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Acting Director Regulatory Affairs

April 28, 2025
000951

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

Subject: Docket No. 50-482 and 72-79: 2024 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, 2024, through December 31, 2024.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-8831 x8261, or Dustin Hamman at (620) 364-4204.

Sincerely,

A handwritten signature in black ink, appearing to read "Josh K. T", with a stylized flourish at the end.

Joshua K. Turner

Enclosure: Wolf Creek Generating Station 2024 Annual Radiological Environmental
Operating Report

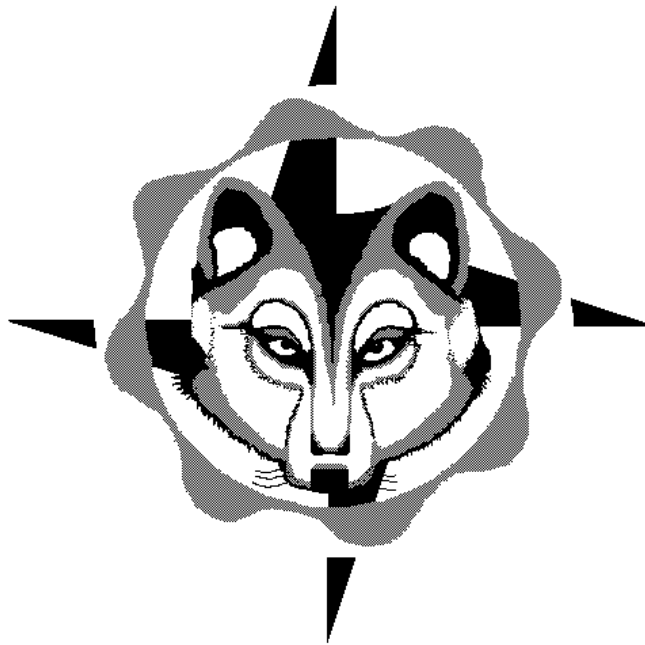
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Enclosure to 000951

**2024 Annual Radiological Environmental Operating
Report**

(156 pages including this page)

WOLF CREEK NUCLEAR OPERATING CORPORATION
WOLF CREEK GENERATING STATION
2024 ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING REPORT



2024

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EXECUTIVE SUMMARY

Plant-related activation, corrosion, or fission products were not detected during 2024 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 2024 in surface water, fish, turkey, 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 2024 Annual Radiological Environmental Operating Report for Wolf Creek Generating Station (WCGS) covers the period from January 1 through December 31, 2024. 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 Microbac, 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 (SC). 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). Starting in 2025 Hard to Detects will start being analyzed. 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 MUDS, EEA and 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 Makeup Discharge Structure (MUDS). Gamma isotopic analysis was performed on the soil sample. This samples was 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 J3.5. 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 Q2.4. 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 2024 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/m³. The 2024 weekly gross beta analyses range for indicator locations was 0.010 to 0.058 pCi/m³. The 2024 weekly gross beta analyses range was within the 1983 and 1984 pre-operational range. Additionally, the annual mean for indicator locations for 2024 (0.026 pCi/m³) was lower than the annual mean for 1983 (0.032 pCi/m³).

The gross beta results for the indicator locations were also compared to the control location. The annual mean for indicator locations for 2024 (0.026 pCi/m³) was just above our control location (0.025 pCi/m³). The indicators' location with the highest gross beta annual mean was 32, 37, and 49 the average between these locations is (0.026 pCi/m³). Again, just above the mean at the controlled location (0.025 pCi/m³).

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/m³ for indicator locations and the annual mean for indicator locations was 0.069 pCi/m³. In 2024, the range for Be-7 detected activity was 0.030 to 0.112 pCi/m³ for indicator locations and the annual mean for indicator locations was 0.072 pCi/m³. The control location annual mean for Be-7 detected activity (0.078 pCi/m³) was higher than the annual mean of the indicator locations (0.072 pCi/m³). The indicator location with the highest annual mean of detected Be-7 activity was location 37 (0.075 pCi/m³).

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 2024 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 2024 was 18.6 mR per standardized 90-day quarter. The annual mean of the control sample locations in 2024 was 18.5 mR per standardized 90-day quarter.

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

The indicator sample location with the highest annual mean was location 13 (21 mR per standardized 90-day quarter) which is slightly higher than the annual mean of the control sample locations (18.5 mR per standardized 90-day quarter). This is to be assumed to be attributed from the plant.

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 12,685 pCi/L and the range was 10,663 to 15,030 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. No Tritium activity was detected in the controlled sample, John Redmond Reservoir (JRR).

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

The AP 07B-004 required lower limits of detection were met. Radionuclides were not detected by the gamma isotopic analyses or by Fe-55 analyses.

Tritium was the only activity detected during 2024 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 2024 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 (2.548 pCi/L) was slightly higher when compared to the annual mean of the control sample location gross beta activity (2.255 pCi/L). The 2024 annual mean of gross beta activity for both the indicator and control sample locations were lower than those of the pre-operational monitoring year of 1984. In 1984, the annual mean of the indicator sample location gross beta activity was 7.5 pCi/L and the annual mean of the control sample location gross beta activity was 6.4 pCi/L.

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

No tritium was detected in the indicator sample location during 2024. 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 2024 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, SC, or JRR shoreline sediment samples during 2024. The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2024 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 2023 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 (7,384 pCi/kg). The detected tritium activity was attributable to plant operation. An adult consuming 21 kilograms of fish, at the maximum measured tritium concentration (9,886 pCi/kg), would receive a committed effective dose equivalent of 0.013 mRem.

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

No other radionuclides were detected in fish samples during 2024. 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 2024 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 2024 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 2024 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 29 to 353 pCi/kg.

The detected Cs-137 activity in the sample collected from the indicator sample locations were 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 DC indicator sample location and JRR control sample location bottom sediment samples. The detected Cs-137 activity measured from the DC 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 2024 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 2024 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 2024 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 in one sample location in 2024. The detectable value is (169 pCi/kg). 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 97 to 820 pCi/kg. The detected Cs-137 activity in soil sampled in 2024 is within the decay corrected pre-operational range.

Plant-related activation, corrosion, or fission products were not detected during 2024 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 (341.0 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 (341.0 pCi/kg), would receive a committed effective dose equivalent of 0.002 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 (1,324 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 (1,324 pCi/kg), would receive a committed effective dose equivalent of 0.006 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 2024.

IV. PROGRAM DEVIATIONS

Air Samples

No 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 merged to Microbac Laboratories Inc. in 2024. WCNOG continued our contract with them to perform radiological analysis of environmental samples. The laboratory participated in the intercomparison studies administered by Environmental Resource Associates, Inc. Appendix A is the Interlaboratory Comparison Program Results for Microbac Laboratories Inc. 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, ingestion dose that may be received as a result of liquid 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 0.169 mRem for 2024.

Using sample data obtained from the REMP, an adult drinking 2 liters per day of surface water from Coffey County Lake, using the average tritium activity (12,685 pCi/L), would receive a committed effective dose equivalent of 0.579 mRem per year. For an adult eating 21 kg of fish per year from Coffey County Lake, using the average tritium activity (7,384 pCi/kg), would receive a committed effective dose equivalent of 0.010 mRem per year. Based upon the REMP results, the dose from both pathways was calculated to be 0.589 mRem per year.

It should be noted that 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 2024

REMP Dosimeter Location #50 (CR#10031485)
REMP Air Pump Loss of Power (CR#10034552)
REMP OSL Dosimeter Lost (CR#10034752)
Drinking Water missed Samples (CR#10036357)

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	3.0	W	N
	C-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)	R1.4	1.4	NNW	R
Meat (Deer)	R1.8	1.8	NNW	R

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

Location	Qtr. 1 (mR)	Qtr. 2 (mR)	Qtr. 3 (mR)	Qtr. 4 (mR)	Total Annual Exposure (mR)
1	17.1	19.6	20.9	20.8	78.4
2	17.5	19.6	15.3	18.7	71.1
4	18.8	20.7	19.9	21.1	80.5
5	17.5	18.0	15.6	19.0	70.1
7	17.1	18.0	18.3	19.9	73.3
8	19.1	21.0	20.2	22.6	82.9
9	15.2	18.6	16.3	17.5	67.6
11	19.4	19.6	19.2	20.5	78.7
12	17.8	19.6	21.2	21.4	80.0
13	19.8	21.3	19.6	23.2	83.9
14	18.4	20.4	16.9	22.6	78.3
15	15.2	20.0	17.9	18.1	71.2
16	16.1	19.0	18.9	19.3	73.3
17	16.8	18.6	16.9	20.2	72.5
18	17.5	17.3	18.3	18.1	71.2
19	18.4	21.3	20.6	20.5	80.8
20	16.5	18.6	17.9	21.1	74.1
22	18.8	21.3	19.2	23.8	83.1
23	15.5	20.0	15.9	19.6	71.0
24	17.8	21.0	18.6	17.8	75.2
25	14.8	17.3	18.6	16.3	67.0
26	16.5	18.3	18.6	16.9	70.3
27	17.5	21.7	18.6	21.1	78.9
29	13.2	16.6	18.6	17.2	65.6
30	17.5	21.7	18.6	19.6	77.4
32	14.5	17.6	18.6	20.5	71.2
34	18.1	22.3	18.6	20.8	79.8
35	17.1	20.3	18.6	20.2	76.2
36	18.8	20.0	18.6	18.4	75.8
37	15.5	17.6	18.6	18.1	69.8
38	17.8	19.0	18.6	20.5	75.9
39	17.1	17.3	18.6	18.1	71.1
41	16.5	18.3	18.6	22.9	76.3
42	13.5	11.2	18.6	13.2	56.5
43	12.8	12.6	18.6	13.5	57.5
44	15.5	18.3	18.6	21.1	73.5
46	16.8	20.0	18.6	18.7	74.1
49	15.2	17.6	18.6	15.1	66.5
50	* N/A	20.0	18.6	19.3	57.9
51	18.4	18.3	18.6	19.3	74.6
52	19.8	20.0	18.6	22.9	81.3
53	19.1	19.3	18.6	19.9	76.9
54	19.1	21.7	18.6	18.4	77.8
55	20.4	23.3	18.6	18.7	81.0

*NA Reference CR#10031485 for explanation on missing data

FIGURE 1

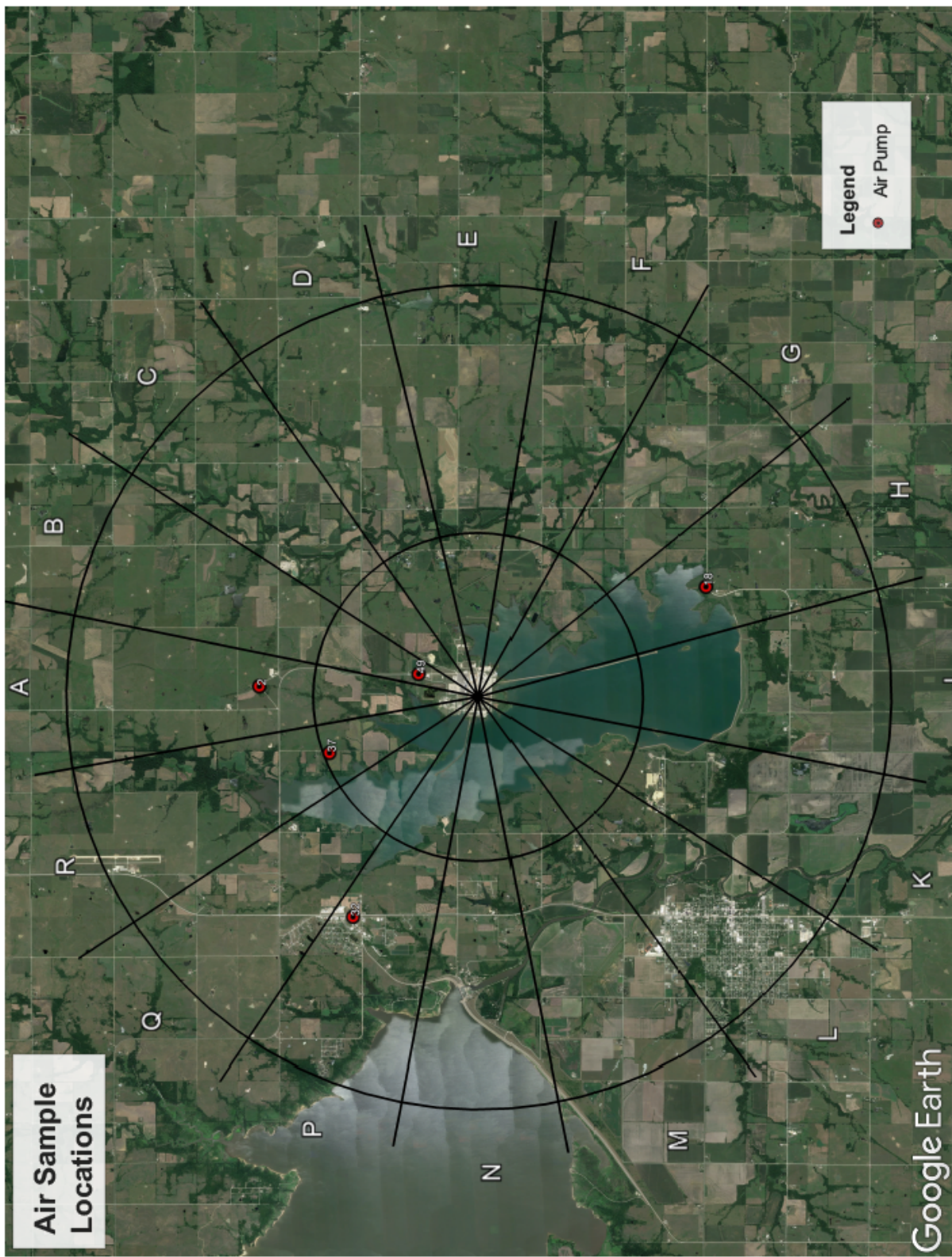


FIGURE 2

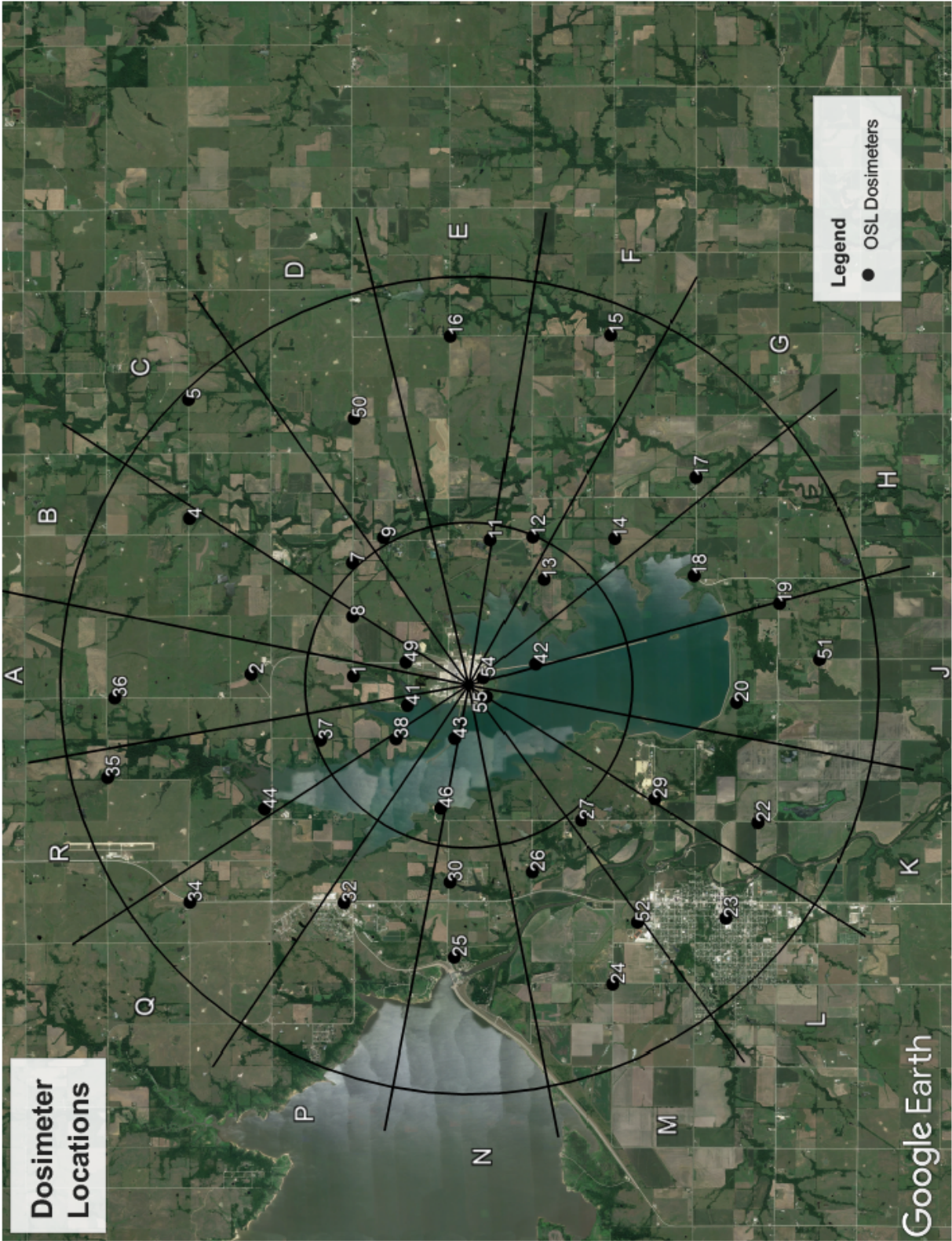


FIGURE 3

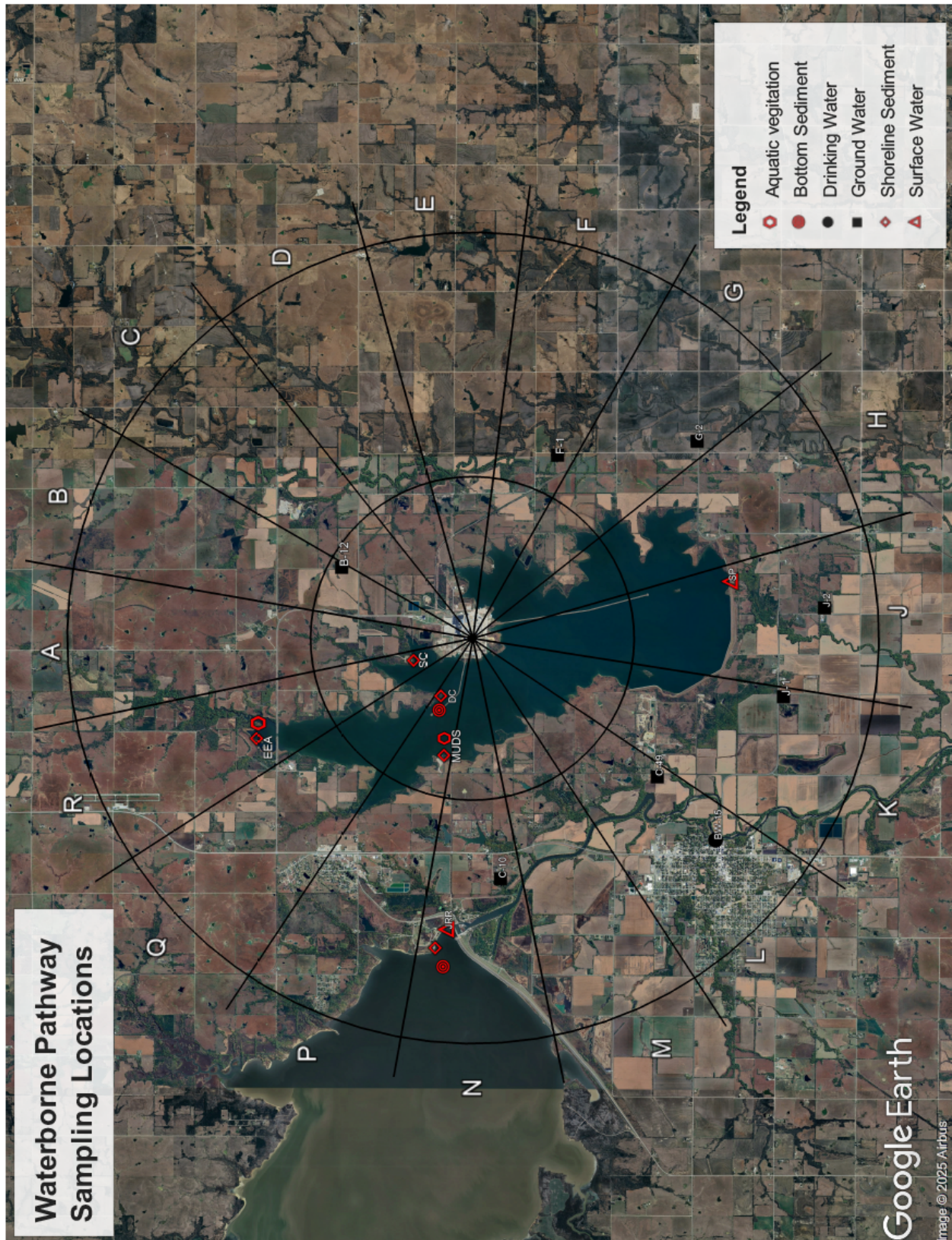


FIGURE 4

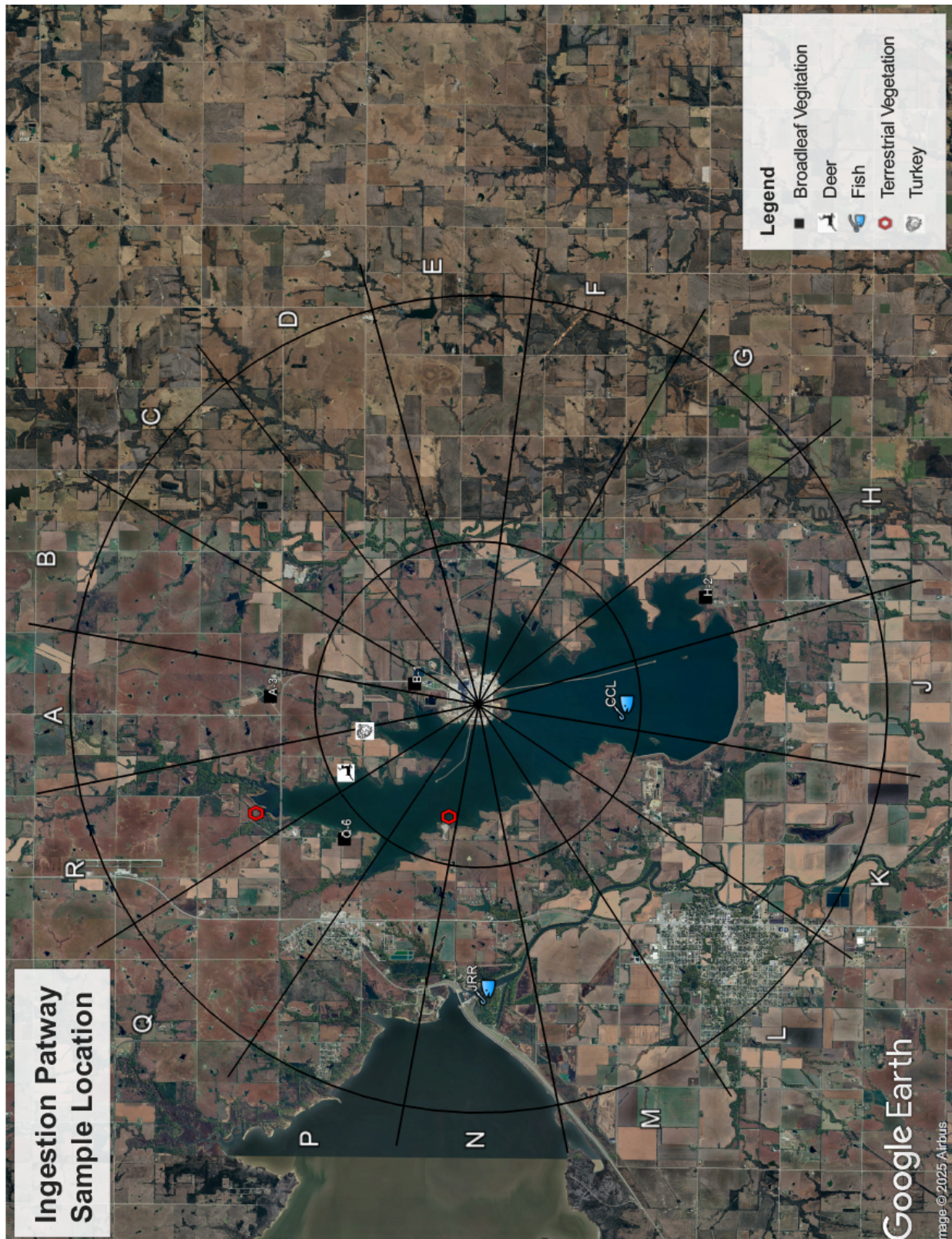


FIGURE 5

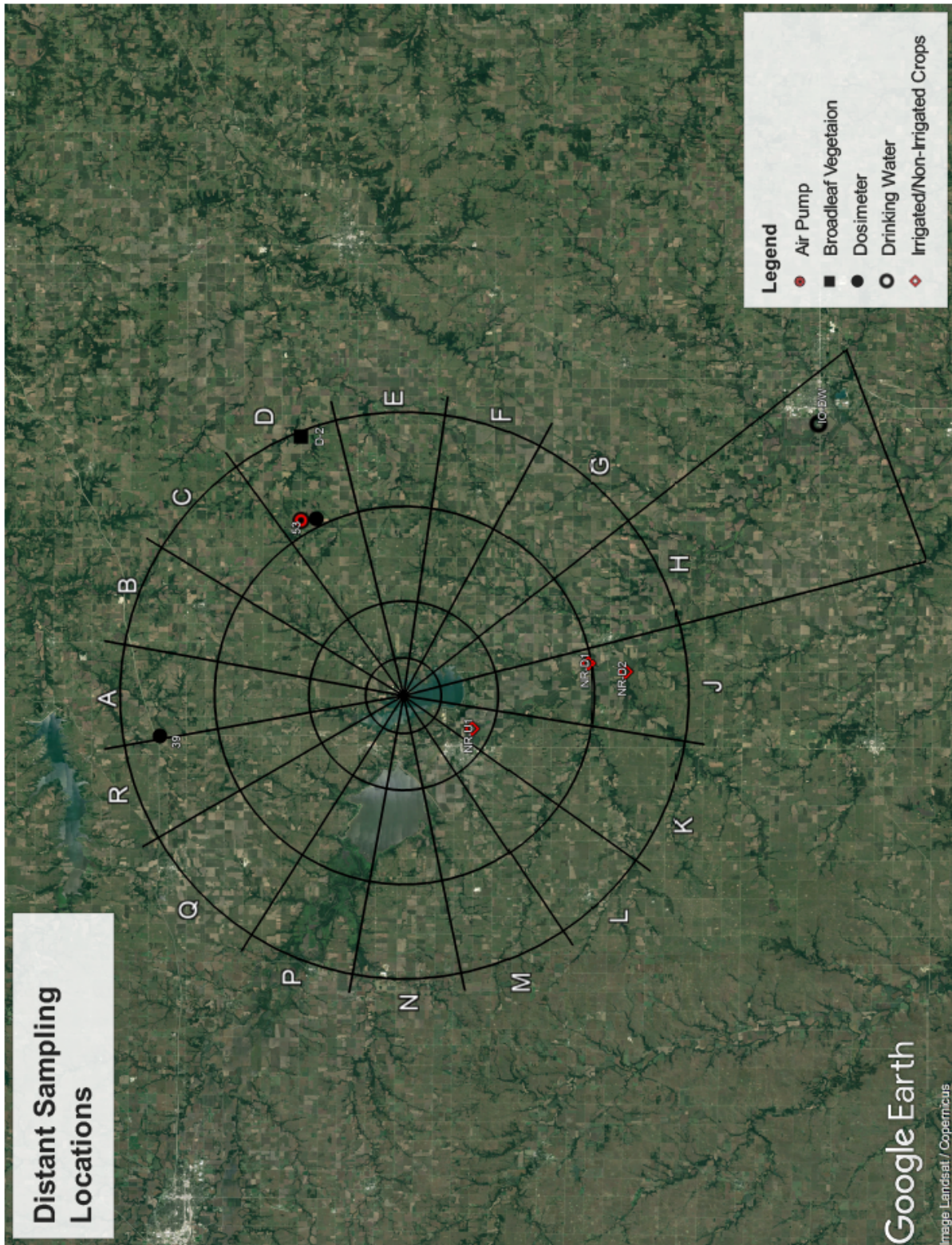


CHART 1

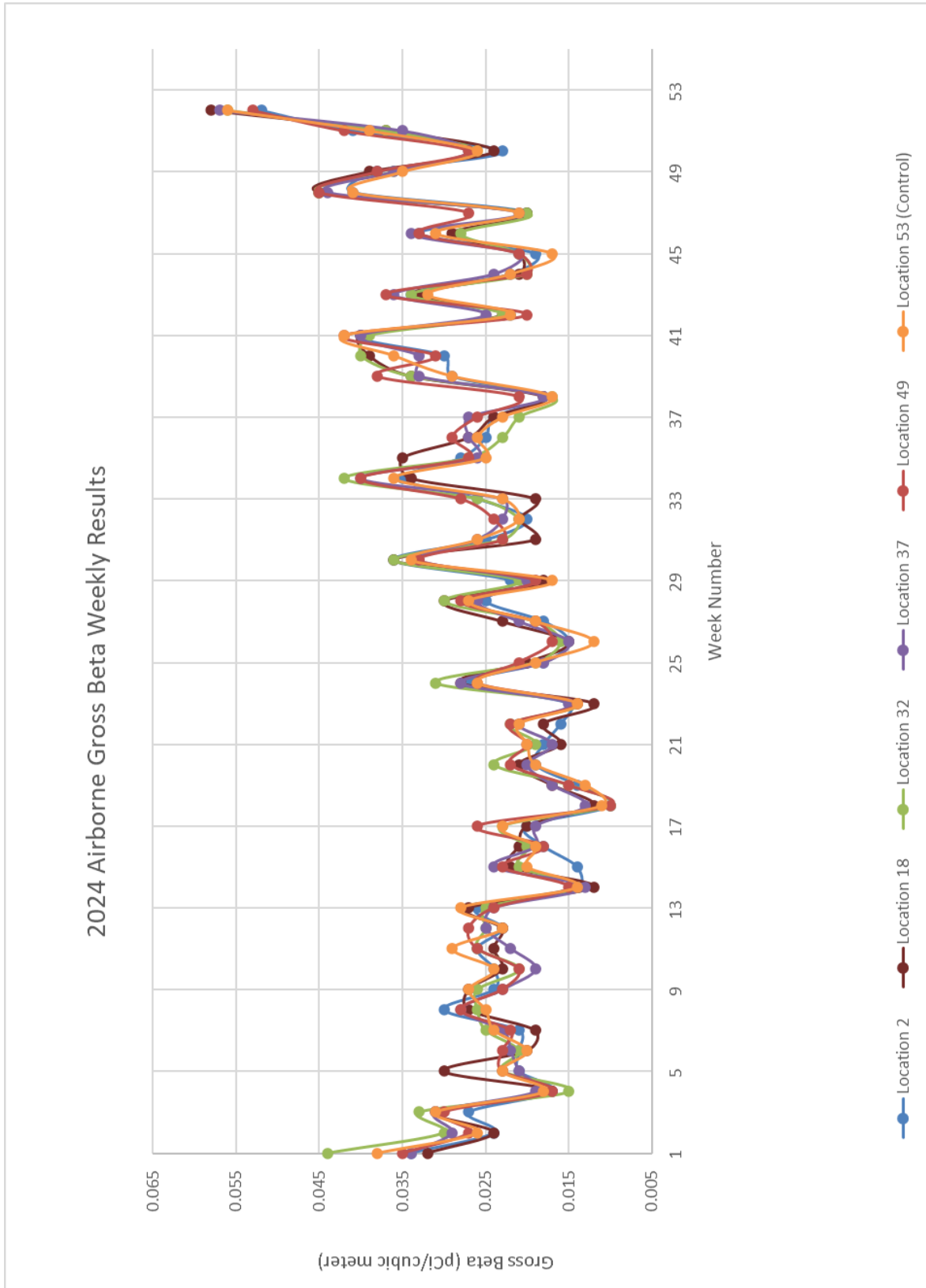


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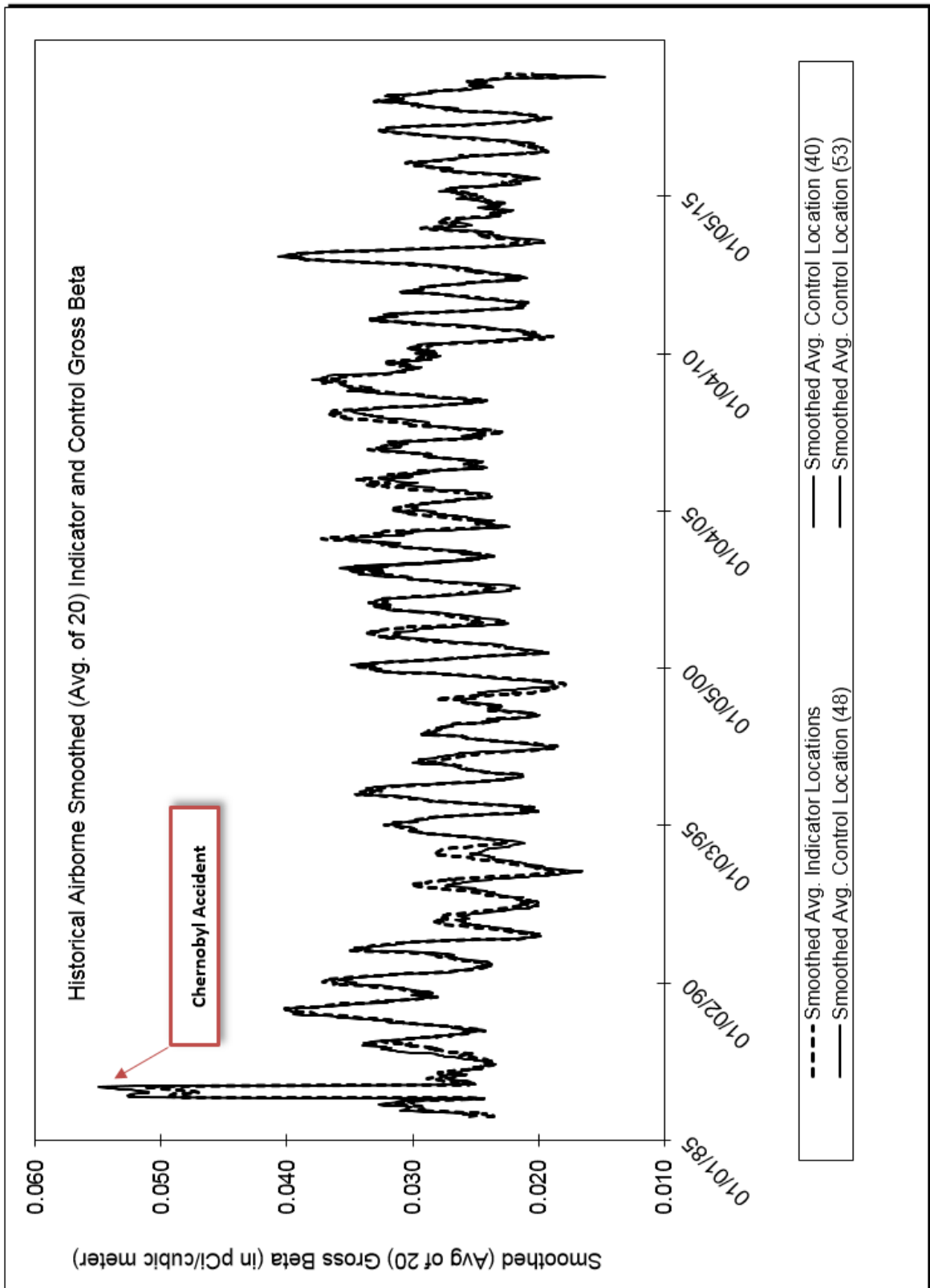


