Wolf Creek
Nuclear Operating Corporation

Dustin T. Hamman
Director Nuclear and Regulatory Affairs

April 24, 2023
RA 23-0029

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Docket No. 50-482: 2022 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, 2022, through December 31, 2022.

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

Sincerely,

Dustin T. Hamman

DTH/jkt

Enclosure: Wolf Creek Generating Station 2022 Annual Radiological Environmental Operating Report

cc: S. S. Lee (NRC), w/e
R. J. Lewis (NRC), w/e
G. E. Werner (NRC), w/e
Senior Resident Inspector (NRC), w/e

Enclosure to RA 23-0029

Wolf Creek Generating Station 2022 Annual Radiological Environmental Operating Report

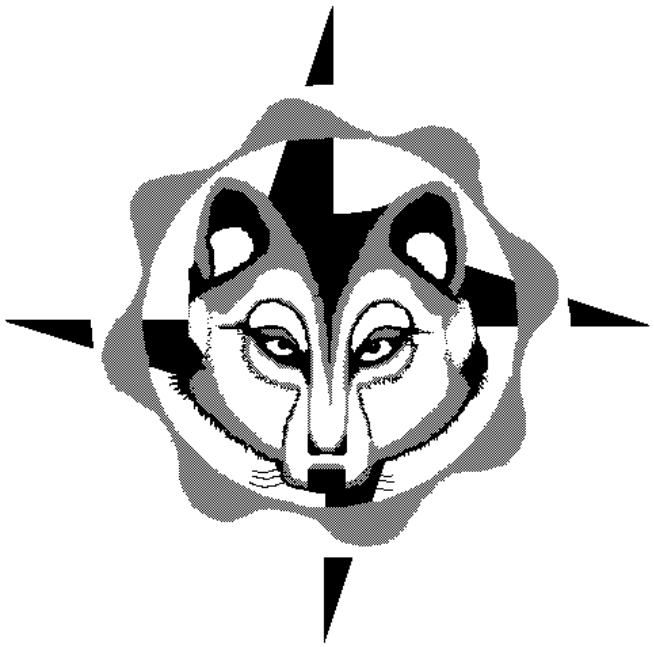
(This enclosure contains 158 pages)

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

2022 ANNUAL RADIOLOGICAL

ENVIRONMENTAL OPERATING REPORT



March 15, 2023

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EXECUTIVE SUMMARY

Plant-related activation, corrosion, or fission products were not detected during 2022 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 2022 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 2022 Annual Radiological Environmental Operating Report for Wolf Creek Generating Station (WCGS) covers the period from January 1 through December 31, 2022. 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). Three other bottom sediment samples were collected from Makeup Discharge Structure (MUDS), Environmental Education Area (EEA), and Stringtown Cemetery. 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 R2.6. 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 G1.7. Gamma isotopic analysis and tritium analysis was performed on the deer sample. This sample was collected as part of a cooperative sampling effort with the KDHE. The sample location is identified on Figure 4.

II. DISCUSSION OF RESULTS

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

A. Airborne Pathway

Chart 1 graphically illustrates weekly gross beta results for the sample year. 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 2022 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 2022 weekly gross beta analyses range for indicator locations was 0.013 to 0.063 pCi/m^3. The 2022 weekly gross beta analyses range was within the 1983 and 1984 pre-operational range. Additionally, the annual mean for indicator locations for 2022 (0.029 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 2022 (0.029 pCi/m^3) was the same as the controlled location (0.029 pCi/m^3). The indicators' location with the highest gross beta annual mean were 32,37, and 49 annual mean of these locations was (0.030 pCi/m^3). One point higher than the controlled location (0.029 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 2022, the range for Be-7 detected activity was 0.059 to 0.120 pCi/m^3 for indicator locations and the annual mean for indicator locations was 0.090 pCi/m^3. The control location annual mean for Be-7 detected activity (0.089 pCi/m^3) was lower than the annual mean of the indicator locations (0.090 pCi/m^3). The indicator location with the highest annual mean of detected Be-7 activity was location 37 (0.098 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 2022 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 2022 was 18.7 mR per standardized 90-day quarter. The annual mean of the control sample locations in 2022 was 18.7 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 22 (21.7 mR per standardized 90-day quarter) which is slightly higher than the annual mean of the control sample locations (18.7 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 2021 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 14,495 pCi/L and the range was 12,956 to 16,488 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 detected in the month of November from John Redmond Reservoir (JRR) control sample location 165 pCi/L.

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 2022 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 2022 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 (2.818 pCi/L) was lower when compared to the annual mean of the control sample location gross beta activity (2.899 pCi/L). The 2022 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.

Tritium was detected in the indicator sample location during the third and fourth quarter 2022 annual mean of 876 pCi/L. 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 2021 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), JRR (control sample location), and EEA (Environmental Education Area. K-40 was also detected during pre-operational shoreline sediment monitoring.

No other radionuclides were detected in the DC, EEA, or JRR shoreline sediment samples during 2022. The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2022 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 2022 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 (8,214 pCi/kg). The detected tritium activity was attributable to plant operation. An adult consuming 21 kilograms of fish, at the maximum measured tritium concentration (20,213 pCi/kg), would receive a committed effective dose equivalent of 0.092 mRem.

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

No other radionuclides were detected in fish samples during 2022. 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 2022 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 2022 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 pre-operational samples. The Cs-137 activity detected in 2022 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 30 to 363 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 2022 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 2022 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 2022 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 three sample we took in 2022. The detectable annual mean of the three was (172 pCi/kg). With the min being 122, and max of 212. 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 106 to 904 pCi/kg. The detected Cs-137 activity in soil sampled in 2022 is below and within the decay corrected pre-operational range.

Plant-related activation, corrosion, or fission products were not detected during 2022 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.

Tritium activity (149.0 pCi/kg) was detected in the turkey sample. The detected tritium activity was attributable to plant operation.

An adult consuming 72.6 kilograms of turkey meat, at the measured tritium concentration 149.0 pCi/kg), would receive a committed effective dose equivalent of 0.001 mRem.

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

(6) Deer (Ingestion Pathway)

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

Tritium activity (4,512 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 (4,512 pCi/kg), would receive a committed effective dose equivalent of 0.021 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 2022.

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 0.255 mRem for 2022.

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 (14,495 pCi/L), would receive a committed effective dose equivalent of 0.662 mRem per year. For an adult eating 21 kg of fish per year from Coffey County Lake, using the average tritium activity (8,214 pCi/kg), would receive a committed effective dose equivalent of 0.011 mRem per year. Based upon the REMP results, the dose from both pathways was calculated to be 0.673 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 “snapshot” 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 2022

REMP Turkey sample (CR# 10051006)
REMP Air Sample Location #49 (CR# 10015749)
Tritium detected in a REMP sample from Iola (CR# 10020845)

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)**		
	39 routine monitoring stations with two or more dosimeters measuring dose continuously, placed as follows: An inner ring of stations, one in each meteorological sector 0-3 mile range from the site (Locations 1, 7, 9, 11-13, 18, 26, 27, 29, 30, 37, 38, 46, 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)	R2.6	2.6	NNE	R
Meat (Deer)	G1.7	1.7	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	20.6	18.8	20.4	20.0	79.8
2	18.0	19.2	19.0	19.7	75.9
4	17.4	18.8	19.4	20.3	75.9
5	17.7	15.2	18.7	18.7	70.3
7	17.0	17.9	18.4	18.7	72.0
8	18.3	17.9	20.7	20.3	77.2
9	15.4	17.2	18.4	15.1	66.1
11	18.7	17.5	21.7	23.3	81.2
12	20.0	19.8	20.4	20.7	80.9
13	20.9	20.8	19.7	21.3	82.7
14	18.7	19.5	19.7	20.0	77.9
15	20.0	18.5	20.0	20.7	79.2
16	16.7	17.9	18.7	20.0	73.3
17	18.0	16.9	17.7	20.7	73.3
18	15.4	17.9	19.0	19.7	72.0
19	19.6	19.2	20.0	21.0	79.8
20	17.4	17.5	20.0	19.0	73.9
22	22.2	20.2	22.7	21.7	86.8
23	17.4	19.5	19.7	18.1	74.7
24	20.6	20.5	19.0	19.4	79.5
25	15.8	15.6	16.4	17.4	65.2
26	16.1	16.2	17.0	19.1	68.4
27	18.3	17.9	21.4	18.7	76.3
29	15.8	14.9	16.0	18.1	64.8
30	17.4	17.9	21.4	22.0	78.7
32	18.0	16.5	20.0	19.0	73.5
34	18.0	20.5	22.0	19.0	79.5
35	20.0	19.2	20.7	18.1	78.0
36	18.0	17.9	20.7	21.0	77.6
37	17.4	14.9	18.4	17.1	67.8
38	20.0	18.8	21.4	21.3	81.5
39	18.3	17.2	16.0	17.7	69.2
41	20.3	18.2	20.7	20.3	79.5
42	12.2	13.2	12.4	13.2	51.0
43	12.9	12.3	12.0	13.8	51.0
44	19.6	22.1	20.4	19.4	81.5
46	17.7	16.9	17.4	18.7	70.7
49	17.7	15.2	17.4	20.0	70.3
50	19.0	18.9	22.0	17.7	77.6
51	18.3	17.5	19.4	18.1	73.3
52	20.3	18.5	22.4	21.7	82.9
53	19.9	20.1	20.1	20.0	80.1
54	20.3	21.5	19.4	19.1	80.3
55	19	20.8	18.7	19.7	78.2

FIGURE 1

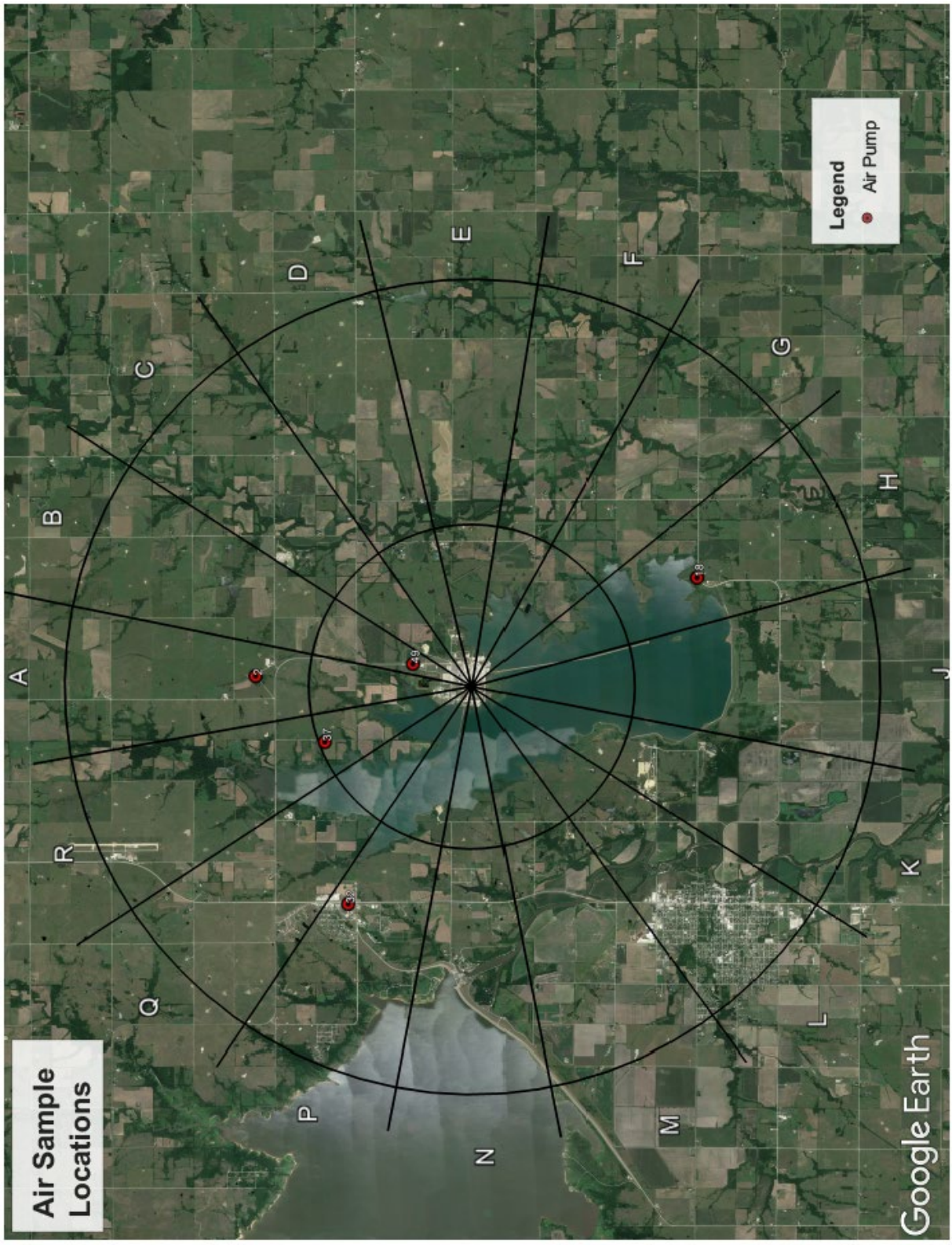
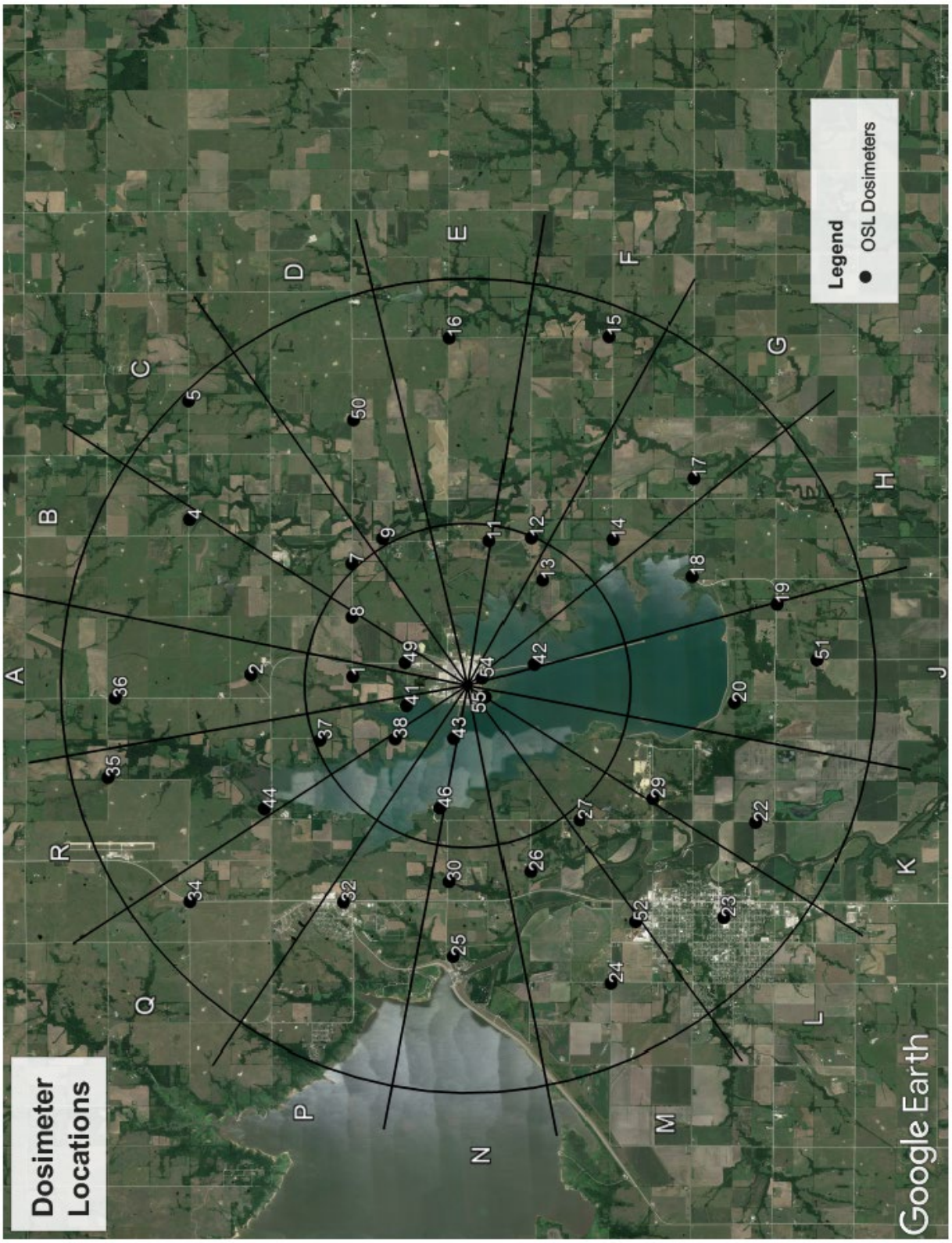

Air Sample Locations
Legend
Air Pump
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
Google Earth

FIGURE 2


Dosimeter Locations
Legend
OSL Dosimeters
Google Earth
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
1
2
4
5
7
8
9
11
12
13
14
15
16
17
18
19
20
22
23
24
25
26
27
29
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32
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36
37
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41
42
43
44
46
49
50
51
52
54
55

FIGURE 3

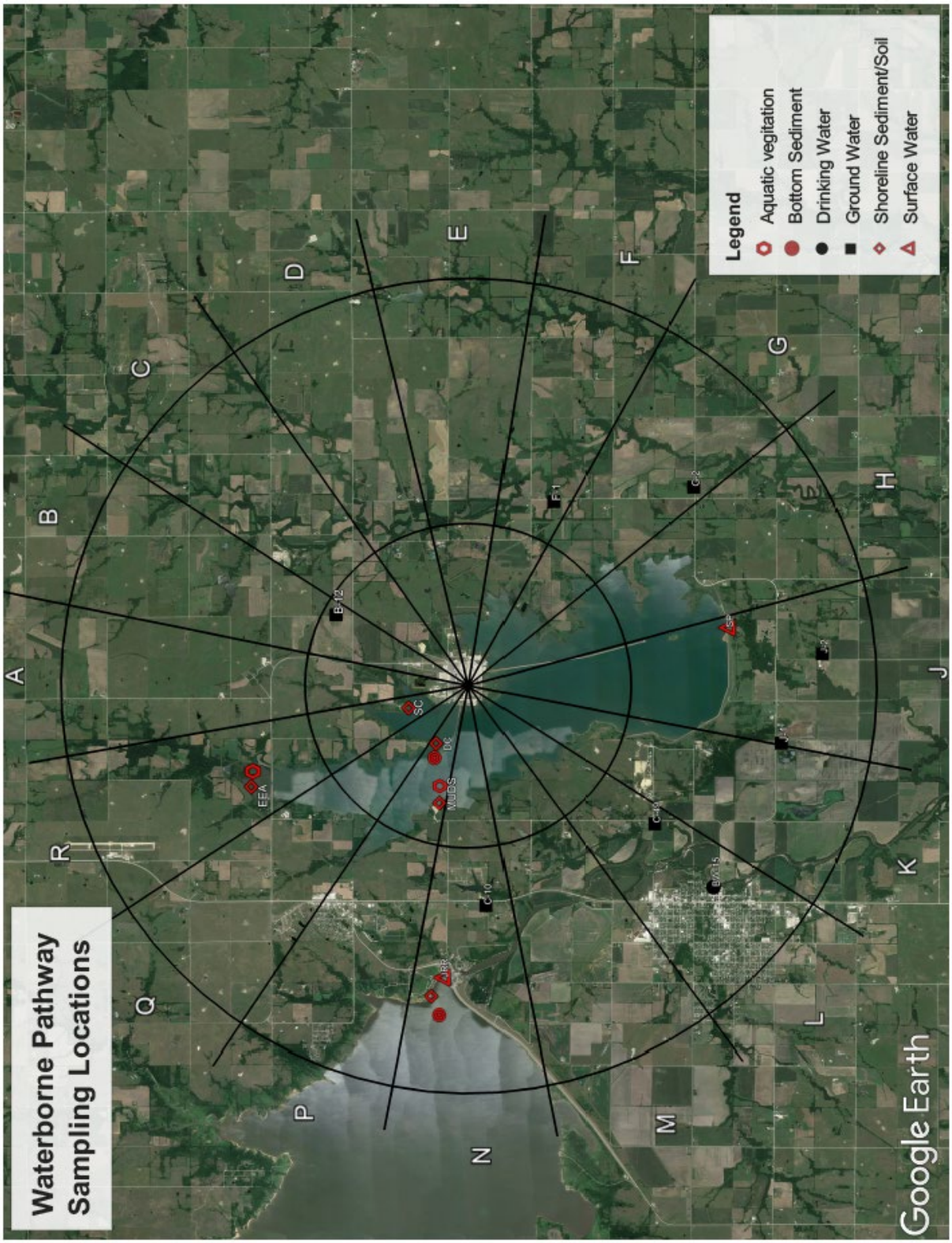

Waterborne Pathway
Sampling Locations
Legend
Aquatic vegitation
Bottom Sediment
Drinking Water
Ground Water
Shoreline Sediment/Soil
Surface Water
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
EFA
SC
DC
MDS
B-12
F-1
G-2
C-10
G-15
Google Earth

FIGURE 4

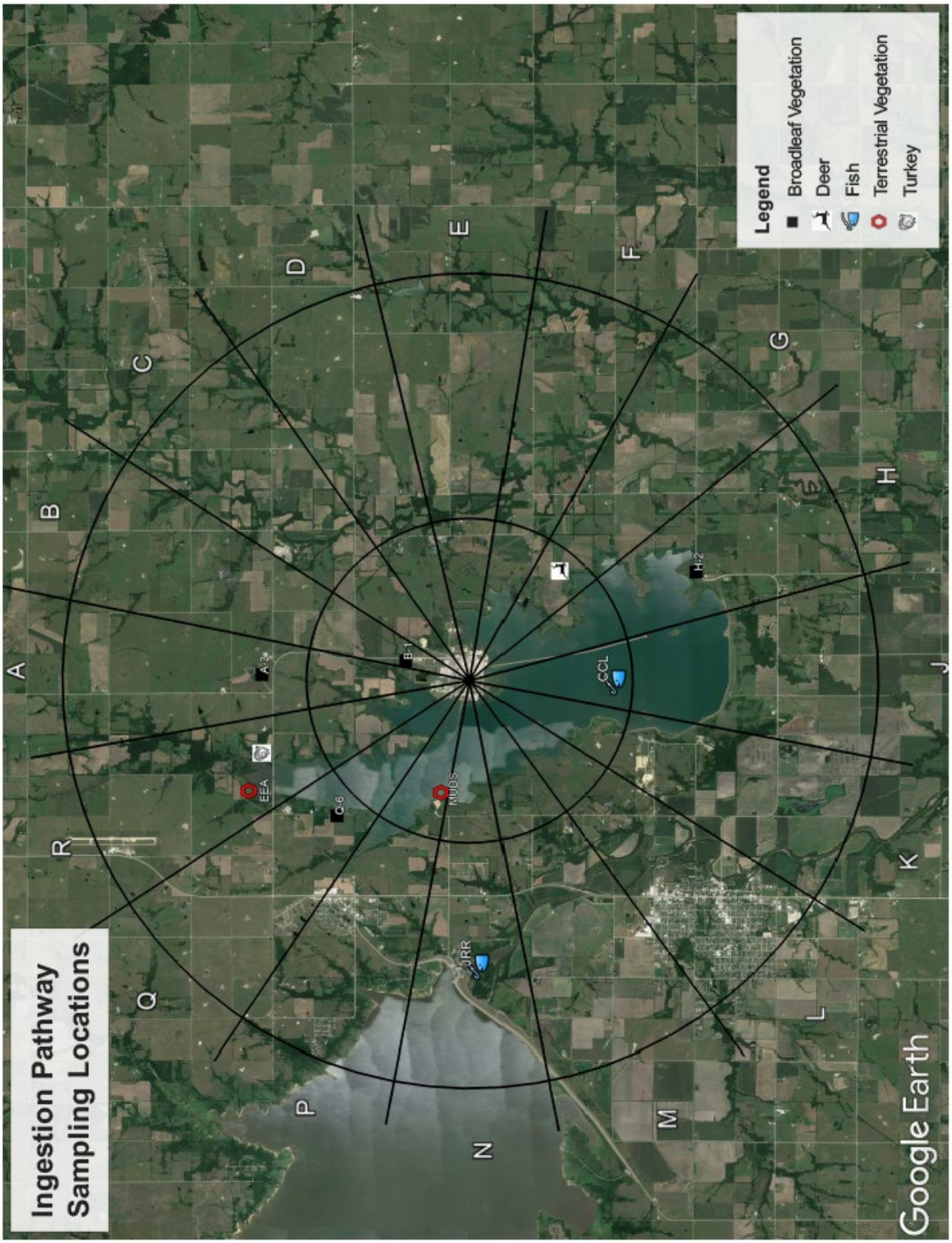

Ingestion Pathway
Sampling Locations
Legend
Broadleaf Vegetation
Deer
Fish
Terrestrial Vegetation
Turkey
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
A-3
B-1
H-2
Q-6
EEA
MDBS
CCL
JRR
Google Earth

FIGURE 5

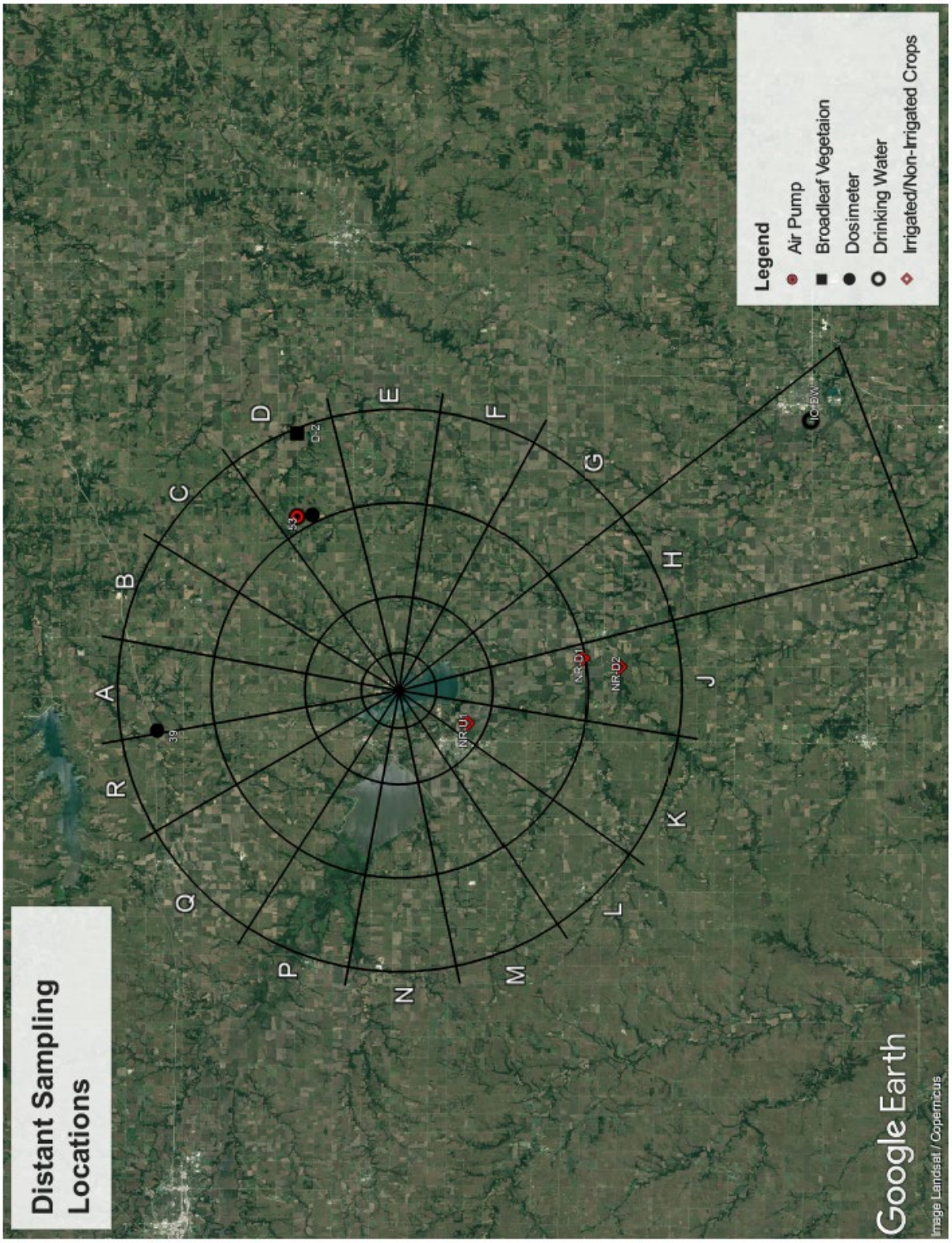

Distant Sampling Locations
Legend
Air Pump
Broadleaf Vegetaion
Dosimeter
Drinking Water
Irrigated/Non-Irrigated Crops
A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
NRD1
NRD2
Google Earth
Image Landsat / Copernicus

CHART 1

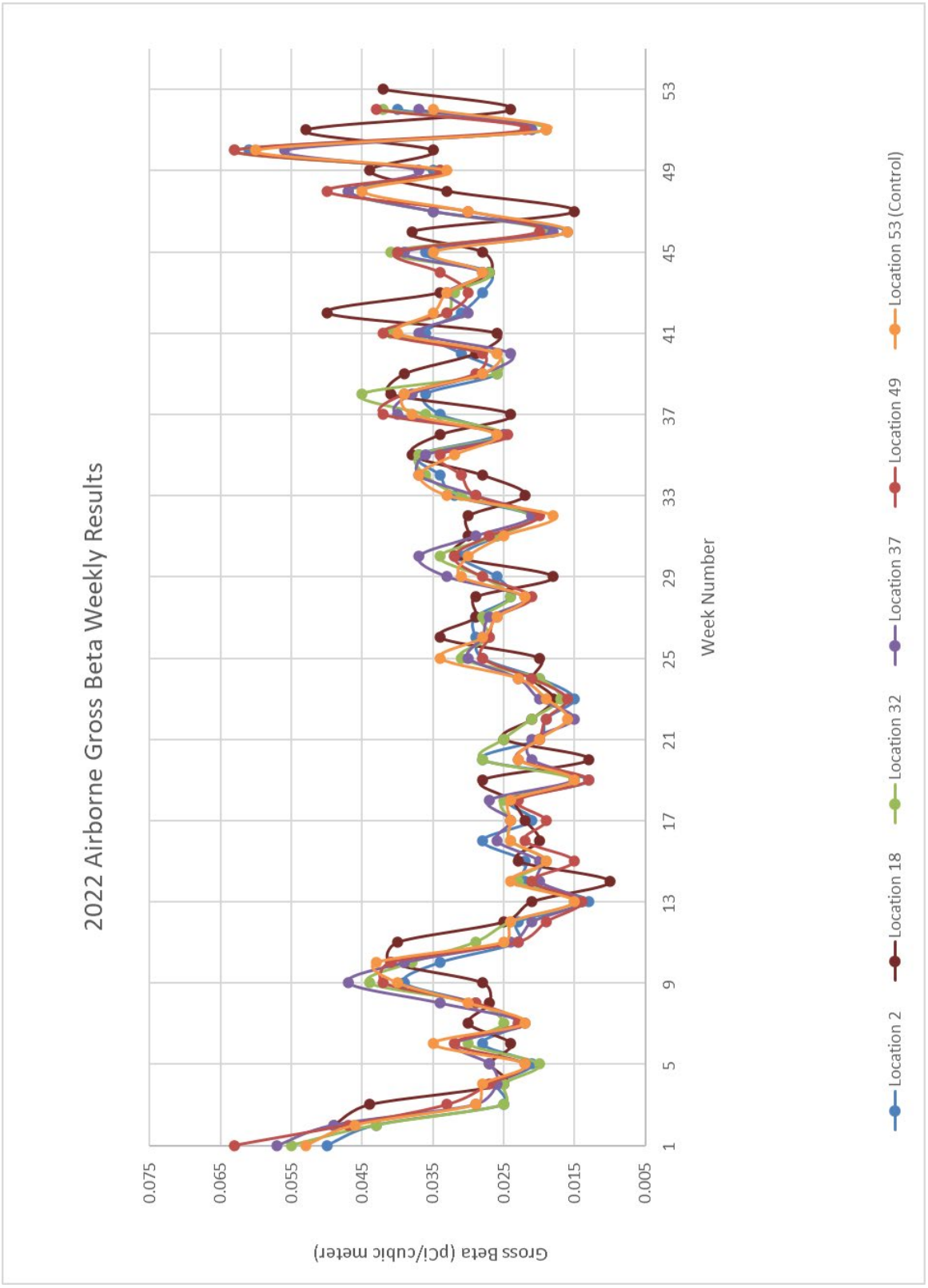

2022 Airborne Gross Beta Weekly Results
Gross Beta (pCi/cubic meter)
0.075
0.065
0.055
0.045
0.035
0.025
0.015
0.005
1
5
9
13
17
21
25
29
33
37
41
45
49
53
Week Number
Location 2
Location 18
Location 32
Location 37
Location 49
Location 53 (Control)

CHART 2

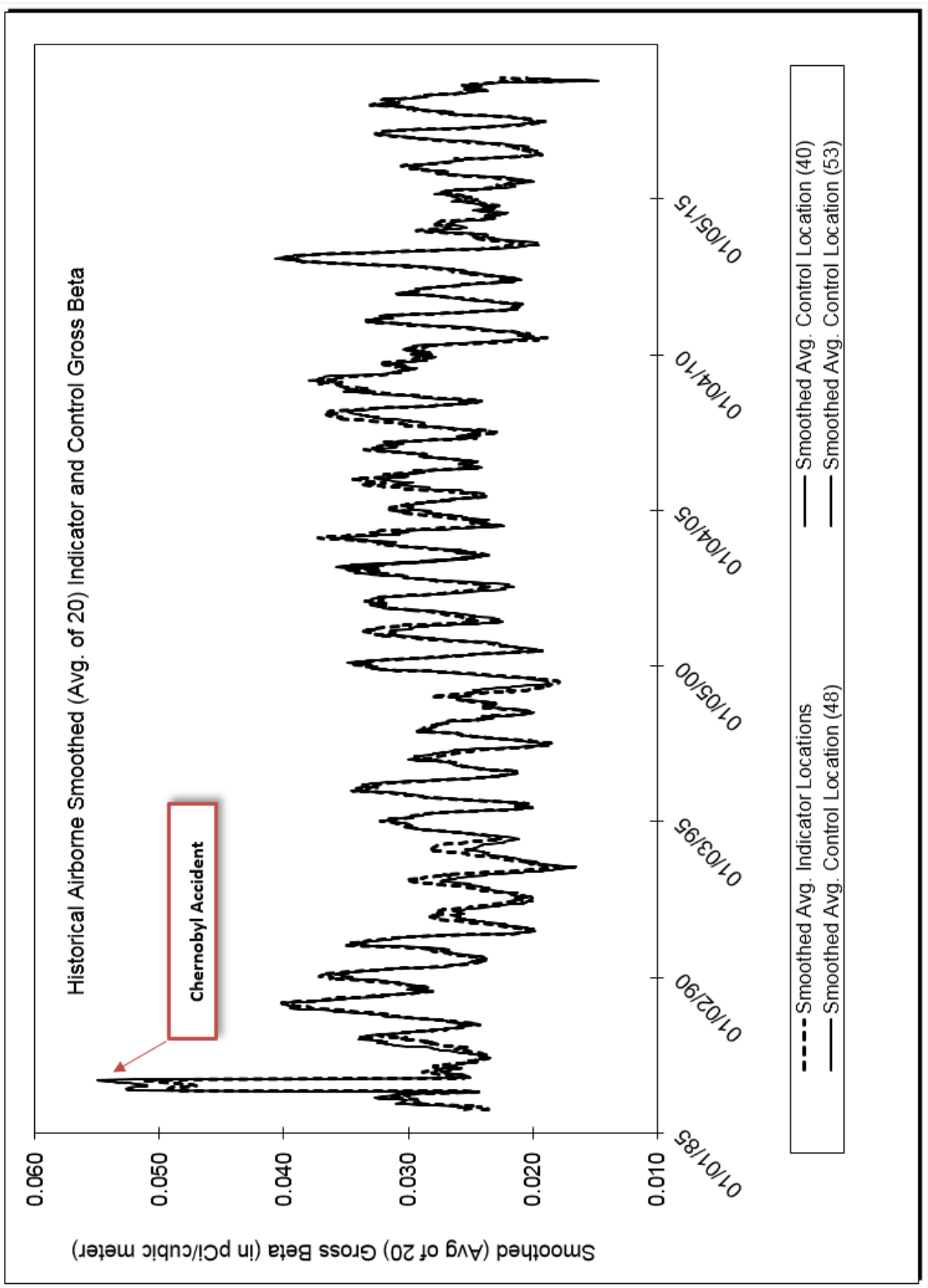

Historical Airborne Smoothed (Avg. of 20) Indicator and Control Gross Beta
Chernobyl Accident
Smoothed (Avg of 20) Gross Beta (in pCi/cubic meter)
0.060
0.050
0.040
0.030
0.020
0.010
01/01/85
01/02/90
01/03/95
01/05/00
01/04/05
01/04/10
01/05/15
Smoothed Avg. Indicator Locations
Smoothed Avg. Control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

