 0.005	< 0.016	
07-Jan-20	13-Jan-20	257	0.020 +/- 0.005		Duplicate
13-Jan-20	20-Jan-20	305	0.027 +/- 0.004	< 0.012	
20-Jan-20	27-Jan-20	302	0.024 +/- 0.004	< 0.011	
27-Jan-20	03-Feb-20	303	0.021 +/- 0.004	< 0.010	
27-Jan-20	03-Feb-20	303	0.024 +/- 0.004		Duplicate
03-Feb-20	10-Feb-20	318	0.017 +/- 0.004	< 0.009	
10-Feb-20	17-Feb-20	308	0.017 +/- 0.004	< 0.015	
17-Feb-20	24-Feb-20	320	0.020 +/- 0.004	< 0.012	
24-Feb-20	02-Mar-20	304	0.014 +/- 0.004	< 0.010	
24-Feb-20	02-Mar-20	304	0.017 +/- 0.004		Duplicate
02-Mar-20	09-Mar-20	299	0.013 +/- 0.004	< 0.010	
09-Mar-20	16-Mar-20	308	0.017 +/- 0.004	< 0.016	
09-Mar-20	16-Mar-20	308	0.018 +/- 0.004		Duplicate
16-Mar-20	23-Mar-20	292	0.016 +/- 0.004	< 0.016	
16-Mar-20	23-Mar-20	292	0.016 +/- 0.004		Duplicate
23-Mar-20	30-Mar-20	303	0.020 +/- 0.004	< 0.011	
30-Mar-20	06-Apr-20	312	0.026 +/- 0.004	< 0.017	
06-Apr-20	13-Apr-20	294	0.028 +/- 0.005	< 0.015	
13-Apr-20	20-Apr-20	299	0.027 +/- 0.004	< 0.009	
13-Apr-20	20-Apr-20	299	0.032 +/- 0.005		Duplicate
20-Apr-20	27-Apr-20	300	0.020 +/- 0.004	< 0.011	
20-Apr-20	27-Apr-20	300	0.019 +/- 0.004		Duplicate
27-Apr-20	04-May-20	299	0.024 +/- 0.004	< 0.009	
04-May-20	11-May-20	310	0.012 +/- 0.004	< 0.012	
11-May-20	18-May-20	303	0.020 +/- 0.004	< 0.012	
18-May-20	26-May-20	330	0.015 +/- 0.004	< 0.006	
26-May-20	01-Jun-20	257	0.014 +/- 0.005	< 0.007	
01-Jun-20	08-Jun-20	293	0.025 +/- 0.005	< 0.010	
01-Jun-20	08-Jun-20	293	0.024 +/- 0.004		Duplicate
08-Jun-20	15-Jun-20	303	0.027 +/- 0.004	< 0.011	
15-Jun-20	23-Jun-20	343	0.028 +/- 0.004	< 0.010	
23-Jun-20	29-Jun-20	215	0.023 +/- 0.006	< 0.008	
23-Jun-20	29-Jun-20	215	0.017 +/- 0.006		Duplicate
29-Jun-20	06-Jul-20	302	0.028 +/- 0.004	< 0.007	
06-Jul-20	14-Jul-20	346	0.024 +/- 0.004	< 0.010	
06-Jul-20	14-Jul-20	346	0.026 +/- 0.004		Duplicate
14-Jul-20	20-Jul-20	253	0.026 +/- 0.005	< 0.005	
20-Jul-20	28-Jul-20	338	0.013 +/- 0.004	< 0.011	
28-Jul-20	03-Aug-20	264	0.017 +/- 0.004	< 0.023	

Air Particulate Filters and Radioiodine Canisters

Location: 018

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)	I-131 Concentration (pCi/m3)	Duplicate Analysis
03-Aug-20	10-Aug-20	299	0.029 +/- 0.005	< 0.008	
03-Aug-20	10-Aug-20	299	0.028 +/- 0.004		Duplicate
10-Aug-20	17-Aug-20	295	0.023 +/- 0.004	< 0.008	
17-Aug-20	24-Aug-20	299	0.025 +/- 0.005	< 0.007	
24-Aug-20	31-Aug-20	299	0.036 +/- 0.005	< 0.015	
31-Aug-20	08-Sep-20	353	0.024 +/- 0.004	< 0.009	
08-Sep-20	14-Sep-20	264	0.018 +/- 0.005	< 0.018	
14-Sep-20	21-Sep-20	298	0.043 +/- 0.005	< 0.006	
14-Sep-20	21-Sep-20	298	0.041 +/- 0.005		Duplicate
21-Sep-20	28-Sep-20	307	0.025 +/- 0.004	< 0.005	
28-Sep-20	05-Oct-20	301	0.020 +/- 0.004	< 0.007	
28-Sep-20	05-Oct-20	301	0.023 +/- 0.004		Duplicate
05-Oct-20	12-Oct-20	290	0.037 +/- 0.005	< 0.005	
12-Oct-20	19-Oct-20	310	0.027 +/- 0.004	< 0.012	
19-Oct-20	26-Oct-20	301	0.031 +/- 0.005	< 0.040	
26-Oct-20	02-Nov-20	296	0.030 +/- 0.005	< 0.009	
02-Nov-20	09-Nov-20	299	0.039 +/- 0.005	< 0.016	
09-Nov-20	16-Nov-20	296	0.022 +/- 0.004	< 0.008	
16-Nov-20	23-Nov-20	299	0.029 +/- 0.005	< 0.017	
23-Nov-20	30-Nov-20	300	0.032 +/- 0.005	< 0.010	
23-Nov-20	30-Nov-20	300	0.027 +/- 0.005		Duplicate
30-Nov-20	07-Dec-20	303	0.035 +/- 0.005	< 0.016	
07-Dec-20	14-Dec-20	298	0.039 +/- 0.005	< 0.010	
14-Dec-20	21-Dec-20	301	0.048 +/- 0.005	< 0.017	
21-Dec-20	28-Dec-20	299	0.032 +/- 0.005	< 0.012	
28-Dec-20	04-Jan-21	300	0.039 +/- 0.005	< 0.008	

Air Particulate Filters and Radioiodine Canisters

Location: 032

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
30-Dec-19	07-Jan-20	339	0.019	+/-	0.004	<	0.012	
07-Jan-20	13-Jan-20	191	0.017	+/-	0.006	<	0.021	
13-Jan-20	20-Jan-20	306	0.035	+/-	0.005	<	0.012	
20-Jan-20	27-Jan-20	295	0.023	+/-	0.005	<	0.011	
27-Jan-20	03-Feb-20	304	0.020	+/-	0.004	<	0.010	
03-Feb-20	10-Feb-20	311	0.017	+/-	0.004	<	0.009	
10-Feb-20	17-Feb-20	305	0.017	+/-	0.004	<	0.015	
17-Feb-20	24-Feb-20	314	0.021	+/-	0.004	<	0.012	
24-Feb-20	02-Mar-20	298	0.016	+/-	0.004	<	0.010	
02-Mar-20	09-Mar-20	296	0.014	+/-	0.004	<	0.010	
09-Mar-20	16-Mar-20	304	0.017	+/-	0.004	<	0.016	
16-Mar-20	23-Mar-20	292	0.014	+/-	0.004	<	0.016	
23-Mar-20	30-Mar-20	298	0.023	+/-	0.004	<	0.011	
30-Mar-20	06-Apr-20	304	0.024	+/-	0.004	<	0.018	
06-Apr-20	13-Apr-20	300	0.027	+/-	0.005	<	0.015	
06-Apr-20	13-Apr-20	300	0.027	+/-	0.005			Duplicate
13-Apr-20	20-Apr-20	300	0.027	+/-	0.004	<	0.009	
20-Apr-20	27-Apr-20	239	0.018	+/-	0.005	<	0.014	
27-Apr-20	04-May-20	307	0.022	+/-	0.004	<	0.009	
04-May-20	11-May-20	305	0.016	+/-	0.004	<	0.012	
11-May-20	18-May-20	297	0.021	+/-	0.004	<	0.012	
18-May-20	26-May-20	339	0.009	+/-	0.004	<	0.006	
26-May-20	01-Jun-20	257	0.016	+/-	0.005	<	0.007	
01-Jun-20	08-Jun-20	299	0.025	+/-	0.004	<	0.010	
08-Jun-20	15-Jun-20	301	0.028	+/-	0.004	<	0.011	
15-Jun-20	23-Jun-20	342	0.028	+/-	0.004	<	0.010	
23-Jun-20	29-Jun-20	250	0.022	+/-	0.005	<	0.007	
29-Jun-20	06-Jul-20	306	0.026	+/-	0.004	<	0.007	
06-Jul-20	14-Jul-20	346	0.029	+/-	0.004	<	0.010	
14-Jul-20	20-Jul-20	257	0.019	+/-	0.005	<	0.005	
20-Jul-20	28-Jul-20	346	0.015	+/-	0.004	<	0.011	
20-Jul-20	28-Jul-20	346	0.014	+/-	0.004			Duplicate
28-Jul-20	03-Aug-20	260	0.020	+/-	0.005	<	0.022	
03-Aug-20	10-Aug-20	302	0.030	+/-	0.005	<	0.008	
10-Aug-20	17-Aug-20	302	0.023	+/-	0.004	<	0.007	
17-Aug-20	24-Aug-20	313	0.028	+/-	0.005	<	0.007	
24-Aug-20	31-Aug-20	294	0.038	+/-	0.005	<	0.015	
31-Aug-20	08-Sep-20	355	0.027	+/-	0.004	<	0.009	
08-Sep-20	14-Sep-20	267	0.016	+/-	0.004	<	0.017	
14-Sep-20	21-Sep-20	299	0.043	+/-	0.005	<	0.006	
21-Sep-20	28-Sep-20	302	0.027	+/-	0.005	<	0.005	

Air Particulate Filters and Radioiodine Canisters

Location: 032

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)	I-131 Concentration (pCi/m3)	Duplicate Analysis
28-Sep-20	05-Oct-20	302	0.022 +/- 0.004	< 0.007	
05-Oct-20	12-Oct-20	294	0.041 +/- 0.005	< 0.005	
12-Oct-20	19-Oct-20	310	0.027 +/- 0.004	< 0.012	
19-Oct-20	26-Oct-20	302	0.030 +/- 0.005	< 0.037	
26-Oct-20	02-Nov-20	302	0.031 +/- 0.005	< 0.009	
02-Nov-20	09-Nov-20	297	0.033 +/- 0.005	< 0.017	
09-Nov-20	16-Nov-20	303	0.025 +/- 0.004	< 0.008	
16-Nov-20	23-Nov-20	306	0.027 +/- 0.005	< 0.016	
23-Nov-20	30-Nov-20	295	0.031 +/- 0.005	< 0.010	
30-Nov-20	07-Dec-20	294	0.036 +/- 0.005	< 0.017	
07-Dec-20	14-Dec-20	299	0.045 +/- 0.005	< 0.010	
14-Dec-20	21-Dec-20	300	0.049 +/- 0.005	< 0.017	
21-Dec-20	28-Dec-20	302	0.032 +/- 0.005	< 0.012	
28-Dec-20	04-Jan-21	305	0.037 +/- 0.005	< 0.008	

Air Particulate Filters and Radioiodine Canisters

Location: 037

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
30-Dec-19	07-Jan-20	346	0.018	+/-	0.004	<	0.012	
07-Jan-20	13-Jan-20	240	0.023	+/-	0.005	<	0.017	
13-Jan-20	20-Jan-20	309	0.039	+/-	0.005	<	0.012	
20-Jan-20	27-Jan-20	277	0.023	+/-	0.005	<	0.012	
27-Jan-20	03-Feb-20	296	0.022	+/-	0.004	<	0.010	
03-Feb-20	10-Feb-20	318	0.019	+/-	0.004	<	0.009	
10-Feb-20	17-Feb-20	303	0.019	+/-	0.004	<	0.015	
17-Feb-20	24-Feb-20	315	0.021	+/-	0.004	<	0.012	
24-Feb-20	02-Mar-20	305	0.014	+/-	0.004	<	0.010	
02-Mar-20	09-Mar-20	299	0.016	+/-	0.004	<	0.010	
09-Mar-20	16-Mar-20	310	0.018	+/-	0.004	<	0.016	
16-Mar-20	23-Mar-20	294	0.010	+/-	0.004	<	0.016	
23-Mar-20	30-Mar-20	299	0.023	+/-	0.004	<	0.011	
30-Mar-20	06-Apr-20	305	0.024	+/-	0.004	<	0.018	
06-Apr-20	13-Apr-20	300	0.026	+/-	0.005	<	0.015	
13-Apr-20	20-Apr-20	305	0.031	+/-	0.005	<	0.009	
20-Apr-20	27-Apr-20	302	0.027	+/-	0.005	<	0.011	
27-Apr-20	04-May-20	298	0.018	+/-	0.004	<	0.009	
04-May-20	11-May-20	309	0.013	+/-	0.004	<	0.012	
11-May-20	18-May-20	298	0.018	+/-	0.004	<	0.012	
18-May-20	26-May-20	342	0.014	+/-	0.004	<	0.005	
26-May-20	01-Jun-20	256	0.013	+/-	0.005	<	0.007	
01-Jun-20	08-Jun-20	211	0.021	+/-	0.006	<	0.014	
08-Jun-20	15-Jun-20	306	0.021	+/-	0.004	<	0.010	
15-Jun-20	23-Jun-20	347	0.029	+/-	0.004	<	0.009	
23-Jun-20	29-Jun-20	244	0.024	+/-	0.005	<	0.007	
29-Jun-20	06-Jul-20	303	0.027	+/-	0.004	<	0.007	
06-Jul-20	14-Jul-20	348	0.024	+/-	0.004	<	0.010	
14-Jul-20	20-Jul-20	261	0.024	+/-	0.005	<	0.005	
20-Jul-20	28-Jul-20	343	0.014	+/-	0.004	<	0.011	
28-Jul-20	03-Aug-20	261	0.022	+/-	0.005	<	0.022	
03-Aug-20	10-Aug-20	301	0.032	+/-	0.005	<	0.008	
10-Aug-20	17-Aug-20	302	0.025	+/-	0.004	<	0.007	
17-Aug-20	24-Aug-20	301	0.029	+/-	0.005	<	0.007	
17-Aug-20	24-Aug-20	301	0.025	+/-	0.005			Duplicate
24-Aug-20	31-Aug-20	302	0.033	+/-	0.005	<	0.015	
31-Aug-20	08-Sep-20	347	0.025	+/-	0.004	<	0.010	
08-Sep-20	14-Sep-20	268	0.014	+/-	0.004	<	0.017	
14-Sep-20	21-Sep-20	302	0.044	+/-	0.005	<	0.005	
21-Sep-20	28-Sep-20	304	0.024	+/-	0.004	<	0.005	
28-Sep-20	05-Oct-20	307	0.020	+/-	0.004	<	0.007	

Air Particulate Filters and Radioiodine Canisters

Location: 037

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)	I-131 Concentration (pCi/m3)	Duplicate Analysis
05-Oct-20	12-Oct-20	294	0.043 +/- 0.005	< 0.005	
12-Oct-20	19-Oct-20	308	0.025 +/- 0.004	< 0.012	
19-Oct-20	26-Oct-20	300	0.028 +/- 0.005	< 0.028	
26-Oct-20	02-Nov-20	299	0.030 +/- 0.005	< 0.009	
26-Oct-20	02-Nov-20	299	0.030 +/- 0.005		Duplicate
02-Nov-20	09-Nov-20	298	0.031 +/- 0.005	< 0.016	
02-Nov-20	09-Nov-20	298	0.035 +/- 0.005		Duplicate
09-Nov-20	16-Nov-20	305	0.025 +/- 0.004	< 0.008	
16-Nov-20	23-Nov-20	302	0.026 +/- 0.005	< 0.016	
23-Nov-20	30-Nov-20	302	0.032 +/- 0.005	< 0.010	
30-Nov-20	07-Dec-20	292	0.037 +/- 0.005	< 0.017	
07-Dec-20	14-Dec-20	327	0.038 +/- 0.005	< 0.009	
14-Dec-20	21-Dec-20	297	0.050 +/- 0.005	< 0.018	
21-Dec-20	28-Dec-20	302	0.031 +/- 0.005	< 0.012	
28-Dec-20	04-Jan-21	301	0.043 +/- 0.005	< 0.008	

Air Particulate Filters and Radioiodine Canisters

Location: 049

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
30-Dec-19	07-Jan-20	344	0.020	+/-	0.004	<	0.012	
07-Jan-20	13-Jan-20	258	0.023	+/-	0.005	<	0.016	
13-Jan-20	20-Jan-20	306	0.035	+/-	0.005	<	0.012	
20-Jan-20	27-Jan-20	299	0.025	+/-	0.005	<	0.011	
27-Jan-20	03-Feb-20	302	0.020	+/-	0.004	<	0.010	
03-Feb-20	10-Feb-20	304	0.017	+/-	0.004	<	0.009	
10-Feb-20	17-Feb-20	304	0.015	+/-	0.004	<	0.015	
17-Feb-20	24-Feb-20	317	0.021	+/-	0.004	<	0.012	
24-Feb-20	02-Mar-20	303	0.019	+/-	0.004	<	0.010	
02-Mar-20	09-Mar-20	304	0.012	+/-	0.004	<	0.010	
02-Mar-20	09-Mar-20	304	0.013	+/-	0.004			Duplicate
09-Mar-20	16-Mar-20	313	0.015	+/-	0.004	<	0.015	
16-Mar-20	23-Mar-20	300	0.014	+/-	0.004	<	0.016	
23-Mar-20	30-Mar-20	270	0.022	+/-	0.005	<	0.012	
30-Mar-20	06-Apr-20	304	0.020	+/-	0.004	<	0.018	
06-Apr-20	13-Apr-20	305	0.027	+/-	0.005	<	0.014	
13-Apr-20	20-Apr-20	294	0.030	+/-	0.005	<	0.009	
20-Apr-20	27-Apr-20	303	0.020	+/-	0.004	<	0.011	
27-Apr-20	04-May-20	299	0.022	+/-	0.004	<	0.009	
04-May-20	11-May-20	310	0.012	+/-	0.004	<	0.012	
11-May-20	18-May-20	302	0.014	+/-	0.004	<	0.012	
18-May-20	26-May-20	340	0.012	+/-	0.004	<	0.006	
26-May-20	01-Jun-20	257	0.015	+/-	0.005	<	0.007	
01-Jun-20	08-Jun-20	297	0.027	+/-	0.005	<	0.010	
08-Jun-20	15-Jun-20	307	0.022	+/-	0.004	<	0.010	
15-Jun-20	23-Jun-20	335	0.024	+/-	0.004	<	0.010	
23-Jun-20	29-Jun-20	257	0.020	+/-	0.005	<	0.007	
29-Jun-20	06-Jul-20	296	0.024	+/-	0.004	<	0.007	
06-Jul-20	14-Jul-20	353	0.028	+/-	0.004	<	0.010	
14-Jul-20	20-Jul-20	259	0.026	+/-	0.005	<	0.005	
14-Jul-20	20-Jul-20	259	0.020	+/-	0.005			Duplicate
20-Jul-20	28-Jul-20	340	0.015	+/-	0.004	<	0.011	
28-Jul-20	03-Aug-20	258	0.022	+/-	0.005	<	0.022	
03-Aug-20	10-Aug-20	299	0.030	+/-	0.005	<	0.008	
10-Aug-20	17-Aug-20	301	0.024	+/-	0.004	<	0.007	
17-Aug-20	24-Aug-20	278	0.024	+/-	0.005	<	0.008	
24-Aug-20	31-Aug-20	290	0.036	+/-	0.005	<	0.016	
31-Aug-20	08-Sep-20	347	0.022	+/-	0.004	<	0.010	
08-Sep-20	14-Sep-20	264	0.019	+/-	0.005	<	0.018	
14-Sep-20	21-Sep-20	299	0.037	+/-	0.005	<	0.006	
21-Sep-20	28-Sep-20	291	0.024	+/-	0.005	<	0.006	

Air Particulate Filters and Radioiodine Canisters

Location: 049

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
28-Sep-20	05-Oct-20	310	0.019	+/-	0.004	<	0.007	
05-Oct-20	12-Oct-20	298	0.036	+/-	0.005	<	0.005	
12-Oct-20	19-Oct-20	305	0.023	+/-	0.004	<	0.012	
19-Oct-20	26-Oct-20	297	0.029	+/-	0.005	<	0.033	
26-Oct-20	02-Nov-20	301	0.027	+/-	0.005	<	0.009	
02-Nov-20	09-Nov-20	292	0.031	+/-	0.005	<	0.017	
09-Nov-20	16-Nov-20	301	0.020	+/-	0.004	<	0.008	
16-Nov-20	23-Nov-20	296	0.030	+/-	0.005	<	0.017	
23-Nov-20	30-Nov-20	300	0.029	+/-	0.005	<	0.010	
30-Nov-20	07-Dec-20	298	0.033	+/-	0.005	<	0.017	
07-Dec-20	14-Dec-20	306	0.044	+/-	0.005	<	0.009	
14-Dec-20	21-Dec-20	310	0.048	+/-	0.005	<	0.017	
14-Dec-20	21-Dec-20	310	0.048	+/-	0.005			Duplicate
21-Dec-20	28-Dec-20	308	0.032	+/-	0.005	<	0.012	
28-Dec-20	04-Jan-21	293	0.043	+/-	0.005	<	0.008	

Air Particulate Filters and Radioiodine Canisters

Location: 053

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
30-Dec-19	07-Jan-20	341	0.019	+/-	0.004	<	0.012	
07-Jan-20	13-Jan-20	256	0.020	+/-	0.005	<	0.016	
13-Jan-20	20-Jan-20	312	0.033	+/-	0.005	<	0.012	
20-Jan-20	27-Jan-20	294	0.024	+/-	0.005	<	0.011	
27-Jan-20	03-Feb-20	302	0.022	+/-	0.004	<	0.010	
03-Feb-20	10-Feb-20	314	0.019	+/-	0.004	<	0.009	
10-Feb-20	17-Feb-20	305	0.018	+/-	0.004	<	0.015	
17-Feb-20	24-Feb-20	319	0.021	+/-	0.004	<	0.012	
24-Feb-20	02-Mar-20	301	0.015	+/-	0.004	<	0.010	
02-Mar-20	09-Mar-20	299	0.010	+/-	0.004	<	0.010	
09-Mar-20	16-Mar-20	301	0.016	+/-	0.004	<	0.016	
16-Mar-20	23-Mar-20	291	0.016	+/-	0.004	<	0.017	
23-Mar-20	30-Mar-20	295	0.021	+/-	0.004	<	0.011	
30-Mar-20	06-Apr-20	306	0.020	+/-	0.004	<	0.018	
06-Apr-20	13-Apr-20	303	0.025	+/-	0.004	<	0.014	
13-Apr-20	20-Apr-20	301	0.029	+/-	0.005	<	0.009	
20-Apr-20	27-Apr-20	302	0.020	+/-	0.004	<	0.011	
27-Apr-20	04-May-20	297	0.018	+/-	0.004	<	0.010	
04-May-20	11-May-20	304	0.013	+/-	0.004	<	0.012	
11-May-20	18-May-20	302	0.019	+/-	0.004	<	0.012	
18-May-20	26-May-20	329	0.010	+/-	0.004	<	0.006	
26-May-20	01-Jun-20	251	0.012	+/-	0.005	<	0.008	
01-Jun-20	08-Jun-20	273	0.023	+/-	0.005	<	0.010	
08-Jun-20	15-Jun-20	290	0.020	+/-	0.004	<	0.011	
08-Jun-20	15-Jun-20	290	0.022	+/-	0.004			Duplicate
15-Jun-20	23-Jun-20	339	0.024	+/-	0.004	<	0.010	
23-Jun-20	29-Jun-20	245	0.022	+/-	0.005	<	0.007	
29-Jun-20	06-Jul-20	298	0.026	+/-	0.004	<	0.007	
06-Jul-20	14-Jul-20	349	0.026	+/-	0.004	<	0.010	
14-Jul-20	20-Jul-20	256	0.024	+/-	0.005	<	0.005	
20-Jul-20	28-Jul-20	332	0.016	+/-	0.004	<	0.012	
28-Jul-20	03-Aug-20	263	0.023	+/-	0.005	<	0.023	
03-Aug-20	10-Aug-20	291	0.028	+/-	0.005	<	0.008	
10-Aug-20	17-Aug-20	301	0.025	+/-	0.004	<	0.007	
17-Aug-20	24-Aug-20	299	0.027	+/-	0.005	<	0.007	
24-Aug-20	31-Aug-20	305	0.030	+/-	0.005	<	0.015	
31-Aug-20	08-Sep-20	345	0.023	+/-	0.004	<	0.010	
08-Sep-20	14-Sep-20	267	0.012	+/-	0.004	<	0.017	
14-Sep-20	21-Sep-20	298	0.037	+/-	0.005	<	0.006	
21-Sep-20	28-Sep-20	310	0.021	+/-	0.004	<	0.005	
21-Sep-20	28-Sep-20	310	0.023	+/-	0.004			Duplicate