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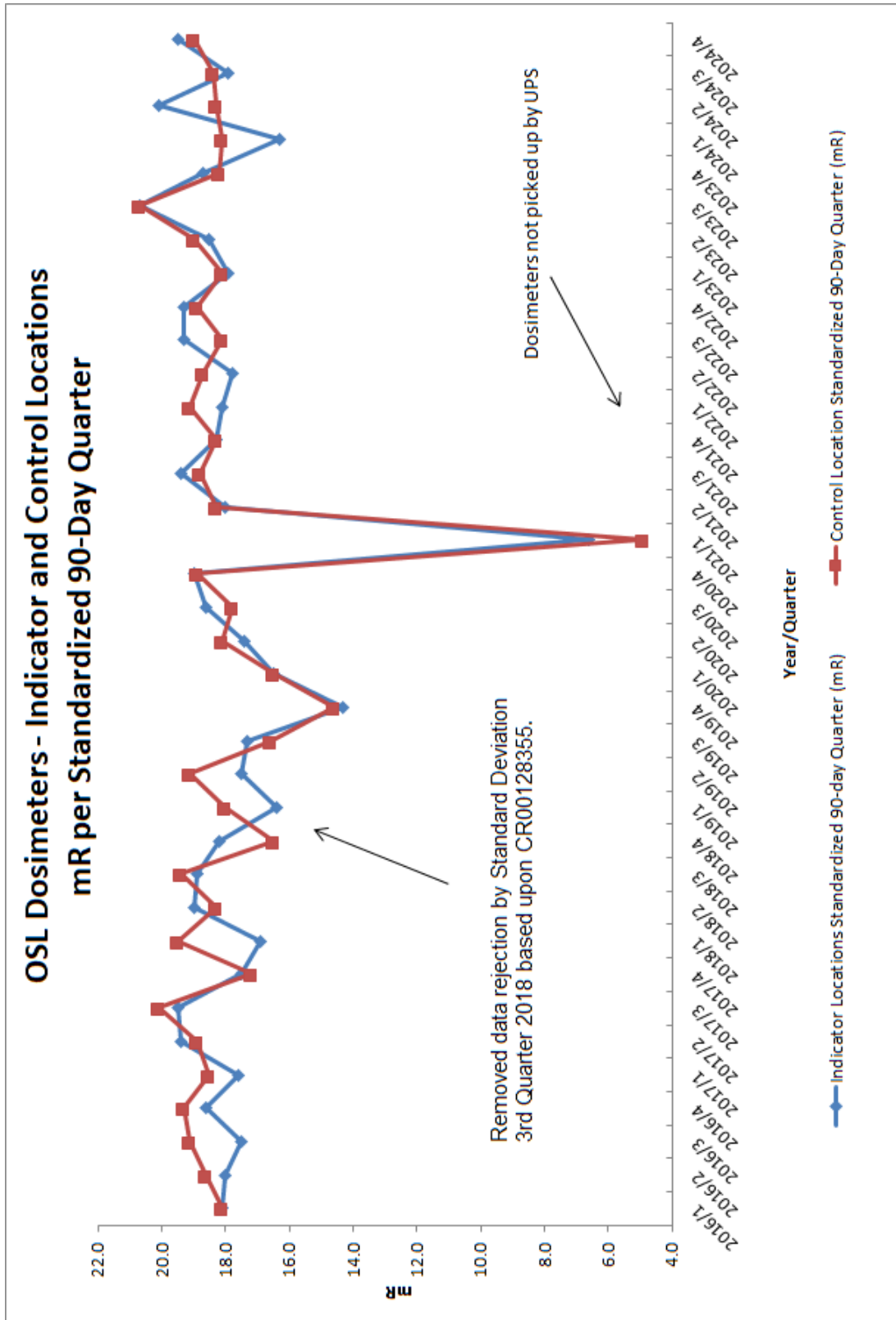


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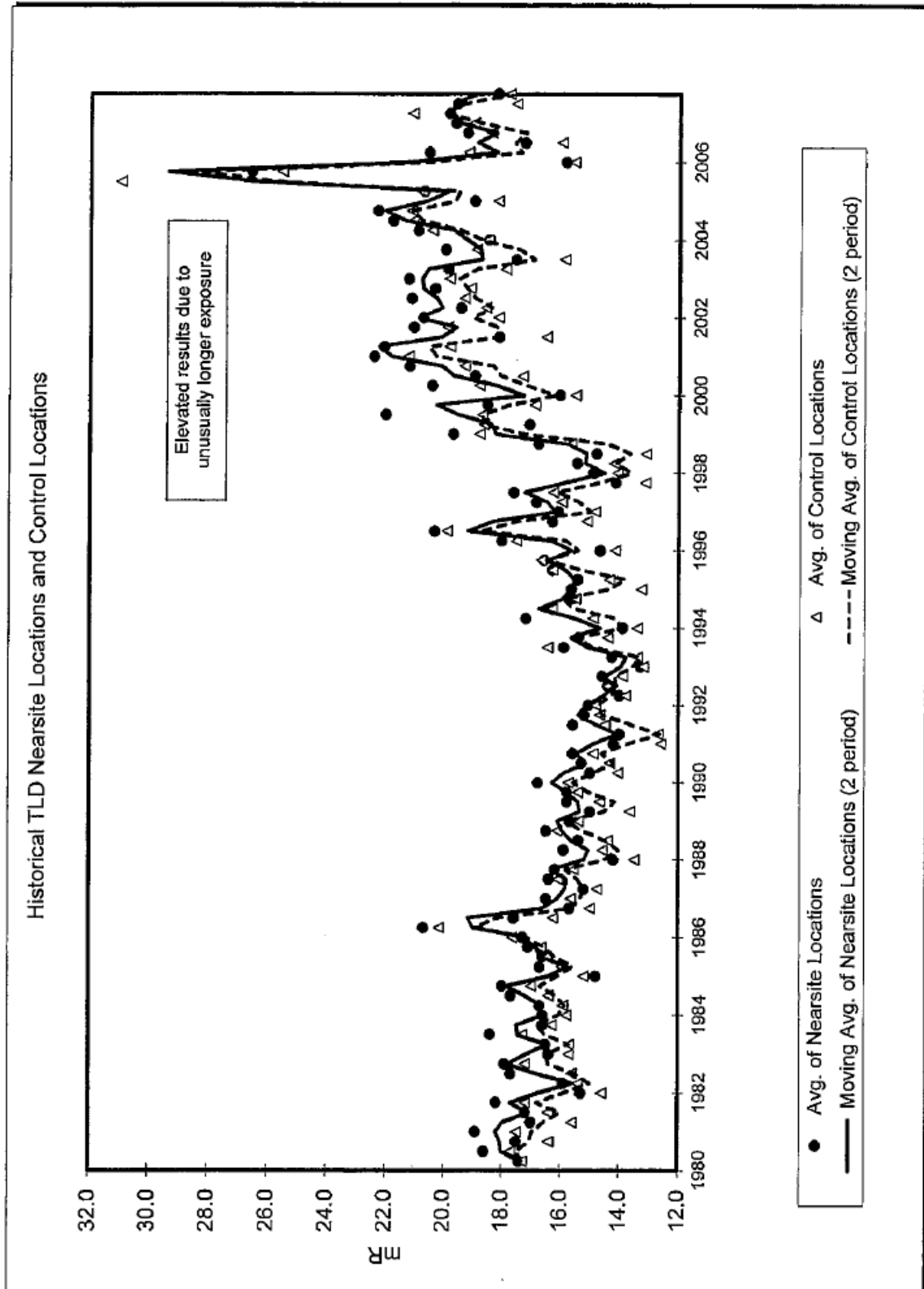


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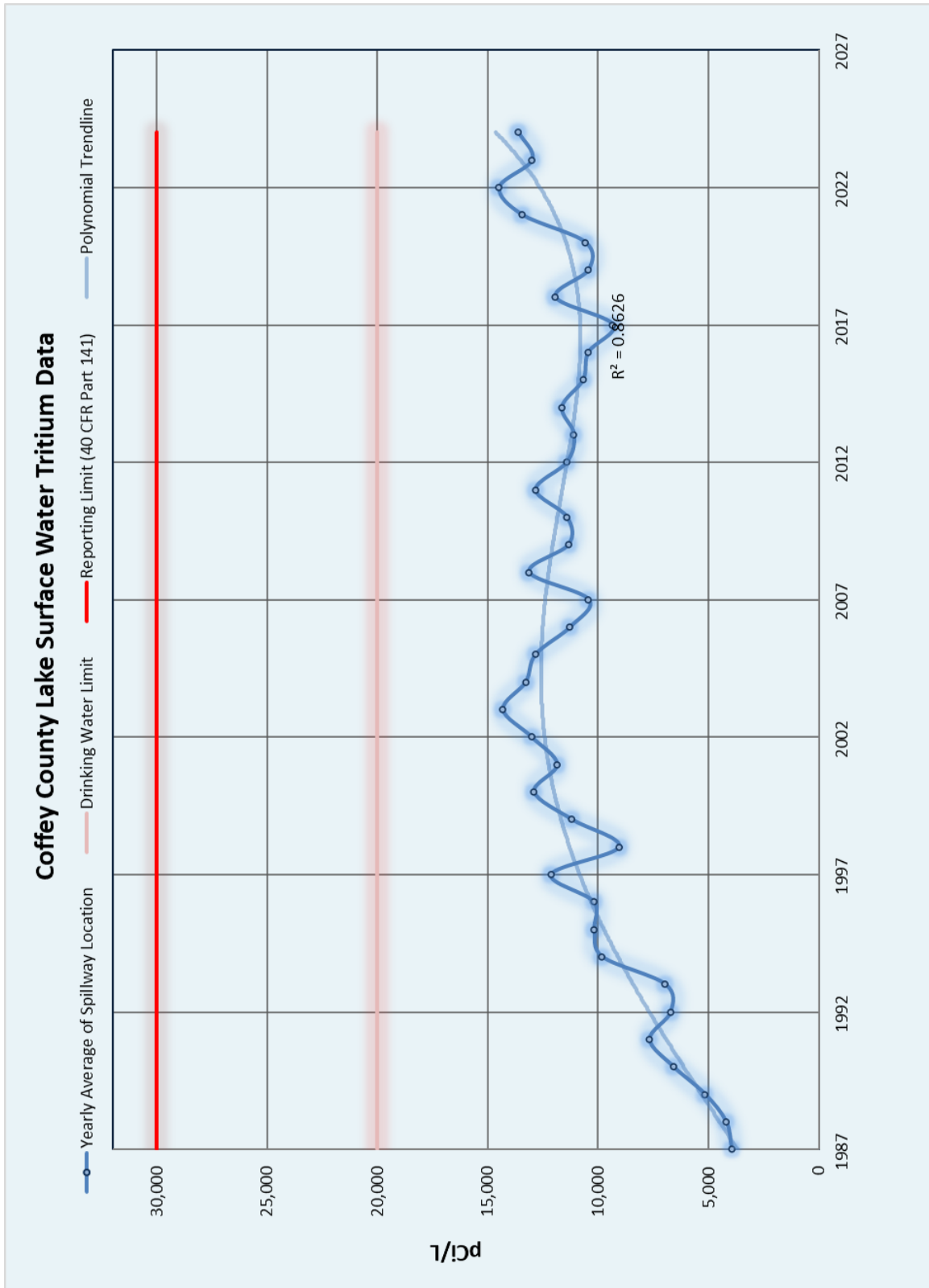


CHART 6

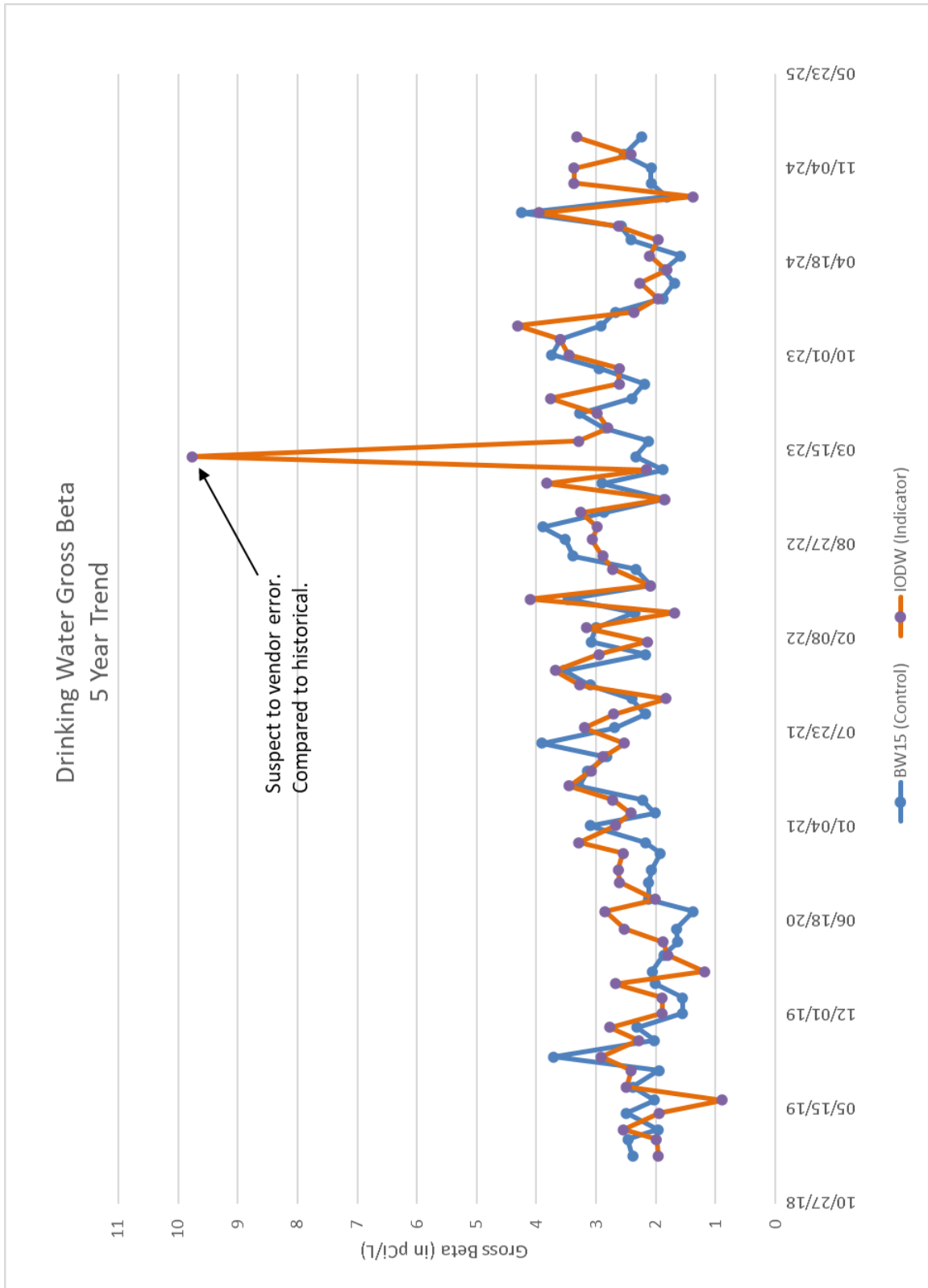
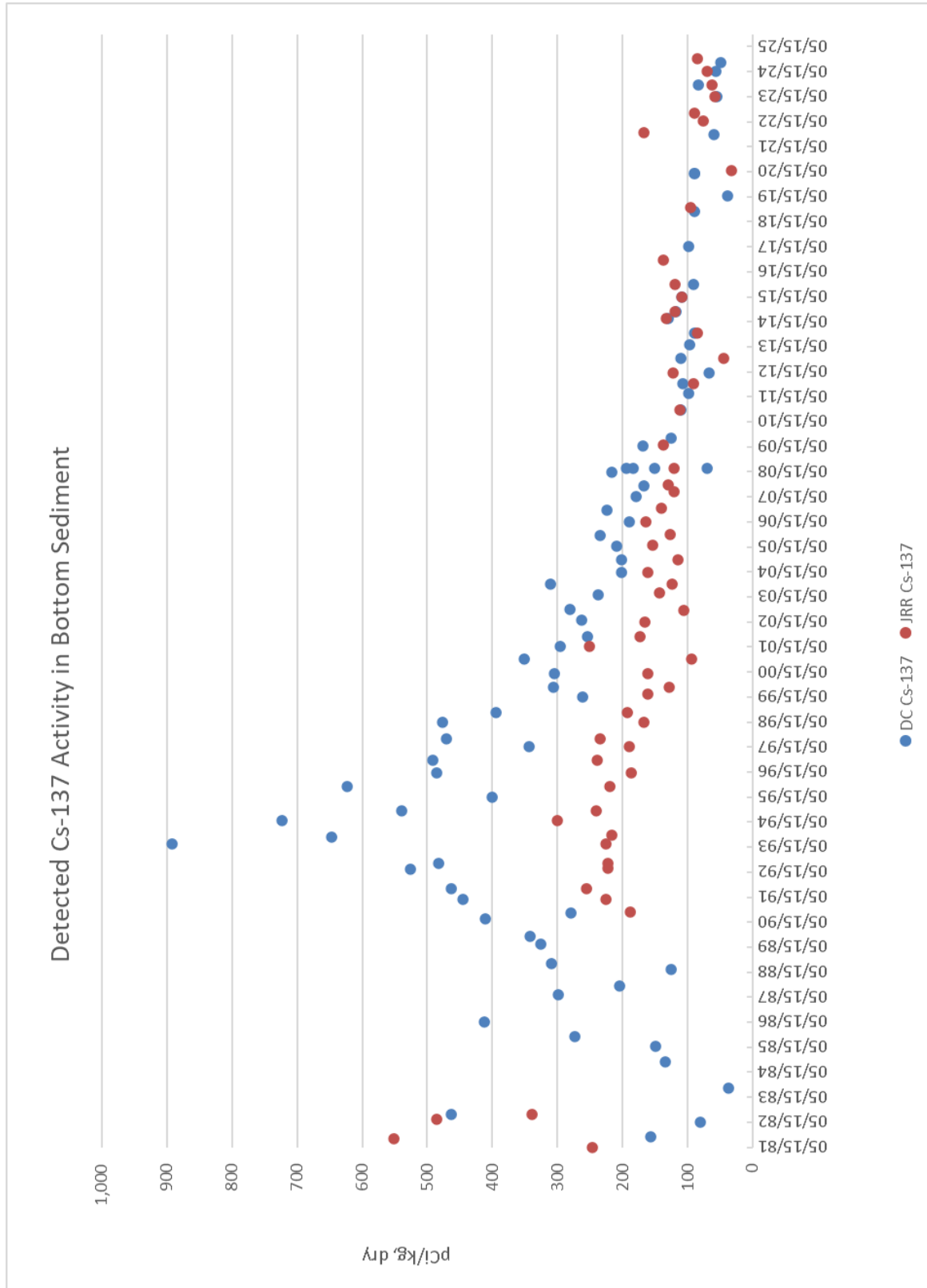


CHART 7





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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, 2024 through December, 2024

Appendix A

Interlaboratory/ Intralaboratory Comparison Program Results

Microbac Laboratories - Northbrook (previously Environmental Inc.) has participated in interlaboratory comparison (crosscheck) programs since the formulation of its quality program in December 1971. These programs are operated by agencies and/or companies which supply environmental sample types containing concentrations of radionuclides known to the issuing entity 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	Concentration (pCi/L)				
		Analysis	Laboratory Result	ERA Value	Acceptance Limits	Acceptance
RAD-022724M (study dates 2/27/24 - 3/11/24)						
ERDW-323	10/7/2022	Ba-133	67.3 ± 4.1	79.4	62.3 - 97.0	Pass
ERDW-323	10/7/2022	Cs-134	20.6 ± 2.6	30.5	18.2 - 42.8	Pass
ERDW-323	10/7/2022	Cs-137	221 ± 7	212	172 - 252	Pass
ERDW-323	10/7/2022	Co-60	48.8 ± 4.2	51.4	37.1 - 65.7	Pass
ERDW-323	10/7/2022	Zn-65	82.6 ± 9	216	167 - 265	Fail ^b
ERDW-325	10/7/2022	Gr. Alpha	15.4 ± 1.6	16.9	11.1 - 22.7	Pass
ERDW-325	10/7/2022	G. Beta	48.2 ± 1.4	53.0	39.1 - 66.9	Pass
ERDW-321	10/7/2022	Ra-226	15.9 ± 0.9	19.0	16.2 - 21.8	Fail ^c
ERDW-321	10/7/2022	Ra-228	3.81 ± 1.04	2.33	1.04 - 3.60	Fail ^d
ERDW-321	10/7/2022	Uranium	8.745 ± 1.070	8.53	7.10 - 10.0	Pass
ERDW-327	4/10/2023	H-3	12,740 ± 366	12,700	10,500 - 14,900	Pass
RAD-137 Study (study dates 4/08/24 - 5/23/24)						
ERDW-715	4/8/2024	Ba-133	71.2 ± 5.5	65.9	50.1 - 81.7	Pass
ERDW-715	4/8/2024	Cs-134	70.4 ± 9.5	57.8	42.8 - 72.8	Pass
ERDW-715	4/8/2024	Cs-137	188 ± 11	186	149 - 233	Pass
ERDW-715	4/8/2024	Co-60	100 ± 10	98.8	79.7 - 118	Pass
ERDW-715	4/8/2024	Zn-65	231 ± 15	240	188 - 292	Pass
ERDW-713	4/8/2024	Gr. Alpha	39.4 ± 1.9	52.6	39.6 - 65.8	Fail ^e
ERDW-713	4/8/2024	G. Beta	45.5 ± 1.4	46.5	33.9 - 59.1	Pass
ERDW-711	4/8/2024	Ra-226	14.3 ± 0.8	13.4	11.10 - 15.7	Pass
ERDW-711	4/8/2024	Ra-228	6.01 ± 1.19	6.24	4.2 - 8.3	Pass
ERDW-711	4/8/2024	Uranium	63.5 ± 2.4	59.3	52.8 - 65.8	Pass
ERDW-717	4/8/2024	H-3	20,400 ± 448	21,300	18,200 - 24,400	Pass
RAD-138 Study (study dates 7/08/24 - 8/22/24)						
ERDW-1546	7/8/2024	Ba-133	41.4 ± 5.9	38.2	25.2 - 51.2	Pass
ERDW-1546	7/8/2024	Cs-134	18.6 ± 8.0	18.9	7.81 - 30.0	Pass
ERDW-1546	7/8/2024	Cs-137	54.4 ± 13.3	57.0	32.9 - 81.1	Pass
ERDW-1546	7/8/2024	Co-60	82.8 ± 7.1	76.8	59.9 - 93.7	Pass
ERDW-1546	7/8/2024	Zn-65	348 ± 30	312	253 - 371	Pass
ERDW-1548	7/8/2024	Gr. Alpha	9.05 ± 1.26	13.0	7.94 - 18.1	Pass
ERDW-1548	7/8/2024	G. Beta	17.3 ± 1.0	20.6	13.2 - 28.0	Pass
ERDW-1552	7/8/2024	Ra-226	20.4 ± 1.0	17.2	14.6 - 19.8	Fail ^f
ERDW-1552	7/8/2024	Ra-228	3.72 ± 0.96	4.63	2.88 - 6.38	Pass
ERDW-1552	7/8/2024	Uranium	36.2 ± 2.4	36.8	32.5 - 41.1	Pass
ERDW-1554	7/8/2024	H-3	7,840 ± 290	7,550	5,870 - 9,230	Pass
ERDW-1550	7/8/2024	I-131	20.1 ± 0.9	27.9	24.2 - 31.6	Fail ^g

^a Results obtained by Microbac Laboratories Inc. - Northbrook as a participant in the crosscheck program for proficiency testing in drinking water conducted by Environmental Resource Associates (ERA).

^b An incorrect reference date was used in the calculation of the gamma emitters. If the correct date was used, all analytes would have passed ERA acceptance criteria. The Zn-65 result would have been 212 ± 30 pCi/L.

^c No obvious conclusion could be determined for the low result. It's possible that a small leak from the radon bubbler may have allowed radon gas to escape thereby leading to the low result. Subsequent ERA study RAD-137 passed for Ra-226.

^d The batch recovery value as determined by the EPA method could have been biased artificially low thereby causing the result to have a high bias outside the upper acceptance limit. Subsequent ERA studies RAD-137,138 passed for Ra-228.

^e Data was reviewed but no obvious issue could be determined. Subsequent ERA study RAD-138 passed for both Gross Alpha and Gross Beta.

^f The lab continues to investigate the Ra-226 performance issues. The procedure has been revised to more closely follow the EPA method. Results are being compiled and a subsequent ERA study will be ordered to validate the revised procedure.

^g ERA added stable iodine carrier to the PT sample at a concentration of 0.20 mg/L. The calculation of the results that were submitted for this study did not take this added iodine into account when calculating the chemical yield or recovery. Incorporating the ERA added stable iodine into the calculations; recoveries dropped from 88.32% and 90.52% to 64.56% and 66.17%. The adjusted results are: 29.42 pCi/L and 28.06 pCi/L which are both within the acceptance range.

TABLE A-2. Thermoluminescent Dosimetry, (TLD, CaSO₄: Dy Cards).^a

				mrem		
Lab Code	Irradiation		Delivered	Reported ^b	Performance ^c	
	Date	Description	Dose	Dose	Quotient (P)	
<u>Environmental, Inc.</u>		Group 1				
2024-25-1	1/6/2025	Spike 1	92.0	91.8	0.00	
2024-25-1	1/6/2025	Spike 2	92.0	89.7	-0.03	
2024-25-1	1/6/2025	Spike 3	92.0	92.0	0.00	
2024-25-1	1/6/2025	Spike 4	92.0	92.9	0.01	
2024-25-1	1/6/2025	Spike 5	92.0	91.8	0.00	
2024-25-1	1/6/2025	Spike 6	92.0	98.0	0.07	
2024-25-1	1/6/2025	Spike 7	92.0	94.6	0.03	
2024-25-1	1/6/2025	Spike 8	92.0	94.2	0.02	
2024-25-1	1/6/2025	Spike 9	92.0	95.4	0.04	
2024-25-1	1/6/2025	Spike 10	92.0	91.3	-0.01	
2024-25-1	1/6/2025	Spike 11	92.0	89.4	-0.03	
2024-25-1	1/6/2025	Spike 12	92.0	97.7	0.06	
2024-25-1	1/6/2025	Spike 13	92.0	94.1	0.02	
2024-25-1	1/6/2025	Spike 14	92.0	92.2	0.00	
2024-25-1	1/6/2025	Spike 15	92.0	92.9	0.01	
2024-25-1	1/6/2025	Spike 16	92.0	91.7	0.00	
2024-25-1	1/6/2025	Spike 17	92.0	87.4	-0.05	
2024-25-1	1/6/2025	Spike 18	92.0	94.7	0.03	
2024-25-1	1/6/2025	Spike 19	92.0	91.0	-0.01	
2024-25-1	1/6/2025	Spike 20	92.0	92.5	0.01	
Mean (Spike 1-20)				92.8	0.01	Pass ^d
Standard Deviation (Spike 1-20)				2.6	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 Microbac Laboratories - Northbrook 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, CaSO₄: Dy Cards).^a

				mrem		
Lab Code	Irradiation		Delivered	Reported ^b	Performance ^c	
	Date	Description	Dose	Dose	Quotient (P)	
<u>Environmental, Inc.</u>		Group 2				
2024-25-2	1/6/2025	Spike 21	74.0	77.5	0.05	
2024-25-2	1/6/2025	Spike 22	74.0	77.6	0.05	
2024-25-2	1/6/2025	Spike 23	74.0	73.2	-0.01	
2024-25-2	1/6/2025	Spike 24	74.0	75.4	0.02	
2024-25-2	1/6/2025	Spike 25	74.0	75.3	0.02	
2024-25-2	1/6/2025	Spike 26	74.0	77.8	0.05	
2024-25-2	1/6/2025	Spike 27	74.0	73.1	-0.01	
2024-25-2	1/6/2025	Spike 28	74.0	74.0	0.00	
2024-25-2	1/6/2025	Spike 29	74.0	75.8	0.02	
2024-25-2	1/6/2025	Spike 30	74.0	76.5	0.03	
2024-25-2	1/6/2025	Spike 31	74.0	73.5	-0.01	
2024-25-2	1/6/2025	Spike 32	74.0	75.5	0.02	
2024-25-2	1/6/2025	Spike 33	74.0	76.5	0.03	
2024-25-2	1/6/2025	Spike 34	74.0	76.4	0.03	
2024-25-2	1/6/2025	Spike 35	74.0	75.1	0.01	
2024-25-2	1/6/2025	Spike 36	74.0	72.8	-0.02	
2024-25-2	1/6/2025	Spike 37	74.0	76.0	0.03	
2024-25-2	1/6/2025	Spike 38	74.0	74.9	0.01	
2024-25-2	1/6/2025	Spike 39	74.0	75.4	0.02	
2024-25-2	1/6/2025	Spike 40	74.0	70.8	-0.04	
Mean (Spike 21-40)				75.2	0.02	Pass ^d
Standard Deviation (Spike 21-40)				1.8	0.02	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 Microbac Laboratories - Northbrook 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	Reference Date	Analysis	Concentration ^a				Ratio Lab/Known
			Laboratory results 2s, n=1 ^c	Known Activity	Control Limits ^d	Acceptance	
SPDW-60025	1/12/2024	Gr. Alpha	43.3 ± 2.4	47.9	24.0 - 57.5	Pass	0.90
SPDW-60025	1/12/2024	Gr. Beta	28.9 ± 1.3	28.6	22.9 - 34.3	Pass	1.01
SPDW-60042	2/2/2024	H-3	21,225 ± 459	22,100	17,680 - 26,520	Pass	0.96
SPDW-60059	2/14/2024	Gr. Alpha	37.6 ± 2.8	32.2	16.1 - 38.6	Pass	1.17
SPDW-60059	2/14/2024	Gr. Beta	168 ± 3	160	128.0 - 192.0	Pass	1.05
SPDW-60067	2/13/2024	H-3	20,925 ± 451	22,100	17,680 - 26,520	Pass	0.95
SPDW-60097	2/28/2024	Gr. Alpha	27.7 ± 2.1	32.2	16.1 - 38.6	Pass	0.86
SPDW-60097	2/28/2024	Gr. Beta	160 ± 3	160	128.0 - 192.0	Pass	1.00
SPDW-60100	2/26/2024	H-3	21,582 ± 462	22,100	17,680 - 26,520	Pass	0.98
SPDW-60016	3/7/2024	H-3	20,572 ± 449	22,100	17,680 - 26,520	Pass	0.93
SPDW-60133	3/14/2024	Gr. Alpha	23.6 ± 2.1	32.2	16.1 - 38.6	Pass	0.73
SPDW-60133	3/14/2024	Gr. Beta	171 ± 3	160	128.0 - 192.0	Pass	1.07
SPDW-60150	3/22/2024	H-3	20,618 ± 450	22,100	17,680 - 26,520	Pass	0.93
SPDW-60191	3/21/2024	Ra-226	13.2 ± 0.4	12.3	8.6 - 16.0	Pass	1.07
SPDW-60154	3/25/2024	Ra-228	12.7 ± 1.6	15.4	10.8 - 20.0	Pass	0.82
LCS-W-052924	4/8/2024	Ba-133	55.7 ± 4.3	65.9	52.7 - 79.1	Pass	0.85
LCS-W-052924	4/8/2024	Cs-134	50.1 ± 3.4	57.8	46.2 - 69.4	Pass	0.87
LCS-W-052924	4/8/2024	Cs-137	172 ± 6	186	149 - 223	Pass	0.92
LCS-W-052924	4/8/2024	Co-60	95.3 ± 4.0	99	79.0 - 119	Pass	0.96
LCS-W-052924	4/8/2024	Zn-65	224 ± 12	240	192 - 288	Pass	0.93
SPDW-60184	4/9/2024	Gr. Alpha	21.0 ± 2.0	32.2	16.1 - 38.6	Pass	0.65
SPDW-60184	4/9/2024	Gr. Beta	158 ± 3	160	128.0 - 192.0	Pass	0.99
SPDW-60198	4/15/2024	H-3	20,822 ± 453	22,100	17,680 - 26,520	Pass	0.94
SPDW-60213	4/25/2024	Ra-228	15.4 ± 2.0	15.3	10.7 - 19.9	Pass	1.01
SPDW-60215	4/26/2024	H-3	20,400 ± 447	22,100	17,680 - 26,520	Pass	0.92
SPDW-60267	4/11/2024	Ra-226	10.8 ± 0.3	12.3	8.6 - 16.0	Pass	0.88
SPDW-60236	5/10/2024	H-3	20,415 ± 448	22,100	17,680 - 26,520	Pass	0.92
SPDW-60253	5/16/2024	Ra-228	13.6 ± 1.8	15.3	10.7 - 19.9	Pass	0.89
SPDW-60302	5/29/2024	Gr. Alpha	18.1 ± 1.7	32.2	16.1 - 38.6	Pass	0.56
SPDW-60302	5/29/2024	Gr. Beta	163 ± 3	160	128 - 192	Pass	1.02
SPDW-60307	5/23/2024	Ra-226	13.0 ± 0.5	12.3	8.6 - 16.0	Pass	1.05
SPDW-60294	5/28/2024	H-3	20,840 ± 463	22,100	17,680 - 26,520	Pass	0.94
SPDW-60314	6/6/2024	Ra-228	11.9 ± 1.6	15.3	10.7 - 19.9	Pass	0.78
SPDW-60331	6/10/2024	H-3	20,602 ± 459	22,100	17,680 - 26,520	Pass	0.93
SPDW-60357	5/30/2024	Ra-226	11.8 ± 0.4	12.3	8.6 - 16.0	Pass	0.96
SPDW-60361	6/27/2024	Gr. Alpha	21.7 ± 2.0	32.2	16.1 - 38.6	Pass	0.67
SPDW-60361	6/27/2024	Gr. Beta	151 ± 2	160	128 ± 192	Pass	0.94
SPDW-60425	6/24/2024	Ra-226	12.8 ± 0.4	12.3	8.6 - 16.0	Pass	1.04
SPDW-60393	7/10/2024	H-3	20,368 ± 454	22,100	17,680 - 26,520	Pass	0.92