CHART 3

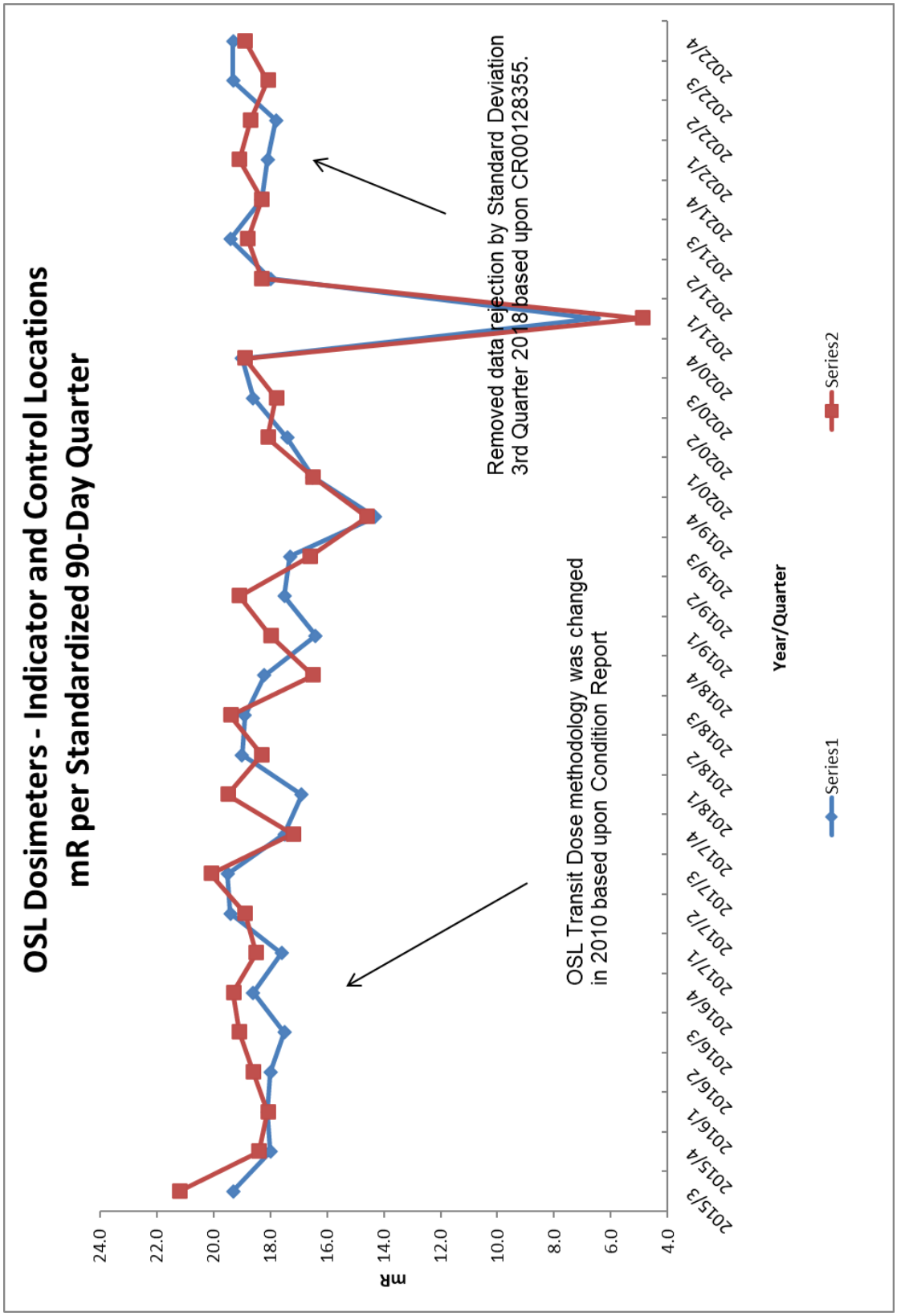

OSL Dosimeters - Indicator and Control Locations
mR per Standardized 90-Day Quarter
Removed data rejection by Standard Deviation
3rd Quarter 2018 based upon CR00128355.
OSL Transit Dose methodology was changed
in 2010 based upon Condition Report
mR
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2015/3
2015/4
2016/1
2016/2
2016/3
2016/4
2017/1
2017/2
2017/3
2017/4
2018/1
2018/2
2018/3
2018/4
2019/1
2019/2
2019/3
2019/4
2020/1
2020/2
2020/3
2020/4
2021/1
2021/2
2021/3
2021/4
2022/1
2022/2
2022/3
2022/4
Year/Quarter
Series1
Series2

CHART 4

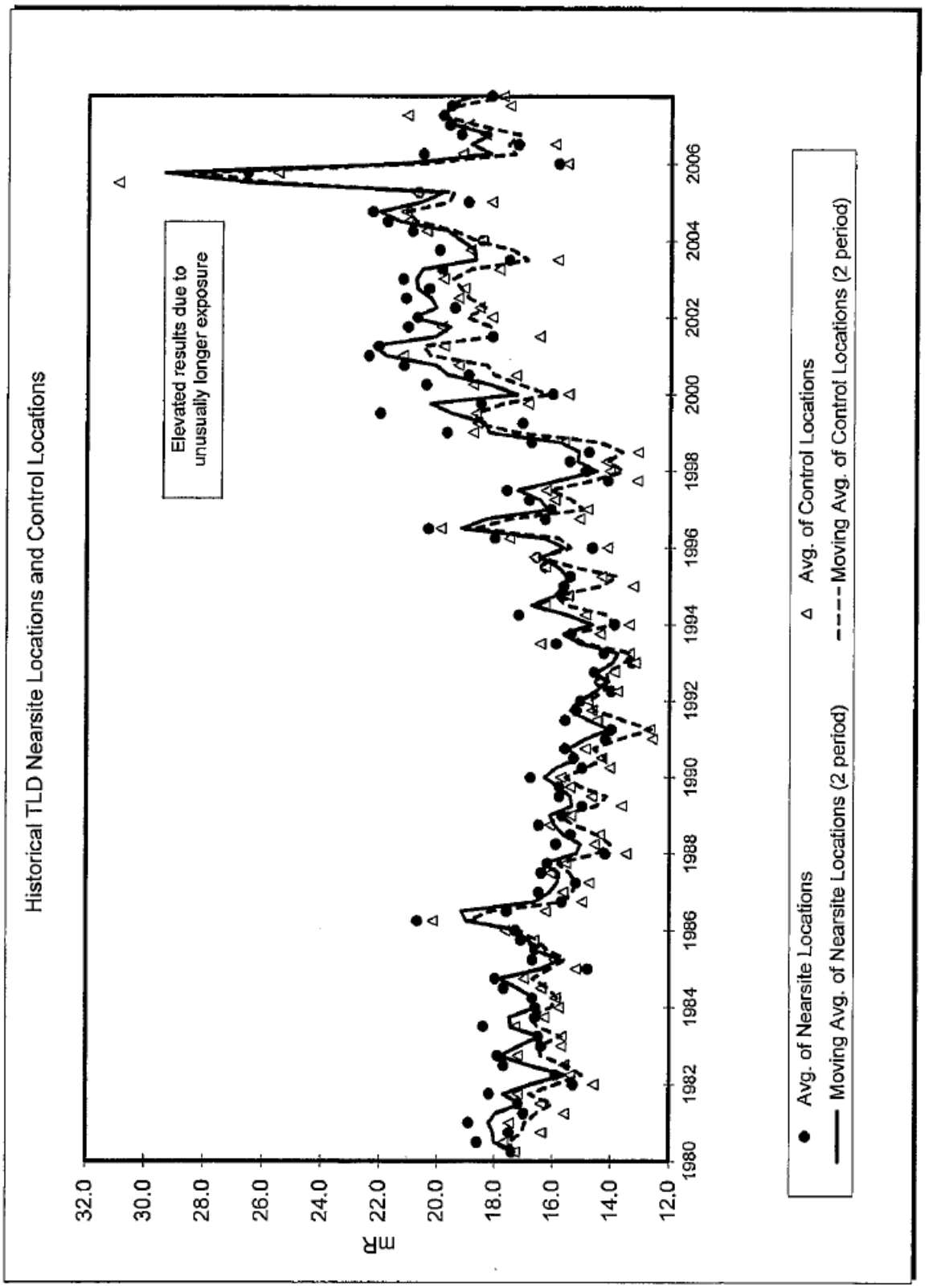

Historical TLD Nearsite Locations and Control Locations
Elevated results due to unusually longer exposure
mR
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
Avg. of Nearsite Locations
Moving Avg. of Nearsite Locations (2 period)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

CHART 5

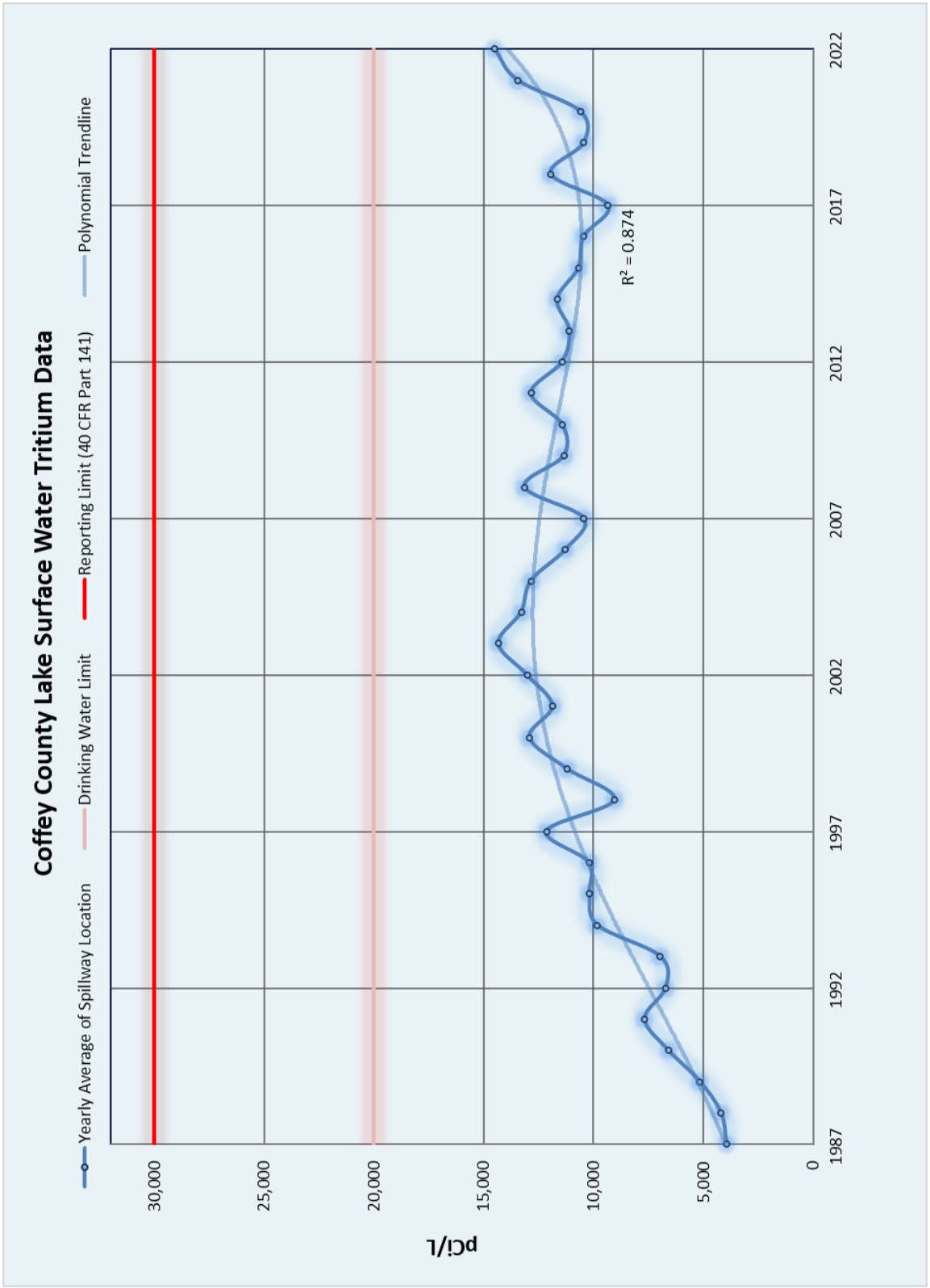

Coffey County Lake Surface Water Tritium Data
Yearly Average of Spillway Location
Drinking Water Limit
Reporting Limit (40 CFR Part 141)
Polynomial Trendline
R² = 0.874
pCi/L
30,000
25,000
20,000
15,000
10,000
5,000
0
1987
1992
1997
2002
2007
2012
2017
2022

CHART 6

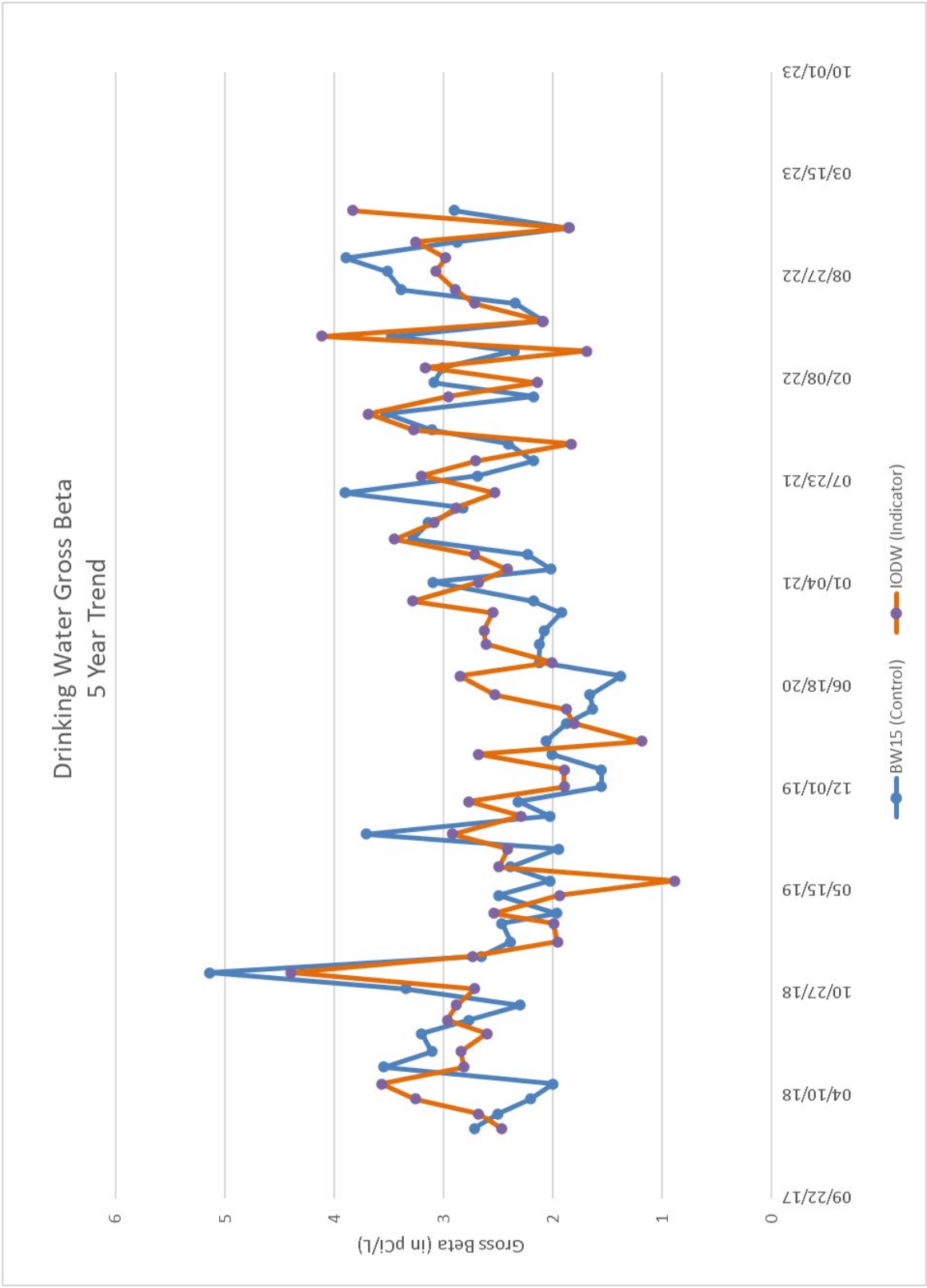
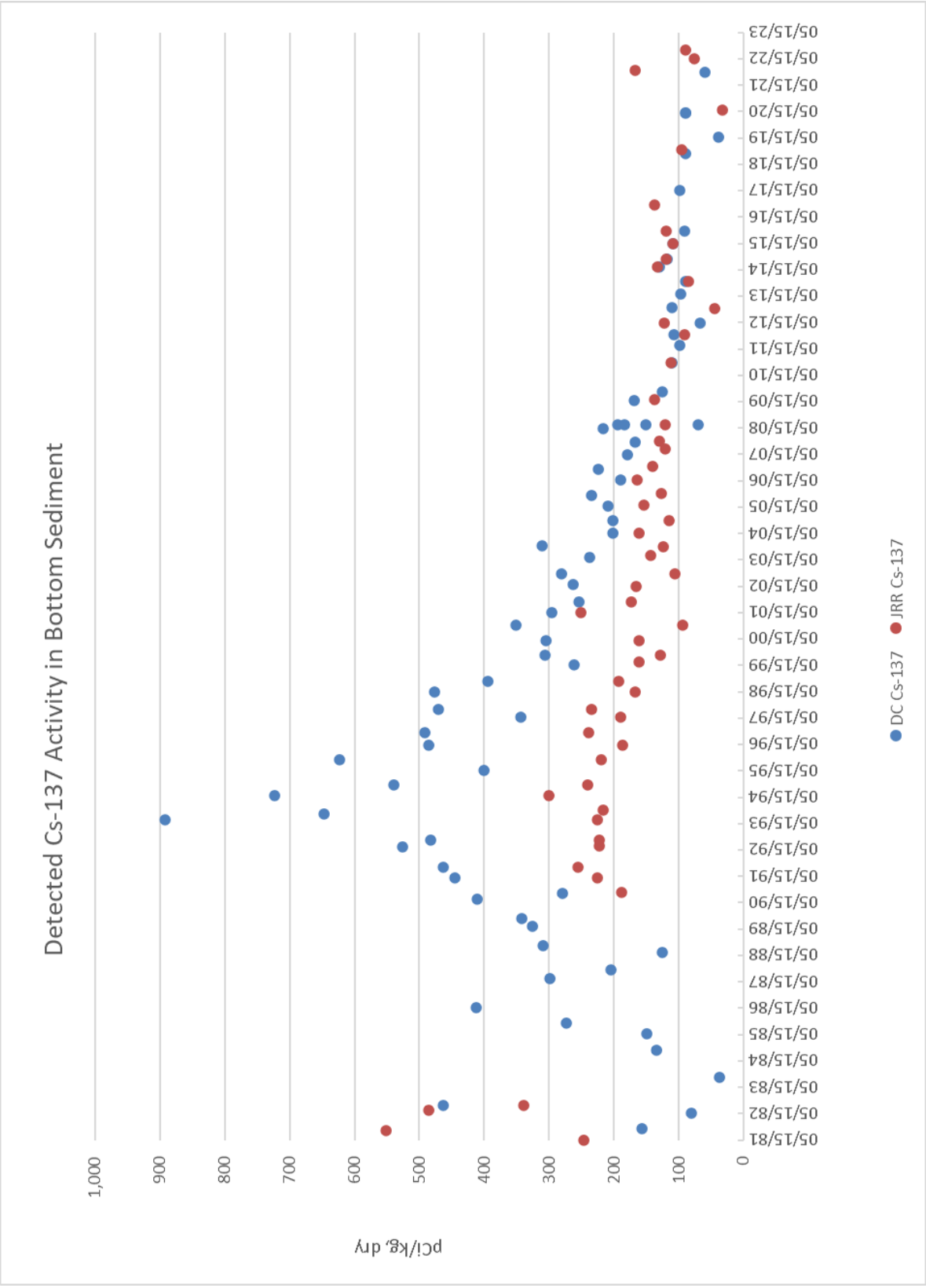

Drinking Water Gross Beta
5 Year Trend
Gross Beta (in pCi/L)
0
1
2
3
4
5
6
09/22/17
04/10/18
10/27/18
05/15/19
12/01/19
06/18/20
01/04/21
07/23/21
02/08/22
08/27/22
03/15/23
10/01/23
BW15 (Control)
IODW (Indicator)

CHART 7


Detected Cs-137 Activity in Bottom Sediment
pCi/kg, dry
1,000
900
800
700
600
500
400
300
200
100
0
05/15/23
05/15/22
05/15/21
05/15/20
05/15/19
05/15/18
05/15/17
05/15/16
05/15/15
05/15/14
05/15/13
05/15/12
05/15/11
05/15/10
05/15/09
05/15/08
05/15/07
05/15/06
05/15/05
05/15/04
05/15/03
05/15/02
05/15/01
05/15/00
05/15/99
05/15/98
05/15/97
05/15/96
05/15/95
05/15/94
05/15/93
05/15/92
05/15/91
05/15/90
05/15/89
05/15/88
05/15/87
05/15/86
05/15/85
05/15/84
05/15/83
05/15/82
05/15/81
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, 2022 through December, 2022

Appendix A

Interlaboratory/ Intralaboratory Comparison Program Results

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

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

Results in Table A-1 were obtained through participation in the 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.

Table A-2 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-3 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-4 lists results of the analyses on intralaboratory "blank" samples for the past twelve months. Data for previous years available upon request.

Table A-5 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-6 were obtained through participation in the Mixed Analyte Performance Evaluation Program.

Results in Table A-7 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-128 Study						
ERDW-95	1/10/2022	Ba-133	67.4 ± 4.3	63.0	52.4 - 69.4	Pass
ERDW-95	1/10/2022	Cs-134	82.6 ± 4.1	84.9	69.6 - 93.4	Pass
ERDW-95	1/10/2022	Cs-137	35.4 ± 4.6	29.3	25.2 - 35.3	Fail [b]
ERDW-95	1/10/2022	Co-60	104 ± 4	102	91.8 - 114	Pass
ERDW-95	1/10/2022	Zn-65	356 ± 13	312	281 - 384	Pass
ERDW-97	1/10/2022	Gr. Alpha	30.9 ± 2.2	32.5	16.6 - 42.1	Pass
ERDW-97	1/10/2022	Gr. Beta	62.9 ± 2.3	68.3	47.4 - 75.1	Pass
ERDW-99	1/10/2022	Ra-226	8.40 ± 0.72	9.53	7.14 - 11.1	Pass
ERDW-99	1/10/2022	Ra-228	7.25 ± 2.32	8.71	5.59 - 11.0	Pass
ERDW-99	1/10/2022	Uranium	70.9 ± 2.3	69.0	56.4 - 75.9	Pass
ERDW-95	1/10/2022	H-3	23,600 ± 700	22,200	19,500 - 24,400	Pass
RAD-130 Study						
ERDW-2087	8/25/2022	Ba-133	37.2 ± 3.9	38.2	30.9 - 42.8	Pass
ERDW-2087	8/25/2022	Cs-134	81.8 ± 3.9	88.6	72.7 - 97.5	Pass
ERDW-2087	8/25/2022	Cs-137	174 ± 6	170	153 - 189	Pass
ERDW-2087	8/25/2022	Co-60	76.9 ± 4.0	72.4	65.2 - 82.1	Pass
ERDW-2087	8/25/2022	Zn-65	349 ± 3	326	293 - 380	Pass
ERDW-2087	8/25/2022	Gr. Alpha	52.8 ± 2.4	60.2	31.5 - 74.8	Pass
ERDW-2087	8/25/2022	Gr. Beta	18.7 ± 1.0	17.7	10.1 - 25.9	Pass
ERDW-2091	8/25/2022	Ra-226	9.23 ± 0.57	13.1	9.77 - 15.1	Fail [c]
ERDW-2091	8/25/2022	Ra-228	8.72 ± 1.49	8.40	5.38 - 10.6	Pass
ERDW-2095	8/25/2022	H-3	23,900 ± 481	22,100	19,400 - 24,300	Pass
ERDW-2089	8/25/2022	I-131	30.8 ± 1.0	27.1	23.0 - 32.5	Pass
090622D Study						
ERDW-2091	9/6/2022	Ra-226	21.5 ± 1.1	19.3	14.3 - 22.0	Pass [c]

[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] The cesium-137 result did not meet ERA acceptance criteria. It is believed that detector drift could have contributed to the original Cs-137 result landing outside the upper acceptance limit.

[c] The radium-226 result did not meet ERA acceptance criteria. An ERA Quick Response PT sample was ordered. The results were within the acceptance criteria. The reason for the earlier failing result is not known.

TABLE A-2. 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				
2022-23-1	2/7/2023	Spike 1	134.0	134.5	0.00	
2022-23-1	2/7/2023	Spike 2	134.0	131.1	-0.02	
2022-23-1	2/7/2023	Spike 3	134.0	134.0	0.00	
2022-23-1	2/7/2023	Spike 4	134.0	130.7	-0.02	
2022-23-1	2/7/2023	Spike 5	134.0	131.5	-0.02	
2022-23-1	2/7/2023	Spike 6	134.0	139.3	0.04	
2022-23-1	2/7/2023	Spike 7	134.0	134.8	0.01	
2022-23-1	2/7/2023	Spike 8	134.0	130.7	-0.02	
2022-23-1	2/7/2023	Spike 9	134.0	133.1	-0.01	
2022-23-1	2/7/2023	Spike 10	134.0	129.9	-0.03	
2022-23-1	2/7/2023	Spike 11	134.0	125.6	-0.06	
2022-23-1	2/7/2023	Spike 12	134.0	139.5	0.04	
2022-23-1	2/7/2023	Spike 13	134.0	135.2	0.01	
2022-23-1	2/7/2023	Spike 14	134.0	135.8	0.01	
2022-23-1	2/7/2023	Spike 15	134.0	133.6	0.00	
2022-23-1	2/7/2023	Spike 16	134.0	132.7	-0.01	
2022-23-1	2/7/2023	Spike 17	134.0	125.1	-0.07	
2022-23-1	2/7/2023	Spike 18	134.0	131.9	-0.02	
2022-23-1	2/7/2023	Spike 19	134.0	125.3	-0.06	
2022-23-1	2/7/2023	Spike 20	134.0	128.2	-0.04	
Mean (Spike 1-20)				132.1	-0.01	Pass[d]
Standard Deviation (Spike 1-20)				4.1	0.03	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 - conventionally true value) ÷ conventionally true value) where the conventionally 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-2. 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				
2022-23-2	2/7/2023	Spike 21	70.0	71.7	0.02	
2022-23-2	2/7/2023	Spike 22	70.0	72.1	0.03	
2022-23-2	2/7/2023	Spike 23	70.0	66.2	-0.05	
2022-23-2	2/7/2023	Spike 24	70.0	70.6	0.01	
2022-23-2	2/7/2023	Spike 25	70.0	71.0	0.01	
2022-23-2	2/7/2023	Spike 26	70.0	71.3	0.02	
2022-23-2	2/7/2023	Spike 27	70.0	68.4	-0.02	
2022-23-2	2/7/2023	Spike 28	70.0	70.2	0.00	
2022-23-2	2/7/2023	Spike 29	70.0	72.1	0.03	
2022-23-2	2/7/2023	Spike 30	70.0	71.2	0.02	
2022-23-2	2/7/2023	Spike 31	70.0	67.5	-0.04	
2022-23-2	2/7/2023	Spike 32	70.0	68.8	-0.02	
2022-23-2	2/7/2023	Spike 33	70.0	72.2	0.03	
2022-23-2	2/7/2023	Spike 34	70.0	69.6	-0.01	
2022-23-2	2/7/2023	Spike 35	70.0	69.7	0.00	
2022-23-2	2/7/2023	Spike 36	70.0	68.0	-0.03	
2022-23-2	2/7/2023	Spike 37	70.0	72.2	0.03	
2022-23-2	2/7/2023	Spike 38	70.0	70.6	0.01	
2022-23-2	2/7/2023	Spike 39	70.0	70.4	0.01	
2022-23-2	2/7/2023	Spike 40	70.0	66.5	-0.05	
Mean (Spike 21-40)				70.0	0.00	Pass[d]
Standard Deviation (Spike 21-40)				1.9	0.03	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 - conventionally true value) ÷ conventionally true value) where the conventionally 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. 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
SPDW-30305	1/5/2022	Gr. Alpha	3.9 ± 0.8	6.3	3.1 - 9.4	Pass	0.62
SPDW-30305	1/5/2022	Gr. Beta	65.5 ± 1.6	75.9	60.7 - 91.1	Pass	0.86
SPDW-40000	1/7/2022	H-3	2,220 ± 162	2,110	1,688 - 2,532	Pass	1.05
SPDW-40013	1/6/2022	Ra-226	12.7 ± 0.3	12.3	8.6 - 16.0	Pass	1.03
SPDW-40014	7/12/2021	H-3	11,681 ± 345	10,400	8,320 - 12,480	Pass	1.12
SPDW-40015	7/12/2021	H-3	11,318 ± 340	10,400	8,320 - 12,480	Pass	1.09
SPDW-40022	2/3/2022	Ra-228	14.5 ± 3.9	15.3	10.7 - 19.9	Pass	0.95
SPDW-40024	2/4/2022	H-3	10,502 ± 321	10,400	8,320 - 12,480	Pass	1.01
SPDW-40025	1/11/2021	H-3	2,278 ± 176	2,110	1,688 - 2,532	Pass	1.08
SPDW-40026	1/11/2021	H-3	2,291 ± 176	2,110	1,688 - 2,532	Pass	1.09
SPDW-40028	2/11/2022	H-3	10,594 ± 322	10,400	8,320 - 12,480	Pass	1.02
SPDW-40037	2/25/2022	H-3	10,724 ± 322	10,400	8,320 - 12,480	Pass	1.03
SPDW-40045	3/3/2022	Sr-90	19.2 ± 1.1	17.1	13.7 - 20.5	Pass	1.12
SPDW-40052	3/10/2022	H-3	10,851 ± 328	10,400	8,320 - 12,480	Pass	1.04
SPDW-40064	3/18/2022	H-3	10,795 ± 332	10,400	8,320 - 12,480	Pass	1.04
SPDW-40073	3/22/2022	Ra-228	15.1 ± 2.4	13.4	9.4 - 17.4	Pass	1.13
SPDW-40075	1/28/2022	Ra-226	12.2 ± 0.3	12.3	8.6 - 16.0	Pass	0.99
SPDW-40078	3/14/2022	U-234	28.0 ± 2.0	23.0	16.1 - 29.9	Pass	1.22
SPDW-40078	3/14/2022	U-238	29.9 ± 2.1	23.2	16.2 - 30.2	Pass	1.29
SPW-598	3/24/2022	Fe-55	10,505 ± 1,100	10,006	8,005 - 12,007	Pass	1.05
SPDW-40087	3/24/2022	Ra-226	14.4 ± 0.4	12.3	8.6 - 16.0	Pass	1.17
LCS-W-032222	1/10/2022	Ba-133	65.4 ± 6.5	63.0	50 - 76	Pass	1.04
LCS-W-032222	1/10/2022	Cs-134	87.7 ± 6.0	84.9	68 - 102	Pass	1.03
LCS-W-032222	1/10/2022	Cs-137	34.2 ± 6.6	29.3	23 - 35	Pass	1.17
LCS-W-032222	1/10/2022	Co-60	106 ± 6	102	82 - 122	Pass	1.04
LCS-W-032222	1/10/2022	Zn-65	341 ± 18	312	250 - 374	Pass	1.09
SPDW-40083	4/1/2022	H-3	10,785 ± 329	10,400	8,320 - 12,480	Pass	1.04
LCS-W-040622	1/10/2022	Ba-133	60.4 ± 7.6	63.0	50.4 - 75.6	Pass	0.96
LCS-W-040622	1/10/2022	Cs-134	91.4 ± 6.8	84.9	67.9 - 102	Pass	1.08
LCS-W-040622	1/10/2022	Cs-137	31.7 ± 8.5	29.3	23.4 - 35.2	Pass	1.08
LCS-W-040622	1/10/2022	Co-60	111 ± 7	102	81.6 - 122	Pass	1.08
LCS-W-040622	1/10/2022	Zn-65	330 ± 28	312	250 - 374	Pass	1.06
LCS-SO-040822	8/1/2020	Cs-134	17,126 ± 176	19,189	15,351 - 23,027	Pass	0.89
LCS-SO-040822	8/1/2020	Co-57	29,070 ± 356	29,730	23,784 - 35,676	Pass	0.98
LCS-SO-040822	8/1/2020	Co-60	27,057 ± 166	27,027	21,622 - 32,432	Pass	1.00
LCS-SO-040822	8/1/2020	Mn-54	17,886 ± 455	16,486	13,189 - 19,783	Pass	1.08
LCS-SO-040822	8/1/2020	K-40	18,799 ± 685	16,810	13,448 - 20,172	Pass	1.12
LCS-SO-040822	8/1/2020	Zn-65	14,460 ± 754	12,703	10,162 - 15,244	Pass	1.14
SPDW-40085	4/4/2022	Sr-90	17.3 ± 1.1	17.1	13.7 - 20.5	Pass	1.01
SPDW-40089	4/8/2022	H-3	10,677 ± 326	10,400	8,320 - 12,480	Pass	1.03
SPDW-40130	4/8/2022	Ra-226	11.4 ± 0.3	12.3	8.6 - 16.0	Pass	0.93
SPDW-40098	4/11/2022	Gr. Alpha	6.7 ± 1.1	6.3	3.1 - 9.4	Pass	1.07
SPDW-40098	4/11/2022	Gr. Beta	71.7 ± 1.7	75.9	60.7 - 91.1	Pass	0.94
SPDW-40102	4/14/2022	H-3	10,369 ± 323	10,400	8,320 - 12,480	Pass	1.00