Air Particulate Filters and Radioiodine Canisters

Location: 053

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
28-Sep-20	05-Oct-20	305	0.020	+/-	0.004	<	0.007	
05-Oct-20	12-Oct-20	298	0.036	+/-	0.005	<	0.005	
12-Oct-20	19-Oct-20	309	0.028	+/-	0.004	<	0.012	
19-Oct-20	26-Oct-20	301	0.026	+/-	0.005	<	0.046	
26-Oct-20	02-Nov-20	299	0.028	+/-	0.005	<	0.009	
02-Nov-20	09-Nov-20	297	0.032	+/-	0.005	<	0.017	
09-Nov-20	16-Nov-20	303	0.021	+/-	0.004	<	0.008	
16-Nov-20	23-Nov-20	303	0.025	+/-	0.004	<	0.016	
23-Nov-20	30-Nov-20	301	0.024	+/-	0.005	<	0.010	
30-Nov-20	07-Dec-20	287	0.035	+/-	0.005	<	0.017	
07-Dec-20	14-Dec-20	298	0.042	+/-	0.005	<	0.010	
14-Dec-20	21-Dec-20	299	0.045	+/-	0.005	<	0.017	
21-Dec-20	28-Dec-20	301	0.028	+/-	0.005	<	0.012	
21-Dec-20	28-Dec-20	301	0.029	+/-	0.005			Duplicate
28-Dec-20	04-Jan-21	305	0.036	+/-	0.005	<	0.008	
28-Dec-20	04-Jan-21	305	0.035	+/-	0.005			Duplicate

Quarterly Air Particulates - Gamma

Location: 002

30-Mar-20

Nuclide	Concentration (pCi/m3)			
BE-7	0.066	+/-	0.012	
BE-7	0.078	+/-	0.019	*
MN-54		<	0.001	*
MN-54		<	0.001	
CO-58		<	0.001	*
CO-58		<	0.001	
FE-59		<	0.001	
FE-59		<	0.002	*
CO-60		<	0.001	*
CO-60		<	0.001	
ZN-65		<	0.001	
ZN-65		<	0.002	*
ZR-NB-95		<	0.001	*
ZR-NB-95		<	0.001	
CS-134		<	0.001	*
CS-134		<	0.001	
CS-137		<	0.001	*
CS-137		<	0.001	

29-Jun-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.103	+/-	0.018
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Sep-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.089	+/-	0.022
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Dec-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.064	+/-	0.015

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 002

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 Particulates - Gamma

Location: 018

30-Mar-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.077	+/-	0.019
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

29-Jun-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.110	+/-	0.018
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Sep-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.107	+/-	0.021
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

28-Dec-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.082	+/-	0.014
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 032

30-Mar-20

Nuclide	Concentration (pCi/m3)			
BE-7	0.078	+/-	0.018	
MN-54		<	0.001	
CO-58		<	0.001	
FE-59		<	0.002	
CO-60		<	0.001	
ZN-65		<	0.002	
ZR-NB-95		<	0.001	
CS-134		<	0.001	
CS-137		<	0.001	

29-Jun-20

Nuclide	Concentration (pCi/m3)			
BE-7	0.097	+/-	0.016	
MN-54		<	0.001	
CO-58		<	0.001	
FE-59		<	0.002	
CO-60		<	0.001	
ZN-65		<	0.002	
ZR-NB-95		<	0.002	
CS-134		<	0.001	
CS-137		<	0.001	

28-Sep-20

Nuclide	Concentration (pCi/m3)			
BE-7	0.099	+/-	0.022	
BE-7	0.110	+/-	0.025	*
MN-54		<	0.001	*
MN-54		<	0.001	
CO-58		<	0.001	*
CO-58		<	0.001	
FE-59		<	0.002	*
FE-59		<	0.002	
CO-60		<	0.001	*
CO-60		<	0.001	
ZN-65		<	0.001	*
ZN-65		<	0.001	
ZR-NB-95		<	0.001	*
ZR-NB-95		<	0.002	
CS-134		<	0.001	*
CS-134		<	0.001	
CS-137		<	0.001	*
CS-137		<	0.001	

28-Dec-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.083	+/-	0.016

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 032

MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.003
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 037

30-Mar-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.072	+/-	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

29-Jun-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.112	+/-	0.017
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Sep-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.093	+/-	0.024
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.004
ZR-NB-95		<	0.002
CS-134		<	0.001
CS-137		<	0.001

28-Dec-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.082	+/-	0.015
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 049

30-Mar-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.069	+/-	0.014
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

29-Jun-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.110	+/-	0.017
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

28-Sep-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.115	+/-	0.019
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Dec-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.079	+/-	0.015
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 053

30-Mar-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.068	+/-	0.014
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

29-Jun-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.097	+/-	0.021
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.003
ZR-NB-95		<	0.002
CS-134		<	0.001
CS-137		<	0.001

28-Sep-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.100	+/-	0.021
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Dec-20

Nuclide	Concentration (pCi/m3)		
BE-7	0.056	+/-	0.015
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.004
CO-60		<	0.002
ZN-65		<	0.004
ZR-NB-95		<	0.003
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
13-Jan-20	SURFACE WATER	MN-54	<	4.1	
13-Jan-20	SURFACE WATER	CO-58	<	3.2	
13-Jan-20	SURFACE WATER	FE-59	<	7.1	
13-Jan-20	SURFACE WATER	CO-60	<	2.7	
13-Jan-20	SURFACE WATER	ZN-65	<	4.7	
13-Jan-20	SURFACE WATER	ZR-NB-95	<	3.8	
13-Jan-20	SURFACE WATER	I-131	<	6.3	
13-Jan-20	SURFACE WATER	CS-134	<	5.1	
13-Jan-20	SURFACE WATER	CS-137	<	5.6	
13-Jan-20	SURFACE WATER	BA-LA-140	<	2.3	
13-Jan-20	SURFACE WATER	H-3	<	158.0	
10-Feb-20	SURFACE WATER	MN-54	<	6.9	
10-Feb-20	SURFACE WATER	CO-58	<	6.7	
10-Feb-20	SURFACE WATER	FE-59	<	12.2	
10-Feb-20	SURFACE WATER	CO-60	<	2.6	
10-Feb-20	SURFACE WATER	ZN-65	<	17.6	
10-Feb-20	SURFACE WATER	ZR-NB-95	<	8.6	
10-Feb-20	SURFACE WATER	I-131	<	4.5	
10-Feb-20	SURFACE WATER	CS-134	<	5.6	
10-Feb-20	SURFACE WATER	CS-137	<	5.4	
10-Feb-20	SURFACE WATER	BA-LA-140	<	9.0	
10-Feb-20	SURFACE WATER	H-3	<	154.0	
10-Feb-20	SURFACE WATER	FE-55	<	166.0	
09-Mar-20	SURFACE WATER	MN-54	<	2.5	
09-Mar-20	SURFACE WATER	CO-58	<	2.5	
09-Mar-20	SURFACE WATER	FE-59	<	6.5	
09-Mar-20	SURFACE WATER	CO-60	<	2.7	
09-Mar-20	SURFACE WATER	ZN-65	<	4.6	
09-Mar-20	SURFACE WATER	ZR-NB-95	<	2.8	
09-Mar-20	SURFACE WATER	I-131	<	2.7	
09-Mar-20	SURFACE WATER	CS-134	<	3.3	
09-Mar-20	SURFACE WATER	CS-137	<	3.4	
09-Mar-20	SURFACE WATER	BA-LA-140	<	2.1	
09-Mar-20	SURFACE WATER	H-3	<	151.0	
06-Apr-20	SURFACE WATER	MN-54	<	1.5	
06-Apr-20	SURFACE WATER	CO-58	<	1.7	
06-Apr-20	SURFACE WATER	FE-59	<	3.0	
06-Apr-20	SURFACE WATER	CO-60	<	1.4	

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
06-Apr-20	SURFACE WATER	ZN-65	<	2.2	
06-Apr-20	SURFACE WATER	ZR-NB-95	<	1.5	
06-Apr-20	SURFACE WATER	I-131	<	2.9	
06-Apr-20	SURFACE WATER	CS-134	<	2.2	
06-Apr-20	SURFACE WATER	CS-137	<	2.1	
06-Apr-20	SURFACE WATER	BA-LA-140	<	1.0	
06-Apr-20	SURFACE WATER	H-3	<	157.0	
11-May-20	SURFACE WATER	MN-54	<	2.6	
11-May-20	SURFACE WATER	CO-58	<	1.8	
11-May-20	SURFACE WATER	FE-59	<	1.8	
11-May-20	SURFACE WATER	CO-60	<	1.7	
11-May-20	SURFACE WATER	ZN-65	<	4.2	
11-May-20	SURFACE WATER	ZR-NB-95	<	1.8	
11-May-20	SURFACE WATER	I-131	<	1.9	
11-May-20	SURFACE WATER	CS-134	<	1.8	
11-May-20	SURFACE WATER	CS-137	<	1.8	
11-May-20	SURFACE WATER	BA-LA-140	<	1.1	
11-May-20	SURFACE WATER	H-3	<	153.0	
11-May-20	SURFACE WATER	FE-55	<	123.0	
08-Jun-20	SURFACE WATER	MN-54	<	3.1	
08-Jun-20	SURFACE WATER	CO-58	<	3.3	
08-Jun-20	SURFACE WATER	FE-59	<	8.1	
08-Jun-20	SURFACE WATER	CO-60	<	3.7	
08-Jun-20	SURFACE WATER	ZN-65	<	7.4	
08-Jun-20	SURFACE WATER	ZR-NB-95	<	3.4	
08-Jun-20	SURFACE WATER	I-131	<	6.0	
08-Jun-20	SURFACE WATER	CS-134	<	4.2	
08-Jun-20	SURFACE WATER	CS-137	<	3.2	
08-Jun-20	SURFACE WATER	BA-LA-140	<	6.0	
08-Jun-20	SURFACE WATER	H-3	<	156.0	
07-Jul-20	SURFACE WATER	MN-54	<	2.3	
07-Jul-20	SURFACE WATER	CO-58	<	2.0	
07-Jul-20	SURFACE WATER	FE-59	<	3.9	
07-Jul-20	SURFACE WATER	CO-60	<	2.3	
07-Jul-20	SURFACE WATER	ZN-65	<	5.7	
07-Jul-20	SURFACE WATER	ZR-NB-95	<	4.0	
07-Jul-20	SURFACE WATER	I-131	<	6.3	
07-Jul-20	SURFACE WATER	CS-134	<	3.5	

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
07-Jul-20	SURFACE WATER	CS-137	<	2.9	
07-Jul-20	SURFACE WATER	BA-LA-140	<	3.2	
07-Jul-20	SURFACE WATER	H-3	<	160.0	
10-Aug-20	SURFACE WATER	MN-54	<	3.9	
10-Aug-20	SURFACE WATER	CO-58	<	2.7	
10-Aug-20	SURFACE WATER	FE-59	<	3.9	
10-Aug-20	SURFACE WATER	CO-60	<	3.5	
10-Aug-20	SURFACE WATER	ZN-65	<	6.4	
10-Aug-20	SURFACE WATER	ZR-NB-95	<	3.6	
10-Aug-20	SURFACE WATER	I-131	<	4.5	
10-Aug-20	SURFACE WATER	CS-134	<	4.3	
10-Aug-20	SURFACE WATER	CS-137	<	3.3	
10-Aug-20	SURFACE WATER	BA-LA-140	<	4.8	
10-Aug-20	SURFACE WATER	H-3	<	158.0	
10-Aug-20	SURFACE WATER	FE-55	<	140.0	
14-Sep-20	SURFACE WATER	MN-54	<	1.9	Duplicate
14-Sep-20	SURFACE WATER	MN-54	<	2.9	
14-Sep-20	SURFACE WATER	CO-58	<	3.0	Duplicate
14-Sep-20	SURFACE WATER	CO-58	<	2.6	
14-Sep-20	SURFACE WATER	FE-59	<	5.5	Duplicate
14-Sep-20	SURFACE WATER	FE-59	<	4.5	
14-Sep-20	SURFACE WATER	CO-60	<	1.8	Duplicate
14-Sep-20	SURFACE WATER	CO-60	<	4.0	
14-Sep-20	SURFACE WATER	ZN-65	<	4.6	Duplicate
14-Sep-20	SURFACE WATER	ZN-65	<	2.9	
14-Sep-20	SURFACE WATER	ZR-NB-95	<	2.2	Duplicate
14-Sep-20	SURFACE WATER	ZR-NB-95	<	5.6	
14-Sep-20	SURFACE WATER	I-131	<	4.9	Duplicate
14-Sep-20	SURFACE WATER	I-131	<	9.9	
14-Sep-20	SURFACE WATER	CS-134	<	3.2	Duplicate
14-Sep-20	SURFACE WATER	CS-134	<	4.5	
14-Sep-20	SURFACE WATER	CS-137	<	2.2	Duplicate
14-Sep-20	SURFACE WATER	CS-137	<	3.6	
14-Sep-20	SURFACE WATER	BA-LA-140	<	3.5	Duplicate
14-Sep-20	SURFACE WATER	BA-LA-140	<	4.6	
14-Sep-20	SURFACE WATER	H-3	<	159.0	Duplicate
14-Sep-20	SURFACE WATER	H-3	<	159.0	
12-Oct-20	SURFACE WATER	MN-54	<	2.1	

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
12-Oct-20	SURFACE WATER	CO-58	<	4.3	
12-Oct-20	SURFACE WATER	FE-59	<	6.0	
12-Oct-20	SURFACE WATER	CO-60	<	3.3	
12-Oct-20	SURFACE WATER	ZN-65	<	7.7	
12-Oct-20	SURFACE WATER	ZR-NB-95	<	2.3	
12-Oct-20	SURFACE WATER	I-131	<	7.4	
12-Oct-20	SURFACE WATER	CS-134	<	4.7	
12-Oct-20	SURFACE WATER	CS-137	<	3.6	
12-Oct-20	SURFACE WATER	BA-LA-140	<	2.4	
12-Oct-20	SURFACE WATER	H-3	<	157.0	
16-Nov-20	SURFACE WATER	MN-54	<	3.3	
16-Nov-20	SURFACE WATER	CO-58	<	4.7	
16-Nov-20	SURFACE WATER	FE-59	<	8.1	
16-Nov-20	SURFACE WATER	CO-60	<	2.6	
16-Nov-20	SURFACE WATER	ZN-65	<	4.3	
16-Nov-20	SURFACE WATER	ZR-NB-95	<	6.1	
16-Nov-20	SURFACE WATER	I-131	<	9.6	
16-Nov-20	SURFACE WATER	CS-134	<	5.2	
16-Nov-20	SURFACE WATER	CS-137	<	3.2	
16-Nov-20	SURFACE WATER	BA-LA-140	<	3.1	
16-Nov-20	SURFACE WATER	H-3	<	157.0	
16-Nov-20	SURFACE WATER	FE-55	<	160.0	
07-Dec-20	SURFACE WATER	MN-54	<	3.0	
07-Dec-20	SURFACE WATER	CO-58	<	2.7	
07-Dec-20	SURFACE WATER	FE-59	<	4.7	
07-Dec-20	SURFACE WATER	CO-60	<	3.5	
07-Dec-20	SURFACE WATER	ZN-65	<	11.4	
07-Dec-20	SURFACE WATER	ZR-NB-95	<	6.0	
07-Dec-20	SURFACE WATER	I-131	<	14.5	
07-Dec-20	SURFACE WATER	CS-134	<	5.2	
07-Dec-20	SURFACE WATER	CS-137	<	3.2	
07-Dec-20	SURFACE WATER	BA-LA-140	<	8.8	
07-Dec-20	SURFACE WATER	H-3	<	160.0	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
13-Jan-20	SURFACE WATER	MN-54	<	2.3	
13-Jan-20	SURFACE WATER	CO-58	<	1.9	
13-Jan-20	SURFACE WATER	FE-59	<	3.2	
13-Jan-20	SURFACE WATER	CO-60	<	2.4	
13-Jan-20	SURFACE WATER	ZN-65	<	6.1	
13-Jan-20	SURFACE WATER	ZR-NB-95	<	2.7	
13-Jan-20	SURFACE WATER	I-131	<	3.8	
13-Jan-20	SURFACE WATER	CS-134	<	2.8	
13-Jan-20	SURFACE WATER	CS-137	<	2.2	
13-Jan-20	SURFACE WATER	BA-LA-140	<	2.7	
13-Jan-20	SURFACE WATER	H-3	10,821 +/-	318.0	
10-Feb-20	SURFACE WATER	MN-54	<	1.7	
10-Feb-20	SURFACE WATER	CO-58	<	2.7	
10-Feb-20	SURFACE WATER	FE-59	<	3.2	
10-Feb-20	SURFACE WATER	CO-60	<	1.7	
10-Feb-20	SURFACE WATER	ZN-65	<	2.5	
10-Feb-20	SURFACE WATER	ZR-NB-95	<	1.7	
10-Feb-20	SURFACE WATER	I-131	<	2.1	
10-Feb-20	SURFACE WATER	CS-134	<	2.4	
10-Feb-20	SURFACE WATER	CS-137	<	1.6	
10-Feb-20	SURFACE WATER	BA-LA-140	<	2.2	
10-Feb-20	SURFACE WATER	H-3	10,618 +/-	315.0	
10-Feb-20	SURFACE WATER	FE-55	<	488.0	
09-Mar-20	SURFACE WATER	MN-54	<	2.5	
09-Mar-20	SURFACE WATER	CO-58	<	2.2	
09-Mar-20	SURFACE WATER	FE-59	<	5.6	
09-Mar-20	SURFACE WATER	CO-60	<	1.8	
09-Mar-20	SURFACE WATER	ZN-65	<	4.3	
09-Mar-20	SURFACE WATER	ZR-NB-95	<	2.6	
09-Mar-20	SURFACE WATER	I-131	<	4.2	
09-Mar-20	SURFACE WATER	CS-134	<	3.7	
09-Mar-20	SURFACE WATER	CS-137	<	2.7	
09-Mar-20	SURFACE WATER	BA-LA-140	<	1.4	
09-Mar-20	SURFACE WATER	H-3	10,714 +/-	316.0	
06-Apr-20	SURFACE WATER	MN-54	<	2.3	
06-Apr-20	SURFACE WATER	CO-58	<	2.7	
06-Apr-20	SURFACE WATER	FE-59	<	4.4	
06-Apr-20	SURFACE WATER	CO-60	<	3.2	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
06-Apr-20	SURFACE WATER	ZN-65	<	4.2	
06-Apr-20	SURFACE WATER	ZR-NB-95	<	1.5	
06-Apr-20	SURFACE WATER	I-131	<	2.0	
06-Apr-20	SURFACE WATER	CS-134	<	4.3	
06-Apr-20	SURFACE WATER	CS-137	<	3.7	
06-Apr-20	SURFACE WATER	BA-LA-140	<	1.8	
06-Apr-20	SURFACE WATER	H-3	10,682 +/-	316.0	
11-May-20	SURFACE WATER	MN-54	<	3.6	
11-May-20	SURFACE WATER	CO-58	<	3.0	
11-May-20	SURFACE WATER	FE-59	<	4.4	
11-May-20	SURFACE WATER	CO-60	<	1.8	
11-May-20	SURFACE WATER	ZN-65	<	3.4	
11-May-20	SURFACE WATER	ZR-NB-95	<	3.6	
11-May-20	SURFACE WATER	I-131	<	4.6	
11-May-20	SURFACE WATER	CS-134	<	3.8	
11-May-20	SURFACE WATER	CS-137	<	2.5	
11-May-20	SURFACE WATER	BA-LA-140	<	3.3	
11-May-20	SURFACE WATER	H-3	10,020 +/-	306.0	
11-May-20	SURFACE WATER	FE-55	<	130.0	
08-Jun-20	SURFACE WATER	MN-54	<	3.5	
08-Jun-20	SURFACE WATER	CO-58	<	5.1	
08-Jun-20	SURFACE WATER	FE-59	<	7.2	
08-Jun-20	SURFACE WATER	CO-60	<	2.8	
08-Jun-20	SURFACE WATER	ZN-65	<	7.9	
08-Jun-20	SURFACE WATER	ZR-NB-95	<	3.4	
08-Jun-20	SURFACE WATER	I-131	<	7.4	
08-Jun-20	SURFACE WATER	CS-134	<	4.3	
08-Jun-20	SURFACE WATER	CS-137	<	4.0	
08-Jun-20	SURFACE WATER	BA-LA-140	<	5.1	
08-Jun-20	SURFACE WATER	H-3	9,461 +/-	301.0	
07-Jul-20	SURFACE WATER	MN-54	<	2.6	
07-Jul-20	SURFACE WATER	CO-58	<	3.7	
07-Jul-20	SURFACE WATER	FE-59	<	7.5	
07-Jul-20	SURFACE WATER	CO-60	<	3.6	
07-Jul-20	SURFACE WATER	ZN-65	<	3.6	
07-Jul-20	SURFACE WATER	ZR-NB-95	<	3.1	
07-Jul-20	SURFACE WATER	I-131	<	6.6	
07-Jul-20	SURFACE WATER	CS-134	<	4.9	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
07-Jul-20	SURFACE WATER	CS-137	<	2.1	
07-Jul-20	SURFACE WATER	BA-LA-140	<	4.2	
07-Jul-20	SURFACE WATER	H-3	8,972 +/-	293.0	
10-Aug-20	SURFACE WATER	MN-54	<	2.6	
10-Aug-20	SURFACE WATER	CO-58	<	2.8	
10-Aug-20	SURFACE WATER	FE-59	<	5.1	
10-Aug-20	SURFACE WATER	CO-60	<	2.4	
10-Aug-20	SURFACE WATER	ZN-65	<	4.2	
10-Aug-20	SURFACE WATER	ZR-NB-95	<	3.2	
10-Aug-20	SURFACE WATER	I-131	<	5.2	
10-Aug-20	SURFACE WATER	CS-134	<	4.6	
10-Aug-20	SURFACE WATER	CS-137	<	3.2	
10-Aug-20	SURFACE WATER	BA-LA-140	<	6.2	
10-Aug-20	SURFACE WATER	H-3	9,554 +/-	304.0	
10-Aug-20	SURFACE WATER	FE-55	<	133.0	
14-Sep-20	SURFACE WATER	MN-54	<	4.3	
14-Sep-20	SURFACE WATER	CO-58	<	3.8	
14-Sep-20	SURFACE WATER	FE-59	<	5.6	
14-Sep-20	SURFACE WATER	CO-60	<	3.9	
14-Sep-20	SURFACE WATER	ZN-65	<	4.8	
14-Sep-20	SURFACE WATER	ZR-NB-95	<	5.1	
14-Sep-20	SURFACE WATER	I-131	<	9.1	
14-Sep-20	SURFACE WATER	CS-134	<	5.4	
14-Sep-20	SURFACE WATER	CS-137	<	5.5	
14-Sep-20	SURFACE WATER	BA-LA-140	<	3.4	
14-Sep-20	SURFACE WATER	H-3	11,437 +/-	329.0	
12-Oct-20	SURFACE WATER	MN-54	<	4.9	
12-Oct-20	SURFACE WATER	CO-58	<	4.6	
12-Oct-20	SURFACE WATER	FE-59	<	8.2	
12-Oct-20	SURFACE WATER	CO-60	<	2.9	
12-Oct-20	SURFACE WATER	ZN-65	<	8.8	
12-Oct-20	SURFACE WATER	ZR-NB-95	<	4.3	
12-Oct-20	SURFACE WATER	I-131	<	5.9	
12-Oct-20	SURFACE WATER	CS-134	<	5.1	
12-Oct-20	SURFACE WATER	CS-137	<	4.9	
12-Oct-20	SURFACE WATER	BA-LA-140	<	4.0	
12-Oct-20	SURFACE WATER	H-3	11,275 +/-	327.0	
16-Nov-20	SURFACE WATER	MN-54	<	3.2	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
16-Nov-20	SURFACE WATER	CO-58	<	4.8	
16-Nov-20	SURFACE WATER	FE-59	<	4.3	
16-Nov-20	SURFACE WATER	CO-60	<	2.7	
16-Nov-20	SURFACE WATER	ZN-65	<	8.8	
16-Nov-20	SURFACE WATER	ZR-NB-95	<	5.6	
16-Nov-20	SURFACE WATER	I-131	<	8.7	
16-Nov-20	SURFACE WATER	CS-134	<	5.1	
16-Nov-20	SURFACE WATER	CS-137	<	5.4	
16-Nov-20	SURFACE WATER	BA-LA-140	<	3.9	
16-Nov-20	SURFACE WATER	H-3	11,618 +/-	330.0	
16-Nov-20	SURFACE WATER	FE-55	<	166.0	
07-Dec-20	SURFACE WATER	MN-54	<	5.5	
07-Dec-20	SURFACE WATER	CO-58	<	5.2	
07-Dec-20	SURFACE WATER	FE-59	<	4.6	
07-Dec-20	SURFACE WATER	CO-60	<	3.3	
07-Dec-20	SURFACE WATER	ZN-65	<	10.0	
07-Dec-20	SURFACE WATER	ZR-NB-95	<	3.1	
07-Dec-20	SURFACE WATER	I-131	<	9.6	
07-Dec-20	SURFACE WATER	CS-134	<	5.5	
07-Dec-20	SURFACE WATER	CS-137	<	5.4	
07-Dec-20	SURFACE WATER	BA-LA-140	<	5.7	
07-Dec-20	SURFACE WATER	H-3	11,991 +/-	335.0	