^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	Reference Date	Analysis	Concentration ^a		Control Limits ^d	Acceptance	Ratio Lab/Known
			Laboratory results 2s, n=1 ^c	Known Activity			
SPDW-60411	7/22/2024	Gr. Alpha	18.2 ± 1.9	32.2	16.1 - 38.6	Pass	0.57
SPDW-60411	7/22/2024	Gr. Beta	155 ± 3	160	128 - 192	Pass	0.97
SPDW-60417	7/23/2024	U (Natural)	8.14 ± 0.92	7.36	5.15 - 9.57	Pass	1.11
SPDW-60452	7/31/2024	Ra-226	11.5 ± 0.4	12.3	8.6 - 16.0	Pass	0.93
SPDW-60530	8/12/2024	Ra-226	12.3 ± 0.4	12.3	8.6 - 16.0	Pass	1.00
LCS-08/26/24	7/8/2024	Ba-133	31.2 ± 4.3	38.2	30.6 - 45.8	Pass	0.82
LCS-08/26/24	7/8/2024	Cs-134	22.0 ± 3.0	18.9	15.1 - 22.7	Pass	1.16
LCS-08/26/24	7/8/2024	Cs-137	68.0 ± 6.5	57.0	45.6 - 68.4	Pass	1.19
LCS-08/26/24	7/8/2024	Co-60	80.8 ± 5.0	76.8	61.4 - 92.2	Pass	1.05
LCS-08/26/24	7/8/2024	Zn-65	337 ± 15	312	250 - 374	Pass	1.08
LCS-S-09/04/24	3/19/2018	Ac-228	1,122 ± 120	1,240	992 - 1,488	Pass	0.90
LCS-S-09/04/24	3/19/2018	Bi-212	1,105 ± 293	1,240	992 - 1,488	Pass	0.89
LCS-S-09/04/24	3/19/2018	Bi-214	1,563 ± 49	1,760	1,408 - 2,112	Pass	0.89
LCS-S-09/04/24	3/19/2018	Co-60	7,251 ± 94	8,060	6,448 - 9,672	Pass	0.90
LCS-S-09/04/24	3/19/2018	Pb-214	1,489 ± 54	1,850	1,480 - 2,220	Pass	0.80
SPDW-60527	9/10/2024	H-3	20,297 ± 453	22,100	17,680 - 26,520	Pass	0.92
SPDW-60546	9/13/2024	S-90	15.9 ± 1.0	15.4	12.3 - 18.5	Pass	1.03
SPDW-60559	9/25/2024	Gr. Alpha	7.5 ± 1.1	13.0	6.5 - 15.6	Pass	0.58
SPDW-60559	9/25/2024	Gr. Beta	21.5 ± 1.3	20.6	16.5 - 24.7	Pass	1.04
SPDW-60584	10/9/2024	H-3	20,016 ± 452	22,100	17,680 - 26,520	Pass	0.91
LCS-W-090324	4/8/2024	Ba-133	65.5 ± 5.8	65.9	53 - 79	Pass	0.99
LCS-W-090324	4/8/2024	Cs-134	54.5 ± 5.1	57.8	46 - 69	Pass	0.94
LCS-W-090324	4/8/2024	Cs-137	189 ± 12	186	149 - 223	Pass	1.02
LCS-W-090324	4/8/2024	Co-60	101 ± 9	98.8	79 - 119	Pass	1.02
LCS-W-090324	4/8/2024	Zn-65	260 ± 25	240	192 - 288	Pass	1.08
LCS-W-10/03/24	8/1/2023	Cs-134	288 ± 5	305	244 - 366	Pass	0.94
LCS-W-10/03/24	8/1/2023	Cs-137	257 ± 8	235	188 - 282	Pass	1.09
LCS-W-10/03/24	8/1/2023	Co-57	550 ± 16	521	417 - 625	Pass	1.06
LCS-W-10/03/24	8/1/2023	Mn-54	364 ± 16	343	274 - 412	Pass	1.06
LCS-W-10/03/24	8/1/2023	Zn-65	489 ± 28	516	413 - 619	Pass	0.95
LCS-W-10/05/24	7/12/2021	Ba-133	42.5 ± 3.5	45.5	36 - 55	Pass	0.93
LCS-W-10/05/24	7/12/2021	Cs-134	88.1 ± 6.2	87.5	70 - 105	Pass	1.01
LCS-W-10/05/24	7/12/2021	Cs-137	219 ± 6	208	166 - 250	Pass	1.05
LCS-W-10/05/24	7/12/2021	Co-60	88.8 ± 5.1	87.1	70 - 105	Pass	1.02
LCS-AP-10/05/24	8/1/2022	Cs-137	52.1 ± 2.0	47.5	38 - 57	Pass	1.10
LCS-AP-10/05/24	8/1/2022	Co-57	99.8 ± 6.5	94.5	76 - 113	Pass	1.06
LCS-AP-10/05/24	8/1/2022	Co-60	59.9 ± 2.1	57.0	46 - 68	Pass	1.05
LCS-AP-10/05/24	8/1/2022	Mn-54	61.2 ± 7.7	58.9	47 - 71	Pass	1.04
LCS-AP-10/05/24	8/1/2022	Zn-65	43.1 ± 13.5	49.4	40 - 59	Pass	0.87

^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	Reference Date	Analysis	Concentration ^a		Control Limits ^d	Acceptance	Ratio Lab/Known
			Laboratory results 2s, n=1 ^c	Known Activity			
LCS-S-092424	3/19/2018	K-40	9,021 ± 385	10,600	8,480 - 12720	Pass	0.85
LCS-S-092424	3/19/2018	Cs-134	4,450 ± 235	5,330	4,264 - 6396	Pass	0.83
LCS-S-092424	3/19/2018	Cs-137	3,773 ± 55	4,210	3,368 - 5052	Pass	0.90
LCS-S-092424	3/19/2018	Co-60	6,958 ± 96	8,060	6,448 - 9672	Pass	0.86
LCS-S-092424	3/19/2018	Pb-214	1,638 ± 59	1,850	1,480 - 2220	Pass	0.89
LCS-S-092424	3/19/2018	Bi-214	1,608 ± 50	1,760	1,408 - 2112	Pass	0.91
LCS-S-092424	3/19/2018	Ac-228	1,105 ± 117	1,240	992 - 1488	Pass	0.89
LCS-S-101424	2/1/2024	Co-60	15,340 ± 87	17,820	14,256 - 21,384	Pass	0.86
LCS-S-101424	2/1/2024	Cs-134	8,700 ± 62	8,694	6,955 - 10,433	Pass	1.00
LCS-S-101424	2/1/2024	Cs-137	37,330 ± 26	41,850	33,480 - 50,220	Pass	0.89
LCS-S-101424	2/1/2024	K-40	11,550 ± 411	13,095	10,476 - 15,714	Pass	0.88
LCS-S-101424	2/1/2024	Mn-54	8,080 ± 125	8,964	7,171 - 10,757	Pass	0.90
LCS-S-101424	2/1/2024	Zn-65	16,260 ± 273	18,981	15,185 - 22,777	Pass	0.86
LCS-W-1014224	2/1/2024	Co-57	544 ± 24	554	443 - 664	Pass	0.98
LCS-W-1014224	2/1/2024	Cs-134	281 ± 8	289	231 - 347	Pass	0.97
LCS-W-1014224	2/1/2024	Cs-137	254 ± 11	257	205 - 308	Pass	0.99
LCS-W-1014224	2/1/2024	Mn-54	369 ± 21	365	292 - 437	Pass	1.01
LCS-W-1014224	2/1/2024	Zn-65	501 ± 38	489	391 - 586	Pass	1.03
LCS-VE-100524	2/1/2024	Co-57	544 ± 5	521	417 - 625	Pass	1.04
LCS-VE-100524	2/1/2024	Cs-134	281 ± 8	305	244 - 366	Pass	0.92
LCS-VE-100524	2/1/2024	Cs-137	254 ± 11	235	188 - 282	Pass	1.08
LCS-VE-100524	2/1/2024	Zn-65	501 ± 38	516	413 - 619	Pass	0.97
LCS-VE-100524	2/1/2024	Mn-54	369 ± 21	343	274 - 411	Pass	1.08
SPDW-60583	10/9/2024	H-3	20,016 ± 452	22,100	17,680 - 26,520	Pass	0.91
SPDW-60604	10/25/2024	H-3	19,814 ± 447	22,100	17,680 - 26,520	Pass	0.90
SPDW-60622	11/14/2024	Gr. Alpha	12.5 ± 2.9	13.0	6.5 - 15.6	Pass	0.96
SPDW-60622	11/14/2024	Gr. Beta	17.8 ± 2.3	20.6	16.5 - 24.7	Pass	0.86
SPDW-60635	10/10/2024	Ra-226	14.9 ± 0.5	12.3	8.6 - 16.0	Pass	1.21
SPDW-60631	12/2/2024	H-3	20,384 ± 453	22,100	17,680 - 26,520	Pass	0.92
SPDW-60641	12/17/2024	H-3	21,520 ± 468	22,100	17,680 - 26,520	Pass	0.97

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

^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	Collection Date	Analysis ^c	Concentration ^a		Acceptance Criteria (4.66 σ)
				Laboratory results (4.66σ)		
				LLD	Activity ^d	
SPDW-60024	Water	1/12/2024	Gr. Alpha	0.70	0.14 ± 0.50	2
SPDW-60024	Water	1/12/2024	Gr. Beta	0.83	-0.60 ± 0.56	4
SPW-3913	Water	2/2/2024	Tc-99	11.8	-12.3 ± 7.0	200
SPDW-60041	Water	2/2/2024	H-3	177	68 ± 96	200
SPDW-60058	Water	2/14/2024	Gr. Alpha	0.51	-0.10 ± 0.35	2
SPDW-60058	Water	2/14/2024	Gr. Beta	0.71	0.19 ± 0.50	4
SPDW-60147	Water	2/21/2024	Ra-226	0.04	0.18 ± 0.03	2
SPDW-60099	Water	2/26/2024	H-3	179	-89 ± 84	200
SPDW-60097	Water	2/28/2024	Gr. Alpha	0.53	0.29 ± 0.39	2
SPDW-60097	Water	2/28/2024	Gr. Beta	0.79	-0.42 ± 0.54	4
SPDW-60141	Water	3/19/2024	I-131	0.18	-0.10 ± 0.10	1
SPDW-60149	Water	3/22/2024	H-3	174	-2 ± 86	200
SPDW-60115	Water	3/7/2024	H-3	175	20 ± 85	200
SPDW-60129	Water	3/11/2024	Ra-228	0.74	0.07 ± 0.35	2
SPDW-60132	Water	3/14/2024	Gr. Alpha	0.51	-0.20 ± 0.34	2
SPDW-60132	Water	3/14/2024	Gr. Beta	0.75	-0.07 ± 0.52	4
SPDW-60190	Water	3/21/2024	Ra-226	0.04	-0.14 ± 0.03	2
SPDW-60155	Water	3/25/2024	Ra-228	1.46	-0.13 ± 0.66	2
SPDW-60183	Water	4/9/2024	Gr. Alpha	0.66	-0.09 ± 0.46	2
SPDW-60183	Water	4/9/2024	Gr. Beta	0.76	0.11 ± 0.54	4
SPDW-60266	Water	4/11/2024	Ra-226	0.04	-0.15 ± 0.03	2
SPDW-60197	Water	4/15/2024	H-3	174	53 ± 84	200
SPDW-60212	Water	4/25/2024	Ra-228	0.90	0.03 ± 0.42	2
SPDW-60214	Water	4/26/2024	H-3	170	27 ± 80	200
SPDW-60235	Water	5/10/2024	H-3	174	-7 ± 81	200
SPDW-60252	Water	5/16/2024	Ra-228	0.68	0.72 ± 0.39	2
SPDW-60294	Water	5/28/2024	H-3	188	-43 ± 88	200
SPDW-60295	Water	5/28/2024	Sr-89	0.62	0.16 ± 0.44	5
SPDW-60295	Water	5/28/2024	Sr-90	0.66	-0.20 ± 0.28	1
SPDW-60301	Water	5/29/2024	Gr. Alpha	0.49	-0.16 ± 0.33	2
SPDW-60301	Water	5/29/2024	Gr. Beta	0.76	0.14 ± 0.54	4
SPDW-60306	Water	5/23/2024	Ra-228	0.17	-0.30 ± 0.38	2
SPDW-60356	Water	5/30/2024	Ra-226	0.04	0.12 ± 0.03	2
SPDW-60313	Water	6/6/2024	Ra-228	0.76	-0.01 ± 0.35	2
SPDW-60330	Water	6/10/2024	H-3	183	12 ± 85	200
SPDW-60340	Water	6/17/2024	I-131	0.15	-0.04 ± 0.08	1
SPDW-60360	Water	6/27/2024	Gr. Alpha	0.46	-0.12 ± 0.31	2
SPDW-60360	Water	6/27/2024	Gr. Beta	0.75	0.10 ± 0.53	4
SPDW-60424	Water	6/24/2024	Ra-226	0.04	-0.14 ± 0.09	2

^a Liquid sample results are reported in pCi/Liter, air filters (pCi/m³), 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	Collection Date	Analysis ^c	Concentration ^a		Acceptance Criteria (4.66 σ)
				Laboratory results (4.66σ)		
				LLD	Activity ^d	
SPDW-60392	Water	7/10/2024	H-3	183	-28 ± 83	200
SPDW-60411	Water	7/22/2024	Gr. Alpha	0.42	-0.06 ± 0.29	2
SPDW-60411	Water	7/22/2024	Gr. Beta	0.71	0.40 ± 0.51	4
SPDW-60416	Water	7/23/2024	U (Natural)	0.56	-0.16 ± 0.66	1
SPDW-60418	Water	7/24/2024	Ra-228	0.65	0.93 ± 0.40	2
SPDW-60451	Water	7/31/2024	Ra-226	0.07	0.02 ± 0.06	2
SPW-1901	Water	8/6/2024	Ni-63	87	-144 ± 51	200
SPDW-60462	Water	8/16/2024	Ra-228	0.58	0.08 ± 0.28	2
SPDW-60529	Water	8/12/2024	Ra-226	0.04	-0.07 ± 0.03	2
SPDW-60522	Water	9/5/2024	I-131	0.11	-0.09 ± 0.07	1
SPDW-60526	Water	9/10/2024	H-3	183	9 ± 86	200
SPDW-60592	Water	9/11/2024	Ra-226	0.06	-0.11 ± 0.05	2
SPDW-60545	Water	9/13/2024	Sr-89	0.56	-0.06 ± 0.43	5
SPDW-60545	Water	9/13/2024	Sr-90	0.52	0.06 ± 0.25	1
SPDW-60560	Water	9/26/2024	H-3	180	88 ± 89	200
SPDW-60594	Water	10/16/2024	Ra-228	0.73	0.43 ± 0.39	2
SPDW-60634	Water	10/10/2024	Ra-226	0.05	-0.07 ± 0.04	2
MB-102124	Water	10/21/2024	Co-57	4.76	0.87 ± 2.53	10
MB-102124	Water	10/21/2024	Cs-134	3.88	-3.36 ± 2.68	10
MB-102124	Water	10/21/2024	Cs-137	5.73	1.08 ± 2.64	10
MB-102124	Water	10/21/2024	Mn-54	5.17	0.03 ± 2.65	10
MB-102124	Water	10/21/2024	Zn-65	6.83	-1.76 ± 5.61	10
SPDW-60614	Water	11/8/2024	H-3	185	-29 ± 84	200
SPDW-60630	Water	12/2/2024	H-3	184	-12 ± 86	200
MB-120924	Water	12/9/2024	Co-57	1.08	0.04 ± 0.66	10
MB-120924	Water	12/9/2024	Cs-134	1.06	0.22 ± 0.61	10
MB-120924	Water	12/9/2024	Cs-137	1.39	0.65 ± 0.68	10
MB-120924	Water	12/9/2024	Mn-54	0.93	0.07 ± 0.55	10
MB-120924	Water	12/9/2024	Zn-65	2.28	0.33 ± 1.12	10
MB-121224	Water	12/12/2024	Co-57	1.56	-1.64 ± 1.28	10
MB-121224	Water	12/12/2024	Cs-134	1.85	-2.84 ± 1.36	10
MB-121224	Water	12/12/2024	Cs-137	1.39	-0.10 ± 1.44	10
MB-121224	Water	12/12/2024	Mn-54	2.56	1.81 ± 1.30	10
MB-121224	Water	12/12/2024	Zn-65	3.05	-6.22 ± 2.99	10
SPDW-60638	Water	12/12/2024	I-131	0.17	-0.19 ± 0.08	1
SPDW-60641	Water	12/17/2024	H-3	182	3 ± 85	200

^a Liquid sample results are reported in pCi/Liter, air filters (pCi/m³), 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

Lab Code ^b	Collection Date	Analysis	Concentration ^a		Averaged Result	Acceptance
			First Result	Second Result		
DW-60006	1/5/2024	Gr. Alpha	2.03 ± 0.83	1.59 ± 0.83	1.81 ± 0.59	Pass
DW-60006	1/5/2024	Gr. Beta	1.36 ± 0.58	1.22 ± 0.62	1.29 ± 0.42	Pass
W-41	1/5/2024	Ra-226	1.67 ± 0.35	1.03 ± 0.35	1.35 ± 0.25	Pass
W-41	1/5/2024	Ra-228	4.19 ± 0.85	3.45 ± 0.83	3.82 ± 0.59	Pass
W-62	1/8/2024	Ra-226	0.54 ± 0.30	0.12 ± 0.41	0.33 ± 0.25	Pass
DW-60018	1/16/2024	Gr. Alpha	1.75 ± 0.74	0.98 ± 0.80	1.37 ± 0.54	Pass
W-125,126	1/16/2024	Ra-226	0.37 ± 0.18	0.66 ± 0.27	0.52 ± 0.16	Pass
DW-60034,60035	1/29/2024	Gr. Alpha	2.10 ± 0.74	1.41 ± 0.79	1.76 ± 0.54	Pass
DW-60034,60035	1/29/2024	Gr. Beta	1.13 ± 0.57	0.57 ± 0.57	0.85 ± 0.40	Pass
DW-60049,60050	2/5/2024	Gr. Alpha	0.61 ± 1.02	1.20 ± 0.87	0.90 ± 0.67	Pass
DW-60049,60050	2/5/2024	Gr. Beta	0.99 ± 0.64	1.19 ± 0.07	1.09 ± 0.32	Pass
DW-60054,60055	2/8/2024	Gr. Beta	0.25 ± 0.53	0.62 ± 0.61	0.44 ± 0.40	Pass
DW-60071,60072	2/16/2024	Ra-226	2.33 ± 0.21	1.73 ± 0.17	2.03 ± 0.14	Pass
DW-60071,60072	2/16/2024	Ra-228	0.48 ± 0.42	0.60 ± 0.45	0.54 ± 0.31	Pass
DW-60107,60108	3/2/2024	Gr. Alpha	1.26 ± 0.98	1.59 ± 0.99	1.42 ± 0.70	Pass
DW-60107,60108	3/2/2024	Gr. Beta	0.63 ± 0.57	0.14 ± 0.59	0.38 ± 0.41	Pass
DW-60120,60121	3/8/2024	Gr. Beta	1.15 ± 0.56	1.04 ± 0.58	1.10 ± 0.40	Pass
LW-582,583	3/19/2024	Be-7	3.80 ± 0.70	1.76 ± 0.60	2.78 ± 0.46	Pass
SWT-708,709	3/26/2024	H-3	186 ± 90	136 ± 87	161 ± 62	Pass
SW-624,625	4/2/2024	H-3	1,174 ± 133	1,302 ± 138	1,238 ± 96	Pass
AP-865,866	4/3/2024	Be-7	0.040 ± 0.007	0.053 ± 0.008	0.047 ± 0.005	Pass
DW-60180,60181	4/5/2024	Ra-226	0.97 ± 0.25	1.30 ± 0.21	1.135 ± 0.16	Pass
DW-60180,60181	4/5/2024	Ra-228	0.85 ± 0.48	1.34 ± 0.54	1.095 ± 0.36	Pass
WW-949,950	4/16/2024	H-3	229 ± 94	136 ± 90	183 ± 65	Pass
S-886,887	4/18/2024	Pb-214	0.93 ± 0.04	0.94 ± 0.04	0.93 ± 0.03	Pass
S-886,887	4/18/2024	Ac-228	0.82 ± 0.08	0.83 ± 0.06	0.82 ± 0.05	Pass
DW-60206,60207	4/19/2024	Ra-226	2.35 ± 0.27	3.49 ± 0.25	2.92 ± 0.18	Pass
DW-60203,60204	4/19/2024	Gr. Alpha	2.12 ± 0.64	1.74 ± 0.73	1.93 ± 0.49	Pass
DW-60206,60207	4/19/2024	Ra-228	0.50 ± 0.59	-0.21 ± 0.53	0.15 ± 0.40	Pass
WW-1075,1076	4/30/2024	H-3	278 ± 107	311 ± 109	294 ± 76	Pass
SG-1017,1018	5/1/2024	Gr. Alpha	27.2 ± 4.00	32.0 ± 4.00	29.6 ± 2.83	Pass
SG-1017,1018	5/1/2024	Gr. Beta	25.7 ± 1.80	24.5 ± 1.90	25.1 ± 1.31	Pass
SG-1017,1018	5/1/2024	Pb-214	3.28 ± 0.14	4.61 ± 0.11	3.95 ± 0.09	Pass
SG-1017,1018	5/1/2024	Ac-228	4.86 ± 0.18	4.98 ± 0.37	4.92 ± 0.21	Pass
DW-60273,60274	5/21/2024	Ra-228	2.12 ± 0.63	1.33 ± 0.45	1.73 ± 0.39	Pass
XW-1138,1139	5/31/2024	H-3	732 ± 124	688 ± 122	710 ± 87	Pass

TABLE A-5. Intralaboratory "Duplicate" Samples

Lab Code ^b	Collection Date	Analysis	Concentration ^a		Averaged Result	Acceptance
			First Result	Second Result		
AP-060324A,B	6/3/2024	Gr. Beta	0.021 ± 0.005	0.018 ± 0.005	0.020 ± 0.003	Pass
AP-061224A,B	6/12/2024	Gr. Beta	0.009 ± 0.003	0.011 ± 0.003	0.010 ± 0.002	Pass
AP-061724A,B	6/17/2024	Gr. Beta	0.031 ± 0.005	0.023 ± 0.005	0.027 ± 0.004	Pass
AP-062524A,B	6/25/2024	Gr. Beta	0.033 ± 0.003	0.034 ± 0.003	0.034 ± 0.002	Pass
SG-1432,1433	6/24/2024	Ra-226	2.36 ± 0.09	2.36 ± 0.08	2.36 ± 0.06	Pass
SG-1432,1433	6/24/2024	Ra-228	1.67 ± 0.14	1.69 ± 0.15	1.68 ± 0.10	Pass
SG-1472,1473	7/1/2024	Gr. Alpha	36.0 ± 4.5	36.8 ± 4.5	36.4 ± 3.2	Pass
SG-1472,1473	7/1/2024	Gr. Beta	30.4 ± 2.1	31.2 ± 2.2	30.8 ± 1.5	Pass
SG-1472,1473	7/1/2024	Pb-214	2.64 ± 0.11	3.11 ± 0.09	2.88 ± 0.07	Pass
SG-1472,1473	7/1/2024	Ac-228	5.55 ± 0.21	5.79 ± 0.25	5.67 ± 0.16	Pass
SG-1474,1475	7/1/2024	Gr. Alpha	43.6 ± 5.7	37.5 ± 5.4	40.6 ± 3.9	Pass
SG-1474,1475	7/1/2024	Gr. Beta	40.6 ± 2.8	34.2 ± 2.7	37.4 ± 1.9	Pass
SG-1474,1475	7/1/2024	Pb-214	3.58 ± 0.10	3.93 ± 0.10	3.76 ± 0.07	Pass
SG-1474,1475	7/1/2024	Ac-228	4.21 ± 0.15	4.13 ± 0.16	4.17 ± 0.11	Pass
AP-070324A,B	7/3/2024	Gr. Beta	0.013 ± 0.003	0.014 ± 0.003	0.013 ± 0.002	Pass
W-1592,1593	7/9/2024	Gr. Alpha	1.23 ± 0.67	0.36 ± 0.54	0.80 ± 0.43	Pass
W-1592,1593	7/9/2024	Gr. Beta	1.45 ± 0.60	0.60 ± 0.53	1.03 ± 0.40	Pass
AP-071024A,B	7/10/2024	Gr. Beta	0.024 ± 0.003	0.025 ± 0.003	0.024 ± 0.002	Pass
S-1613,1614	7/11/2024	Pb-214	197 ± 1	200 ± 1	199 ± 1	Pass
S-1613,1614	7/11/2024	Ac-228	134 ± 1	143 ± 1	139 ± 1	Pass
AP-071724A,B	7/17/2024	Gr. Beta	0.038 ± 0.001	0.032 ± 0.003	0.035 ± 0.001	Pass
SG-1722,1723	7/22/2024	Gr. Beta	16.4 ± 3.4	17.5 ± 3.4	16.9 ± 2.4	Pass
SG-1722,1723	7/22/2024	Gr. Alpha	25.5 ± 6.9	17.5 ± 6.0	21.5 ± 4.6	Pass
SG-1722,1723	7/22/2024	K-40	6.99 ± 1.04	5.75 ± 0.86	6.37 ± 0.67	Pass
SG-1722,1723	7/22/2024	Pb-214	7.62 ± 0.18	8.10 ± 0.25	7.86 ± 0.15	Pass
SG-1722,1723	7/22/2024	Ac-228	4.72 ± 0.34	4.76 ± 0.36	4.74 ± 0.24	Pass
DW-60413,60414	7/22/2024	Gr. Alpha	1.71 ± 0.79	0.93 ± 0.81	1.32 ± 0.56	Pass
DW-60413,60414	7/22/2024	Gr. Beta	1.18 ± 0.58	1.26 ± 0.59	1.22 ± 0.41	Pass
AP-080524A,B	8/5/2024	Gr. Beta	0.025 ± 0.003	0.025 ± 0.003	0.025 ± 0.002	Pass
AP-081324A,B	8/13/2024	Gr. Beta	0.030 ± 0.004	0.028 ± 0.004	0.029 ± 0.003	Pass
AP-082124A,B	8/21/2024	Gr. Beta	0.034 ± 0.003	0.030 ± 0.003	0.032 ± 0.002	Pass
AP-082824A,B	8/28/2024	Gr. Beta	0.033 ± 0.003	0.034 ± 0.003	0.033 ± 0.002	Pass
AP-090924A,B	9/9/2024	Gr. Beta	0.025 ± 0.005	0.026 ± 0.005	0.026 ± 0.003	Pass
SO-2132,2133	9/9/2024	Be-7	0.39 ± 0.11	0.53 ± 0.22	0.46 ± 0.12	Pass
SO-2132,2133	9/9/2024	K-40	14.78 ± 0.27	14.52 ± 0.52	14.65 ± 0.29	Pass
SO-2132,2133	9/9/2024	Cs-137	0.10 ± 0.01	0.08 ± 0.02	0.09 ± 0.01	Pass
SO-2132,2133	9/9/2024	Tl-208	0.44 ± 0.03	0.43 ± 0.02	0.44 ± 0.02	Pass
SO-2132,2133	9/9/2024	Bi-212	1.40 ± 0.34	1.25 ± 0.15	1.32 ± 0.19	Pass
SO-2132,2133	9/9/2024	Bi-214	1.01 ± 0.03	0.90 ± 0.04	0.95 ± 0.02	Pass
SO-2132,2133	9/9/2024	Pb-212	1.29 ± 0.02	1.18 ± 0.03	1.24 ± 0.02	Pass
SO-2132,2133	9/9/2024	Pb-214	0.88 ± 0.03	1.07 ± 0.03	0.98 ± 0.02	Pass