[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-3. 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
SPDW-40132	5/3/2022	H-3	10,834 ± 329	10,400	8,320 - 12,480	Pass	1.04
SPDW-40142	5/5/2022	Ra-226	11.6 ± 0.4	12.3	8.6 - 16.0	Pass	0.94
SPDW-40139	5/18/2022	H-3	10,465 ± 322	10,400	8,320 - 12,480	Pass	1.01
SPDW-40147	5/9/2022	Gr. Alpha	22.1 ± 1.2	32.5	16.3 - 48.8	Pass	0.68
SPDW-40132	5/3/2022	H-3	10,834 ± 329	10,400	8,320 - 12,480	Pass	1.04
SPDW-40142	5/5/2022	Ra-226	11.6 ± 0.4	12.3	8.6 - 16.0	Pass	0.94
SPDW-40139	5/18/2022	H-3	10,465 ± 322	10,400	8,320 - 12,480	Pass	1.01
SPDW-40147	5/9/2022	Gr. Alpha	22.1 ± 1.2	32.5	16.3 - 48.8	Pass	0.68
SPDW-40147	5/9/2022	Gr. Beta	63.1 ± 1.6	62.9	50.3 - 75.5	Pass	1.00
SPDW-40157	5/25/2022	Ra-226	10.1 ± 0.3	12.3	8.6 - 16.0	Pass	0.82
SPW-1856	6/14/2022	Sr-90	17.4 ± 2.9	17.1	13.7 - 20.5	Pass	1.02
LCS-AP-061522	3/21/2022	Cs-134	479 ± 10	549	439 - 0,659	Pass	0.87
LCS-AP-061522	3/21/2022	Cs-137	1,418 ± 117	1,320	1,056 - 1,584	Pass	1.07
LCS-AP-061522	3/21/2022	Co-60	891 ± 8	885	708 - 1,062	Pass	1.01
LCS-AP-061522	3/21/2022	Zn-65	769 ± 18	671	537 - 0,805	Pass	1.15
SPDW-40164	6/21/2022	Ra-228	14.2 ± 1.8	13.4	9.4 - 17.4	Pass	1.06
SPDW-40167	6/23/2022	H-3	10,497 ± 322	10,400	8,320 - 12,480	Pass	1.01
SPDW-40177	6/30/2022	Ra-226	12.1 ± 0.3	12.3	8.6 - 16.0	Pass	0.98
SPW-1881	6/27/2022	Tc-99	97.1 ± 1.7	107.8	75.5 - 140.1	Pass	0.90
SPDW-40253	7/12/2022	Ra-226	11.6 ± 0.3	12.3	8.6 - 16.0	Pass	0.94
SPW-40179	7/15/2022	H-3	10,467 ± 324	10,400	8,320 - 12,480	Pass	1.01
SPDW-40200	7/26/2022	Gr. Alpha	21.1 ± 1.3	32.5	16.3 - 48.8	Pass	0.65
SPDW-40200	7/26/2022	Gr. Beta	61.0 ± 1.6	62.9	50.3 - 75.5	Pass	0.97
SPDW-40220	7/29/2022	H-3	10,553 ± 326	10,400	8,320 - 12,480	Pass	1.01
SPDW-40212	8/9/2022	Ra-228	14.5 ± 2.3	13.4	9.4 - 17.4	Pass	1.08
SPDW-40220	8/16/2022	H-3	10,613 ± 326	10,400	8,320 - 12,480	Pass	1.02
SPDW-40239	8/22/2022	Gr. Alpha	37.1 ± 2.0	60.2	31.5 - 74.8	Pass	0.62
SPDW-40239	8/22/2022	Gr. Beta	16.6 ± 0.9	17.7	10.1 - 25.9	Pass	0.94
SPDW-40255	8/12/2022	Ra-226	9.1 ± 0.3	12.3	8.6 - 16.0	Pass	0.74
SPDW-40265	9/2/2022	H-3	10,555 ± 325	10,400	8,320 - 13,520	Pass	1.01
SPDW-40267	9/6/2022	Ra-228	14.0 ± 1.4	13.4	9.4 - 17.4	Pass	1.04
SPDW-40283	9/9/2022	H-3	10,059 ± 318	10,400	8,320 - 12,480	Pass	0.97
SPDW-40300	8/31/2022	Ra-226	11.2 ± 0.3	12.3	8.6 - 16.0	Pass	0.91
SPMI-2918	9/19/2022	Sr-90	17.9 ± 1.0	17.1	13.7 - 20.5	Pass	1.05
SPDW-40321	9/20/2022	Ra-226	13.2 ± 0.5	12.3	8.6 - 16.0	Pass	1.07
SPDW-40305	9/21/2022	Ra-228	12.5 ± 1.8	13.4	9.4 - 17.4	Pass	0.93
SPDW-40294	9/20/2022	Gr. Alpha	35.1 ± 2.0	60.2	31.5 - 74.8	Pass	0.58
SPDW-40294	9/20/2022	Gr. Beta	16.5 ± 1.0	17.7	10.1 - 25.9	Pass	0.93
SPDW-40303	9/19/2022	H-3	10,078 ± 316	10,400	8,320 - 12,480	Pass	0.97
SPDW-40361	10/12/2022	Ra-226	10.0 ± 0.3	12.3	8.6 - 16.0	Pass	0.81

[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-3. 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
SPDW-40344	11/3/2022	Ra-228	13.2 ± 1.8	13.4	9.4 - 17.4	Pass	0.99
SPDW-40346	11/8/2022	Gr. Alpha	42.0 ± 2.2	60.2	31.5 - 74.8	Pass	0.70
SPDW-40346	11/8/2022	Gr. Beta	16.6 ± 1.0	17.7	10.1 - 25.9	Pass	0.94
SPDW-40352	11/17/2022	Sr-90	18.8 ± 1.2	17.1	13.7 - 20.5	Pass	1.10
SPDW-40355	11/18/2022	H-3	10,143 ± 316	10,400	8,320 - 12,480	Pass	0.98
SPDW-40364	11/30/2022	Gr. Alpha	38.4 ± 1.5	60.2	31.5 - 74.8	Pass	0.64
SPDW-40364	11/30/2022	Gr. Beta	30.9 ± 1.2	17.7	10.1 - 25.9	Pass	1.75
LCS-W-110822	2/1/2022	Cs-137	222 ± 10	206	165 - 247	Pass	1.08
LCS-W-110822	2/1/2022	Co-57	1,060 ± 117	973	778 - 1,168	Pass	1.09
LCS-W-110822	2/1/2022	Co-60	250 ± 8	251	201 - 301	Pass	1.00
LCS-W-110822	2/1/2022	Mn-54	537 ± 18	511	409 - 613	Pass	1.05
LCS-W-110822	2/1/2022	Zn-65	673 ± 35	708	566 - 850	Pass	0.95
SPDW-40372	11/21/2022	Ra-226	11.3 ± 0.3	12.3	8.6 - 16.0	Pass	0.92
SPU-3883	12/1/2022	H-3	21,694 ± 1,387	23,900	19,120 - 28,680	Pass	0.91
SPW-3950	12/1/2022	Ni-63	1,937 ± 28	2,135.0	1,495 - 2,776	Pass	0.91
SPDW-40366	12/2/2022	H-3	22,466 ± 464	23,900	19,120 - 28,680	Pass	0.94
SPW-3969	12/2/2022	Ni-63	2,123 ± 29	2,135.0	1,495 - 2,776	Pass	0.99
SPW-3881	12/5/2022	Tc-99	85.0 ± 1.6	107.8	75.5 - 140.1	Pass	0.79
SPDW-40374	12/12/2022	H-3	22,554 ± 463	23,900	19,120 - 28,680	Pass	0.94
SPDW-40382	12/12/2022	Ra-226	12.7 ± 0.4	12.3	8.6 - 16.0	Pass	1.03
SPDW-40380	12/22/2022	H-3	22,200 ± 462	23,900.0	19,120 - 28,680	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 "Blank" Samples

Lab Code[b]	Sample Type	Date	Analysis[c]	Concentration[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[d]	Criteria (4.66 σ)
SPDW-30304	Water	1/5/2022	Gr. Alpha	0.47	0.07 ± 0.33	2
SPDW-30304	Water	1/5/2022	Gr. Beta	0.77	0.33 ± 0.55	4
SPDW-40001	Water	1/7/2022	H-3	156	3 ± 75	200
SPDW-40012	Water	1/6/2022	Ra-226	0.06	-0.08 ± 0.05	2
SPDW-40016	Water	7/12/2021	H-3	165	-41 ± 85	200
SPDW-40017	Water	7/21/2021	H-3	165	0 ± 87	200
SPDW-40021	Water	2/3/2022	Ra-228	1.15	0.20 ± 0.56	2
SPDW-40023	Water	2/4/2022	H-3	162	78 ± 81	200
SPDW-40027	Water	2/11/2022	H-3	168	26 ± 85	200
SPDW-40036	Water	2/25/2022	H-3	160	55 ± 78	200
SPDW-40044	Water	3/3/2022	Sr-89	0.62	0.20 ± 0.44	5
SPDW-40044	Water	3/3/2022	Sr-90	0.60	-0.18 ± 0.26	1
SPDW-40046	Water	3/3/2022	I-131	0.12	0.04 ± 0.08	1
SPDW-40051	Water	3/10/2022	H-3	161	17 ± 78	200
SPDW-40063	Water	3/18/2022	H-3	177	60 ± 96	200
SPDW-40072	Water	3/22/2022	Ra-228	1.20	0.29 ± 0.56	2
SPDW-40074	Water	1/28/2022	Ra-226	0.06	0.08 ± 0.14	2
SPDW-40077	Water	3/14/2022	U-234	0.19	0.17 ± 0.20	1
SPDW-40077	Water	3/14/2022	U-238	0.19	-0.04 ± 0.14	1
SPW-597	Water	3/31/2022	Fe-55	1159	92 ± 708	2000
SPDW-40081	Water	3/30/2022	Ra-228	1.66	0.19 ± 0.79	2
SPDW-40082	Water	4/1/2022	H-3	170	60 ± 85	200
SPDW-40084	Water	4/4/2022	Sr-89	0.51	0.28 ± 0.41	5
SPDW-40084	Water	4/4/2022	Sr-90	0.55	0.01 ± 0.25	1
SPDW-40088	Water	4/8/2022	H-3	166.00	66.00 ± 83.00	200
SPDW-40129	Water	4/8/2022	Ra-226	0.01	0.11 ± 0.02	2
SPDW-40098	Water	4/11/2022	Gr. Alpha	0.42	0.06 ± 0.30	2
SPDW-40098	Water	4/11/2022	Gr. Beta	0.75	-0.73 ± 0.50	4
SPDW-40101	Water	4/14/2022	H-3	164	37 ± 84	200
SPDW-40120	Water	4/22/2022	H-3	109	74 ± 84	200
SPDW-40131	Water	5/3/2022	H-3	165	75 ± 86	200
SPDW-40141	Water	5/5/2022	Ra-226	0.08	0.01 ± 0.07	2
SPU-1297	Urine	5/12/2022	H-3	1325	674 ± 733	200
SPDW-40138	Water	5/18/2022	H-3	163	69 ± 80	200
SPDW-40156	Water	5/25/2022	Ra-226	0.04	0.09 ± 0.03	2
SPW-1855	Water	6/14/2022	Sr-89	0.63	0.02 ± 0.49	5
SPW-1855	Water	6/14/2022	Sr-90	0.57	0.00 ± 0.26	1
SPDW-40172	Water	6/14/2022	Ra-226	0.03	0.06 ± 0.03	2
SPDW-40163	Water	6/21/2022	Ra-228	0.84	0.30 ± 0.43	2
SPDW-40166	Water	6/23/2022	H-3	162	46 ± 78	200
SPW-1876	Water	6/27/2022	C-14	9.99	-9.14 ± 5.92	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-4. Intralaboratory "Blank" Samples

Lab Code[b]	Sample Type	Date	Analysis[c]	Concentration[a] Laboratory results (4.66σ) LLD	Activity[d]	Acceptance Criteria (4.66 σ)
SPW-1878	Water	6/27/2022	Fe-55	522	-200 ± 306	2000
SPW-1880	Water	6/27/2022	Tc-99	11.4	-6.0 ± 6.8	200
SPW-1891	Water	6/28/2022	Ni-63	75.9	0.0 ± 46.1	200
SPDW-40176	Water	6/30/2022	Ra-226	0.04	0.06 ± 0.04	2
SPDW-40252	Water	7/12/2022	Ra-226	0.04	-0.06 ± 0.10	2
SPDW-40178	Water	7/15/2022	H-3	167	58 ± 83	200
SPW-2220	Water	7/21/2022	C-14	3.52	-3.15 ± 2.09	200
SPDW-40199	Water	7/26/2022	Gr. Alpha	0.80	0.47 ± 0.58	2
SPDW-40199	Water	7/26/2022	Gr. Beta	0.77	0.98 ± 0.57	4
SPDW-40207	Water	7/29/2022	H-3	161	-21 ± 84	200
SPDW-40211	Water	8/9/2022	Ra-228	1.23	0.20 ± 0.59	2
SPDW-40219	Water	8/16/2022	H-3	161	68 ± 80	200
SPDW-40238	Water	8/22/2022	Gr. Alpha	0.47	0.05 ± 0.34	2
SPDW-40238	Water	8/22/2022	Gr. Beta	0.75	0.34 ± 0.54	4
SPDW-40263	Water	9/2/2022	I-131	0.17	-0.05 ± 0.09	1
SPDW-40264	Water	9/2/2022	H-3	162	82 ± 81	200
SPDW-40264	Water	9/6/2022	Ra-228	1.11	-0.22 ± 0.49	2
SPDW-40282	Water	9/9/2022	H-3	163	71 ± 83	200
SPDW-40291	Water	9/16/2022	I-131	0.11	-0.01 ± 0.08	1
SPMI-2917	Milk	9/19/2022	Sr-89	0.58	0.03 ± 0.47	5
SPMI-2917	Milk	9/19/2022	Sr-90	0.51	0.30 ± 0.27	1
SPDW-40293	Water	9/20/2022	Gr. Alpha	0.52	0.10 ± 0.37	2
SPDW-40293	Water	9/20/2022	Gr. Beta	0.78	0.26 ± 0.55	4
SPDW-40302	Water	9/19/2022	H-3	160	97 ± 80	200
SPDW-40304	Water	9/21/2022	Ra-228	0.87	0.09 ± 0.41	2
SPDW-40311	Water	9/30/2022	I-131	0.15	0.00 ± 0.08	1
SPDW-40345	Water	11/8/2022	Gr. Alpha	0.53	-0.17 ± 0.36	2
SPDW-40345	Water	11/8/2022	Gr. Beta	0.78	-0.05 ± 0.54	4
SPDW-40350	Water	11/11/2022	H-3	166	96 ± 84	200
SPDW-40352	Water	11/17/2022	Sr-89	0.66	-0.01 ± 0.53	5
SPDW-40352	Water	11/17/2022	Sr-90	0.61	0.11 ± 0.29	1
SPDW-40354	Water	11/18/2022	H-3	155	21 ± 76	200
SPDW-40354	Water	11/18/2022	I-131	0.18	-0.11 ± 0.09	1
SPW-3880	Water	12/1/2022	Tc-99	5.58	2.99 ± 3.44	200
SPU-3882	Urine	12/1/2022	H-3	1157	599 ± 642	2000
SPW-3949	Water	12/2/2022	Ni-63	16.3	9.0 ± 10.0	200
SPW-3968	Water	12/2/2022	Ni-63	15.9	0.0 ± 9.6	200
SPDW-40370	Water	12/7/2022	I-131	0.10	-0.04 ± 0.06	1
SPDW-40381	Ra-226	12/12/2022	Ra-226	0.06	-0.04 ± 0.05	2
SPDW-40379	H-3	12/22/2022	H-3	162	107 ± 84	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 "Duplicate" Samples

			Concentration[a]			
Lab Code[b]	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
CF-20,21	1/3/2022	Gr. Beta	7.07 ± 0.26	7.05 ± 0.26	7.06 ± 0.18	Pass
CF-20,21	1/3/2022	K-40	9.06 ± 0.28	7.54 ± 0.70	8.30 ± 0.38	Pass
U-135,136	1/20/2022	Beta (-K40)	5.74 ± 1.63	3.53 ± 1.40	4.64 ± 1.07	Pass
DW-40019,40020	1/25/2022	Gr. Alpha	5.01 ± 1.34	6.01 ± 1.40	5.51 ± 0.97	Pass
DW-40019,40020	1/25/2022	Ra-226	1.19 ± 0.15	0.98 ± 0.17	1.09 ± 0.11	Pass
DW-40019,40020	1/25/2022	Ra-228	4.84 ± 0.98	5.38 ± 1.05	5.11 ± 0.72	Pass
W-159,160	1/27/2022	Gr. Alpha	3.04 ± 3.19	3.85 ± 2.04	3.45 ± 1.89	Pass
W-159,160	1/27/2022	Gr. Beta	14.4 ± 2.7	13.1 ± 1.5	13.7 ± 1.5	Pass
W-159,160	1/27/2022	Ra-226	0.94 ± 0.19	1.11 ± 0.30	1.03 ± 0.18	Pass
W-159,160	1/27/2022	Ra-228	3.14 ± 0.96	3.39 ± 0.96	3.27 ± 0.68	Pass
W-888,889	2/14/2022	Ni-63	119 ± 47	95 ± 48	107 ± 34	Pass
S-391,392	2/17/2022	K-40	11.2 ± 0.8	9.8 ± 0.7	10.5 ± 0.5	Pass
DW-40040,40041	2/25/2022	Ra-226	2.78 ± 0.21	2.01 ± 0.22	2.40 ± 0.15	Pass
DW-40040,40041	2/25/2022	Ra-228	3.15 ± 0.95	3.29 ± 0.94	3.22 ± 0.67	Pass
AP-022821A,B	2/28/2022	Gr. Beta	0.038 ± 0.005	0.039 ± 0.005	0.039 ± 0.003	Pass
S-435,436	3/2/2022	Pb-214	1.42 ± 0.11	1.29 ± 0.15	1.36 ± 0.09	Pass
S-435,436	3/2/2022	Ac-228	0.94 ± 0.20	1.06 ± 0.15	1.00 ± 0.13	Pass
AP-030721A,B	3/7/2022	Gr. Beta	0.038 ± 0.005	0.038 ± 0.005	0.038 ± 0.004	Pass
S-477,478	3/8/2022	K-40	6.58 ± 0.23	6.73 ± 0.24	6.66 ± 0.17	Pass
SWT-657,658	3/9/2022	Gr. Beta	1.00 ± 0.54	1.20 ± 0.57	1.10 ± 0.39	Pass
DW-40059,40060	3/11/2022	Ra-226	0.40 ± 0.10	0.53 ± 0.11	0.47 ± 0.07	Pass
DW-40059,40060	3/11/2022	Ra-228	0.40 ± 0.60	0.72 ± 0.60	0.56 ± 0.42	Pass
AP-0315221A,B	3/15/2022	Gr. Beta	0.025 ± 0.003	0.027 ± 0.003	0.026 ± 0.002	Pass
AP-1161,1162	3/29/2022	Be-7	0.07 ± 0.02	0.07 ± 0.02	0.07 ± 0.01	Pass
DW-700,701	4/4/2022	Gr. Alpha	1.70 ± 1.83	2.82 ± 1.78	2.26 ± 1.28	Pass
DW-700,701	4/4/2022	Gr. Beta	3.33 ± 1.26	4.29 ± 1.30	3.81 ± 0.91	Pass
DW-700,701	4/4/2022	Ra-226	0.50 ± 0.16	0.65 ± 0.14	0.58 ± 0.11	Pass
DW-700,701	4/4/2022	Ra-228	5.04 ± 1.00	4.79 ± 0.99	4.92 ± 0.70	Pass
SG-706,707	4/4/2022	Gr. Alpha	25.7 ± 3.6	21.7 ± 3.2	23.7 ± 2.4	Pass
SG-706,707	4/4/2022	Gr. Beta	23.2 ± 1.7	24.5 ± 1.8	23.9 ± 1.3	Pass
SG-706,707	4/4/2022	Ra-226	2.47 ± 0.10	2.62 ± 0.09	2.55 ± 0.07	Pass
SG-706,707	4/4/2022	Ra-228	4.63 ± 0.22	4.40 ± 0.20	4.52 ± 0.15	Pass
DW-40091,40092	4/5/2022	Gr. Alpha	0.43 ± 0.78	0.57 ± 0.82	0.50 ± 0.57	Pass
DW-40091,40092	4/6/2022	Ra-226	0.21 ± 0.10	0.24 ± 0.08	0.23 ± 0.06	Pass
U-951,952	4/13/2022	Gr. Beta	2.72 ± 1.55	4.11 ± 1.45	3.41 ± 1.06	Pass
U-951,952	4/13/2022	H-3	861 ± 723	1,015 ± 732	938 ± 514	Pass
W-1014,1015	4/21/2022	Ra-228	1.76 ± 0.93	1.51 ± 0.92	1.64 ± 0.65	Pass
W-1014,1015	4/21/2022	Ra-226	1.23 ± 0.27	1.36 ± 0.29	1.30 ± 0.20	Pass
DW-40117,40118	4/26/2022	Ra-226	0.33 ± 0.22	0.29 ± 0.09	0.31 ± 0.12	Pass
SW-1034,1035	4/26/2022	H-3	15,159 ± 386	16,022 ± 396	15,591 ± 277	Pass
DW-40124,40125	4/28/2022	Gr. Alpha	0.70 ± 0.56	0.60 ± 0.68	0.65 ± 0.44	Pass

TABLE A-5. Intralaboratory "Duplicate" Samples

			Concentration[a]			
Lab Code[b]	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
SO-1266,1267	5/9/2022	K-40	17.7 ± 0.8	16.0 ± 1.0	16.8 ± 0.6	Pass
SO-1266,1267	5/9/2022	Pb-214	0.42 ± 0.05	0.30 ± 0.06	0.36 ± 0.04	Pass
SO-1266,1267	5/9/2022	Ac-228	0.58 ± 0.09	0.61 ± 0.02	0.60 ± 0.05	Pass
AP-51721,51722	5/17/2022	Gr. Beta	0.023 ± 0.003	0.022 ± 0.003	0.022 ± 0.002	Pass
SG-1368,1369	5/18/2022	Pb-214	4.31 ± 0.27	5.78 ± 0.31	5.05 ± 0.21	Pass
SG-1368,1369	5/18/2022	Ac-228	6.08 ± 0.56	6.59 ± 0.50	6.34 ± 0.38	Pass
SG-1368,1369	5/18/2022	Gr. Alpha	37.8 ± 1.7	40.6 ± 1.7	39.2 ± 1.2	Pass
SG-1368,1369	5/18/2022	Gr. Beta	34.8 ± 0.8	31.2 ± 0.8	33.0 ± 0.6	Pass
DW-40143,40144	5/19/2022	Ra-226	1.17 ± 0.25	1.56 ± 0.16	1.37 ± 0.15	Pass
DW-40143,40144	5/19/2022	Ra-228	1.29 ± 0.72	2.14 ± 0.85	1.72 ± 0.56	Pass
AP-53121,53122	5/31/2022	Gr. Beta	0.016 ± 0.003	0.014 ± 0.003	0.015 ± 0.002	Pass
PM-1646,1647	6/1/2022	K-40	14.2 ± 0.8	13.9 ± 0.4	14.1 ± 0.5	Pass
S-1731,1732	6/6/2022	K-40	16.5 ± 0.8	15.8 ± 1.9	16.2 ± 1.0	Pass
DW-40152,40153	6/7/2022	Gr. Alpha	4.00 ± 0.74	3.50 ± 0.70	3.75 ± 0.51	Pass
AP-60721,60722	6/7/2022	Gr. Beta	0.014 ± 0.003	0.013 ± 0.003	0.013 ± 0.002	Pass
S-1773,1774	6/13/2022	Be-7	1.29 ± 0.28	1.56 ± 0.15	1.43 ± 0.16	Pass
S-1773,1774	6/13/2022	K-40	13.8 ± 0.7	13.3 ± 0.7	13.6 ± 0.5	Pass
AP-61321,61322	6/13/2022	Gr. Beta	0.023 ± 0.004	0.023 ± 0.004	0.023 ± 0.003	Pass
AP-62021,62022	6/20/2022	Gr. Beta	0.031 ± 0.005	0.031 ± 0.005	0.031 ± 0.003	Pass
AP-62721,62722	6/27/2022	Gr. Beta	0.027 ± 0.005	0.027 ± 0.005	0.027 ± 0.003	Pass
DW-40169,40170	6/29/2022	Ra-228	1.06 ± 0.70	0.17 ± 0.54	0.62 ± 0.44	Pass
DW-40169,40170	6/29/2022	Ra-226	0.22 ± 0.12	0.03 ± 0.12	0.13 ± 0.08	Pass
W-2014,2015	7/4/2022	Ra-226	0.73 ± 0.24	0.72 ± 0.27	0.73 ± 0.18	Pass
S-2035,2036	7/7/2022	Pb-214	1.00 ± 0.09	1.65 ± 0.11	1.33 ± 0.07	Pass
S-2035,2036	7/7/2022	Ac-228	1.16 ± 0.20	1.09 ± 0.18	1.13 ± 0.13	Pass
S-2152,2153	7/13/2022	Pb-214	0.58 ± 0.07	0.65 ± 0.05	0.62 ± 0.04	Pass
S-2152,2153	7/13/2022	Ac-228	0.62 ± 0.11	0.61 ± 0.08	0.62 ± 0.07	Pass
S-2152,2153	7/18/2022	K-40	10.9 ± 0.8	12.5 ± 0.8	11.7 ± 0.6	Pass
DW-40192,40193	7/19/2022	Ra-226	0.80 ± 0.10	0.70 ± 0.10	0.75 ± 0.07	Pass
DW-40192,40193	7/19/2022	Ra-228	0.03 ± 0.60	1.20 ± 0.68	0.62 ± 0.45	Pass
DW-40205,40206	7/27/2022	Ra-226	0.32 ± 0.15	0.28 ± 0.10	0.30 ± 0.09	Pass
DW-40205,40206	7/27/2022	Ra-228	0.34 ± 0.59	0.65 ± 0.62	0.50 ± 0.43	Pass
G-2343,2344	8/1/2022	Be-7	3.00 ± 0.31	3.04 ± 0.26	3.02 ± 0.20	Pass
G-2343,2344	8/1/2022	K-40	5.82 ± 0.53	6.03 ± 0.39	5.93 ± 0.33	Pass
W-2406,2407	8/1/2022	Gr. Alpha	4.27 ± 3.20	4.60 ± 2.95	4.44 ± 2.18	Pass
W-2406,2407	8/1/2022	Gr. Beta	11.1 ± 2.6	10.5 ± 2.4	10.8 ± 1.8	Pass
W-2406,2407	8/1/2022	Ra-226	1.83 ± 0.28	2.31 ± 0.35	2.07 ± 0.22	Pass
W-2406,2407	8/1/2022	Ra-228	2.87 ± 0.95	2.43 ± 0.93	2.65 ± 0.66	Pass
DW-40213,40214	8/3/2022	Gr. Alpha	0.60 ± 0.60	-0.30 ± 0.70	0.15 ± 0.46	Pass
DW-40213,40214	8/3/2022	Gr. Beta	0.72 ± 0.59	0.85 ± 0.54	0.79 ± 0.40	Pass
DW-40225,40226	8/10/2022	Ra-226	0.53 ± 0.13	0.41 ± 0.10	0.47 ± 0.08	Pass

TABLE A-5. Intralaboratory "Duplicate" Samples

			Concentration[a]			
Lab Code[b]	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
DW-40225,40226	8/10/2022	Ra-228	1.20 ± 0.71	1.00 ± 0.71	1.10 ± 0.50	Pass
S-2553,2554	8/18/2022	K-40	1.74 ± 0.27	1.33 ± 0.22	1.54 ± 0.17	Pass
WW-2774,2775	8/19/2022	H-3	138 ± 86	171 ± 88	155 ± 62	Pass
S-2797,2798	8/22/2022	K-40	19.0 ± 0.2	18.7 ± 0.2	18.9 ± 0.1	Pass
DW-40241,40242	8/23/2022	Ra-226	3.10 ± 0.19	3.54 ± 0.19	3.32 ± 0.13	Pass
DW-40241,40242	8/23/2022	Ra-228	6.05 ± 0.98	6.61 ± 1.02	6.33 ± 0.71	Pass
W-2681,2682	8/24/2022	H-3	1054 ± 126	962 ± 122	1008 ± 88	Pass
DW-40259,40260	8/30/2022	Ra-228	0.49 ± 0.11	0.11 ± 0.10	0.30 ± 0.07	Pass
DW-40259,40260	8/30/2022	Ra-226	0.49 ± 0.11	0.11 ± 0.09	0.30 ± 0.07	Pass
DW-40259,40260	8/30/2022	Ra-228	0.00 ± 0.57	0.47 ± 61.00	0.24 ± 30.50	Pass
AP-830227A,B	8/30/2022	Gr. Beta	0.027 ± 0.004	0.026 ± 0.004	0.027 ± 0.003	Pass
AP-808227A,B	8/30/2022	Gr. Beta	0.016 ± 0.004	0.018 ± 0.004	0.017 ± 0.003	Pass
VE-2702,2703	8/30/2022	K-40	2.58 ± 0.12	2.62 ± 0.27	2.60 ± 0.15	Pass
VE-2702,2703	8/30/2022	Be-7	0.21 ± 0.05	0.30 ± 0.13	0.26 ± 0.07	Pass
VE-2702,2703	8/30/2022	Sr-90	0.002 ± 0.001	0.002 ± 0.001	0.002 ± 0.001	Pass
SG-3978,3979	9/7/2022	Gr. Alpha	470 ± 29	552 ± 32	511 ± 22	Pass
SG-3978,3979	9/7/2022	Pb-214	31.3 ± 0.8	30.9 ± 1.6	31.1 ± 0.9	Pass
SG-3978,3979	9/7/2022	Ac-228	41.6 ± 1.5	43.2 ± 2.8	42.4 ± 1.6	Pass
SG-2844	9/9/2022	Gr. Alpha	25.7 ± 4.0	18.7 ± 3.5	22.2 ± 2.7	Pass
SG-2844	9/9/2022	Gr. Beta	21.3 ± 2.0	22.2 ± 2.0	21.8 ± 1.4	Pass
SG-2844	9/9/2022	Pb-214	4.35 ± 0.12	4.43 ± 0.10	4.39 ± 0.08	Pass
SG-2844	9/9/2022	Ac-228	5.37 ± 0.22	5.39 ± 0.17	5.38 ± 0.14	Pass
DW-40279,40280	9/9/2022	Ra-226	3.92 ± 0.23	4.18 ± 0.25	4.05 ± 0.17	Pass
DW-40279,40280	9/9/2022	Ra-228	7.05 ± 1.09	6.58 ± 1.06	6.82 ± 0.76	Pass
SG-2841,2842	9/9/2022	Pb-214	0.90 ± 0.50	1.16 ± 0.12	1.03 ± 0.26	Pass
SG-2841,2842	9/9/2022	Ac-228	0.91 ± 0.10	0.88 ± 0.17	0.90 ± 0.10	Pass
DW-40295,40296	9/13/2022	Gr. Alpha	0.79 ± 0.97	0.64 ± 0.97	0.72 ± 0.69	Pass
DW-40295,40296	9/14/2022	Ra-226	2.75 ± 0.32	2.89 ± 0.24	2.82 ± 0.20	Pass
DW-40295,40296	9/14/2022	Ra-228	2.88 ± 0.78	2.95 ± 0.76	2.92 ± 0.54	Pass
SG-2862,2863	9/14/2022	Pb-214	11.8 ± 0.2	11.2 ± 0.2	11.5 ± 0.1	Pass
SG-2862,2863	9/14/2022	Ac-228	6.95 ± 0.24	7.18 ± 0.19	7.07 ± 0.15	Pass
SG-3119,3120	9/24/2022	Pb-214	3.10 ± 0.21	3.10 ± 0.22	3.10 ± 0.15	Pass
SG-3119,3120	9/24/2022	Ac-228	2.16 ± 0.38	2.30 ± 0.33	2.23 ± 0.25	Pass
SG-3075,3076	9/28/2022	Gr. Alpha	174 ± 10	158 ± 10	166 ± 7	Pass
SG-3075,3076	9/28/2022	Pb-214	23.6 ± 0.9	24.4 ± 0.4	24.0 ± 0.5	Pass
SG-3075,3076	9/28/2022	Ac-228	38.2 ± 1.9	35.8 ± 0.8	37.0 ± 1.0	Pass
DW-40318,40319	9/29/2022	Gr. Alpha	1.02 ± 0.94	1.79 ± 1.68	1.41 ± 0.96	Pass
AP-100321A/B	10/3/2022	Gr. Beta	0.015 ± 0.003	0.011 ± 0.003	0.013 ± 0.002	Pass
SO-3140,3141	10/3/2022	Be-7	0.353 ± 0.180	0.304 ± 0.163	0.328 ± 0.121	Pass
SO-3140,3141	10/3/2022	K-40	11.2 ± 0.6	11.0 ± 0.6	11.1 ± 0.4	Pass
SO-3140,3141	10/3/2022	Cs-137	0.055 ± 0.016	0.069 ± 0.020	0.062 ± 0.013	Pass
SO-3140,3141	10/3/2022	Tl-208	0.132 ± 0.022	0.114 ± 0.024	0.123 ± 0.016	Pass

TABLE A-5. Intralaboratory "Duplicate" Samples

Lab Code[b]	Date	Analysis	Concentration[a] First Result	Second Result	Averaged Result	Acceptance
SO-3140,3141	10/3/2022	Bi-214	0.315 ± 0.041	0.390 ± 0.041	0.353 ± 0.029	Pass
SO-3140,3141	10/3/2022	Pb-212	0.344 ± 0.029	0.357 ± 0.029	0.351 ± 0.020	Pass
SO-3140,3141	10/3/2022	Pb-214	0.362 ± 0.043	0.446 ± 0.047	0.404 ± 0.032	Pass
SO-3140,3141	10/3/2022	Ra-226	0.602 ± 0.250	0.768 ± 0.248	0.685 ± 0.176	Pass
SO-3140,3141	10/3/2022	Ac-228	0.442 ± 0.101	0.405 ± 0.083	0.423 ± 0.066	Pass
SO-3140,3141	10/3/2022	Gr. Alpha	4.07 ± 1.77	4.43 ± 2.17	4.25 ± 1.40	Pass
SO-3140,3141	10/3/2022	Gr. Beta	15.6 ± 1.6	17.0 ± 1.5	16.3 ± 1.1	Pass
AP-101021A/B	10/10/2022	Gr. Beta	0.037 ± 0.005	0.040 ± 0.005	0.039 ± 0.004	Pass
S-3501,3502	10/18/2022	K-40	16.3 ± 1.2	16.3 ± 1.3	16.3 ± 0.9	Pass
AP-101821A/B	10/18/2022	Gr. Beta	0.026 ± 0.003	0.027 ± 0.003	0.026 ± 0.002	Pass
DW-40328,40329	10/25/2022	Ra-226	2.13 ± 0.18	2.17 ± 0.28	2.15 ± 0.17	Pass
AP-102621A/B	10/26/2022	Gr. Beta	0.051 ± 0.005	0.047 ± 0.005	0.049 ± 0.003	Pass
SG-3557,3558	11/1/2022	Gr. Alpha	24.5 ± 4.0	25.0 ± 4.0	24.8 ± 2.8	Pass
SG-3557,3558	11/1/2022	Gr. Beta	26.7 ± 2.2	29.3 ± 2.3	28.0 ± 1.6	Pass
SG-3557,3558	11/1/2022	Pb-214	9.23 ± 0.15	9.23 ± 0.32	9.23 ± 0.18	Pass
SG-3557,3558	11/1/2022	Ac-228	7.35 ± 0.31	8.26 ± 0.63	7.81 ± 0.35	Pass
AP-110221A/B	11/2/2022	Gr. Beta	0.020 ± 0.003	0.020 ± 0.003	0.020 ± 0.002	Pass
DW-40341,40342	11/7/2022	Ra-226	1.18 ± 0.15	0.89 ± 0.14	1.04 ± 0.10	Pass
DW-40341,40342	11/7/2022	Ra-228	1.98 ± 0.95	3.32 ± 1.12	2.65 ± 0.73	Pass
AP-110921A/B	11/9/2022	Gr. Beta	0.025 ± 0.003	0.025 ± 0.003	0.025 ± 0.002	Pass
AP-111621A/B	11/16/2022	Gr. Beta	0.013 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	Pass
AP-112321A/B	11/23/2022	Gr. Beta	0.034 ± 0.004	0.031 ± 0.004	0.032 ± 0.003	Pass
AP-113021A/B	11/30/2022	Gr. Beta	0.056 ± 0.005	0.058 ± 0.005	0.057 ± 0.003	Pass
SG-4016,4017	12/5/2022	Gr. Alpha	24.5 ± 4.0	25.0 ± 4.0	24.7 ± 2.9	Pass
SG-4016,4017	12/5/2022	Gr. Beta	26.7 ± 2.2	29.3 ± 2.3	28.0 ± 1.6	Pass
SG-4016,4017	12/5/2022	Pb-214	8.64 ± 0.30	9.28 ± 0.30	8.96 ± 0.21	Pass
SG-4016,4017	12/5/2022	Ac-228	10.8 ± 0.8	10.0 ± 0.8	10.4 ± 0.6	Pass
AP-120721A/B	12/7/2022	Gr. Beta	0.034 ± 0.003	0.030 ± 0.003	0.032 ± 0.002	Pass
DW-40375,40376	12/14/2022	Ra-228	5.05 ± 0.96	7.15 ± 1.09	6.10 ± 0.73	Pass
DW-40375,40376	12/14/2022	Ra-226	3.33 ± 0.27	4.28 ± 0.29	3.81 ± 0.20	Pass
AP-121621A/B	12/16/2022	Gr. Beta	0.039 ± 0.004	0.033 ± 0.004	0.036 ± 0.003	Pass
AP-122721A/B	12/27/2022	Gr. Beta	0.018 ± 0.002	0.016 ± 0.002	0.017 ± 0.001	Pass
AP-122821A/B	12/28/2022	Gr. Beta	0.042 ± 0.003	0.039 ± 0.003	0.041 ± 0.002	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), U (Urine), VE (Vegetation), W (Water), WW (Well Water).