Exposure Pathway - Waterborne
Ground Water
Location: B-12

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Feb-20	GROUND WATER	MN-54	<	4.4	
10-Feb-20	GROUND WATER	CO-58	<	3.3	
10-Feb-20	GROUND WATER	FE-59	<	6.9	
10-Feb-20	GROUND WATER	CO-60	<	1.8	
10-Feb-20	GROUND WATER	ZN-65	<	9.5	
10-Feb-20	GROUND WATER	ZR-NB-95	<	4.4	
10-Feb-20	GROUND WATER	I-131	<	0.299	
10-Feb-20	GROUND WATER	CS-134	<	4.4	
10-Feb-20	GROUND WATER	CS-137	<	4.1	
10-Feb-20	GROUND WATER	BA-LA-140	<	3.9	
10-Feb-20	GROUND WATER	H-3	<	154.0	
11-May-20	GROUND WATER	MN-54	<	2.4	
11-May-20	GROUND WATER	CO-58	<	2.5	
11-May-20	GROUND WATER	FE-59	<	5.7	
11-May-20	GROUND WATER	CO-60	<	1.7	
11-May-20	GROUND WATER	ZN-65	<	5.9	
11-May-20	GROUND WATER	ZR-NB-95	<	3.1	
11-May-20	GROUND WATER	I-131	<	0.239	
11-May-20	GROUND WATER	CS-134	<	3.7	
11-May-20	GROUND WATER	CS-137	<	2.4	
11-May-20	GROUND WATER	BA-LA-140	<	3.5	
11-May-20	GROUND WATER	H-3	<	153.0	
10-Aug-20	GROUND WATER	MN-54	<	4.2	
10-Aug-20	GROUND WATER	CO-58	<	3.2	
10-Aug-20	GROUND WATER	FE-59	<	4.7	
10-Aug-20	GROUND WATER	CO-60	<	3.2	
10-Aug-20	GROUND WATER	ZN-65	<	2.3	
10-Aug-20	GROUND WATER	ZR-NB-95	<	3.8	
10-Aug-20	GROUND WATER	I-131	<	0.231	
10-Aug-20	GROUND WATER	CS-134	<	4.6	
10-Aug-20	GROUND WATER	CS-137	<	3.2	
10-Aug-20	GROUND WATER	BA-LA-140	<	1.7	
10-Aug-20	GROUND WATER	H-3	<	158.0	
16-Nov-20	GROUND WATER	MN-54	<	1.9	
16-Nov-20	GROUND WATER	CO-58	<	1.4	
16-Nov-20	GROUND WATER	FE-59	<	2.3	
16-Nov-20	GROUND WATER	CO-60	<	2.3	
16-Nov-20	GROUND WATER	ZN-65	<	3.8	

Exposure Pathway - Waterborne
Ground Water
Location: B-12

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
16-Nov-20	GROUND WATER	ZR-NB-95	<	3.3	
16-Nov-20	GROUND WATER	I-131	<	0.225	
16-Nov-20	GROUND WATER	CS-134	<	3.7	
16-Nov-20	GROUND WATER	CS-137	<	2.1	
16-Nov-20	GROUND WATER	BA-LA-140	<	3.0	
16-Nov-20	GROUND WATER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: C-10

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Feb-20	GROUND WATER	MN-54	<	3.2	
10-Feb-20	GROUND WATER	CO-58	<	2.9	
10-Feb-20	GROUND WATER	FE-59	<	7.4	
10-Feb-20	GROUND WATER	CO-60	<	2.1	
10-Feb-20	GROUND WATER	ZN-65	<	5.9	
10-Feb-20	GROUND WATER	ZR-NB-95	<	3.7	
10-Feb-20	GROUND WATER	I-131	<	0.284	
10-Feb-20	GROUND WATER	CS-134	<	3.7	
10-Feb-20	GROUND WATER	CS-137	<	3.6	
10-Feb-20	GROUND WATER	BA-LA-140	<	2.2	
10-Feb-20	GROUND WATER	H-3	<	154.0	
11-May-20	GROUND WATER	MN-54	<	1.9	
11-May-20	GROUND WATER	CO-58	<	2.9	
11-May-20	GROUND WATER	FE-59	<	4.5	
11-May-20	GROUND WATER	CO-60	<	2.1	
11-May-20	GROUND WATER	ZN-65	<	4.4	
11-May-20	GROUND WATER	ZR-NB-95	<	3.4	
11-May-20	GROUND WATER	I-131	<	0.257	
11-May-20	GROUND WATER	CS-134	<	2.7	
11-May-20	GROUND WATER	CS-137	<	3.4	
11-May-20	GROUND WATER	BA-LA-140	<	2.8	
11-May-20	GROUND WATER	H-3	<	153.0	
10-Aug-20	GROUND WATER	MN-54	<	4.7	
10-Aug-20	GROUND WATER	CO-58	<	3.1	
10-Aug-20	GROUND WATER	FE-59	<	4.5	
10-Aug-20	GROUND WATER	CO-60	<	3.3	
10-Aug-20	GROUND WATER	ZN-65	<	12.7	
10-Aug-20	GROUND WATER	ZR-NB-95	<	7.3	
10-Aug-20	GROUND WATER	I-131	<	0.49	
10-Aug-20	GROUND WATER	CS-134	<	5.7	
10-Aug-20	GROUND WATER	CS-137	<	3.9	
10-Aug-20	GROUND WATER	BA-LA-140	<	5.6	
10-Aug-20	GROUND WATER	H-3	<	158.0	
16-Nov-20	GROUND WATER	MN-54	<	4.1	
16-Nov-20	GROUND WATER	CO-58	<	5.5	
16-Nov-20	GROUND WATER	FE-59	<	7.3	
16-Nov-20	GROUND WATER	CO-60	<	4.3	
16-Nov-20	GROUND WATER	ZN-65	<	11.7	

Exposure Pathway - Waterborne
Ground Water
Location: C-10

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
16-Nov-20	GROUND WATER	ZR-NB-95	<	3.7	
16-Nov-20	GROUND WATER	I-131	<	0.236	
16-Nov-20	GROUND WATER	CS-134	<	6.1	
16-Nov-20	GROUND WATER	CS-137	<	5.7	
16-Nov-20	GROUND WATER	BA-LA-140	<	5.0	
16-Nov-20	GROUND WATER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: C-49

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Feb-20	GROUND WATER	MN-54	<	3.3	
10-Feb-20	GROUND WATER	CO-58	<	2.1	
10-Feb-20	GROUND WATER	FE-59	<	5.3	
10-Feb-20	GROUND WATER	CO-60	<	1.7	
10-Feb-20	GROUND WATER	ZN-65	<	7.4	
10-Feb-20	GROUND WATER	ZR-NB-95	<	2.9	
10-Feb-20	GROUND WATER	I-131	<	0.266	
10-Feb-20	GROUND WATER	CS-134	<	3.4	
10-Feb-20	GROUND WATER	CS-137	<	2.6	
10-Feb-20	GROUND WATER	BA-LA-140	<	2.0	
10-Feb-20	GROUND WATER	H-3	<	154.0	
11-May-20	GROUND WATER	MN-54	<	1.9	
11-May-20	GROUND WATER	CO-58	<	2.0	
11-May-20	GROUND WATER	FE-59	<	2.8	
11-May-20	GROUND WATER	CO-60	<	1.7	
11-May-20	GROUND WATER	ZN-65	<	3.0	
11-May-20	GROUND WATER	ZR-NB-95	<	1.6	
11-May-20	GROUND WATER	I-131	<	0.262	
11-May-20	GROUND WATER	CS-134	<	2.3	
11-May-20	GROUND WATER	CS-137	<	2.7	
11-May-20	GROUND WATER	BA-LA-140	<	2.0	
11-May-20	GROUND WATER	H-3	<	153.0	
10-Aug-20	GROUND WATER	MN-54	<	2.4	
10-Aug-20	GROUND WATER	CO-58	<	2.9	
10-Aug-20	GROUND WATER	FE-59	<	4.5	
10-Aug-20	GROUND WATER	CO-60	<	1.9	
10-Aug-20	GROUND WATER	ZN-65	<	5.1	
10-Aug-20	GROUND WATER	ZR-NB-95	<	4.4	
10-Aug-20	GROUND WATER	I-131	<	0.337	
10-Aug-20	GROUND WATER	CS-134	<	3.4	
10-Aug-20	GROUND WATER	CS-137	<	3.2	
10-Aug-20	GROUND WATER	BA-LA-140	<	2.2	
10-Aug-20	GROUND WATER	H-3	<	158.0	
16-Nov-20	GROUND WATER	MN-54	<	2.3	
16-Nov-20	GROUND WATER	CO-58	<	2.5	
16-Nov-20	GROUND WATER	FE-59	<	3.9	
16-Nov-20	GROUND WATER	CO-60	<	1.7	
16-Nov-20	GROUND WATER	ZN-65	<	4.9	

Exposure Pathway - Waterborne
Ground Water
Location: C-49

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
16-Nov-20	GROUND WATER	ZR-NB-95	<	2.6	
16-Nov-20	GROUND WATER	I-131	<	0.438	
16-Nov-20	GROUND WATER	CS-134	<	3.2	
16-Nov-20	GROUND WATER	CS-137	<	3.8	
16-Nov-20	GROUND WATER	BA-LA-140	<	1.2	
16-Nov-20	GROUND WATER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: F-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Feb-20	GROUND WATER	MN-54	<	1.7	Duplicate
10-Feb-20	GROUND WATER	MN-54	<	3.7	
10-Feb-20	GROUND WATER	CO-58	<	1.1	Duplicate
10-Feb-20	GROUND WATER	CO-58	<	2.8	
10-Feb-20	GROUND WATER	FE-59	<	6.9	
10-Feb-20	GROUND WATER	FE-59	<	5.4	Duplicate
10-Feb-20	GROUND WATER	CO-60	<	2.9	
10-Feb-20	GROUND WATER	CO-60	<	2.0	Duplicate
10-Feb-20	GROUND WATER	ZN-65	<	6.7	
10-Feb-20	GROUND WATER	ZN-65	<	3.7	Duplicate
10-Feb-20	GROUND WATER	ZR-NB-95	<	3.9	
10-Feb-20	GROUND WATER	ZR-NB-95	<	1.9	Duplicate
10-Feb-20	GROUND WATER	I-131	<	0.377	
10-Feb-20	GROUND WATER	I-131	<	0.329	Duplicate
10-Feb-20	GROUND WATER	CS-134	<	4.2	
10-Feb-20	GROUND WATER	CS-134	<	3.7	Duplicate
10-Feb-20	GROUND WATER	CS-137	<	1.9	
10-Feb-20	GROUND WATER	CS-137	<	2.7	Duplicate
10-Feb-20	GROUND WATER	BA-LA-140	<	2.1	
10-Feb-20	GROUND WATER	BA-LA-140	<	1.6	Duplicate
10-Feb-20	GROUND WATER	H-3	<	154.0	
10-Feb-20	GROUND WATER	H-3	<	154.0	Duplicate
11-May-20	GROUND WATER	MN-54	<	3.9	
11-May-20	GROUND WATER	CO-58	<	3.8	
11-May-20	GROUND WATER	FE-59	<	6.8	
11-May-20	GROUND WATER	CO-60	<	3.2	
11-May-20	GROUND WATER	ZN-65	<	8.0	
11-May-20	GROUND WATER	ZR-NB-95	<	3.3	
11-May-20	GROUND WATER	I-131	<	0.229	
11-May-20	GROUND WATER	CS-134	<	3.1	
11-May-20	GROUND WATER	CS-137	<	3.5	
11-May-20	GROUND WATER	BA-LA-140	<	5.0	
11-May-20	GROUND WATER	H-3	<	153.0	
10-Aug-20	GROUND WATER	MN-54	<	2.3	
10-Aug-20	GROUND WATER	CO-58	<	2.7	
10-Aug-20	GROUND WATER	FE-59	<	6.5	
10-Aug-20	GROUND WATER	CO-60	<	3.3	
10-Aug-20	GROUND WATER	ZN-65	<	3.0	

Exposure Pathway - Waterborne
Ground Water
Location: F-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Aug-20	GROUND WATER	ZR-NB-95	<	3.5	
10-Aug-20	GROUND WATER	I-131	<	0.277	
10-Aug-20	GROUND WATER	CS-134	<	4.3	
10-Aug-20	GROUND WATER	CS-137	<	3.3	
10-Aug-20	GROUND WATER	BA-LA-140	<	3.8	
10-Aug-20	GROUND WATER	H-3	<	158.0	
16-Nov-20	GROUND WATER	MN-54	<	2.2	
16-Nov-20	GROUND WATER	CO-58	<	1.8	
16-Nov-20	GROUND WATER	FE-59	<	5.2	
16-Nov-20	GROUND WATER	CO-60	<	3.1	
16-Nov-20	GROUND WATER	ZN-65	<	2.4	
16-Nov-20	GROUND WATER	ZR-NB-95	<	3.6	
16-Nov-20	GROUND WATER	I-131	<	0.388	
16-Nov-20	GROUND WATER	CS-134	<	3.7	
16-Nov-20	GROUND WATER	CS-137	<	2.8	
16-Nov-20	GROUND WATER	BA-LA-140	<	3.5	
16-Nov-20	GROUND WATER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: G-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Feb-20	GROUND WATER	MN-54	<	2.3	
10-Feb-20	GROUND WATER	CO-58	<	2.7	
10-Feb-20	GROUND WATER	FE-59	<	9.2	
10-Feb-20	GROUND WATER	CO-60	<	2.9	
10-Feb-20	GROUND WATER	ZN-65	<	11.5	
10-Feb-20	GROUND WATER	ZR-NB-95	<	6.3	
10-Feb-20	GROUND WATER	I-131	<	0.252	
10-Feb-20	GROUND WATER	CS-134	<	4.6	
10-Feb-20	GROUND WATER	CS-137	<	5.1	
10-Feb-20	GROUND WATER	BA-LA-140	<	4.2	
10-Feb-20	GROUND WATER	H-3	<	154.0	
11-May-20	GROUND WATER	MN-54	<	4.8	
11-May-20	GROUND WATER	CO-58	<	3.8	
11-May-20	GROUND WATER	FE-59	<	2.8	
11-May-20	GROUND WATER	CO-60	<	2.8	
11-May-20	GROUND WATER	ZN-65	<	7.8	
11-May-20	GROUND WATER	ZR-NB-95	<	2.8	
11-May-20	GROUND WATER	I-131	<	0.219	
11-May-20	GROUND WATER	CS-134	<	3.7	
11-May-20	GROUND WATER	CS-137	<	4.0	
11-May-20	GROUND WATER	BA-LA-140	<	5.1	
11-May-20	GROUND WATER	H-3	<	153.0	
10-Aug-20	GROUND WATER	MN-54	<	4.7	
10-Aug-20	GROUND WATER	MN-54	<	4.9	Duplicate
10-Aug-20	GROUND WATER	CO-58	<	3.1	
10-Aug-20	GROUND WATER	CO-58	<	2.5	Duplicate
10-Aug-20	GROUND WATER	FE-59	<	3.7	
10-Aug-20	GROUND WATER	FE-59	<	4.9	Duplicate
10-Aug-20	GROUND WATER	CO-60	<	3.4	
10-Aug-20	GROUND WATER	CO-60	<	3.3	Duplicate
10-Aug-20	GROUND WATER	ZN-65	<	6.8	Duplicate
10-Aug-20	GROUND WATER	ZN-65	<	7.3	
10-Aug-20	GROUND WATER	ZR-NB-95	<	4.2	Duplicate
10-Aug-20	GROUND WATER	ZR-NB-95	<	5.5	
10-Aug-20	GROUND WATER	I-131	<	0.468	Duplicate
10-Aug-20	GROUND WATER	I-131	<	0.302	
10-Aug-20	GROUND WATER	CS-134	<	4.8	Duplicate
10-Aug-20	GROUND WATER	CS-134	<	4.4	

Exposure Pathway - Waterborne
Ground Water
Location: G-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Aug-20	GROUND WATER	CS-137	<	4.3	
10-Aug-20	GROUND WATER	CS-137	<	3.1	Duplicate
10-Aug-20	GROUND WATER	BA-LA-140	<	4.4	Duplicate
10-Aug-20	GROUND WATER	BA-LA-140	<	4.9	
10-Aug-20	GROUND WATER	H-3	<	158.0	
10-Aug-20	GROUND WATER	H-3	<	158.0	Duplicate
16-Nov-20	GROUND WATER	MN-54	<	4.0	
16-Nov-20	GROUND WATER	CO-58	<	2.5	
16-Nov-20	GROUND WATER	FE-59	<	5.7	
16-Nov-20	GROUND WATER	CO-60	<	2.7	
16-Nov-20	GROUND WATER	ZN-65	<	6.2	
16-Nov-20	GROUND WATER	ZR-NB-95	<	4.5	
16-Nov-20	GROUND WATER	I-131	<	0.425	
16-Nov-20	GROUND WATER	CS-134	<	5.2	
16-Nov-20	GROUND WATER	CS-137	<	4.1	
16-Nov-20	GROUND WATER	BA-LA-140	<	4.2	
16-Nov-20	GROUND WATER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: J-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Feb-20	GROUND WATER	MN-54	<	2.3	
10-Feb-20	GROUND WATER	CO-58	<	3.7	
10-Feb-20	GROUND WATER	FE-59	<	8.4	
10-Feb-20	GROUND WATER	CO-60	<	2.4	
10-Feb-20	GROUND WATER	ZN-65	<	7.3	
10-Feb-20	GROUND WATER	ZR-NB-95	<	4.8	
10-Feb-20	GROUND WATER	I-131	<	0.476	
10-Feb-20	GROUND WATER	CS-134	<	4.1	
10-Feb-20	GROUND WATER	CS-137	<	3.0	
10-Feb-20	GROUND WATER	BA-LA-140	<	3.7	
10-Feb-20	GROUND WATER	H-3	<	154.0	
11-May-20	GROUND WATER	MN-54	<	3.2	
11-May-20	GROUND WATER	CO-58	<	2.1	
11-May-20	GROUND WATER	FE-59	<	4.0	
11-May-20	GROUND WATER	CO-60	<	2.0	
11-May-20	GROUND WATER	ZN-65	<	3.1	
11-May-20	GROUND WATER	ZR-NB-95	<	1.6	
11-May-20	GROUND WATER	I-131	<	0.226	
11-May-20	GROUND WATER	CS-134	<	3.8	
11-May-20	GROUND WATER	CS-137	<	2.5	
11-May-20	GROUND WATER	BA-LA-140	<	3.2	
11-May-20	GROUND WATER	H-3	<	153.0	
10-Aug-20	GROUND WATER	MN-54	<	2.0	
10-Aug-20	GROUND WATER	CO-58	<	2.4	
10-Aug-20	GROUND WATER	FE-59	<	2.6	
10-Aug-20	GROUND WATER	CO-60	<	2.6	
10-Aug-20	GROUND WATER	ZN-65	<	3.4	
10-Aug-20	GROUND WATER	ZR-NB-95	<	1.6	
10-Aug-20	GROUND WATER	I-131	<	0.433	
10-Aug-20	GROUND WATER	CS-134	<	3.2	
10-Aug-20	GROUND WATER	CS-137	<	2.2	
10-Aug-20	GROUND WATER	BA-LA-140	<	3.3	
10-Aug-20	GROUND WATER	H-3	<	158.0	
16-Nov-20	GROUND WATER	MN-54	<	3.3	
16-Nov-20	GROUND WATER	CO-58	<	2.9	
16-Nov-20	GROUND WATER	FE-59	<	3.5	
16-Nov-20	GROUND WATER	CO-60	<	3.1	
16-Nov-20	GROUND WATER	ZN-65	<	8.4	