TABLE A-5. Intralaboratory "Duplicate" Samples

Lab Code ^b	Collection Date	Analysis	Concentration ^a		Averaged Result	Acceptance
			First Result	Second Result		
SO-2132,2133	9/9/2024	Ra-226	2.38 ± 0.36	2.31 ± 0.16	2.34 ± 0.20	Pass
SO-2132,2133	9/9/2024	Ac-228	1.33 ± 0.10	1.33 ± 0.06	1.33 ± 0.06	Pass
SS-2206,2207	9/17/2024	Be-7	0.29 ± 0.06	0.23 ± 0.10	0.26 ± 0.06	Pass
SS-2206,2207	9/17/2024	K-40	6.54 ± 0.29	6.19 ± 0.20	6.37 ± 0.18	Pass
SS-2206,2207	9/17/2024	Tl-208	0.20 ± 0.02	0.22 ± 0.02	0.21 ± 0.01	Pass
SS-2206,2207	9/17/2024	Bi-212	0.65 ± 0.14	0.69 ± 0.19	0.67 ± 0.12	Pass
SS-2206,2207	9/17/2024	Bi-214	0.68 ± 0.02	0.61 ± 0.02	0.65 ± 0.02	Pass
SS-2206,2207	9/17/2024	Pb-212	0.51 ± 0.02	0.59 ± 0.02	0.55 ± 0.01	Pass
SS-2206,2207	9/17/2024	Pb-214	0.73 ± 0.03	0.63 ± 0.02	0.68 ± 0.02	Pass
SS-2206,2207	9/17/2024	Ra-226	1.12 ± 0.12	1.25 ± 0.19	1.18 ± 0.11	Pass
SS-2206,2207	9/17/2024	Ac-228	0.66 ± 0.05	0.65 ± 0.06	0.66 ± 0.04	Pass
VE-2111,2112	9/10/2024	Be-7	0.56 ± 0.17	0.59 ± 0.18	0.58 ± 0.12	Pass
VE-2111,2112	9/10/2024	K-40	4.62 ± 0.40	5.21 ± 0.41	4.91 ± 0.29	Pass
AP-091624A,B	9/16/2024	Gr. Beta	0.044 ± 0.004	0.043 ± 0.004	0.044 ± 0.002	Pass
SS-2206,2207	9/17/2024	Be-7	0.29 ± 0.06	0.23 ± 0.10	0.26 ± 0.06	Pass
SS-2206,2207	9/17/2024	K-40	6.54 ± 0.29	6.19 ± 0.20	6.37 ± 0.18	Pass
SS-2206,2207	9/17/2024	Tl-208	0.20 ± 0.02	0.22 ± 0.02	0.21 ± 0.01	Pass
SS-2206,2207	9/17/2024	Bi-212	0.65 ± 0.14	0.69 ± 0.19	0.67 ± 0.12	Pass
SS-2206,2207	9/17/2024	Bi-214	0.68 ± 0.02	0.61 ± 0.02	0.65 ± 0.02	Pass
SS-2206,2207	9/17/2024	Pb-212	0.51 ± 0.02	0.59 ± 0.02	0.55 ± 0.01	Pass
SS-2206,2207	9/17/2024	Pb-214	0.73 ± 0.03	0.63 ± 0.02	0.68 ± 0.02	Pass
SS-2206,2207	9/17/2024	Ra-226	1.12 ± 0.12	1.25 ± 0.19	1.18 ± 0.11	Pass
SS-2206,2207	9/17/2024	Ac-228	0.66 ± 0.05	0.65 ± 0.06	0.66 ± 0.04	Pass
VE-2111,2112	9/10/2024	Be-7	0.56 ± 0.17	0.59 ± 0.18	0.58 ± 0.12	Pass
VE-2111,2112	9/10/2024	K-40	4.62 ± 0.40	5.21 ± 0.41	4.91 ± 0.29	Pass
AP-092524A,B	9/25/2024	Gr. Beta	0.036 ± 0.003	0.033 ± 0.003	0.035 ± 0.002	Pass
AP-2773,2774	9/30/2024	Be-7	0.067 ± 0.008	0.075 ± 0.066	0.071 ± 0.033	Pass
SG-2353,2354	10/3/2024	K-40	3.68 ± 0.34	2.79 ± 0.59	3.24 ± 0.34	Pass
SG-2353,2354	10/3/2024	Tl-208	0.13 ± 0.01	0.14 ± 0.03	0.13 ± 0.01	Pass
SG-2353,2354	10/3/2024	Pb-212	0.36 ± 0.02	0.27 ± 0.03	0.32 ± 0.02	Pass
SG-2353,2354	10/3/2024	Pb-214	1.64 ± 0.05	1.21 ± 0.08	1.43 ± 0.05	Pass
SG-2353,2354	10/3/2024	Bi-214	1.56 ± 0.05	1.32 ± 0.10	1.44 ± 0.06	Pass
SG-2353,2354	10/3/2024	Ac-228	2.62 ± 0.09	2.20 ± 0.19	2.41 ± 0.11	Pass
SG-2362,2363	10/4/2024	Gr. Alpha	31.50 ± 3.70	23.00 ± 3.30	27.25 ± 2.48	Pass
SG-2362,2363	10/4/2024	Gr. Beta	24.70 ± 1.70	19.60 ± 1.60	22.15 ± 1.17	Pass
SG-2362,2363	10/4/2024	Ra-226	4.08 ± 0.23	4.03 ± 0.18	4.06 ± 0.15	Pass
SG-2362,2363	10/4/2024	Ra-228	5.90 ± 0.41	5.85 ± 0.34	5.88 ± 0.27	Pass
S-2541,2542	10/11/2024	K-40	14.20 ± 0.44	14.82 ± 0.44	14.51 ± 0.31	Pass
S-2541,2542	10/11/2024	Cs-137	0.08 ± 0.01	0.10 ± 0.01	0.09 ± 0.01	Pass
S-2541,2542	10/11/2024	Tl-208	0.26 ± 0.02	0.27 ± 0.02	0.27 ± 0.01	Pass
S-2541,2542	10/11/2024	Pb-212	0.75 ± 0.03	0.54 ± 0.03	0.64 ± 0.02	Pass

TABLE A-5. Intralaboratory "Duplicate" Samples

Lab Code ^b	Collection Date	Analysis	Concentration ^a		Averaged Result	Acceptance
			First Result	Second Result		
S-2541,2542	10/11/2024	Bi-212	1.17 ± 0.29	0.83 ± 0.16	1.00 ± 0.16	Pass
S-2541,2542	10/11/2024	Pb-214	1.28 ± 0.05	1.07 ± 0.05	1.17 ± 0.04	Pass
S-2541,2542	10/11/2024	Ac-228	0.88 ± 0.08	0.85 ± 0.08	0.86 ± 0.06	Pass
S-2752,2753	10/24/2024	K-40	15.24 ± 0.33	15.54 ± 0.31	15.39 ± 0.22	Pass
S-2752,2753	10/24/2024	Cs-137	0.09 ± 0.09	0.10 ± 0.09	0.09 ± 0.06	Pass
S-2752,2753	10/24/2024	Tl-208	0.33 ± 0.01	0.34 ± 0.01	0.34 ± 0.01	Pass
S-2752,2753	10/24/2024	Pb-212	0.93 ± 0.02	0.98 ± 0.02	0.96 ± 0.01	Pass
S-2752,2753	10/24/2024	Bi-212	1.15 ± 0.12	1.13 ± 0.12	1.14 ± 0.08	Pass
S-2752,2753	10/24/2024	Pb-214	1.33 ± 0.03	1.19 ± 0.03	1.26 ± 0.02	Pass
S-2752,2753	10/24/2024	Bi-214	1.37 ± 0.04	1.19 ± 0.03	1.28 ± 0.03	Pass
S-2752,2753	10/24/2024	Ra-226	2.61 ± 0.36	2.28 ± 0.15	2.45 ± 0.20	Pass
S-2752,2753	10/24/2024	Ac-228	1.10 ± 0.07	1.10 ± 0.04	1.10 ± 0.04	Pass
F-2899,2900	11/6/2024	K-40	2.38 ± 0.35	3.06 ± 0.13	2.72 ± 0.18	Pass
SW-2815,2816	11/5/2024	H-3	265 ± 100	214 ± 97	240 ± 70	Pass
SW-3046,3047	12/4/2024	H-3	109 ± 91	178 ± 94	144 ± 65	Pass
W-3067,3068	12/3/2024	H-3	206 ± 96	329 ± 102	268 ± 70	Pass
AP-3335,3336	12/30/2024	Be-7	0.034 ± 0.005	0.050 ± 0.005	0.042 ± 0.003	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).

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

Lab Code ^b	Reference		Concentration ^a			
	Date	Analysis	Laboratory result	Known Activity	Acceptance Range ^c	Acceptance
MADW-429	2/1/2024	Gross Alpha	0.641 ± 0.048	1.01	0.30 - 1.72	Pass
MADW-429	2/1/2024	Gross Beta	4.71 ± 0.08	5.6	2.79 - 8.36	Pass
MADW-457	2/1/2024	Cs-134	0.09 ± 0.19	0	NA ^c	Pass
MADW-457	2/1/2024	Cs-137	11.1 ± 0.4	9.7	6.8 - 12.6	Pass
MADW-457	2/1/2024	Co-57	26.4 ± 0.4	25.4	17.8 - 33.0	Pass
MADW-457	2/1/2024	Co-60	11.2 ± 0.3	10.27	7.19 - 13.35	Pass
MADW-457	2/1/2024	Mn-54	8.23 ± 0.39	7.36	5.15 - 9.57	Pass
MADW-457	2/1/2024	Zn-65	0.10 ± 0.30	0	NA ^c	Pass
MADW-457	2/1/2024	K-40	3.16 ± 2.49	0	NA ^c	Pass
MADW-457	2/1/2024	Ra-226	0.46 ± 0.07	0.310	0.217 - 0.403	Fail ^d
MAAP-459	2/1/2024	Cs-134	0.03 ± 0.03	0	NA ^c	Pass
MAAP-459	2/1/2024	Cs-137	1.30 ± 0.07	1.48	1.04 - 1.92	Pass
MAAP-459	2/1/2024	Co-57	0.58 ± 0.03	0.819	0.573 - 1.065	Pass
MAAP-459	2/1/2024	Co-60	1.30 ± 0.06	1.64	1.15 - 2.13	Pass
MAAP-459	2/1/2024	Mn-54	0.51 ± 0.05	0.555	0.389 - 0.722	Pass
MAAP-459	2/1/2024	Zn-65	0.27 ± 0.07	0.332	NA ^e	Pass
MASO-461	2/1/2024	Cs-134	345 ± 2	404	283 - 525	Pass
MASO-461	2/1/2024	Cs-137	1539 ± 7	1550	1085 - 2015	Pass
MASO-461	2/1/2024	Co-57	355 ± 4	401	281 - 521	Pass
MASO-461	2/1/2024	Co-60	619 ± 4	660	462 - 858	Pass
MASO-461	2/1/2024	Mn-54	332 ± 13	332	232 - 432	Pass
MASO-461	2/1/2024	Zn-65	543 ± 9	703	492 - 914	Pass
MASO-461	2/1/2024	K-40	510 ± 20	485	340 - 631	Pass
MAVE-464	2/1/2024	Cs-134	2.97 ± 0.08	3.67	2.57 - 4.77	Pass
MAVE-464	2/1/2024	Cs-137	2.36 ± 0.15	2.57	1.80 - 3.34	Pass
MAVE-464	2/1/2024	Co-57	1.78 ± 0.09	2.53	1.77 - 3.29	Pass
MAVE-464	2/1/2024	Co-60	2.61 ± 0.13	2.96	2.07 - 3.85	Pass
MAVE-464	2/1/2024	Mn-54	0.03 ± 0.07	0	NA ^c	Pass
MAVE-464	2/1/2024	Zn-65	6.41 ± 0.30	8.02	5.61 - 10.43	Pass

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

Lab Code ^b	Reference Date	Analysis	Laboratory result	Concentration ^a		
				Known Activity	Acceptance Range ^c	Acceptance
MADW-2185	8/1/2024	Gross Alpha	0.88 ± 0.01	1.29	0.39 - 2.19	Pass
MADW-2185	8/1/2024	Gross Beta	4.35 ± 0.01	5.09	2.55 - 7.64	Pass
MASO-2187	8/1/2024	Cs-134	330 ± 4	417	292 - 542	Pass
MASO-2187	8/1/2024	Cs-137	1650 ± 11	1650	1155 - 2145	Pass
MASO-2187	8/1/2024	Co-57	311 ± 5	330	231 - 429	Pass
MASO-2187	8/1/2024	Co-60	669 ± 7	700	490 - 910	Pass
MASO-2187	8/1/2024	Mn-54	116 ± 5	113	79 - 147	Pass
MASO-2187	8/1/2024	Zn-65	330 ± 8	415	291 - 540	Pass
MASO-2187	8/1/2024	K-40	531 ± 31	525	368 - 683	Pass
MADW-2183	8/1/2024	Cs-134	19.9 ± 0.3	22.3	15.6 - 29.0	Pass
MADW-2183	8/1/2024	Cs-137	0.99 ± 0.29	0	NA ^{c, e}	Fail
MADW-2183	8/1/2024	Co-57	25.3 ± 0.4	26.4	18.5 - 34.3	Pass
MADW-2183	8/1/2024	Co-60	14.7 ± 0.4	15.0	10.5 - 19.5	Pass
MADW-2183	8/1/2024	Mn-54	0.12 ± 0.16	0	NA ^c	Pass
MADW-2183	8/1/2024	Zn-65	20.6 ± 1.0	22.8	16.00 - 29.60	Pass
MADW-2183	8/1/2024	K-40	8.92 ± 1.23	0	NA ^{c, e}	Fail
MAAP-2191	8/1/2024	Cs-134	0.254 ± 0.030	0.334	0.234 - 0.434	Pass
MAAP-2191	8/1/2024	Cs-137	0.260 ± 0.046	0.269	0.188 - 0.350	Pass
MAAP-2191	8/1/2024	Co-57	-0.0003 ± 0.0126	0	NA ^c	Pass
MAAP-2191	8/1/2024	Co-60	0.333 ± 0.045	0.361	0.253 - 0.469	Pass
MAAP-2191	8/1/2024	Mn-54	-0.003 ± 0.022	0	NA ^c	Pass
MAAP-2191	8/1/2024	Zn-65	-0.002 ± 0.054	0	NA ^c	Pass
MAVE-2189	8/1/2024	Cs-134	2.10 ± 0.07	2.89	2.02 - 3.76	Pass
MAVE-2189	8/1/2024	Cs-137	1.53 ± 0.11	1.91	1.34 - 2.48	Pass
MAVE-2189	8/1/2024	Co-57	0.003 ± 0.023	0	NA ^c	Pass
MAVE-2189	8/1/2024	Co-60	1.54 ± 0.08	2.01	1.41 - 2.61	Pass
MAVE-2189	8/1/2024	Mn-54	2.89 ± 0.15	3.53	2.47 - 4.59	Pass
MAVE-2189	8/1/2024	Zn-65	7.14 ± 0.29	9.13	6.39 - 11.87	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 an acceptance range.

^d No conclusive reason for the failure could be determined. The uncertainty overlapped the known activity (reference value).

^e False positive detections could have occurred due to a combination of an inadequate background subtraction for this sample geometry compounded by a very long analysis time.

TABLE A-7. Interlaboratory Comparison Crosscheck Program, Environmental Resource Associates (ERA)^a.

MRAD-40 Study						
Lab Code ^b	Date	Analysis	Concentration ^a		Acceptance Limits ^d	Acceptance
			Laboratory Result	ERA Value ^c		
ERAP-574	3/18/2024	Cs-134	291 ± 4	273	177 - 335	Pass
ERAP-574	3/18/2024	Cs-137	131 ± 6	106	87 - 139	Pass
ERAP-574	3/18/2024	Co-60	1240 ± 8	1120	952 - 1420	Pass
ERAP-574	3/18/2024	Mn-54	< 3.1	< 35.0	0.00 - 35.0	Pass
ERAP-574	3/18/2024	Zn-65	102 ± 9	77.2	63.3 - 118	Pass
ERAP-574	3/18/2024	Sr-90	173 ± 5	158	99.9 - 215	Pass
ERAP-600	3/18/2024	Gross Alpha	110 ± 3	95.9	50.1 - 158	Pass
ERAP-600	3/18/2024	Gross Beta	31.7 ± 1.6	22.2	13.5 - 33.5	Pass

^a Results obtained by Microbac Laboratories - Northbrook 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 2024

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 (311)	0.01	0.026 (260/260) (0.010 - 0.058)	32,37,49 3.1 miles WNW 2.0 miles NNW 0.8 miles NNE	0.025, (52/52) (0.011 - 0.056)	Station 53 0.025 (52/52) (0.011 - 0.056)	0
Air Radioiodine (pCi/m ³)	Gamma (24) Be-7	-	0.075 (20/20) (0.068 - 0.112)	37 2.0 miles NNW	0.078 (4/4) (0.061 – 0.091)	0.078 (4/4) (0.061 – 0.091)	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 (175)	-	18.6 (159/159) (11.2 – 23.8)	13 1.6 miles SE	21.0 (4/4) (19.6 – 23.2)	Stations 39 & 53 18.5 (8/8) (17.1 – 19.9)	0
Surface Water (pCi/l)	Gamma (24)		- (0/12)	N/A	N/A	JRR - (0/12)	0
	Tritium (24)	30,000	12,685 (12/12) (10,663 - 15,030)	SP 3.2 miles SSE	12,685 (12/12) (10,663 – 15,030)	-(0/12)	0
	Fe-55 (8)	-	- (0/4)	N/A	N/A	- (0/4)	0
Ground Water (pCi/l)	I-131 (32)	1	- (0/28)	N/A	N/A	B-12 - (0/4)	0
	Gamma (32)		- (0/28)	N/A	N/A	- (0/4)	0
	Tritium (32)	20,000	- (0/28)	N/A	N/A	- (0/4)	0

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

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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	2.5 (12/12) (1.3 – 4.0)	IO-DW 26.1 miles SSE	2.5 (12/12) (1.3 – 4.0)	2.2 (12/12) (1.5 – 4.2)	0
	Gamma (24)		- (0/12)	N/A	N/A	- (0/12)	0
	Tritium (8)	2,000	(0/4)	N/A	- (0/4)	- (0/4)	0
Shoreline Sediment (pCi/kg dry)	Gamma (6)					JRR	
	K-40	-	8,587 (4/4) (4,968 – 12,960)	EEA 3.0 miles NNW	12,960 (1/1) (12,960 -12,960)	9.506 (2/2) (8.056 – 10.955)	0
	Cs-137	-	(0-7)	N/A	N/A	(0-2)	0
Fish – Flesh (pCi/kg wet)	Gamma (20)					JRR	
	K-40	-	3,300 (10/10) (2,877 – 3,811)	CCL 0.6 miles E to NNW	3,300 (10/10) (2,877 – 3,811)	3,406(10/10) (3,068- 3,613)	0
	Tritium (20)	-	7,384 (10/10) (5,377 – 9,886)	CCL 0.6 miles E to NNW	7,384 (10/10) (5,377 – 9,886)	- (0/11)	0

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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 Distance and Direction	** Mean (f) ** Range	Control Locations ** Mean (f) ** Range	Number of Nonroutine Reported Measurements **
Food and Garden (pCi/kg wet)	Gamma (20)					D-2	
	Be-7	-	1,164 (15/15) (582 – 1,875)	H-2 3.0 miles SSE	1,480(1/1) (1,480 – 1,480)	1,075 (5/5) (581 – 1,465)	0
	K-40	-	5,528 (15/15) (4,227 – 6,591)	H-2 3.0 miles SSE	4,942 (1/1) (4,942 – 4,942)	5,716 (5/5) (4,687 – 7,113)	0
Crops (pCi/kg wet)	Gamma (4)					NR-U1	
	K-40	-	7,613(2/2) (1,876-13,351)	NR-D1 8.9 miles S	13,351 (1-1) (13,351-13,351)	8,792 (2-2) (3,147-14,437)	0
Bottom Sediment (pCi/kg dry)	Gamma (6)					JRR	
	K-40	-	11,041 (4/4) (8,395-18,479)	DC 0.9 miles WNW	12,785 (2/2) (11,997-13,574)	16,911 (2/2) (15,343 – 18,479)	0
	Cs-137	-	41 (4/4) (17 – 56)	DC 0.9 miles WNW	52.85 (2/2) (49-56.7)	77.5- (2/2) (70.6-84.4)	0
	Fe-55 (2)	-	13,397- (2/2) (5,380-21,403)	DC 0.9 miles WNW	13,397- (2/2) (5,380-21,403)	No Control	0

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

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Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	ODCM Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Indicator Location with Highest Annual Mean Name Distance and Direction	** Mean (f) ** Range	Control Locations ** Mean (f) ** Range	Number of Nonroutine Reported Measurements **
Aquatic Vegetation (pCi/kg wet)	Gamma (3)					No Control	
	Be-7	-	429 (3/3) (241 - 687)	SC 0.8 miles NNW	687 (1/1) (687 - 687)	-	0
	K-40	-	2,320 (3/3) (2,2952- 2,378)	SC 0.8 miles NNW	2,378 (1/1) (2,378 – 2,378)	-	0
	Cs-137	-	- (0/4)	N/A	N/A	-	0
Terrestrial Vegetation (pCi/kg wet)	Gamma (2)					No Control	
	Be-7	-	1,645 (2/2) (1,345 – 1,944)	MUDS 1.5 miles WNW	1,944 (1/1) (1,944 – 1,944)	-	0
	K-40	-	7,332 (2/2) (6,132 – 8,531)	EEA 3.0 miles NNW	8,531 (1/1) (8,531-8,531)	-	0
Soil (pCi/kg dry)	Gamma (3)					No Control	
	K-40	-	10,977 (3/3) (7,083-14,522)	EEA 3.0 miles NNW	14,522 (1/1) (14,522-14.522)	-	0
	Cs-137	-	169 (1/1) (169-169)	MUDS 1.5 miles WNW	169 (1/1) (169-169)	-	0
Meat (pCi/kg wet) Deer/Turkey	Gamma (2)					No Control	
	K-40	-	2,632 (2/2) (2,565 –2,700)	R1.4 (Turkey) 1.8 miles NNW	2,700(1/1) (2,700 – 2,700)	-	0

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

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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 **
	Tritium	-	833 (2/2) (341-1,324)	R1.8 (Deer) 1.8 miles NNW	1,324 (1/1) (1,324 – 1,324)	No Control	0

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-23	02-Jan-24	264	0.029 +/- 0.005	< 0.012	
02-Jan-24	08-Jan-24	248	0.034 +/- 0.006	< 0.020	
08-Jan-24	15-Jan-24	304	0.024 +/- 0.004	< 0.013	
08-Jan-24	15-Jan-24	304	0.026 +/- 0.005		Duplicate
15-Jan-24	22-Jan-24	299	0.027 +/- 0.005	< 0.012	
22-Jan-24	29-Jan-24	298	0.017 +/- 0.004	< 0.010	
29-Jan-24	05-Feb-24	297	0.021 +/- 0.005	< 0.011	
05-Feb-24	12-Feb-24	291	0.021 +/- 0.004	< 0.016	
12-Feb-24	19-Feb-24	302	0.021 +/- 0.004	< 0.013	
19-Feb-24	26-Feb-24	293	0.030 +/- 0.005	< 0.007	
26-Feb-24	04-Mar-24	302	0.024 +/- 0.004	< 0.006	
04-Mar-24	11-Mar-24	305	0.024 +/- 0.005	< 0.011	
11-Mar-24	18-Mar-24	294	0.026 +/- 0.005	< 0.009	
18-Mar-24	25-Mar-24	291	0.023 +/- 0.005	< 0.010	
18-Mar-24	25-Mar-24	291	0.025 +/- 0.005		Duplicate
25-Mar-24	01-Apr-24	304	0.026 +/- 0.004	< 0.011	
01-Apr-24	08-Apr-24	305	0.014 +/- 0.004	< 0.012	
08-Apr-24	15-Apr-24	295	0.014 +/- 0.004	< 0.006	
15-Apr-24	22-Apr-24	306	0.018 +/- 0.004	< 0.025	
22-Apr-24	30-Apr-24	330	0.020 +/- 0.004	< 0.014	
30-Apr-24	06-May-24	263	0.010 +/- 0.005	< 0.019	
30-Apr-24	06-May-24	263	0.009 +/- 0.004		Duplicate
06-May-24	13-May-24	295	0.014 +/- 0.004	< 0.018	
13-May-24	20-May-24	300	0.019 +/- 0.004	< 0.013	
20-May-24	28-May-24	339	0.018 +/- 0.004	< 0.008	
28-May-24	03-Jun-24	255	0.016 +/- 0.005	< 0.023	
03-Jun-24	11-Jun-24	338	0.015 +/- 0.004	< 0.008	
11-Jun-24	17-Jun-24	253	0.027 +/- 0.005	< 0.010	
17-Jun-24	24-Jun-24	298	0.018 +/- 0.004	< 0.011	
24-Jun-24	01-Jul-24	298	0.015 +/- 0.004	< 0.015	
01-Jul-24	08-Jul-24	291	0.018 +/- 0.004	< 0.014	
08-Jul-24	16-Jul-24	329	0.025 +/- 0.004	< 0.013	
16-Jul-24	22-Jul-24	264	0.022 +/- 0.005	< 0.009	
22-Jul-24	29-Jul-24	294	0.036 +/- 0.005	< 0.010	
29-Jul-24	05-Aug-24	300	0.025 +/- 0.004	< 0.018	
05-Aug-24	12-Aug-24	300	0.020 +/- 0.004	< 0.017	
12-Aug-24	19-Aug-24	298	0.026 +/- 0.004	< 0.008	
19-Aug-24	26-Aug-24	290	0.035 +/- 0.005	< 0.010	
26-Aug-24	03-Sep-24	326	0.028 +/- 0.004	< 0.012	
03-Sep-24	09-Sep-24	245	0.025 +/- 0.005	< 0.012	
03-Sep-24	09-Sep-24	245	0.026 +/- 0.005		Duplicate

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
09-Sep-24	16-Sep-24	295	0.024 +/- 0.005	< 0.009	
09-Sep-24	16-Sep-24	295	0.024 +/- 0.005		Duplicate
16-Sep-24	23-Sep-24	298	0.018 +/- 0.004	< 0.008	
16-Sep-24	23-Sep-24	298	0.019 +/- 0.004		Duplicate
23-Sep-24	30-Sep-24	291	0.029 +/- 0.005	< 0.014	
30-Sep-24	07-Oct-24	303	0.030 +/- 0.005	< 0.010	
30-Sep-24	07-Oct-24	303	0.033 +/- 0.005		Duplicate
07-Oct-24	14-Oct-24	291	0.040 +/- 0.005	< 0.013	
14-Oct-24	21-Oct-24	295	0.022 +/- 0.005	< 0.010	
21-Oct-24	28-Oct-24	298	0.034 +/- 0.005	< 0.008	
21-Oct-24	28-Oct-24	298	0.030 +/- 0.005		Duplicate
28-Oct-24	04-Nov-24	303	0.022 +/- 0.004	< 0.017	
04-Nov-24	12-Nov-24	353	0.019 +/- 0.004	< 0.009	
04-Nov-24	12-Nov-24	353	0.019 +/- 0.004		Duplicate
12-Nov-24	19-Nov-24	288	0.033 +/- 0.005	< 0.013	
12-Nov-24	19-Nov-24	288	0.036 +/- 0.005		Duplicate
19-Nov-24	25-Nov-24	263	0.020 +/- 0.005	< 0.014	
19-Nov-24	25-Nov-24	253	0.021 +/- 0.005		Duplicate
25-Nov-24	02-Dec-24	304	0.041 +/- 0.005	< 0.016	
02-Dec-24	09-Dec-24	294	0.038 +/- 0.005	< 0.027	
09-Dec-24	16-Dec-24	310	0.023 +/- 0.005	< 0.009	
16-Dec-24	23-Dec-24	302	0.041 +/- 0.005	< 0.014	
23-Dec-24	30-Dec-24	331	0.052 +/- 0.005	< 0.024	

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-23	02-Jan-24	262	0.027 +/- 0.005	< 0.012	
02-Jan-24	08-Jan-24	253	0.032 +/- 0.006	< 0.019	
08-Jan-24	15-Jan-24	307	0.024 +/- 0.004	< 0.013	
15-Jan-24	22-Jan-24	298	0.031 +/- 0.005	< 0.012	
22-Jan-24	29-Jan-24	296	0.017 +/- 0.004	< 0.010	
29-Jan-24	05-Feb-24	294	0.030 +/- 0.005	< 0.011	
29-Jan-24	05-Feb-24	294	0.026 +/- 0.005		Duplicate
05-Feb-24	12-Feb-24	294	0.020 +/- 0.004	< 0.016	
12-Feb-24	19-Feb-24	304	0.019 +/- 0.004	< 0.012	
12-Feb-24	19-Feb-24	304	0.025 +/- 0.005		Duplicate
19-Feb-24	26-Feb-24	290	0.027 +/- 0.005	< 0.007	
26-Feb-24	04-Mar-24	302	0.027 +/- 0.005	< 0.006	
04-Mar-24	11-Mar-24	304	0.023 +/- 0.005	< 0.011	
11-Mar-24	18-Mar-24	292	0.024 +/- 0.005	< 0.009	
18-Mar-24	25-Mar-24	290	0.023 +/- 0.005	< 0.010	
25-Mar-24	01-Apr-24	302	0.027 +/- 0.005	< 0.011	
01-Apr-24	08-Apr-24	306	0.012 +/- 0.004	< 0.012	
08-Apr-24	15-Apr-24	296	0.022 +/- 0.004	< 0.006	
15-Apr-24	22-Apr-24	298	0.021 +/- 0.004	< 0.026	
22-Apr-24	30-Apr-24	333	0.020 +/- 0.004	< 0.014	
22-Apr-24	30-Apr-24	333	0.020 +/- 0.004		Duplicate
30-Apr-24	06-May-24	258	0.012 +/- 0.005	< 0.019	
06-May-24	13-May-24	288	0.017 +/- 0.004	< 0.018	
13-May-24	20-May-24	294	0.021 +/- 0.004	< 0.014	
20-May-24	28-May-24	342	0.016 +/- 0.004	< 0.008	
28-May-24	03-Jun-24	258	0.018 +/- 0.005	< 0.023	
03-Jun-24	11-Jun-24	320	0.012 +/- 0.004	< 0.008	
11-Jun-24	17-Jun-24	248	0.028 +/- 0.005	< 0.010	
17-Jun-24	24-Jun-24	289	0.020 +/- 0.004	< 0.011	
24-Jun-24	01-Jul-24	295	0.015 +/- 0.004	< 0.015	
24-Jun-24	01-Jul-24	295	0.014 +/- 0.004		Duplicate
01-Jul-24	08-Jul-24	292	0.023 +/- 0.004	< 0.013	
08-Jul-24	16-Jul-24	327	0.030 +/- 0.004	< 0.013	
16-Jul-24	22-Jul-24	264	0.018 +/- 0.005	< 0.009	
16-Jul-24	22-Jul-24	264	0.020 +/- 0.005		Duplicate
22-Jul-24	29-Jul-24	300	0.036 +/- 0.005	< 0.010	
29-Jul-24	05-Aug-24	296	0.019 +/- 0.004	< 0.018	
05-Aug-24	12-Aug-24	304	0.021 +/- 0.004	< 0.017	
12-Aug-24	19-Aug-24	293	0.019 +/- 0.004	< 0.008	
19-Aug-24	26-Aug-24	291	0.034 +/- 0.005	< 0.010	
26-Aug-24	03-Sep-24	335	0.035 +/- 0.004	< 0.012	

Air Particulate Filters and Radioiodine Canisters

Location: 018

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)	I-131 Concentration (pCi/m3)	Duplicate Analysis
03-Sep-24	09-Sep-24	253	0.027 +/- 0.005	< 0.012	
09-Sep-24	16-Sep-24	290	0.024 +/- 0.005	< 0.010	
16-Sep-24	23-Sep-24	297	0.018 +/- 0.004	< 0.008	
23-Sep-24	30-Sep-24	296	0.034 +/- 0.005	< 0.014	
30-Sep-24	07-Oct-24	304	0.039 +/- 0.005	< 0.010	
07-Oct-24	14-Oct-24	298	0.040 +/- 0.005	< 0.013	
14-Oct-24	21-Oct-24	298	0.023 +/- 0.005	< 0.010	
21-Oct-24	28-Oct-24	303	0.033 +/- 0.005	< 0.008	
28-Oct-24	04-Nov-24	296	0.021 +/- 0.005	< 0.018	
04-Nov-24	12-Nov-24	356	0.021 +/- 0.004	< 0.009	
12-Nov-24	19-Nov-24	294	0.029 +/- 0.005	< 0.012	
19-Nov-24	25-Nov-24	264	0.020 +/- 0.005	< 0.013	
25-Nov-24	02-Dec-24	306	0.045 +/- 0.005	< 0.015	
02-Dec-24	09-Dec-24	296	0.039 +/- 0.005	< 0.026	
09-Dec-24	16-Dec-24	310	0.024 +/- 0.005	< 0.009	
16-Dec-24	23-Dec-24	306	0.037 +/- 0.005	< 0.014	
23-Dec-24	30-Dec-24	290	0.058 +/- 0.006	< 0.028	