Lab Code [b]	Reference Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAAP-506	2/1/2022	Gross Alpha	1.10 ± 0.14	1.20	0.36 - 2.04	Pass
MAAP-506	2/1/2022	Gross Beta	0.83 ± 0.06	0.681	0.341 - 1.022	Pass
MADW-408	2/1/2022	Gross Alpha	0.34 ± 0.04	0.574	0.172 ± 0.976	Pass
MADW-408	2/1/2022	Gross Beta	6.61 ± 0.09	7.25	3.63 - 10.88	Pass
MASO-504	2/1/2022	Cs-134	738 ± 8	890	623 - 1157	Pass
MASO-504	2/1/2022	Cs-137	399 ± 9	365	256 - 475	Pass
MASO-504	2/1/2022	Co-57	1479 ± 375	1400	980 - 1820	Pass
MASO-504	2/1/2022	Co-60	433 ± 6	443	310 - 576	Pass
MASO-504	2/1/2022	Mn-54	1258 ± 606	1140	798 - 1482	Pass
MASO-504	2/1/2022	Zn-65	-2.11 ± 4.44	0	NA [c]	Pass
MASO-504	2/1/2022	K-40	641 ± 40	596	417 - 775	Pass
MADW-500	2/1/2022	Cs-134	-0.06 ± 0.11	0	NA [c]	Pass
MADW-500	2/1/2022	Cs-137	8.09 ± 0.33	7.64	5.35 - 9.93	Pass
MADW-500	2/1/2022	Co-57	37.04 ± 0.55	36.0	25.20 - 46.80	Pass
MADW-500	2/1/2022	Co-60	8.91 ± 0.27	9.3	6.5 - 12.1	Pass
MADW-500	2/1/2022	Mn-54	20.4 ± 0.6	18.9	13.2 - 24.6	Pass
MADW-500	2/1/2022	Zn-65	28.65 ± 0.94	26.2	18.3 - 34.1	Pass
MADW-500	2/1/2022	K-40	4.80 ± 2.57	0	NA [c]	Pass
MADW-500	2/1/2022	H-3	309 ± 10	300	210 - 390	Pass
MADW-500	2/1/2022	Ra-226	0.83 ± 0.10	0.8	0.6 - 1.0	Pass
MADW-500	2/1/2022	U-234	0.13 ± 0.01	1.5	1.1 - 2.0	Fail [d]
MADW-500	2/1/2022	U-238	0.12 ± 0.01	1.54	1.08 - 2.00	Fail [d]
MAAP-502	2/1/2022	Cs-134	0.83 ± 0.05	0.93	0.65 - 1.21	Pass
MAAP-502	2/1/2022	Cs-137	0.87 ± 0.07	0.726	0.51 - 0.94	Pass
MAAP-502	2/1/2022	Co-57	0.87 ± 0.05	0	NA [c]	Fail [e]
MAAP-502	2/1/2022	Co-60	0.83 ± 0.07	0.72	0.50 - 0.94	Pass
MAAP-502	2/1/2022	Mn-54	0.02 ± 0.02	0	NA [c]	Pass
MAAP-502	2/1/2022	Sr-90	0.72 ± 0.10	0.54	0.38 - 0.70	Fail [f]
MAVE-507	2/1/2022	Cs-134	7.53 ± 0.17	7.61	5.33 - 9.89	Pass
MAVE-507	2/1/2022	Cs-137	1.60 ± 0.12	1.52	1.06 - 1.98	Pass
MAVE-507	2/1/2022	Co-57	6.21 ± 0.17	5.09	3.56 - 6.62	Pass
MAVE-507	2/1/2022	Co-60	0.01 ± 0.03	0	NA [c]	Pass
MAVE-507	2/1/2022	Mn-54	2.94 ± 0.14	3	1.81 - 3.37	Pass
MAVE-507	2/1/2022	Zn-65	1.69 ± 0.17	1.47	1.03 - 1.91	Pass
MADW-2613	8/1/2022	Gross Alpha	1.39 ± 0.10	0.90	0.27 - 1.53	Pass
MADW-2613	8/1/2022	Gross Beta	1.69 ± 0.04	1.31	0.66 - 1.97	Pass

TABLE A-6. 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
MASO-2737	8/1/2022	Cs-134	523 ± 5	627	439 - 815	Pass
MASO-2737	8/1/2022	Cs-137	1.18 ± 2.21	0	NA [c]	Pass
MASO-2737	8/1/2022	Co-57	715 ± 6	786	550 - 1022	Pass
MASO-2737	8/1/2022	Co-60	-0.04 ± 1.07	0	NA [c]	Pass
MASO-2737	8/1/2022	Mn-54	903 ± 11	841	589 - 1093	Pass
MASO-2737	8/1/2022	Zn-65	1227 ± 19	1140	798 - 1482	Pass
MASO-2737	8/1/2022	K-40	595 ± 37	537	376 - 698	Pass
MADW-2733	8/1/2022	Cs-134	13.6 ± 0.3	17.1	12.0 - 22.2	Pass
MADW-2733	8/1/2022	Cs-137	16.0 ± 0.4	16.8	11.8 - 21.8	Pass
MADW-2733	8/1/2022	Co-57	27.5 ± 0.4	30.0	21.0 - 39.0	Pass
MADW-2733	8/1/2022	Co-60	14.4 ± 0.3	17.0	11.9 - 22.1	Pass
MADW-2733	8/1/2022	Mn-54	-0.03 ± 0.10	0	NA [c]	Pass
MADW-2733	8/1/2022	Zn-65	11.5 ± 0.6	11.3	7.9 - 14.7	Pass
MADW-2733	8/1/2022	K-40	3.88 ± 1.51	0	NA [c]	Pass
MADW-2733	8/1/2022	Sr-90	6.79 ± 0.32	7.73	5.41 - 10.05	Pass
MAAP-2735	8/1/2022	Cs-134	-0.001 ± 0.029	0	NA [c]	Pass
MAAP-2735	8/1/2022	Cs-137	1.76 ± 0.11	1.53	1.07 - 1.99	Pass
MAAP-2735	8/1/2022	Co-57	3.50 ± 0.07	3.32	2.32 - 4.32	Pass
MAAP-2735	8/1/2022	Co-60	2.11 ± 0.08	1.99	1.39 - 2.59	Pass
MAAP-2735	8/1/2022	Mn-54	2.18 ± 0.13	1.88	1.32 - 2.44	Pass
MAAP-2735	8/1/2022	Zn-65	1.83 ± 0.22	1.58	1.11 - 2.05	Pass
MAVE-2740	8/1/2022	Cs-134	0.01 ± 0.06	0	NA [c]	Pass
MAVE-2740	8/1/2022	Cs-137	1.15 ± 0.12	1.083	0.758 - 1.408	Pass
MAVE-2740	8/1/2022	Co-57	-0.003 ± 0.035	0	NA [c]	Pass
MAVE-2740	8/1/2022	Co-60	4.71 ± 0.14	4.62	3.23 - 6.01	Pass
MAVE-2740	8/1/2022	Mn-54	2.67 ± 0.19	2.43	1.70 - 3.16	Pass
MAVE-2740	8/1/2022	Zn-65	7.73 ± 0.39	7.49	5.24 - 9.74	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] Results for a different dataset were mistakenly input into the MAPEP system. If the correct dataset had been entered, the results, (U-234: 1.62 ± 0.04, U-238: 1.69 ± 0.04), would have been within the aceptance range.

[e] MAPEP likely added Eu-152 as an interference to Co-57. Reanalyzing the spectra in duplicate with libraries to account for both Co-57 and Eu-152 yields Co-57 results of 0.03 ± 0.04 & 18 ± 0.18 Bq/sample. Which satisfies MAPEP criteria for passing a "false positive" test.

[f] The analysis of this sample was repeated and the result, (Sr-90: 0.52 ± 0.09), was within the acceptance range.

TABLE A-7. 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-640	3/21/2022	Cs-134	458	549	356 - 673	Pass
ERAP-640	3/21/2022	Cs-137	1430	1,320	1,080 - 1730	Pass
ERAP-640	3/21/2022	Co-60	913	885	752 - 1120	Pass
ERAP-640	3/21/2022	Mn-54	< 4.1	< 35.0	0.00 - 35.0	Pass
ERAP-640	3/21/2022	Zn-65	771	671	550 - 1030	Pass
ERAP-639	3/21/2022	Gross Alpha	93.5	94.2	49.2 - 155	Pass
ERAP-639	3/21/2022	Gross Beta	60.7	66.8	40.5 - 101.0	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 2022

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 (313)	0.01	0.029 (260/260) (0.010 - 0.063)	32,37,49 3.1 miles WNW 2.0 miles NNW 0.8 miles NNE	0.030 (53/53) (0.013 - 0.063)	Station 53 0.029 (53/53) (0.010 - 0.063)	0
Air Radioiodine (pCi/m^3)	Gamma (24) Be-7	-	0.090 (20/20) (0.059 - 0.120)	37 2.0 miles NNW	0.098 (4/4) (0.070 - 0.120)	0.090 (4/4) (0.059 - 0.120)	0
	I-131 (313)	0.07	- (0/260)	N/A	N/A	Station 53 - (0/53)	0
Direct Radiation Dosimeters (mR per std. 90-day Qtr.)	Gamma Dose (176)	-	18.7 (160/160) (12.0 – 23.3)	22 3.9 miles SSW	21.7 (4/4) (20.2 – 22.7)	Stations 39 & 53 18.7 (8/8) (16.0 – 20.1)	0
Surface Water (pCi/l)	Gamma (24)		- (0/12)	N/A	N/A	JRR - (0/12)	0
	Tritium (24)	30,000	14,495 (12/12) (12,956 – 16,488)	SP 3.2 miles SSE	14,495 (12/12) (12,956 – 16,488)	165- (1/12) (165,165)	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)

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Drinking Water (pCi/l)	I-131 (24)	1	- (0/12)	N/A	N/A	BW-15 - (0/12)	0
	Gross Beta (24)	4	2.8 (12/12) (1.7 – 4.1)	IO-DW 26.1 miles SSE	2.9 (12/12) (1.8 – 3.9)	2.9 (12/12) (1.9 - 3.9)	0
	Gamma (24)		- (0/12)	N/A	N/A	- (0/12)	0
	Tritium (8)	2,000	876- (2/4) (194-1558)	IO-DW 26.1 miles SSE	- (0/4)	- (0/4)	0
Shoreline Sediment (pCi/kg dry)	Gamma (7)					JRR	
	K-40	-	9,655 (7/7) (5,496 – 14,006)	EEA 3.0 miles NNW	12,105 (2/2) (10,204 -14,006)	9,941 (2/2) (9,266 – 10,615)	0
	Cs-137	-	46.6(2-7) (44.3-49.6)	EEA 3.0 miles NNW	49.6 (1/1) (49.6-49.6)	44.3(1/7) (44.3-44.3)	0
Fish – Flesh (pCi/kg wet)	Gamma (23)					JRR	
	K-40	-	3,150 (12/12) (2,423 – 3,561)	CCL 0.6 miles E to NNW	3,150 (12/12) (2,423 – 3,561)	3,554(11/11) (1,498- 4,239)	0
	Tritium (22)	-	12,069 (12/12) (8,214 – 20,213)	CCL 0.6 miles E to NNW	12,069 (12/12) (8,214 – 20,213)	- (0/10)	0

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RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

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Location of Facility: Coffey County, Kansas Reporting Period: Annual 2022

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 (22)					D-2	
	Be-7	-	935 (17/17) (348 – 1,327)	B-1 0.8 miles NNE	1,327 (4/4) (1,010 – 1,668)	962 (5/5) (584 – 1,517)	0
	K-40	-	5,180 (17/17) (3,931 – 6,915)	B-1 0.8 miles NNE	5,664 (4/4) (4,993 – 6,785)	5,466 (5/5) (4,050 – 6,580)	0
Crops (pCi/kg wet)	Gamma (4)					NR-U1	
	K-40	-	9,349 (2/2) (2,965-15,733)	NR-D1 8.9 miles S	15,733 (1-1) (15,733-15,733)	10,191 (2-2) (2,849-17,534)	0
Bottom Sediment (pCi/kg dry)	Gamma (7)					JRR	
	K-40	-	11,454 (5/5) (10,184-17,567)	SC 0.8 miles NNW	13,075 (1/1) (13,075-13,075)	16,807 (2/2) (16,047 – 17,567)	0
	Cs-137	-	41.3 (1/1) (41.3 – 41.3)	EEA 3.0 miles NNW	41.3 (1/1) (41.3-41.3)	82.9- (2/2) (76.6-89.3)	0
	Fe-55 (2)	-	19,712- (2/2) (11,743-27,680)	DC 0.9 miles WNW	19,712- (2/2) (11,743-27,680)	No Control	0

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Aquatic Vegetation (pCi/kg wet)	Gamma (4)					No Control	
	Be-7	-	539 (4/4) (286 - 972)	SC 0.8 miles NNW	629 (2/2) (286 - 972)	-	0
	K-40	-	2,552 (4/4) (1,677- 3,682)	EEA 3.0 miles NNW	3,682 (1/1) (3,682 – 3,682)	-	0
	Cs-137	-	- (0/4)	N/A	N/A	-	0
Terrestrial Vegetation (pCi/kg wet)	Gamma (2)					No Control	
	Be-7	-	6,743 (2/2) (3,620 – 9,867)	MUDS 1.5 miles WNW	9,867 (1/1) (9,867 – 9,867)	-	0
	K-40	-	7,906 (2/2) (5,049 – 10,763)	MUDS 1.5 miles WNW	10,763 (1/1) (10,763-10,763)	-	0
Soil (pCi/kg dry)	Gamma (3)					No Control	
	K-40	-	11,253 (3/3) (10,809-11,597)	EEA 3.0 miles NNW	11,203 (2/2) (10,809-11,597)	-	0
	Cs-137	-	172 (3/3) (122-212)	EEA 3.0 miles NNW	167 (2/2) (122-212)	-	0
Meat (pCi/kg wet)	Gamma (2)					No Control	
Deer/Turkey	K-40	-	3,000 (2/2) (2,786 – 3,215)	R2.6 (Turkey) 2.6 miles N	3,215(1/1) (3,215 – 3,215)	-	0
	Tritium	-	2,331 (2/2)	G1.7 (Deer)	4,512 (1/1)	No Control	0

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			(149-4,512)	1.7 miles SE	(4,512 – 4,512)		

** 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
27-Dec-21	03-Jan-22	306	0.050	+/-	0.005	<	0.015	
03-Jan-22	10-Jan-22	301	0.043	+/-	0.005	<	0.019	
10-Jan-22	17-Jan-22	290	0.025	+/-	0.004	<	0.018	
17-Jan-22	24-Jan-22	306	0.026	+/-	0.004	<	0.015	
24-Jan-22	31-Jan-22	310	0.021	+/-	0.004	<	0.016	
31-Jan-22	08-Feb-22	356	0.028	+/-	0.004	<	0.013	
31-Jan-22	08-Feb-22	356	0.027	+/-	0.004			Duplicate
08-Feb-22	14-Feb-22	260	0.023	+/-	0.005	<	0.031	
14-Feb-22	21-Feb-22	303	0.029	+/-	0.005	<	0.008	
21-Feb-22	28-Feb-22	311	0.039	+/-	0.005	<	0.010	
21-Feb-22	28-Feb-22	311	0.038	+/-	0.005			Duplicate
28-Feb-22	07-Mar-22	298	0.034	+/-	0.005	<	0.017	
07-Mar-22	14-Mar-22	300	0.023	+/-	0.004	<	0.007	
14-Mar-22	21-Mar-22	290	0.023	+/-	0.004	<	0.014	
21-Mar-22	28-Mar-22	307	0.013	+/-	0.004	<	0.011	
28-Mar-22	04-Apr-22	290	0.022	+/-	0.005	<	0.016	
04-Apr-22	11-Apr-22	294	0.022	+/-	0.004	<	0.011	
11-Apr-22	18-Apr-22	306	0.028	+/-	0.004	<	0.030	
18-Apr-22	25-Apr-22	293	0.021	+/-	0.004	<	0.011	
25-Apr-22	02-May-22	289	0.024	+/-	0.004	<	0.023	
02-May-22	09-May-22	292	0.013	+/-	0.004	<	0.025	
09-May-22	16-May-22	297	0.028	+/-	0.005	<	0.012	
09-May-22	16-May-22	297	0.023	+/-	0.005			Duplicate
16-May-22	23-May-22	303	0.020	+/-	0.004	<	0.012	
23-May-22	31-May-22	333	0.019	+/-	0.004	<	0.013	
31-May-22	06-Jun-22	247	0.015	+/-	0.005	<	0.018	
06-Jun-22	13-Jun-22	295	0.020	+/-	0.004	<	0.011	
13-Jun-22	20-Jun-22	298	0.028	+/-	0.005	<	0.012	
20-Jun-22	27-Jun-22	297	0.029	+/-	0.005	<	0.016	
27-Jun-22	05-Jul-22	332	0.029	+/-	0.004	<	0.014	
27-Jun-22	05-Jul-22	332	0.026	+/-	0.004			Duplicate
05-Jul-22	11-Jul-22	256	0.024	+/-	0.005	<	0.012	
11-Jul-22	19-Jul-22	309	0.026	+/-	0.004	<	0.021	
19-Jul-22	25-Jul-22	259	0.031	+/-	0.005	<	0.013	
25-Jul-22	01-Aug-22	299	0.026	+/-	0.004	<	0.012	
25-Jul-22	01-Aug-22	299	0.026	+/-	0.004			
01-Aug-22	08-Aug-22	300	0.021	+/-	0.004	<	0.008	
01-Aug-22	08-Aug-22	300	0.021	+/-	0.004			
01-Aug-22	08-Aug-22	300	0.023	+/-	0.004			Duplicate
01-Aug-22	08-Aug-22	300	0.023	+/-	0.004			Duplicate
08-Aug-22	15-Aug-22	304	0.032	+/-	0.005	<	0.009	

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
08-Aug-22	15-Aug-22	304	0.032	+/-	0.005			
15-Aug-22	22-Aug-22	298	0.034	+/-	0.005	<	0.018	
15-Aug-22	22-Aug-22	298	0.034	+/-	0.005			
22-Aug-22	29-Aug-22	298	0.037	+/-	0.005	<	0.017	
22-Aug-22	29-Aug-22	298	0.037	+/-	0.005			
29-Aug-22	06-Sep-22	344	0.026	+/-	0.004	<	0.021	
29-Aug-22	06-Sep-22	344	0.026	+/-	0.004			
06-Sep-22	12-Sep-22	243	0.034	+/-	0.006	<	0.016	
06-Sep-22	12-Sep-22	243	0.034	+/-	0.006			
12-Sep-22	19-Sep-22	305	0.036	+/-	0.005	<	0.025	
12-Sep-22	19-Sep-22	305	0.036	+/-	0.005			
19-Sep-22	26-Sep-22	312	0.026	+/-	0.005	<	0.009	
19-Sep-22	26-Sep-22	312	0.026	+/-	0.005			
26-Sep-22	03-Oct-22	283	0.031	+/-	0.005	<	0.020	
03-Oct-22	10-Oct-22	304	0.036	+/-	0.005	<	0.013	
10-Oct-22	17-Oct-22	295	0.031	+/-	0.005	<	0.019	
17-Oct-22	24-Oct-22	293	0.028	+/-	0.005	<	0.009	
24-Oct-22	31-Oct-22	304	0.027	+/-	0.005	<	0.006	
31-Oct-22	07-Nov-22	304	0.036	+/-	0.005	<	0.012	
31-Oct-22	07-Nov-22	304	0.036	+/-	0.005	<	0.012	
07-Nov-22	14-Nov-22	297	0.016	+/-	0.004	<	0.015	
14-Nov-22	21-Nov-22	300	0.035	+/-	0.005	<	0.019	
14-Nov-22	21-Nov-22	300	0.037	+/-	0.005			Duplicate
21-Nov-22	28-Nov-22	290	0.047	+/-	0.006	<	0.018	
28-Nov-22	05-Dec-22	301	0.035	+/-	0.005	<	0.028	
05-Dec-22	12-Dec-22	306	0.061	+/-	0.006	<	0.015	
05-Dec-22	12-Dec-22	306	0.062	+/-	0.006			Duplicate
12-Dec-22	19-Dec-22	301	0.019	+/-	0.004	<	0.029	
19-Dec-22	27-Dec-22	355	0.040	+/-	0.005	<	0.021	
19-Dec-22	27-Dec-22	355	0.039	+/-	0.005			Duplicate
27-Dec-22	03-Jan-23	281	0.038	+/-	0.005	<	0.025	

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
27-Dec-21	03-Jan-22	307	0.049	+/-	0.005	<	0.015	
03-Jan-22	10-Jan-22	305	0.044	+/-	0.005	<	0.019	
10-Jan-22	17-Jan-22	298	0.025	+/-	0.004	<	0.017	
17-Jan-22	24-Jan-22	302	0.027	+/-	0.004	<	0.015	
24-Jan-22	31-Jan-22	311	0.024	+/-	0.004	<	0.016	
31-Jan-22	08-Feb-22	350	0.030	+/-	0.004	<	0.013	
08-Feb-22	14-Feb-22	259	0.027	+/-	0.005	<	0.031	
14-Feb-22	21-Feb-22	302	0.028	+/-	0.005	<	0.008	
21-Feb-22	28-Feb-22	314	0.041	+/-	0.005	<	0.010	
28-Feb-22	07-Mar-22	296	0.040	+/-	0.005	<	0.017	
07-Mar-22	14-Mar-22	299	0.025	+/-	0.004	<	0.007	
14-Mar-22	21-Mar-22	293	0.021	+/-	0.004	<	0.014	
21-Mar-22	28-Mar-22	299	0.010	+/-	0.004	<	0.011	
28-Mar-22	04-Apr-22	296	0.023	+/-	0.005	<	0.016	
04-Apr-22	11-Apr-22	292	0.020	+/-	0.004	<	0.011	
11-Apr-22	18-Apr-22	292	0.022	+/-	0.004	<	0.031	
18-Apr-22	25-Apr-22	290	0.024	+/-	0.004	<	0.011	
25-Apr-22	02-May-22	291	0.028	+/-	0.004	<	0.023	
02-May-22	09-May-22	293	0.013	+/-	0.004	<	0.025	
09-May-22	16-May-22	296	0.025	+/-	0.005	<	0.012	
16-May-22	23-May-22	250	0.021	+/-	0.005	<	0.015	
23-May-22	31-May-22	332	0.018	+/-	0.004	<	0.013	
31-May-22	06-Jun-22	252	0.021	+/-	0.005	<	0.018	
06-Jun-22	13-Jun-22	297	0.020	+/-	0.004	<	0.010	
13-Jun-22	20-Jun-22	302	0.034	+/-	0.005	<	0.012	
20-Jun-22	27-Jun-22	293	0.029	+/-	0.005	<	0.016	
27-Jun-22	05-Jul-22	329	0.029	+/-	0.004	<	0.014	
05-Jul-22	11-Jul-22	252	0.018	+/-	0.005	<	0.013	
11-Jul-22	19-Jul-22	334	0.032	+/-	0.004	<	0.019	
19-Jul-22	25-Jul-22	251	0.030	+/-	0.005	<	0.014	
25-Jul-22	01-Aug-22	292	0.030	+/-	0.004	<	0.012	
25-Jul-22	01-Aug-22	292	0.030	+/-	0.004			
01-Aug-22	08-Aug-22	300	0.022	+/-	0.004	<	0.008	
01-Aug-22	08-Aug-22	300	0.022	+/-	0.004			
08-Aug-22	15-Aug-22	303	0.028	+/-	0.005	<	0.009	
08-Aug-22	15-Aug-22	303	0.028	+/-	0.005			
15-Aug-22	22-Aug-22	298	0.038	+/-	0.005	<	0.018	
15-Aug-22	22-Aug-22	298	0.038	+/-	0.005			
15-Aug-22	22-Aug-22	298	0.033	+/-	0.005			Duplicate
15-Aug-22	22-Aug-22	298	0.033	+/-	0.005			Duplicate
22-Aug-22	29-Aug-22	294	0.034	+/-	0.005	<	0.017	

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
22-Aug-22	29-Aug-22	294	0.034	+/-	0.005			
29-Aug-22	06-Sep-22	338	0.024	+/-	0.004	<	0.022	
29-Aug-22	06-Sep-22	338	0.024	+/-	0.004			
06-Sep-22	12-Sep-22	250	0.041	+/-	0.006	<	0.015	
06-Sep-22	12-Sep-22	250	0.041	+/-	0.006			
12-Sep-22	19-Sep-22	299	0.039	+/-	0.005	<	0.026	
12-Sep-22	19-Sep-22	299	0.039	+/-	0.005			
19-Sep-22	26-Sep-22	300	0.029	+/-	0.005	<	0.009	
19-Sep-22	26-Sep-22	300	0.029	+/-	0.005			
26-Sep-22	03-Oct-22	303	0.026	+/-	0.004	<	0.019	
03-Oct-22	10-Oct-22	298	0.050	+/-	0.005	<	0.013	
10-Oct-22	17-Oct-22	307	0.034	+/-	0.005	<	0.018	
10-Oct-22	17-Oct-22	307	0.032	+/-	0.005			Duplicate
17-Oct-22	24-Oct-22	290	0.027	+/-	0.005	<	0.009	
24-Oct-22	31-Oct-22	301	0.028	+/-	0.005	<	0.006	
31-Oct-22	07-Nov-22	305	0.038	+/-	0.005	<	0.012	
31-Oct-22	07-Nov-22	305	0.038	+/-	0.005	<	0.012	
07-Nov-22	14-Nov-22	298	0.015	+/-	0.004	<	0.015	
14-Nov-22	21-Nov-22	310	0.033	+/-	0.005	<	0.018	
21-Nov-22	28-Nov-22	293	0.044	+/-	0.005	<	0.018	
28-Nov-22	05-Dec-22	295	0.035	+/-	0.005	<	0.028	
05-Dec-22	12-Dec-22	299	0.053	+/-	0.006	<	0.016	
12-Dec-22	19-Dec-22	301	0.024	+/-	0.005	<	0.029	
19-Dec-22	27-Dec-22	355	0.042	+/-	0.005	<	0.021	
27-Dec-22	03-Jan-23	286	0.029	+/-	0.005	<	0.025	

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
27-Dec-21	03-Jan-22	308	0.055 +/- 0.006	< 0.015	
03-Jan-22	10-Jan-22	303	0.043 +/- 0.005	< 0.019	
10-Jan-22	17-Jan-22	253	0.025 +/- 0.005	< 0.020	
17-Jan-22	24-Jan-22	309	0.025 +/- 0.004	< 0.015	
24-Jan-22	31-Jan-22	312	0.020 +/- 0.004	< 0.016	
31-Jan-22	08-Feb-22	352	0.030 +/- 0.004	< 0.013	
08-Feb-22	14-Feb-22	261	0.025 +/- 0.005	< 0.031	
14-Feb-22	21-Feb-22	303	0.029 +/- 0.005	< 0.008	
21-Feb-22	28-Feb-22	315	0.044 +/- 0.005	< 0.010	
28-Feb-22	07-Mar-22	298	0.038 +/- 0.005	< 0.017	
07-Mar-22	14-Mar-22	299	0.029 +/- 0.004	< 0.007	
07-Mar-22	14-Mar-22	299	0.025 +/- 0.004		Duplicate
14-Mar-22	21-Mar-22	299	0.024 +/- 0.004	< 0.014	
21-Mar-22	28-Mar-22	303	0.015 +/- 0.004	< 0.011	
28-Mar-22	04-Apr-22	290	0.023 +/- 0.005	< 0.016	
04-Apr-22	11-Apr-22	298	0.019 +/- 0.004	< 0.011	
11-Apr-22	18-Apr-22	302	0.024 +/- 0.004	< 0.030	
18-Apr-22	25-Apr-22	292	0.024 +/- 0.004	< 0.011	
25-Apr-22	02-May-22	291	0.025 +/- 0.004	< 0.023	
02-May-22	09-May-22	295	0.015 +/- 0.004	< 0.025	
09-May-22	16-May-22	301	0.028 +/- 0.005	< 0.012	
16-May-22	23-May-22	302	0.025 +/- 0.004	< 0.013	
23-May-22	31-May-22	331	0.021 +/- 0.004	< 0.013	
31-May-22	06-Jun-22	252	0.017 +/- 0.005	< 0.018	
06-Jun-22	13-Jun-22	296	0.020 +/- 0.004	< 0.010	
13-Jun-22	20-Jun-22	298	0.031 +/- 0.005	< 0.012	
13-Jun-22	20-Jun-22	298	0.031 +/- 0.005		Duplicate
20-Jun-22	27-Jun-22	294	0.027 +/- 0.005	< 0.016	
20-Jun-22	27-Jun-22	294	0.027 +/- 0.005		Duplicate
27-Jun-22	05-Jul-22	333	0.028 +/- 0.004	< 0.014	
05-Jul-22	11-Jul-22	252	0.024 +/- 0.005	< 0.013	
05-Jul-22	11-Jul-22	252	0.027 +/- 0.005		Duplicate
11-Jul-22	19-Jul-22	341	0.028 +/- 0.004	< 0.019	
11-Jul-22	19-Jul-22	341	0.034 +/- 0.004		Duplicate
19-Jul-22	25-Jul-22	256	0.034 +/- 0.005	< 0.013	
25-Jul-22	01-Aug-22	289	0.026 +/- 0.004	< 0.012	
25-Jul-22	01-Aug-22	289	0.026 +/- 0.004		
01-Aug-22	08-Aug-22	298	0.021 +/- 0.004	< 0.008	
01-Aug-22	08-Aug-22	298	0.021 +/- 0.004		
08-Aug-22	15-Aug-22	299	0.031 +/- 0.005	< 0.009	
08-Aug-22	15-Aug-22	299	0.031 +/- 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
15-Aug-22	22-Aug-22	292	0.036 +/- 0.005	< 0.018	
15-Aug-22	22-Aug-22	292	0.036 +/- 0.005		
22-Aug-22	29-Aug-22	294	0.037 +/- 0.005	< 0.017	
22-Aug-22	29-Aug-22	294	0.037 +/- 0.005		
29-Aug-22	06-Sep-22	339	0.025 +/- 0.004	< 0.022	
29-Aug-22	06-Sep-22	339	0.025 +/- 0.004		
06-Sep-22	12-Sep-22	285	0.036 +/- 0.005	< 0.013	
06-Sep-22	12-Sep-22	285	0.036 +/- 0.005		
12-Sep-22	19-Sep-22	292	0.045 +/- 0.005	< 0.026	
12-Sep-22	19-Sep-22	292	0.045 +/- 0.005		
19-Sep-22	26-Sep-22	299	0.026 +/- 0.005	< 0.009	
19-Sep-22	26-Sep-22	299	0.026 +/- 0.005		
26-Sep-22	03-Oct-22	300	0.026 +/- 0.004	< 0.019	
03-Oct-22	10-Oct-22	303	0.041 +/- 0.005	< 0.013	
10-Oct-22	17-Oct-22	301	0.033 +/- 0.005	< 0.019	
17-Oct-22	24-Oct-22	293	0.032 +/- 0.005	< 0.009	
24-Oct-22	31-Oct-22	303	0.027 +/- 0.005	< 0.006	
31-Oct-22	07-Nov-22	309	0.041 +/- 0.005	< 0.012	
31-Oct-22	07-Nov-22	309	0.041 +/- 0.005	< 0.011	
07-Nov-22	14-Nov-22	304	0.019 +/- 0.004	< 0.015	
14-Nov-22	21-Nov-22	305	0.035 +/- 0.005	< 0.018	
21-Nov-22	28-Nov-22	292	0.047 +/- 0.006	< 0.018	
28-Nov-22	05-Dec-22	300	0.034 +/- 0.005	< 0.028	
05-Dec-22	12-Dec-22	306	0.063 +/- 0.006	< 0.015	
12-Dec-22	19-Dec-22	295	0.019 +/- 0.004	< 0.030	
19-Dec-22	27-Dec-22	361	0.042 +/- 0.005	< 0.021	
27-Dec-22	03-Jan-23	287	0.034 +/- 0.005	< 0.025	

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
27-Dec-21	03-Jan-22	305	0.057 +/- 0.006	< 0.015	
03-Jan-22	10-Jan-22	301	0.049 +/- 0.005	< 0.019	
10-Jan-22	17-Jan-22	304	0.029 +/- 0.004	< 0.017	
17-Jan-22	24-Jan-22	309	0.026 +/- 0.004	< 0.015	
17-Jan-22	24-Jan-22	309	0.026 +/- 0.004		Duplicate
24-Jan-22	31-Jan-22	316	0.027 +/- 0.004	< 0.016	
24-Jan-22	31-Jan-22	316	0.024 +/- 0.004		Duplicate
31-Jan-22	08-Feb-22	353	0.032 +/- 0.004	< 0.013	
08-Feb-22	14-Feb-22	261	0.022 +/- 0.005	< 0.031	
14-Feb-22	21-Feb-22	304	0.034 +/- 0.005	< 0.008	
21-Feb-22	28-Feb-22	315	0.047 +/- 0.005	< 0.010	
28-Feb-22	07-Mar-22	296	0.039 +/- 0.005	< 0.017	
07-Mar-22	14-Mar-22	294	0.024 +/- 0.004	< 0.007	
14-Mar-22	21-Mar-22	307	0.021 +/- 0.004	< 0.013	
14-Mar-22	21-Mar-22	307	0.024 +/- 0.004		Duplicate
21-Mar-22	28-Mar-22	306	0.014 +/- 0.004	< 0.011	
28-Mar-22	04-Apr-22	298	0.020 +/- 0.004	< 0.016	
04-Apr-22	11-Apr-22	299	0.020 +/- 0.004	< 0.011	
11-Apr-22	18-Apr-22	303	0.026 +/- 0.004	< 0.030	
18-Apr-22	25-Apr-22	296	0.024 +/- 0.004	< 0.011	
18-Apr-22	25-Apr-22	296	0.020 +/- 0.004		Duplicate
25-Apr-22	02-May-22	296	0.027 +/- 0.004	< 0.023	
02-May-22	09-May-22	295	0.015 +/- 0.004	< 0.025	
09-May-22	16-May-22	300	0.021 +/- 0.005	< 0.012	
16-May-22	23-May-22	300	0.021 +/- 0.004	< 0.013	
23-May-22	31-May-22	333	0.015 +/- 0.004	< 0.013	
31-May-22	06-Jun-22	254	0.020 +/- 0.005	< 0.018	
06-Jun-22	13-Jun-22	299	0.023 +/- 0.004	< 0.010	
06-Jun-22	13-Jun-22	299	0.023 +/- 0.004		Duplicate
13-Jun-22	20-Jun-22	302	0.030 +/- 0.005	< 0.012	
20-Jun-22	27-Jun-22	298	0.028 +/- 0.005	< 0.016	
27-Jun-22	05-Jul-22	338	0.027 +/- 0.004	< 0.014	
05-Jul-22	11-Jul-22	257	0.022 +/- 0.005	< 0.012	
11-Jul-22	19-Jul-22	346	0.033 +/- 0.004	< 0.019	
19-Jul-22	25-Jul-22	258	0.037 +/- 0.005	< 0.013	
25-Jul-22	01-Aug-22	296	0.029 +/- 0.004	< 0.012	
25-Jul-22	01-Aug-22	296	0.029 +/- 0.004		
01-Aug-22	08-Aug-22	299	0.021 +/- 0.004	< 0.009	
01-Aug-22	08-Aug-22	299	0.021 +/- 0.004		
08-Aug-22	15-Aug-22	302	0.029 +/- 0.005	< 0.009	
08-Aug-22	15-Aug-22	302	0.029 +/- 0.005		

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
15-Aug-22	22-Aug-22	299	0.037 +/- 0.005	< 0.018	
15-Aug-22	22-Aug-22	299	0.037 +/- 0.005		
22-Aug-22	29-Aug-22	300	0.036 +/- 0.005	< 0.017	
22-Aug-22	29-Aug-22	300	0.036 +/- 0.005		
29-Aug-22	06-Sep-22	344	0.025 +/- 0.004	< 0.021	
29-Aug-22	06-Sep-22	344	0.025 +/- 0.004		
06-Sep-22	12-Sep-22	259	0.040 +/- 0.005	< 0.015	
06-Sep-22	12-Sep-22	259	0.040 +/- 0.005		
12-Sep-22	19-Sep-22	298	0.038 +/- 0.005	< 0.026	
12-Sep-22	19-Sep-22	298	0.038 +/- 0.005		
19-Sep-22	26-Sep-22	301	0.028 +/- 0.005	< 0.009	
19-Sep-22	26-Sep-22	301	0.028 +/- 0.005		
26-Sep-22	03-Oct-22	300	0.024 +/- 0.004	< 0.019	
03-Oct-22	10-Oct-22	300	0.037 +/- 0.005	< 0.013	
03-Oct-22	10-Oct-22	300	0.040 +/- 0.005		Duplicate
10-Oct-22	17-Oct-22	303	0.030 +/- 0.005	< 0.019	
17-Oct-22	24-Oct-22	292	0.033 +/- 0.005	< 0.009	
24-Oct-22	31-Oct-22	310	0.028 +/- 0.005	< 0.006	
31-Oct-22	07-Nov-22	306	0.039 +/- 0.005	< 0.012	
31-Oct-22	07-Nov-22	306	0.039 +/- 0.005	< 0.012	
07-Nov-22	14-Nov-22	301	0.018 +/- 0.004	< 0.015	
14-Nov-22	21-Nov-22	303	0.035 +/- 0.005	< 0.019	
21-Nov-22	28-Nov-22	299	0.047 +/- 0.005	< 0.017	
28-Nov-22	05-Dec-22	308	0.037 +/- 0.005	< 0.027	
05-Dec-22	12-Dec-22	303	0.056 +/- 0.006	< 0.015	
12-Dec-22	19-Dec-22	306	0.021 +/- 0.004	< 0.029	
19-Dec-22	27-Dec-22	352	0.037 +/- 0.005	< 0.021	
27-Dec-22	03-Jan-23	295	0.036 +/- 0.005	< 0.024	