Exposure Pathway - Waterborne
Ground Water
Location: J-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
16-Nov-20	GROUND WATER	ZR-NB-95	<	2.3	
16-Nov-20	GROUND WATER	I-131	<	0.247	
16-Nov-20	GROUND WATER	CS-134	<	5.2	
16-Nov-20	GROUND WATER	CS-137	<	5.4	
16-Nov-20	GROUND WATER	BA-LA-140	<	1.7	
16-Nov-20	GROUND WATER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: J-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Feb-20	GROUND WATER	MN-54	<	1.7	
10-Feb-20	GROUND WATER	CO-58	<	2.4	
10-Feb-20	GROUND WATER	FE-59	<	3.4	
10-Feb-20	GROUND WATER	CO-60	<	2.0	
10-Feb-20	GROUND WATER	ZN-65	<	4.8	
10-Feb-20	GROUND WATER	ZR-NB-95	<	3.1	
10-Feb-20	GROUND WATER	I-131	<	0.353	
10-Feb-20	GROUND WATER	CS-134	<	2.9	
10-Feb-20	GROUND WATER	CS-137	<	2.5	
10-Feb-20	GROUND WATER	BA-LA-140	<	2.0	
10-Feb-20	GROUND WATER	H-3	<	154.0	
11-May-20	GROUND WATER	MN-54	<	4.1	
11-May-20	GROUND WATER	CO-58	<	2.9	
11-May-20	GROUND WATER	FE-59	<	4.0	
11-May-20	GROUND WATER	CO-60	<	2.2	
11-May-20	GROUND WATER	ZN-65	<	6.6	
11-May-20	GROUND WATER	ZR-NB-95	<	2.9	
11-May-20	GROUND WATER	I-131	<	0.251	
11-May-20	GROUND WATER	CS-134	<	4.7	
11-May-20	GROUND WATER	CS-137	<	3.7	
11-May-20	GROUND WATER	BA-LA-140	<	3.8	
11-May-20	GROUND WATER	H-3	<	153.0	
10-Aug-20	GROUND WATER	MN-54	<	3.0	
10-Aug-20	GROUND WATER	CO-58	<	2.0	
10-Aug-20	GROUND WATER	FE-59	<	5.7	
10-Aug-20	GROUND WATER	CO-60	<	1.7	
10-Aug-20	GROUND WATER	ZN-65	<	6.6	
10-Aug-20	GROUND WATER	ZR-NB-95	<	3.8	
10-Aug-20	GROUND WATER	I-131	<	0.264	
10-Aug-20	GROUND WATER	CS-134	<	3.2	
10-Aug-20	GROUND WATER	CS-137	<	3.9	
10-Aug-20	GROUND WATER	BA-LA-140	<	2.4	
10-Aug-20	GROUND WATER	H-3	<	158.0	
16-Nov-20	GROUND WATER	MN-54	<	2.2	
16-Nov-20	GROUND WATER	CO-58	<	1.9	
16-Nov-20	GROUND WATER	FE-59	<	5.2	
16-Nov-20	GROUND WATER	CO-60	<	2.0	
16-Nov-20	GROUND WATER	ZN-65	<	5.5	

Exposure Pathway - Waterborne
Ground Water
Location: J-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
16-Nov-20	GROUND WATER	ZR-NB-95	<	3.8	
16-Nov-20	GROUND WATER	I-131	<	0.209	
16-Nov-20	GROUND WATER	CS-134	<	3.2	
16-Nov-20	GROUND WATER	CS-137	<	2.9	
16-Nov-20	GROUND WATER	BA-LA-140	<	1.4	
16-Nov-20	GROUND WATER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: MW-06A

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	4.4	
05-Mar-20	LAKE PERIMETER	CO-58	<	2.9	
05-Mar-20	LAKE PERIMETER	FE-59	<	3.4	
05-Mar-20	LAKE PERIMETER	CO-60	<	3.6	
05-Mar-20	LAKE PERIMETER	ZN-65	<	3.2	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	3.5	
05-Mar-20	LAKE PERIMETER	I-131	<	0.288	
05-Mar-20	LAKE PERIMETER	CS-134	<	3.0	
05-Mar-20	LAKE PERIMETER	CS-137	<	3.2	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	2.8	
05-Mar-20	LAKE PERIMETER	H-3	<	157.0	
20-May-20	LAKE PERIMETER	MN-54	<	2.7	
20-May-20	LAKE PERIMETER	CO-58	<	1.9	
20-May-20	LAKE PERIMETER	FE-59	<	6.2	
20-May-20	LAKE PERIMETER	CO-60	<	2.4	
20-May-20	LAKE PERIMETER	ZN-65	<	2.7	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	3.0	
20-May-20	LAKE PERIMETER	I-131	<	0.313	
20-May-20	LAKE PERIMETER	CS-134	<	3.8	
20-May-20	LAKE PERIMETER	CS-137	<	3.6	
20-May-20	LAKE PERIMETER	BA-LA-140	<	2.3	
20-May-20	LAKE PERIMETER	H-3	<	158.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	4.2	
15-Sep-20	LAKE PERIMETER	CO-58	<	4.5	
15-Sep-20	LAKE PERIMETER	FE-59	<	7.3	
15-Sep-20	LAKE PERIMETER	CO-60	<	3.5	
15-Sep-20	LAKE PERIMETER	ZN-65	<	10.2	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	5.0	
15-Sep-20	LAKE PERIMETER	I-131	<	0.454	
15-Sep-20	LAKE PERIMETER	CS-134	<	5.7	
15-Sep-20	LAKE PERIMETER	CS-137	<	4.6	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	2.4	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	3.6	
14-Oct-20	LAKE PERIMETER	CO-58	<	2.1	
14-Oct-20	LAKE PERIMETER	FE-59	<	6.5	
14-Oct-20	LAKE PERIMETER	CO-60	<	1.5	
14-Oct-20	LAKE PERIMETER	ZN-65	<	2.2	

Exposure Pathway - Waterborne
Ground Water
Location: MW-06A

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	2.8	
14-Oct-20	LAKE PERIMETER	I-131	<	0.304	
14-Oct-20	LAKE PERIMETER	CS-134	<	3.8	
14-Oct-20	LAKE PERIMETER	CS-137	<	2.3	
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	3.0	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: MW-06C

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	2.3	
05-Mar-20	LAKE PERIMETER	CO-58	<	2.4	
05-Mar-20	LAKE PERIMETER	FE-59	<	5.6	
05-Mar-20	LAKE PERIMETER	CO-60	<	2.7	
05-Mar-20	LAKE PERIMETER	ZN-65	<	3.7	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	3.5	
05-Mar-20	LAKE PERIMETER	I-131	<	0.337	
05-Mar-20	LAKE PERIMETER	CS-134	<	4.1	
05-Mar-20	LAKE PERIMETER	CS-137	<	2.6	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	2.7	
05-Mar-20	LAKE PERIMETER	H-3	<	157.0	
20-May-20	LAKE PERIMETER	MN-54	<	1.1	
20-May-20	LAKE PERIMETER	CO-58	<	2.1	
20-May-20	LAKE PERIMETER	FE-59	<	3.9	
20-May-20	LAKE PERIMETER	CO-60	<	2.4	
20-May-20	LAKE PERIMETER	ZN-65	<	1.2	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	1.9	
20-May-20	LAKE PERIMETER	I-131	<	0.365	
20-May-20	LAKE PERIMETER	CS-134	<	2.3	
20-May-20	LAKE PERIMETER	CS-137	<	2.5	
20-May-20	LAKE PERIMETER	BA-LA-140	<	1.0	
20-May-20	LAKE PERIMETER	H-3	<	158.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	2.6	
15-Sep-20	LAKE PERIMETER	CO-58	<	2.6	
15-Sep-20	LAKE PERIMETER	FE-59	<	6.1	
15-Sep-20	LAKE PERIMETER	CO-60	<	2.2	
15-Sep-20	LAKE PERIMETER	ZN-65	<	3.9	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	3.6	
15-Sep-20	LAKE PERIMETER	I-131	<	0.465	
15-Sep-20	LAKE PERIMETER	CS-134	<	4.1	
15-Sep-20	LAKE PERIMETER	CS-137	<	3.5	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	1.7	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	2.8	
14-Oct-20	LAKE PERIMETER	CO-58	<	2.7	
14-Oct-20	LAKE PERIMETER	FE-59	<	3.1	
14-Oct-20	LAKE PERIMETER	CO-60	<	3.1	
14-Oct-20	LAKE PERIMETER	ZN-65	<	5.8	

Exposure Pathway - Waterborne
Ground Water
Location: MW-06C

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	3.3	
14-Oct-20	LAKE PERIMETER	I-131	<	0.491	
14-Oct-20	LAKE PERIMETER	CS-134	<	3.7	
14-Oct-20	LAKE PERIMETER	CS-137	<	1.4	
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	5.1	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: MW-07A

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	2.0	
05-Mar-20	LAKE PERIMETER	CO-58	<	2.4	
05-Mar-20	LAKE PERIMETER	FE-59	<	3.3	
05-Mar-20	LAKE PERIMETER	CO-60	<	2.5	
05-Mar-20	LAKE PERIMETER	ZN-65	<	5.1	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	2.8	
05-Mar-20	LAKE PERIMETER	I-131	<	0.481	
05-Mar-20	LAKE PERIMETER	CS-134	<	3.3	
05-Mar-20	LAKE PERIMETER	CS-137	<	3.8	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	1.6	
05-Mar-20	LAKE PERIMETER	H-3	<	157.0	
20-May-20	LAKE PERIMETER	MN-54	<	4.6	
20-May-20	LAKE PERIMETER	CO-58	<	3.5	
20-May-20	LAKE PERIMETER	FE-59	<	4.3	
20-May-20	LAKE PERIMETER	CO-60	<	3.2	
20-May-20	LAKE PERIMETER	ZN-65	<	7.0	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	3.3	
20-May-20	LAKE PERIMETER	I-131	<	0.305	
20-May-20	LAKE PERIMETER	CS-134	<	3.8	
20-May-20	LAKE PERIMETER	CS-137	<	3.4	
20-May-20	LAKE PERIMETER	BA-LA-140	<	4.0	
20-May-20	LAKE PERIMETER	H-3	<	158.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	2.7	
15-Sep-20	LAKE PERIMETER	CO-58	<	2.9	
15-Sep-20	LAKE PERIMETER	FE-59	<	4.0	
15-Sep-20	LAKE PERIMETER	CO-60	<	3.2	
15-Sep-20	LAKE PERIMETER	ZN-65	<	1.9	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	3.6	
15-Sep-20	LAKE PERIMETER	I-131	<	0.401	
15-Sep-20	LAKE PERIMETER	CS-134	<	3.9	
15-Sep-20	LAKE PERIMETER	CS-137	<	1.9	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	3.2	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	2.7	
14-Oct-20	LAKE PERIMETER	CO-58	<	2.0	
14-Oct-20	LAKE PERIMETER	FE-59	<	3.4	
14-Oct-20	LAKE PERIMETER	CO-60	<	2.5	
14-Oct-20	LAKE PERIMETER	ZN-65	<	4.4	

Exposure Pathway - Waterborne
Ground Water
Location: MW-07A

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	3.8	
14-Oct-20	LAKE PERIMETER	I-131	<	0.417	
14-Oct-20	LAKE PERIMETER	CS-134	<	4.3	
14-Oct-20	LAKE PERIMETER	CS-137	<	3.5	
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	2.8	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: MW-07C

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	2.1	
05-Mar-20	LAKE PERIMETER	CO-58	<	1.8	
05-Mar-20	LAKE PERIMETER	FE-59	<	5.2	
05-Mar-20	LAKE PERIMETER	CO-60	<	1.0	
05-Mar-20	LAKE PERIMETER	ZN-65	<	2.4	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	2.1	
05-Mar-20	LAKE PERIMETER	I-131	<	0.33	
05-Mar-20	LAKE PERIMETER	CS-134	<	2.0	
05-Mar-20	LAKE PERIMETER	CS-137	<	1.8	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	3.3	
05-Mar-20	LAKE PERIMETER	H-3	<	157.0	
20-May-20	LAKE PERIMETER	MN-54	<	2.9	
20-May-20	LAKE PERIMETER	CO-58	<	3.2	
20-May-20	LAKE PERIMETER	FE-59	<	5.6	
20-May-20	LAKE PERIMETER	CO-60	<	1.6	
20-May-20	LAKE PERIMETER	ZN-65	<	5.4	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	2.5	
20-May-20	LAKE PERIMETER	I-131	<	0.338	
20-May-20	LAKE PERIMETER	CS-134	<	3.4	
20-May-20	LAKE PERIMETER	CS-137	<	3.6	
20-May-20	LAKE PERIMETER	BA-LA-140	<	2.6	
20-May-20	LAKE PERIMETER	H-3	<	158.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	3.7	
15-Sep-20	LAKE PERIMETER	CO-58	<	2.3	
15-Sep-20	LAKE PERIMETER	FE-59	<	3.2	
15-Sep-20	LAKE PERIMETER	CO-60	<	2.7	
15-Sep-20	LAKE PERIMETER	ZN-65	<	3.8	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	3.0	
15-Sep-20	LAKE PERIMETER	I-131	<	0.27	
15-Sep-20	LAKE PERIMETER	CS-134	<	3.2	
15-Sep-20	LAKE PERIMETER	CS-137	<	3.3	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	1.8	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	3.9	
14-Oct-20	LAKE PERIMETER	CO-58	<	2.8	
14-Oct-20	LAKE PERIMETER	FE-59	<	4.4	
14-Oct-20	LAKE PERIMETER	CO-60	<	2.2	
14-Oct-20	LAKE PERIMETER	ZN-65	<	6.1	

Exposure Pathway - Waterborne
Ground Water
Location: MW-07C

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	3.0	
14-Oct-20	LAKE PERIMETER	I-131	<	0.413	
14-Oct-20	LAKE PERIMETER	CS-134	<	3.5	
14-Oct-20	LAKE PERIMETER	CS-137	<	3.5	
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	1.5	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: MW-08B

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	5.2	
05-Mar-20	LAKE PERIMETER	CO-58	<	6.6	
05-Mar-20	LAKE PERIMETER	FE-59	<	6.4	
05-Mar-20	LAKE PERIMETER	CO-60	<	3.2	
05-Mar-20	LAKE PERIMETER	ZN-65	<	15.0	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	7.9	
05-Mar-20	LAKE PERIMETER	I-131	<	0.288	
05-Mar-20	LAKE PERIMETER	CS-134	<	6.1	
05-Mar-20	LAKE PERIMETER	CS-137	<	5.3	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	7.1	
05-Mar-20	LAKE PERIMETER	H-3	319.0 +/-	90.0	
20-May-20	LAKE PERIMETER	MN-54	<	3.5	
20-May-20	LAKE PERIMETER	CO-58	<	2.4	
20-May-20	LAKE PERIMETER	FE-59	<	6.8	
20-May-20	LAKE PERIMETER	CO-60	<	2.1	
20-May-20	LAKE PERIMETER	ZN-65	<	7.6	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	2.8	
20-May-20	LAKE PERIMETER	I-131	<	0.367	
20-May-20	LAKE PERIMETER	CS-134	<	4.4	
20-May-20	LAKE PERIMETER	CS-137	<	4.8	
20-May-20	LAKE PERIMETER	BA-LA-140	<	6.0	
20-May-20	LAKE PERIMETER	H-3	432.0 +/-	96.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	4.2	
15-Sep-20	LAKE PERIMETER	CO-58	<	2.4	
15-Sep-20	LAKE PERIMETER	FE-59	<	6.2	
15-Sep-20	LAKE PERIMETER	CO-60	<	2.8	
15-Sep-20	LAKE PERIMETER	ZN-65	<	2.0	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	5.1	
15-Sep-20	LAKE PERIMETER	I-131	<	0.391	
15-Sep-20	LAKE PERIMETER	CS-134	<	4.9	
15-Sep-20	LAKE PERIMETER	CS-137	<	4.6	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	2.5	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	5.4	
14-Oct-20	LAKE PERIMETER	CO-58	<	5.0	
14-Oct-20	LAKE PERIMETER	FE-59	<	5.6	
14-Oct-20	LAKE PERIMETER	CO-60	<	5.3	
14-Oct-20	LAKE PERIMETER	ZN-65	<	5.8	

Exposure Pathway - Waterborne
Ground Water
Location: MW-08B

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	2.8	
14-Oct-20	LAKE PERIMETER	I-131	<	0.292	
14-Oct-20	LAKE PERIMETER	CS-134	<	4.4	
14-Oct-20	LAKE PERIMETER	CS-137	<	5.3	
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	3.6	
14-Oct-20	LAKE PERIMETER	H-3	160.0 +/-	82.0	

Exposure Pathway - Waterborne
Ground Water
Location: MW-08C

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	3.0	
05-Mar-20	LAKE PERIMETER	CO-58	<	3.5	
05-Mar-20	LAKE PERIMETER	FE-59	<	6.2	
05-Mar-20	LAKE PERIMETER	CO-60	<	2.5	
05-Mar-20	LAKE PERIMETER	ZN-65	<	6.6	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	5.2	
05-Mar-20	LAKE PERIMETER	I-131	<	0.309	
05-Mar-20	LAKE PERIMETER	CS-134	<	3.9	
05-Mar-20	LAKE PERIMETER	CS-137	<	3.0	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	2.2	
05-Mar-20	LAKE PERIMETER	H-3	<	157.0	
20-May-20	LAKE PERIMETER	MN-54	<	2.8	
20-May-20	LAKE PERIMETER	CO-58	<	2.2	
20-May-20	LAKE PERIMETER	FE-59	<	4.9	
20-May-20	LAKE PERIMETER	CO-60	<	2.5	
20-May-20	LAKE PERIMETER	ZN-65	<	3.5	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	3.6	
20-May-20	LAKE PERIMETER	I-131	<	0.492	
20-May-20	LAKE PERIMETER	CS-134	<	3.8	
20-May-20	LAKE PERIMETER	CS-137	<	3.4	
20-May-20	LAKE PERIMETER	BA-LA-140	<	3.7	
20-May-20	LAKE PERIMETER	H-3	<	158.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	2.4	
15-Sep-20	LAKE PERIMETER	CO-58	<	1.2	
15-Sep-20	LAKE PERIMETER	FE-59	<	3.5	
15-Sep-20	LAKE PERIMETER	CO-60	<	0.9	
15-Sep-20	LAKE PERIMETER	ZN-65	<	4.2	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	1.7	
15-Sep-20	LAKE PERIMETER	I-131	<	0.272	
15-Sep-20	LAKE PERIMETER	CS-134	<	3.1	
15-Sep-20	LAKE PERIMETER	CS-137	<	2.0	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	1.6	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	3.0	
14-Oct-20	LAKE PERIMETER	CO-58	<	1.8	
14-Oct-20	LAKE PERIMETER	FE-59	<	4.6	
14-Oct-20	LAKE PERIMETER	CO-60	<	2.6	
14-Oct-20	LAKE PERIMETER	ZN-65	<	2.1	

Exposure Pathway - Waterborne
Ground Water
Location: MW-08C

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	4.0	
14-Oct-20	LAKE PERIMETER	I-131	<	0.298	
14-Oct-20	LAKE PERIMETER	CS-134	<	3.7	
14-Oct-20	LAKE PERIMETER	CS-137	<	2.8	
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	3.5	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: MW-09A

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	3.2	
05-Mar-20	LAKE PERIMETER	CO-58	<	2.5	
05-Mar-20	LAKE PERIMETER	FE-59	<	7.3	
05-Mar-20	LAKE PERIMETER	CO-60	<	3.2	
05-Mar-20	LAKE PERIMETER	ZN-65	<	7.6	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	5.7	
05-Mar-20	LAKE PERIMETER	I-131	<	0.29	
05-Mar-20	LAKE PERIMETER	CS-134	<	3.9	
05-Mar-20	LAKE PERIMETER	CS-137	<	2.4	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	2.5	
05-Mar-20	LAKE PERIMETER	H-3	<	157.0	
20-May-20	LAKE PERIMETER	MN-54	<	3.9	
20-May-20	LAKE PERIMETER	CO-58	<	3.5	
20-May-20	LAKE PERIMETER	FE-59	<	3.4	
20-May-20	LAKE PERIMETER	CO-60	<	2.2	
20-May-20	LAKE PERIMETER	ZN-65	<	7.9	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	2.3	
20-May-20	LAKE PERIMETER	I-131	<	0.419	
20-May-20	LAKE PERIMETER	CS-134	<	3.0	
20-May-20	LAKE PERIMETER	CS-137	<	3.1	
20-May-20	LAKE PERIMETER	BA-LA-140	<	5.3	
20-May-20	LAKE PERIMETER	H-3	<	158.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	3.7	
15-Sep-20	LAKE PERIMETER	CO-58	<	3.2	
15-Sep-20	LAKE PERIMETER	FE-59	<	3.7	
15-Sep-20	LAKE PERIMETER	CO-60	<	3.8	
15-Sep-20	LAKE PERIMETER	ZN-65	<	8.6	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	3.7	
15-Sep-20	LAKE PERIMETER	I-131	<	0.47	
15-Sep-20	LAKE PERIMETER	CS-134	<	4.2	
15-Sep-20	LAKE PERIMETER	CS-137	<	4.8	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	2.8	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	2.5	
14-Oct-20	LAKE PERIMETER	CO-58	<	2.2	
14-Oct-20	LAKE PERIMETER	FE-59	<	4.8	
14-Oct-20	LAKE PERIMETER	CO-60	<	2.5	
14-Oct-20	LAKE PERIMETER	ZN-65	<	4.2	

Exposure Pathway - Waterborne
Ground Water
Location: MW-09A

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	4.0	
14-Oct-20	LAKE PERIMETER	I-131	<	0.292	
14-Oct-20	LAKE PERIMETER	CS-134	<	3.2	
14-Oct-20	LAKE PERIMETER	CS-137	<	2.8	
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	2.2	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	

Exposure Pathway - Waterborne
Ground Water
Location: MW-10B

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	2.2	
05-Mar-20	LAKE PERIMETER	CO-58	<	1.2	
05-Mar-20	LAKE PERIMETER	FE-59	<	3.9	
05-Mar-20	LAKE PERIMETER	CO-60	<	3.1	
05-Mar-20	LAKE PERIMETER	ZN-65	<	5.1	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	2.6	
05-Mar-20	LAKE PERIMETER	I-131	<	0.288	
05-Mar-20	LAKE PERIMETER	CS-134	<	3.5	
05-Mar-20	LAKE PERIMETER	CS-137	<	3.8	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	2.1	
05-Mar-20	LAKE PERIMETER	H-3	<	153.0	
20-May-20	LAKE PERIMETER	MN-54	<	2.1	
20-May-20	LAKE PERIMETER	CO-58	<	2.4	
20-May-20	LAKE PERIMETER	FE-59	<	3.4	
20-May-20	LAKE PERIMETER	CO-60	<	1.4	
20-May-20	LAKE PERIMETER	ZN-65	<	3.5	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	1.6	
20-May-20	LAKE PERIMETER	I-131	<	0.412	
20-May-20	LAKE PERIMETER	CS-134	<	2.5	
20-May-20	LAKE PERIMETER	CS-137	<	1.7	
20-May-20	LAKE PERIMETER	BA-LA-140	<	2.4	
20-May-20	LAKE PERIMETER	H-3	<	158.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	2.4	
15-Sep-20	LAKE PERIMETER	CO-58	<	3.1	
15-Sep-20	LAKE PERIMETER	FE-59	<	6.1	
15-Sep-20	LAKE PERIMETER	CO-60	<	2.5	
15-Sep-20	LAKE PERIMETER	ZN-65	<	6.4	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	2.7	
15-Sep-20	LAKE PERIMETER	I-131	<	0.487	
15-Sep-20	LAKE PERIMETER	CS-134	<	3.6	
15-Sep-20	LAKE PERIMETER	CS-137	<	2.6	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	1.8	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	3.5	Duplicate
14-Oct-20	LAKE PERIMETER	MN-54	<	2.7	
14-Oct-20	LAKE PERIMETER	CO-58	<	2.7	
14-Oct-20	LAKE PERIMETER	CO-58	<	3.1	Duplicate
14-Oct-20	LAKE PERIMETER	FE-59	<	4.9	Duplicate