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-23	02-Jan-24	266	0.028 +/- 0.005	< 0.012	
27-Dec-23	02-Jan-24	266	0.022 +/- 0.005		Duplicate
02-Jan-24	08-Jan-24	220	0.044 +/- 0.007	< 0.022	
02-Jan-24	08-Jan-24	220	0.038 +/- 0.007		Duplicate
08-Jan-24	15-Jan-24	307	0.030 +/- 0.005	< 0.013	
15-Jan-24	22-Jan-24	296	0.033 +/- 0.005	< 0.012	
22-Jan-24	29-Jan-24	301	0.015 +/- 0.004	< 0.010	
29-Jan-24	05-Feb-24	300	0.023 +/- 0.005	< 0.011	
05-Feb-24	12-Feb-24	296	0.021 +/- 0.004	< 0.016	
12-Feb-24	19-Feb-24	303	0.025 +/- 0.005	< 0.012	
19-Feb-24	26-Feb-24	290	0.026 +/- 0.005	< 0.007	
26-Feb-24	04-Mar-24	307	0.026 +/- 0.004	< 0.006	
04-Mar-24	11-Mar-24	307	0.021 +/- 0.004	< 0.011	
11-Mar-24	18-Mar-24	298	0.026 +/- 0.005	< 0.009	
18-Mar-24	25-Mar-24	293	0.025 +/- 0.005	< 0.010	
25-Mar-24	01-Apr-24	301	0.025 +/- 0.004	< 0.011	
01-Apr-24	08-Apr-24	310	0.014 +/- 0.004	< 0.011	
08-Apr-24	15-Apr-24	298	0.021 +/- 0.004	< 0.006	
15-Apr-24	22-Apr-24	303	0.020 +/- 0.004	< 0.025	
22-Apr-24	30-Apr-24	338	0.023 +/- 0.004	< 0.013	
30-Apr-24	06-May-24	264	0.010 +/- 0.005	< 0.019	
06-May-24	13-May-24	302	0.015 +/- 0.004	< 0.017	
13-May-24	20-May-24	302	0.024 +/- 0.004	< 0.013	
20-May-24	28-May-24	349	0.019 +/- 0.004	< 0.007	
28-May-24	03-Jun-24	255	0.022 +/- 0.005	< 0.023	
03-Jun-24	11-Jun-24	339	0.014 +/- 0.004	< 0.008	
11-Jun-24	17-Jun-24	256	0.031 +/- 0.005	< 0.010	
11-Jun-24	17-Jun-24	256	0.023 +/- 0.005		Duplicate
17-Jun-24	24-Jun-24	308	0.019 +/- 0.004	< 0.010	
17-Jun-24	24-Jun-24	308	0.018 +/- 0.004		Duplicate
24-Jun-24	01-Jul-24	285	0.016 +/- 0.004	< 0.015	
01-Jul-24	08-Jul-24	292	0.019 +/- 0.004	< 0.013	
08-Jul-24	16-Jul-24	335	0.030 +/- 0.004	< 0.013	
16-Jul-24	22-Jul-24	266	0.021 +/- 0.005	< 0.008	
22-Jul-24	29-Jul-24	297	0.036 +/- 0.005	< 0.010	
22-Jul-24	29-Jul-24	297	0.034 +/- 0.005		Duplicate
29-Jul-24	05-Aug-24	298	0.023 +/- 0.004	< 0.018	
05-Aug-24	12-Aug-24	308	0.021 +/- 0.004	< 0.016	
12-Aug-24	19-Aug-24	289	0.026 +/- 0.005	< 0.008	
19-Aug-24	26-Aug-24	295	0.042 +/- 0.005	< 0.010	
26-Aug-24	03-Sep-24	340	0.027 +/- 0.004	< 0.012	

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
03-Sep-24	09-Sep-24	250	0.023 +/- 0.005	< 0.012	
09-Sep-24	16-Sep-24	296	0.021 +/- 0.005	< 0.009	
16-Sep-24	23-Sep-24	299	0.017 +/- 0.004	< 0.008	
23-Sep-24	30-Sep-24	293	0.034 +/- 0.005	< 0.014	
30-Sep-24	07-Oct-24	305	0.040 +/- 0.005	< 0.010	
07-Oct-24	14-Oct-24	298	0.039 +/- 0.005	< 0.013	
14-Oct-24	21-Oct-24	293	0.023 +/- 0.005	< 0.010	
21-Oct-24	28-Oct-24	291	0.034 +/- 0.005	< 0.008	
28-Oct-24	04-Nov-24	305	0.020 +/- 0.004	< 0.017	
28-Oct-24	04-Nov-24	305	0.024 +/- 0.005		Duplicate
04-Nov-24	12-Nov-24	357	0.021 +/- 0.004	< 0.009	
12-Nov-24	19-Nov-24	294	0.028 +/- 0.005	< 0.012	
19-Nov-24	25-Nov-24	261	0.020 +/- 0.005	< 0.014	
25-Nov-24	02-Dec-24	301	0.045 +/- 0.005	< 0.016	
02-Dec-24	09-Dec-24	295	0.036 +/- 0.005	< 0.026	
09-Dec-24	16-Dec-24	309	0.026 +/- 0.005	< 0.009	
16-Dec-24	23-Dec-24	308	0.037 +/- 0.005	< 0.014	
23-Dec-24	30-Dec-24	298	0.056 +/- 0.006	< 0.027	

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-23	02-Jan-24	267	0.026 +/- 0.005	< 0.012	
02-Jan-24	08-Jan-24	255	0.034 +/- 0.006	< 0.019	
08-Jan-24	15-Jan-24	313	0.029 +/- 0.005	< 0.012	
15-Jan-24	22-Jan-24	301	0.031 +/- 0.005	< 0.012	
22-Jan-24	29-Jan-24	299	0.019 +/- 0.004	< 0.010	
29-Jan-24	05-Feb-24	302	0.021 +/- 0.004	< 0.010	
05-Feb-24	12-Feb-24	297	0.022 +/- 0.004	< 0.016	
12-Feb-24	19-Feb-24	305	0.023 +/- 0.004	< 0.012	
19-Feb-24	26-Feb-24	298	0.028 +/- 0.005	< 0.007	
19-Feb-24	26-Feb-24	298	0.028 +/- 0.005		Duplicate
26-Feb-24	04-Mar-24	305	0.023 +/- 0.004	< 0.006	
04-Mar-24	11-Mar-24	304	0.019 +/- 0.004	< 0.011	
04-Mar-24	11-Mar-24	304	0.022 +/- 0.005		Duplicate
11-Mar-24	18-Mar-24	299	0.022 +/- 0.005	< 0.009	
18-Mar-24	25-Mar-24	294	0.025 +/- 0.005	< 0.010	
25-Mar-24	01-Apr-24	307	0.024 +/- 0.004	< 0.011	
01-Apr-24	08-Apr-24	312	0.013 +/- 0.004	< 0.011	
08-Apr-24	15-Apr-24	298	0.024 +/- 0.005	< 0.006	
08-Apr-24	15-Apr-24	298	0.019 +/- 0.004		Duplicate
15-Apr-24	22-Apr-24	307	0.019 +/- 0.004	< 0.026	
22-Apr-24	30-Apr-24	334	0.019 +/- 0.004	< 0.014	
30-Apr-24	06-May-24	260	0.013 +/- 0.005	< 0.019	
06-May-24	13-May-24	297	0.017 +/- 0.004	< 0.017	
13-May-24	20-May-24	300	0.020 +/- 0.004	< 0.013	
20-May-24	28-May-24	345	0.017 +/- 0.004	< 0.007	
28-May-24	03-Jun-24	256	0.021 +/- 0.005	< 0.023	
28-May-24	03-Jun-24	256	0.018 +/- 0.005		Duplicate
03-Jun-24	11-Jun-24	342	0.015 +/- 0.004	< 0.008	
11-Jun-24	17-Jun-24	256	0.028 +/- 0.005	< 0.010	
17-Jun-24	24-Jun-24	259	0.018 +/- 0.005	< 0.012	
24-Jun-24	01-Jul-24	298	0.015 +/- 0.004	< 0.015	
01-Jul-24	08-Jul-24	292	0.021 +/- 0.004	< 0.013	
01-Jul-24	08-Jul-24	292	0.019 +/- 0.004		Duplicate
08-Jul-24	16-Jul-24	340	0.026 +/- 0.004	< 0.013	
16-Jul-24	22-Jul-24	263	0.020 +/- 0.005	< 0.009	
22-Jul-24	29-Jul-24	299	0.033 +/- 0.005	< 0.010	
29-Jul-24	05-Aug-24	300	0.026 +/- 0.005	< 0.018	
05-Aug-24	12-Aug-24	304	0.023 +/- 0.004	< 0.017	
12-Aug-24	19-Aug-24	303	0.023 +/- 0.004	< 0.008	
19-Aug-24	26-Aug-24	295	0.040 +/- 0.005	< 0.010	
19-Aug-24	26-Aug-24	295	0.039 +/- 0.005		Duplicate

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
26-Aug-24	03-Sep-24	342	0.026 +/- 0.004	< 0.012	
03-Sep-24	09-Sep-24	255	0.027 +/- 0.005	< 0.012	
09-Sep-24	16-Sep-24	296	0.027 +/- 0.005	< 0.009	
16-Sep-24	23-Sep-24	296	0.018 +/- 0.004	< 0.008	
23-Sep-24	30-Sep-24	299	0.033 +/- 0.005	< 0.014	
30-Sep-24	07-Oct-24	302	0.033 +/- 0.005	< 0.010	
07-Oct-24	14-Oct-24	295	0.040 +/- 0.005	< 0.013	
14-Oct-24	21-Oct-24	299	0.025 +/- 0.005	< 0.010	
21-Oct-24	28-Oct-24	302	0.036 +/- 0.005	< 0.008	
28-Oct-24	04-Nov-24	303	0.024 +/- 0.005	< 0.017	
04-Nov-24	12-Nov-24	354	0.021 +/- 0.004	< 0.009	
12-Nov-24	19-Nov-24	292	0.034 +/- 0.005	< 0.013	
19-Nov-24	25-Nov-24	259	0.021 +/- 0.005	< 0.014	
25-Nov-24	02-Dec-24	306	0.044 +/- 0.005	< 0.015	
02-Dec-24	09-Dec-24	307	0.036 +/- 0.005	< 0.025	
09-Dec-24	16-Dec-24	310	0.027 +/- 0.005	< 0.009	
16-Dec-24	23-Dec-24	298	0.035 +/- 0.005	< 0.014	
23-Dec-24	30-Dec-24	300	0.057 +/- 0.006	< 0.027	

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-23	02-Jan-24	268	0.026 +/- 0.005	< 0.012	
02-Jan-24	08-Jan-24	250	0.035 +/- 0.006	< 0.020	
08-Jan-24	15-Jan-24	463	0.027 +/- 0.003	< 0.008	
15-Jan-24	22-Jan-24	314	0.030 +/- 0.005	< 0.011	
22-Jan-24	29-Jan-24	295	0.017 +/- 0.004	< 0.010	
29-Jan-24	05-Feb-24	299	0.023 +/- 0.005	< 0.011	
05-Feb-24	12-Feb-24	294	0.023 +/- 0.004	< 0.016	
12-Feb-24	19-Feb-24	305	0.022 +/- 0.004	< 0.012	
19-Feb-24	26-Feb-24	297	0.028 +/- 0.005	< 0.007	
26-Feb-24	04-Mar-24	303	0.023 +/- 0.004	< 0.006	
26-Feb-24	04-Mar-24	303	0.025 +/- 0.004		Duplicate
04-Mar-24	11-Mar-24	306	0.021 +/- 0.004	< 0.011	
11-Mar-24	18-Mar-24	297	0.026 +/- 0.005	< 0.009	
18-Mar-24	25-Mar-24	296	0.027 +/- 0.005	< 0.010	
25-Mar-24	01-Apr-24	306	0.024 +/- 0.004	< 0.011	
25-Mar-24	01-Apr-24	306	0.024 +/- 0.004		Duplicate
01-Apr-24	08-Apr-24	307	0.015 +/- 0.004	< 0.012	
08-Apr-24	15-Apr-24	298	0.023 +/- 0.004	< 0.006	
15-Apr-24	22-Apr-24	309	0.018 +/- 0.004	< 0.026	
22-Apr-24	30-Apr-24	332	0.026 +/- 0.004	< 0.014	
30-Apr-24	06-May-24	262	0.010 +/- 0.005	< 0.019	
06-May-24	13-May-24	298	0.015 +/- 0.004	< 0.017	
13-May-24	20-May-24	301	0.022 +/- 0.004	< 0.013	
20-May-24	28-May-24	348	0.020 +/- 0.004	< 0.007	
20-May-24	28-May-24	348	0.022 +/- 0.004		Duplicate
28-May-24	03-Jun-24	258	0.022 +/- 0.005	< 0.023	
03-Jun-24	11-Jun-24	346	0.014 +/- 0.004	< 0.008	
11-Jun-24	17-Jun-24	255	0.026 +/- 0.005	< 0.010	
17-Jun-24	24-Jun-24	299	0.021 +/- 0.004	< 0.011	
24-Jun-24	01-Jul-24	299	0.017 +/- 0.004	< 0.015	
01-Jul-24	08-Jul-24	299	0.019 +/- 0.004	< 0.013	
08-Jul-24	16-Jul-24	344	0.028 +/- 0.004	< 0.013	
08-Jul-24	16-Jul-24	344	0.028 +/- 0.004		Duplicate
16-Jul-24	22-Jul-24	263	0.019 +/- 0.005	< 0.009	
22-Jul-24	29-Jul-24	299	0.033 +/- 0.005	< 0.010	
29-Jul-24	05-Aug-24	299	0.023 +/- 0.004	< 0.018	
05-Aug-24	12-Aug-24	305	0.024 +/- 0.004	< 0.017	
12-Aug-24	19-Aug-24	299	0.028 +/- 0.004	< 0.008	
19-Aug-24	26-Aug-24	301	0.040 +/- 0.005	< 0.009	
26-Aug-24	03-Sep-24	342	0.027 +/- 0.004	< 0.012	
03-Sep-24	09-Sep-24	258	0.029 +/- 0.005	< 0.012	

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
09-Sep-24	16-Sep-24	300	0.026 +/- 0.005	< 0.009	
16-Sep-24	23-Sep-24	298	0.021 +/- 0.004	< 0.008	
23-Sep-24	30-Sep-24	299	0.038 +/- 0.005	< 0.014	
30-Sep-24	07-Oct-24	305	0.031 +/- 0.005	< 0.010	
07-Oct-24	14-Oct-24	294	0.042 +/- 0.005	< 0.013	
07-Oct-24	14-Oct-24	294	0.045 +/- 0.005		Duplicate
14-Oct-24	21-Oct-24	302	0.020 +/- 0.004	< 0.010	
21-Oct-24	28-Oct-24	302	0.037 +/- 0.005	< 0.008	
28-Oct-24	04-Nov-24	306	0.020 +/- 0.004	< 0.017	
04-Nov-24	12-Nov-24	358	0.021 +/- 0.004	< 0.009	
12-Nov-24	19-Nov-24	298	0.033 +/- 0.005	< 0.012	
19-Nov-24	25-Nov-24	263	0.027 +/- 0.005	< 0.014	
25-Nov-24	02-Dec-24	305	0.045 +/- 0.005	< 0.016	
02-Dec-24	09-Dec-24	297	0.038 +/- 0.005	< 0.026	
09-Dec-24	16-Dec-24	305	0.027 +/- 0.005	< 0.009	
16-Dec-24	23-Dec-24	303	0.042 +/- 0.005	< 0.014	
23-Dec-24	30-Dec-24	297	0.053 +/- 0.006	< 0.027	

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-23	02-Jan-24	263	0.027 +/- 0.005	< 0.012	
02-Jan-24	08-Jan-24	255	0.038 +/- 0.006	< 0.019	
08-Jan-24	15-Jan-24	312	0.026 +/- 0.004	< 0.013	
15-Jan-24	22-Jan-24	304	0.031 +/- 0.005	< 0.012	
15-Jan-24	22-Jan-24	304	0.030 +/- 0.005		Duplicate
22-Jan-24	29-Jan-24	301	0.018 +/- 0.004	< 0.010	
29-Jan-24	05-Feb-24	301	0.023 +/- 0.005	< 0.010	
05-Feb-24	12-Feb-24	297	0.020 +/- 0.004	< 0.016	
12-Feb-24	19-Feb-24	303	0.024 +/- 0.005	< 0.012	
19-Feb-24	26-Feb-24	296	0.025 +/- 0.005	< 0.007	
26-Feb-24	04-Mar-24	305	0.027 +/- 0.005	< 0.006	
04-Mar-24	11-Mar-24	305	0.024 +/- 0.005	< 0.011	
11-Mar-24	18-Mar-24	294	0.029 +/- 0.005	< 0.009	
11-Mar-24	18-Mar-24	294	0.024 +/- 0.005		Duplicate
18-Mar-24	25-Mar-24	294	0.023 +/- 0.004	< 0.010	
25-Mar-24	01-Apr-24	307	0.028 +/- 0.004	< 0.011	
01-Apr-24	08-Apr-24	297	0.014 +/- 0.004	< 0.012	
08-Apr-24	15-Apr-24	295	0.020 +/- 0.004	< 0.006	
15-Apr-24	22-Apr-24	310	0.019 +/- 0.004	< 0.026	
22-Apr-24	30-Apr-24	370	0.023 +/- 0.003	< 0.012	
30-Apr-24	06-May-24	264	0.011 +/- 0.005	< 0.019	
06-May-24	13-May-24	291	0.013 +/- 0.004	< 0.018	
13-May-24	20-May-24	264	0.019 +/- 0.005	< 0.015	
20-May-24	28-May-24	345	0.020 +/- 0.004	< 0.007	
28-May-24	03-Jun-24	255	0.021 +/- 0.005	< 0.023	
03-Jun-24	11-Jun-24	334	0.014 +/- 0.004	< 0.008	
11-Jun-24	17-Jun-24	255	0.026 +/- 0.005	< 0.010	
17-Jun-24	24-Jun-24	301	0.019 +/- 0.004	< 0.010	
24-Jun-24	01-Jul-24	299	0.012 +/- 0.004	< 0.015	
01-Jul-24	08-Jul-24	295	0.019 +/- 0.004	< 0.013	
08-Jul-24	16-Jul-24	348	0.027 +/- 0.004	< 0.013	
16-Jul-24	22-Jul-24	259	0.017 +/- 0.005	< 0.009	
22-Jul-24	29-Jul-24	295	0.034 +/- 0.005	< 0.010	
29-Jul-24	05-Aug-24	278	0.026 +/- 0.005	< 0.019	
05-Aug-24	12-Aug-24	299	0.021 +/- 0.004	< 0.017	
12-Aug-24	19-Aug-24	296	0.023 +/- 0.004	< 0.008	
19-Aug-24	26-Aug-24	301	0.036 +/- 0.005	< 0.009	
26-Aug-24	03-Sep-24	362	0.025 +/- 0.004	< 0.011	
03-Sep-24	09-Sep-24	254	0.026 +/- 0.005	< 0.012	
09-Sep-24	16-Sep-24	296	0.023 +/- 0.005	< 0.009	
16-Sep-24	23-Sep-24	296	0.017 +/- 0.004	< 0.008	

Air Particulate Filters and Radioiodine Canisters

Location: 053

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)	I-131 Concentration (pCi/m3)	Duplicate Analysis
23-Sep-24	30-Sep-24	299	0.029 +/- 0.005	< 0.014	
30-Sep-24	07-Oct-24	303	0.036 +/- 0.005	< 0.010	
07-Oct-24	14-Oct-24	293	0.042 +/- 0.005	< 0.013	
14-Oct-24	21-Oct-24	293	0.022 +/- 0.005	< 0.010	
21-Oct-24	28-Oct-24	299	0.032 +/- 0.005	< 0.008	
28-Oct-24	04-Nov-24	301	0.022 +/- 0.004	< 0.017	
04-Nov-24	12-Nov-24	348	0.017 +/- 0.004	< 0.009	
12-Nov-24	19-Nov-24	294	0.031 +/- 0.005	< 0.012	
19-Nov-24	25-Nov-24	253	0.021 +/- 0.006	< 0.014	
25-Nov-24	02-Dec-24	303	0.041 +/- 0.005	< 0.016	
25-Nov-24	02-Dec-24	303	0.042 +/- 0.005		Duplicate
02-Dec-24	09-Dec-24	298	0.035 +/- 0.005	< 0.026	
02-Dec-24	09-Dec-24	298	0.036 +/- 0.005		Duplicate
09-Dec-24	16-Dec-24	305	0.026 +/- 0.005	< 0.009	
16-Dec-24	23-Dec-24	300	0.039 +/- 0.005	< 0.014	
23-Dec-24	30-Dec-24	306	0.056 +/- 0.006	< 0.026	

Quarterly Air Particulates - Gamma

Location: 002

01-Apr-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.072 +/-	0.017
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

01-Jul-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.089 +/-	0.014
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

30-Sep-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.089 +/-	0.016
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

30-Dec-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.042 +/-	0.009
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

*Duplicate Analysis

Quarterly Air Particulates - Gamma

Location: 018

01-Apr-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.060 +/-	0.016
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.002
CS-134	<	0.001
CS-137	<	0.001

01-Jul-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.083 +/-	0.017
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

30-Sep-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.071 +/-	0.016
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.002
CS-134	<	0.001
CS-137	<	0.001

30-Dec-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.058 +/-	0.012
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

*Duplicate Analysis

Quarterly Air Particulates - Gamma

Location: 032

01-Apr-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.081 +/-	0.013
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

01-Jul-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.090 +/-	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

30-Sep-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.076 +/-	0.021
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.002
CS-134	<	0.001
CS-137	<	0.001

30-Dec-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.046 +/-	0.013
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.002
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.002

*Duplicate Analysis

Quarterly Air Particulates - Gamma

Location: 037

01-Apr-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.069 +/-	0.015
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

01-Jul-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.075 +/-	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

30-Sep-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.112 +/-	0.020
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.002
CS-134	<	0.001
CS-137	<	0.001

30-Dec-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.045 +/-	0.015
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.003
ZR-NB-95	<	0.001
CS-134	<	0.002
CS-137	<	0.001

*Duplicate Analysis

Quarterly Air Particulates - Gamma

Location: 049

01-Apr-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.063 +/-	0.012
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

01-Jul-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.093 +/-	0.015
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

30-Sep-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.091 +/-	0.016
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

30-Dec-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.030 +/-	0.007
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.002
CS-134	<	0.001
CS-137	<	0.001

*Duplicate Analysis

Quarterly Air Particulates - Gamma

Location: 053

01-Apr-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.068 +/-	0.016
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

01-Jul-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.090 +/-	0.015
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.001
CO-60	<	0.001
ZN-65	<	0.001
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

30-Sep-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.091 +/-	0.018
MN-54	<	0.001
CO-58	<	0.001
FE-59	<	0.002
CO-60	<	0.001
ZN-65	<	0.002
ZR-NB-95	<	0.001
CS-134	<	0.001
CS-137	<	0.001

30-Dec-24

<u>Nuclide</u>	<u>Concentration (pCi/m3)</u>	
BE-7	0.061 +/-	0.014
MN-54	<	0.002
CO-58	<	0.002
FE-59	<	0.003
CO-60	<	0.001
ZN-65	<	0.003
ZR-NB-95	<	0.002
CS-134	<	0.002
CS-137	<	0.001

*Duplicate Analysis

**Exposure Pathway - Waterborne
Surface Water
Location: JRR**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
11-Jan-24	SURFACE WATER	MN-54	<	3.2
11-Jan-24	SURFACE WATER	CO-58	<	4.2
11-Jan-24	SURFACE WATER	FE-59	<	4.8
11-Jan-24	SURFACE WATER	CO-60	<	2.1
11-Jan-24	SURFACE WATER	ZN-65	<	6.0
11-Jan-24	SURFACE WATER	ZR-NB-95	<	4.7
11-Jan-24	SURFACE WATER	I-131	<	6.9
11-Jan-24	SURFACE WATER	CS-134	<	3.5
11-Jan-24	SURFACE WATER	CS-137	<	2.4
11-Jan-24	SURFACE WATER	BA-LA-140	<	4.3
11-Jan-24	SURFACE WATER	H-3	<	174.0
21-Feb-24	SURFACE WATER	MN-54	<	2.8
21-Feb-24	SURFACE WATER	CO-58	<	2.8
21-Feb-24	SURFACE WATER	FE-59	<	2.8
21-Feb-24	SURFACE WATER	CO-60	<	2.7
21-Feb-24	SURFACE WATER	ZN-65	<	5.7
21-Feb-24	SURFACE WATER	ZR-NB-95	<	2.6
21-Feb-24	SURFACE WATER	I-131	<	3.0
21-Feb-24	SURFACE WATER	CS-134	<	2.9
21-Feb-24	SURFACE WATER	CS-137	<	3.2
21-Feb-24	SURFACE WATER	BA-LA-140	<	2.2
21-Feb-24	SURFACE WATER	H-3	<	179.0
21-Feb-24	SURFACE WATER	FE-55	<	474.0
06-Mar-24	SURFACE WATER	MN-54	<	2.9
06-Mar-24	SURFACE WATER	CO-58	<	1.8
06-Mar-24	SURFACE WATER	FE-59	<	5.2
06-Mar-24	SURFACE WATER	CO-60	<	3.6
06-Mar-24	SURFACE WATER	ZN-65	<	2.7
06-Mar-24	SURFACE WATER	ZR-NB-95	<	2.3
06-Mar-24	SURFACE WATER	I-131	<	4.0
06-Mar-24	SURFACE WATER	CS-134	<	3.2
06-Mar-24	SURFACE WATER	CS-137	<	4.3
06-Mar-24	SURFACE WATER	BA-LA-140	<	3.1
06-Mar-24	SURFACE WATER	H-3	<	175.0
17-Apr-24	SURFACE WATER	MN-54	<	1.7
17-Apr-24	SURFACE WATER	CO-58	<	2.2
17-Apr-24	SURFACE WATER	FE-59	<	4.7
17-Apr-24	SURFACE WATER	CO-60	<	2.4

**Exposure Pathway - Waterborne
Surface Water
Location: JRR**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
17-Apr-24	SURFACE WATER	ZN-65	<	3.9
17-Apr-24	SURFACE WATER	ZR-NB-95	<	2.8
17-Apr-24	SURFACE WATER	I-131	<	2.7
17-Apr-24	SURFACE WATER	CS-134	<	2.5
17-Apr-24	SURFACE WATER	CS-137	<	2.2
17-Apr-24	SURFACE WATER	BA-LA-140	<	1.7
17-Apr-24	SURFACE WATER	H-3	<	170.0
15-May-24	SURFACE WATER	MN-54	<	2.2
15-May-24	SURFACE WATER	CO-58	<	2.0
15-May-24	SURFACE WATER	FE-59	<	2.7
15-May-24	SURFACE WATER	CO-60	<	2.0
15-May-24	SURFACE WATER	ZN-65	<	3.7
15-May-24	SURFACE WATER	ZR-NB-95	<	2.2
15-May-24	SURFACE WATER	I-131	<	2.1
15-May-24	SURFACE WATER	CS-134	<	2.2
15-May-24	SURFACE WATER	CS-137	<	2.3
15-May-24	SURFACE WATER	BA-LA-140	<	2.3
15-May-24	SURFACE WATER	H-3	<	188.0
15-May-24	SURFACE WATER	FE-55	<	114.0
25-Jun-24	SURFACE WATER	MN-54	<	7.3
25-Jun-24	SURFACE WATER	MN-54	<	7.3
25-Jun-24	SURFACE WATER	CO-58	<	4.5
25-Jun-24	SURFACE WATER	CO-58	<	4.5
25-Jun-24	SURFACE WATER	FE-59	<	7.3
25-Jun-24	SURFACE WATER	FE-59	<	7.3
25-Jun-24	SURFACE WATER	CO-60	<	2.8
25-Jun-24	SURFACE WATER	CO-60	<	2.8
25-Jun-24	SURFACE WATER	ZN-65	<	10.2
25-Jun-24	SURFACE WATER	ZN-65	<	10.2
25-Jun-24	SURFACE WATER	ZR-NB-95	<	6.9
25-Jun-24	SURFACE WATER	ZR-NB-95	<	6.9
25-Jun-24	SURFACE WATER	I-131	<	4.2
25-Jun-24	SURFACE WATER	I-131	<	4.1
25-Jun-24	SURFACE WATER	CS-134	<	6.3
25-Jun-24	SURFACE WATER	CS-134	<	6.3
25-Jun-24	SURFACE WATER	CS-137	<	3.3
25-Jun-24	SURFACE WATER	CS-137	<	3.3
25-Jun-24	SURFACE WATER	BA-LA-140	<	3.9

**Exposure Pathway - Waterborne
Surface Water
Location: JRR**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
25-Jun-24	SURFACE WATER	BA-LA-140	<	3.9
25-Jun-24	SURFACE WATER	H-3	<	185.0
25-Jun-24	SURFACE WATER	H-3	<	185.0
23-Jul-24	SURFACE WATER	MN-54	<	2.5
23-Jul-24	SURFACE WATER	CO-58	<	2.5
23-Jul-24	SURFACE WATER	FE-59	<	3.0
23-Jul-24	SURFACE WATER	CO-60	<	1.7
23-Jul-24	SURFACE WATER	ZN-65	<	3.4
23-Jul-24	SURFACE WATER	ZR-NB-95	<	1.8
23-Jul-24	SURFACE WATER	I-131	<	3.0
23-Jul-24	SURFACE WATER	CS-134	<	2.5
23-Jul-24	SURFACE WATER	CS-137	<	2.9
23-Jul-24	SURFACE WATER	BA-LA-140	<	3.5
23-Jul-24	SURFACE WATER	H-3	<	177.0
13-Aug-24	SURFACE WATER	MN-54	<	4.4
13-Aug-24	SURFACE WATER	CO-58	<	5.5
13-Aug-24	SURFACE WATER	FE-59	<	11.1
13-Aug-24	SURFACE WATER	CO-60	<	4.5
13-Aug-24	SURFACE WATER	ZN-65	<	6.0
13-Aug-24	SURFACE WATER	ZR-NB-95	<	5.8
13-Aug-24	SURFACE WATER	I-131	<	5.7
13-Aug-24	SURFACE WATER	CS-134	<	5.8
13-Aug-24	SURFACE WATER	CS-137	<	2.9
13-Aug-24	SURFACE WATER	BA-LA-140	<	4.8
13-Aug-24	SURFACE WATER	H-3	<	181.0
13-Aug-24	SURFACE WATER	FE-55	<	112.0
18-Sep-24	SURFACE WATER	MN-54	<	4.1
18-Sep-24	SURFACE WATER	CO-58	<	4.0
18-Sep-24	SURFACE WATER	FE-59	<	10.1
18-Sep-24	SURFACE WATER	CO-60	<	4.7
18-Sep-24	SURFACE WATER	ZN-65	<	6.4
18-Sep-24	SURFACE WATER	ZR-NB-95	<	7.4
18-Sep-24	SURFACE WATER	I-131	<	7.0
18-Sep-24	SURFACE WATER	CS-134	<	6.0
18-Sep-24	SURFACE WATER	CS-137	<	5.6
18-Sep-24	SURFACE WATER	BA-LA-140	<	4.8
18-Sep-24	SURFACE WATER	H-3	<	180.0
22-Oct-24	SURFACE WATER	MN-54	<	6.6

**Exposure Pathway - Waterborne
Surface Water
Location: JRR**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
22-Oct-24	SURFACE WATER	CO-58	<	6.2
22-Oct-24	SURFACE WATER	FE-59	<	5.6
22-Oct-24	SURFACE WATER	CO-60	<	5.4
22-Oct-24	SURFACE WATER	ZN-65	<	5.0
22-Oct-24	SURFACE WATER	ZR-NB-95	<	5.5
22-Oct-24	SURFACE WATER	I-131	<	5.7
22-Oct-24	SURFACE WATER	CS-134	<	8.6
22-Oct-24	SURFACE WATER	CS-137	<	5.2
22-Oct-24	SURFACE WATER	BA-LA-140	<	7.0
22-Oct-24	SURFACE WATER	H-3	<	177.0
19-Nov-24	SURFACE WATER	MN-54	<	1.2
19-Nov-24	SURFACE WATER	CO-58	<	0.6
19-Nov-24	SURFACE WATER	FE-59	<	2.1
19-Nov-24	SURFACE WATER	CO-60	<	1.3
19-Nov-24	SURFACE WATER	ZN-65	<	2.5
19-Nov-24	SURFACE WATER	ZR-NB-95	<	1.3
19-Nov-24	SURFACE WATER	I-131	<	1.6
19-Nov-24	SURFACE WATER	CS-134	<	1.1
19-Nov-24	SURFACE WATER	CS-137	<	1.1
19-Nov-24	SURFACE WATER	BA-LA-140	<	1.0
19-Nov-24	SURFACE WATER	H-3	<	185.0
19-Nov-24	SURFACE WATER	FE-55	<	396
16-Dec-24	SURFACE WATER	MN-54	<	5.3
16-Dec-24	SURFACE WATER	CO-58	<	4.3
16-Dec-24	SURFACE WATER	FE-59	<	5.2
16-Dec-24	SURFACE WATER	CO-60	<	6.3
16-Dec-24	SURFACE WATER	ZN-65	<	8.8
16-Dec-24	SURFACE WATER	ZR-NB-95	<	4.8
16-Dec-24	SURFACE WATER	I-131	<	4.3
16-Dec-24	SURFACE WATER	CS-134	<	6.9
16-Dec-24	SURFACE WATER	CS-137	<	6.7
16-Dec-24	SURFACE WATER	BA-LA-140	<	7.3
16-Dec-24	SURFACE WATER	H-3	<	182.0