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
27-Dec-21	03-Jan-22	297	0.063	+/-	0.006	<	0.015	
03-Jan-22	10-Jan-22	302	0.047	+/-	0.005	<	0.019	
10-Jan-22	17-Jan-22	300	0.033	+/-	0.005	<	0.017	
17-Jan-22	24-Jan-22	313	0.027	+/-	0.004	<	0.015	
24-Jan-22	31-Jan-22	312	0.022	+/-	0.004	<	0.016	
31-Jan-22	08-Feb-22	354	0.032	+/-	0.004	<	0.013	
08-Feb-22	14-Feb-22	261	0.023	+/-	0.005	<	0.031	
14-Feb-22	21-Feb-22	300	0.029	+/-	0.005	<	0.008	
21-Feb-22	28-Feb-22	315	0.042	+/-	0.005	<	0.010	
28-Feb-22	07-Mar-22	296	0.041	+/-	0.005	<	0.017	
28-Feb-22	07-Mar-22	296	0.038	+/-	0.005			Duplicate
07-Mar-22	14-Mar-22	301	0.023	+/-	0.004	<	0.007	
14-Mar-22	21-Mar-22	311	0.019	+/-	0.004	<	0.013	
21-Mar-22	28-Mar-22	309	0.014	+/-	0.004	<	0.011	
28-Mar-22	04-Apr-22	314	0.021	+/-	0.004	<	0.015	
04-Apr-22	11-Apr-22	313	0.015	+/-	0.004	<	0.010	
11-Apr-22	18-Apr-22	298	0.022	+/-	0.004	<	0.031	
18-Apr-22	25-Apr-22	295	0.019	+/-	0.004	<	0.011	
25-Apr-22	02-May-22	298	0.023	+/-	0.004	<	0.022	
02-May-22	09-May-22	285	0.013	+/-	0.004	<	0.025	
09-May-22	16-May-22	294	0.023	+/-	0.005	<	0.012	
16-May-22	23-May-22	308	0.020	+/-	0.004	<	0.012	
23-May-22	31-May-22	335	0.019	+/-	0.004	<	0.013	
31-May-22	06-Jun-22	255	0.016	+/-	0.005	<	0.018	
06-Jun-22	13-Jun-22	302	0.021	+/-	0.004	<	0.010	
13-Jun-22	20-Jun-22	291	0.028	+/-	0.005	<	0.012	
20-Jun-22	27-Jun-22	309	0.027	+/-	0.004	<	0.015	
27-Jun-22	05-Jul-22	212	0.026	+/-	0.006	<	0.022	
05-Jul-22	11-Jul-22	253	0.021	+/-	0.005	<	0.012	
11-Jul-22	19-Jul-22	313	0.028	+/-	0.004	<	0.021	
19-Jul-22	25-Jul-22	257	0.032	+/-	0.005	<	0.013	
25-Jul-22	01-Aug-22	293	0.027	+/-	0.004	<	0.012	
25-Jul-22	01-Aug-22	293	0.027	+/-	0.004			
01-Aug-22	08-Aug-22	313	0.020	+/-	0.004	<	0.008	
01-Aug-22	08-Aug-22	313	0.020	+/-	0.004			
08-Aug-22	15-Aug-22	287	0.029	+/-	0.005	<	0.009	
08-Aug-22	15-Aug-22	287	0.029	+/-	0.005			
15-Aug-22	22-Aug-22	313	0.031	+/-	0.004	<	0.017	
15-Aug-22	22-Aug-22	313	0.031	+/-	0.004			
22-Aug-22	29-Aug-22	315	0.034	+/-	0.005	<	0.016	
22-Aug-22	29-Aug-22	315	0.034	+/-	0.005			

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
29-Aug-22	06-Sep-22	350	0.025 +/- 0.004	< 0.021	
29-Aug-22	06-Sep-22	350	0.025 +/- 0.004		
06-Sep-22	12-Sep-22	256	0.042 +/- 0.006	< 0.015	
06-Sep-22	12-Sep-22	256	0.042 +/- 0.006		
12-Sep-22	19-Sep-22	301	0.039 +/- 0.005	< 0.025	
12-Sep-22	19-Sep-22	301	0.039 +/- 0.005		
19-Sep-22	26-Sep-22	305	0.029 +/- 0.005	< 0.009	
19-Sep-22	26-Sep-22	305	0.029 +/- 0.005		
26-Sep-22	03-Oct-22	300	0.028 +/- 0.005	< 0.019	
03-Oct-22	10-Oct-22	302	0.042 +/- 0.005	< 0.013	
10-Oct-22	17-Oct-22	300	0.033 +/- 0.005	< 0.019	
17-Oct-22	24-Oct-22	297	0.030 +/- 0.005	< 0.009	
24-Oct-22	31-Oct-22	312	0.034 +/- 0.005	< 0.006	
31-Oct-22	07-Nov-22	303	0.040 +/- 0.005	< 0.012	
31-Oct-22	07-Nov-22	303	0.040 +/- 0.005	< 0.012	
31-Oct-22	07-Nov-22	303	0.040 +/- 0.005		Duplicate
31-Oct-22	07-Nov-22	303	0.040 +/- 0.005		Duplicate
07-Nov-22	14-Nov-22	297	0.020 +/- 0.005	< 0.015	
07-Nov-22	14-Nov-22	297	0.017 +/- 0.004		Duplicate
14-Nov-22	21-Nov-22	308	0.030 +/- 0.005	< 0.018	
21-Nov-22	28-Nov-22	299	0.050 +/- 0.006	< 0.017	
28-Nov-22	05-Dec-22	309	0.034 +/- 0.005	< 0.027	
28-Nov-22	05-Dec-22	309	0.033 +/- 0.005		Duplicate
05-Dec-22	12-Dec-22	303	0.063 +/- 0.006	< 0.015	
12-Dec-22	19-Dec-22	308	0.022 +/- 0.004	< 0.029	
19-Dec-22	27-Dec-22	349	0.043 +/- 0.005	< 0.021	
27-Dec-22	03-Jan-23	293	0.036 +/- 0.005	< 0.024	

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
27-Dec-21	03-Jan-22	310	0.053	+/-	0.005	<	0.015	
03-Jan-22	10-Jan-22	299	0.046	+/-	0.005	<	0.019	
10-Jan-22	17-Jan-22	293	0.029	+/-	0.004	<	0.017	
17-Jan-22	24-Jan-22	313	0.028	+/-	0.004	<	0.015	
24-Jan-22	31-Jan-22	318	0.022	+/-	0.004	<	0.016	
31-Jan-22	08-Feb-22	350	0.035	+/-	0.004	<	0.013	
08-Feb-22	14-Feb-22	264	0.022	+/-	0.005	<	0.030	
14-Feb-22	21-Feb-22	299	0.030	+/-	0.005	<	0.008	
21-Feb-22	28-Feb-22	322	0.040	+/-	0.005	<	0.010	
28-Feb-22	07-Mar-22	302	0.043	+/-	0.005	<	0.017	
07-Mar-22	14-Mar-22	294	0.025	+/-	0.004	<	0.007	
14-Mar-22	21-Mar-22	301	0.024	+/-	0.004	<	0.013	
21-Mar-22	28-Mar-22	310	0.015	+/-	0.004	<	0.011	
28-Mar-22	04-Apr-22	299	0.024	+/-	0.005	<	0.016	
28-Mar-22	04-Apr-22	299	0.021	+/-	0.004			Duplicate
04-Apr-22	11-Apr-22	302	0.019	+/-	0.004	<	0.011	
11-Apr-22	18-Apr-22	308	0.024	+/-	0.004	<	0.029	
18-Apr-22	25-Apr-22	293	0.024	+/-	0.004	<	0.011	
25-Apr-22	02-May-22	297	0.024	+/-	0.004	<	0.023	
02-May-22	09-May-22	296	0.015	+/-	0.004	<	0.024	
09-May-22	16-May-22	307	0.023	+/-	0.005	<	0.011	
16-May-22	23-May-22	313	0.020	+/-	0.004	<	0.012	
16-May-22	23-May-22	313	0.020	+/-	0.004			Duplicate
23-May-22	31-May-22	340	0.016	+/-	0.004	<	0.012	
31-May-22	06-Jun-22	254	0.019	+/-	0.005	<	0.018	
06-Jun-22	13-Jun-22	306	0.023	+/-	0.004	<	0.010	
13-Jun-22	20-Jun-22	304	0.034	+/-	0.005	<	0.012	
20-Jun-22	27-Jun-22	298	0.028	+/-	0.005	<	0.016	
27-Jun-22	05-Jul-22	341	0.026	+/-	0.004	<	0.014	
05-Jul-22	11-Jul-22	257	0.022	+/-	0.005	<	0.012	
11-Jul-22	19-Jul-22	350	0.031	+/-	0.004	<	0.019	
19-Jul-22	25-Jul-22	262	0.030	+/-	0.005	<	0.013	
25-Jul-22	01-Aug-22	292	0.025	+/-	0.004	<	0.012	
25-Jul-22	01-Aug-22	292	0.025	+/-	0.004			
01-Aug-22	08-Aug-22	299	0.018	+/-	0.004	<	0.009	
01-Aug-22	08-Aug-22	299	0.018	+/-	0.004			
08-Aug-22	15-Aug-22	303	0.033	+/-	0.005	<	0.009	
08-Aug-22	15-Aug-22	303	0.033	+/-	0.005			
15-Aug-22	22-Aug-22	303	0.037	+/-	0.005	<	0.018	
15-Aug-22	22-Aug-22	303	0.037	+/-	0.005			
22-Aug-22	29-Aug-22	294	0.032	+/-	0.005	<	0.017	

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
22-Aug-22	29-Aug-22	294	0.032 +/- 0.005		
22-Aug-22	29-Aug-22	294	0.034 +/- 0.005		Duplicate
22-Aug-22	29-Aug-22	294	0.034 +/- 0.005		Duplicate
29-Aug-22	06-Sep-22	350	0.026 +/- 0.004	< 0.021	
29-Aug-22	06-Sep-22	350	0.026 +/- 0.004		
06-Sep-22	12-Sep-22	228	0.038 +/- 0.006	< 0.017	
06-Sep-22	12-Sep-22	228	0.038 +/- 0.006		
12-Sep-22	19-Sep-22	281	0.039 +/- 0.005	< 0.027	
12-Sep-22	19-Sep-22	281	0.039 +/- 0.005		
19-Sep-22	26-Sep-22	300	0.028 +/- 0.005	< 0.009	
19-Sep-22	26-Sep-22	300	0.028 +/- 0.005		
26-Sep-22	03-Oct-22	296	0.026 +/- 0.005	< 0.019	
03-Oct-22	10-Oct-22	300	0.040 +/- 0.005	< 0.013	
10-Oct-22	17-Oct-22	300	0.035 +/- 0.005	< 0.019	
17-Oct-22	24-Oct-22	290	0.033 +/- 0.005	< 0.009	
17-Oct-22	24-Oct-22	290	0.032 +/- 0.005		Duplicate
24-Oct-22	31-Oct-22	301	0.028 +/- 0.005	< 0.006	
24-Oct-22	31-Oct-22	301	0.032 +/- 0.005		Duplicate
31-Oct-22	07-Nov-22	303	0.035 +/- 0.005	< 0.012	
31-Oct-22	07-Nov-22	303	0.035 +/- 0.005	< 0.012	
07-Nov-22	14-Nov-22	300	0.016 +/- 0.004	< 0.015	
14-Nov-22	21-Nov-22	312	0.030 +/- 0.005	< 0.018	
21-Nov-22	28-Nov-22	295	0.045 +/- 0.005	< 0.017	
28-Nov-22	05-Dec-22	300	0.033 +/- 0.005	< 0.028	
05-Dec-22	12-Dec-22	303	0.060 +/- 0.006	< 0.015	
12-Dec-22	19-Dec-22	301	0.019 +/- 0.004	< 0.029	
19-Dec-22	27-Dec-22	358	0.035 +/- 0.004	< 0.021	
27-Dec-22	03-Jan-23	283	0.041 +/- 0.005	< 0.025	

Quarterly Air Particulates - Gamma

Location: 002

28-Mar-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.087	+/-	0.020
MN-54		<	0.001
CO-58		<	0.002
FE-59		<	0.004
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.002
CS-134		<	0.001
CS-137		<	0.001

27-Jun-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.103	+/-	0.012
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

03-Oct-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.095	+/-	0.013
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

02-Jan-23

Nuclide	Concentration (pCi/m3)		
BE-7	0.059	+/-	0.005
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

28-Mar-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.115	+/-	0.023
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.005
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.003
CS-134		<	0.001
CS-137		<	0.001

27-Jun-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.098	+/-	0.016
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

03-Oct-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.088	+/-	0.010
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

02-Jan-23

Nuclide	Concentration (pCi/m3)		
BE-7	0.061	+/-	0.004
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: 032

28-Mar-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.087	+/-	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		<	0.002
CS-134		<	0.001
CS-137		<	0.001

27-Jun-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.102	+/-	0.019
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

03-Oct-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.086	+/-	0.013
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

02-Jan-23

Nuclide	Concentration (pCi/m3)		
BE-7	0.067	+/-	0.008
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: 037

28-Mar-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.112	+/-	0.018
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

27-Jun-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.120	+/-	0.020
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.003
ZR-NB-95		<	0.002
CS-134		<	0.001
CS-137		<	0.001

03-Oct-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.090	+/-	0.013
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

02-Jan-23

Nuclide	Concentration (pCi/m3)		
BE-7	0.070	+/-	0.013
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.002
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

28-Mar-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.113	+/-	0.021
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.002
CS-134		<	0.001
CS-137		<	0.001

27-Jun-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.095	+/-	0.012
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

03-Oct-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.097	+/-	0.014
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

02-Jan-23

Nuclide	Concentration (pCi/m3)		
BE-7	0.061	+/-	0.010
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

28-Mar-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.109	+/-	0.020
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.002
CS-134		<	0.001
CS-137		<	0.001

27-Jun-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.096	+/-	0.011
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

03-Oct-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.094	+/-	0.014
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

02-Jan-23

Nuclide	Concentration (pCi/m3)		
BE-7	0.056	+/-	0.013
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.002
ZN-65		<	0.002
ZR-NB-95		<	0.001
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
10-Jan-22	SURFACE WATER	MN-54	<	3.7	
10-Jan-22	SURFACE WATER	CO-58	<	2.8	
10-Jan-22	SURFACE WATER	FE-59	<	3.8	
10-Jan-22	SURFACE WATER	CO-60	<	2.2	
10-Jan-22	SURFACE WATER	ZN-65	<	4.6	
10-Jan-22	SURFACE WATER	ZR-NB-95	<	4.4	
10-Jan-22	SURFACE WATER	I-131	<	5.9	
10-Jan-22	SURFACE WATER	CS-134	<	3.9	
10-Jan-22	SURFACE WATER	CS-137	<	4.5	
10-Jan-22	SURFACE WATER	BA-LA-140	<	2.9	
10-Jan-22	SURFACE WATER	H-3	<	155.0	
15-Feb-22	SURFACE WATER	MN-54	<	2.3	
15-Feb-22	SURFACE WATER	CO-58	<	2.9	
15-Feb-22	SURFACE WATER	FE-59	<	3.4	
15-Feb-22	SURFACE WATER	CO-60	<	2.1	
15-Feb-22	SURFACE WATER	ZN-65	<	5.4	
15-Feb-22	SURFACE WATER	ZR-NB-95	<	3.5	
15-Feb-22	SURFACE WATER	I-131	<	4.0	
15-Feb-22	SURFACE WATER	CS-134	<	4.1	
15-Feb-22	SURFACE WATER	CS-137	<	4.4	
15-Feb-22	SURFACE WATER	BA-LA-140	<	4.3	
15-Feb-22	SURFACE WATER	H-3	<	161.0	
15-Feb-22	SURFACE WATER	FE-55	<	146.0	
09-Mar-22	SURFACE WATER	MN-54	<	2.3	
09-Mar-22	SURFACE WATER	CO-58	<	1.9	
09-Mar-22	SURFACE WATER	FE-59	<	2.2	
09-Mar-22	SURFACE WATER	CO-60	<	2.2	
09-Mar-22	SURFACE WATER	ZN-65	<	5.5	
09-Mar-22	SURFACE WATER	ZR-NB-95	<	4.0	
09-Mar-22	SURFACE WATER	I-131	<	6.6	
09-Mar-22	SURFACE WATER	CS-134	<	3.2	
09-Mar-22	SURFACE WATER	CS-137	<	2.7	
09-Mar-22	SURFACE WATER	BA-LA-140	<	1.8	
09-Mar-22	SURFACE WATER	H-3	<	177.0	
26-Apr-22	SURFACE WATER	MN-54	<	3.6	
26-Apr-22	SURFACE WATER	CO-58	<	3.0	
26-Apr-22	SURFACE WATER	FE-59	<	5.8	
26-Apr-22	SURFACE WATER	CO-60	<	1.5	

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
26-Apr-22	SURFACE WATER	ZN-65	<	7.4	
26-Apr-22	SURFACE WATER	ZR-NB-95	<	4.9	
26-Apr-22	SURFACE WATER	I-131	<	7.3	
26-Apr-22	SURFACE WATER	CS-134	<	3.8	
26-Apr-22	SURFACE WATER	CS-137	<	3.9	
26-Apr-22	SURFACE WATER	BA-LA-140	<	4.7	
26-Apr-22	SURFACE WATER	H-3	<	165.0	
10-May-22	SURFACE WATER	MN-54	<	3.3	
10-May-22	SURFACE WATER	CO-58	<	3.1	
10-May-22	SURFACE WATER	FE-59	<	6.5	
10-May-22	SURFACE WATER	CO-60	<	2.1	
10-May-22	SURFACE WATER	ZN-65	<	5.8	
10-May-22	SURFACE WATER	ZR-NB-95	<	3.5	
10-May-22	SURFACE WATER	I-131	<	5.9	
10-May-22	SURFACE WATER	CS-134	<	3.3	
10-May-22	SURFACE WATER	CS-137	<	3.0	
10-May-22	SURFACE WATER	BA-LA-140	<	4.0	
10-May-22	SURFACE WATER	H-3	<	163.0	
10-May-22	SURFACE WATER	FE-55	<	142.0	
14-Jun-22	SURFACE WATER	MN-54	<	2.2	
14-Jun-22	SURFACE WATER	CO-58	<	2.4	
14-Jun-22	SURFACE WATER	FE-59	<	3.9	
14-Jun-22	SURFACE WATER	CO-60	<	1.9	
14-Jun-22	SURFACE WATER	ZN-65	<	3.1	
14-Jun-22	SURFACE WATER	ZR-NB-95	<	3.5	
14-Jun-22	SURFACE WATER	I-131	<	6.4	
14-Jun-22	SURFACE WATER	CS-134	<	3.7	
14-Jun-22	SURFACE WATER	CS-137	<	2.5	
14-Jun-22	SURFACE WATER	BA-LA-140	<	3.3	
14-Jun-22	SURFACE WATER	H-3	<	162.0	
12-Jul-22	SURFACE WATER	MN-54	<	4.2	
12-Jul-22	SURFACE WATER	CO-58	<	2.1	
12-Jul-22	SURFACE WATER	FE-59	<	5.9	
12-Jul-22	SURFACE WATER	CO-60	<	1.9	
12-Jul-22	SURFACE WATER	ZN-65	<	3.3	
12-Jul-22	SURFACE WATER	ZR-NB-95	<	2.4	
12-Jul-22	SURFACE WATER	I-131	<	4.6	
12-Jul-22	SURFACE WATER	CS-134	<	3.7	

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
12-Jul-22	SURFACE WATER	CS-137	<	3.4	
12-Jul-22	SURFACE WATER	BA-LA-140	<	3.2	
12-Jul-22	SURFACE WATER	H-3	<	167.0	
16-Aug-22	SURFACE WATER	MN-54	<	3.3	
16-Aug-22	SURFACE WATER	CO-58	<	4.2	
16-Aug-22	SURFACE WATER	FE-59	<	9.4	
16-Aug-22	SURFACE WATER	CO-60	<	4.8	
16-Aug-22	SURFACE WATER	ZN-65	<	7.3	
16-Aug-22	SURFACE WATER	ZR-NB-95	<	4.7	
16-Aug-22	SURFACE WATER	I-131	<	3.7	
16-Aug-22	SURFACE WATER	CS-134	<	4.4	
16-Aug-22	SURFACE WATER	CS-137	<	4.9	
16-Aug-22	SURFACE WATER	BA-LA-140	<	3.2	
16-Aug-22	SURFACE WATER	H-3	<	163.0	
16-Aug-22	SURFACE WATER	FE-55	<	126.0	
20-Sep-22	SURFACE WATER	MN-54	<	3.9	
20-Sep-22	SURFACE WATER	CO-58	<	4.7	
20-Sep-22	SURFACE WATER	FE-59	<	4.3	
20-Sep-22	SURFACE WATER	CO-60	<	3.7	
20-Sep-22	SURFACE WATER	ZN-65	<	9.1	
20-Sep-22	SURFACE WATER	ZR-NB-95	<	4.6	
20-Sep-22	SURFACE WATER	I-131	<	7.2	
20-Sep-22	SURFACE WATER	CS-134	<	5.5	
20-Sep-22	SURFACE WATER	CS-137	<	6.5	
20-Sep-22	SURFACE WATER	BA-LA-140	<	1.9	
20-Sep-22	SURFACE WATER	H-3	<	162.0	
11-Oct-22	SURFACE WATER	MN-54	<	4.5	
11-Oct-22	SURFACE WATER	CO-58	<	5.6	
11-Oct-22	SURFACE WATER	FE-59	<	7.8	
11-Oct-22	SURFACE WATER	CO-60	<	3.0	
11-Oct-22	SURFACE WATER	ZN-65	<	10.2	
11-Oct-22	SURFACE WATER	ZR-NB-95	<	6.4	
11-Oct-22	SURFACE WATER	I-131	<	5.2	
11-Oct-22	SURFACE WATER	CS-134	<	6.1	
11-Oct-22	SURFACE WATER	CS-137	<	6.7	
11-Oct-22	SURFACE WATER	BA-LA-140	<	6.1	
11-Oct-22	SURFACE WATER	H-3	<	157.0	
22-Nov-22	SURFACE WATER	MN-54	<	2.7	

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
22-Nov-22	SURFACE WATER	CO-58	<	3.1	
22-Nov-22	SURFACE WATER	FE-59	<	5.6	
22-Nov-22	SURFACE WATER	CO-60	<	3.0	
22-Nov-22	SURFACE WATER	ZN-65	<	3.7	
22-Nov-22	SURFACE WATER	ZR-NB-95	<	3.1	
22-Nov-22	SURFACE WATER	I-131	<	7.0	
22-Nov-22	SURFACE WATER	CS-134	<	4.0	
22-Nov-22	SURFACE WATER	CS-137	<	4.7	
22-Nov-22	SURFACE WATER	BA-LA-140	<	5.5	
22-Nov-22	SURFACE WATER	H-3	165 +/-	85.0	
22-Nov-22	SURFACE WATER	H-3	178 +/-	95.0	
22-Nov-22	SURFACE WATER	FE-55	<	145.0	
14-Dec-22	SURFACE WATER	MN-54	<	2.1	
14-Dec-22	SURFACE WATER	CO-58	<	2.7	
14-Dec-22	SURFACE WATER	FE-59	<	4.3	
14-Dec-22	SURFACE WATER	CO-60	<	2.2	
14-Dec-22	SURFACE WATER	ZN-65	<	5.8	
14-Dec-22	SURFACE WATER	ZR-NB-95	<	2.6	
14-Dec-22	SURFACE WATER	I-131	<	2.1	
14-Dec-22	SURFACE WATER	CS-134	<	2.5	
14-Dec-22	SURFACE WATER	CS-137	<	3.3	
14-Dec-22	SURFACE WATER	BA-LA-140	<	1.7	
14-Dec-22	SURFACE WATER	H-3	<	162.0	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
10-Jan-22	SURFACE WATER	MN-54	<	2.8	
10-Jan-22	SURFACE WATER	CO-58	<	3.4	
10-Jan-22	SURFACE WATER	FE-59	<	3.4	
10-Jan-22	SURFACE WATER	CO-60	<	3.4	
10-Jan-22	SURFACE WATER	ZN-65	<	5.2	
10-Jan-22	SURFACE WATER	ZR-NB-95	<	3.5	
10-Jan-22	SURFACE WATER	I-131	<	6.8	
10-Jan-22	SURFACE WATER	CS-134	<	4.7	
10-Jan-22	SURFACE WATER	CS-137	<	4.3	
10-Jan-22	SURFACE WATER	BA-LA-140	<	2.3	
10-Jan-22	SURFACE WATER	H-3	13,181 +/-	356.0	
15-Feb-22	SURFACE WATER	MN-54	<	3.9	
15-Feb-22	SURFACE WATER	CO-58	<	2.8	
15-Feb-22	SURFACE WATER	FE-59	<	7.2	
15-Feb-22	SURFACE WATER	CO-60	<	3.8	
15-Feb-22	SURFACE WATER	ZN-65	<	4.8	
15-Feb-22	SURFACE WATER	ZR-NB-95	<	2.6	
15-Feb-22	SURFACE WATER	I-131	<	5.6	
15-Feb-22	SURFACE WATER	CS-134	<	4.8	
15-Feb-22	SURFACE WATER	CS-137	<	3.2	
15-Feb-22	SURFACE WATER	BA-LA-140	<	2.8	
15-Feb-22	SURFACE WATER	H-3	12,956 +/-	353.0	
15-Feb-22	SURFACE WATER	FE-55	<	140.0	
09-Mar-22	SURFACE WATER	MN-54	<	4.5	
09-Mar-22	SURFACE WATER	CO-58	<	2.9	
09-Mar-22	SURFACE WATER	FE-59	<	6.8	
09-Mar-22	SURFACE WATER	CO-60	<	3.0	
09-Mar-22	SURFACE WATER	ZN-65	<	7.3	
09-Mar-22	SURFACE WATER	ZR-NB-95	<	3.9	
09-Mar-22	SURFACE WATER	I-131	<	6.6	
09-Mar-22	SURFACE WATER	CS-134	<	4.8	
09-Mar-22	SURFACE WATER	CS-137	<	3.2	
09-Mar-22	SURFACE WATER	BA-LA-140	<	4.0	
09-Mar-22	SURFACE WATER	H-3	14,553 +/-	382.0	
26-Apr-22	SURFACE WATER	MN-54	<	4.6	
26-Apr-22	SURFACE WATER	MN-54	<	2.2	Duplicate
26-Apr-22	SURFACE WATER	CO-58	<	1.3	Duplicate
26-Apr-22	SURFACE WATER	CO-58	<	3.6	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
26-Apr-22	SURFACE WATER	FE-59	<	3.7	Duplicate
26-Apr-22	SURFACE WATER	FE-59	<	5.1	
26-Apr-22	SURFACE WATER	CO-60	<	3.6	
26-Apr-22	SURFACE WATER	CO-60	<	1.6	Duplicate
26-Apr-22	SURFACE WATER	ZN-65	<	4.6	Duplicate
26-Apr-22	SURFACE WATER	ZN-65	<	5.7	
26-Apr-22	SURFACE WATER	ZR-NB-95	<	3.1	Duplicate
26-Apr-22	SURFACE WATER	ZR-NB-95	<	4.9	
26-Apr-22	SURFACE WATER	I-131	<	7.4	
26-Apr-22	SURFACE WATER	I-131	<	5.4	Duplicate
26-Apr-22	SURFACE WATER	CS-134	<	2.6	Duplicate
26-Apr-22	SURFACE WATER	CS-134	<	5.3	
26-Apr-22	SURFACE WATER	CS-137	<	2.7	
26-Apr-22	SURFACE WATER	CS-137	<	3.0	Duplicate
26-Apr-22	SURFACE WATER	BA-LA-140	<	2.9	Duplicate
26-Apr-22	SURFACE WATER	BA-LA-140	<	2.6	
26-Apr-22	SURFACE WATER	H-3	15,159 +/-	386.0	
26-Apr-22	SURFACE WATER	H-3	16,022 +/-	396.0	Duplicate
10-May-22	SURFACE WATER	MN-54	<	3.3	
10-May-22	SURFACE WATER	CO-58	<	3.8	
10-May-22	SURFACE WATER	FE-59	<	12.6	
10-May-22	SURFACE WATER	CO-60	<	5.9	
10-May-22	SURFACE WATER	ZN-65	<	11.5	
10-May-22	SURFACE WATER	ZR-NB-95	<	4.7	
10-May-22	SURFACE WATER	I-131	<	9.4	
10-May-22	SURFACE WATER	CS-134	<	6.4	
10-May-22	SURFACE WATER	CS-137	<	4.1	
10-May-22	SURFACE WATER	BA-LA-140	<	10.8	
10-May-22	SURFACE WATER	H-3	16,488 +/-	400.0	
10-May-22	SURFACE WATER	FE-55	<	135.0	
14-Jun-22	SURFACE WATER	MN-54	<	2.6	
14-Jun-22	SURFACE WATER	CO-58	<	3.1	
14-Jun-22	SURFACE WATER	FE-59	<	6.4	
14-Jun-22	SURFACE WATER	CO-60	<	1.8	
14-Jun-22	SURFACE WATER	ZN-65	<	2.2	
14-Jun-22	SURFACE WATER	ZR-NB-95	<	3.5	
14-Jun-22	SURFACE WATER	I-131	<	8.1	
14-Jun-22	SURFACE WATER	CS-134	<	2.6	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Jun-22	SURFACE WATER	CS-137	<	3.1	
14-Jun-22	SURFACE WATER	BA-LA-140	<	4.5	
14-Jun-22	SURFACE WATER	H-3	15,166 +/-	385.0	
12-Jul-22	SURFACE WATER	MN-54	<	7.4	
12-Jul-22	SURFACE WATER	CO-58	<	7.4	
12-Jul-22	SURFACE WATER	FE-59	<	11.1	
12-Jul-22	SURFACE WATER	CO-60	<	5.2	
12-Jul-22	SURFACE WATER	ZN-65	<	7.8	
12-Jul-22	SURFACE WATER	ZR-NB-95	<	8.2	
12-Jul-22	SURFACE WATER	I-131	<	10.0	
12-Jul-22	SURFACE WATER	CS-134	<	6.3	
12-Jul-22	SURFACE WATER	CS-137	<	5.9	
12-Jul-22	SURFACE WATER	BA-LA-140	<	10.1	
12-Jul-22	SURFACE WATER	H-3	14,972 +/-	384.0	
16-Aug-22	SURFACE WATER	MN-54	<	2.3	
16-Aug-22	SURFACE WATER	CO-58	<	1.2	
16-Aug-22	SURFACE WATER	FE-59	<	1.8	
16-Aug-22	SURFACE WATER	CO-60	<	1.8	
16-Aug-22	SURFACE WATER	ZN-65	<	1.7	
16-Aug-22	SURFACE WATER	ZR-NB-95	<	1.6	
16-Aug-22	SURFACE WATER	I-131	<	3.2	
16-Aug-22	SURFACE WATER	CS-134	<	2.3	
16-Aug-22	SURFACE WATER	CS-137	<	2.3	
16-Aug-22	SURFACE WATER	BA-LA-140	<	2.6	
16-Aug-22	SURFACE WATER	H-3	14,509 +/-	378.0	
16-Aug-22	SURFACE WATER	FE-55	<	123.0	
20-Sep-22	SURFACE WATER	MN-54	<	1.1	
20-Sep-22	SURFACE WATER	CO-58	<	1.0	
20-Sep-22	SURFACE WATER	FE-59	<	1.2	
20-Sep-22	SURFACE WATER	CO-60	<	0.9	
20-Sep-22	SURFACE WATER	ZN-65	<	1.8	
20-Sep-22	SURFACE WATER	ZR-NB-95	<	1.1	
20-Sep-22	SURFACE WATER	I-131	<	1.3	
20-Sep-22	SURFACE WATER	CS-134	<	1.1	
20-Sep-22	SURFACE WATER	CS-137	<	1.4	
20-Sep-22	SURFACE WATER	BA-LA-140	<	1.4	
20-Sep-22	SURFACE WATER	H-3	13,975 +/-	371.0	
11-Oct-22	SURFACE WATER	MN-54	<	2.8	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
11-Oct-22	SURFACE WATER	CO-58	<	2.6	
11-Oct-22	SURFACE WATER	FE-59	<	4.3	
11-Oct-22	SURFACE WATER	CO-60	<	3.1	
11-Oct-22	SURFACE WATER	ZN-65	<	3.6	
11-Oct-22	SURFACE WATER	ZR-NB-95	<	2.6	
11-Oct-22	SURFACE WATER	I-131	<	3.5	
11-Oct-22	SURFACE WATER	CS-134	<	3.3	
11-Oct-22	SURFACE WATER	CS-137	<	3.2	
11-Oct-22	SURFACE WATER	BA-LA-140	<	2.0	
11-Oct-22	SURFACE WATER	H-3	14,140 +/-	372.0	
22-Nov-22	SURFACE WATER	MN-54	<	1.7	
22-Nov-22	SURFACE WATER	CO-58	<	4.0	
22-Nov-22	SURFACE WATER	FE-59	<	5.2	
22-Nov-22	SURFACE WATER	CO-60	<	2.0	
22-Nov-22	SURFACE WATER	ZN-65	<	4.6	
22-Nov-22	SURFACE WATER	ZR-NB-95	<	2.8	
22-Nov-22	SURFACE WATER	I-131	<	4.7	
22-Nov-22	SURFACE WATER	CS-134	<	2.9	
22-Nov-22	SURFACE WATER	CS-137	<	3.9	
22-Nov-22	SURFACE WATER	BA-LA-140	<	3.8	
22-Nov-22	SURFACE WATER	H-3	14,323 +/-	373.0	
22-Nov-22	SURFACE WATER	FE-55	<	140.0	
14-Dec-22	SURFACE WATER	MN-54	<	6.3	
14-Dec-22	SURFACE WATER	CO-58	<	3.5	
14-Dec-22	SURFACE WATER	FE-59	<	12.7	
14-Dec-22	SURFACE WATER	CO-60	<	4.8	
14-Dec-22	SURFACE WATER	ZN-65	<	4.3	
14-Dec-22	SURFACE WATER	ZR-NB-95	<	4.4	
14-Dec-22	SURFACE WATER	I-131	<	5.8	
14-Dec-22	SURFACE WATER	CS-134	<	6.0	
14-Dec-22	SURFACE WATER	CS-137	<	6.5	
14-Dec-22	SURFACE WATER	BA-LA-140	<	4.1	
14-Dec-22	SURFACE WATER	H-3	14,521 +/-	377.0	