Exposure Pathway - Waterborne
Ground Water
Location: MW-10B

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	FE-59	<	3.1	
14-Oct-20	LAKE PERIMETER	CO-60	<	2.5	Duplicate
14-Oct-20	LAKE PERIMETER	CO-60	<	3.4	
14-Oct-20	LAKE PERIMETER	ZN-65	<	4.9	Duplicate
14-Oct-20	LAKE PERIMETER	ZN-65	<	2.9	
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	4.3	Duplicate
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	3.2	
14-Oct-20	LAKE PERIMETER	I-131	<	0.481	Duplicate
14-Oct-20	LAKE PERIMETER	I-131	<	0.498	
14-Oct-20	LAKE PERIMETER	CS-134	<	3.8	Duplicate
14-Oct-20	LAKE PERIMETER	CS-134	<	4.4	
14-Oct-20	LAKE PERIMETER	CS-137	<	3.4	
14-Oct-20	LAKE PERIMETER	CS-137	<	3.5	Duplicate
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	3.0	Duplicate
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	3.4	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	Duplicate

Exposure Pathway - Waterborne
Ground Water
Location: MW-10C

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Mar-20	LAKE PERIMETER	MN-54	<	1.8	
05-Mar-20	LAKE PERIMETER	CO-58	<	1.4	
05-Mar-20	LAKE PERIMETER	FE-59	<	4.2	
05-Mar-20	LAKE PERIMETER	CO-60	<	2.0	
05-Mar-20	LAKE PERIMETER	ZN-65	<	2.5	
05-Mar-20	LAKE PERIMETER	ZR-NB-95	<	2.1	
05-Mar-20	LAKE PERIMETER	I-131	<	0.305	
05-Mar-20	LAKE PERIMETER	CS-134	<	1.5	
05-Mar-20	LAKE PERIMETER	CS-137	<	1.5	
05-Mar-20	LAKE PERIMETER	BA-LA-140	<	2.6	
05-Mar-20	LAKE PERIMETER	H-3	<	153.0	
20-May-20	LAKE PERIMETER	MN-54	<	3.1	
20-May-20	LAKE PERIMETER	CO-58	<	4.3	
20-May-20	LAKE PERIMETER	FE-59	<	7.7	
20-May-20	LAKE PERIMETER	CO-60	<	7.3	
20-May-20	LAKE PERIMETER	ZN-65	<	11.6	
20-May-20	LAKE PERIMETER	ZR-NB-95	<	7.6	
20-May-20	LAKE PERIMETER	I-131	<	0.336	
20-May-20	LAKE PERIMETER	CS-134	<	5.6	
20-May-20	LAKE PERIMETER	CS-137	<	5.4	
20-May-20	LAKE PERIMETER	BA-LA-140	<	8.1	
20-May-20	LAKE PERIMETER	H-3	<	158.0	
15-Sep-20	LAKE PERIMETER	MN-54	<	4.4	
15-Sep-20	LAKE PERIMETER	CO-58	<	3.1	
15-Sep-20	LAKE PERIMETER	FE-59	<	2.8	
15-Sep-20	LAKE PERIMETER	CO-60	<	3.9	
15-Sep-20	LAKE PERIMETER	ZN-65	<	7.2	
15-Sep-20	LAKE PERIMETER	ZR-NB-95	<	4.4	
15-Sep-20	LAKE PERIMETER	I-131	<	0.447	
15-Sep-20	LAKE PERIMETER	CS-134	<	3.9	
15-Sep-20	LAKE PERIMETER	CS-137	<	3.7	
15-Sep-20	LAKE PERIMETER	BA-LA-140	<	2.9	
15-Sep-20	LAKE PERIMETER	H-3	<	159.0	
14-Oct-20	LAKE PERIMETER	MN-54	<	3.9	
14-Oct-20	LAKE PERIMETER	CO-58	<	4.2	
14-Oct-20	LAKE PERIMETER	FE-59	<	7.5	
14-Oct-20	LAKE PERIMETER	CO-60	<	2.6	
14-Oct-20	LAKE PERIMETER	ZN-65	<	4.9	

Exposure Pathway - Waterborne
Ground Water
Location: MW-10C

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Oct-20	LAKE PERIMETER	ZR-NB-95	<	3.9	
14-Oct-20	LAKE PERIMETER	I-131	<	0.446	
14-Oct-20	LAKE PERIMETER	CS-134	<	5.2	
14-Oct-20	LAKE PERIMETER	CS-137	<	2.9	
14-Oct-20	LAKE PERIMETER	BA-LA-140	<	3.4	
14-Oct-20	LAKE PERIMETER	H-3	<	157.0	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-Jan-20	MN-54	< 1.7	
07-Jan-20	CO-58	< 2.7	
07-Jan-20	FE-59	< 5.5	
07-Jan-20	CO-60	< 1.9	
07-Jan-20	ZN-65	< 2.7	
07-Jan-20	ZR-NB-95	< 2.2	
07-Jan-20	I-131	< 0.267	
07-Jan-20	CS-134	< 4.1	
07-Jan-20	CS-137	< 3.7	
07-Jan-20	BA-LA-140	< 3.4	
07-Jan-20	GROSS BETA	1.557 +/- 0.573	
06-Feb-20	MN-54	< 2.2	
06-Feb-20	CO-58	< 2.7	
06-Feb-20	FE-59	< 7.7	
06-Feb-20	CO-60	< 2.5	
06-Feb-20	ZN-65	< 8.6	
06-Feb-20	ZR-NB-95	< 3.2	
06-Feb-20	I-131	< 0.273	
06-Feb-20	CS-134	< 4.1	
06-Feb-20	CS-137	< 2.0	
06-Feb-20	BA-LA-140	< 2.5	
06-Feb-20	GROSS BETA	2.012 +/- 0.952	
02-Mar-20	MN-54	< 3.7	
02-Mar-20	MN-54	< 3.7	
02-Mar-20	CO-58	< 1.7	
02-Mar-20	CO-58	< 1.7	
02-Mar-20	FE-59	< 3.5	
02-Mar-20	FE-59	< 3.5	
02-Mar-20	CO-60	< 3.5	
02-Mar-20	CO-60	< 3.5	
02-Mar-20	ZN-65	< 6.3	
02-Mar-20	ZN-65	< 6.3	
02-Mar-20	ZR-NB-95	< 5.1	
02-Mar-20	ZR-NB-95	< 5.1	
02-Mar-20	I-131	< 0.358	
02-Mar-20	I-131	< 0.358	
02-Mar-20	CS-134	< 4.2	
02-Mar-20	CS-134	< 4.2	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
02-Mar-20	CS-137	< 2.1	
02-Mar-20	CS-137	< 2.1	
02-Mar-20	BA-LA-140	< 4.3	
02-Mar-20	BA-LA-140	< 4.3	
02-Mar-20	GROSS BETA	2.065 +/- 0.65	
06-Apr-20	MN-54	< 2.9	
06-Apr-20	CO-58	< 3.3	
06-Apr-20	FE-59	< 7.7	
06-Apr-20	CO-60	< 3.2	
06-Apr-20	ZN-65	< 7.1	
06-Apr-20	ZR-NB-95	< 2.7	
06-Apr-20	I-131	< 0.464	
06-Apr-20	CS-134	< 4.4	
06-Apr-20	CS-137	< 3.1	
06-Apr-20	BA-LA-140	< 2.5	
06-Apr-20	GROSS BETA	1.874 +/- 0.607	
04-May-20	MN-54	< 3.7	
04-May-20	CO-58	< 2.6	
04-May-20	FE-59	< 4.6	
04-May-20	CO-60	< 1.3	
04-May-20	ZN-65	< 4.6	
04-May-20	ZR-NB-95	< 2.3	
04-May-20	I-131	< 0.283	
04-May-20	CS-134	< 3.5	
04-May-20	CS-137	< 3.4	
04-May-20	BA-LA-140	< 3.9	
04-May-20	GROSS BETA	1.637 +/- 0.597	
01-Jun-20	MN-54	< 4.1	
01-Jun-20	CO-58	< 2.1	
01-Jun-20	FE-59	< 3.8	
01-Jun-20	CO-60	< 2.1	
01-Jun-20	ZN-65	< 2.2	
01-Jun-20	ZR-NB-95	< 2.3	
01-Jun-20	I-131	< 0.324	
01-Jun-20	CS-134	< 3.6	
01-Jun-20	CS-137	< 2.4	
01-Jun-20	BA-LA-140	< 3.9	
01-Jun-20	GROSS BETA	1.661 +/- 0.571	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-Jul-20	MN-54	< 4.4	
08-Jul-20	CO-58	< 3.2	
08-Jul-20	FE-59	< 4.9	
08-Jul-20	CO-60	< 1.9	
08-Jul-20	ZN-65	< 4.5	
08-Jul-20	ZR-NB-95	< 4.2	
08-Jul-20	I-131	< 0.428	
08-Jul-20	CS-134	< 3.6	
08-Jul-20	CS-137	< 2.9	
08-Jul-20	BA-LA-140	< 1.4	
08-Jul-20	GROSS BETA	1.379 +/- 0.508	
03-Aug-20	MN-54	< 2.4	
03-Aug-20	CO-58	< 3.7	
03-Aug-20	FE-59	< 4.7	
03-Aug-20	CO-60	< 2.1	
03-Aug-20	ZN-65	< 5.6	
03-Aug-20	ZR-NB-95	< 3.7	
03-Aug-20	I-131	< 0.351	
03-Aug-20	CS-134	< 3.8	
03-Aug-20	CS-137	< 2.7	
03-Aug-20	BA-LA-140	< 2.7	
03-Aug-20	GROSS BETA	2.125 +/- 0.618	
08-Sep-20	MN-54	< 3.7	
08-Sep-20	CO-58	< 3.5	
08-Sep-20	FE-59	< 3.9	
08-Sep-20	CO-60	< 3.3	
08-Sep-20	ZN-65	< 9.9	
08-Sep-20	ZR-NB-95	< 3.4	
08-Sep-20	I-131	< 0.434	
08-Sep-20	CS-134	< 4.7	
08-Sep-20	CS-137	< 4.7	
08-Sep-20	BA-LA-140	< 2.1	
08-Sep-20	GROSS BETA	2.121 +/- 0.6	
05-Oct-20	MN-54	< 2.8	
05-Oct-20	CO-58	< 2.3	
05-Oct-20	FE-59	< 6.0	
05-Oct-20	CO-60	< 1.5	
05-Oct-20	ZN-65	< 5.8	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-Oct-20	ZR-NB-95	< 4.9	
05-Oct-20	I-131	< 0.48	
05-Oct-20	CS-134	< 4.6	
05-Oct-20	CS-137	< 4.0	
05-Oct-20	BA-LA-140	< 2.4	
05-Oct-20	GROSS BETA	2.076 +/- 0.614	
09-Nov-20	MN-54	< 3.8	
09-Nov-20	CO-58	< 3.2	
09-Nov-20	FE-59	< 7.5	
09-Nov-20	CO-60	< 3.7	
09-Nov-20	ZN-65	< 2.9	
09-Nov-20	ZR-NB-95	< 2.6	
09-Nov-20	I-131	< 0.337	
09-Nov-20	CS-134	< 4.4	
09-Nov-20	CS-137	< 5.8	
09-Nov-20	BA-LA-140	< 2.0	
09-Nov-20	GROSS BETA	1.924 +/- 0.597	
01-Dec-20	MN-54	< 2.2	
01-Dec-20	CO-58	< 2.9	
01-Dec-20	FE-59	< 3.9	
01-Dec-20	CO-60	< 1.7	
01-Dec-20	ZN-65	< 6.7	
01-Dec-20	ZR-NB-95	< 2.7	
01-Dec-20	I-131	< 0.288	
01-Dec-20	CS-134	< 3.8	
01-Dec-20	CS-137	< 4.0	
01-Dec-20	BA-LA-140	< 2.3	
01-Dec-20	GROSS BETA	2.178 +/- 0.629	
07-Jan-21	MN-54	< 2.4	
07-Jan-21	CO-58	< 3.6	
07-Jan-21	FE-59	< 9.7	
07-Jan-21	CO-60	< 3.3	
07-Jan-21	ZN-65	< 11.6	
07-Jan-21	ZR-NB-95	< 2.8	
07-Jan-21	I-131	< 0.397	
07-Jan-21	CS-134	< 4.9	
07-Jan-21	CS-137	< 3.4	
07-Jan-21	BA-LA-140	< 2.5	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-Jan-21	GROSS BETA	3.100 +/- 0.676	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-Jan-20	MN-54	< 2.9	
07-Jan-20	CO-58	< 3.0	
07-Jan-20	FE-59	< 3.2	
07-Jan-20	CO-60	< 2.1	
07-Jan-20	ZN-65	< 5.3	
07-Jan-20	ZR-NB-95	< 3.2	
07-Jan-20	I-131	< 0.259	
07-Jan-20	CS-134	< 3.3	
07-Jan-20	CS-137	< 2.6	
07-Jan-20	BA-LA-140	< 1.8	
07-Jan-20	GROSS BETA	1.898 +/- 0.632	
06-Feb-20	MN-54	< 4.3	
06-Feb-20	CO-58	< 2.2	
06-Feb-20	FE-59	< 6.2	
06-Feb-20	CO-60	< 3.4	
06-Feb-20	ZN-65	< 6.7	
06-Feb-20	ZR-NB-95	< 3.5	
06-Feb-20	I-131	< 0.263	
06-Feb-20	CS-134	< 4.2	
06-Feb-20	CS-137	< 5.2	
06-Feb-20	BA-LA-140	< 4.2	
06-Feb-20	GROSS BETA	2.685 +/- 1.08	
02-Mar-20	MN-54	< 1.6	
02-Mar-20	MN-54	< 1.6	
02-Mar-20	CO-58	< 2.4	
02-Mar-20	CO-58	< 2.4	
02-Mar-20	FE-59	< 4.7	
02-Mar-20	FE-59	< 4.7	
02-Mar-20	CO-60	< 2.0	
02-Mar-20	CO-60	< 2.0	
02-Mar-20	ZN-65	< 7.8	
02-Mar-20	ZN-65	< 7.8	
02-Mar-20	ZR-NB-95	< 4.7	
02-Mar-20	ZR-NB-95	< 4.7	
02-Mar-20	I-131	< 0.369	
02-Mar-20	I-131	< 0.369	
02-Mar-20	CS-134	< 3.9	
02-Mar-20	CS-134	< 3.9	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
02-Mar-20	CS-137	< 2.7	
02-Mar-20	CS-137	< 2.7	
02-Mar-20	BA-LA-140	< 1.5	
02-Mar-20	BA-LA-140	< 1.5	
02-Mar-20	GROSS BETA	1.189 +/- 0.581	
06-Apr-20	MN-54	< 3.1	
06-Apr-20	CO-58	< 2.2	
06-Apr-20	FE-59	< 3.6	
06-Apr-20	CO-60	< 2.0	
06-Apr-20	ZN-65	< 4.7	
06-Apr-20	ZR-NB-95	< 2.4	
06-Apr-20	I-131	< 0.229	
06-Apr-20	CS-134	< 3.2	
06-Apr-20	CS-137	< 3.2	
06-Apr-20	BA-LA-140	< 2.1	
06-Apr-20	GROSS BETA	1.807 +/- 0.602	
04-May-20	MN-54	< 2.5	
04-May-20	CO-58	< 1.3	
04-May-20	FE-59	< 3.7	
04-May-20	CO-60	< 1.8	
04-May-20	ZN-65	< 2.4	
04-May-20	ZR-NB-95	< 3.1	
04-May-20	I-131	< 0.256	
04-May-20	CS-134	< 3.3	
04-May-20	CS-137	< 3.2	
04-May-20	BA-LA-140	< 2.3	
04-May-20	GROSS BETA	1.880 +/- 0.617	
01-Jun-20	MN-54	< 2.8	
01-Jun-20	CO-58	< 2.8	
01-Jun-20	FE-59	< 5.1	
01-Jun-20	CO-60	< 2.0	
01-Jun-20	ZN-65	< 6.7	
01-Jun-20	ZR-NB-95	< 3.9	
01-Jun-20	I-131	< 0.328	
01-Jun-20	CS-134	< 4.2	
01-Jun-20	CS-137	< 4.2	
01-Jun-20	BA-LA-140	< 4.3	
01-Jun-20	GROSS BETA	2.527 +/- 0.651	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
08-Jul-20	MN-54	< 3.2	
08-Jul-20	CO-58	< 1.9	
08-Jul-20	FE-59	< 4.2	
08-Jul-20	CO-60	< 2.4	
08-Jul-20	ZN-65	< 6.7	
08-Jul-20	ZR-NB-95	< 2.7	
08-Jul-20	I-131	< 0.472	
08-Jul-20	CS-134	< 3.8	
08-Jul-20	CS-137	< 4.2	
08-Jul-20	BA-LA-140	< 4.0	
08-Jul-20	GROSS BETA	2.852 +/- 0.69	
03-Aug-20	MN-54	< 2.2	
03-Aug-20	CO-58	< 1.6	
03-Aug-20	FE-59	< 4.9	
03-Aug-20	CO-60	< 2.1	
03-Aug-20	ZN-65	< 4.5	
03-Aug-20	ZR-NB-95	< 3.1	
03-Aug-20	I-131	< 0.265	
03-Aug-20	CS-134	< 2.9	
03-Aug-20	CS-137	< 2.8	
03-Aug-20	BA-LA-140	< 1.7	
03-Aug-20	GROSS BETA	2.005 +/- 0.624	
08-Sep-20	MN-54	< 2.0	
08-Sep-20	CO-58	< 2.2	
08-Sep-20	FE-59	< 2.0	
08-Sep-20	CO-60	< 0.9	
08-Sep-20	ZN-65	< 3.8	
08-Sep-20	ZR-NB-95	< 1.8	
08-Sep-20	I-131	< 0.404	
08-Sep-20	CS-134	< 2.7	
08-Sep-20	CS-137	< 2.9	
08-Sep-20	BA-LA-140	< 1.4	
08-Sep-20	GROSS BETA	2.611 +/- 0.657	
05-Oct-20	MN-54	< 2.2	
05-Oct-20	CO-58	< 2.9	
05-Oct-20	FE-59	< 5.5	
05-Oct-20	CO-60	< 1.1	
05-Oct-20	ZN-65	< 5.3	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-Oct-20	ZR-NB-95	< 2.5	
05-Oct-20	I-131	< 0.231	
05-Oct-20	CS-134	< 3.0	
05-Oct-20	CS-137	< 3.6	
05-Oct-20	BA-LA-140	< 3.7	
05-Oct-20	GROSS BETA	2.631 +/- 0.662	
09-Nov-20	MN-54	< 2.9	
09-Nov-20	CO-58	< 5.5	
09-Nov-20	FE-59	< 6.3	
09-Nov-20	CO-60	< 2.5	
09-Nov-20	ZN-65	< 4.8	
09-Nov-20	ZR-NB-95	< 3.5	
09-Nov-20	I-131	< 0.36	
09-Nov-20	CS-134	< 4.8	
09-Nov-20	CS-137	< 3.6	
09-Nov-20	BA-LA-140	< 3.3	
09-Nov-20	GROSS BETA	3.551 +/- 0.751	
01-Dec-20	MN-54	< 3.0	
01-Dec-20	CO-58	< 2.9	
01-Dec-20	FE-59	< 5.2	
01-Dec-20	CO-60	< 3.1	
01-Dec-20	ZN-65	< 2.0	
01-Dec-20	ZR-NB-95	< 3.2	
01-Dec-20	I-131	< 0.296	
01-Dec-20	CS-134	< 3.7	
01-Dec-20	CS-137	< 3.1	
01-Dec-20	BA-LA-140	< 3.2	
01-Dec-20	GROSS BETA	3.287 +/- 0.729	
07-Jan-21	MN-54	< 2.8	
07-Jan-21	CO-58	< 2.5	
07-Jan-21	FE-59	< 6.2	
07-Jan-21	CO-60	< 3.1	
07-Jan-21	ZN-65	< 5.2	
07-Jan-21	ZR-NB-95	< 2.6	
07-Jan-21	I-131	< 0.307	
07-Jan-21	CS-134	< 3.9	
07-Jan-21	CS-137	< 4.0	
07-Jan-21	BA-LA-140	< 2.2	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-Jan-21	GROSS BETA	2.680 +/- 0.684	