**Exposure Pathway - Waterborne
Surface Water
Location: SP**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
11-Jan-24	SURFACE WATER	MN-54	<	3.3
11-Jan-24	SURFACE WATER	CO-58	<	3.5
11-Jan-24	SURFACE WATER	FE-59	<	6.0
11-Jan-24	SURFACE WATER	CO-60	<	7.0
11-Jan-24	SURFACE WATER	ZN-65	<	7.9
11-Jan-24	SURFACE WATER	ZR-NB-95	<	6.0
11-Jan-24	SURFACE WATER	I-131	<	5.2
11-Jan-24	SURFACE WATER	CS-134	<	4.9
11-Jan-24	SURFACE WATER	CS-137	<	6.6
11-Jan-24	SURFACE WATER	BA-LA-140	<	4.9
11-Jan-24	SURFACE WATER	H-3	12,906 +/-	362.0
21-Feb-24	SURFACE WATER	MN-54	<	1.4
21-Feb-24	SURFACE WATER	CO-58	<	1.6
21-Feb-24	SURFACE WATER	FE-59	<	3.6
21-Feb-24	SURFACE WATER	CO-60	<	2.0
21-Feb-24	SURFACE WATER	ZN-65	<	3.0
21-Feb-24	SURFACE WATER	ZR-NB-95	<	1.9
21-Feb-24	SURFACE WATER	I-131	<	3.0
21-Feb-24	SURFACE WATER	CS-134	<	1.6
21-Feb-24	SURFACE WATER	CS-137	<	2.2
21-Feb-24	SURFACE WATER	BA-LA-140	<	2.1
21-Feb-24	SURFACE WATER	H-3	15,030 +/-	389.0
21-Feb-24	SURFACE WATER	FE-55	<	451.0
06-Mar-24	SURFACE WATER	MN-54	<	1.6
06-Mar-24	SURFACE WATER	CO-58	<	0.9
06-Mar-24	SURFACE WATER	FE-59	<	2.7
06-Mar-24	SURFACE WATER	CO-60	<	2.1
06-Mar-24	SURFACE WATER	ZN-65	<	2.6
06-Mar-24	SURFACE WATER	ZR-NB-95	<	1.8
06-Mar-24	SURFACE WATER	I-131	<	1.3
06-Mar-24	SURFACE WATER	CS-134	<	1.5
06-Mar-24	SURFACE WATER	CS-137	<	1.8
06-Mar-24	SURFACE WATER	BA-LA-140	<	1.0
06-Mar-24	SURFACE WATER	H-3	14,675 +/-	382.0
17-Apr-24	SURFACE WATER	MN-54	<	2.8
17-Apr-24	SURFACE WATER	CO-58	<	1.7
17-Apr-24	SURFACE WATER	FE-59	<	4.5
17-Apr-24	SURFACE WATER	CO-60	<	3.4

**Exposure Pathway - Waterborne
Surface Water
Location: SP**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
17-Apr-24	SURFACE WATER	ZN-65	<	4.1
17-Apr-24	SURFACE WATER	ZR-NB-95	<	2.3
17-Apr-24	SURFACE WATER	I-131	<	3.1
17-Apr-24	SURFACE WATER	CS-134	<	2.9
17-Apr-24	SURFACE WATER	CS-137	<	4.4
17-Apr-24	SURFACE WATER	BA-LA-140	<	2.6
17-Apr-24	SURFACE WATER	H-3	14,164 +/-	375.0
15-May-24	SURFACE WATER	MN-54	<	1.0
15-May-24	SURFACE WATER	CO-58	<	0.9
15-May-24	SURFACE WATER	FE-59	<	3.0
15-May-24	SURFACE WATER	CO-60	<	1.9
15-May-24	SURFACE WATER	ZN-65	<	2.5
15-May-24	SURFACE WATER	ZR-NB-95	<	1.6
15-May-24	SURFACE WATER	I-131	<	1.2
15-May-24	SURFACE WATER	CS-134	<	1.4
15-May-24	SURFACE WATER	CS-137	<	2.1
15-May-24	SURFACE WATER	BA-LA-140	<	1.4
15-May-24	SURFACE WATER	H-3	14,009 +/-	384.0
15-May-24	SURFACE WATER	FE-55	<	112.0
25-Jun-24	SURFACE WATER	MN-54	<	2.0
25-Jun-24	SURFACE WATER	MN-54	<	2.0
25-Jun-24	SURFACE WATER	CO-58	<	3.1
25-Jun-24	SURFACE WATER	CO-58	<	3.1
25-Jun-24	SURFACE WATER	FE-59	<	3.5
25-Jun-24	SURFACE WATER	FE-59	<	3.5
25-Jun-24	SURFACE WATER	CO-60	<	3.3
25-Jun-24	SURFACE WATER	CO-60	<	3.3
25-Jun-24	SURFACE WATER	ZN-65	<	5.8
25-Jun-24	SURFACE WATER	ZN-65	<	5.8
25-Jun-24	SURFACE WATER	ZR-NB-95	<	2.5
25-Jun-24	SURFACE WATER	ZR-NB-95	<	2.5
25-Jun-24	SURFACE WATER	I-131	<	3.4
25-Jun-24	SURFACE WATER	I-131	<	3.4
25-Jun-24	SURFACE WATER	CS-134	<	2.8
25-Jun-24	SURFACE WATER	CS-134	<	2.8
25-Jun-24	SURFACE WATER	CS-137	<	3.7
25-Jun-24	SURFACE WATER	CS-137	<	3.7
25-Jun-24	SURFACE WATER	BA-LA-140	<	2.6

**Exposure Pathway - Waterborne
Surface Water
Location: SP**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
25-Jun-24	SURFACE WATER	BA-LA-140	<	2.6
25-Jun-24	SURFACE WATER	H-3	12,859 +/-	366.0
25-Jun-24	SURFACE WATER	H-3	12,859 +/-	366.0
23-Jul-24	SURFACE WATER	MN-54	<	2.0
23-Jul-24	SURFACE WATER	CO-58	<	2.4
23-Jul-24	SURFACE WATER	FE-59	<	5.3
23-Jul-24	SURFACE WATER	CO-60	<	2.0
23-Jul-24	SURFACE WATER	ZN-65	<	4.6
23-Jul-24	SURFACE WATER	ZR-NB-95	<	2.2
23-Jul-24	SURFACE WATER	I-131	<	3.0
23-Jul-24	SURFACE WATER	CS-134	<	2.8
23-Jul-24	SURFACE WATER	CS-137	<	3.1
23-Jul-24	SURFACE WATER	BA-LA-140	<	1.0
23-Jul-24	SURFACE WATER	H-3	12,375 +/-	358.0
13-Aug-24	SURFACE WATER	MN-54	<	2.8
13-Aug-24	SURFACE WATER	CO-58	<	1.9
13-Aug-24	SURFACE WATER	FE-59	<	3.9
13-Aug-24	SURFACE WATER	CO-60	<	3.7
13-Aug-24	SURFACE WATER	ZN-65	<	5.9
13-Aug-24	SURFACE WATER	ZR-NB-95	<	2.6
13-Aug-24	SURFACE WATER	I-131	<	4.9
13-Aug-24	SURFACE WATER	CS-134	<	3.0
13-Aug-24	SURFACE WATER	CS-137	<	4.1
13-Aug-24	SURFACE WATER	BA-LA-140	<	2.7
13-Aug-24	SURFACE WATER	H-3	11,514 +/-	347.0
13-Aug-24	SURFACE WATER	FE-55	<	112.0
18-Sep-24	SURFACE WATER	MN-54	<	2.7
18-Sep-24	SURFACE WATER	CO-58	<	2.3
18-Sep-24	SURFACE WATER	FE-59	<	5.1
18-Sep-24	SURFACE WATER	CO-60	<	3.2
18-Sep-24	SURFACE WATER	ZN-65	<	3.9
18-Sep-24	SURFACE WATER	ZR-NB-95	<	2.9
18-Sep-24	SURFACE WATER	I-131	<	3.8
18-Sep-24	SURFACE WATER	CS-134	<	3.3
18-Sep-24	SURFACE WATER	CS-137	<	4.2
18-Sep-24	SURFACE WATER	BA-LA-140	<	2.2
18-Sep-24	SURFACE WATER	H-3	11,712 +/-	348.0
22-Oct-24	SURFACE WATER	MN-54	<	3.3

**Exposure Pathway - Waterborne
Surface Water
Location: SP**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
22-Oct-24	SURFACE WATER	CO-58	<	2.8
22-Oct-24	SURFACE WATER	FE-59	<	6.9
22-Oct-24	SURFACE WATER	CO-60	<	4.3
22-Oct-24	SURFACE WATER	ZN-65	<	6.2
22-Oct-24	SURFACE WATER	ZR-NB-95	<	3.2
22-Oct-24	SURFACE WATER	I-131	<	6.3
22-Oct-24	SURFACE WATER	CS-134	<	4.9
22-Oct-24	SURFACE WATER	CS-137	<	4.8
22-Oct-24	SURFACE WATER	BA-LA-140	<	3.9
22-Oct-24	SURFACE WATER	H-3	11,058 +/-	339.0
19-Nov-24	SURFACE WATER	MN-54	<	1.1
19-Nov-24	SURFACE WATER	CO-58	<	1.1
19-Nov-24	SURFACE WATER	FE-59	<	2.0
19-Nov-24	SURFACE WATER	CO-60	<	1.0
19-Nov-24	SURFACE WATER	ZN-65	<	2.4
19-Nov-24	SURFACE WATER	ZR-NB-95	<	1.2
19-Nov-24	SURFACE WATER	I-131	<	1.2
19-Nov-24	SURFACE WATER	CS-134	<	1.0
19-Nov-24	SURFACE WATER	CS-137	<	1.3
19-Nov-24	SURFACE WATER	BA-LA-140	<	1.6
19-Nov-24	SURFACE WATER	H-3	10,663 +/-	334.0
19-Nov-24	SURFACE WATER	FE-55	<	400.3
16-Dec-24	SURFACE WATER	MN-54	<	2.9
16-Dec-24	SURFACE WATER	CO-58	<	2.4
16-Dec-24	SURFACE WATER	FE-59	<	4.6
16-Dec-24	SURFACE WATER	CO-60	<	3.7
16-Dec-24	SURFACE WATER	ZN-65	<	3.1
16-Dec-24	SURFACE WATER	ZR-NB-95	<	2.4
16-Dec-24	SURFACE WATER	I-131	<	4.4
16-Dec-24	SURFACE WATER	CS-134	<	3.6
16-Dec-24	SURFACE WATER	CS-137	<	4.4
16-Dec-24	SURFACE WATER	BA-LA-140	<	1.7
16-Dec-24	SURFACE WATER	H-3	11,257 +/-	343.0

**Exposure Pathway - Waterborne
Ground Water
Location: B-12**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-Feb-24	OFFSITE GROUNDWATER	MN-54	<	1.3
21-Feb-24	OFFSITE GROUNDWATER	CO-58	<	1.2
21-Feb-24	OFFSITE GROUNDWATER	CO-60	<	2.0
21-Feb-24	OFFSITE GROUNDWATER	ZN-65	<	2.5
21-Feb-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.9
21-Feb-24	OFFSITE GROUNDWATER	I-131	<	0.325
21-Feb-24	OFFSITE GROUNDWATER	CS-134	<	1.5
21-Feb-24	OFFSITE GROUNDWATER	CS-137	<	2.0
21-Feb-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.8
21-Feb-24	OFFSITE GROUNDWATER	H-3	<	179.0
21-Feb-24	OFFSITE GROUNDWATER	FE-55	<	2.7
15-May-24	OFFSITE GROUNDWATER	MN-54	<	1.5
15-May-24	OFFSITE GROUNDWATER	CO-58	<	1.5
15-May-24	OFFSITE GROUNDWATER	FE-59	<	2.8
15-May-24	OFFSITE GROUNDWATER	CO-60	<	2.1
15-May-24	OFFSITE GROUNDWATER	ZN-65	<	3.0
15-May-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.4
15-May-24	OFFSITE GROUNDWATER	I-131	<	0.477
15-May-24	OFFSITE GROUNDWATER	CS-134	<	1.5
15-May-24	OFFSITE GROUNDWATER	CS-137	<	2.0
15-May-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.1
15-May-24	OFFSITE GROUNDWATER	H-3	<	188.0
13-Aug-24	OFFSITE GROUNDWATER	MN-54	<	1.8
13-Aug-24	OFFSITE GROUNDWATER	CO-58	<	1.3
13-Aug-24	OFFSITE GROUNDWATER	FE-59	<	3.8
13-Aug-24	OFFSITE GROUNDWATER	CO-60	<	1.3
13-Aug-24	OFFSITE GROUNDWATER	ZN-65	<	4.6
13-Aug-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.3
13-Aug-24	OFFSITE GROUNDWATER	I-131	<	0.226
13-Aug-24	OFFSITE GROUNDWATER	CS-134	<	2.2
13-Aug-24	OFFSITE GROUNDWATER	CS-137	<	2.4
13-Aug-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.8
13-Aug-24	OFFSITE GROUNDWATER	H-3	<	181.0
19-Nov-24	OFFSITE GROUNDWATER	MN-54	<	2.0
19-Nov-24	OFFSITE GROUNDWATER	CO-58	<	2.0
19-Nov-24	OFFSITE GROUNDWATER	FE-59	<	2.8
19-Nov-24	OFFSITE GROUNDWATER	CO-60	<	2.4
19-Nov-24	OFFSITE GROUNDWATER	ZN-65	<	4.6

**Exposure Pathway - Waterborne
Ground Water
Location: B-12**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
19-Nov-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.3
19-Nov-24	OFFSITE GROUNDWATER	I-131	<	0.443
19-Nov-24	OFFSITE GROUNDWATER	CS-134	<	2.2
19-Nov-24	OFFSITE GROUNDWATER	CS-137	<	1.3
19-Nov-24	OFFSITE GROUNDWATER	BA-LA-140	<	3.1
19-Nov-24	OFFSITE GROUNDWATER	H-3	<	185.0

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-Feb-24	OFFSITE GROUNDWATER	MN-54	<	3.3
21-Feb-24	OFFSITE GROUNDWATER	CO-58	<	1.3
21-Feb-24	OFFSITE GROUNDWATER	CO-60	<	1.8
21-Feb-24	OFFSITE GROUNDWATER	ZN-65	<	6.3
21-Feb-24	OFFSITE GROUNDWATER	ZR-NB-95	<	3.3
21-Feb-24	OFFSITE GROUNDWATER	I-131	<	0.455
21-Feb-24	OFFSITE GROUNDWATER	CS-134	<	2.9
21-Feb-24	OFFSITE GROUNDWATER	CS-137	<	3.2
21-Feb-24	OFFSITE GROUNDWATER	BA-LA-140	<	2.4
21-Feb-24	OFFSITE GROUNDWATER	H-3	<	179.0
21-Feb-24	OFFSITE GROUNDWATER	FE-55	<	4.1
15-May-24	OFFSITE GROUNDWATER	MN-54	<	2.8
15-May-24	OFFSITE GROUNDWATER	CO-58	<	2.2
15-May-24	OFFSITE GROUNDWATER	FE-59	<	4.3
15-May-24	OFFSITE GROUNDWATER	CO-60	<	2.7
15-May-24	OFFSITE GROUNDWATER	ZN-65	<	4.9
15-May-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.9
15-May-24	OFFSITE GROUNDWATER	I-131	<	0.43
15-May-24	OFFSITE GROUNDWATER	CS-134	<	3.1
15-May-24	OFFSITE GROUNDWATER	CS-137	<	1.9
15-May-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.6
15-May-24	OFFSITE GROUNDWATER	H-3	<	188.0
13-Aug-24	OFFSITE GROUNDWATER	MN-54	<	1.2
13-Aug-24	OFFSITE GROUNDWATER	CO-58	<	2.2
13-Aug-24	OFFSITE GROUNDWATER	FE-59	<	3.6
13-Aug-24	OFFSITE GROUNDWATER	CO-60	<	1.8
13-Aug-24	OFFSITE GROUNDWATER	ZN-65	<	3.9
13-Aug-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.4
13-Aug-24	OFFSITE GROUNDWATER	I-131	<	0.177
13-Aug-24	OFFSITE GROUNDWATER	CS-134	<	2.1
13-Aug-24	OFFSITE GROUNDWATER	CS-137	<	2.8
13-Aug-24	OFFSITE GROUNDWATER	BA-LA-140	<	2.7
13-Aug-24	OFFSITE GROUNDWATER	H-3	<	181.0
19-Nov-24	OFFSITE GROUNDWATER	MN-54	<	2.6
19-Nov-24	OFFSITE GROUNDWATER	CO-58	<	1.7
19-Nov-24	OFFSITE GROUNDWATER	FE-59	<	6.2
19-Nov-24	OFFSITE GROUNDWATER	CO-60	<	2.4
19-Nov-24	OFFSITE GROUNDWATER	ZN-65	<	5.7

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
19-Nov-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.2
19-Nov-24	OFFSITE GROUNDWATER	I-131	<	0.259
19-Nov-24	OFFSITE GROUNDWATER	CS-134	<	3.6
19-Nov-24	OFFSITE GROUNDWATER	CS-137	<	3.4
19-Nov-24	OFFSITE GROUNDWATER	BA-LA-140	<	2.8
19-Nov-24	OFFSITE GROUNDWATER	H-3	<	185.0

**Exposure Pathway - Waterborne
Ground Water
Location: C-49**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-Feb-24	OFFSITE GROUNDWATER	MN-54	<	1.3
21-Feb-24	OFFSITE GROUNDWATER	CO-58	<	1.4
21-Feb-24	OFFSITE GROUNDWATER	FE-59	<	2.4
21-Feb-24	OFFSITE GROUNDWATER	CO-60	<	1.0
21-Feb-24	OFFSITE GROUNDWATER	ZN-65	<	2.4
21-Feb-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.3
21-Feb-24	OFFSITE GROUNDWATER	I-131	<	0.419
21-Feb-24	OFFSITE GROUNDWATER	CS-134	<	3.2
21-Feb-24	OFFSITE GROUNDWATER	CS-137	<	1.3
21-Feb-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.5
21-Feb-24	OFFSITE GROUNDWATER	H-3	<	179.0
15-May-24	OFFSITE GROUNDWATER	MN-54	<	0.7
15-May-24	OFFSITE GROUNDWATER	CO-58	<	0.9
15-May-24	OFFSITE GROUNDWATER	FE-59	<	2.3
15-May-24	OFFSITE GROUNDWATER	CO-60	<	1.1
15-May-24	OFFSITE GROUNDWATER	ZN-65	<	2.2
15-May-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.3
15-May-24	OFFSITE GROUNDWATER	I-131	<	0.342
15-May-24	OFFSITE GROUNDWATER	CS-134	<	1.2
15-May-24	OFFSITE GROUNDWATER	CS-137	<	1.3
15-May-24	OFFSITE GROUNDWATER	BA-LA-140	<	0.6
15-May-24	OFFSITE GROUNDWATER	H-3	<	188.0
13-Aug-24	OFFSITE GROUNDWATER	MN-54	<	0.8
13-Aug-24	OFFSITE GROUNDWATER	CO-58	<	0.9
13-Aug-24	OFFSITE GROUNDWATER	FE-59	<	1.8
13-Aug-24	OFFSITE GROUNDWATER	CO-60	<	1.0
13-Aug-24	OFFSITE GROUNDWATER	ZN-65	<	1.4
13-Aug-24	OFFSITE GROUNDWATER	ZR-NB-95	<	0.9
13-Aug-24	OFFSITE GROUNDWATER	I-131	<	0.328
13-Aug-24	OFFSITE GROUNDWATER	CS-134	<	0.8
13-Aug-24	OFFSITE GROUNDWATER	CS-137	<	1.1
13-Aug-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.3
13-Aug-24	OFFSITE GROUNDWATER	H-3	<	181.0
19-Nov-24	OFFSITE GROUNDWATER	MN-54	<	3.2
19-Nov-24	OFFSITE GROUNDWATER	CO-58	<	2.3
19-Nov-24	OFFSITE GROUNDWATER	FE-59	<	4.4
19-Nov-24	OFFSITE GROUNDWATER	CO-60	<	2.5
19-Nov-24	OFFSITE GROUNDWATER	ZN-65	<	6.0

**Exposure Pathway - Waterborne
Ground Water
Location: C-49**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
19-Nov-24	OFFSITE GROUNDWATER	ZR-NB-95	<	3.8
19-Nov-24	OFFSITE GROUNDWATER	I-131	<	0.286
19-Nov-24	OFFSITE GROUNDWATER	CS-134	<	3.2
19-Nov-24	OFFSITE GROUNDWATER	CS-137	<	4.1
19-Nov-24	OFFSITE GROUNDWATER	BA-LA-140	<	3.0
19-Nov-24	OFFSITE GROUNDWATER	H-3	<	185.0

**Exposure Pathway - Waterborne
Ground Water
Location: F-1**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-Feb-24	OFFSITE GROUNDWATER	MN-54	<	1.1
21-Feb-24	OFFSITE GROUNDWATER	CO-58	<	1.1
21-Feb-24	OFFSITE GROUNDWATER	FE-59	<	1.4
21-Feb-24	OFFSITE GROUNDWATER	CO-60	<	1.3
21-Feb-24	OFFSITE GROUNDWATER	ZN-65	<	2.6
21-Feb-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.5
21-Feb-24	OFFSITE GROUNDWATER	I-131	<	0.278
21-Feb-24	OFFSITE GROUNDWATER	CS-134	<	1.2
21-Feb-24	OFFSITE GROUNDWATER	CS-137	<	1.4
21-Feb-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.8
21-Feb-24	OFFSITE GROUNDWATER	H-3	<	179.0
15-May-24	OFFSITE GROUNDWATER	MN-54	<	1.2
15-May-24	OFFSITE GROUNDWATER	CO-58	<	0.7
15-May-24	OFFSITE GROUNDWATER	FE-59	<	1.5
15-May-24	OFFSITE GROUNDWATER	CO-60	<	1.2
15-May-24	OFFSITE GROUNDWATER	ZN-65	<	2.1
15-May-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.4
15-May-24	OFFSITE GROUNDWATER	I-131	<	0.449
15-May-24	OFFSITE GROUNDWATER	CS-134	<	1.1
15-May-24	OFFSITE GROUNDWATER	CS-137	<	1.6
15-May-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.6
15-May-24	OFFSITE GROUNDWATER	H-3	<	188.0
13-Aug-24	OFFSITE GROUNDWATER	MN-54	<	2.9
13-Aug-24	OFFSITE GROUNDWATER	CO-58	<	2.0
13-Aug-24	OFFSITE GROUNDWATER	FE-59	<	4.5
13-Aug-24	OFFSITE GROUNDWATER	CO-60	<	3.0
13-Aug-24	OFFSITE GROUNDWATER	ZN-65	<	4.8
13-Aug-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.6
13-Aug-24	OFFSITE GROUNDWATER	I-131	<	0.288
13-Aug-24	OFFSITE GROUNDWATER	CS-134	<	3.0
13-Aug-24	OFFSITE GROUNDWATER	CS-137	<	4.1
13-Aug-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.4
13-Aug-24	OFFSITE GROUNDWATER	H-3	<	181.0
19-Nov-24	OFFSITE GROUNDWATER	MN-54	<	1.2
19-Nov-24	OFFSITE GROUNDWATER	CO-58	<	1.1
19-Nov-24	OFFSITE GROUNDWATER	FE-59	<	3.1
19-Nov-24	OFFSITE GROUNDWATER	CO-60	<	1.6
19-Nov-24	OFFSITE GROUNDWATER	ZN-65	<	3.1

**Exposure Pathway - Waterborne
Ground Water
Location: F-1**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
19-Nov-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.5
19-Nov-24	OFFSITE GROUNDWATER	I-131	<	0.422
19-Nov-24	OFFSITE GROUNDWATER	CS-134	<	1.6
19-Nov-24	OFFSITE GROUNDWATER	CS-137	<	2.0
19-Nov-24	OFFSITE GROUNDWATER	BA-LA-140	<	0.8
19-Nov-24	OFFSITE GROUNDWATER	H-3	<	185.0

Exposure Pathway - Waterborne
Ground Water
Location: G-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-Feb-24	OFFSITE GROUNDWATER	MN-54	<	2.7
21-Feb-24	OFFSITE GROUNDWATER	CO-58	<	2.2
21-Feb-24	OFFSITE GROUNDWATER	FE-59	<	3.7
21-Feb-24	OFFSITE GROUNDWATER	CO-60	<	3.7
21-Feb-24	OFFSITE GROUNDWATER	ZN-65	<	4.7
21-Feb-24	OFFSITE GROUNDWATER	ZR-NB-95	<	3.7
21-Feb-24	OFFSITE GROUNDWATER	I-131	<	0.273
21-Feb-24	OFFSITE GROUNDWATER	CS-134	<	2.9
21-Feb-24	OFFSITE GROUNDWATER	CS-137	<	3.6
21-Feb-24	OFFSITE GROUNDWATER	BA-LA-140	<	2.4
21-Feb-24	OFFSITE GROUNDWATER	H-3	<	179.0
15-May-24	OFFSITE GROUNDWATER	MN-54	<	3.0
15-May-24	OFFSITE GROUNDWATER	CO-58	<	2.7
15-May-24	OFFSITE GROUNDWATER	FE-59	<	4.8
15-May-24	OFFSITE GROUNDWATER	CO-60	<	3.5
15-May-24	OFFSITE GROUNDWATER	ZN-65	<	5.7
15-May-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.4
15-May-24	OFFSITE GROUNDWATER	I-131	<	0.401
15-May-24	OFFSITE GROUNDWATER	CS-134	<	2.8
15-May-24	OFFSITE GROUNDWATER	CS-137	<	3.8
15-May-24	OFFSITE GROUNDWATER	BA-LA-140	<	2.3
15-May-24	OFFSITE GROUNDWATER	H-3	<	188.0
13-Aug-24	OFFSITE GROUNDWATER	MN-54	<	6.4
13-Aug-24	OFFSITE GROUNDWATER	CO-58	<	5.8
13-Aug-24	OFFSITE GROUNDWATER	FE-59	<	10.2
13-Aug-24	OFFSITE GROUNDWATER	CO-60	<	5.1
13-Aug-24	OFFSITE GROUNDWATER	ZN-65	<	4.9
13-Aug-24	OFFSITE GROUNDWATER	ZR-NB-95	<	3.5
13-Aug-24	OFFSITE GROUNDWATER	I-131	<	0.162
13-Aug-24	OFFSITE GROUNDWATER	CS-134	<	6.0
13-Aug-24	OFFSITE GROUNDWATER	CS-137	<	6.2
13-Aug-24	OFFSITE GROUNDWATER	BA-LA-140	<	8.3
13-Aug-24	OFFSITE GROUNDWATER	H-3	<	181.0
19-Nov-24	OFFSITE GROUNDWATER	MN-54	<	1.6
19-Nov-24	OFFSITE GROUNDWATER	CO-58	<	1.5
19-Nov-24	OFFSITE GROUNDWATER	FE-59	<	2.0
19-Nov-24	OFFSITE GROUNDWATER	CO-60	<	1.3
19-Nov-24	OFFSITE GROUNDWATER	ZN-65	<	2.7

**Exposure Pathway - Waterborne
Ground Water
Location: G-2**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
19-Nov-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.8
19-Nov-24	OFFSITE GROUNDWATER	I-131	<	0.318
19-Nov-24	OFFSITE GROUNDWATER	CS-134	<	1.5
19-Nov-24	OFFSITE GROUNDWATER	CS-137	<	1.5
19-Nov-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.2
19-Nov-24	OFFSITE GROUNDWATER	H-3	<	185.0

**Exposure Pathway - Waterborne
Ground Water
Location: J-1**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-Feb-24	OFFSITE GROUNDWATER	MN-54	<	1.1
21-Feb-24	OFFSITE GROUNDWATER	CO-58	<	1.0
21-Feb-24	OFFSITE GROUNDWATER	FE-59	<	2.2
21-Feb-24	OFFSITE GROUNDWATER	CO-60	<	1.2
21-Feb-24	OFFSITE GROUNDWATER	ZN-65	<	2.3
21-Feb-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.2
21-Feb-24	OFFSITE GROUNDWATER	I-131	<	0.496
21-Feb-24	OFFSITE GROUNDWATER	CS-134	<	1.1
21-Feb-24	OFFSITE GROUNDWATER	CS-137	<	1.1
21-Feb-24	OFFSITE GROUNDWATER	BA-LA-140	<	1.3
21-Feb-24	OFFSITE GROUNDWATER	H-3	<	179.0
15-May-24	OFFSITE GROUNDWATER	MN-54	<	2.0
15-May-24	OFFSITE GROUNDWATER	CO-58	<	2.4
15-May-24	OFFSITE GROUNDWATER	FE-59	<	3.4
15-May-24	OFFSITE GROUNDWATER	CO-60	<	2.3
15-May-24	OFFSITE GROUNDWATER	ZN-65	<	4.5
15-May-24	OFFSITE GROUNDWATER	ZR-NB-95	<	3.0
15-May-24	OFFSITE GROUNDWATER	I-131	<	0.388
15-May-24	OFFSITE GROUNDWATER	CS-134	<	2.4
15-May-24	OFFSITE GROUNDWATER	CS-137	<	1.9
15-May-24	OFFSITE GROUNDWATER	BA-LA-140	<	0.9
15-May-24	OFFSITE GROUNDWATER	H-3	<	188.0
13-Aug-24	OFFSITE GROUNDWATER	MN-54	<	1.2
13-Aug-24	OFFSITE GROUNDWATER	CO-58	<	1.8
13-Aug-24	OFFSITE GROUNDWATER	FE-59	<	3.2
13-Aug-24	OFFSITE GROUNDWATER	CO-60	<	2.0
13-Aug-24	OFFSITE GROUNDWATER	ZN-65	<	4.2
13-Aug-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.5
13-Aug-24	OFFSITE GROUNDWATER	I-131	<	0.161
13-Aug-24	OFFSITE GROUNDWATER	CS-134	<	2.3
13-Aug-24	OFFSITE GROUNDWATER	CS-137	<	3.1
13-Aug-24	OFFSITE GROUNDWATER	BA-LA-140	<	3.6
13-Aug-24	OFFSITE GROUNDWATER	H-3	<	181.0
19-Nov-24	OFFSITE GROUNDWATER	MN-54	<	1.1
19-Nov-24	OFFSITE GROUNDWATER	CO-58	<	0.7
19-Nov-24	OFFSITE GROUNDWATER	FE-59	<	2.4
19-Nov-24	OFFSITE GROUNDWATER	CO-60	<	1.5
19-Nov-24	OFFSITE GROUNDWATER	ZN-65	<	2.7

**Exposure Pathway - Waterborne
Ground Water
Location: J-1**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
19-Nov-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.6
19-Nov-24	OFFSITE GROUNDWATER	I-131	<	0.255
19-Nov-24	OFFSITE GROUNDWATER	CS-134	<	1.3
19-Nov-24	OFFSITE GROUNDWATER	CS-137	<	1.7
19-Nov-24	OFFSITE GROUNDWATER	BA-LA-140	<	0.7
19-Nov-24	OFFSITE GROUNDWATER	H-3	<	185.0

Exposure Pathway - Waterborne
Ground Water
Location: J-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
21-Feb-24	OFFISTE GROUNDWATER	MN-54	<	2.5
21-Feb-24	OFFISTE GROUNDWATER	CO-58	<	2.2
21-Feb-24	OFFISTE GROUNDWATER	FE-59	<	2.0
21-Feb-24	OFFISTE GROUNDWATER	CO-60	<	1.9
21-Feb-24	OFFISTE GROUNDWATER	ZN-65	<	5.9
21-Feb-24	OFFISTE GROUNDWATER	ZR-NB-95	<	2.8
21-Feb-24	OFFISTE GROUNDWATER	I-131	<	0.271
21-Feb-24	OFFISTE GROUNDWATER	CS-134	<	2.5
21-Feb-24	OFFISTE GROUNDWATER	CS-137	<	2.1
21-Feb-24	OFFISTE GROUNDWATER	BA-LA-140	<	2.7
21-Feb-24	OFFISTE GROUNDWATER	H-3	<	179.0
15-May-24	OFFSITE GROUNDWATER	MN-54	<	3.9
15-May-24	OFFSITE GROUNDWATER	CO-58	<	2.2
15-May-24	OFFSITE GROUNDWATER	FE-59	<	4.6
15-May-24	OFFSITE GROUNDWATER	CO-60	<	4.1
15-May-24	OFFSITE GROUNDWATER	ZN-65	<	8.6
15-May-24	OFFSITE GROUNDWATER	ZR-NB-95	<	5.4
15-May-24	OFFSITE GROUNDWATER	I-131	<	0.417
15-May-24	OFFSITE GROUNDWATER	CS-134	<	5.6
15-May-24	OFFSITE GROUNDWATER	CS-137	<	5.6
15-May-24	OFFSITE GROUNDWATER	BA-LA-140	<	5.8
15-May-24	OFFSITE GROUNDWATER	H-3	<	188.0
13-Aug-24	OFFSITE GROUNDWATER	MN-54	<	2.6
13-Aug-24	OFFSITE GROUNDWATER	CO-58	<	1.5
13-Aug-24	OFFSITE GROUNDWATER	FE-59	<	3.2
13-Aug-24	OFFSITE GROUNDWATER	CO-60	<	2.1
13-Aug-24	OFFSITE GROUNDWATER	ZN-65	<	4.1
13-Aug-24	OFFSITE GROUNDWATER	ZR-NB-95	<	2.5
13-Aug-24	OFFSITE GROUNDWATER	I-131	<	0.149
13-Aug-24	OFFSITE GROUNDWATER	CS-134	<	2.7
13-Aug-24	OFFSITE GROUNDWATER	CS-137	<	2.8
13-Aug-24	OFFSITE GROUNDWATER	BA-LA-140	<	2.3
13-Aug-24	OFFSITE GROUNDWATER	H-3	<	181.0
19-Nov-24	OFFSITE GROUNDWATER	MN-54	<	1.5
19-Nov-24	OFFSITE GROUNDWATER	CO-58	<	1.3
19-Nov-24	OFFSITE GROUNDWATER	FE-59	<	2.0
19-Nov-24	OFFSITE GROUNDWATER	CO-60	<	1.4
19-Nov-24	OFFSITE GROUNDWATER	ZN-65	<	2.6