Exposure Pathway - Waterborne
Ground Water
Location: B-12

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
15-Mar-22	OFFSITE GROUNDWATER	MN-54	<	2.7	
15-Mar-22	OFFSITE GROUNDWATER	CO-58	<	4.2	
15-Mar-22	OFFSITE GROUNDWATER	FE-59	<	6.4	
15-Mar-22	OFFSITE GROUNDWATER	CO-60	<	2.2	
15-Mar-22	OFFSITE GROUNDWATER	ZN-65	<	8.2	
15-Mar-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.7	
15-Mar-22	OFFSITE GROUNDWATER	I-131	<	0.281	
15-Mar-22	OFFSITE GROUNDWATER	CS-134	<	5.1	
15-Mar-22	OFFSITE GROUNDWATER	CS-137	<	5.1	
15-Mar-22	OFFSITE GROUNDWATER	BA-LA-140	<	3.7	
15-Mar-22	OFFSITE GROUNDWATER	H-3	<	177.0	
06-Jun-22	OFFSITE GROUNDWATER	MN-54	<	3.1	
06-Jun-22	OFFSITE GROUNDWATER	CO-58	<	2.4	
06-Jun-22	OFFSITE GROUNDWATER	FE-59	<	3.8	
06-Jun-22	OFFSITE GROUNDWATER	CO-60	<	2.2	
06-Jun-22	OFFSITE GROUNDWATER	ZN-65	<	2.1	
06-Jun-22	OFFSITE GROUNDWATER	ZR-NB-95	<	3.3	
06-Jun-22	OFFSITE GROUNDWATER	I-131	<	0.496	
06-Jun-22	OFFSITE GROUNDWATER	CS-134	<	3.2	
06-Jun-22	OFFSITE GROUNDWATER	CS-137	<	3.3	
06-Jun-22	OFFSITE GROUNDWATER	BA-LA-140	<	3.2	
06-Jun-22	OFFSITE GROUNDWATER	H-3	<	162.0	
12-Sep-22	OFFSITE GROUNDWATER	MN-54	<	5.5	
12-Sep-22	OFFSITE GROUNDWATER	CO-58	<	3.2	
12-Sep-22	OFFSITE GROUNDWATER	FE-59	<	6.2	
12-Sep-22	OFFSITE GROUNDWATER	CO-60	<	4.1	
12-Sep-22	OFFSITE GROUNDWATER	ZN-65	<	4.0	
12-Sep-22	OFFSITE GROUNDWATER	ZR-NB-95	<	7.2	
12-Sep-22	OFFSITE GROUNDWATER	CS-134	<	5.2	
12-Sep-22	OFFSITE GROUNDWATER	CS-137	<	5.6	
12-Sep-22	OFFSITE GROUNDWATER	BA-LA-140	<	4.5	
12-Sep-22	OFFSITE GROUNDWATER	H-3	<	157.0	
12-Sep-22	OFFSITE GROUNDWATER	H-3	190.0 +/-	85.0	
02-Nov-22	OFFSITE GROUNDWATER	MN-54	<	1.7	
02-Nov-22	OFFSITE GROUNDWATER	CO-58	<	2.1	
02-Nov-22	OFFSITE GROUNDWATER	FE-59	<	7.0	
02-Nov-22	OFFSITE GROUNDWATER	CO-60	<	1.9	
02-Nov-22	OFFSITE GROUNDWATER	ZN-65	<	2.3	

Exposure Pathway - Waterborne
Ground Water
Location: B-12

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
02-Nov-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.0	
02-Nov-22	OFFSITE GROUNDWATER	I-131	<	0.425	
02-Nov-22	OFFSITE GROUNDWATER	CS-134	<	2.7	
02-Nov-22	OFFSITE GROUNDWATER	CS-137	<	2.6	
02-Nov-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.1	
02-Nov-22	OFFSITE GROUNDWATER	H-3	<	166.0	

Exposure Pathway - Waterborne
Ground Water
Location: C-10

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
15-Mar-22	OFFSITE GROUNDWATER	MN-54	<	2.8	
15-Mar-22	OFFSITE GROUNDWATER	CO-58	<	2.5	
15-Mar-22	OFFSITE GROUNDWATER	FE-59	<	3.5	
15-Mar-22	OFFSITE GROUNDWATER	CO-60	<	0.8	
15-Mar-22	OFFSITE GROUNDWATER	ZN-65	<	5.6	
15-Mar-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.1	
15-Mar-22	OFFSITE GROUNDWATER	I-131	<	0.443	
15-Mar-22	OFFSITE GROUNDWATER	CS-134	<	3.0	
15-Mar-22	OFFSITE GROUNDWATER	CS-137	<	2.6	
15-Mar-22	OFFSITE GROUNDWATER	BA-LA-140	<	1.5	
15-Mar-22	OFFSITE GROUNDWATER	H-3	<	177.0	
06-Jun-22	OFFSITE GROUNDWATER	MN-54	<	4.9	
06-Jun-22	OFFSITE GROUNDWATER	CO-58	<	3.7	
06-Jun-22	OFFSITE GROUNDWATER	FE-59	<	5.4	
06-Jun-22	OFFSITE GROUNDWATER	CO-60	<	2.5	
06-Jun-22	OFFSITE GROUNDWATER	ZN-65	<	7.0	
06-Jun-22	OFFSITE GROUNDWATER	ZR-NB-95	<	3.2	
06-Jun-22	OFFSITE GROUNDWATER	I-131	<	0.496	
06-Jun-22	OFFSITE GROUNDWATER	CS-134	<	5.4	
06-Jun-22	OFFSITE GROUNDWATER	CS-137	<	5.7	
06-Jun-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.2	
06-Jun-22	OFFSITE GROUNDWATER	H-3	<	162.0	
12-Sep-22	OFFSITE GROUNDWATER	MN-54	<	4.0	
12-Sep-22	OFFSITE GROUNDWATER	CO-58	<	4.4	
12-Sep-22	OFFSITE GROUNDWATER	FE-59	<	4.3	
12-Sep-22	OFFSITE GROUNDWATER	CO-60	<	4.5	
12-Sep-22	OFFSITE GROUNDWATER	ZN-65	<	7.2	
12-Sep-22	OFFSITE GROUNDWATER	ZR-NB-95	<	3.9	
12-Sep-22	OFFSITE GROUNDWATER	CS-134	<	4.7	
12-Sep-22	OFFSITE GROUNDWATER	CS-137	<	5.8	
12-Sep-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.5	
12-Sep-22	OFFSITE GROUNDWATER	H-3	<	160.0	
02-Nov-22	OFFSITE GROUNDWATER	MN-54	<	1.6	
02-Nov-22	OFFSITE GROUNDWATER	MN-54	<	6.2	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	CO-58	<	1.8	
02-Nov-22	OFFSITE GROUNDWATER	CO-58	<	6.2	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	FE-59	<	5.8	
02-Nov-22	OFFSITE GROUNDWATER	FE-59	<	13.3	Duplicate

Exposure Pathway - Waterborne
Ground Water
Location: C-10

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
02-Nov-22	OFFSITE GROUNDWATER	CO-60	<	1.8	
02-Nov-22	OFFSITE GROUNDWATER	CO-60	<	3.1	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	ZN-65	<	4.8	
02-Nov-22	OFFSITE GROUNDWATER	ZN-65	<	14.8	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	ZR-NB-95	<	9.6	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	ZR-NB-95	<	1.8	
02-Nov-22	OFFSITE GROUNDWATER	I-131	<	0.328	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	I-131	<	0.42	
02-Nov-22	OFFSITE GROUNDWATER	CS-134	<	8.1	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	CS-134	<	2.5	
02-Nov-22	OFFSITE GROUNDWATER	CS-137	<	2.5	
02-Nov-22	OFFSITE GROUNDWATER	CS-137	<	4.8	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	BA-LA-140	<	11.8	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	BA-LA-140	<	1.7	
02-Nov-22	OFFSITE GROUNDWATER	H-3	<	166.0	Duplicate
02-Nov-22	OFFSITE GROUNDWATER	H-3	<	166.0	

Exposure Pathway - Waterborne
Ground Water
Location: C-49

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
15-Mar-22	OFFSITE GROUNDWATER	MN-54	<	2.7	
15-Mar-22	OFFSITE GROUNDWATER	CO-58	<	3.1	
15-Mar-22	OFFSITE GROUNDWATER	FE-59	<	3.3	
15-Mar-22	OFFSITE GROUNDWATER	CO-60	<	2.1	
15-Mar-22	OFFSITE GROUNDWATER	ZN-65	<	3.9	
15-Mar-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.9	
15-Mar-22	OFFSITE GROUNDWATER	I-131	<	0.44	
15-Mar-22	OFFSITE GROUNDWATER	CS-134	<	3.7	
15-Mar-22	OFFSITE GROUNDWATER	CS-137	<	3.7	
15-Mar-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.5	
15-Mar-22	OFFSITE GROUNDWATER	H-3	<	177.0	
06-Jun-22	OFFSITE GROUNDWATER	MN-54	<	7.7	
06-Jun-22	OFFSITE GROUNDWATER	CO-58	<	5.9	
06-Jun-22	OFFSITE GROUNDWATER	FE-59	<	7.4	
06-Jun-22	OFFSITE GROUNDWATER	CO-60	<	5.0	
06-Jun-22	OFFSITE GROUNDWATER	ZN-65	<	14.1	
06-Jun-22	OFFSITE GROUNDWATER	ZR-NB-95	<	6.7	
06-Jun-22	OFFSITE GROUNDWATER	I-131	<	0.257	
06-Jun-22	OFFSITE GROUNDWATER	CS-134	<	6.8	
06-Jun-22	OFFSITE GROUNDWATER	CS-137	<	7.7	
06-Jun-22	OFFSITE GROUNDWATER	BA-LA-140	<	5.7	
06-Jun-22	OFFSITE GROUNDWATER	H-3	<	162.0	
12-Sep-22	OFFSITE GROUNDWATER	MN-54	<	1.9	
12-Sep-22	OFFSITE GROUNDWATER	CO-58	<	1.4	
12-Sep-22	OFFSITE GROUNDWATER	FE-59	<	3.9	
12-Sep-22	OFFSITE GROUNDWATER	CO-60	<	1.4	
12-Sep-22	OFFSITE GROUNDWATER	ZN-65	<	6.7	
12-Sep-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.7	
12-Sep-22	OFFSITE GROUNDWATER	CS-134	<	2.8	
12-Sep-22	OFFSITE GROUNDWATER	CS-137	<	2.9	
12-Sep-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.3	
12-Sep-22	OFFSITE GROUNDWATER	H-3	<	160.0	
02-Nov-22	OFFSITE GROUNDWATER	MN-54	<	3.5	
02-Nov-22	OFFSITE GROUNDWATER	CO-58	<	3.9	
02-Nov-22	OFFSITE GROUNDWATER	FE-59	<	3.8	
02-Nov-22	OFFSITE GROUNDWATER	CO-60	<	2.5	
02-Nov-22	OFFSITE GROUNDWATER	ZN-65	<	6.2	
02-Nov-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.6	

Exposure Pathway - Waterborne
Ground Water
Location: C-49

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
02-Nov-22	OFFSITE GROUNDWATER	I-131	<	0.288	
02-Nov-22	OFFSITE GROUNDWATER	CS-134	<	3.2	
02-Nov-22	OFFSITE GROUNDWATER	CS-137	<	3.9	
02-Nov-22	OFFSITE GROUNDWATER	BA-LA-140	<	3.1	
02-Nov-22	OFFSITE GROUNDWATER	H-3	<	166.0	

Exposure Pathway - Waterborne
Ground Water
Location: F-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
15-Mar-22	OFFSITE GROUNDWATER	MN-54	<	2.7	
15-Mar-22	OFFSITE GROUNDWATER	CO-58	<	2.8	
15-Mar-22	OFFSITE GROUNDWATER	FE-59	<	6.0	
15-Mar-22	OFFSITE GROUNDWATER	CO-60	<	2.8	
15-Mar-22	OFFSITE GROUNDWATER	ZN-65	<	5.1	
15-Mar-22	OFFSITE GROUNDWATER	ZR-NB-95	<	4.0	
15-Mar-22	OFFSITE GROUNDWATER	I-131	<	0.276	
15-Mar-22	OFFSITE GROUNDWATER	CS-134	<	3.5	
15-Mar-22	OFFSITE GROUNDWATER	CS-137	<	3.2	
15-Mar-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.2	
15-Mar-22	OFFSITE GROUNDWATER	H-3	<	177.0	
06-Jun-22	OFFSITE GROUNDWATER	MN-54	<	3.1	
06-Jun-22	OFFSITE GROUNDWATER	CO-58	<	4.8	
06-Jun-22	OFFSITE GROUNDWATER	FE-59	<	7.4	
06-Jun-22	OFFSITE GROUNDWATER	CO-60	<	4.7	
06-Jun-22	OFFSITE GROUNDWATER	ZN-65	<	5.3	
06-Jun-22	OFFSITE GROUNDWATER	ZR-NB-95	<	4.0	
06-Jun-22	OFFSITE GROUNDWATER	I-131	<	0.255	
06-Jun-22	OFFSITE GROUNDWATER	CS-134	<	5.7	
06-Jun-22	OFFSITE GROUNDWATER	CS-137	<	3.8	
06-Jun-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.1	
06-Jun-22	OFFSITE GROUNDWATER	H-3	<	162.0	
12-Sep-22	OFFSITE GROUNDWATER	MN-54	<	4.3	
12-Sep-22	OFFSITE GROUNDWATER	CO-58	<	5.3	
12-Sep-22	OFFSITE GROUNDWATER	FE-59	<	7.0	
12-Sep-22	OFFSITE GROUNDWATER	CO-60	<	3.8	
12-Sep-22	OFFSITE GROUNDWATER	ZN-65	<	5.8	
12-Sep-22	OFFSITE GROUNDWATER	ZR-NB-95	<	5.7	
12-Sep-22	OFFSITE GROUNDWATER	CS-134	<	5.8	
12-Sep-22	OFFSITE GROUNDWATER	CS-137	<	6.3	
12-Sep-22	OFFSITE GROUNDWATER	BA-LA-140	<	5.7	
12-Sep-22	OFFSITE GROUNDWATER	H-3	<	160.0	
02-Nov-22	OFFSITE GROUNDWATER	MN-54	<	3.0	
02-Nov-22	OFFSITE GROUNDWATER	CO-58	<	4.5	
02-Nov-22	OFFSITE GROUNDWATER	FE-59	<	5.6	
02-Nov-22	OFFSITE GROUNDWATER	CO-60	<	3.3	
02-Nov-22	OFFSITE GROUNDWATER	ZN-65	<	5.4	
02-Nov-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.5	

Exposure Pathway - Waterborne
Ground Water
Location: F-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
02-Nov-22	OFFSITE GROUNDWATER	I-131	<	0.422	
02-Nov-22	OFFSITE GROUNDWATER	CS-134	<	4.3	
02-Nov-22	OFFSITE GROUNDWATER	CS-137	<	2.2	
02-Nov-22	OFFSITE GROUNDWATER	BA-LA-140	<	3.8	
02-Nov-22	OFFSITE GROUNDWATER	H-3	<	166.0	

Exposure Pathway - Waterborne
Ground Water
Location: G-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
15-Mar-22	OFFSITE GROUNDWATER	MN-54	<	3.8	
15-Mar-22	OFFSITE GROUNDWATER	CO-58	<	3.6	
15-Mar-22	OFFSITE GROUNDWATER	FE-59	<	5.1	
15-Mar-22	OFFSITE GROUNDWATER	CO-60	<	4.8	
15-Mar-22	OFFSITE GROUNDWATER	ZN-65	<	7.5	
15-Mar-22	OFFSITE GROUNDWATER	ZR-NB-95	<	6.4	
15-Mar-22	OFFSITE GROUNDWATER	I-131	<	0.255	
15-Mar-22	OFFSITE GROUNDWATER	CS-134	<	5.6	
15-Mar-22	OFFSITE GROUNDWATER	CS-137	<	3.7	
15-Mar-22	OFFSITE GROUNDWATER	BA-LA-140	<	4.0	
15-Mar-22	OFFSITE GROUNDWATER	H-3	<	177.0	
06-Jun-22	OFFSITE GROUNDWATER	MN-54	<	3.5	
06-Jun-22	OFFSITE GROUNDWATER	CO-58	<	2.3	
06-Jun-22	OFFSITE GROUNDWATER	FE-59	<	7.1	
06-Jun-22	OFFSITE GROUNDWATER	CO-60	<	1.9	
06-Jun-22	OFFSITE GROUNDWATER	ZN-65	<	4.9	
06-Jun-22	OFFSITE GROUNDWATER	ZR-NB-95	<	3.3	
06-Jun-22	OFFSITE GROUNDWATER	I-131	<	0.296	
06-Jun-22	OFFSITE GROUNDWATER	CS-134	<	3.0	
06-Jun-22	OFFSITE GROUNDWATER	CS-137	<	3.7	
06-Jun-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.3	
06-Jun-22	OFFSITE GROUNDWATER	H-3	<	162.0	
12-Sep-22	OFFSITE GROUNDWATER	MN-54	<	3.9	
12-Sep-22	OFFSITE GROUNDWATER	CO-58	<	5.3	
12-Sep-22	OFFSITE GROUNDWATER	FE-59	<	9.5	
12-Sep-22	OFFSITE GROUNDWATER	CO-60	<	4.6	
12-Sep-22	OFFSITE GROUNDWATER	ZN-65	<	13.0	
12-Sep-22	OFFSITE GROUNDWATER	ZR-NB-95	<	3.8	
12-Sep-22	OFFSITE GROUNDWATER	CS-134	<	6.2	
12-Sep-22	OFFSITE GROUNDWATER	CS-137	<	3.2	
12-Sep-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.7	
12-Sep-22	OFFSITE GROUNDWATER	H-3	<	160.0	
02-Nov-22	OFFSITE GROUNDWATER	MN-54	<	4.2	
02-Nov-22	OFFSITE GROUNDWATER	CO-58	<	3.4	
02-Nov-22	OFFSITE GROUNDWATER	FE-59	<	6.7	
02-Nov-22	OFFSITE GROUNDWATER	CO-60	<	2.8	
02-Nov-22	OFFSITE GROUNDWATER	ZN-65	<	5.7	
02-Nov-22	OFFSITE GROUNDWATER	ZR-NB-95	<	4.6	

Exposure Pathway - Waterborne
Ground Water
Location: G-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
02-Nov-22	OFFSITE GROUNDWATER	I-131	<	0.423	
02-Nov-22	OFFSITE GROUNDWATER	CS-134	<	3.9	
02-Nov-22	OFFSITE GROUNDWATER	CS-137	<	4.3	
02-Nov-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.6	
02-Nov-22	OFFSITE GROUNDWATER	H-3	<	166.0	

Exposure Pathway - Waterborne
Ground Water
Location: J-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
24-Mar-22	OFFSITE GROUNDWATER	MN-54	<	4.0	
24-Mar-22	OFFSITE GROUNDWATER	CO-58	<	3.2	
24-Mar-22	OFFSITE GROUNDWATER	FE-59	<	6.4	
24-Mar-22	OFFSITE GROUNDWATER	CO-60	<	2.4	
24-Mar-22	OFFSITE GROUNDWATER	ZN-65	<	7.4	
24-Mar-22	OFFSITE GROUNDWATER	ZR-NB-95	<	4.9	
24-Mar-22	OFFSITE GROUNDWATER	I-131	<	0.287	
24-Mar-22	OFFSITE GROUNDWATER	CS-134	<	3.7	
24-Mar-22	OFFSITE GROUNDWATER	CS-137	<	4.1	
24-Mar-22	OFFSITE GROUNDWATER	BA-LA-140	<	4.5	
24-Mar-22	OFFSITE GROUNDWATER	H-3	<	170.0	
06-Jun-22	OFFSITE GROUNDWATER	MN-54	<	6.0	
06-Jun-22	OFFSITE GROUNDWATER	CO-58	<	6.0	
06-Jun-22	OFFSITE GROUNDWATER	FE-59	<	9.0	
06-Jun-22	OFFSITE GROUNDWATER	CO-60	<	3.7	
06-Jun-22	OFFSITE GROUNDWATER	ZN-65	<	6.6	
06-Jun-22	OFFSITE GROUNDWATER	ZR-NB-95	<	6.5	
06-Jun-22	OFFSITE GROUNDWATER	I-131	<	0.353	
06-Jun-22	OFFSITE GROUNDWATER	CS-134	<	6.6	
06-Jun-22	OFFSITE GROUNDWATER	CS-137	<	4.9	
06-Jun-22	OFFSITE GROUNDWATER	BA-LA-140	<	3.4	
06-Jun-22	OFFSITE GROUNDWATER	H-3	<	162.0	
12-Sep-22	OFFSITE GROUNDWATER	MN-54	<	2.7	
12-Sep-22	OFFSITE GROUNDWATER	CO-58	<	1.6	
12-Sep-22	OFFSITE GROUNDWATER	FE-59	<	4.4	
12-Sep-22	OFFSITE GROUNDWATER	CO-60	<	2.0	
12-Sep-22	OFFSITE GROUNDWATER	ZN-65	<	3.8	
12-Sep-22	OFFSITE GROUNDWATER	ZR-NB-95	<	3.2	
12-Sep-22	OFFSITE GROUNDWATER	CS-134	<	3.5	
12-Sep-22	OFFSITE GROUNDWATER	CS-137	<	3.1	
12-Sep-22	OFFSITE GROUNDWATER	BA-LA-140	<	3.2	
12-Sep-22	OFFSITE GROUNDWATER	H-3	<	160.0	
02-Nov-22	OFFSITE GROUNDWATER	MN-54	<	1.7	
02-Nov-22	OFFSITE GROUNDWATER	CO-58	<	3.3	
02-Nov-22	OFFSITE GROUNDWATER	FE-59	<	6.1	
02-Nov-22	OFFSITE GROUNDWATER	CO-60	<	2.3	
02-Nov-22	OFFSITE GROUNDWATER	ZN-65	<	2.9	
02-Nov-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.0	

Exposure Pathway - Waterborne
Ground Water
Location: J-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
02-Nov-22	OFFSITE GROUNDWATER	I-131	<	0.259	
02-Nov-22	OFFSITE GROUNDWATER	CS-134	<	2.8	
02-Nov-22	OFFSITE GROUNDWATER	CS-137	<	3.2	
02-Nov-22	OFFSITE GROUNDWATER	BA-LA-140	<	1.3	
02-Nov-22	OFFSITE GROUNDWATER	H-3	<	166.0	

Exposure Pathway - Waterborne
Ground Water
Location: J-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
15-Mar-22	OFFSITE GROUNDWATER	MN-54	<	2.7	
15-Mar-22	OFFSITE GROUNDWATER	CO-58	<	2.4	
15-Mar-22	OFFSITE GROUNDWATER	FE-59	<	3.5	
15-Mar-22	OFFSITE GROUNDWATER	CO-60	<	1.2	
15-Mar-22	OFFSITE GROUNDWATER	ZN-65	<	6.0	
15-Mar-22	OFFSITE GROUNDWATER	ZR-NB-95	<	4.4	
15-Mar-22	OFFSITE GROUNDWATER	I-131	<	0.265	
15-Mar-22	OFFSITE GROUNDWATER	CS-134	<	3.4	
15-Mar-22	OFFSITE GROUNDWATER	CS-137	<	1.9	
15-Mar-22	OFFSITE GROUNDWATER	BA-LA-140	<	2.1	
15-Mar-22	OFFSITE GROUNDWATER	H-3	<	177.0	
06-Jun-22	OFFSITE GROUNDWATER	MN-54	<	6.4	
06-Jun-22	OFFSITE GROUNDWATER	CO-58	<	7.6	
06-Jun-22	OFFSITE GROUNDWATER	FE-59	<	11.6	
06-Jun-22	OFFSITE GROUNDWATER	CO-60	<	5.3	
06-Jun-22	OFFSITE GROUNDWATER	ZN-65	<	8.8	
06-Jun-22	OFFSITE GROUNDWATER	ZR-NB-95	<	6.1	
06-Jun-22	OFFSITE GROUNDWATER	I-131	<	0.311	
06-Jun-22	OFFSITE GROUNDWATER	CS-134	<	7.1	
06-Jun-22	OFFSITE GROUNDWATER	CS-137	<	4.3	
06-Jun-22	OFFSITE GROUNDWATER	BA-LA-140	<	9.0	
06-Jun-22	OFFSITE GROUNDWATER	H-3	<	162.0	
12-Sep-22	OFFSITE GROUNDWATER	MN-54	<	6.5	
12-Sep-22	OFFSITE GROUNDWATER	CO-58	<	4.2	
12-Sep-22	OFFSITE GROUNDWATER	FE-59	<	7.3	
12-Sep-22	OFFSITE GROUNDWATER	CO-60	<	4.0	
12-Sep-22	OFFSITE GROUNDWATER	ZN-65	<	10.7	
12-Sep-22	OFFSITE GROUNDWATER	ZR-NB-95	<	3.6	
12-Sep-22	OFFSITE GROUNDWATER	CS-134	<	5.2	
12-Sep-22	OFFSITE GROUNDWATER	CS-137	<	5.2	
12-Sep-22	OFFSITE GROUNDWATER	BA-LA-140	<	5.4	
12-Sep-22	OFFSITE GROUNDWATER	H-3	<	160.0	
02-Nov-22	OFFSITE GROUNDWATER	MN-54	<	2.5	
02-Nov-22	OFFSITE GROUNDWATER	CO-58	<	1.5	
02-Nov-22	OFFSITE GROUNDWATER	FE-59	<	4.4	
02-Nov-22	OFFSITE GROUNDWATER	CO-60	<	3.3	
02-Nov-22	OFFSITE GROUNDWATER	ZN-65	<	5.3	
02-Nov-22	OFFSITE GROUNDWATER	ZR-NB-95	<	2.7	

Exposure Pathway - Waterborne
Ground Water
Location: J-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
02-Nov-22	OFFSITE GROUNDWATER	I-131	<	0.416	
02-Nov-22	OFFSITE GROUNDWATER	CS-134	<	3.0	
02-Nov-22	OFFSITE GROUNDWATER	CS-137	<	3.8	
02-Nov-22	OFFSITE GROUNDWATER	BA-LA-140	<	3.8	
02-Nov-22	OFFSITE GROUNDWATER	H-3	<	166.0	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-Jan-22	MN-54	< 3.6	
05-Jan-22	CO-58	< 2.9	
05-Jan-22	FE-59	< 2.9	
05-Jan-22	CO-60	< 2.4	
05-Jan-22	ZN-65	< 5.5	
05-Jan-22	ZR-NB-95	< 2.1	
05-Jan-22	I-131	< 0.427	
05-Jan-22	CS-134	< 4.3	
05-Jan-22	CS-137	< 2.1	
05-Jan-22	BA-LA-140	< 1.7	
05-Jan-22	GROSS BETA	2.174 +/- 0.64	
01-Feb-22	MN-54	< 3.1	
01-Feb-22	CO-58	< 2.3	
01-Feb-22	FE-59	< 5.5	
01-Feb-22	CO-60	< 3.4	
01-Feb-22	ZN-65	< 5.4	
01-Feb-22	ZR-NB-95	< 2.2	
01-Feb-22	I-131	< 0.298	
01-Feb-22	CS-134	< 3.2	
01-Feb-22	CS-137	< 3.0	
01-Feb-22	BA-LA-140	< 1.4	
01-Feb-22	GROSS BETA	3.089 +/- 0.704	
03-Mar-22	MN-54	< 3.7	
03-Mar-22	CO-58	< 3.6	
03-Mar-22	FE-59	< 4.9	
03-Mar-22	CO-60	< 2.5	
03-Mar-22	ZN-65	< 4.3	
03-Mar-22	ZR-NB-95	< 3.7	
03-Mar-22	I-131	< 0.279	
03-Mar-22	CS-134	< 4.9	
03-Mar-22	CS-137	< 3.3	
03-Mar-22	BA-LA-140	< 3.0	
03-Mar-22	GROSS BETA	3.005 +/- 0.687	
04-Apr-22	MN-54	< 2.2	
04-Apr-22	CO-58	< 2.1	
04-Apr-22	FE-59	< 1.5	
04-Apr-22	CO-60	< 3.0	
04-Apr-22	ZN-65	< 5.2	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
04-Apr-22	ZR-NB-95	< 3.4	
04-Apr-22	I-131	< 0.46	
04-Apr-22	CS-134	< 3.5	
04-Apr-22	CS-137	< 2.6	
04-Apr-22	BA-LA-140	< 2.6	
04-Apr-22	GROSS BETA	2.357 +/- 0.648	
03-May-22	MN-54	< 5.3	
03-May-22	CO-58	< 3.9	
03-May-22	FE-59	< 6.1	
03-May-22	CO-60	< 2.8	
03-May-22	ZN-65	< 10.5	
03-May-22	ZR-NB-95	< 5.5	
03-May-22	I-131	< 0.285	
03-May-22	CS-134	< 6.0	
03-May-22	CS-137	< 5.3	
03-May-22	BA-LA-140	< 3.7	
03-May-22	GROSS BETA	3.477 +/- 1.024	
01-Jun-22	MN-54	< 4.3	
01-Jun-22	CO-58	< 5.9	
01-Jun-22	FE-59	< 8.2	
01-Jun-22	CO-60	< 4.9	
01-Jun-22	ZN-65	< 10.9	
01-Jun-22	ZR-NB-95	< 4.1	
01-Jun-22	I-131	< 0.39	
01-Jun-22	CS-134	< 6.5	
01-Jun-22	CS-137	< 6.5	
01-Jun-22	BA-LA-140	< 7.2	
01-Jun-22	GROSS BETA	2.088 +/- 0.482	
06-Jul-22	MN-54	< 4.9	
06-Jul-22	CO-58	< 2.7	
06-Jul-22	FE-59	< 7.3	
06-Jul-22	CO-60	< 2.9	
06-Jul-22	ZN-65	< 2.7	
06-Jul-22	ZR-NB-95	< 4.9	
06-Jul-22	I-131	< 0.238	
06-Jul-22	CS-134	< 6.7	
06-Jul-22	CS-137	< 3.5	
06-Jul-22	BA-LA-140	< 3.5	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
06-Jul-22	GROSS BETA	2.345 +/- 0.638	
02-Aug-22	MN-54	< 4.6	
02-Aug-22	CO-58	< 3.6	
02-Aug-22	FE-59	< 5.7	
02-Aug-22	CO-60	< 5.0	
02-Aug-22	ZN-65	< 9.7	
02-Aug-22	ZR-NB-95	< 4.2	
02-Aug-22	I-131	< 0.244	
02-Aug-22	CS-134	< 4.5	
02-Aug-22	CS-137	< 6.5	
02-Aug-22	BA-LA-140	< 2.1	
02-Aug-22	GROSS BETA	3.388 +/- 0.709	
07-Sep-22	MN-54	< 4.3	
07-Sep-22	CO-58	< 3.6	
07-Sep-22	FE-59	< 4.2	
07-Sep-22	CO-60	< 2.6	
07-Sep-22	ZN-65	< 9.3	
07-Sep-22	ZR-NB-95	< 5.1	
07-Sep-22	I-131	< 0.392	
07-Sep-22	CS-134	< 4.8	
07-Sep-22	CS-137	< 5.4	
07-Sep-22	BA-LA-140	< 1.9	
07-Sep-22	GROSS BETA	3.514 +/- 0.717	
03-Oct-22	MN-54	< 3.3	
03-Oct-22	CO-58	< 2.8	
03-Oct-22	FE-59	< 2.5	
03-Oct-22	CO-60	< 2.9	
03-Oct-22	ZN-65	< 3.8	
03-Oct-22	ZR-NB-95	< 2.4	
03-Oct-22	I-131	< 0.2	
03-Oct-22	CS-134	< 3.8	
03-Oct-22	CS-137	< 2.8	
03-Oct-22	BA-LA-140	< 3.4	
03-Oct-22	GROSS BETA	3.895 +/- 0.726	
03-Nov-22	MN-54	< 1.4	
03-Nov-22	CO-58	< 2.0	
03-Nov-22	FE-59	< 3.2	
03-Nov-22	CO-60	< 2.2	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
03-Nov-22	ZN-65	< 2.6	
03-Nov-22	ZR-NB-95	< 2.1	
03-Nov-22	I-131	< 0.28	
03-Nov-22	CS-134	< 2.8	
03-Nov-22	CS-137	< 2.0	
03-Nov-22	BA-LA-140	< 2.5	
03-Nov-22	GROSS BETA	2.872 +/- 0.668	
01-Dec-22	MN-54	< 4.1	
01-Dec-22	MN-54	< 4.1	
01-Dec-22	CO-58	< 4.4	
01-Dec-22	CO-58	< 4.4	
01-Dec-22	FE-59	< 9.2	
01-Dec-22	CO-60	< 2.7	
01-Dec-22	CO-60	< 2.7	
01-Dec-22	ZN-65	< 5.8	
01-Dec-22	ZN-65	< 5.8	
01-Dec-22	ZR-NB-95	< 3.5	
01-Dec-22	ZR-NB-95	< 3.5	
01-Dec-22	I-131	< 0.297	
01-Dec-22	I-131	< 0.297	
01-Dec-22	CS-134	< 4.0	
01-Dec-22	CS-134	< 4.0	
01-Dec-22	CS-137	< 4.2	
01-Dec-22	CS-137	< 4.2	
01-Dec-22	BA-LA-140	< 5.6	
01-Dec-22	BA-LA-140	< 5.6	
01-Dec-22	GROSS BETA	1.862 +/- 1.015	
01-Dec-22	GROSS BETA	1.862 +/- 1.015	
01-Dec-22	FE-55	< 9.2	
04-Jan-23	MN-54	< 1.0	
04-Jan-23	CO-58	< 0.8	
04-Jan-23	FE-59	< 2.8	
04-Jan-23	CO-60	< 2.7	
04-Jan-23	ZN-65	< 2.5	
04-Jan-23	ZR-NB-95	< 1.2	
04-Jan-23	I-131	< 0.26	
04-Jan-23	CS-134	< 1.3	
04-Jan-23	CS-137	< 2.0	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
04-Jan-23	BA-LA-140	< 1.2	
04-Jan-23	GROSS BETA	2.899 +/- 0.7	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-Jan-22	MN-54	< 2.6	
05-Jan-22	CO-58	< 2.2	
05-Jan-22	FE-59	< 3.4	
05-Jan-22	CO-60	< 1.6	
05-Jan-22	ZN-65	< 6.3	
05-Jan-22	ZR-NB-95	< 3.0	
05-Jan-22	I-131	< 0.325	
05-Jan-22	CS-134	< 3.3	
05-Jan-22	CS-137	< 3.8	
05-Jan-22	BA-LA-140	< 1.9	
05-Jan-22	GROSS BETA	2.959 +/- 0.702	
01-Feb-22	MN-54	< 2.5	
01-Feb-22	CO-58	< 1.8	
01-Feb-22	FE-59	< 3.8	
01-Feb-22	CO-60	< 1.7	
01-Feb-22	ZN-65	< 4.3	
01-Feb-22	ZR-NB-95	< 2.0	
01-Feb-22	I-131	< 0.295	
01-Feb-22	CS-134	< 2.6	
01-Feb-22	CS-137	< 3.0	
01-Feb-22	BA-LA-140	< 2.7	
01-Feb-22	GROSS BETA	2.146 +/- 0.685	
03-Mar-22	MN-54	< 5.0	
03-Mar-22	CO-58	< 4.4	
03-Mar-22	FE-59	< 5.5	
03-Mar-22	CO-60	< 3.5	
03-Mar-22	ZN-65	< 6.0	
03-Mar-22	ZR-NB-95	< 3.0	
03-Mar-22	I-131	< 0.295	
03-Mar-22	CS-134	< 5.2	
03-Mar-22	CS-137	< 4.6	
03-Mar-22	BA-LA-140	< 4.1	
03-Mar-22	GROSS BETA	3.165 +/- 0.694	
04-Apr-22	MN-54	< 2.5	
04-Apr-22	CO-58	< 2.8	
04-Apr-22	FE-59	< 6.1	
04-Apr-22	CO-60	< 1.8	
04-Apr-22	ZN-65	< 6.8	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
04-Apr-22	ZR-NB-95	< 1.8	
04-Apr-22	I-131	< 0.308	
04-Apr-22	CS-134	< 3.0	
04-Apr-22	CS-137	< 2.4	
04-Apr-22	BA-LA-140	< 2.7	
04-Apr-22	GROSS BETA	1.694 +/- 0.651	
03-May-22	MN-54	< 5.9	
03-May-22	CO-58	< 4.7	
03-May-22	FE-59	< 13.5	
03-May-22	CO-60	< 5.7	
03-May-22	ZN-65	< 12.3	
03-May-22	ZR-NB-95	< 8.0	
03-May-22	I-131	< 0.314	
03-May-22	CS-134	< 7.8	
03-May-22	CS-137	< 8.0	
03-May-22	BA-LA-140	< 5.2	
03-May-22	GROSS BETA	4.111 +/- 1.018	
01-Jun-22	MN-54	< 2.5	
01-Jun-22	CO-58	< 2.8	
01-Jun-22	FE-59	< 2.1	
01-Jun-22	CO-60	< 2.2	
01-Jun-22	ZN-65	< 2.9	
01-Jun-22	ZR-NB-95	< 3.0	
01-Jun-22	I-131	< 0.324	
01-Jun-22	CS-134	< 3.3	
01-Jun-22	CS-137	< 2.9	
01-Jun-22	BA-LA-140	< 1.9	
01-Jun-22	GROSS BETA	2.096 +/- 0.468	
06-Jul-22	MN-54	< 4.4	
06-Jul-22	CO-58	< 2.8	
06-Jul-22	FE-59	< 4.4	
06-Jul-22	CO-60	< 3.3	
06-Jul-22	ZN-65	< 9.1	
06-Jul-22	ZR-NB-95	< 5.5	
06-Jul-22	I-131	< 0.397	
06-Jul-22	CS-134	< 5.1	
06-Jul-22	CS-137	< 5.5	
06-Jul-22	BA-LA-140	< 2.6	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
06-Jul-22	GROSS BETA	2.721 +/- 0.711	
02-Aug-22	MN-54	< 2.0	
02-Aug-22	CO-58	< 2.5	
02-Aug-22	FE-59	< 4.7	
02-Aug-22	CO-60	< 1.5	
02-Aug-22	ZN-65	< 4.2	
02-Aug-22	ZR-NB-95	< 3.3	
02-Aug-22	I-131	< 0.238	
02-Aug-22	CS-134	< 2.8	
02-Aug-22	CS-137	< 3.3	
02-Aug-22	BA-LA-140	< 2.5	
02-Aug-22	GROSS BETA	2.890 +/- 0.681	
07-Sep-22	MN-54	< 3.5	
07-Sep-22	CO-58	< 5.2	
07-Sep-22	FE-59	< 5.5	
07-Sep-22	CO-60	< 5.2	
07-Sep-22	ZN-65	< 7.7	
07-Sep-22	ZR-NB-95	< 3.2	
07-Sep-22	I-131	< 0.402	
07-Sep-22	CS-134	< 5.1	
07-Sep-22	CS-137	< 5.1	
07-Sep-22	BA-LA-140	< 5.5	
07-Sep-22	GROSS BETA	3.075 +/- 0.747	
03-Oct-22	MN-54	< 3.0	
03-Oct-22	CO-58	< 2.5	
03-Oct-22	FE-59	< 5.6	
03-Oct-22	CO-60	< 2.5	
03-Oct-22	ZN-65	< 4.2	
03-Oct-22	ZR-NB-95	< 2.4	
03-Oct-22	I-131	< 0.192	
03-Oct-22	CS-134	< 2.2	
03-Oct-22	CS-137	< 3.9	
03-Oct-22	BA-LA-140	< 1.8	
03-Oct-22	GROSS BETA	2.980 +/- 0.681	
03-Nov-22	MN-54	< 2.9	
03-Nov-22	MN-54	< 2.9	
03-Nov-22	CO-58	< 2.4	
03-Nov-22	CO-58	< 2.4	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
03-Nov-22	FE-59	< 3.8	
03-Nov-22	FE-59	< 3.8	
03-Nov-22	CO-60	< 2.2	
03-Nov-22	CO-60	< 2.2	
03-Nov-22	ZN-65	< 5.2	
03-Nov-22	ZN-65	< 5.2	
03-Nov-22	ZR-NB-95	< 2.1	
03-Nov-22	ZR-NB-95	< 2.1	
03-Nov-22	I-131	< 0.416	
03-Nov-22	CS-134	< 2.4	
03-Nov-22	CS-134	< 2.4	
03-Nov-22	CS-137	< 2.6	
03-Nov-22	CS-137	< 2.6	
03-Nov-22	BA-LA-140	< 2.2	
03-Nov-22	BA-LA-140	< 2.2	
03-Nov-22	GROSS BETA	3.254 +/- 0.751	
03-Nov-22	GROSS BETA	3.254 +/- 0.751	
01-Dec-22	MN-54	< 1.2	
01-Dec-22	MN-54	< 1.2	
01-Dec-22	CO-58	< 1.7	
01-Dec-22	CO-58	< 1.7	
01-Dec-22	FE-59	< 5.5	
01-Dec-22	FE-59	< 5.5	
01-Dec-22	CO-60	< 2.2	
01-Dec-22	CO-60	< 2.2	
01-Dec-22	ZN-65	< 5.6	
01-Dec-22	ZN-65	< 5.6	
01-Dec-22	ZR-NB-95	< 2.5	
01-Dec-22	ZR-NB-95	< 2.5	
01-Dec-22	I-131	< 0.288	
01-Dec-22	I-131	< 0.288	
01-Dec-22	CS-134	< 2.3	
01-Dec-22	CS-134	< 2.3	
01-Dec-22	CS-137	< 2.8	
01-Dec-22	CS-137	< 2.8	
01-Dec-22	BA-LA-140	< 1.7	
01-Dec-22	BA-LA-140	< 1.7	
01-Dec-22	GROSS BETA	1.854 +/- 1.102	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Dec-22	GROSS BETA	1.854 +/- 1.102	
04-Jan-23	MN-54	< 2.6	
04-Jan-23	CO-58	< 2.2	
04-Jan-23	FE-59	< 4.4	
04-Jan-23	CO-60	< 2.5	
04-Jan-23	ZN-65	< 4.4	
04-Jan-23	ZR-NB-95	< 2.0	
04-Jan-23	I-131	< 0.39	
04-Jan-23	CS-134	< 2.3	
04-Jan-23	CS-137	< 2.6	
04-Jan-23	BA-LA-140	< 3.2	
04-Jan-23	GROSS BETA	3.828 +/- 0.751	