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

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
07-Jan-20	H-3	<	157	
06-Apr-20	H-3	<	158	
08-Jul-20	H-3	<	160	
05-Oct-20	H-3	<	158	
07-Jan-21	H-3	<	165	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: DC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
27-May-20	SHORELINE SEDIMENT	K-40	5,673.7 +/-	412.9	
27-May-20	SHORELINE SEDIMENT	MN-54	<	17.7	
27-May-20	SHORELINE SEDIMENT	CO-58	<	12.4	
27-May-20	SHORELINE SEDIMENT	FE-59	<	30.4	
27-May-20	SHORELINE SEDIMENT	CO-60	<	15.1	
27-May-20	SHORELINE SEDIMENT	ZN-65	<	30.0	
27-May-20	SHORELINE SEDIMENT	CS-134	<	13.2	
27-May-20	SHORELINE SEDIMENT	CS-137	<	11.9	
15-Oct-20	SHORELINE SEDIMENT	K-40	8,793.9 +/-	560.0	
15-Oct-20	SHORELINE SEDIMENT	MN-54	<	27.8	
15-Oct-20	SHORELINE SEDIMENT	CO-58	<	31.9	
15-Oct-20	SHORELINE SEDIMENT	FE-59	<	69.0	
15-Oct-20	SHORELINE SEDIMENT	CO-60	<	17.2	
15-Oct-20	SHORELINE SEDIMENT	ZN-65	<	70.4	
15-Oct-20	SHORELINE SEDIMENT	CS-134	<	24.2	
15-Oct-20	SHORELINE SEDIMENT	CS-137	<	30.2	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
19-Jun-20	SHORELINE SEDIMENTS	K-40	11,572.0 +/-	672.1	
19-Jun-20	SHORELINE SEDIMENTS	MN-54	<	24.2	
19-Jun-20	SHORELINE SEDIMENTS	CO-58	<	21.5	
19-Jun-20	SHORELINE SEDIMENTS	FE-59	<	55.2	
19-Jun-20	SHORELINE SEDIMENTS	CO-60	<	25.2	
19-Jun-20	SHORELINE SEDIMENTS	ZN-65	<	47.6	
19-Jun-20	SHORELINE SEDIMENTS	CS-134	<	19.3	
19-Jun-20	SHORELINE SEDIMENTS	CS-137	124.8 +/-	30.9	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
23-Apr-20	SHORELINE SEDIMENTS	K-40	8,156.8 +/-	505.3	Duplicate
23-Apr-20	SHORELINE SEDIMENTS	K-40	7,826.5 +/-	491.6	
23-Apr-20	SHORELINE SEDIMENTS	MN-54	<	27.4	Duplicate
23-Apr-20	SHORELINE SEDIMENTS	MN-54	<	25.8	
23-Apr-20	SHORELINE SEDIMENTS	CO-58	<	27.7	
23-Apr-20	SHORELINE SEDIMENTS	CO-58	<	30.7	Duplicate
23-Apr-20	SHORELINE SEDIMENTS	FE-59	<	42.2	Duplicate
23-Apr-20	SHORELINE SEDIMENTS	FE-59	<	46.5	
23-Apr-20	SHORELINE SEDIMENTS	CO-60	<	14.1	Duplicate
23-Apr-20	SHORELINE SEDIMENTS	CO-60	<	25.0	
23-Apr-20	SHORELINE SEDIMENTS	ZN-65	<	56.2	
23-Apr-20	SHORELINE SEDIMENTS	ZN-65	<	49.6	Duplicate
23-Apr-20	SHORELINE SEDIMENTS	CS-134	<	21.6	Duplicate
23-Apr-20	SHORELINE SEDIMENTS	CS-134	<	22.2	
23-Apr-20	SHORELINE SEDIMENTS	CS-137	<	24.6	Duplicate
23-Apr-20	SHORELINE SEDIMENTS	CS-137	<	22.8	
15-Oct-20	SHORELINE SEDIMENT	K-40	9,328.3 +/-	488.4	
15-Oct-20	SHORELINE SEDIMENT	K-40	10,867.0 +/-	655.7	Duplicate
15-Oct-20	SHORELINE SEDIMENT	MN-54	<	33.1	Duplicate
15-Oct-20	SHORELINE SEDIMENT	MN-54	<	25.1	
15-Oct-20	SHORELINE SEDIMENT	CO-58	<	41.1	Duplicate
15-Oct-20	SHORELINE SEDIMENT	CO-58	<	24.5	
15-Oct-20	SHORELINE SEDIMENT	FE-59	<	68.7	Duplicate
15-Oct-20	SHORELINE SEDIMENT	FE-59	<	95.6	
15-Oct-20	SHORELINE SEDIMENT	CO-60	<	18.3	
15-Oct-20	SHORELINE SEDIMENT	CO-60	<	17.4	Duplicate
15-Oct-20	SHORELINE SEDIMENT	ZN-65	<	44.0	
15-Oct-20	SHORELINE SEDIMENT	ZN-65	<	74.4	Duplicate
15-Oct-20	SHORELINE SEDIMENT	CS-134	<	15.8	
15-Oct-20	SHORELINE SEDIMENT	CS-134	<	17.8	Duplicate
15-Oct-20	SHORELINE SEDIMENT	CS-137	<	31.2	Duplicate
15-Oct-20	SHORELINE SEDIMENT	CS-137	<	21.5	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: SC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
19-Jun-20	SHORELINE SEDIMENTS	K-40	12,593.0 +/-	582.9	
19-Jun-20	SHORELINE SEDIMENTS	MN-54	<	25.0	
19-Jun-20	SHORELINE SEDIMENTS	CO-58	<	24.2	
19-Jun-20	SHORELINE SEDIMENTS	FE-59	<	45.1	
19-Jun-20	SHORELINE SEDIMENTS	CO-60	<	17.2	
19-Jun-20	SHORELINE SEDIMENTS	ZN-65	<	37.2	
19-Jun-20	SHORELINE SEDIMENTS	CS-134	<	14.8	
19-Jun-20	SHORELINE SEDIMENTS	CS-137	43.3 +/-	21.2	
23-Sep-20	SHORELINE SEDIMENTS	K-40	10,100.0 +/-	708.4	
23-Sep-20	SHORELINE SEDIMENTS	K-40	8,782.7 +/-	520.5	Duplicate
23-Sep-20	SHORELINE SEDIMENTS	MN-54	<	32.8	
23-Sep-20	SHORELINE SEDIMENTS	MN-54	<	22.0	Duplicate
23-Sep-20	SHORELINE SEDIMENTS	CO-58	<	27.1	Duplicate
23-Sep-20	SHORELINE SEDIMENTS	CO-58	<	34.5	
23-Sep-20	SHORELINE SEDIMENTS	FE-59	<	120.3	
23-Sep-20	SHORELINE SEDIMENTS	FE-59	<	81.5	Duplicate
23-Sep-20	SHORELINE SEDIMENTS	CO-60	<	19.7	Duplicate
23-Sep-20	SHORELINE SEDIMENTS	CO-60	<	14.2	
23-Sep-20	SHORELINE SEDIMENTS	ZN-65	<	40.7	Duplicate
23-Sep-20	SHORELINE SEDIMENTS	ZN-65	<	65.4	
23-Sep-20	SHORELINE SEDIMENTS	CS-134	<	16.7	Duplicate
23-Sep-20	SHORELINE SEDIMENTS	CS-134	<	29.0	
23-Sep-20	SHORELINE SEDIMENTS	CS-137	<	19.6	Duplicate
23-Sep-20	SHORELINE SEDIMENTS	CS-137	<	30.5	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
17-Mar-20	CHANNEL CATFISH	K-40	4,239.8 +/-	513.9	
17-Mar-20	CHANNEL CATFISH	MN-54	<	19.1	
17-Mar-20	CHANNEL CATFISH	CO-58	<	18.8	
17-Mar-20	CHANNEL CATFISH	FE-59	<	28.9	
17-Mar-20	CHANNEL CATFISH	CO-60	<	13.9	
17-Mar-20	CHANNEL CATFISH	ZN-65	<	33.7	
17-Mar-20	CHANNEL CATFISH	I-131	<	25.5	
17-Mar-20	CHANNEL CATFISH	CS-134	<	16.9	
17-Mar-20	CHANNEL CATFISH	CS-137	<	17.3	
17-Mar-20	CHANNEL CATFISH	H-3	11,171.0 +/-	287.0	
17-Mar-20	COMMON CARP	K-40	4,461.7 +/-	609.5	
17-Mar-20	COMMON CARP	MN-54	<	20.8	
17-Mar-20	COMMON CARP	CO-58	<	19.2	
17-Mar-20	COMMON CARP	FE-59	<	59.8	
17-Mar-20	COMMON CARP	CO-60	<	12.1	
17-Mar-20	COMMON CARP	ZN-65	<	39.2	
17-Mar-20	COMMON CARP	I-131	<	22.2	
17-Mar-20	COMMON CARP	CS-134	<	24.3	
17-Mar-20	COMMON CARP	CS-137	<	17.1	
17-Mar-20	COMMON CARP	H-3	12,561.0 +/-	304.0	
17-Mar-20	FRESHWATER DRUM	K-40	3,816.2 +/-	538.1	
17-Mar-20	FRESHWATER DRUM	MN-54	<	31.1	
17-Mar-20	FRESHWATER DRUM	CO-58	<	21.4	
17-Mar-20	FRESHWATER DRUM	FE-59	<	40.9	
17-Mar-20	FRESHWATER DRUM	CO-60	<	9.7	
17-Mar-20	FRESHWATER DRUM	ZN-65	<	50.9	
17-Mar-20	FRESHWATER DRUM	I-131	<	33.4	
17-Mar-20	FRESHWATER DRUM	CS-134	<	23.0	
17-Mar-20	FRESHWATER DRUM	CS-137	<	14.7	
17-Mar-20	FRESHWATER DRUM	H-3	9,689.0 +/-	269.0	
17-Mar-20	SMALLMOUTH BUFFALO	K-40	3,949.4 +/-	589.9	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	K-40	4,971.1 +/-	589.1	
17-Mar-20	SMALLMOUTH BUFFALO	MN-54	<	25.4	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	MN-54	<	15.7	
17-Mar-20	SMALLMOUTH BUFFALO	CO-58	<	22.9	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	CO-58	<	10.2	
17-Mar-20	SMALLMOUTH BUFFALO	FE-59	<	59.3	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	FE-59	<	41.1	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
17-Mar-20	SMALLMOUTH BUFFALO	CO-60	<	24.0	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	CO-60	<	12.3	
17-Mar-20	SMALLMOUTH BUFFALO	ZN-65	<	30.1	
17-Mar-20	SMALLMOUTH BUFFALO	ZN-65	<	52.2	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	I-131	<	37.1	
17-Mar-20	SMALLMOUTH BUFFALO	I-131	<	23.7	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	CS-134	<	25.2	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	CS-134	<	23.4	
17-Mar-20	SMALLMOUTH BUFFALO	CS-137	<	21.4	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	CS-137	<	15.4	
17-Mar-20	SMALLMOUTH BUFFALO	H-3	10,449.0 +/-	276.0	Duplicate
17-Mar-20	SMALLMOUTH BUFFALO	H-3	10,758.0 +/-	279.0	
17-Mar-20	WHITE BASS	K-40	4,202.2 +/-	531.7	
17-Mar-20	WHITE BASS	MN-54	<	14.3	
17-Mar-20	WHITE BASS	CO-58	<	23.9	
17-Mar-20	WHITE BASS	FE-59	<	33.7	
17-Mar-20	WHITE BASS	CO-60	<	15.2	
17-Mar-20	WHITE BASS	ZN-65	<	30.1	
17-Mar-20	WHITE BASS	I-131	<	30.6	
17-Mar-20	WHITE BASS	CS-134	<	21.8	
17-Mar-20	WHITE BASS	CS-137	<	23.5	
17-Mar-20	WHITE BASS	H-3	10,200.0 +/-	272.0	
17-Mar-20	WHITE CRAPPIE	K-40	4,444.2 +/-	1,074.0	
17-Mar-20	WHITE CRAPPIE	MN-54	<	34.5	
17-Mar-20	WHITE CRAPPIE	CO-58	<	38.3	
17-Mar-20	WHITE CRAPPIE	FE-59	<	100.6	
17-Mar-20	WHITE CRAPPIE	CO-60	<	46.0	
17-Mar-20	WHITE CRAPPIE	ZN-65	<	136.5	
17-Mar-20	WHITE CRAPPIE	I-131	<	87.9	
17-Mar-20	WHITE CRAPPIE	CS-134	<	42.4	
17-Mar-20	WHITE CRAPPIE	CS-137	<	39.3	
17-Mar-20	WHITE CRAPPIE	H-3	9,205.0 +/-	260.0	
03-Nov-20	BLUE CATFISH	K-40	3,332.7 +/-	453.4	
03-Nov-20	BLUE CATFISH	MN-54	<	15.7	
03-Nov-20	BLUE CATFISH	CO-58	<	20.0	
03-Nov-20	BLUE CATFISH	FE-59	<	56.8	
03-Nov-20	BLUE CATFISH	CO-60	<	14.2	
03-Nov-20	BLUE CATFISH	ZN-65	<	32.2	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
03-Nov-20	BLUE CATFISH	I-131	<	72.2	
03-Nov-20	BLUE CATFISH	CS-134	<	18.7	
03-Nov-20	BLUE CATFISH	CS-137	<	20.0	
03-Nov-20	BLUE CATFISH	H-3	7,782.0 +/-	241.0	
03-Nov-20	CHANNEL CATFISH	K-40	3,479.6 +/-	396.2	
03-Nov-20	CHANNEL CATFISH	MN-54	<	17.2	
03-Nov-20	CHANNEL CATFISH	CO-58	<	18.5	
03-Nov-20	CHANNEL CATFISH	FE-59	<	30.7	
03-Nov-20	CHANNEL CATFISH	CO-60	<	15.1	
03-Nov-20	CHANNEL CATFISH	ZN-65	<	25.8	
03-Nov-20	CHANNEL CATFISH	I-131	<	89.2	
03-Nov-20	CHANNEL CATFISH	CS-134	<	16.0	
03-Nov-20	CHANNEL CATFISH	CS-137	<	19.0	
03-Nov-20	CHANNEL CATFISH	H-3	6,907.0 +/-	231.0	
03-Nov-20	COMMON CARP	K-40	3,476.1 +/-	367.3	
03-Nov-20	COMMON CARP	MN-54	<	20.6	
03-Nov-20	COMMON CARP	CO-58	<	23.7	
03-Nov-20	COMMON CARP	FE-59	<	29.8	
03-Nov-20	COMMON CARP	CO-60	<	16.3	
03-Nov-20	COMMON CARP	ZN-65	<	46.4	
03-Nov-20	COMMON CARP	I-131	<	80.1	
03-Nov-20	COMMON CARP	CS-134	<	16.9	
03-Nov-20	COMMON CARP	CS-137	<	19.3	
03-Nov-20	COMMON CARP	H-3	8,371.0 +/-	249.0	
03-Nov-20	CRAPPIE	K-40	3,832.7 +/-	235.4	
03-Nov-20	CRAPPIE	MN-54	<	14.4	
03-Nov-20	CRAPPIE	CO-58	<	7.6	
03-Nov-20	CRAPPIE	FE-59	<	22.6	
03-Nov-20	CRAPPIE	CO-60	<	12.3	
03-Nov-20	CRAPPIE	ZN-65	<	29.5	
03-Nov-20	CRAPPIE	I-131	<	51.9	
03-Nov-20	CRAPPIE	CS-134	<	11.8	
03-Nov-20	CRAPPIE	CS-137	<	12.8	
03-Nov-20	CRAPPIE	H-3	7,861.0 +/-	243.0	
03-Nov-20	FISH	K-40	3,706.6 +/-	397.7	Duplicate
03-Nov-20	FISH	MN-54	<	10.9	Duplicate
03-Nov-20	FISH	CO-58	<	17.0	Duplicate
03-Nov-20	FISH	FE-59	<	41.8	Duplicate

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
03-Nov-20	FISH	CO-60	<	14.8	Duplicate
03-Nov-20	FISH	ZN-65	<	28.9	Duplicate
03-Nov-20	FISH	I-131	<	118.6	Duplicate
03-Nov-20	FISH	CS-134	<	17.3	Duplicate
03-Nov-20	FISH	CS-137	<	15.0	Duplicate
03-Nov-20	FISH	H-3	8,034.0 +/-	247.0	Duplicate
03-Nov-20	SMALLMOUTH BUFFALO	K-40	3,303.6 +/-	464.4	
03-Nov-20	SMALLMOUTH BUFFALO	MN-54	<	18.6	
03-Nov-20	SMALLMOUTH BUFFALO	CO-58	<	25.4	
03-Nov-20	SMALLMOUTH BUFFALO	FE-59	<	48.7	
03-Nov-20	SMALLMOUTH BUFFALO	CO-60	<	14.6	
03-Nov-20	SMALLMOUTH BUFFALO	ZN-65	<	31.4	
03-Nov-20	SMALLMOUTH BUFFALO	I-131	<	94.0	
03-Nov-20	SMALLMOUTH BUFFALO	CS-134	<	21.5	
03-Nov-20	SMALLMOUTH BUFFALO	CS-137	<	17.5	
03-Nov-20	SMALLMOUTH BUFFALO	H-3	7,996.0 +/-	249.0	
03-Nov-20	WALLEY	K-40	4,135.1 +/-	398.2	
03-Nov-20	WALLEY	MN-54	<	17.9	
03-Nov-20	WALLEY	CO-58	<	12.8	
03-Nov-20	WALLEY	FE-59	<	47.1	
03-Nov-20	WALLEY	CO-60	<	11.1	
03-Nov-20	WALLEY	ZN-65	<	41.2	
03-Nov-20	WALLEY	I-131	<	98.3	
03-Nov-20	WALLEY	CS-134	<	16.0	
03-Nov-20	WALLEY	CS-137	<	19.7	
03-Nov-20	WALLEY	H-3	8,052.0 +/-	245.0	
03-Nov-20	WHITE BASS	K-40	3,572.6 +/-	346.4	
03-Nov-20	WHITE BASS	MN-54	<	16.8	
03-Nov-20	WHITE BASS	CO-58	<	13.0	
03-Nov-20	WHITE BASS	FE-59	<	45.3	
03-Nov-20	WHITE BASS	CO-60	<	20.3	
03-Nov-20	WHITE BASS	ZN-65	<	23.2	
03-Nov-20	WHITE BASS	I-131	<	88.1	
03-Nov-20	WHITE BASS	CS-134	<	19.5	
03-Nov-20	WHITE BASS	CS-137	<	18.8	
03-Nov-20	WHITE BASS	H-3	7,878.0 +/-	245.0	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Apr-20	BLACK CRAPPIE	K-40	5,196.4 +/-	646.6	
23-Apr-20	BLACK CRAPPIE	MN-54	<	33.1	
23-Apr-20	BLACK CRAPPIE	CO-58	<	20.5	
23-Apr-20	BLACK CRAPPIE	FE-59	<	44.0	
23-Apr-20	BLACK CRAPPIE	CO-60	<	22.2	
23-Apr-20	BLACK CRAPPIE	ZN-65	<	71.8	
23-Apr-20	BLACK CRAPPIE	I-131	<	35.0	
23-Apr-20	BLACK CRAPPIE	CS-134	<	25.6	
23-Apr-20	BLACK CRAPPIE	CS-137	<	19.4	
23-Apr-20	BLACK CRAPPIE	H-3	<	123.0	
23-Apr-20	CHANNEL CATFISH	K-40	4,067.8 +/-	507.9	
23-Apr-20	CHANNEL CATFISH	MN-54	<	16.7	
23-Apr-20	CHANNEL CATFISH	CO-58	<	13.8	
23-Apr-20	CHANNEL CATFISH	FE-59	<	49.1	
23-Apr-20	CHANNEL CATFISH	CO-60	<	18.1	
23-Apr-20	CHANNEL CATFISH	ZN-65	<	25.9	
23-Apr-20	CHANNEL CATFISH	I-131	<	35.1	
23-Apr-20	CHANNEL CATFISH	CS-134	<	19.1	
23-Apr-20	CHANNEL CATFISH	CS-137	<	20.7	
23-Apr-20	CHANNEL CATFISH	H-3	<	124.0	
23-Apr-20	COMMON CARP	K-40	4,613.4 +/-	550.2	
23-Apr-20	COMMON CARP	MN-54	<	17.0	
23-Apr-20	COMMON CARP	CO-58	<	18.9	
23-Apr-20	COMMON CARP	FE-59	<	46.2	
23-Apr-20	COMMON CARP	CO-60	<	24.5	
23-Apr-20	COMMON CARP	ZN-65	<	61.1	
23-Apr-20	COMMON CARP	I-131	<	23.7	
23-Apr-20	COMMON CARP	CS-134	<	23.6	
23-Apr-20	COMMON CARP	CS-137	<	17.6	
23-Apr-20	COMMON CARP	H-3	<	124.0	
23-Apr-20	DRUM	K-40	4,684.2 +/-	534.0	
23-Apr-20	DRUM	MN-54	<	14.2	
23-Apr-20	DRUM	CO-58	<	13.0	
23-Apr-20	DRUM	FE-59	<	55.1	
23-Apr-20	DRUM	CO-60	<	15.6	
23-Apr-20	DRUM	ZN-65	<	21.4	
23-Apr-20	DRUM	I-131	<	21.1	
23-Apr-20	DRUM	CS-134	<	20.7	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Apr-20	DRUM	CS-137	<	19.2	
23-Apr-20	DRUM	H-3	<	124.0	
23-Apr-20	LARGEMOUTH BASS	K-40	4,552.1 +/-	522.2	
23-Apr-20	LARGEMOUTH BASS	MN-54	<	14.7	
23-Apr-20	LARGEMOUTH BASS	CO-58	<	12.1	
23-Apr-20	LARGEMOUTH BASS	FE-59	<	44.8	
23-Apr-20	LARGEMOUTH BASS	CO-60	<	17.4	
23-Apr-20	LARGEMOUTH BASS	ZN-65	<	43.4	
23-Apr-20	LARGEMOUTH BASS	I-131	<	28.7	
23-Apr-20	LARGEMOUTH BASS	CS-134	<	19.5	
23-Apr-20	LARGEMOUTH BASS	CS-137	<	16.2	
23-Apr-20	LARGEMOUTH BASS	H-3	<	120.0	
23-Apr-20	SMALLMOUTH BUFFALO	K-40	3,849.6 +/-	509.8	
23-Apr-20	SMALLMOUTH BUFFALO	MN-54	<	13.6	
23-Apr-20	SMALLMOUTH BUFFALO	CO-58	<	18.9	
23-Apr-20	SMALLMOUTH BUFFALO	FE-59	<	39.1	
23-Apr-20	SMALLMOUTH BUFFALO	CO-60	<	15.5	
23-Apr-20	SMALLMOUTH BUFFALO	ZN-65	<	44.0	
23-Apr-20	SMALLMOUTH BUFFALO	I-131	<	34.3	
23-Apr-20	SMALLMOUTH BUFFALO	CS-134	<	16.1	
23-Apr-20	SMALLMOUTH BUFFALO	CS-137	<	23.1	
23-Apr-20	SMALLMOUTH BUFFALO	H-3	<	118.0	
23-Apr-20	WHITE CRAPPIE	K-40	3,776.1 +/-	542.1	
23-Apr-20	WHITE CRAPPIE	MN-54	<	23.0	
23-Apr-20	WHITE CRAPPIE	CO-58	<	13.0	
23-Apr-20	WHITE CRAPPIE	FE-59	<	54.4	
23-Apr-20	WHITE CRAPPIE	CO-60	<	8.5	
23-Apr-20	WHITE CRAPPIE	ZN-65	<	51.0	
23-Apr-20	WHITE CRAPPIE	I-131	<	36.3	
23-Apr-20	WHITE CRAPPIE	CS-134	<	24.9	
23-Apr-20	WHITE CRAPPIE	CS-137	<	20.6	
23-Apr-20	WHITE CRAPPIE	H-3	<	121.0	
06-Nov-20	COMMON CARP	K-40	3,608.6 +/-	485.1	
06-Nov-20	COMMON CARP	MN-54	<	17.4	
06-Nov-20	COMMON CARP	CO-58	<	24.4	
06-Nov-20	COMMON CARP	FE-59	<	26.0	
06-Nov-20	COMMON CARP	CO-60	<	9.6	
06-Nov-20	COMMON CARP	ZN-65	<	26.4	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
06-Nov-20	COMMON CARP	I-131	<	85.2	
06-Nov-20	COMMON CARP	CS-134	<	20.3	
06-Nov-20	COMMON CARP	CS-137	<	22.2	
06-Nov-20	COMMON CARP	H-3	<	125.0	
06-Nov-20	CRAPPIE	K-40	3,686.9 +/-	483.6	
06-Nov-20	CRAPPIE	MN-54	<	17.0	
06-Nov-20	CRAPPIE	CO-58	<	24.6	
06-Nov-20	CRAPPIE	FE-59	<	32.6	
06-Nov-20	CRAPPIE	CO-60	<	19.2	
06-Nov-20	CRAPPIE	ZN-65	<	31.7	
06-Nov-20	CRAPPIE	I-131	<	69.2	
06-Nov-20	CRAPPIE	CS-134	<	20.6	
06-Nov-20	CRAPPIE	CS-137	<	22.1	
06-Nov-20	CRAPPIE	H-3	<	123.0	
06-Nov-20	WHITE BASS	K-40	3,291.4 +/-	418.9	
06-Nov-20	WHITE BASS	MN-54	<	14.2	
06-Nov-20	WHITE BASS	CO-58	<	23.5	
06-Nov-20	WHITE BASS	FE-59	<	29.0	
06-Nov-20	WHITE BASS	CO-60	<	16.2	
06-Nov-20	WHITE BASS	ZN-65	<	21.1	
06-Nov-20	WHITE BASS	I-131	<	98.1	
06-Nov-20	WHITE BASS	CS-134	<	18.3	
06-Nov-20	WHITE BASS	CS-137	<	15.3	
06-Nov-20	WHITE BASS	H-3	<	121.0	