**Exposure Pathway - Waterborne
Ground Water
Location: J-2**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
19-Nov-24	OFFSITE GROUNDWATER	ZR-NB-95	<	1.6
19-Nov-24	OFFSITE GROUNDWATER	I-131	<	0.47
19-Nov-24	OFFSITE GROUNDWATER	CS-134	<	1.3
19-Nov-24	OFFSITE GROUNDWATER	CS-137	<	1.7
19-Nov-24	OFFSITE GROUNDWATER	BA-LA-140	<	2.4
19-Nov-24	OFFSITE GROUNDWATER	H-3	<	185.0

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
03-Jan-24	MN-54	< 1.0	
03-Jan-24	CO-58	< 1.2	
03-Jan-24	FE-59	< 2.5	
03-Jan-24	CO-60	< 2.3	
03-Jan-24	ZN-65	< 2.2	
03-Jan-24	ZR-NB-95	< 1.5	
03-Jan-24	I-131	< 0.368	
03-Jan-24	CS-134	< 1.2	
03-Jan-24	CS-137	< 2.1	
03-Jan-24	BA-LA-140	< 1.4	
03-Jan-24	GROSS BETA	2.914 +/- 0.716	
02-Apr-24	MN-54	< 4.2	
02-Apr-24	CO-58	< 3.7	
02-Apr-24	FE-59	< 8.5	
02-Apr-24	CO-60	< 4.7	
02-Apr-24	ZN-65	< 4.8	
02-Apr-24	ZR-NB-95	< 2.9	
02-Apr-24	I-131	< 0.388	
02-Apr-24	CS-134	< 5.2	
02-Apr-24	CS-137	< 4.9	
02-Apr-24	BA-LA-140	< 3.0	
02-Apr-24	GROSS BETA	1.696 +/- 0.601	
01-May-24	MN-54	< 1.8	
01-May-24	CO-58	< 2.0	
01-May-24	FE-59	< 6.8	
01-May-24	CO-60	< 2.2	
01-May-24	ZN-65	< 5.1	
01-May-24	ZR-NB-95	< 3.2	
01-May-24	I-131	< 0.378	
01-May-24	CS-134	< 3.1	
01-May-24	CS-137	< 2.7	
01-May-24	BA-LA-140	< 1.7	
01-May-24	GROSS BETA	1.867 +/- 0.595	
04-Jun-24	MN-54	< 5.4	
04-Jun-24	CO-58	< 3.7	
04-Jun-24	FE-59	< 10.5	
04-Jun-24	CO-60	< 4.2	
04-Jun-24	ZN-65	< 7.5	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
04-Jun-24	ZR-NB-95	< 4.6	
04-Jun-24	I-131	< 0.395	
04-Jun-24	CS-134	< 5.1	
04-Jun-24	CS-137	< 5.7	
04-Jun-24	BA-LA-140	< 5.1	
04-Jun-24	GROSS BETA	1.589 +/- 0.582	
03-Jul-24	MN-54	< 1.8	
03-Jul-24	MN-54	< 1.8	
03-Jul-24	CO-58	< 2.3	
03-Jul-24	CO-58	< 2.3	
03-Jul-24	FE-59	< 3.3	
03-Jul-24	FE-59	< 3.3	
03-Jul-24	CO-60	< 2.6	
03-Jul-24	CO-60	< 2.6	
03-Jul-24	ZN-65	< 3.4	
03-Jul-24	ZN-65	< 3.4	
03-Jul-24	ZR-NB-95	< 1.8	
03-Jul-24	ZR-NB-95	< 1.8	
03-Jul-24	I-131	< 0.313	
03-Jul-24	I-131	< 0.313	
03-Jul-24	CS-134	< 2.0	
03-Jul-24	CS-134	< 2.0	
03-Jul-24	CS-137	< 2.6	
03-Jul-24	CS-137	< 2.6	
03-Jul-24	BA-LA-140	< 2.2	
03-Jul-24	BA-LA-140	< 2.2	
03-Jul-24	GROSS BETA	2.414 +/- 0.654	
03-Jul-24	GROSS BETA	2.414 +/- 0.654	
01-Aug-24	MN-54	< 1.4	
01-Aug-24	CO-58	< 1.6	
01-Aug-24	FE-59	< 2.5	
01-Aug-24	CO-60	< 2.1	
01-Aug-24	ZN-65	< 3.0	
01-Aug-24	ZR-NB-95	< 1.6	
01-Aug-24	I-131	< 0.26	
01-Aug-24	CS-134	< 1.5	
01-Aug-24	CS-137	< 2.0	
01-Aug-24	BA-LA-140	< 1.0	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Aug-24	GROSS BETA	2.587 +/- 0.63	
04-Sep-24	MN-54	< 3.0	
04-Sep-24	CO-58	< 3.3	
04-Sep-24	FE-59	< 3.8	
04-Sep-24	CO-60	< 3.6	
04-Sep-24	ZN-65	< 4.9	
04-Sep-24	ZR-NB-95	< 2.6	
04-Sep-24	I-131	< 0.457	
04-Sep-24	CS-134	< 3.6	
04-Sep-24	CS-137	< 4.4	
04-Sep-24	BA-LA-140	< 1.3	
04-Sep-24	GROSS BETA	4.258 +/- 0.984	
03-Oct-24	MN-54	< 2.6	
03-Oct-24	CO-58	< 2.4	
03-Oct-24	FE-59	< 5.1	
03-Oct-24	CO-60	< 2.9	
03-Oct-24	ZN-65	< 4.4	
03-Oct-24	ZR-NB-95	< 2.8	
03-Oct-24	I-131	< 0.355	
03-Oct-24	CS-134	< 2.7	
03-Oct-24	CS-137	< 2.2	
03-Oct-24	BA-LA-140	< 2.4	
03-Oct-24	GROSS BETA	1.820 +/- 0.79	
04-Nov-24	MN-54	< 3.9	
04-Nov-24	CO-58	< 2.8	
04-Nov-24	FE-59	< 3.1	
04-Nov-24	CO-60	< 5.0	
04-Nov-24	ZN-65	< 8.0	
04-Nov-24	ZR-NB-95	< 4.2	
04-Nov-24	I-131	< 0.468	
04-Nov-24	CS-134	< 3.6	
04-Nov-24	CS-137	< 5.6	
04-Nov-24	BA-LA-140	< 1.8	
04-Nov-24	GROSS BETA	2.081 +/- 0.622	
03-Dec-24	MN-54	< 2.1	
03-Dec-24	CO-58	< 2.9	
03-Dec-24	FE-59	< 4.6	
03-Dec-24	CO-60	< 3.1	

**Exposure Pathway - Waterborne
Drinking Water
Location: BW-15**

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
03-Dec-24	ZN-65	< 4.6	
03-Dec-24	ZR-NB-95	< 2.9	
03-Dec-24	I-131	< 0.455	
03-Dec-24	CS-134	< 3.1	
03-Dec-24	CS-137	< 4.0	
03-Dec-24	BA-LA-140	< 1.7	
03-Dec-24	GROSS BETA	2.534 +/- 0.675	
05-Feb-25	MN-54	< 0.5	
05-Feb-25	CO-58	< 0.8	
05-Feb-25	FE-59	< 1.3	
05-Feb-25	CO-60	< 1.0	
05-Feb-25	ZN-65	< 1.6	
05-Feb-25	ZR-NB-95	< 0.9	
05-Feb-25	I-131	< 0.29	
05-Feb-25	CS-134	< 0.8	
05-Feb-25	CS-137	< 0.9	
05-Feb-25	BA-LA-140	< 1.1	
05-Feb-25	GROSS BETA	2.565 +/- 0.658	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
03-Jan-24	MN-54	< 2.7	
03-Jan-24	CO-58	< 2.1	
03-Jan-24	FE-59	< 5.3	
03-Jan-24	CO-60	< 2.2	
03-Jan-24	ZN-65	< 4.1	
03-Jan-24	ZR-NB-95	< 2.7	
03-Jan-24	I-131	< 0.441	
03-Jan-24	CS-134	< 2.3	
03-Jan-24	CS-137	< 1.9	
03-Jan-24	BA-LA-140	< 2.6	
03-Jan-24	GROSS BETA	2.695 +/- 0.723	
02-Apr-24	MN-54	< 2.3	
02-Apr-24	CO-58	< 2.1	
02-Apr-24	FE-59	< 4.3	
02-Apr-24	CO-60	< 2.1	
02-Apr-24	ZN-65	< 4.0	
02-Apr-24	ZR-NB-95	< 2.2	
02-Apr-24	I-131	< 0.287	
02-Apr-24	CS-134	< 2.2	
02-Apr-24	CS-137	< 1.3	
02-Apr-24	BA-LA-140	< 1.9	
02-Apr-24	GROSS BETA	2.266 +/- 0.667	
01-May-24	MN-54	< 2.4	
01-May-24	CO-58	< 3.1	
01-May-24	FE-59	< 4.4	
01-May-24	CO-60	< 1.6	
01-May-24	ZN-65	< 6.1	
01-May-24	ZR-NB-95	< 3.9	
01-May-24	I-131	< 0.229	
01-May-24	CS-134	< 2.9	
01-May-24	CS-137	< 3.7	
01-May-24	BA-LA-140	< 3.8	
01-May-24	GROSS BETA	1.819 +/- 0.597	
04-Jun-24	MN-54	< 2.8	
04-Jun-24	CO-58	< 2.6	
04-Jun-24	FE-59	< 4.5	
04-Jun-24	CO-60	< 2.3	
04-Jun-24	ZN-65	< 5.4	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
04-Jun-24	ZR-NB-95	< 2.2	
04-Jun-24	I-131	< 0.338	
04-Jun-24	CS-134	< 2.7	
04-Jun-24	CS-137	< 2.1	
04-Jun-24	BA-LA-140	< 2.3	
04-Jun-24	GROSS BETA	2.108 +/- 0.611	
03-Jul-24	MN-54	< 3.1	
03-Jul-24	MN-54	< 3.1	
03-Jul-24	CO-58	< 1.6	
03-Jul-24	CO-58	< 1.6	
03-Jul-24	FE-59	< 4.3	
03-Jul-24	FE-59	< 4.3	
03-Jul-24	CO-60	< 2.8	
03-Jul-24	CO-60	< 2.8	
03-Jul-24	ZN-65	< 5.8	
03-Jul-24	ZN-65	< 5.8	
03-Jul-24	ZR-NB-95	< 3.1	
03-Jul-24	ZR-NB-95	< 3.1	
03-Jul-24	I-131	< 0.312	
03-Jul-24	I-131	< 0.312	
03-Jul-24	CS-134	< 3.5	
03-Jul-24	CS-134	< 3.5	
03-Jul-24	CS-137	< 2.1	
03-Jul-24	CS-137	< 2.1	
03-Jul-24	BA-LA-140	< 1.4	
03-Jul-24	BA-LA-140	< 1.4	
03-Jul-24	GROSS BETA	1.967 +/- 0.638	
03-Jul-24	GROSS BETA	1.967 +/- 0.638	
01-Aug-24	MN-54	< 2.1	
01-Aug-24	CO-58	< 1.8	
01-Aug-24	FE-59	< 4.6	
01-Aug-24	CO-60	< 2.1	
01-Aug-24	ZN-65	< 4.6	
01-Aug-24	ZR-NB-95	< 3.1	
01-Aug-24	I-131	< 0.314	
01-Aug-24	CS-134	< 2.7	
01-Aug-24	CS-137	< 2.8	
01-Aug-24	BA-LA-140	< 2.9	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Aug-24	GROSS BETA	2.624 +/- 0.68	
04-Sep-24	MN-54	< 5.1	
04-Sep-24	CO-58	< 5.7	
04-Sep-24	FE-59	< 5.5	
04-Sep-24	CO-60	< 4.3	
04-Sep-24	ZN-65	< 10.8	
04-Sep-24	ZR-NB-95	< 5.4	
04-Sep-24	I-131	< 0.355	
04-Sep-24	CS-134	< 6.6	
04-Sep-24	CS-137	< 6.8	
04-Sep-24	BA-LA-140	< 5.7	
04-Sep-24	GROSS BETA	3.954 +/- 0.991	
03-Oct-24	MN-54	< 2.6	
03-Oct-24	CO-58	< 2.0	
03-Oct-24	FE-59	< 4.7	
03-Oct-24	CO-60	< 2.1	
03-Oct-24	ZN-65	< 7.8	
03-Oct-24	ZR-NB-95	< 3.7	
03-Oct-24	I-131	< 0.235	
03-Oct-24	CS-134	< 2.9	
03-Oct-24	CS-137	< 3.4	
03-Oct-24	BA-LA-140	< 3.2	
03-Oct-24	GROSS BETA	< 1.388	
04-Nov-24	MN-54	< 3.8	
04-Nov-24	CO-58	< 3.8	
04-Nov-24	FE-59	< 6.1	
04-Nov-24	CO-60	< 5.2	
04-Nov-24	ZN-65	< 6.7	
04-Nov-24	ZR-NB-95	< 6.4	
04-Nov-24	I-131	< 0.471	
04-Nov-24	CS-134	< 7.5	
04-Nov-24	CS-137	< 8.0	
04-Nov-24	BA-LA-140	< 5.2	
04-Nov-24	GROSS BETA	3.369 +/- 0.768	
03-Dec-24	MN-54	< 2.4	
03-Dec-24	CO-58	< 2.1	
03-Dec-24	FE-59	< 3.5	
03-Dec-24	CO-60	< 2.2	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
03-Dec-24	ZN-65	< 5.0	
03-Dec-24	ZR-NB-95	< 2.9	
03-Dec-24	I-131	< 0.349	
03-Dec-24	CS-134	< 2.5	
03-Dec-24	CS-137	< 3.0	
03-Dec-24	BA-LA-140	< 3.1	
03-Dec-24	GROSS BETA	2.416 +/- 0.644	
05-Feb-25	MN-54	< 0.6	
05-Feb-25	CO-58	< 1.2	
05-Feb-25	FE-59	< 0.9	
05-Feb-25	CO-60	< 1.0	
05-Feb-25	ZN-65	< 2.2	
05-Feb-25	ZR-NB-95	< 1.2	
05-Feb-25	I-131	< 0.259	
05-Feb-25	CS-134	< 1.0	
05-Feb-25	CS-137	< 1.4	
05-Feb-25	BA-LA-140	< 1.3	
05-Feb-25	GROSS BETA	3.019 +/- 0.724	

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

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
03-Jan-24	H-3	< 169	
02-Apr-24	H-3	< 171	
03-Jul-24	H-3	< 183	
03-Oct-24	H-3	< 177	
09-Jan-25	H-3	< 181	

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

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
03-Jan-24	H-3	< 169	
02-Apr-24	H-3	< 171	
03-Jul-24	H-3	< 183	
03-Oct-24	H-3	< 177	
09-Jan-25	H-3	< 181	

**Exposure Pathway - Waterborne
Shoreline Sediment
Location: DC**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
23-May-24	SHORELINE SEDIMENTS	K-40	4,968.3 +/- 372.2	
23-May-24	SHORELINE SEDIMENTS	K-40	4,968.3 +/- 372.2	
23-May-24	SHORELINE SEDIMENTS	MN-54	< 16.9	
23-May-24	SHORELINE SEDIMENTS	MN-54	< 16.9	
23-May-24	SHORELINE SEDIMENTS	CO-58	< 12.0	
23-May-24	SHORELINE SEDIMENTS	CO-58	< 12.0	
23-May-24	SHORELINE SEDIMENTS	FE-59	< 25.0	
23-May-24	SHORELINE SEDIMENTS	FE-59	< 25.0	
23-May-24	SHORELINE SEDIMENTS	CO-60	< 18.5	
23-May-24	SHORELINE SEDIMENTS	CO-60	< 18.5	
23-May-24	SHORELINE SEDIMENTS	ZN-65	< 43.1	
23-May-24	SHORELINE SEDIMENTS	ZN-65	< 43.1	
23-May-24	SHORELINE SEDIMENTS	CS-134	< 13.6	
23-May-24	SHORELINE SEDIMENTS	CS-134	< 13.6	
23-May-24	SHORELINE SEDIMENTS	CS-137	< 17.8	
23-May-24	SHORELINE SEDIMENTS	CS-137	< 17.8	
23-May-24	SHORELINE SEDIMENTS	SR-89	< 53.7	
23-May-24	SHORELINE SEDIMENTS	NI-63	< 152.8	
23-May-24	SHORELINE SEDIMENTS	FE-55	< 4,784.0	
23-May-24	SHORELINE SEDIMENTS	SR-90	< 40.3	
23-May-24	SHORELINE SEDIMENTS	SR-89	< 53.7	
23-May-24	SHORELINE SEDIMENTS	NI-63	< 152.8	
23-May-24	SHORELINE SEDIMENTS	FE-55	< 4,784.0	
23-May-24	SHORELINE SEDIMENTS	SR-90	< 40.3	
17-Sep-24	SHORELINE SEDIMENTS	K-40	6,544.0 +/- 294.2	Duplicate
17-Sep-24	SHORELINE SEDIMENTS	K-40	6,193.4 +/- 204.2	
17-Sep-24	SHORELINE SEDIMENTS	MN-54	< 9.9	
17-Sep-24	SHORELINE SEDIMENTS	MN-54	< 11.7	Duplicate
17-Sep-24	SHORELINE SEDIMENTS	CO-58	< 9.8	
17-Sep-24	SHORELINE SEDIMENTS	CO-58	< 13.4	Duplicate
17-Sep-24	SHORELINE SEDIMENTS	FE-59	< 22.8	
17-Sep-24	SHORELINE SEDIMENTS	FE-59	< 37.2	Duplicate
17-Sep-24	SHORELINE SEDIMENTS	CO-60	< 8.9	
17-Sep-24	SHORELINE SEDIMENTS	CO-60	< 5.1	Duplicate
17-Sep-24	SHORELINE SEDIMENTS	ZN-65	< 19.5	
17-Sep-24	SHORELINE SEDIMENTS	ZN-65	< 26.0	Duplicate
17-Sep-24	SHORELINE SEDIMENTS	CS-134	< 7.9	
17-Sep-24	SHORELINE SEDIMENTS	CS-134	< 9.8	Duplicate

**Exposure Pathway - Waterborne
Shoreline Sediment
Location: DC**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
17-Sep-24	SHORELINE SEDIMENTS	CS-137	10.0 +/-	6.0
17-Sep-24	SHORELINE SEDIMENTS	CS-137	<	10.1 Duplicate

**Exposure Pathway - Waterborne
Shoreline Sediment
Location: EEA**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
25-Nov-24	SHORELINE SEDIMENT	K-40	12,960.0 +/-	361.4
25-Nov-24	SHORELINE SEDIMENT	MN-54	<	15.1
25-Nov-24	SHORELINE SEDIMENT	CO-58	<	22.2
25-Nov-24	SHORELINE SEDIMENT	FE-59	<	40.3
25-Nov-24	SHORELINE SEDIMENT	CO-60	<	10.6
25-Nov-24	SHORELINE SEDIMENT	ZN-65	<	41.0
25-Nov-24	SHORELINE SEDIMENT	CS-134	<	14.7
25-Nov-24	SHORELINE SEDIMENT	CS-137	<	14.8

**Exposure Pathway - Waterborne
Shoreline Sediment
Location: JRR**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
23-May-24	SHORELINE SEDIMENTS	K-40	8,056.2 +/-	211.5
23-May-24	SHORELINE SEDIMENTS	K-40	8,056.2 +/-	211.5
23-May-24	SHORELINE SEDIMENTS	K-40	8,056.2 +/-	211.5
23-May-24	SHORELINE SEDIMENTS	K-40	8,056.2 +/-	211.5
23-May-24	SHORELINE SEDIMENTS	MN-54	<	9.3
23-May-24	SHORELINE SEDIMENTS	MN-54	<	9.3
23-May-24	SHORELINE SEDIMENTS	MN-54	<	9.3
23-May-24	SHORELINE SEDIMENTS	MN-54	<	9.3
23-May-24	SHORELINE SEDIMENTS	CO-58	<	10.1
23-May-24	SHORELINE SEDIMENTS	CO-58	<	10.1
23-May-24	SHORELINE SEDIMENTS	CO-58	<	10.1
23-May-24	SHORELINE SEDIMENTS	CO-58	<	10.1
23-May-24	SHORELINE SEDIMENTS	FE-59	<	18.0
23-May-24	SHORELINE SEDIMENTS	FE-59	<	18.0
23-May-24	SHORELINE SEDIMENTS	FE-59	<	18.0
23-May-24	SHORELINE SEDIMENTS	FE-59	<	18.0
23-May-24	SHORELINE SEDIMENTS	CO-60	<	8.7
23-May-24	SHORELINE SEDIMENTS	CO-60	<	8.7
23-May-24	SHORELINE SEDIMENTS	CO-60	<	8.7
23-May-24	SHORELINE SEDIMENTS	CO-60	<	8.7
23-May-24	SHORELINE SEDIMENTS	ZN-65	<	16.3
23-May-24	SHORELINE SEDIMENTS	ZN-65	<	16.3
23-May-24	SHORELINE SEDIMENTS	ZN-65	<	16.3
23-May-24	SHORELINE SEDIMENTS	ZN-65	<	16.3
23-May-24	SHORELINE SEDIMENTS	CS-134	<	7.0
23-May-24	SHORELINE SEDIMENTS	CS-134	<	7.0
23-May-24	SHORELINE SEDIMENTS	CS-134	<	7.0
23-May-24	SHORELINE SEDIMENTS	CS-134	<	7.0
23-May-24	SHORELINE SEDIMENTS	CS-137	33.9 +/-	6.7
23-May-24	SHORELINE SEDIMENTS	CS-137	33.9 +/-	6.7
23-May-24	SHORELINE SEDIMENTS	CS-137	33.9 +/-	6.7
23-May-24	SHORELINE SEDIMENTS	CS-137	33.9 +/-	6.7
12-Nov-24	SHORELINE SEDIMENT	K-40	10,955.0 +/-	90.7
12-Nov-24	SHORELINE SEDIMENT	MN-54	<	8.5
12-Nov-24	SHORELINE SEDIMENT	CO-58	<	13.5
12-Nov-24	SHORELINE SEDIMENT	FE-59	<	31.0
12-Nov-24	SHORELINE SEDIMENT	CO-60	<	6.0
12-Nov-24	SHORELINE SEDIMENT	ZN-65	<	17.3

**Exposure Pathway - Waterborne
Shoreline Sediment
Location: JRR**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
12-Nov-24	SHORELINE SEDIMENT	CS-134	<	6.9
12-Nov-24	SHORELINE SEDIMENT	CS-137	<	7.8

**Exposure Pathway - Waterborne
Shoreline Sediment
Location: SC**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
30-Aug-24	SHORELINE SEDIMENTS	K-40	10,226.0 +/-	241.0
30-Aug-24	SHORELINE SEDIMENTS	MN-54	<	10.3
30-Aug-24	SHORELINE SEDIMENTS	CO-58	<	13.5
30-Aug-24	SHORELINE SEDIMENTS	FE-59	<	27.6
30-Aug-24	SHORELINE SEDIMENTS	CO-60	<	5.0
30-Aug-24	SHORELINE SEDIMENTS	ZN-65	<	19.6
30-Aug-24	SHORELINE SEDIMENTS	CS-134	<	8.2
30-Aug-24	SHORELINE SEDIMENTS	CS-137	19.2 +/-	6.3

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
29-Apr-24	CATFISH	K-40	3,699.0 +/-	232.7
29-Apr-24	CATFISH	MN-54	<	8.3
29-Apr-24	CATFISH	CO-58	<	10.0
29-Apr-24	CATFISH	FE-59	<	14.0
29-Apr-24	CATFISH	CO-60	<	8.0
29-Apr-24	CATFISH	ZN-65	<	18.6
29-Apr-24	CATFISH	I-131	<	19.8
29-Apr-24	CATFISH	CS-134	<	8.0
29-Apr-24	CATFISH	CS-137	<	8.0
29-Apr-24	CATFISH	H-3	9,886.0 +/-	290.0
29-Apr-24	COMMON CARP	K-40	3,310.4 +/-	140.8
29-Apr-24	COMMON CARP	MN-54	<	5.6
29-Apr-24	COMMON CARP	CO-58	<	6.1
29-Apr-24	COMMON CARP	FE-59	<	16.1
29-Apr-24	COMMON CARP	CO-60	<	5.7
29-Apr-24	COMMON CARP	ZN-65	<	13.1
29-Apr-24	COMMON CARP	I-131	<	21.2
29-Apr-24	COMMON CARP	CS-134	<	4.8
29-Apr-24	COMMON CARP	CS-137	<	5.0
29-Apr-24	COMMON CARP	H-3	7,424.0 +/-	250.0
29-Apr-24	WHITE BASS	K-40	3,048.5 +/-	236.6
29-Apr-24	WHITE BASS	MN-54	<	8.4
29-Apr-24	WHITE BASS	CO-58	<	8.7
29-Apr-24	WHITE BASS	FE-59	<	19.5
29-Apr-24	WHITE BASS	CO-60	<	9.8
29-Apr-24	WHITE BASS	ZN-65	<	18.2
29-Apr-24	WHITE BASS	I-131	<	25.0
29-Apr-24	WHITE BASS	CS-134	<	7.9
29-Apr-24	WHITE BASS	CS-137	<	10.1
29-Apr-24	WHITE BASS	H-3	8,997.0 +/-	280.0
06-Nov-24	BLUE CATFISH	K-40	3,574.0 +/-	309.0
06-Nov-24	BLUE CATFISH	MN-54	<	7.8
06-Nov-24	BLUE CATFISH	CO-58	<	7.8
06-Nov-24	BLUE CATFISH	FE-59	<	27.0
06-Nov-24	BLUE CATFISH	CO-60	<	8.7
06-Nov-24	BLUE CATFISH	ZN-65	<	35.5
06-Nov-24	BLUE CATFISH	I-131	<	20.4
06-Nov-24	BLUE CATFISH	CS-134	<	13.3

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
06-Nov-24	BLUE CATFISH	CS-137	<	8.7	
06-Nov-24	BLUE CATFISH	H-3	6,807.0 +/-	243.0	
06-Nov-24	CHANNEL CATIFISH	K-40	3,222.0 +/-	348.0	
06-Nov-24	CHANNEL CATIFISH	MN-54	<	11.3	
06-Nov-24	CHANNEL CATIFISH	CO-58	<	8.3	
06-Nov-24	CHANNEL CATIFISH	FE-59	<	23.0	
06-Nov-24	CHANNEL CATIFISH	CO-60	<	13.3	
06-Nov-24	CHANNEL CATIFISH	ZN-65	<	15.6	
06-Nov-24	CHANNEL CATIFISH	I-131	<	22.3	
06-Nov-24	CHANNEL CATIFISH	CS-134	<	10.8	
06-Nov-24	CHANNEL CATIFISH	CS-137	<	15.0	
06-Nov-24	CHANNEL CATIFISH	H-3	7,312.0 +/-	255.0	
06-Nov-24	CRAPPIE	K-40	3,085.0 +/-	133.0	
06-Nov-24	CRAPPIE	MN-54	<	4.6	
06-Nov-24	CRAPPIE	CO-58	<	6.1	
06-Nov-24	CRAPPIE	FE-59	<	7.5	
06-Nov-24	CRAPPIE	CO-60	<	5.7	
06-Nov-24	CRAPPIE	ZN-65	<	13.4	
06-Nov-24	CRAPPIE	I-131	<	15.3	
06-Nov-24	CRAPPIE	CS-134	<	4.8	
06-Nov-24	CRAPPIE	CS-137	<	5.8	
06-Nov-24	CRAPPIE	H-3	6,861.0 +/-	244.0	
06-Nov-24	FISH	K-40	3,062.0 +/-	125.0	Duplicate
06-Nov-24	FISH	MN-54	<	4.8	Duplicate
06-Nov-24	FISH	CO-58	<	5.4	Duplicate
06-Nov-24	FISH	FE-59	<	11.2	Duplicate
06-Nov-24	FISH	CO-60	<	4.8	Duplicate
06-Nov-24	FISH	ZN-65	<	12.1	Duplicate
06-Nov-24	FISH	I-131	<	11.1	Duplicate
06-Nov-24	FISH	CS-134	<	4.8	Duplicate
06-Nov-24	FISH	CS-137	<	5.3	Duplicate
06-Nov-24	FISH	H-3	7,250.0 +/-	248.0	Duplicate
06-Nov-24	HYBRID-STRIPED BASS	K-40	3,376.0 +/-	326.0	
06-Nov-24	HYBRID-STRIPED BASS	MN-54	<	12.5	
06-Nov-24	HYBRID-STRIPED BASS	CO-58	<	9.6	
06-Nov-24	HYBRID-STRIPED BASS	FE-59	<	15.1	
06-Nov-24	HYBRID-STRIPED BASS	CO-60	<	16.8	
06-Nov-24	HYBRID-STRIPED BASS	ZN-65	<	28.1	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
06-Nov-24	HYBRID-STRIPED BASS	I-131	<	26.8
06-Nov-24	HYBRID-STRIPED BASS	CS-134	<	13.4
06-Nov-24	HYBRID-STRIPED BASS	CS-137	<	17.6
06-Nov-24	HYBRID-STRIPED BASS	H-3	5,377.0 +/-	220.0
06-Nov-24	SMALLMOUTH BUFFALO	K-40	2,812.0 +/-	336.0
06-Nov-24	SMALLMOUTH BUFFALO	MN-54	<	10.1
06-Nov-24	SMALLMOUTH BUFFALO	CO-58	<	10.1
06-Nov-24	SMALLMOUTH BUFFALO	FE-59	<	26.0
06-Nov-24	SMALLMOUTH BUFFALO	CO-60	<	13.5
06-Nov-24	SMALLMOUTH BUFFALO	ZN-65	<	17.8
06-Nov-24	SMALLMOUTH BUFFALO	I-131	<	32.1
06-Nov-24	SMALLMOUTH BUFFALO	CS-134	<	15.1
06-Nov-24	SMALLMOUTH BUFFALO	CS-137	<	16.5
06-Nov-24	SMALLMOUTH BUFFALO	H-3	6,924.0 +/-	240.0
06-Nov-24	WALLEYE	K-40	4,104.0 +/-	392.0
06-Nov-24	WALLEYE	MN-54	<	18.4
06-Nov-24	WALLEYE	CO-58	<	7.6
06-Nov-24	WALLEYE	FE-59	<	1.9
06-Nov-24	WALLEYE	CO-60	<	13.5
06-Nov-24	WALLEYE	ZN-65	<	41.8
06-Nov-24	WALLEYE	I-131	<	29.7
06-Nov-24	WALLEYE	CS-134	<	15.7
06-Nov-24	WALLEYE	CS-137	<	11.3
06-Nov-24	WALLEYE	H-3	7,301.0 +/-	246.0
06-Nov-24	WHITE BASS	K-40	2,377.0 +/-	346.0
06-Nov-24	WHITE BASS	MN-54	<	12.2
06-Nov-24	WHITE BASS	CO-58	<	18.2
06-Nov-24	WHITE BASS	FE-59	<	16.8
06-Nov-24	WHITE BASS	CO-60	<	17.6
06-Nov-24	WHITE BASS	ZN-65	<	28.8
06-Nov-24	WHITE BASS	I-131	<	26.6
06-Nov-24	WHITE BASS	CS-134	<	17.0
06-Nov-24	WHITE BASS	CS-137	<	15.8
06-Nov-24	WHITE BASS	H-3	6,950.0 +/-	244.0

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
18-Jun-24	BIGMOUTH BUFFALO	K-40	3,602.8 +/-	143.2
18-Jun-24	BIGMOUTH BUFFALO	MN-54	<	6.3
18-Jun-24	BIGMOUTH BUFFALO	CO-58	<	7.8
18-Jun-24	BIGMOUTH BUFFALO	FE-59	<	18.2
18-Jun-24	BIGMOUTH BUFFALO	CO-60	<	7.5
18-Jun-24	BIGMOUTH BUFFALO	ZN-65	<	14.3
18-Jun-24	BIGMOUTH BUFFALO	I-131	<	89.2
18-Jun-24	BIGMOUTH BUFFALO	CS-134	<	6.0
18-Jun-24	BIGMOUTH BUFFALO	CS-137	<	7.4
18-Jun-24	BIGMOUTH BUFFALO	H-3	<	136.0
18-Jun-24	CHANNEL CATFISH	K-40	3,558.5 +/-	328.0
18-Jun-24	CHANNEL CATFISH	MN-54	<	13.2
18-Jun-24	CHANNEL CATFISH	CO-58	<	14.7
18-Jun-24	CHANNEL CATFISH	FE-59	<	41.8
18-Jun-24	CHANNEL CATFISH	CO-60	<	17.3
18-Jun-24	CHANNEL CATFISH	ZN-65	<	22.1
18-Jun-24	CHANNEL CATFISH	I-131	<	109.8
18-Jun-24	CHANNEL CATFISH	CS-134	<	12.8
18-Jun-24	CHANNEL CATFISH	CS-137	<	11.2
18-Jun-24	CHANNEL CATFISH	H-3	<	138.0
18-Jun-24	COMMON CARP	K-40	3,101.4 +/-	212.6
18-Jun-24	COMMON CARP	MN-54	<	5.0
18-Jun-24	COMMON CARP	CO-58	<	9.3
18-Jun-24	COMMON CARP	FE-59	<	26.1
18-Jun-24	COMMON CARP	CO-60	<	6.8
18-Jun-24	COMMON CARP	ZN-65	<	21.1
18-Jun-24	COMMON CARP	I-131	<	97.8
18-Jun-24	COMMON CARP	CS-134	<	7.1
18-Jun-24	COMMON CARP	CS-137	<	8.5
18-Jun-24	COMMON CARP	H-3	<	137.0
18-Jun-24	CRAPPIE	K-40	3,470.6 +/-	216.9
18-Jun-24	CRAPPIE	MN-54	<	6.8
18-Jun-24	CRAPPIE	CO-58	<	9.8
18-Jun-24	CRAPPIE	FE-59	<	19.5
18-Jun-24	CRAPPIE	CO-60	<	6.4
18-Jun-24	CRAPPIE	ZN-65	<	19.3
18-Jun-24	CRAPPIE	I-131	<	98.5
18-Jun-24	CRAPPIE	CS-134	<	8.4