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

Collection Date	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
05-Jan-22	H-3	<	157	
04-Apr-22	H-3	<	166	
06-Jul-22	H-3	<	167	
03-Oct-22	H-3	<	157	
03-Oct-22	H-3	<	157	Duplicate
04-Jan-23	H-3	<	157	

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

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
05-Jan-22	H-3	179 +/- 85	
05-Jan-22	H-3	< 203	
01-Feb-22	H-3	< 228	
04-Apr-22	H-3	< 166	
06-Jul-22	H-3	< 167	
02-Aug-22	H-3	213 +/- 90	
07-Sep-22	H-3	1877 +/- 154	
03-Oct-22	H-3	1558 +/- 141	
03-Oct-22	H-3	1640 +/- 146	
03-Oct-22	H-3	3445 +/- 197	
03-Nov-22	H-3	570 +/- 103	
01-Dec-22	H-3	< 158	
01-Dec-22	H-3	< 157	
04-Jan-23	H-3	194 +/- 84	
04-Jan-23	H-3	< 157	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: DC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
15-Feb-22	SHORELINE SEDIMENTS	K-40	11,747.0 +/-	1,271.0	
15-Feb-22	SHORELINE SEDIMENTS	MN-54	<	58.2	
15-Feb-22	SHORELINE SEDIMENTS	CO-58	<	52.3	
15-Feb-22	SHORELINE SEDIMENTS	FE-59	<	118.2	
15-Feb-22	SHORELINE SEDIMENTS	CO-60	<	30.3	
15-Feb-22	SHORELINE SEDIMENTS	ZN-65	<	137.0	
15-Feb-22	SHORELINE SEDIMENTS	CS-134	<	41.1	
15-Feb-22	SHORELINE SEDIMENTS	CS-137	<	48.0	
18-May-22	SHORELINE SEDIMENTS	K-40	5,496.4 +/-	433.9	
18-May-22	SHORELINE SEDIMENTS	MN-54	<	25.4	
18-May-22	SHORELINE SEDIMENTS	CO-58	<	40.6	
18-May-22	SHORELINE SEDIMENTS	FE-59	<	104.0	
18-May-22	SHORELINE SEDIMENTS	CO-60	<	10.4	
18-May-22	SHORELINE SEDIMENTS	ZN-65	<	44.6	
18-May-22	SHORELINE SEDIMENTS	CS-134	<	16.5	
18-May-22	SHORELINE SEDIMENTS	CS-137	<	18.2	
13-Sep-22	SHORELINE SEDIMENTS	K-40	6,248.2 +/-	548.9	
13-Sep-22	SHORELINE SEDIMENTS	MN-54	<	24.6	
13-Sep-22	SHORELINE SEDIMENTS	CO-58	<	20.7	
13-Sep-22	SHORELINE SEDIMENTS	FE-59	<	62.6	
13-Sep-22	SHORELINE SEDIMENTS	CO-60	<	10.8	
13-Sep-22	SHORELINE SEDIMENTS	ZN-65	<	53.4	
13-Sep-22	SHORELINE SEDIMENTS	CS-134	<	21.6	
13-Sep-22	SHORELINE SEDIMENTS	CS-137	<	23.4	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
31-Jan-22	SHORELINE SEDIMENTS	K-40	10,204.0 +/-	1,006.0	
31-Jan-22	SHORELINE SEDIMENTS	MN-54	<	49.6	
31-Jan-22	SHORELINE SEDIMENTS	CO-58	<	66.0	
31-Jan-22	SHORELINE SEDIMENTS	FE-59	<	114.4	
31-Jan-22	SHORELINE SEDIMENTS	CO-60	<	32.4	
31-Jan-22	SHORELINE SEDIMENTS	ZN-65	<	98.8	
31-Jan-22	SHORELINE SEDIMENTS	CS-134	<	37.6	
31-Jan-22	SHORELINE SEDIMENTS	CS-137	<	57.0	
07-Nov-22	SHORELINE SEDIMENTS	K-40	14,006.0 +/-	708.3	
07-Nov-22	SHORELINE SEDIMENTS	MN-54	<	28.1	
07-Nov-22	SHORELINE SEDIMENTS	CO-58	<	32.7	
07-Nov-22	SHORELINE SEDIMENTS	FE-59	<	91.0	
07-Nov-22	SHORELINE SEDIMENTS	CO-60	<	30.7	
07-Nov-22	SHORELINE SEDIMENTS	ZN-65	<	62.9	
07-Nov-22	SHORELINE SEDIMENTS	CS-134	<	21.5	
07-Nov-22	SHORELINE SEDIMENTS	CS-137	49.6 +/-	22.3	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
18-May-22	SHORELINE SEDIMENTS	K-40	9,266.4 +/-	527.4	
18-May-22	SHORELINE SEDIMENTS	K-40	9,975.9 +/-	546.4	
18-May-22	SHORELINE SEDIMENTS	MN-54	<	26.5	
18-May-22	SHORELINE SEDIMENTS	MN-54	<	28.4	
18-May-22	SHORELINE SEDIMENTS	CO-58	<	48.0	
18-May-22	SHORELINE SEDIMENTS	CO-58	<	49.4	
18-May-22	SHORELINE SEDIMENTS	FE-59	<	114.5	
18-May-22	SHORELINE SEDIMENTS	FE-59	<	158.1	
18-May-22	SHORELINE SEDIMENTS	CO-60	<	14.2	
18-May-22	SHORELINE SEDIMENTS	CO-60	<	17.0	
18-May-22	SHORELINE SEDIMENTS	ZN-65	<	64.4	
18-May-22	SHORELINE SEDIMENTS	ZN-65	<	53.7	
18-May-22	SHORELINE SEDIMENTS	CS-134	<	18.9	
18-May-22	SHORELINE SEDIMENTS	CS-134	<	21.3	
18-May-22	SHORELINE SEDIMENTS	CS-137	45.6 +/-	25.8	
18-May-22	SHORELINE SEDIMENTS	CS-137	44.3 +/-	23.5	
13-Sep-22	SHORELINE SEDIMENTS	K-40	10,615.0 +/-	703.0	
13-Sep-22	SHORELINE SEDIMENTS	MN-54	<	38.3	
13-Sep-22	SHORELINE SEDIMENTS	CO-58	<	31.8	
13-Sep-22	SHORELINE SEDIMENTS	FE-59	<	60.9	
13-Sep-22	SHORELINE SEDIMENTS	CO-60	<	14.4	
13-Sep-22	SHORELINE SEDIMENTS	ZN-65	<	66.4	
13-Sep-22	SHORELINE SEDIMENTS	CS-134	<	28.1	
13-Sep-22	SHORELINE SEDIMENTS	CS-137	<	32.8	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-Apr-22	CHANNEL CATFISH	K-40	2,776.4	+/- 345.2	
14-Apr-22	CHANNEL CATFISH	MN-54	<	9.3	
14-Apr-22	CHANNEL CATFISH	CO-58	<	10.1	
14-Apr-22	CHANNEL CATFISH	FE-59	<	25.9	
14-Apr-22	CHANNEL CATFISH	CO-60	<	14.8	
14-Apr-22	CHANNEL CATFISH	ZN-65	<	37.5	
14-Apr-22	CHANNEL CATFISH	I-131	<	99.4	
14-Apr-22	CHANNEL CATFISH	CS-134	<	13.8	
14-Apr-22	CHANNEL CATFISH	CS-137	<	14.4	
14-Apr-22	CHANNEL CATFISH	H-3	14,388.0	+/- 348.0	
14-Apr-22	COMMON CARP	K-40	3,170.4	+/- 424.5	
14-Apr-22	COMMON CARP	MN-54	<	17.7	
14-Apr-22	COMMON CARP	CO-58	<	21.4	
14-Apr-22	COMMON CARP	FE-59	<	23.9	
14-Apr-22	COMMON CARP	CO-60	<	17.7	
14-Apr-22	COMMON CARP	ZN-65	<	44.3	
14-Apr-22	COMMON CARP	I-131	<	78.6	
14-Apr-22	COMMON CARP	CS-134	<	20.7	
14-Apr-22	COMMON CARP	CS-137	<	21.6	
14-Apr-22	COMMON CARP	H-3	15,629.0	+/- 345.0	
14-Apr-22	CRAPPIE	K-40	2,423.3	+/- 354.3	
14-Apr-22	CRAPPIE	MN-54	<	7.8	
14-Apr-22	CRAPPIE	CO-58	<	11.8	
14-Apr-22	CRAPPIE	FE-59	<	28.7	
14-Apr-22	CRAPPIE	CO-60	<	13.6	
14-Apr-22	CRAPPIE	ZN-65	<	26.8	
14-Apr-22	CRAPPIE	I-131	<	97.2	
14-Apr-22	CRAPPIE	CS-134	<	18.2	
14-Apr-22	CRAPPIE	CS-137	<	14.4	
14-Apr-22	CRAPPIE	H-3	17,110.0	+/- 363.0	
14-Apr-22	SMALLMOUTH BUFFALO	K-40	3,143.7	+/- 359.4	
14-Apr-22	SMALLMOUTH BUFFALO	MN-54	<	12.4	
14-Apr-22	SMALLMOUTH BUFFALO	CO-58	<	19.4	
14-Apr-22	SMALLMOUTH BUFFALO	FE-59	<	40.3	
14-Apr-22	SMALLMOUTH BUFFALO	CO-60	<	10.1	
14-Apr-22	SMALLMOUTH BUFFALO	ZN-65	<	27.9	
14-Apr-22	SMALLMOUTH BUFFALO	I-131	<	90.3	
14-Apr-22	SMALLMOUTH BUFFALO	CS-134	<	16.4	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-Apr-22	SMALLMOUTH BUFFALO	CS-137	<	17.0	
14-Apr-22	SMALLMOUTH BUFFALO	H-3	20,213.0 +/-	386.0	
14-Apr-22	WHITE BASS	K-40	3,172.7 +/-	434.9	
14-Apr-22	WHITE BASS	MN-54	<	13.8	
14-Apr-22	WHITE BASS	CO-58	<	16.2	
14-Apr-22	WHITE BASS	FE-59	<	36.5	
14-Apr-22	WHITE BASS	CO-60	<	13.3	
14-Apr-22	WHITE BASS	ZN-65	<	28.4	
14-Apr-22	WHITE BASS	I-131	<	95.9	
14-Apr-22	WHITE BASS	CS-134	<	18.9	
14-Apr-22	WHITE BASS	CS-137	<	22.8	
14-Apr-22	WHITE BASS	H-3	12,441.0 +/-	308.0	
08-Nov-22	BLUE CATFISH	K-40	3,196.5 +/-	141.9	
08-Nov-22	BLUE CATFISH	MN-54	<	6.2	
08-Nov-22	BLUE CATFISH	CO-58	<	4.4	
08-Nov-22	BLUE CATFISH	FE-59	<	17.3	
08-Nov-22	BLUE CATFISH	CO-60	<	7.5	
08-Nov-22	BLUE CATFISH	ZN-65	<	10.7	
08-Nov-22	BLUE CATFISH	I-131	<	93.0	
08-Nov-22	BLUE CATFISH	CS-134	<	5.5	
08-Nov-22	BLUE CATFISH	CS-137	<	6.3	
08-Nov-22	BLUE CATFISH	H-3	10,108.0 +/-	289.0	
08-Nov-22	COMMON CARP	K-40	2,970.2 +/-	215.5	Duplicate
08-Nov-22	COMMON CARP	K-40	2,883.7 +/-	144.7	
08-Nov-22	COMMON CARP	MN-54	<	11.5	Duplicate
08-Nov-22	COMMON CARP	MN-54	<	4.6	
08-Nov-22	COMMON CARP	CO-58	<	7.5	
08-Nov-22	COMMON CARP	CO-58	<	12.3	Duplicate
08-Nov-22	COMMON CARP	FE-59	<	26.1	Duplicate
08-Nov-22	COMMON CARP	FE-59	<	18.4	
08-Nov-22	COMMON CARP	CO-60	<	10.0	Duplicate
08-Nov-22	COMMON CARP	CO-60	<	13.0	
08-Nov-22	COMMON CARP	ZN-65	<	19.9	Duplicate
08-Nov-22	COMMON CARP	ZN-65	<	13.2	
08-Nov-22	COMMON CARP	I-131	<	77.1	
08-Nov-22	COMMON CARP	I-131	<	97.8	Duplicate
08-Nov-22	COMMON CARP	CS-134	<	9.0	Duplicate
08-Nov-22	COMMON CARP	CS-134	<	6.7	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
08-Nov-22	COMMON CARP	CS-137	<	11.6	Duplicate
08-Nov-22	COMMON CARP	CS-137	<	10.5	
08-Nov-22	COMMON CARP	H-3	8,464.0 +/-	264.0	
08-Nov-22	COMMON CARP	H-3	8,364.0 +/-	262.0	Duplicate
08-Nov-22	SMALLMOUTH BUFFALO	K-40	3,103.1 +/-	150.1	
08-Nov-22	SMALLMOUTH BUFFALO	MN-54	<	8.3	
08-Nov-22	SMALLMOUTH BUFFALO	CO-58	<	8.0	
08-Nov-22	SMALLMOUTH BUFFALO	FE-59	<	25.6	
08-Nov-22	SMALLMOUTH BUFFALO	CO-60	<	6.9	
08-Nov-22	SMALLMOUTH BUFFALO	ZN-65	<	16.1	
08-Nov-22	SMALLMOUTH BUFFALO	I-131	<	89.7	
08-Nov-22	SMALLMOUTH BUFFALO	CS-134	<	7.3	
08-Nov-22	SMALLMOUTH BUFFALO	CS-137	<	7.5	
08-Nov-22	SMALLMOUTH BUFFALO	H-3	8,749.0 +/-	267.0	
08-Nov-22	WALLEYE	K-40	3,561.2 +/-	170.7	
08-Nov-22	WALLEYE	MN-54	<	7.7	
08-Nov-22	WALLEYE	CO-58	<	7.8	
08-Nov-22	WALLEYE	FE-59	<	11.6	
08-Nov-22	WALLEYE	CO-60	<	7.3	
08-Nov-22	WALLEYE	ZN-65	<	15.9	
08-Nov-22	WALLEYE	I-131	<	78.4	
08-Nov-22	WALLEYE	CS-134	<	5.9	
08-Nov-22	WALLEYE	CS-137	<	6.0	
08-Nov-22	WALLEYE	H-3	10,196.0 +/-	285.0	
08-Nov-22	WHITE BASS	K-40	3,336.0 +/-	165.4	
08-Nov-22	WHITE BASS	MN-54	<	7.0	
08-Nov-22	WHITE BASS	CO-58	<	7.2	
08-Nov-22	WHITE BASS	FE-59	<	21.6	
08-Nov-22	WHITE BASS	CO-60	<	6.7	
08-Nov-22	WHITE BASS	ZN-65	<	14.2	
08-Nov-22	WHITE BASS	I-131	<	87.4	
08-Nov-22	WHITE BASS	CS-134	<	7.1	
08-Nov-22	WHITE BASS	CS-137	<	6.2	
08-Nov-22	WHITE BASS	H-3	8,214.0 +/-	259.0	
08-Nov-22	WHITE CRAPPIE	K-40	3,538.8 +/-	172.5	
08-Nov-22	WHITE CRAPPIE	MN-54	<	6.5	
08-Nov-22	WHITE CRAPPIE	CO-58	<	7.8	
08-Nov-22	WHITE CRAPPIE	FE-59	<	10.2	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
08-Nov-22	WHITE CRAPPIE	CO-60	<	8.0	
08-Nov-22	WHITE CRAPPIE	ZN-65	<	16.8	
08-Nov-22	WHITE CRAPPIE	I-131	<	75.1	
08-Nov-22	WHITE CRAPPIE	CS-134	<	5.9	
08-Nov-22	WHITE CRAPPIE	CS-137	<	7.2	
08-Nov-22	WHITE CRAPPIE	H-3	9,317.0 +/-	276.0	
08-Nov-22	WIPER	K-40	3,492.3 +/-	160.4	
08-Nov-22	WIPER	MN-54	<	8.0	
08-Nov-22	WIPER	CO-58	<	9.7	
08-Nov-22	WIPER	FE-59	<	24.3	
08-Nov-22	WIPER	CO-60	<	7.3	
08-Nov-22	WIPER	ZN-65	<	15.9	
08-Nov-22	WIPER	I-131	<	88.3	
08-Nov-22	WIPER	CS-134	<	7.3	
08-Nov-22	WIPER	CS-137	<	9.2	
08-Nov-22	WIPER	H-3	9,996.0 +/-	290.0	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
27-Apr-22	CHANNEL CATFISH	K-40	3,707.8 +/-	527.3	
27-Apr-22	CHANNEL CATFISH	MN-54	<	24.0	
27-Apr-22	CHANNEL CATFISH	CO-58	<	25.2	
27-Apr-22	CHANNEL CATFISH	FE-59	<	50.6	
27-Apr-22	CHANNEL CATFISH	CO-60	<	21.2	
27-Apr-22	CHANNEL CATFISH	ZN-65	<	26.0	
27-Apr-22	CHANNEL CATFISH	I-131	<	82.3	
27-Apr-22	CHANNEL CATFISH	CS-134	<	21.7	
27-Apr-22	CHANNEL CATFISH	CS-137	<	21.7	
27-Apr-22	CHANNEL CATFISH	H-3	126.0 +/-	66.0	
27-Apr-22	COMMON CARP	K-40	4,065.9 +/-	527.7	
27-Apr-22	COMMON CARP	MN-54	<	18.9	
27-Apr-22	COMMON CARP	CO-58	<	12.2	
27-Apr-22	COMMON CARP	FE-59	<	53.7	
27-Apr-22	COMMON CARP	CO-60	<	16.7	
27-Apr-22	COMMON CARP	ZN-65	<	30.0	
27-Apr-22	COMMON CARP	I-131	<	63.2	
27-Apr-22	COMMON CARP	CS-134	<	26.9	
27-Apr-22	COMMON CARP	CS-137	<	17.4	
27-Apr-22	COMMON CARP	H-3	<	145.0	
27-Apr-22	CRAPPIE	K-40	4,126.6 +/-	474.1	
27-Apr-22	CRAPPIE	MN-54	<	20.2	
27-Apr-22	CRAPPIE	CO-58	<	17.5	
27-Apr-22	CRAPPIE	FE-59	<	63.0	
27-Apr-22	CRAPPIE	CO-60	<	15.5	
27-Apr-22	CRAPPIE	ZN-65	<	50.2	
27-Apr-22	CRAPPIE	I-131	<	61.4	
27-Apr-22	CRAPPIE	CS-134	<	23.2	
27-Apr-22	CRAPPIE	CS-137	<	21.1	
27-Apr-22	CRAPPIE	H-3	<	137.0	
27-Apr-22	DRUM	K-40	4,238.7 +/-	482.3	
27-Apr-22	DRUM	MN-54	<	15.8	
27-Apr-22	DRUM	CO-58	<	30.5	
27-Apr-22	DRUM	FE-59	<	37.8	
27-Apr-22	DRUM	CO-60	<	19.1	
27-Apr-22	DRUM	ZN-65	<	47.4	
27-Apr-22	DRUM	I-131	<	87.8	
27-Apr-22	DRUM	CS-134	<	25.8	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
27-Apr-22	DRUM	CS-137	<	20.3	
27-Apr-22	DRUM	H-3	<	151.0	
27-Apr-22	SMALLMOUTH BUFFALO	K-40	3,900.4 +/-	526.8	
27-Apr-22	SMALLMOUTH BUFFALO	MN-54	<	23.9	
27-Apr-22	SMALLMOUTH BUFFALO	CO-58	<	28.2	
27-Apr-22	SMALLMOUTH BUFFALO	FE-59	<	49.5	
27-Apr-22	SMALLMOUTH BUFFALO	CO-60	<	13.7	
27-Apr-22	SMALLMOUTH BUFFALO	ZN-65	<	54.1	
27-Apr-22	SMALLMOUTH BUFFALO	I-131	<	70.0	
27-Apr-22	SMALLMOUTH BUFFALO	CS-134	<	27.0	
27-Apr-22	SMALLMOUTH BUFFALO	CS-137	<	20.3	
27-Apr-22	SMALLMOUTH BUFFALO	H-3	<	144.0	
27-Apr-22	WHITE BASS	K-40	3,705.6 +/-	532.6	
27-Apr-22	WHITE BASS	MN-54	<	27.4	
27-Apr-22	WHITE BASS	CO-58	<	25.0	
27-Apr-22	WHITE BASS	FE-59	<	54.6	
27-Apr-22	WHITE BASS	CO-60	<	24.0	
27-Apr-22	WHITE BASS	ZN-65	<	54.2	
27-Apr-22	WHITE BASS	I-131	<	82.0	
27-Apr-22	WHITE BASS	CS-134	<	27.3	
27-Apr-22	WHITE BASS	CS-137	<	15.3	
27-Apr-22	WHITE BASS	H-3	<	126.0	
21-Sep-22	BIGMOUTH BUFFALO	K-40	3,266.9 +/-	380.0	
21-Sep-22	BIGMOUTH BUFFALO	MN-54	<	15.6	
21-Sep-22	BIGMOUTH BUFFALO	CO-58	<	15.3	
21-Sep-22	BIGMOUTH BUFFALO	FE-59	<	22.7	
21-Sep-22	BIGMOUTH BUFFALO	CO-60	<	10.0	
21-Sep-22	BIGMOUTH BUFFALO	ZN-65	<	34.6	
21-Sep-22	BIGMOUTH BUFFALO	I-131	<	22.5	
21-Sep-22	BIGMOUTH BUFFALO	CS-134	<	16.9	
21-Sep-22	BIGMOUTH BUFFALO	CS-137	<	17.8	
21-Sep-22	BIGMOUTH BUFFALO	H-3	<	129.0	
21-Sep-22	CHANNEL CATFISH	K-40	3,922.5 +/-	329.9	
21-Sep-22	CHANNEL CATFISH	MN-54	<	11.4	
21-Sep-22	CHANNEL CATFISH	CO-58	<	10.5	
21-Sep-22	CHANNEL CATFISH	FE-59	<	14.2	
21-Sep-22	CHANNEL CATFISH	CO-60	<	7.1	
21-Sep-22	CHANNEL CATFISH	ZN-65	<	14.9	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
21-Sep-22	CHANNEL CATFISH	I-131	<	20.5	
21-Sep-22	CHANNEL CATFISH	CS-134	<	11.2	
21-Sep-22	CHANNEL CATFISH	CS-137	<	11.1	
21-Sep-22	CHANNEL CATFISH	H-3	<	131.0	
21-Sep-22	COMMON CARP	K-40	3,307.3 +/-	3,423.0	
21-Sep-22	COMMON CARP	MN-54	<	12.3	
21-Sep-22	COMMON CARP	CO-58	<	11.1	
21-Sep-22	COMMON CARP	FE-59	<	25.4	
21-Sep-22	COMMON CARP	CO-60	<	6.0	
21-Sep-22	COMMON CARP	ZN-65	<	15.1	
21-Sep-22	COMMON CARP	I-131	<	18.8	
21-Sep-22	COMMON CARP	CS-134	<	11.2	
21-Sep-22	COMMON CARP	CS-137	<	12.5	
21-Sep-22	COMMON CARP	H-3	<	127.0	
21-Sep-22	CRAPPIE	K-40	3,351.2 +/-	380.9	
21-Sep-22	CRAPPIE	MN-54	<	17.7	
21-Sep-22	CRAPPIE	CO-58	<	15.7	
21-Sep-22	CRAPPIE	FE-59	<	37.0	
21-Sep-22	CRAPPIE	CO-60	<	18.0	
21-Sep-22	CRAPPIE	ZN-65	<	42.4	
21-Sep-22	CRAPPIE	I-131	<	24.7	
21-Sep-22	CRAPPIE	CS-134	<	16.9	
21-Sep-22	CRAPPIE	CS-137	<	18.2	
21-Sep-22	CRAPPIE	H-3	<	129.0	
21-Sep-22	SMALLMOUTH BUFFALO	K-40	1,497.6 +/-	317.8	
21-Sep-22	SMALLMOUTH BUFFALO	MN-54	<	13.6	
21-Sep-22	SMALLMOUTH BUFFALO	CO-58	<	12.6	
21-Sep-22	SMALLMOUTH BUFFALO	FE-59	<	22.4	
21-Sep-22	SMALLMOUTH BUFFALO	CO-60	<	9.6	
21-Sep-22	SMALLMOUTH BUFFALO	ZN-65	<	23.4	
21-Sep-22	SMALLMOUTH BUFFALO	I-131	<	35.8	
21-Sep-22	SMALLMOUTH BUFFALO	CS-134	<	14.3	
21-Sep-22	SMALLMOUTH BUFFALO	CS-137	<	11.5	
21-Sep-22	SMALLMOUTH BUFFALO	H-3	<	136.0	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
12-May-22	HORSERADISH LEAVES	BE-7	853.3 +/-	232.9	
12-May-22	HORSERADISH LEAVES	K-40	4,457.7 +/-	519.1	
12-May-22	HORSERADISH LEAVES	MN-54	<	17.9	
12-May-22	HORSERADISH LEAVES	CO-58	<	12.2	
12-May-22	HORSERADISH LEAVES	FE-59	<	43.0	
12-May-22	HORSERADISH LEAVES	CO-60	<	12.4	
12-May-22	HORSERADISH LEAVES	ZN-65	<	35.2	
12-May-22	HORSERADISH LEAVES	ZR-NB-95	<	21.2	
12-May-22	HORSERADISH LEAVES	I-131	<	38.4	
12-May-22	HORSERADISH LEAVES	CS-134	<	18.2	
12-May-22	HORSERADISH LEAVES	CS-137	<	15.5	
09-Jun-22	HORSERADISH LEAVES	BE-7	1,369.9 +/-	269.4	
09-Jun-22	HORSERADISH LEAVES	K-40	4,269.1 +/-	469.3	
09-Jun-22	HORSERADISH LEAVES	MN-54	<	20.5	
09-Jun-22	HORSERADISH LEAVES	CO-58	<	16.9	
09-Jun-22	HORSERADISH LEAVES	FE-59	<	36.3	
09-Jun-22	HORSERADISH LEAVES	CO-60	<	14.1	
09-Jun-22	HORSERADISH LEAVES	ZN-65	<	40.4	
09-Jun-22	HORSERADISH LEAVES	ZR-NB-95	<	19.7	
09-Jun-22	HORSERADISH LEAVES	I-131	<	48.4	
09-Jun-22	HORSERADISH LEAVES	CS-134	<	20.2	
09-Jun-22	HORSERADISH LEAVES	CS-137	<	17.2	
20-Jul-22	HORSERADISH LEAVES	BE-7	534.3 +/-	153.5	
20-Jul-22	HORSERADISH LEAVES	K-40	6,084.0 +/-	418.6	
20-Jul-22	HORSERADISH LEAVES	MN-54	<	13.8	
20-Jul-22	HORSERADISH LEAVES	CO-58	<	12.4	
20-Jul-22	HORSERADISH LEAVES	FE-59	<	37.6	
20-Jul-22	HORSERADISH LEAVES	CO-60	<	11.9	
20-Jul-22	HORSERADISH LEAVES	ZN-65	<	34.0	
20-Jul-22	HORSERADISH LEAVES	ZR-NB-95	<	19.5	
20-Jul-22	HORSERADISH LEAVES	I-131	<	30.9	
20-Jul-22	HORSERADISH LEAVES	CS-134	<	12.1	
20-Jul-22	HORSERADISH LEAVES	CS-137	<	13.8	
04-Aug-22	HORSERADISH LEAVES	BE-7	971.7 +/-	126.9	
04-Aug-22	HORSERADISH LEAVES	K-40	6,914.8 +/-	238.8	
04-Aug-22	HORSERADISH LEAVES	MN-54	<	10.1	
04-Aug-22	HORSERADISH LEAVES	CO-58	<	8.7	
04-Aug-22	HORSERADISH LEAVES	FE-59	<	23.8	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
04-Aug-22	HORSERADISH LEAVES	CO-60	<	11.0	
04-Aug-22	HORSERADISH LEAVES	ZN-65	<	20.2	
04-Aug-22	HORSERADISH LEAVES	ZR-NB-95	<	8.7	
04-Aug-22	HORSERADISH LEAVES	I-131	<	36.9	
04-Aug-22	HORSERADISH LEAVES	CS-134	<	9.2	
04-Aug-22	HORSERADISH LEAVES	CS-137	<	8.2	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
12-May-22	HORSERADISH LEAVES	BE-7	1,010.7 +/-	301.8	
12-May-22	HORSERADISH LEAVES	K-40	5,055.5 +/-	534.5	
12-May-22	HORSERADISH LEAVES	MN-54	<	16.3	
12-May-22	HORSERADISH LEAVES	CO-58	<	20.3	
12-May-22	HORSERADISH LEAVES	FE-59	<	26.8	
12-May-22	HORSERADISH LEAVES	CO-60	<	9.1	
12-May-22	HORSERADISH LEAVES	ZN-65	<	33.7	
12-May-22	HORSERADISH LEAVES	ZR-NB-95	<	20.0	
12-May-22	HORSERADISH LEAVES	I-131	<	40.2	
12-May-22	HORSERADISH LEAVES	CS-134	<	19.8	
12-May-22	HORSERADISH LEAVES	CS-137	<	20.3	
09-Jun-22	HORSERADISH LEAVES	BE-7	1,668.3 +/-	250.4	
09-Jun-22	HORSERADISH LEAVES	K-40	4,993.4 +/-	460.7	
09-Jun-22	HORSERADISH LEAVES	MN-54	<	18.1	
09-Jun-22	HORSERADISH LEAVES	CO-58	<	17.9	
09-Jun-22	HORSERADISH LEAVES	FE-59	<	25.3	
09-Jun-22	HORSERADISH LEAVES	CO-60	<	21.3	
09-Jun-22	HORSERADISH LEAVES	ZN-65	<	30.1	
09-Jun-22	HORSERADISH LEAVES	ZR-NB-95	<	18.5	
09-Jun-22	HORSERADISH LEAVES	I-131	<	59.8	
09-Jun-22	HORSERADISH LEAVES	CS-134	<	18.2	
09-Jun-22	HORSERADISH LEAVES	CS-137	<	20.8	
20-Jul-22	HORSERADISH LEAVES	BE-7	1,031.2 +/-	184.3	
20-Jul-22	HORSERADISH LEAVES	K-40	5,822.0 +/-	460.3	
20-Jul-22	HORSERADISH LEAVES	MN-54	<	17.2	
20-Jul-22	HORSERADISH LEAVES	CO-58	<	12.1	
20-Jul-22	HORSERADISH LEAVES	FE-59	<	19.5	
20-Jul-22	HORSERADISH LEAVES	CO-60	<	11.4	
20-Jul-22	HORSERADISH LEAVES	ZN-65	<	22.3	
20-Jul-22	HORSERADISH LEAVES	ZR-NB-95	<	16.4	
20-Jul-22	HORSERADISH LEAVES	I-131	<	34.1	
20-Jul-22	HORSERADISH LEAVES	CS-134	<	12.2	
20-Jul-22	HORSERADISH LEAVES	CS-137	<	12.9	
04-Aug-22	HORSERADISH LEAVES	BE-7	1,598.2 +/-	269.6	
04-Aug-22	HORSERADISH LEAVES	K-40	6,785.4 +/-	564.1	
04-Aug-22	HORSERADISH LEAVES	MN-54	<	20.9	
04-Aug-22	HORSERADISH LEAVES	CO-58	<	24.2	
04-Aug-22	HORSERADISH LEAVES	FE-59	<	56.0	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
04-Aug-22	HORSERADISH LEAVES	CO-60	<	15.4	
04-Aug-22	HORSERADISH LEAVES	ZN-65	<	56.8	
04-Aug-22	HORSERADISH LEAVES	ZR-NB-95	<	38.5	
04-Aug-22	HORSERADISH LEAVES	I-131	<	50.2	
04-Aug-22	HORSERADISH LEAVES	CS-134	<	21.1	
04-Aug-22	HORSERADISH LEAVES	CS-137	<	31.7	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
12-May-22	HORSERADISH LEAVES	BE-7	823.3 +/-	205.6	
12-May-22	HORSERADISH LEAVES	K-40	4,050.1 +/-	410.9	
12-May-22	HORSERADISH LEAVES	MN-54	<	16.5	
12-May-22	HORSERADISH LEAVES	CO-58	<	15.3	
12-May-22	HORSERADISH LEAVES	FE-59	<	33.6	
12-May-22	HORSERADISH LEAVES	CO-60	<	12.1	
12-May-22	HORSERADISH LEAVES	ZN-65	<	34.5	
12-May-22	HORSERADISH LEAVES	ZR-NB-95	<	17.9	
12-May-22	HORSERADISH LEAVES	I-131	<	31.7	
12-May-22	HORSERADISH LEAVES	CS-134	<	14.1	
12-May-22	HORSERADISH LEAVES	CS-137	<	10.2	
09-Jun-22	HORSERADISH LEAVES	BE-7	1,516.6 +/-	174.1	
09-Jun-22	HORSERADISH LEAVES	K-40	4,590.0 +/-	405.6	
09-Jun-22	HORSERADISH LEAVES	MN-54	<	7.6	
09-Jun-22	HORSERADISH LEAVES	CO-58	<	14.2	
09-Jun-22	HORSERADISH LEAVES	FE-59	<	20.1	
09-Jun-22	HORSERADISH LEAVES	CO-60	<	5.5	
09-Jun-22	HORSERADISH LEAVES	ZN-65	<	30.7	
09-Jun-22	HORSERADISH LEAVES	ZR-NB-95	<	15.1	
09-Jun-22	HORSERADISH LEAVES	I-131	<	25.2	
09-Jun-22	HORSERADISH LEAVES	CS-134	<	12.9	
09-Jun-22	HORSERADISH LEAVES	CS-137	<	10.8	
20-Jul-22	HORSERADISH LEAVES	BE-7	583.7 +/-	170.4	
20-Jul-22	HORSERADISH LEAVES	K-40	6,078.8 +/-	456.2	
20-Jul-22	HORSERADISH LEAVES	MN-54	<	8.0	
20-Jul-22	HORSERADISH LEAVES	CO-58	<	11.5	
20-Jul-22	HORSERADISH LEAVES	FE-59	<	35.4	
20-Jul-22	HORSERADISH LEAVES	CO-60	<	7.4	
20-Jul-22	HORSERADISH LEAVES	ZN-65	<	28.7	
20-Jul-22	HORSERADISH LEAVES	ZR-NB-95	<	12.7	
20-Jul-22	HORSERADISH LEAVES	I-131	<	29.3	
20-Jul-22	HORSERADISH LEAVES	CS-134	<	12.5	
20-Jul-22	HORSERADISH LEAVES	CS-137	<	13.6	
04-Aug-22	HORSERADISH LEAVES	BE-7	1,010.3 +/-	163.1	
04-Aug-22	HORSERADISH LEAVES	K-40	6,579.9 +/-	370.3	
04-Aug-22	HORSERADISH LEAVES	MN-54	<	7.8	
04-Aug-22	HORSERADISH LEAVES	CO-58	<	10.4	
04-Aug-22	HORSERADISH LEAVES	FE-59	<	20.8	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
04-Aug-22	HORSERADISH LEAVES	CO-60	<	10.9	
04-Aug-22	HORSERADISH LEAVES	ZN-65	<	13.2	
04-Aug-22	HORSERADISH LEAVES	ZR-NB-95	<	11.9	
04-Aug-22	HORSERADISH LEAVES	I-131	<	27.8	
04-Aug-22	HORSERADISH LEAVES	CS-134	<	9.8	
04-Aug-22	HORSERADISH LEAVES	CS-137	<	8.0	
14-Sep-22	HORSERADISH LEAVES	BE-7	874.0 +/-	156.7	
14-Sep-22	HORSERADISH LEAVES	K-40	6,029.6 +/-	449.7	
14-Sep-22	HORSERADISH LEAVES	MN-54	<	13.5	
14-Sep-22	HORSERADISH LEAVES	CO-58	<	13.8	
14-Sep-22	HORSERADISH LEAVES	FE-59	<	33.5	
14-Sep-22	HORSERADISH LEAVES	CO-60	<	12.4	
14-Sep-22	HORSERADISH LEAVES	ZN-65	<	23.6	
14-Sep-22	HORSERADISH LEAVES	ZR-NB-95	<	11.7	
14-Sep-22	HORSERADISH LEAVES	I-131	<	18.2	
14-Sep-22	HORSERADISH LEAVES	CS-134	<	17.2	
14-Sep-22	HORSERADISH LEAVES	CS-137	<	16.5	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
12-May-22	HORSERADISH LEAVES	BE-7	818.9 +/-	328.6	
12-May-22	HORSERADISH LEAVES	K-40	4,690.5 +/-	566.6	
12-May-22	HORSERADISH LEAVES	MN-54	<	24.3	
12-May-22	HORSERADISH LEAVES	CO-58	<	26.2	
12-May-22	HORSERADISH LEAVES	FE-59	<	61.6	
12-May-22	HORSERADISH LEAVES	CO-60	<	17.6	
12-May-22	HORSERADISH LEAVES	ZN-65	<	46.3	
12-May-22	HORSERADISH LEAVES	ZR-NB-95	<	20.2	
12-May-22	HORSERADISH LEAVES	I-131	<	47.8	
12-May-22	HORSERADISH LEAVES	CS-134	<	26.6	
12-May-22	HORSERADISH LEAVES	CS-137	<	23.5	
09-Jun-22	HORSERADISH LEAVES	BE-7	1,382.5 +/-	216.0	
09-Jun-22	HORSERADISH LEAVES	K-40	4,940.2 +/-	458.5	
09-Jun-22	HORSERADISH LEAVES	MN-54	<	10.6	
09-Jun-22	HORSERADISH LEAVES	CO-58	<	15.2	
09-Jun-22	HORSERADISH LEAVES	FE-59	<	30.7	
09-Jun-22	HORSERADISH LEAVES	CO-60	<	7.4	
09-Jun-22	HORSERADISH LEAVES	ZN-65	<	20.8	
09-Jun-22	HORSERADISH LEAVES	ZR-NB-95	<	11.6	
09-Jun-22	HORSERADISH LEAVES	I-131	<	34.4	
09-Jun-22	HORSERADISH LEAVES	CS-134	<	14.6	
09-Jun-22	HORSERADISH LEAVES	CS-137	<	12.7	
20-Jul-22	HORSERADISH LEAVES	BE-7	1,015.1 +/-	248.9	
20-Jul-22	HORSERADISH LEAVES	K-40	5,772.1 +/-	519.6	
20-Jul-22	HORSERADISH LEAVES	MN-54	<	13.9	
20-Jul-22	HORSERADISH LEAVES	CO-58	<	7.8	
20-Jul-22	HORSERADISH LEAVES	FE-59	<	24.6	
20-Jul-22	HORSERADISH LEAVES	CO-60	<	12.7	
20-Jul-22	HORSERADISH LEAVES	ZN-65	<	32.6	
20-Jul-22	HORSERADISH LEAVES	ZR-NB-95	<	16.5	
20-Jul-22	HORSERADISH LEAVES	I-131	<	33.6	
20-Jul-22	HORSERADISH LEAVES	CS-134	<	19.8	
20-Jul-22	HORSERADISH LEAVES	CS-137	<	17.0	
14-Sep-22	HORSERADISH LEAVES	BE-7	348.9 +/-	122.9	
14-Sep-22	HORSERADISH LEAVES	K-40	4,722.9 +/-	399.0	
14-Sep-22	HORSERADISH LEAVES	MN-54	<	16.6	
14-Sep-22	HORSERADISH LEAVES	CO-58	<	13.2	
14-Sep-22	HORSERADISH LEAVES	FE-59	<	21.3	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-Sep-22	HORSERADISH LEAVES	CO-60	<	11.3	
14-Sep-22	HORSERADISH LEAVES	ZN-65	<	30.9	
14-Sep-22	HORSERADISH LEAVES	ZR-NB-95	<	14.0	
14-Sep-22	HORSERADISH LEAVES	I-131	<	14.7	
14-Sep-22	HORSERADISH LEAVES	CS-134	<	14.3	
14-Sep-22	HORSERADISH LEAVES	CS-137	<	10.8	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
12-May-22	HORSERADISH LEAVES	BE-7	685.0 +/-	201.4	
12-May-22	HORSERADISH LEAVES	K-40	4,444.4 +/-	509.2	
12-May-22	HORSERADISH LEAVES	MN-54	<	16.9	
12-May-22	HORSERADISH LEAVES	CO-58	<	19.2	
12-May-22	HORSERADISH LEAVES	FE-59	<	35.7	
12-May-22	HORSERADISH LEAVES	CO-60	<	21.2	
12-May-22	HORSERADISH LEAVES	ZN-65	<	31.9	
12-May-22	HORSERADISH LEAVES	ZR-NB-95	<	23.2	
12-May-22	HORSERADISH LEAVES	I-131	<	59.5	
12-May-22	HORSERADISH LEAVES	CS-134	<	18.7	
12-May-22	HORSERADISH LEAVES	CS-137	<	12.0	
09-Jun-22	HORSERADISH LEAVES	BE-7	781.0 +/-	183.7	Duplicate
09-Jun-22	HORSERADISH LEAVES	BE-7	951.3 +/-	208.0	
09-Jun-22	HORSERADISH LEAVES	K-40	3,931.1 +/-	408.8	
09-Jun-22	HORSERADISH LEAVES	K-40	3,522.5 +/-	388.9	Duplicate
09-Jun-22	HORSERADISH LEAVES	MN-54	<	13.4	
09-Jun-22	HORSERADISH LEAVES	MN-54	<	10.7	Duplicate
09-Jun-22	HORSERADISH LEAVES	CO-58	<	13.9	Duplicate
09-Jun-22	HORSERADISH LEAVES	CO-58	<	8.2	
09-Jun-22	HORSERADISH LEAVES	FE-59	<	29.4	
09-Jun-22	HORSERADISH LEAVES	FE-59	<	24.6	Duplicate
09-Jun-22	HORSERADISH LEAVES	CO-60	<	10.1	
09-Jun-22	HORSERADISH LEAVES	CO-60	<	9.4	Duplicate
09-Jun-22	HORSERADISH LEAVES	ZN-65	<	21.3	Duplicate
09-Jun-22	HORSERADISH LEAVES	ZN-65	<	16.4	
09-Jun-22	HORSERADISH LEAVES	ZR-NB-95	<	20.4	
09-Jun-22	HORSERADISH LEAVES	ZR-NB-95	<	12.9	Duplicate
09-Jun-22	HORSERADISH LEAVES	I-131	<	36.4	Duplicate
09-Jun-22	HORSERADISH LEAVES	I-131	<	58.3	
09-Jun-22	HORSERADISH LEAVES	CS-134	<	13.4	Duplicate
09-Jun-22	HORSERADISH LEAVES	CS-134	<	17.2	
09-Jun-22	HORSERADISH LEAVES	CS-137	<	13.2	
09-Jun-22	HORSERADISH LEAVES	CS-137	<	12.5	Duplicate
20-Jul-22	HORSERADISH LEAVES	BE-7	515.2 +/-	137.1	
20-Jul-22	HORSERADISH LEAVES	K-40	4,567.8 +/-	351.9	
20-Jul-22	HORSERADISH LEAVES	MN-54	<	12.3	
20-Jul-22	HORSERADISH LEAVES	CO-58	<	10.0	
20-Jul-22	HORSERADISH LEAVES	FE-59	<	17.1	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
20-Jul-22	HORSERADISH LEAVES	CO-60	<	6.5	
20-Jul-22	HORSERADISH LEAVES	ZN-65	<	26.8	
20-Jul-22	HORSERADISH LEAVES	ZR-NB-95	<	8.2	
20-Jul-22	HORSERADISH LEAVES	I-131	<	20.9	
20-Jul-22	HORSERADISH LEAVES	CS-134	<	11.1	
20-Jul-22	HORSERADISH LEAVES	CS-137	<	8.1	
04-Aug-22	HORSERADISH LEAVES	BE-7	681.9 +/-	167.5	
04-Aug-22	HORSERADISH LEAVES	K-40	5,261.2 +/-	366.6	
04-Aug-22	HORSERADISH LEAVES	MN-54	<	12.0	
04-Aug-22	HORSERADISH LEAVES	CO-58	<	11.7	
04-Aug-22	HORSERADISH LEAVES	FE-59	<	31.3	
04-Aug-22	HORSERADISH LEAVES	CO-60	<	10.5	
04-Aug-22	HORSERADISH LEAVES	ZN-65	<	26.7	
04-Aug-22	HORSERADISH LEAVES	ZR-NB-95	<	18.0	
04-Aug-22	HORSERADISH LEAVES	I-131	<	37.2	
04-Aug-22	HORSERADISH LEAVES	CS-134	<	12.4	
04-Aug-22	HORSERADISH LEAVES	CS-137	<	11.7	
14-Sep-22	HORSERADISH LEAVES	BE-7	461.6 +/-	266.6	
14-Sep-22	HORSERADISH LEAVES	K-40	5,346.3 +/-	680.7	
14-Sep-22	HORSERADISH LEAVES	MN-54	<	28.5	
14-Sep-22	HORSERADISH LEAVES	CO-58	<	13.4	
14-Sep-22	HORSERADISH LEAVES	FE-59	<	30.1	
14-Sep-22	HORSERADISH LEAVES	CO-60	<	14.1	
14-Sep-22	HORSERADISH LEAVES	ZN-65	<	31.7	
14-Sep-22	HORSERADISH LEAVES	ZR-NB-95	<	24.1	
14-Sep-22	HORSERADISH LEAVES	I-131	<	24.6	
14-Sep-22	HORSERADISH LEAVES	CS-134	<	23.0	
14-Sep-22	HORSERADISH LEAVES	CS-137	<	18.3	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
01-Nov-22	IRRIGATED SOYBEANS	BE-7	<	58.0	
01-Nov-22	IRRIGATED SOYBEANS	K-40	15,733.0 +/-	400.7	
01-Nov-22	IRRIGATED SOYBEANS	MN-54	<	6.5	
01-Nov-22	IRRIGATED SOYBEANS	CO-58	<	5.5	
01-Nov-22	IRRIGATED SOYBEANS	FE-59	<	20.9	
01-Nov-22	IRRIGATED SOYBEANS	CO-60	<	8.1	
01-Nov-22	IRRIGATED SOYBEANS	ZN-65	<	20.9	
01-Nov-22	IRRIGATED SOYBEANS	ZR-NB-95	<	6.6	
01-Nov-22	IRRIGATED SOYBEANS	I-131	<	8.9	
01-Nov-22	IRRIGATED SOYBEANS	CS-134	<	7.5	
01-Nov-22	IRRIGATED SOYBEANS	CS-137	<	9.4	