Exposure Pathway - Ingestion
Food/Garden
Location: A-3

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Jun-20	HORSERADISH LEAVES	BE-7	440.5 +/-	263.5	
23-Jun-20	HORSERADISH LEAVES	K-40	5,476.4 +/-	722.6	
23-Jun-20	HORSERADISH LEAVES	MN-54	<	17.3	
23-Jun-20	HORSERADISH LEAVES	CO-58	<	21.0	
23-Jun-20	HORSERADISH LEAVES	FE-59	<	43.6	
23-Jun-20	HORSERADISH LEAVES	CO-60	<	20.3	
23-Jun-20	HORSERADISH LEAVES	ZN-65	<	40.8	
23-Jun-20	HORSERADISH LEAVES	ZR-NB-95	<	23.1	
23-Jun-20	HORSERADISH LEAVES	I-131	<	31.9	
23-Jun-20	HORSERADISH LEAVES	CS-134	<	24.4	
23-Jun-20	HORSERADISH LEAVES	CS-137	<	22.4	
28-Jul-20	HORSERADISH LEAVES	BE-7	997.5 +/-	124.9	
28-Jul-20	HORSERADISH LEAVES	K-40	7,864.0 +/-	290.1	
28-Jul-20	HORSERADISH LEAVES	MN-54	<	12.6	
28-Jul-20	HORSERADISH LEAVES	CO-58	<	10.7	
28-Jul-20	HORSERADISH LEAVES	FE-59	<	13.5	
28-Jul-20	HORSERADISH LEAVES	CO-60	<	11.4	
28-Jul-20	HORSERADISH LEAVES	ZN-65	<	25.7	
28-Jul-20	HORSERADISH LEAVES	ZR-NB-95	<	12.6	
28-Jul-20	HORSERADISH LEAVES	I-131	<	26.8	
28-Jul-20	HORSERADISH LEAVES	CS-134	<	9.6	
28-Jul-20	HORSERADISH LEAVES	CS-137	<	8.4	
17-Aug-20	HORSERADISH LEAVES	BE-7	2,277.3 +/-	448.3	
17-Aug-20	HORSERADISH LEAVES	K-40	9,460.1 +/-	870.5	
17-Aug-20	HORSERADISH LEAVES	MN-54	<	16.8	
17-Aug-20	HORSERADISH LEAVES	CO-58	<	19.9	
17-Aug-20	HORSERADISH LEAVES	FE-59	<	44.8	
17-Aug-20	HORSERADISH LEAVES	CO-60	<	16.0	
17-Aug-20	HORSERADISH LEAVES	ZN-65	<	42.9	
17-Aug-20	HORSERADISH LEAVES	ZR-NB-95	<	34.8	
17-Aug-20	HORSERADISH LEAVES	I-131	<	39.9	
17-Aug-20	HORSERADISH LEAVES	CS-134	<	36.0	
17-Aug-20	HORSERADISH LEAVES	CS-137	<	22.7	
12-Oct-20	HORSERADISH LEAVES	BE-7	815.1 +/-	322.7	
12-Oct-20	HORSERADISH LEAVES	K-40	8,697.7 +/-	798.5	
12-Oct-20	HORSERADISH LEAVES	MN-54	<	26.9	
12-Oct-20	HORSERADISH LEAVES	CO-58	<	28.2	
12-Oct-20	HORSERADISH LEAVES	FE-59	<	64.6	

Exposure Pathway - Ingestion
Food/Garden
Location: A-3

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
12-Oct-20	HORSERADISH LEAVES	CO-60	<	22.2	
12-Oct-20	HORSERADISH LEAVES	ZN-65	<	35.5	
12-Oct-20	HORSERADISH LEAVES	ZR-NB-95	<	18.7	
12-Oct-20	HORSERADISH LEAVES	I-131	<	53.0	
12-Oct-20	HORSERADISH LEAVES	CS-134	<	28.8	
12-Oct-20	HORSERADISH LEAVES	CS-137	<	26.5	

Exposure Pathway - Ingestion
Food/Garden
Location: B-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
18-May-20	HORSERADISH LEAVES	BE-7	1,350.7 +/-	240.0	
18-May-20	HORSERADISH LEAVES	K-40	2,984.8 +/-	398.3	
18-May-20	HORSERADISH LEAVES	MN-54	<	14.0	
18-May-20	HORSERADISH LEAVES	CO-58	<	8.6	
18-May-20	HORSERADISH LEAVES	FE-59	<	30.7	
18-May-20	HORSERADISH LEAVES	CO-60	<	13.4	
18-May-20	HORSERADISH LEAVES	ZN-65	<	42.2	
18-May-20	HORSERADISH LEAVES	ZR-NB-95	<	11.9	
18-May-20	HORSERADISH LEAVES	I-131	<	13.5	
18-May-20	HORSERADISH LEAVES	CS-134	<	16.7	
18-May-20	HORSERADISH LEAVES	CS-137	<	19.3	
23-Jun-20	HORSERADISH LEAVES	BE-7	1,137.2 +/-	363.2	
23-Jun-20	HORSERADISH LEAVES	K-40	6,628.3 +/-	909.0	
23-Jun-20	HORSERADISH LEAVES	MN-54	<	36.6	
23-Jun-20	HORSERADISH LEAVES	CO-58	<	21.3	
23-Jun-20	HORSERADISH LEAVES	FE-59	<	47.7	
23-Jun-20	HORSERADISH LEAVES	CO-60	<	19.3	
23-Jun-20	HORSERADISH LEAVES	ZN-65	<	55.6	
23-Jun-20	HORSERADISH LEAVES	ZR-NB-95	<	24.5	
23-Jun-20	HORSERADISH LEAVES	I-131	<	20.6	
23-Jun-20	HORSERADISH LEAVES	CS-134	<	34.1	
23-Jun-20	HORSERADISH LEAVES	CS-137	<	28.1	
28-Jul-20	HORSERADISH LEAVES	BE-7	1,148.7 +/-	149.2	
28-Jul-20	HORSERADISH LEAVES	K-40	5,206.9 +/-	290.1	
28-Jul-20	HORSERADISH LEAVES	MN-54	<	11.5	
28-Jul-20	HORSERADISH LEAVES	CO-58	<	5.8	
28-Jul-20	HORSERADISH LEAVES	FE-59	<	24.2	
28-Jul-20	HORSERADISH LEAVES	CO-60	<	9.6	
28-Jul-20	HORSERADISH LEAVES	ZN-65	<	23.7	
28-Jul-20	HORSERADISH LEAVES	ZR-NB-95	<	12.1	
28-Jul-20	HORSERADISH LEAVES	I-131	<	38.0	
28-Jul-20	HORSERADISH LEAVES	CS-134	<	9.9	
28-Jul-20	HORSERADISH LEAVES	CS-137	<	11.7	
17-Aug-20	HORSERADISH LEAVES	BE-7	1,544.6 +/-	313.0	
17-Aug-20	HORSERADISH LEAVES	K-40	7,629.3 +/-	762.1	
17-Aug-20	HORSERADISH LEAVES	MN-54	<	21.7	
17-Aug-20	HORSERADISH LEAVES	CO-58	<	23.6	
17-Aug-20	HORSERADISH LEAVES	FE-59	<	56.7	

Exposure Pathway - Ingestion
Food/Garden
Location: B-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
17-Aug-20	HORSERADISH LEAVES	CO-60	<	26.2	
17-Aug-20	HORSERADISH LEAVES	ZN-65	<	75.4	
17-Aug-20	HORSERADISH LEAVES	ZR-NB-95	<	31.5	
17-Aug-20	HORSERADISH LEAVES	I-131	<	23.0	
17-Aug-20	HORSERADISH LEAVES	CS-134	<	24.7	
17-Aug-20	HORSERADISH LEAVES	CS-137	<	17.0	
08-Sep-20	HORSERADISH LEAVES	BE-7	1,331.1 +/-	306.0	
08-Sep-20	HORSERADISH LEAVES	K-40	6,046.1 +/-	669.0	
08-Sep-20	HORSERADISH LEAVES	MN-54	<	15.2	
08-Sep-20	HORSERADISH LEAVES	CO-58	<	12.2	
08-Sep-20	HORSERADISH LEAVES	FE-59	<	53.8	
08-Sep-20	HORSERADISH LEAVES	CO-60	<	14.5	
08-Sep-20	HORSERADISH LEAVES	ZN-65	<	42.3	
08-Sep-20	HORSERADISH LEAVES	ZR-NB-95	<	21.1	
08-Sep-20	HORSERADISH LEAVES	I-131	<	56.2	
08-Sep-20	HORSERADISH LEAVES	CS-134	<	24.4	
08-Sep-20	HORSERADISH LEAVES	CS-137	<	19.5	
12-Oct-20	HORSERADISH LEAVES	BE-7	441.2 +/-	124.2	
12-Oct-20	HORSERADISH LEAVES	K-40	6,393.6 +/-	287.0	
12-Oct-20	HORSERADISH LEAVES	MN-54	<	12.9	
12-Oct-20	HORSERADISH LEAVES	CO-58	<	10.8	
12-Oct-20	HORSERADISH LEAVES	FE-59	<	24.0	
12-Oct-20	HORSERADISH LEAVES	CO-60	<	12.4	
12-Oct-20	HORSERADISH LEAVES	ZN-65	<	20.5	
12-Oct-20	HORSERADISH LEAVES	ZR-NB-95	<	9.9	
12-Oct-20	HORSERADISH LEAVES	I-131	<	17.2	
12-Oct-20	HORSERADISH LEAVES	CS-134	<	11.1	
12-Oct-20	HORSERADISH LEAVES	CS-137	<	8.4	

Exposure Pathway - Ingestion
Food/Garden
Location: D-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Jun-20	HORSERADISH LEAVES	BE-7	613.7 +/-	248.0	
23-Jun-20	HORSERADISH LEAVES	K-40	6,390.8 +/-	668.8	
23-Jun-20	HORSERADISH LEAVES	MN-54	<	15.1	
23-Jun-20	HORSERADISH LEAVES	CO-58	<	15.4	
23-Jun-20	HORSERADISH LEAVES	FE-59	<	32.8	
23-Jun-20	HORSERADISH LEAVES	CO-60	<	12.2	
23-Jun-20	HORSERADISH LEAVES	ZN-65	<	41.2	
23-Jun-20	HORSERADISH LEAVES	ZR-NB-95	<	19.7	
23-Jun-20	HORSERADISH LEAVES	I-131	<	21.2	
23-Jun-20	HORSERADISH LEAVES	CS-134	<	22.8	
23-Jun-20	HORSERADISH LEAVES	CS-137	<	16.8	
28-Jul-20	HORSERADISH LEAVES	BE-7	851.3 +/-	222.7	
28-Jul-20	HORSERADISH LEAVES	K-40	5,883.3 +/-	406.4	
28-Jul-20	HORSERADISH LEAVES	MN-54	<	14.1	
28-Jul-20	HORSERADISH LEAVES	CO-58	<	14.0	
28-Jul-20	HORSERADISH LEAVES	FE-59	<	20.1	
28-Jul-20	HORSERADISH LEAVES	CO-60	<	11.5	
28-Jul-20	HORSERADISH LEAVES	ZN-65	<	20.3	
28-Jul-20	HORSERADISH LEAVES	ZR-NB-95	<	15.3	
28-Jul-20	HORSERADISH LEAVES	I-131	<	44.4	
28-Jul-20	HORSERADISH LEAVES	CS-134	<	14.4	
28-Jul-20	HORSERADISH LEAVES	CS-137	<	14.8	
17-Aug-20	HORSERADISH LEAVES	BE-7	1,379.3 +/-	318.9	
17-Aug-20	HORSERADISH LEAVES	K-40	7,443.6 +/-	731.7	
17-Aug-20	HORSERADISH LEAVES	MN-54	<	21.5	
17-Aug-20	HORSERADISH LEAVES	CO-58	<	24.7	
17-Aug-20	HORSERADISH LEAVES	FE-59	<	38.3	
17-Aug-20	HORSERADISH LEAVES	CO-60	<	18.3	
17-Aug-20	HORSERADISH LEAVES	ZN-65	<	63.1	
17-Aug-20	HORSERADISH LEAVES	ZR-NB-95	<	22.5	
17-Aug-20	HORSERADISH LEAVES	I-131	<	30.0	
17-Aug-20	HORSERADISH LEAVES	CS-134	<	27.5	
17-Aug-20	HORSERADISH LEAVES	CS-137	<	11.8	
08-Sep-20	HORSERADISH LEAVES	BE-7	1,746.9 +/-	249.7	
08-Sep-20	HORSERADISH LEAVES	K-40	10,478.0 +/-	558.0	
08-Sep-20	HORSERADISH LEAVES	MN-54	<	15.9	
08-Sep-20	HORSERADISH LEAVES	CO-58	<	13.1	
08-Sep-20	HORSERADISH LEAVES	FE-59	<	42.9	

Exposure Pathway - Ingestion
Food/Garden
Location: D-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
08-Sep-20	HORSERADISH LEAVES	CO-60	<	19.6	
08-Sep-20	HORSERADISH LEAVES	ZN-65	<	35.1	
08-Sep-20	HORSERADISH LEAVES	ZR-NB-95	<	15.5	
08-Sep-20	HORSERADISH LEAVES	I-131	<	57.1	
08-Sep-20	HORSERADISH LEAVES	CS-134	<	19.0	
08-Sep-20	HORSERADISH LEAVES	CS-137	<	16.9	
12-Oct-20	HORSERADISH LEAVES	BE-7	550.6 +/-	212.3	
12-Oct-20	HORSERADISH LEAVES	K-40	7,651.7 +/-	617.6	
12-Oct-20	HORSERADISH LEAVES	MN-54	<	17.4	
12-Oct-20	HORSERADISH LEAVES	CO-58	<	19.2	
12-Oct-20	HORSERADISH LEAVES	FE-59	<	31.3	
12-Oct-20	HORSERADISH LEAVES	CO-60	<	15.7	
12-Oct-20	HORSERADISH LEAVES	ZN-65	<	38.0	
12-Oct-20	HORSERADISH LEAVES	ZR-NB-95	<	20.3	
12-Oct-20	HORSERADISH LEAVES	I-131	<	48.1	
12-Oct-20	HORSERADISH LEAVES	CS-134	<	19.2	
12-Oct-20	HORSERADISH LEAVES	CS-137	<	13.4	

Exposure Pathway - Ingestion
Food/Garden
Location: H-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
18-May-20	HORSERADISH LEAVES	BE-7	811.7 +/-	174.0	
18-May-20	HORSERADISH LEAVES	K-40	2,845.2 +/-	379.9	
18-May-20	HORSERADISH LEAVES	MN-54	<	14.9	
18-May-20	HORSERADISH LEAVES	CO-58	<	15.6	
18-May-20	HORSERADISH LEAVES	FE-59	<	32.0	
18-May-20	HORSERADISH LEAVES	CO-60	<	10.8	
18-May-20	HORSERADISH LEAVES	ZN-65	<	16.8	
18-May-20	HORSERADISH LEAVES	ZR-NB-95	<	10.9	
18-May-20	HORSERADISH LEAVES	I-131	<	18.6	
18-May-20	HORSERADISH LEAVES	CS-134	<	15.8	
18-May-20	HORSERADISH LEAVES	CS-137	<	14.8	
23-Jun-20	HORSERADISH LEAVES	BE-7	1,491.1 +/-	468.1	
23-Jun-20	HORSERADISH LEAVES	K-40	7,947.5 +/-	988.6	
23-Jun-20	HORSERADISH LEAVES	MN-54	<	33.2	
23-Jun-20	HORSERADISH LEAVES	CO-58	<	19.0	
23-Jun-20	HORSERADISH LEAVES	FE-59	<	75.0	
23-Jun-20	HORSERADISH LEAVES	CO-60	<	21.1	
23-Jun-20	HORSERADISH LEAVES	ZN-65	<	60.5	
23-Jun-20	HORSERADISH LEAVES	ZR-NB-95	<	21.0	
23-Jun-20	HORSERADISH LEAVES	I-131	<	43.5	
23-Jun-20	HORSERADISH LEAVES	CS-134	<	40.4	
23-Jun-20	HORSERADISH LEAVES	CS-137	<	22.5	
28-Jul-20	HORSERADISH LEAVES	BE-7	1,405.1 +/-	124.0	
28-Jul-20	HORSERADISH LEAVES	K-40	5,425.8 +/-	241.8	
28-Jul-20	HORSERADISH LEAVES	MN-54	<	7.6	
28-Jul-20	HORSERADISH LEAVES	CO-58	<	6.3	
28-Jul-20	HORSERADISH LEAVES	FE-59	<	15.1	
28-Jul-20	HORSERADISH LEAVES	CO-60	<	8.5	
28-Jul-20	HORSERADISH LEAVES	ZN-65	<	19.6	
28-Jul-20	HORSERADISH LEAVES	ZR-NB-95	<	10.9	
28-Jul-20	HORSERADISH LEAVES	I-131	<	24.8	
28-Jul-20	HORSERADISH LEAVES	CS-134	<	8.9	
28-Jul-20	HORSERADISH LEAVES	CS-137	<	10.2	
17-Aug-20	HORSERADISH LEAVES	BE-7	2,129.1 +/-	334.1	
17-Aug-20	HORSERADISH LEAVES	K-40	7,363.4 +/-	898.6	
17-Aug-20	HORSERADISH LEAVES	MN-54	<	29.0	
17-Aug-20	HORSERADISH LEAVES	CO-58	<	31.0	
17-Aug-20	HORSERADISH LEAVES	FE-59	<	65.8	

Exposure Pathway - Ingestion
Food/Garden
Location: H-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
17-Aug-20	HORSERADISH LEAVES	CO-60	<	31.1	
17-Aug-20	HORSERADISH LEAVES	ZN-65	<	54.1	
17-Aug-20	HORSERADISH LEAVES	ZR-NB-95	<	45.1	
17-Aug-20	HORSERADISH LEAVES	I-131	<	37.3	
17-Aug-20	HORSERADISH LEAVES	CS-134	<	36.5	
17-Aug-20	HORSERADISH LEAVES	CS-137	<	24.6	
08-Sep-20	HORSERADISH LEAVES	BE-7	607.1 +/-	230.3	Duplicate
08-Sep-20	HORSERADISH LEAVES	BE-7	496.4 +/-	170.6	
08-Sep-20	HORSERADISH LEAVES	K-40	4,971.8 +/-	446.1	Duplicate
08-Sep-20	HORSERADISH LEAVES	K-40	4,643.5 +/-	542.6	
08-Sep-20	HORSERADISH LEAVES	MN-54	<	15.2	Duplicate
08-Sep-20	HORSERADISH LEAVES	MN-54	<	13.1	
08-Sep-20	HORSERADISH LEAVES	CO-58	<	16.8	Duplicate
08-Sep-20	HORSERADISH LEAVES	CO-58	<	16.3	
08-Sep-20	HORSERADISH LEAVES	FE-59	<	27.2	Duplicate
08-Sep-20	HORSERADISH LEAVES	FE-59	<	25.7	
08-Sep-20	HORSERADISH LEAVES	CO-60	<	19.7	Duplicate
08-Sep-20	HORSERADISH LEAVES	CO-60	<	19.8	
08-Sep-20	HORSERADISH LEAVES	ZN-65	<	51.9	Duplicate
08-Sep-20	HORSERADISH LEAVES	ZN-65	<	21.7	
08-Sep-20	HORSERADISH LEAVES	ZR-NB-95	<	16.6	
08-Sep-20	HORSERADISH LEAVES	ZR-NB-95	<	36.1	Duplicate
08-Sep-20	HORSERADISH LEAVES	I-131	<	31.8	
08-Sep-20	HORSERADISH LEAVES	I-131	<	59.7	Duplicate
08-Sep-20	HORSERADISH LEAVES	CS-134	<	24.1	Duplicate
08-Sep-20	HORSERADISH LEAVES	CS-134	<	23.1	
08-Sep-20	HORSERADISH LEAVES	CS-137	<	13.7	
08-Sep-20	HORSERADISH LEAVES	CS-137	<	10.7	Duplicate
12-Oct-20	HORSERADISH LEAVES	BE-7	517.6 +/-	123.4	
12-Oct-20	HORSERADISH LEAVES	K-40	7,109.7 +/-	316.1	
12-Oct-20	HORSERADISH LEAVES	MN-54	<	11.0	
12-Oct-20	HORSERADISH LEAVES	CO-58	<	12.0	
12-Oct-20	HORSERADISH LEAVES	FE-59	<	25.1	
12-Oct-20	HORSERADISH LEAVES	CO-60	<	9.5	
12-Oct-20	HORSERADISH LEAVES	ZN-65	<	17.9	
12-Oct-20	HORSERADISH LEAVES	ZR-NB-95	<	11.3	
12-Oct-20	HORSERADISH LEAVES	I-131	<	25.2	
12-Oct-20	HORSERADISH LEAVES	CS-134	<	8.8	

Exposure Pathway - Ingestion
Food/Garden
Location: H-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
12-Oct-20	HORSERADISH LEAVES	CS-137	<	8.6	

Exposure Pathway - Ingestion
Food/Garden
Location: Q-6

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
18-May-20	HORSERADISH LEAVES	BE-7	1,684.5 +/-	299.4	
18-May-20	HORSERADISH LEAVES	K-40	4,827.9 +/-	594.1	
18-May-20	HORSERADISH LEAVES	MN-54	<	17.8	
18-May-20	HORSERADISH LEAVES	CO-58	<	19.0	
18-May-20	HORSERADISH LEAVES	FE-59	<	40.2	
18-May-20	HORSERADISH LEAVES	CO-60	<	20.2	
18-May-20	HORSERADISH LEAVES	ZN-65	<	39.7	
18-May-20	HORSERADISH LEAVES	ZR-NB-95	<	20.6	
18-May-20	HORSERADISH LEAVES	I-131	<	25.1	
18-May-20	HORSERADISH LEAVES	CS-134	<	24.7	
18-May-20	HORSERADISH LEAVES	CS-137	<	15.4	
23-Jun-20	HORSERADISH LEAVES	BE-7	852.1 +/-	218.8	
23-Jun-20	HORSERADISH LEAVES	K-40	4,280.4 +/-	623.0	
23-Jun-20	HORSERADISH LEAVES	MN-54	<	19.5	
23-Jun-20	HORSERADISH LEAVES	CO-58	<	19.6	
23-Jun-20	HORSERADISH LEAVES	FE-59	<	44.9	
23-Jun-20	HORSERADISH LEAVES	CO-60	<	17.9	
23-Jun-20	HORSERADISH LEAVES	ZN-65	<	23.3	
23-Jun-20	HORSERADISH LEAVES	ZR-NB-95	<	23.0	
23-Jun-20	HORSERADISH LEAVES	I-131	<	26.8	
23-Jun-20	HORSERADISH LEAVES	CS-134	<	21.3	
23-Jun-20	HORSERADISH LEAVES	CS-137	<	29.7	