Exposure Pathway - Ingestion
Food/Crops
Location: NR-D2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
21-Nov-22	IRRIGATED CORN	BE-7	<	117.9	
21-Nov-22	IRRIGATED CORN	K-40	2,965.3 +/-	389.0	
21-Nov-22	IRRIGATED CORN	MN-54	<	20.0	
21-Nov-22	IRRIGATED CORN	CO-58	<	13.0	
21-Nov-22	IRRIGATED CORN	FE-59	<	50.5	
21-Nov-22	IRRIGATED CORN	CO-60	<	12.6	
21-Nov-22	IRRIGATED CORN	ZN-65	<	22.6	
21-Nov-22	IRRIGATED CORN	ZR-NB-95	<	28.7	
21-Nov-22	IRRIGATED CORN	I-131	<	32.8	
21-Nov-22	IRRIGATED CORN	CS-134	<	18.3	
21-Nov-22	IRRIGATED CORN	CS-137	<	9.1	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
03-Oct-22	IRRIGATED CORN	BE-7	<	69.7	
03-Oct-22	IRRIGATED CORN	K-40	2,849.2 +/-	193.2	
03-Oct-22	IRRIGATED CORN	MN-54	<	5.1	
03-Oct-22	IRRIGATED CORN	CO-58	<	3.3	
03-Oct-22	IRRIGATED CORN	FE-59	<	15.8	
03-Oct-22	IRRIGATED CORN	CO-60	<	5.9	
03-Oct-22	IRRIGATED CORN	ZN-65	<	12.1	
03-Oct-22	IRRIGATED CORN	ZR-NB-95	<	6.2	
03-Oct-22	IRRIGATED CORN	I-131	<	8.0	
03-Oct-22	IRRIGATED CORN	CS-134	<	5.8	
03-Oct-22	IRRIGATED CORN	CS-137	<	5.8	
28-Oct-22	IRRIGATED SOYBEANS	BE-7	<	71.8	
28-Oct-22	IRRIGATED SOYBEANS	K-40	17,534.0 +/-	512.0	
28-Oct-22	IRRIGATED SOYBEANS	MN-54	<	9.8	
28-Oct-22	IRRIGATED SOYBEANS	CO-58	<	11.2	
28-Oct-22	IRRIGATED SOYBEANS	FE-59	<	29.1	
28-Oct-22	IRRIGATED SOYBEANS	CO-60	<	12.2	
28-Oct-22	IRRIGATED SOYBEANS	ZN-65	<	32.8	
28-Oct-22	IRRIGATED SOYBEANS	ZR-NB-95	<	9.2	
28-Oct-22	IRRIGATED SOYBEANS	I-131	<	16.8	
28-Oct-22	IRRIGATED SOYBEANS	CS-134	<	9.7	
28-Oct-22	IRRIGATED SOYBEANS	CS-137	<	12.0	

Exposure Pathway - Aquatic Vegetation
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
15-Jul-22	WATER PLANTAIN	BE-7	584.4 +/-	187.9	
15-Jul-22	WATER PLANTAIN	K-40	3,681.9 +/-	392.1	
15-Jul-22	WATER PLANTAIN	MN-54	<	10.6	
15-Jul-22	WATER PLANTAIN	CO-58	<	10.1	
15-Jul-22	WATER PLANTAIN	FE-59	<	28.9	
15-Jul-22	WATER PLANTAIN	CO-60	<	7.3	
15-Jul-22	WATER PLANTAIN	ZN-65	<	14.9	
15-Jul-22	WATER PLANTAIN	ZR-NB-95	<	13.1	
15-Jul-22	WATER PLANTAIN	I-131	<	44.8	
15-Jul-22	WATER PLANTAIN	CS-134	<	13.9	
15-Jul-22	WATER PLANTAIN	CS-137	<	14.9	

Exposure Pathway - Aquatic Vegetation
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
07-Nov-22	AMERICAN PONDWEED	BE-7	315.6 +/-	119.3	
07-Nov-22	AMERICAN PONDWEED	K-40	1,677.1 +/-	271.1	
07-Nov-22	AMERICAN PONDWEED	MN-54	<	12.5	
07-Nov-22	AMERICAN PONDWEED	CO-58	<	10.6	
07-Nov-22	AMERICAN PONDWEED	FE-59	<	25.2	
07-Nov-22	AMERICAN PONDWEED	CO-60	<	8.5	
07-Nov-22	AMERICAN PONDWEED	ZN-65	<	26.4	
07-Nov-22	AMERICAN PONDWEED	ZR-NB-95	<	15.9	
07-Nov-22	AMERICAN PONDWEED	I-131	<	15.8	
07-Nov-22	AMERICAN PONDWEED	CS-134	<	11.3	
07-Nov-22	AMERICAN PONDWEED	CS-137	<	11.1	

Exposure Pathway - Aquatic Vegetation
Location: SC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
20-Jun-22	CATTAIL	BE-7	286.2 +/-	109.8	
20-Jun-22	CATTAIL	BE-7	260.8 +/-	131.5	Duplicate
20-Jun-22	CATTAIL	K-40	1,950.3 +/-	257.7	
20-Jun-22	CATTAIL	K-40	1,761.7 +/-	254.9	Duplicate
20-Jun-22	CATTAIL	MN-54	<	12.5	Duplicate
20-Jun-22	CATTAIL	MN-54	<	11.8	
20-Jun-22	CATTAIL	CO-58	<	12.2	
20-Jun-22	CATTAIL	CO-58	<	13.7	Duplicate
20-Jun-22	CATTAIL	FE-59	<	19.7	Duplicate
20-Jun-22	CATTAIL	FE-59	<	25.2	
20-Jun-22	CATTAIL	CO-60	<	13.5	
20-Jun-22	CATTAIL	CO-60	<	11.8	Duplicate
20-Jun-22	CATTAIL	ZN-65	<	12.7	
20-Jun-22	CATTAIL	ZN-65	<	19.1	Duplicate
20-Jun-22	CATTAIL	ZR-NB-95	<	10.1	
20-Jun-22	CATTAIL	ZR-NB-95	<	14.6	Duplicate
20-Jun-22	CATTAIL	I-131	<	22.2	
20-Jun-22	CATTAIL	I-131	<	21.6	Duplicate
20-Jun-22	CATTAIL	CS-134	<	12.0	
20-Jun-22	CATTAIL	CS-134	<	13.6	Duplicate
20-Jun-22	CATTAIL	CS-137	<	11.7	
20-Jun-22	CATTAIL	CS-137	<	11.4	Duplicate
27-Jul-22	CATTATIL	BE-7	971.6 +/-	109.0	
27-Jul-22	CATTATIL	K-40	2,896.9 +/-	164.9	
27-Jul-22	CATTATIL	MN-54	<	7.4	
27-Jul-22	CATTATIL	CO-58	<	6.0	
27-Jul-22	CATTATIL	FE-59	<	18.4	
27-Jul-22	CATTATIL	CO-60	<	6.5	
27-Jul-22	CATTATIL	ZN-65	<	13.9	
27-Jul-22	CATTATIL	ZR-NB-95	<	10.8	
27-Jul-22	CATTATIL	I-131	<	45.0	
27-Jul-22	CATTATIL	CS-134	<	8.0	
27-Jul-22	CATTATIL	CS-137	<	7.2	

Exposure Pathway - Aquatic
Bottom Sediment
Location: DC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
18-May-22	BOTTOM SEDIMENT	K-40	11,265.0 +/-	799.4	
18-May-22	BOTTOM SEDIMENT	MN-54	<	51.3	
18-May-22	BOTTOM SEDIMENT	CO-58	<	66.0	
18-May-22	BOTTOM SEDIMENT	FE-59	<	113.7	
18-May-22	BOTTOM SEDIMENT	CO-60	<	39.3	
18-May-22	BOTTOM SEDIMENT	ZN-65	<	111.6	
18-May-22	BOTTOM SEDIMENT	CS-134	<	35.6	
18-May-22	BOTTOM SEDIMENT	CS-137	<	47.3	
18-May-22	BOTTOM SEDIMENT	FE-55	<	11,743.0	
13-Sep-22	BOTTOM SEDIMENT	K-40	11,600.0 +/-	900.2	
13-Sep-22	BOTTOM SEDIMENT	MN-54	<	46.3	
13-Sep-22	BOTTOM SEDIMENT	CO-58	<	47.4	
13-Sep-22	BOTTOM SEDIMENT	FE-59	<	87.7	
13-Sep-22	BOTTOM SEDIMENT	CO-60	<	26.2	
13-Sep-22	BOTTOM SEDIMENT	ZN-65	<	88.0	
13-Sep-22	BOTTOM SEDIMENT	CS-134	<	33.2	
13-Sep-22	BOTTOM SEDIMENT	CS-137	<	45.4	
13-Sep-22	BOTTOM SEDIMENT	FE-55	<	27,680.0	

Exposure Pathway - Aquatic
Bottom Sediment
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
10-May-22	BOTTOM SEDIMENT	K-40	11,146.0 +/-	640.8	
10-May-22	BOTTOM SEDIMENT	MN-54	<	30.4	
10-May-22	BOTTOM SEDIMENT	CO-58	<	62.6	
10-May-22	BOTTOM SEDIMENT	FE-59	<	223.1	
10-May-22	BOTTOM SEDIMENT	CO-60	<	14.0	
10-May-22	BOTTOM SEDIMENT	ZN-65	<	60.7	
10-May-22	BOTTOM SEDIMENT	CS-134	<	25.1	
10-May-22	BOTTOM SEDIMENT	CS-137	41.3 +/-	20.0	

Exposure Pathway - Aquatic
Bottom Sediment
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
18-May-22	BOTTOM SEDIMENT	K-40	17,567.0 +/-	907.4	
18-May-22	BOTTOM SEDIMENT	MN-54	<	51.0	
18-May-22	BOTTOM SEDIMENT	CO-58	<	82.4	
18-May-22	BOTTOM SEDIMENT	FE-59	<	261.9	
18-May-22	BOTTOM SEDIMENT	CO-60	<	20.0	
18-May-22	BOTTOM SEDIMENT	ZN-65	<	105.6	
18-May-22	BOTTOM SEDIMENT	CS-134	<	33.4	
18-May-22	BOTTOM SEDIMENT	CS-137	76.6 +/-	27.7	
13-Sep-22	BOTTOM SEDIMENT	K-40	16,047.0 +/-	828.8	
13-Sep-22	BOTTOM SEDIMENT	MN-54	<	35.1	
13-Sep-22	BOTTOM SEDIMENT	CO-58	<	27.6	
13-Sep-22	BOTTOM SEDIMENT	FE-59	<	58.8	
13-Sep-22	BOTTOM SEDIMENT	CO-60	<	32.5	
13-Sep-22	BOTTOM SEDIMENT	ZN-65	<	82.9	
13-Sep-22	BOTTOM SEDIMENT	CS-134	<	26.7	
13-Sep-22	BOTTOM SEDIMENT	CS-137	89.3 +/-	36.5	

Exposure Pathway - Aquatic
Bottom Sediment
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
27-Jul-22	BOTTOM SEDIMENT	K-40	10,184.0 +/-	697.3	
27-Jul-22	BOTTOM SEDIMENT	MN-54	<	34.9	
27-Jul-22	BOTTOM SEDIMENT	CO-58	<	24.2	
27-Jul-22	BOTTOM SEDIMENT	FE-59	<	132.2	
27-Jul-22	BOTTOM SEDIMENT	CO-60	<	23.6	
27-Jul-22	BOTTOM SEDIMENT	ZN-65	<	80.1	
27-Jul-22	BOTTOM SEDIMENT	CS-134	<	27.9	
27-Jul-22	BOTTOM SEDIMENT	CS-137	<	27.2	

Exposure Pathway - Aquatic
Bottom Sediment
Location: SC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
03-Oct-22	BOTTOM SEDIMENT	K-40	13,075.0 +/-	696.4	
03-Oct-22	BOTTOM SEDIMENT	MN-54	<	35.7	
03-Oct-22	BOTTOM SEDIMENT	CO-58	<	51.2	
03-Oct-22	BOTTOM SEDIMENT	FE-59	<	219.0	
03-Oct-22	BOTTOM SEDIMENT	CO-60	<	29.4	
03-Oct-22	BOTTOM SEDIMENT	ZN-65	<	74.3	
03-Oct-22	BOTTOM SEDIMENT	CS-134	<	19.2	
03-Oct-22	BOTTOM SEDIMENT	CS-137	<	22.2	

Exposure Pathway - Terrestrial
Vegetation
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
16-Jun-22	GRASS	BE-7	3,620.2 +/-	431.1	
16-Jun-22	GRASS	K-40	10,763.0 +/-	821.7	
16-Jun-22	GRASS	MN-54	<	21.7	
16-Jun-22	GRASS	CO-58	<	24.8	
16-Jun-22	GRASS	FE-59	<	78.6	
16-Jun-22	GRASS	CO-60	<	12.3	
16-Jun-22	GRASS	ZN-65	<	30.4	
16-Jun-22	GRASS	ZR-NB-95	<	24.6	
16-Jun-22	GRASS	I-131	<	54.0	
16-Jun-22	GRASS	CS-134	<	25.4	
16-Jun-22	GRASS	CS-137	<	20.6	

Exposure Pathway - Terrestrial
Vegetation
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
16-Jun-22	GRASS	BE-7	9,866.6 +/-	534.1	
16-Jun-22	GRASS	K-40	5,048.7 +/-	551.7	
16-Jun-22	GRASS	MN-54	<	23.9	
16-Jun-22	GRASS	CO-58	<	26.9	
16-Jun-22	GRASS	FE-59	<	22.2	
16-Jun-22	GRASS	CO-60	<	22.9	
16-Jun-22	GRASS	ZN-65	<	38.7	
16-Jun-22	GRASS	ZR-NB-95	<	24.8	
16-Jun-22	GRASS	I-131	<	49.6	
16-Jun-22	GRASS	CS-134	<	24.3	
16-Jun-22	GRASS	CS-137	<	26.8	

Exposure Pathway - Terrestrial
Soil
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
31-Jan-22	SOIL	K-40	11,597.0 +/-	1,001.0	
31-Jan-22	SOIL	MN-54	<	50.2	
31-Jan-22	SOIL	CO-58	<	37.6	
31-Jan-22	SOIL	FE-59	<	88.7	
31-Jan-22	SOIL	CO-60	<	26.8	
31-Jan-22	SOIL	ZN-65	<	93.1	
31-Jan-22	SOIL	CS-134	<	30.4	
31-Jan-22	SOIL	CS-137	122.0 +/-	44.7	
03-Oct-22	SOIL	K-40	10,809.0 +/-	521.4	
03-Oct-22	SOIL	MN-54	<	26.5	
03-Oct-22	SOIL	CO-58	<	31.3	
03-Oct-22	SOIL	FE-59	<	131.7	
03-Oct-22	SOIL	CO-60	<	19.4	
03-Oct-22	SOIL	ZN-65	<	46.3	
03-Oct-22	SOIL	CS-134	<	16.1	
03-Oct-22	SOIL	CS-137	211.5 +/-	26.7	

Exposure Pathway - Terrestrial
Soil
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
15-Nov-22	SOIL	K-40	11,354.0 +/-	619.4	
15-Nov-22	SOIL	MN-54	<	26.0	
15-Nov-22	SOIL	CO-58	<	32.9	
15-Nov-22	SOIL	FE-59	<	50.3	
15-Nov-22	SOIL	CO-60	<	12.7	
15-Nov-22	SOIL	ZN-65	<	56.5	
15-Nov-22	SOIL	CS-134	<	16.5	
15-Nov-22	SOIL	CS-137	183.8 +/-	31.6	

Exposure Pathway - Ingestion
Meat
Location: G1.7

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
06-Nov-22	DEER	K-40	2,785.6 +/-	126.2	
06-Nov-22	DEER	MN-54	<	4.8	
06-Nov-22	DEER	CO-58	<	6.9	
06-Nov-22	DEER	FE-59	<	15.7	
06-Nov-22	DEER	CO-60	<	5.1	
06-Nov-22	DEER	ZN-65	<	11.9	
06-Nov-22	DEER	CS-134	<	4.4	
06-Nov-22	DEER	CS-137	<	5.4	
06-Nov-22	DEER	H-3	4,512.0 +/-	186.0	

Exposure Pathway - Ingestion
Meat
Location: R2.6

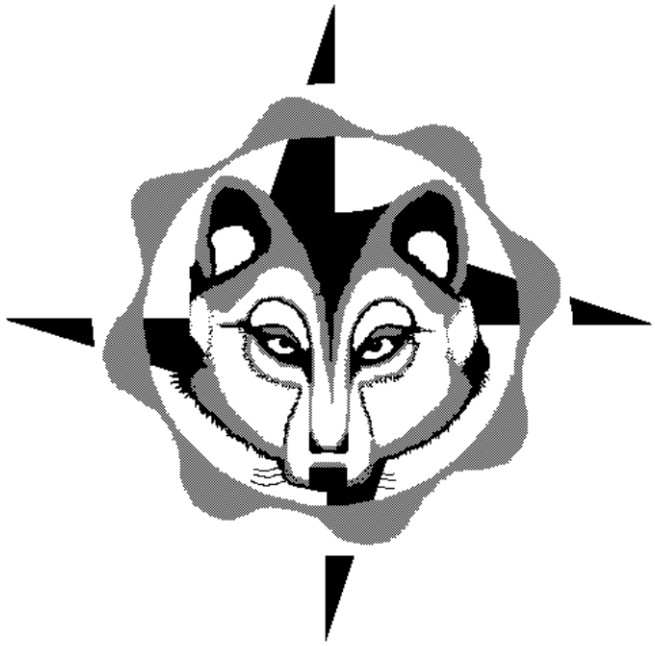
Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
26-May-22	WILD TURKEY	K-40	3,214.6 +/-	32.8	
26-May-22	WILD TURKEY	MN-54	<	9.5	
26-May-22	WILD TURKEY	CO-58	<	14.7	
26-May-22	WILD TURKEY	FE-59	<	18.3	
26-May-22	WILD TURKEY	CO-60	<	7.1	
26-May-22	WILD TURKEY	ZN-65	<	26.4	
26-May-22	WILD TURKEY	CS-134	<	12.3	
26-May-22	WILD TURKEY	CS-137	<	14.9	
26-May-22	WILD TURKEY	H-3	149.0 +/-	61.0	

APPENDIX D

LAND USE CENSUS REPORT

WOLF CREEK GENERATING STATION

2022 LAND USE CENSUS REPORT



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EXECUTIVE SUMMARY

The annual Land Use Census of rural residents within five miles of the Wolf Creek Generating Station (WCGS) has been completed in 2022 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

Four changes were identified for the nearest occupied residence in each sector. Eight changes were noted for the nearest garden producing broadleaf vegetation. Three out of the eight no longer have gardens in that sector. 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

2022 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	None
E	E1.78-QULA1451	None	None
F	F1.84-QULA1419	None	F2.48-RERD1380
G	G2.82-13Rd1790	None	None
H	H3.09-12RD1711	None	H3.80-11RD1674
J	J3.70-11RD1540	None	J4.00-PLRD1080
K	K2.79-12LA1435	None	None
L	L2.10-NARD1339	None	L2.39-NARD1309
M	M2.34-14RD1346	None	M3.69-LYLA1290
N	N2.08-15RD1350	None	None
P	P2.66-16RD1268	None	P4.95-LADR340
Q	Q2.35-MILA1619	None	Q2.35-MILA1619
R	R2.08-NALN1650	None	None

NOTE: Entries underlined indicate changes from the 2021 Land Use Census.

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

TABLE 2

SECTOR	2021 NEAREST RESIDENCE	2022 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	F1.84-QULA1419
G	G3.03-13RD1820	G2.82-13Rd1790
H	H3.09-12RD1711	H3.09-12RD1711
J	J3.70-11RD1540	J3.70-11RD1540
K	K2.70-12LA1437	K2.79-12LA1435
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	P2.66-16RD1268
Q	Q2.35-MILA1619	Q2.35-MILA1619
R	R2.08-NALN1650	R2.08-NALN1650

NOTE: Entries underlined indicate changes from the 2021 Land Use Census.

TABLE 3

2022 LAND USE CENSUS MILK AND GARDEN DATA

SECTOR	2021 MILKING ANIMALS	2022 MILKING ANIMALS	2021 NEAREST BROADLEAF GARDEN	2022 NEAREST BROADLEAF GARDEN
A	None	None	A2.60-17TE1527	A2.60-17TE1527
B	None	None	B3.35-QURD1755	B4.09-18RD1739
C	None	None	C3.58-RERD1675	C3.58-RERD1675
D	None	None	None	None
E	None	None	E4.40-TRRD1551	None
F	None	None	F2.48-RERD1380	F2.48-RERD1380
G	None	None	G4.08-SHRD1234	None
H	None	None	H4.95-10RD1726	H3.80-11RD1674
J	None	None	J4.37-PLRD1040	J4.00-PLRD1080
K	None	None	None	None
L	None	None	L2.39-NARD1309	L2.39-NARD1309
M	None	None	None	M3.69-LYLA1290
N	None	None	N2.38-RODR9	None
P	None	None	P4.69-DEST337	P4.95-LADR340
Q	None	None	Q2.35-MILA1619	Q2.35-MILA1619
R	None	None	None	None

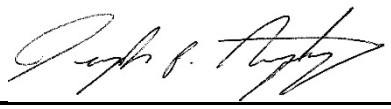
NOTE: Underlined entries indicate changes from the 2021 Land Use Census.

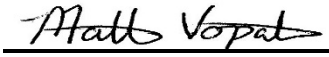
TABLE 4

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	6
C	**3.58**	5761	5000	**2.51E-10**	6000	**1.85E-10**	2.01E-10	10
*D								
*E								
F	**2.48**	3991	3000	**6.58E-10**	4000	**3.95E-10**	3.97E-10	7
G								
H	**3.80**	6116	6000	**4.71E-10**	7000	**3.50E-10**	4.57E-10	5
J	**4.00**	6437	5000	**4.59E-10**	6000	**3.37E-10**	2.84E-10	9
*K								
L	**2.39**	3846	3000	**1.02E-09**	4000	**6.11E-10**	6.74E-10	3
M	**3.69**	5938	5000	**4.07E-10**	6000	**2.99E-10**	3.06E-10	8
N								
P	**4.95**	7966	7000	**7.51E-10**	8000	**5.11E-10**	5.19E-10	4
Q	**2.35**	3782	3000	**1.53E-09**	4000	**9.17E-10**	1.05E-09	2
*R								

*Sector D, E, K, and R have no broadleaf gardens to report.

Originated by:  Date: 12/6/2022

Verified by:  Date: 1/1/2023