Exposure Pathway - Ingestion
Food/Crops
Location: NR-D1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
07-Oct-20	NON-IRRIGATED CORN	BE-7	<	61.8	
07-Oct-20	NON-IRRIGATED CORN	K-40	2,651.5 +/-	285.3	
07-Oct-20	NON-IRRIGATED CORN	MN-54	<	10.3	
07-Oct-20	NON-IRRIGATED CORN	CO-58	<	5.5	
07-Oct-20	NON-IRRIGATED CORN	FE-59	<	28.6	
07-Oct-20	NON-IRRIGATED CORN	CO-60	<	11.9	
07-Oct-20	NON-IRRIGATED CORN	ZN-65	<	15.4	
07-Oct-20	NON-IRRIGATED CORN	ZR-NB-95	<	12.1	
07-Oct-20	NON-IRRIGATED CORN	I-131	<	41.2	
07-Oct-20	NON-IRRIGATED CORN	CS-134	<	11.5	
07-Oct-20	NON-IRRIGATED CORN	CS-137	<	11.1	
29-Oct-20	NON-IRRIGATED CORN	BE-7	<	80.0	
29-Oct-20	NON-IRRIGATED CORN	K-40	3,552.4 +/-	304.6	
29-Oct-20	NON-IRRIGATED CORN	MN-54	<	9.3	
29-Oct-20	NON-IRRIGATED CORN	CO-58	<	7.5	
29-Oct-20	NON-IRRIGATED CORN	FE-59	<	19.5	
29-Oct-20	NON-IRRIGATED CORN	CO-60	<	6.4	
29-Oct-20	NON-IRRIGATED CORN	ZN-65	<	21.9	
29-Oct-20	NON-IRRIGATED CORN	ZR-NB-95	<	10.1	
29-Oct-20	NON-IRRIGATED CORN	I-131	<	22.4	
29-Oct-20	NON-IRRIGATED CORN	CS-134	<	10.3	
29-Oct-20	NON-IRRIGATED CORN	CS-137	<	10.4	
04-Nov-20	IRRIGATED SOYBEANS	BE-7	<	127.6	
04-Nov-20	IRRIGATED SOYBEANS	K-40	18,435.0 +/-	784.0	
04-Nov-20	IRRIGATED SOYBEANS	MN-54	<	20.6	
04-Nov-20	IRRIGATED SOYBEANS	CO-58	<	19.3	
04-Nov-20	IRRIGATED SOYBEANS	FE-59	<	51.5	
04-Nov-20	IRRIGATED SOYBEANS	CO-60	<	24.9	
04-Nov-20	IRRIGATED SOYBEANS	ZN-65	<	39.6	
04-Nov-20	IRRIGATED SOYBEANS	ZR-NB-95	<	19.8	
04-Nov-20	IRRIGATED SOYBEANS	I-131	<	53.4	
04-Nov-20	IRRIGATED SOYBEANS	CS-134	<	19.1	
04-Nov-20	IRRIGATED SOYBEANS	CS-137	<	18.4	

Exposure Pathway - Ingestion
Food/Crops
Location: NR-U1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
04-Nov-20	NON-IRRIGATED SOYBEANS	BE-7	<	178.3	
04-Nov-20	NON-IRRIGATED SOYBEANS	K-40	14,538.0 +/-	681.5	
04-Nov-20	NON-IRRIGATED SOYBEANS	MN-54	<	17.2	
04-Nov-20	NON-IRRIGATED SOYBEANS	CO-58	<	14.6	
04-Nov-20	NON-IRRIGATED SOYBEANS	FE-59	<	44.4	
04-Nov-20	NON-IRRIGATED SOYBEANS	CO-60	<	13.8	
04-Nov-20	NON-IRRIGATED SOYBEANS	ZN-65	<	40.4	
04-Nov-20	NON-IRRIGATED SOYBEANS	ZR-NB-95	<	12.8	
04-Nov-20	NON-IRRIGATED SOYBEANS	I-131	<	53.8	
04-Nov-20	NON-IRRIGATED SOYBEANS	CS-134	<	18.0	
04-Nov-20	NON-IRRIGATED SOYBEANS	CS-137	<	17.9	

Exposure Pathway - Aquatic
Bottom Sediment
Location: DC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
27-May-20	BOTTOM SEDIMENT	K-40	8,344.4	+/- 571.3	
27-May-20	BOTTOM SEDIMENT	MN-54	<	16.8	
27-May-20	BOTTOM SEDIMENT	CO-58	<	19.3	
27-May-20	BOTTOM SEDIMENT	FE-59	<	47.1	
27-May-20	BOTTOM SEDIMENT	CO-60	<	22.0	
27-May-20	BOTTOM SEDIMENT	ZN-65	<	44.8	
27-May-20	BOTTOM SEDIMENT	CS-134	<	18.5	
27-May-20	BOTTOM SEDIMENT	CS-137	32.9	+/- 17.2	
27-May-20	BOTTOM SEDIMENT	FE-55	<	26,338.0	
15-Oct-20	BOTTOM SEDIMENT	K-40	11,282.0	+/- 956.5	
15-Oct-20	BOTTOM SEDIMENT	MN-54	<	39.1	
15-Oct-20	BOTTOM SEDIMENT	CO-58	<	53.3	
15-Oct-20	BOTTOM SEDIMENT	FE-59	<	165.9	
15-Oct-20	BOTTOM SEDIMENT	CO-60	<	22.0	
15-Oct-20	BOTTOM SEDIMENT	ZN-65	<	72.7	
15-Oct-20	BOTTOM SEDIMENT	CS-134	<	27.9	
15-Oct-20	BOTTOM SEDIMENT	CS-137	<	48.1	
15-Oct-20	BOTTOM SEDIMENT	FE-55	<	5,391.0	

Exposure Pathway - Aquatic
Bottom Sediment
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
19-Jun-20	BOTTOM SEDIMENT	K-40	10,360.0 +/-	530.0	
19-Jun-20	BOTTOM SEDIMENT	MN-54	<	19.7	
19-Jun-20	BOTTOM SEDIMENT	CO-58	<	18.0	
19-Jun-20	BOTTOM SEDIMENT	FE-59	<	32.1	
19-Jun-20	BOTTOM SEDIMENT	CO-60	<	17.1	
19-Jun-20	BOTTOM SEDIMENT	ZN-65	<	38.4	
19-Jun-20	BOTTOM SEDIMENT	CS-134	<	15.9	
19-Jun-20	BOTTOM SEDIMENT	CS-137	<	15.9	

Exposure Pathway - Aquatic
Bottom Sediment
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
23-Apr-20	BOTTOM SEDIMENT	K-40	13,048.0 +/-	1,168.9	
23-Apr-20	BOTTOM SEDIMENT	MN-54	<	59.9	
23-Apr-20	BOTTOM SEDIMENT	CO-58	<	43.8	
23-Apr-20	BOTTOM SEDIMENT	FE-59	<	125.3	
23-Apr-20	BOTTOM SEDIMENT	CO-60	<	25.6	
23-Apr-20	BOTTOM SEDIMENT	ZN-65	<	97.5	
23-Apr-20	BOTTOM SEDIMENT	CS-134	<	36.8	
23-Apr-20	BOTTOM SEDIMENT	CS-137	88.7 +/-	45.5	
15-Oct-20	BOTTOM SEDIMENT	K-40	12,966.0 +/-	943.4	
15-Oct-20	BOTTOM SEDIMENT	MN-54	<	35.0	
15-Oct-20	BOTTOM SEDIMENT	CO-58	<	65.0	
15-Oct-20	BOTTOM SEDIMENT	FE-59	<	89.2	
15-Oct-20	BOTTOM SEDIMENT	CO-60	<	26.8	
15-Oct-20	BOTTOM SEDIMENT	ZN-65	<	105.6	
15-Oct-20	BOTTOM SEDIMENT	CS-134	<	41.4	
15-Oct-20	BOTTOM SEDIMENT	CS-137	<	44.0	

Exposure Pathway - Aquatic
Bottom Sediment
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
15-Apr-20	BOTTOM SEDIMENT	K-40	9,440.8 +/-	571.7	
15-Apr-20	BOTTOM SEDIMENT	MN-54	<	22.8	
15-Apr-20	BOTTOM SEDIMENT	CO-58	<	26.2	
15-Apr-20	BOTTOM SEDIMENT	FE-59	<	61.9	
15-Apr-20	BOTTOM SEDIMENT	CO-60	<	13.8	
15-Apr-20	BOTTOM SEDIMENT	ZN-65	<	36.6	
15-Apr-20	BOTTOM SEDIMENT	CS-134	<	14.2	
15-Apr-20	BOTTOM SEDIMENT	CS-137	<	14.2	
08-Jun-20	BOTTOM SEDIMENT	K-40	11,031.0 +/-	652.4	
08-Jun-20	BOTTOM SEDIMENT	MN-54	<	26.4	
08-Jun-20	BOTTOM SEDIMENT	CO-58	<	34.3	
08-Jun-20	BOTTOM SEDIMENT	FE-59	<	38.9	
08-Jun-20	BOTTOM SEDIMENT	CO-60	<	22.8	
08-Jun-20	BOTTOM SEDIMENT	ZN-65	<	52.5	
08-Jun-20	BOTTOM SEDIMENT	CS-134	<	24.1	
08-Jun-20	BOTTOM SEDIMENT	CS-137	334.7 +/-	43.7	

Exposure Pathway - Aquatic Vegetation
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
17-Aug-20	PRIMROSE	BE-7	701.5 +/-	286.5	
17-Aug-20	PRIMROSE	K-40	2,797.2 +/-	470.4	
17-Aug-20	PRIMROSE	MN-54	<	25.1	
17-Aug-20	PRIMROSE	CO-58	<	20.0	
17-Aug-20	PRIMROSE	FE-59	<	38.5	
17-Aug-20	PRIMROSE	CO-60	<	13.0	
17-Aug-20	PRIMROSE	ZN-65	<	56.7	
17-Aug-20	PRIMROSE	ZR-NB-95	<	36.1	
17-Aug-20	PRIMROSE	I-131	<	21.9	
17-Aug-20	PRIMROSE	CS-134	<	25.9	
17-Aug-20	PRIMROSE	CS-137	<	25.1	

Exposure Pathway - Aquatic Vegetation
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
04-Sep-20	BRITTLE NAIAD	BE-7	266.9 +/-	124.1	
04-Sep-20	BRITTLE NAIAD	K-40	3,129.1 +/-	279.8	
04-Sep-20	BRITTLE NAIAD	MN-54	<	10.0	
04-Sep-20	BRITTLE NAIAD	CO-58	<	8.7	
04-Sep-20	BRITTLE NAIAD	FE-59	<	13.5	
04-Sep-20	BRITTLE NAIAD	CO-60	<	9.6	
04-Sep-20	BRITTLE NAIAD	ZN-65	<	14.2	
04-Sep-20	BRITTLE NAIAD	ZR-NB-95	<	14.7	
04-Sep-20	BRITTLE NAIAD	I-131	<	27.1	
04-Sep-20	BRITTLE NAIAD	CS-134	<	10.4	
04-Sep-20	BRITTLE NAIAD	CS-137	<	12.8	

Exposure Pathway - Aquatic Vegetation
Location: SC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Sep-20	CATTAILS	BE-7	686.3 +/-	221.2	
23-Sep-20	CATTAILS	K-40	4,449.0 +/-	424.0	
23-Sep-20	CATTAILS	MN-54	<	13.9	
23-Sep-20	CATTAILS	CO-58	<	8.0	
23-Sep-20	CATTAILS	FE-59	<	36.9	
23-Sep-20	CATTAILS	CO-60	<	17.4	
23-Sep-20	CATTAILS	ZN-65	<	16.1	
23-Sep-20	CATTAILS	ZR-NB-95	<	16.3	
23-Sep-20	CATTAILS	I-131	<	35.0	
23-Sep-20	CATTAILS	CS-134	<	16.7	
23-Sep-20	CATTAILS	CS-137	<	13.8	

Exposure Pathway - Terrestrial
Vegetation
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
29-Jun-20	PASTURAGE	BE-7	492.9 +/-	178.7	
29-Jun-20	PASTURAGE	K-40	7,516.9 +/-	577.8	
29-Jun-20	PASTURAGE	MN-54	<	18.5	
29-Jun-20	PASTURAGE	CO-58	<	19.5	
29-Jun-20	PASTURAGE	FE-59	<	24.0	
29-Jun-20	PASTURAGE	CO-60	<	17.6	
29-Jun-20	PASTURAGE	ZN-65	<	47.6	
29-Jun-20	PASTURAGE	ZR-NB-95	<	14.0	
29-Jun-20	PASTURAGE	I-131	<	50.5	
29-Jun-20	PASTURAGE	CS-134	<	16.9	
29-Jun-20	PASTURAGE	CS-137	<	22.0	

Exposure Pathway - Terrestrial
Vegetation
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
29-Jun-20	PASTURAGE	BE-7	2,262.0 +/-	322.0	
29-Jun-20	PASTURAGE	BE-7	2,780.0 +/-	355.0	Duplicate
29-Jun-20	PASTURAGE	K-40	2,715.1 +/-	455.0	
29-Jun-20	PASTURAGE	K-40	3,386.3 +/-	569.6	Duplicate
29-Jun-20	PASTURAGE	MN-54	<	22.9	
29-Jun-20	PASTURAGE	MN-54	<	22.3	Duplicate
29-Jun-20	PASTURAGE	CO-58	<	18.3	Duplicate
29-Jun-20	PASTURAGE	CO-58	<	15.8	
29-Jun-20	PASTURAGE	FE-59	<	23.9	Duplicate
29-Jun-20	PASTURAGE	FE-59	<	38.9	
29-Jun-20	PASTURAGE	CO-60	<	13.3	
29-Jun-20	PASTURAGE	CO-60	<	19.8	Duplicate
29-Jun-20	PASTURAGE	ZN-65	<	46.5	Duplicate
29-Jun-20	PASTURAGE	ZN-65	<	11.6	
29-Jun-20	PASTURAGE	ZR-NB-95	<	23.5	Duplicate
29-Jun-20	PASTURAGE	ZR-NB-95	<	18.0	
29-Jun-20	PASTURAGE	I-131	<	58.9	Duplicate
29-Jun-20	PASTURAGE	I-131	<	38.5	
29-Jun-20	PASTURAGE	CS-134	<	27.3	Duplicate
29-Jun-20	PASTURAGE	CS-134	<	23.4	
29-Jun-20	PASTURAGE	CS-137	<	25.5	
29-Jun-20	PASTURAGE	CS-137	<	31.2	Duplicate

Exposure Pathway - Terrestrial
Soil
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
03-Feb-20	SOIL	K-40	12,640.0 +/-	653.2	
03-Feb-20	SOIL	MN-54	<	22.9	
03-Feb-20	SOIL	CO-58	<	24.6	
03-Feb-20	SOIL	FE-59	<	35.5	
03-Feb-20	SOIL	CO-60	<	21.9	
03-Feb-20	SOIL	ZN-65	<	55.1	
03-Feb-20	SOIL	CS-134	<	17.9	
03-Feb-20	SOIL	CS-137	154.9 +/-	22.2	

Exposure Pathway - Ingestion
Meat
Location: G1.8

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Nov-20	DEER	K-40	3,277.8 +/-	473.4	
23-Nov-20	DEER	MN-54	<	15.7	
23-Nov-20	DEER	CO-58	<	14.3	
23-Nov-20	DEER	FE-59	<	19.0	
23-Nov-20	DEER	FE-59	<	19.0	
23-Nov-20	DEER	CO-60	<	14.3	
23-Nov-20	DEER	ZN-65	<	18.7	
23-Nov-20	DEER	CS-134	<	17.3	
23-Nov-20	DEER	CS-137	<	17.6	
23-Nov-20	DEER	H-3	2,601.0 +/-	142.0	

Exposure Pathway - Ingestion
Meat
Location: R3.9

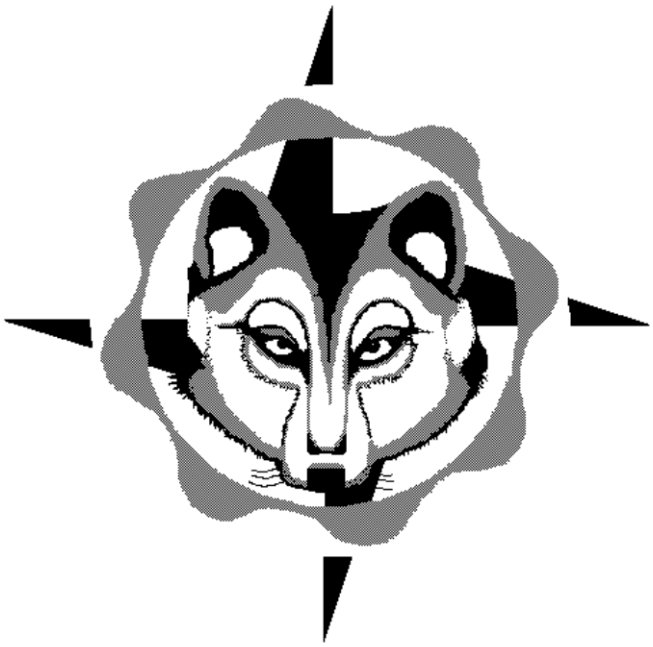
Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Apr-20	WILD TURKEY	K-40	3,905.9 +/-	415.7	
23-Apr-20	WILD TURKEY	MN-54	<	13.9	
23-Apr-20	WILD TURKEY	CO-58	<	10.0	
23-Apr-20	WILD TURKEY	FE-59	<	31.0	
23-Apr-20	WILD TURKEY	CO-60	<	9.9	
23-Apr-20	WILD TURKEY	ZN-65	<	28.7	
23-Apr-20	WILD TURKEY	CS-134	<	14.5	
23-Apr-20	WILD TURKEY	CS-137	<	10.9	
23-Apr-20	WILD TURKEY	H-3	<	114.0	

APPENDIX D

LAND USE CENSUS REPORT

WOLF CREEK GENERATING STATION

2020 LAND USE CENSUS REPORT



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Approved by:	Daniel C. Michel	12/7/2020
	Daniel Michel	Date

EXECUTIVE SUMMARY

The annual Land Use Census of rural residents within five miles of the Wolf Creek Generating Station (WCGS) has been completed in 2020 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. Since these gardens are currently listed as sample locations for the Radiological Environmental Monitoring Program in procedure AP 07B-004 (locations A-3 and Q-6), 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. 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. Also used Google Earth/Maps to obtain images of properties.

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

No changes were identified for the nearest occupied residence in each sector. Six changes were noted for the nearest garden producing broadleaf vegetation. These changes are identified as an underlined entry in the Tables. There were no changes regarding milk sample locations. Again, no locations were identified that milked animals for human consumption.

TABLE 1

2020 LAND USE CENSUS DATA

LOCATION OF NEAREST:

SECTOR	RESIDENCE	MILKING ANIMALS	BROADLEAF GARDEN
A	A2.60-17TE1527	None	A2.60-17TE1527
B	B3.53-QURD1755	None	B4.09-18RD1739
C	C1.92-16RD1655	None	C3.58-RERD1675
D	D2.33-RERD1520	None	D2.33-RERD1520
E	E1.78-QULA1451	None	E4.40-TRRD1551
F	F1.76-14RD1730	None	F2.44-RERD1391
G	G3.03-13RD1820	None	G3.60-RERD1198
H	H3.09-12RD1711	None	H3.80-11RD1674
J	J3.70-11RD1540	None	J3.70-11RD1540
K	K2.70-12LA1437	None	K4.10-NARD1120
L	L2.10-NARD1339	None	L2.39-NARD1309
M	M2.34-14RD1346	None	M3.69-LYLA1290
N	N2.08-15RD1350	None	N2.08-15RD1350
P	P2.76-HW751534	None	P2.94-16RD1309
Q	Q2.35-MILA1619	None	Q2.35-MILA1619
R	R2.08-NALN1650	None	None

NOTE: Entries underlined indicate changes from the 2019 Land Use Census.

EXAMPLE: A2.60-17TE1527
"A" = Sector A
"2.60" = 2.60 miles from the reactor
"17TE1527" = address

TABLE 2

SECTOR	2019 NEAREST RESIDENCE	2020 NEAREST RESIDENCE
A	A2.60-17TE1527	A2.60-17TE1527
B	B3.53-QURD1755	B3.53-QURD1755
C	C1.92-16RD1655	C1.92-16RD1655
D	D2.33-RERD1520	D2.33-RERD1520
E	E1.78-QULA1451	E1.78-QULA1451
F	F1.76-14RD1730	F1.76-14RD1730
G	G3.03-13RD1820	G3.03-13RD1820
H	H3.09-12RD1711	H3.09-12RD1711
J	J3.70-11RD1540	J3.70-11RD1540
K	K2.70-12LA1437	K2.70-12LA1437
L	L2.10-NARD1339	L2.10-NARD1339
M	M2.34-14RD1346	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 2019 Land Use Census.

TABLE 3

2020 LAND USE CENSUS MILK AND GARDEN DATA

SECTOR	2019 MILKING ANIMALS	2020 MILKING ANIMALS	2019 NEAREST BROADLEAF GARDEN	2020 NEAREST BROADLEAF GARDEN
A	None	None	A2.60-17TE1527	A2.60-17TE1527
B	None	None	None	B4.09-18RD1739
C	None	None	C3.58-RERD1675	C3.58-RERD1675
D	None	None	D3.00-16RD1829	D2.33-RERD1520
E	None	None	None	E4.40-TRRD1551
F	None	None	F3.37-14RD1904	F2.44-RERD1391
G	None	None	None	G3.60-RERD1198
H	None	None	None	H3.80-11RD1674
J	None	None	J3.70-11RD1540	J3.70-11RD1540
K	None	None	K4.10-NARD1120	K4.10-NARD1120
L	None	None	L2.39-NARD1309	L2.39-NARD1309
M	None	None	M3.78-LYRD1390	M3.69-LYLA1290
N	None	None	N2.08-15RD1350	N2.08-15RD1350
P	None	None	P2.94-16RD1309	P2.94-16RD1309
Q	None	None	Q2.35-MILA1619	Q2.35-MILA1619
R	None	None	None	None

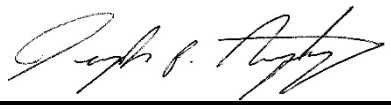
NOTE: Underlined entries indicate changes from the 2019 Land Use Census.

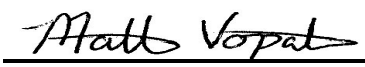
TABLE 4

INFORMATION USED FOR D/Q CALCULATIONS ON GARDENS PRODUCING BROADLEAF VEGETATION

FROM LAND USE			FROM SA-19-002					
	DIST	CALC	NEAR	NEAR	FAR	FAR		SECTOR
SECTOR	(MI)	(METERS)	DIST	D / Q	DIST	D / Q	CALC	RANKING
A	2.60	**4184**	**4000**	1.94E-09	**5000**	1.32E-09	**1.83E-09**	1
B	4.09	**6582**	**6000**	4.84E-10	**7000**	3.59E-10	**4.11E-10**	8
C	3.58	**5761**	**5000**	2.51E-10	**6000**	1.85E-10	**2.01E-10**	14
D	2.33	**3750**	**3000**	4.88E-10	**4000**	2.93E-10	**3.42E-10**	11
E	4.40	**7081**	**7000**	1.28E-10	**8000**	1.03E-10	**1.26E-10**	15
F	2.44	**3927**	**3000**	6.58E-10	**4000**	3.95E-10	**4.14E-10**	7
G	3.60	**5794**	**5000**	4.68E-10	**6000**	3.44E-10	**3.70E-10**	10
H	3.80	**6116**	**6000**	4.71E-10	**7000**	3.50E-10	**4.57E-10**	6
J	3.70	**5955**	**5000**	4.59E-10	**6000**	3.37E-10	**3.42E-10**	11
K	4.00	**6437**	**6000**	4.52E-10	**7000**	3.36E-10	**4.01E-10**	9
L	2.39	**3846**	**3000**	1.02E-09	**4000**	6.11E-10	**6.74E-10**	4
M	3.69	**5938**	**5000**	4.07E-10	**6000**	2.99E-10	**3.06E-10**	13
N	2.08	**3347**	**3000**	1.10E-09	**4000**	6.62E-10	**9.48E-10**	3
P	2.94	**4731**	**4000**	7.51E-10	**5000**	5.11E-10	**5.76E-10**	5
Q	2.35	**3782**	**3000**	1.53E-09	**4000**	9.17E-10	**1.05E-09**	2
R*								

*Sector R no broadleaf gardens to report.

Originated by:  Date: 12/3/2020

Verified by:  Date: 12/7/2020