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
18-Jun-24	CRAPPIE	CS-137	<	10.2
18-Jun-24	CRAPPIE	H-3	155.0 +/-	80.0
18-Jun-24	RIVER CARPSUCKER	K-40	3,412.4 +/-	197.0
18-Jun-24	RIVER CARPSUCKER	MN-54	<	8.9
18-Jun-24	RIVER CARPSUCKER	CO-58	<	7.0
18-Jun-24	RIVER CARPSUCKER	FE-59	<	27.5
18-Jun-24	RIVER CARPSUCKER	CO-60	<	9.5
18-Jun-24	RIVER CARPSUCKER	ZN-65	<	15.9
18-Jun-24	RIVER CARPSUCKER	I-131	<	114.9
18-Jun-24	RIVER CARPSUCKER	CS-134	<	8.4
18-Jun-24	RIVER CARPSUCKER	CS-137	<	6.9
18-Jun-24	RIVER CARPSUCKER	H-3	<	137.0
24-Oct-24	BLUE CATFISH	K-40	3,325.0 +/-	162.0
24-Oct-24	BLUE CATFISH	MN-54	<	5.6
24-Oct-24	BLUE CATFISH	CO-58	<	5.7
24-Oct-24	BLUE CATFISH	FE-59	<	13.0
24-Oct-24	BLUE CATFISH	CO-60	<	7.3
24-Oct-24	BLUE CATFISH	ZN-65	<	15.8
24-Oct-24	BLUE CATFISH	I-131	<	25.2
24-Oct-24	BLUE CATFISH	CS-134	<	5.3
24-Oct-24	BLUE CATFISH	CS-137	<	6.8
24-Oct-24	BLUE CATFISH	H-3	<	143.0
24-Oct-24	CHANNEL CATFISH	K-40	3,393.0 +/-	153.0
24-Oct-24	CHANNEL CATFISH	MN-54	<	5.8
24-Oct-24	CHANNEL CATFISH	CO-58	<	5.2
24-Oct-24	CHANNEL CATFISH	FE-59	<	11.5
24-Oct-24	CHANNEL CATFISH	CO-60	<	9.4
24-Oct-24	CHANNEL CATFISH	ZN-65	<	12.6
24-Oct-24	CHANNEL CATFISH	I-131	<	43.0
24-Oct-24	CHANNEL CATFISH	CS-134	<	6.8
24-Oct-24	CHANNEL CATFISH	CS-137	<	8.8
24-Oct-24	CHANNEL CATFISH	H-3	<	141.0
24-Oct-24	CRAPPIE	K-40	3,068.0 +/-	221.0
24-Oct-24	CRAPPIE	MN-54	<	10.7
24-Oct-24	CRAPPIE	CO-58	<	5.6
24-Oct-24	CRAPPIE	FE-59	<	11.7
24-Oct-24	CRAPPIE	CO-60	<	6.8
24-Oct-24	CRAPPIE	ZN-65	<	17.3

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
24-Oct-24	CRAPPIE	I-131	<	49.8
24-Oct-24	CRAPPIE	CS-134	<	9.4
24-Oct-24	CRAPPIE	CS-137	<	8.1
24-Oct-24	CRAPPIE	H-3	<	146.0
24-Oct-24	SMALLMOUTH BUFFALO	K-40	3,519.0 +/-	416.0
24-Oct-24	SMALLMOUTH BUFFALO	MN-54	<	9.1
24-Oct-24	SMALLMOUTH BUFFALO	CO-58	<	18.5
24-Oct-24	SMALLMOUTH BUFFALO	FE-59	<	28.5
24-Oct-24	SMALLMOUTH BUFFALO	CO-60	<	14.6
24-Oct-24	SMALLMOUTH BUFFALO	ZN-65	<	24.7
24-Oct-24	SMALLMOUTH BUFFALO	I-131	<	78.8
24-Oct-24	SMALLMOUTH BUFFALO	CS-134	<	13.5
24-Oct-24	SMALLMOUTH BUFFALO	CS-137	<	14.8
24-Oct-24	SMALLMOUTH BUFFALO	H-3	<	133.0
24-Oct-24	WHITE BASS	K-40	3,613.0 +/-	156.0
24-Oct-24	WHITE BASS	MN-54	<	5.1
24-Oct-24	WHITE BASS	CO-58	<	8.7
24-Oct-24	WHITE BASS	FE-59	<	15.4
24-Oct-24	WHITE BASS	CO-60	<	7.4
24-Oct-24	WHITE BASS	ZN-65	<	12.2
24-Oct-24	WHITE BASS	I-131	<	43.3
24-Oct-24	WHITE BASS	CS-134	<	6.4
24-Oct-24	WHITE BASS	CS-137	<	6.8
24-Oct-24	WHITE BASS	H-3	<	142.0

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
14-May-24	HORSERADISH LEAVES	BE-7	874.6 +/-	225.7
14-May-24	HORSERADISH LEAVES	K-40	5,042.1 +/-	513.1
14-May-24	HORSERADISH LEAVES	MN-54	<	15.5
14-May-24	HORSERADISH LEAVES	CO-58	<	15.2
14-May-24	HORSERADISH LEAVES	FE-59	<	31.6
14-May-24	HORSERADISH LEAVES	CO-60	<	19.7
14-May-24	HORSERADISH LEAVES	ZN-65	<	31.6
14-May-24	HORSERADISH LEAVES	ZR-NB-95	<	16.7
14-May-24	HORSERADISH LEAVES	I-131	<	25.4
14-May-24	HORSERADISH LEAVES	CS-134	<	17.6
14-May-24	HORSERADISH LEAVES	CS-137	<	18.7
20-Jun-24	HORSERADISH LEAVES	BE-7	1,625.1 +/-	228.5
20-Jun-24	HORSERADISH LEAVES	K-40	6,196.6 +/-	454.0
20-Jun-24	HORSERADISH LEAVES	MN-54	<	9.8
20-Jun-24	HORSERADISH LEAVES	CO-58	<	7.7
20-Jun-24	HORSERADISH LEAVES	FE-59	<	18.1
20-Jun-24	HORSERADISH LEAVES	CO-60	<	19.6
20-Jun-24	HORSERADISH LEAVES	ZN-65	<	34.3
20-Jun-24	HORSERADISH LEAVES	ZR-NB-95	<	13.0
20-Jun-24	HORSERADISH LEAVES	I-131	<	23.7
20-Jun-24	HORSERADISH LEAVES	CS-134	<	16.0
20-Jun-24	HORSERADISH LEAVES	CS-137	<	21.4
17-Jul-24	HORSERADISH LEAVES	BE-7	951.2 +/-	97.8
17-Jul-24	HORSERADISH LEAVES	K-40	5,572.2 +/-	229.2
17-Jul-24	HORSERADISH LEAVES	MN-54	<	7.7
17-Jul-24	HORSERADISH LEAVES	CO-58	<	9.1
17-Jul-24	HORSERADISH LEAVES	FE-59	<	15.7
17-Jul-24	HORSERADISH LEAVES	CO-60	<	9.6
17-Jul-24	HORSERADISH LEAVES	ZN-65	<	15.5
17-Jul-24	HORSERADISH LEAVES	ZR-NB-95	<	7.1
17-Jul-24	HORSERADISH LEAVES	I-131	<	14.4
17-Jul-24	HORSERADISH LEAVES	CS-134	<	7.6
17-Jul-24	HORSERADISH LEAVES	CS-137	<	9.0
14-Aug-24	HORSERADISH LEAVES	BE-7	1,394.2 +/-	142.6
14-Aug-24	HORSERADISH LEAVES	K-40	5,245.0 +/-	362.2
14-Aug-24	HORSERADISH LEAVES	MN-54	<	11.5
14-Aug-24	HORSERADISH LEAVES	CO-58	<	10.7
14-Aug-24	HORSERADISH LEAVES	FE-59	<	23.5

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
14-Aug-24	HORSERADISH LEAVES	CO-60	< 11.8	
14-Aug-24	HORSERADISH LEAVES	ZN-65	< 20.6	
14-Aug-24	HORSERADISH LEAVES	ZR-NB-95	< 7.9	
14-Aug-24	HORSERADISH LEAVES	I-131	< 22.0	
14-Aug-24	HORSERADISH LEAVES	CS-134	< 11.2	
14-Aug-24	HORSERADISH LEAVES	CS-137	< 13.5	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
14-May-24	HORSERADISH LEAVES	BE-7	1,530.1 +/-	325.3
14-May-24	HORSERADISH LEAVES	K-40	6,258.4 +/-	550.7
14-May-24	HORSERADISH LEAVES	MN-54	<	19.0
14-May-24	HORSERADISH LEAVES	CO-58	<	19.1
14-May-24	HORSERADISH LEAVES	FE-59	<	40.5
14-May-24	HORSERADISH LEAVES	CO-60	<	27.0
14-May-24	HORSERADISH LEAVES	ZN-65	<	30.2
14-May-24	HORSERADISH LEAVES	ZR-NB-95	<	20.5
14-May-24	HORSERADISH LEAVES	I-131	<	20.9
14-May-24	HORSERADISH LEAVES	CS-134	<	22.6
14-May-24	HORSERADISH LEAVES	CS-137	<	33.1
20-Jun-24	HORSERADISH LEAVES	BE-7	1,875.4 +/-	281.5
20-Jun-24	HORSERADISH LEAVES	K-40	6,443.6 +/-	540.2
20-Jun-24	HORSERADISH LEAVES	MN-54	<	14.6
20-Jun-24	HORSERADISH LEAVES	CO-58	<	15.6
20-Jun-24	HORSERADISH LEAVES	FE-59	<	28.5
20-Jun-24	HORSERADISH LEAVES	CO-60	<	11.3
20-Jun-24	HORSERADISH LEAVES	ZN-65	<	37.1
20-Jun-24	HORSERADISH LEAVES	ZR-NB-95	<	13.0
20-Jun-24	HORSERADISH LEAVES	I-131	<	19.5
20-Jun-24	HORSERADISH LEAVES	CS-134	<	17.2
20-Jun-24	HORSERADISH LEAVES	CS-137	<	22.6
17-Jul-24	HORSERADISH LEAVES	BE-7	1,277.0 +/-	90.6
17-Jul-24	HORSERADISH LEAVES	K-40	6,591.2 +/-	206.4
17-Jul-24	HORSERADISH LEAVES	MN-54	<	7.4
17-Jul-24	HORSERADISH LEAVES	CO-58	<	5.8
17-Jul-24	HORSERADISH LEAVES	FE-59	<	15.4
17-Jul-24	HORSERADISH LEAVES	CO-60	<	8.2
17-Jul-24	HORSERADISH LEAVES	ZN-65	<	16.9
17-Jul-24	HORSERADISH LEAVES	ZR-NB-95	<	8.0
17-Jul-24	HORSERADISH LEAVES	I-131	<	10.1
17-Jul-24	HORSERADISH LEAVES	CS-134	<	6.7
17-Jul-24	HORSERADISH LEAVES	CS-137	<	7.0
14-Aug-24	HORSERADISH LEAVES	BE-7	1,013.0 +/-	167.4
14-Aug-24	HORSERADISH LEAVES	K-40	5,110.8 +/-	334.7
14-Aug-24	HORSERADISH LEAVES	MN-54	<	11.9
14-Aug-24	HORSERADISH LEAVES	CO-58	<	13.1
14-Aug-24	HORSERADISH LEAVES	FE-59	<	26.5

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
14-Aug-24	HORSERADISH LEAVES	CO-60	<	15.7
14-Aug-24	HORSERADISH LEAVES	ZN-65	<	31.2
14-Aug-24	HORSERADISH LEAVES	ZR-NB-95	<	11.5
14-Aug-24	HORSERADISH LEAVES	I-131	<	18.6
14-Aug-24	HORSERADISH LEAVES	CS-134	<	14.5
14-Aug-24	HORSERADISH LEAVES	CS-137	<	17.2
11-Sep-24	VEGETATION	BE-7	581.8 +/-	198.1
11-Sep-24	VEGETATION	K-40	4,687.3 +/-	555.2
11-Sep-24	VEGETATION	MN-54	<	16.1
11-Sep-24	VEGETATION	CO-58	<	14.5
11-Sep-24	VEGETATION	FE-59	<	32.6
11-Sep-24	VEGETATION	CO-60	<	20.1
11-Sep-24	VEGETATION	ZN-65	<	30.6
11-Sep-24	VEGETATION	ZR-NB-95	<	9.9
11-Sep-24	VEGETATION	I-131	<	25.2
11-Sep-24	VEGETATION	CS-134	<	17.7
11-Sep-24	VEGETATION	CS-137	<	12.5

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
14-May-24	HORSERADISH LEAVES	BE-7	730.1 +/-	161.8
14-May-24	HORSERADISH LEAVES	K-40	5,104.5 +/-	401.0
14-May-24	HORSERADISH LEAVES	MN-54	<	16.1
14-May-24	HORSERADISH LEAVES	CO-58	<	11.4
14-May-24	HORSERADISH LEAVES	FE-59	<	26.9
14-May-24	HORSERADISH LEAVES	CO-60	<	12.1
14-May-24	HORSERADISH LEAVES	ZN-65	<	21.5
14-May-24	HORSERADISH LEAVES	ZR-NB-95	<	11.7
14-May-24	HORSERADISH LEAVES	I-131	<	16.1
14-May-24	HORSERADISH LEAVES	CS-134	<	12.9
14-May-24	HORSERADISH LEAVES	CS-137	<	12.2
20-Jun-24	HORSERADISH LEAVES	BE-7	1,408.7 +/-	189.3
20-Jun-24	HORSERADISH LEAVES	K-40	5,595.1 +/-	431.1
20-Jun-24	HORSERADISH LEAVES	MN-54	<	8.5
20-Jun-24	HORSERADISH LEAVES	CO-58	<	10.6
20-Jun-24	HORSERADISH LEAVES	FE-59	<	26.4
20-Jun-24	HORSERADISH LEAVES	CO-60	<	12.1
20-Jun-24	HORSERADISH LEAVES	ZN-65	<	26.2
20-Jun-24	HORSERADISH LEAVES	ZR-NB-95	<	16.4
20-Jun-24	HORSERADISH LEAVES	I-131	<	16.0
20-Jun-24	HORSERADISH LEAVES	CS-134	<	13.1
20-Jun-24	HORSERADISH LEAVES	CS-137	<	13.6
17-Jul-24	HORSERADISH LEAVES	BE-7	1,464.8 +/-	183.8
17-Jul-24	HORSERADISH LEAVES	K-40	5,050.6 +/-	340.8
17-Jul-24	HORSERADISH LEAVES	MN-54	<	11.2
17-Jul-24	HORSERADISH LEAVES	CO-58	<	8.1
17-Jul-24	HORSERADISH LEAVES	FE-59	<	18.3
17-Jul-24	HORSERADISH LEAVES	CO-60	<	9.6
17-Jul-24	HORSERADISH LEAVES	ZN-65	<	13.4
17-Jul-24	HORSERADISH LEAVES	ZR-NB-95	<	14.7
17-Jul-24	HORSERADISH LEAVES	I-131	<	14.7
17-Jul-24	HORSERADISH LEAVES	CS-134	<	11.1
17-Jul-24	HORSERADISH LEAVES	CS-137	<	13.1
11-Sep-24	VEGETATION	BE-7	698.2 +/-	172.8
11-Sep-24	VEGETATION	K-40	7,113.8 +/-	568.9
11-Sep-24	VEGETATION	MN-54	<	17.7
11-Sep-24	VEGETATION	CO-58	<	15.2
11-Sep-24	VEGETATION	FE-59	<	40.0

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
11-Sep-24	VEGETATION	CO-60	< 18.3	
11-Sep-24	VEGETATION	ZN-65	< 45.3	
11-Sep-24	VEGETATION	ZR-NB-95	< 15.6	
11-Sep-24	VEGETATION	I-131	< 17.8	
11-Sep-24	VEGETATION	CS-134	< 18.4	
11-Sep-24	VEGETATION	CS-137	< 12.1	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
20-Jun-24	BROADLEAF	BE-7	1,480.0 +/-	263.0
20-Jun-24	BROADLEAF	K-40	4,942.0 +/-	381.8
20-Jun-24	BROADLEAF	MN-54	<	15.7
20-Jun-24	BROADLEAF	CO-58	<	17.7
20-Jun-24	BROADLEAF	FE-59	<	44.9
20-Jun-24	BROADLEAF	CO-60	<	21.7
20-Jun-24	BROADLEAF	ZN-65	<	29.7
20-Jun-24	BROADLEAF	ZR-NB-95	<	17.0
20-Jun-24	BROADLEAF	I-131	<	29.6
20-Jun-24	BROADLEAF	CS-134	<	17.7
20-Jun-24	BROADLEAF	CS-137	<	20.0

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
14-May-24	HORSERADISH LEAVES	BE-7	814.5 +/-	271.7
14-May-24	HORSERADISH LEAVES	K-40	4,227.2 +/-	606.8
14-May-24	HORSERADISH LEAVES	MN-54	<	19.4
14-May-24	HORSERADISH LEAVES	CO-58	<	13.1
14-May-24	HORSERADISH LEAVES	FE-59	<	36.2
14-May-24	HORSERADISH LEAVES	CO-60	<	24.8
14-May-24	HORSERADISH LEAVES	ZN-65	<	46.1
14-May-24	HORSERADISH LEAVES	ZR-NB-95	<	23.0
14-May-24	HORSERADISH LEAVES	I-131	<	23.0
14-May-24	HORSERADISH LEAVES	CS-134	<	29.1
14-May-24	HORSERADISH LEAVES	CS-137	<	24.0
20-Jun-24	HORSERADISH LEAVES	BE-7	1,131.2 +/-	243.2
20-Jun-24	HORSERADISH LEAVES	K-40	5,503.7 +/-	528.2
20-Jun-24	HORSERADISH LEAVES	MN-54	<	20.1
20-Jun-24	HORSERADISH LEAVES	CO-58	<	21.3
20-Jun-24	HORSERADISH LEAVES	FE-59	<	23.3
20-Jun-24	HORSERADISH LEAVES	CO-60	<	22.6
20-Jun-24	HORSERADISH LEAVES	ZN-65	<	24.3
20-Jun-24	HORSERADISH LEAVES	ZR-NB-95	<	18.0
20-Jun-24	HORSERADISH LEAVES	I-131	<	34.2
20-Jun-24	HORSERADISH LEAVES	CS-134	<	21.3
20-Jun-24	HORSERADISH LEAVES	CS-137	<	22.1
17-Jul-24	HORSERADISH LEAVES	BE-7	928.2 +/-	117.7
17-Jul-24	HORSERADISH LEAVES	K-40	5,579.7 +/-	325.9
17-Jul-24	HORSERADISH LEAVES	MN-54	<	8.7
17-Jul-24	HORSERADISH LEAVES	CO-58	<	8.9
17-Jul-24	HORSERADISH LEAVES	FE-59	<	22.3
17-Jul-24	HORSERADISH LEAVES	CO-60	<	10.9
17-Jul-24	HORSERADISH LEAVES	ZN-65	<	30.4
17-Jul-24	HORSERADISH LEAVES	ZR-NB-95	<	11.2
17-Jul-24	HORSERADISH LEAVES	I-131	<	9.9
17-Jul-24	HORSERADISH LEAVES	CS-134	<	10.9
17-Jul-24	HORSERADISH LEAVES	CS-137	<	11.5
14-Aug-24	HORSERADISH LEAVES	BE-7	1,298.8 +/-	194.7
14-Aug-24	HORSERADISH LEAVES	K-40	5,417.3 +/-	394.6
14-Aug-24	HORSERADISH LEAVES	MN-54	<	11.8
14-Aug-24	HORSERADISH LEAVES	CO-58	<	16.3
14-Aug-24	HORSERADISH LEAVES	FE-59	<	17.7

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
14-Aug-24	HORSERADISH LEAVES	CO-60	< 16.4	
14-Aug-24	HORSERADISH LEAVES	ZN-65	< 35.4	
14-Aug-24	HORSERADISH LEAVES	ZR-NB-95	< 14.8	
14-Aug-24	HORSERADISH LEAVES	I-131	< 21.3	
14-Aug-24	HORSERADISH LEAVES	CS-134	< 14.3	
14-Aug-24	HORSERADISH LEAVES	CS-137	< 17.1	
11-Sep-24	VEGETATION	BE-7	679.7 +/- 331.1	
11-Sep-24	VEGETATION	K-40	6,103.3 +/- 784.4	
11-Sep-24	VEGETATION	MN-54	< 17.9	
11-Sep-24	VEGETATION	CO-58	< 22.0	
11-Sep-24	VEGETATION	FE-59	< 74.5	
11-Sep-24	VEGETATION	CO-60	< 31.4	
11-Sep-24	VEGETATION	ZN-65	< 57.5	
11-Sep-24	VEGETATION	ZR-NB-95	< 20.2	
11-Sep-24	VEGETATION	I-131	< 35.9	
11-Sep-24	VEGETATION	CS-134	< 29.8	
11-Sep-24	VEGETATION	CS-137	< 30.5	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
25-Oct-24	IRRIGATED SOYBEANS	BE-7	<	164.8
25-Oct-24	IRRIGATED SOYBEANS	K-40	13,351.0 +/-	921.3
25-Oct-24	IRRIGATED SOYBEANS	MN-54	<	18.9
25-Oct-24	IRRIGATED SOYBEANS	CO-58	<	18.9
25-Oct-24	IRRIGATED SOYBEANS	FE-59	<	67.7
25-Oct-24	IRRIGATED SOYBEANS	CO-60	<	12.0
25-Oct-24	IRRIGATED SOYBEANS	ZN-65	<	56.9
25-Oct-24	IRRIGATED SOYBEANS	ZR-NB-95	<	23.8
25-Oct-24	IRRIGATED SOYBEANS	I-131	<	22.3
25-Oct-24	IRRIGATED SOYBEANS	CS-134	<	19.2
25-Oct-24	IRRIGATED SOYBEANS	CS-137	<	17.3

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
07-Nov-24	IRRICATED CORN	BE-7	<	29.3
07-Nov-24	IRRICATED CORN	K-40	1,876.2 +/-	142.8
07-Nov-24	IRRICATED CORN	MN-54	<	3.8
07-Nov-24	IRRICATED CORN	CO-58	<	5.0
07-Nov-24	IRRICATED CORN	FE-59	<	10.9
07-Nov-24	IRRICATED CORN	CO-60	<	4.8
07-Nov-24	IRRICATED CORN	ZN-65	<	10.4
07-Nov-24	IRRICATED CORN	ZR-NB-95	<	6.0
07-Nov-24	IRRICATED CORN	I-131	<	10.9
07-Nov-24	IRRICATED CORN	CS-134	<	4.5
07-Nov-24	IRRICATED CORN	CS-137	<	5.1

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
04-Oct-24	IRRIGATED CORN	BE-7	<	91.9
04-Oct-24	IRRIGATED CORN	K-40	3,147.3 +/-	262.8
04-Oct-24	IRRIGATED CORN	MN-54	<	9.7
04-Oct-24	IRRIGATED CORN	CO-58	<	7.1
04-Oct-24	IRRIGATED CORN	FE-59	<	17.7
04-Oct-24	IRRIGATED CORN	CO-60	<	8.4
04-Oct-24	IRRIGATED CORN	ZN-65	<	16.6
04-Oct-24	IRRIGATED CORN	ZR-NB-95	<	6.6
04-Oct-24	IRRIGATED CORN	I-131	<	20.2
04-Oct-24	IRRIGATED CORN	CS-134	<	10.0
04-Oct-24	IRRIGATED CORN	CS-137	<	10.9
27-Oct-24	IRRIGATED SOYBEANS	BE-7	<	126.0
27-Oct-24	IRRIGATED SOYBEANS	K-40	14,437.0 +/-	568.5
27-Oct-24	IRRIGATED SOYBEANS	MN-54	<	7.7
27-Oct-24	IRRIGATED SOYBEANS	CO-58	<	12.5
27-Oct-24	IRRIGATED SOYBEANS	FE-59	<	31.8
27-Oct-24	IRRIGATED SOYBEANS	CO-60	<	16.0
27-Oct-24	IRRIGATED SOYBEANS	ZN-65	<	37.5
27-Oct-24	IRRIGATED SOYBEANS	ZR-NB-95	<	14.1
27-Oct-24	IRRIGATED SOYBEANS	I-131	<	26.9
27-Oct-24	IRRIGATED SOYBEANS	CS-134	<	13.0
27-Oct-24	IRRIGATED SOYBEANS	CS-137	<	16.1

Exposure Pathway - Aquatic
Vegetation
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
08-Jul-24	COONTAIL	BE-7	359.4 +/-	113.2
08-Jul-24	COONTAIL	K-40	2,291.5 +/-	266.4
08-Jul-24	COONTAIL	MN-54	<	11.3
08-Jul-24	COONTAIL	CO-58	<	9.2
08-Jul-24	COONTAIL	FE-59	<	29.0
08-Jul-24	COONTAIL	CO-60	<	6.6
08-Jul-24	COONTAIL	ZN-65	<	16.4
08-Jul-24	COONTAIL	ZR-NB-95	<	15.6
08-Jul-24	COONTAIL	I-131	<	18.5
08-Jul-24	COONTAIL	CS-134	<	11.1
08-Jul-24	COONTAIL	CS-137	<	9.2

Exposure Pathway - Aquatic
Vegetation
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
10-Jul-24	AMERICAN PONDWEED	BE-7	240.5 +/-	88.0
10-Jul-24	AMERICAN PONDWEED	K-40	2,292.0 +/-	203.9
10-Jul-24	AMERICAN PONDWEED	MN-54	<	8.8
10-Jul-24	AMERICAN PONDWEED	CO-58	<	9.4
10-Jul-24	AMERICAN PONDWEED	FE-59	<	22.8
10-Jul-24	AMERICAN PONDWEED	CO-60	<	10.0
10-Jul-24	AMERICAN PONDWEED	ZN-65	<	15.2
10-Jul-24	AMERICAN PONDWEED	ZR-NB-95	<	9.9
10-Jul-24	AMERICAN PONDWEED	I-131	<	24.5
10-Jul-24	AMERICAN PONDWEED	CS-134	<	8.8
10-Jul-24	AMERICAN PONDWEED	CS-137	<	11.6

Exposure Pathway - Aquatic
Vegetation
Location: SC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
07-Aug-24	CATTAIL	BE-7	687.2 +/-	192.3
07-Aug-24	CATTAIL	K-40	2,377.8 +/-	304.4
07-Aug-24	CATTAIL	MN-54	<	7.3
07-Aug-24	CATTAIL	CO-58	<	11.4
07-Aug-24	CATTAIL	FE-59	<	23.5
07-Aug-24	CATTAIL	CO-60	<	11.6
07-Aug-24	CATTAIL	ZN-65	<	14.3
07-Aug-24	CATTAIL	ZR-NB-95	<	14.0
07-Aug-24	CATTAIL	I-131	<	30.1
07-Aug-24	CATTAIL	CS-134	<	14.7
07-Aug-24	CATTAIL	CS-137	<	18.0

Exposure Pathway - Aquatic
Bottom Sediment
Location: DC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
23-May-24	BOTTOM SEDIMENT	K-40	11,997.0 +/-	410.4
23-May-24	BOTTOM SEDIMENT	K-40	11,997.0 +/-	410.4
23-May-24	BOTTOM SEDIMENT	MN-54	<	18.4
23-May-24	BOTTOM SEDIMENT	MN-54	<	18.4
23-May-24	BOTTOM SEDIMENT	CO-58	<	23.0
23-May-24	BOTTOM SEDIMENT	CO-58	<	23.0
23-May-24	BOTTOM SEDIMENT	FE-59	<	37.2
23-May-24	BOTTOM SEDIMENT	FE-59	<	37.2
23-May-24	BOTTOM SEDIMENT	CO-60	<	16.8
23-May-24	BOTTOM SEDIMENT	CO-60	<	16.8
23-May-24	BOTTOM SEDIMENT	ZN-65	<	39.9
23-May-24	BOTTOM SEDIMENT	ZN-65	<	39.9
23-May-24	BOTTOM SEDIMENT	CS-134	<	14.9
23-May-24	BOTTOM SEDIMENT	CS-134	<	14.9
23-May-24	BOTTOM SEDIMENT	CS-137	56.7 +/-	19.1
23-May-24	BOTTOM SEDIMENT	CS-137	56.7 +/-	19.1
23-May-24	BOTTOM SEDIMENT	FE-55	<	5,380.0
23-May-24	BOTTOM SEDIMENT	FE-55	<	5,380.0
17-Sep-24	BOTTOM SEDIMENT	K-40	13,574.0 +/-	441.8
17-Sep-24	BOTTOM SEDIMENT	MN-54	<	21.1
17-Sep-24	BOTTOM SEDIMENT	CO-58	<	23.6
17-Sep-24	BOTTOM SEDIMENT	FE-59	<	26.0
17-Sep-24	BOTTOM SEDIMENT	CO-60	<	16.5
17-Sep-24	BOTTOM SEDIMENT	ZN-65	<	36.8
17-Sep-24	BOTTOM SEDIMENT	CS-134	<	20.4
17-Sep-24	BOTTOM SEDIMENT	CS-137	49.0 +/-	15.1
17-Sep-24	BOTTOM SEDIMENT	FE-55	<	21,403.0

Exposure Pathway - Aquatic
Bottom Sediment
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
29-Mar-24	BOTTOM SEDIMENT	K-40	10,199.0 +/-	473.0	
29-Mar-24	BOTTOM SEDIMENT	MN-54	<	20.0	
29-Mar-24	BOTTOM SEDIMENT	CO-58	<	18.6	
29-Mar-24	BOTTOM SEDIMENT	FE-59	<	38.2	
29-Mar-24	BOTTOM SEDIMENT	CO-60	<	10.0	
29-Mar-24	BOTTOM SEDIMENT	ZN-65	<	42.3	
29-Mar-24	BOTTOM SEDIMENT	CS-134	<	16.5	
29-Mar-24	BOTTOM SEDIMENT	CS-137	34.7 +/-	16.7	

Exposure Pathway - Aquatic
Bottom Sediment
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
23-May-24	BOTTOM SEDIMENT	K-40	15,343.0 +/-	432.4
23-May-24	BOTTOM SEDIMENT	K-40	15,343.0 +/-	432.4
23-May-24	BOTTOM SEDIMENT	K-40	15,343.0 +/-	432.4
23-May-24	BOTTOM SEDIMENT	MN-54	<	23.1
23-May-24	BOTTOM SEDIMENT	MN-54	<	23.1
23-May-24	BOTTOM SEDIMENT	MN-54	<	23.1
23-May-24	BOTTOM SEDIMENT	CO-58	<	23.4
23-May-24	BOTTOM SEDIMENT	CO-58	<	23.4
23-May-24	BOTTOM SEDIMENT	CO-58	<	23.4
23-May-24	BOTTOM SEDIMENT	FE-59	<	51.0
23-May-24	BOTTOM SEDIMENT	FE-59	<	51.0
23-May-24	BOTTOM SEDIMENT	FE-59	<	51.0
23-May-24	BOTTOM SEDIMENT	CO-60	<	20.4
23-May-24	BOTTOM SEDIMENT	CO-60	<	20.4
23-May-24	BOTTOM SEDIMENT	CO-60	<	20.4
23-May-24	BOTTOM SEDIMENT	ZN-65	<	39.7
23-May-24	BOTTOM SEDIMENT	ZN-65	<	39.7
23-May-24	BOTTOM SEDIMENT	ZN-65	<	39.7
23-May-24	BOTTOM SEDIMENT	CS-134	<	14.8
23-May-24	BOTTOM SEDIMENT	CS-134	<	14.8
23-May-24	BOTTOM SEDIMENT	CS-134	<	14.8
23-May-24	BOTTOM SEDIMENT	CS-137	70.6 +/-	14.5
23-May-24	BOTTOM SEDIMENT	CS-137	70.6 +/-	14.5
23-May-24	BOTTOM SEDIMENT	CS-137	70.6 +/-	14.5
12-Nov-24	BOTTOM SEDIMENT	K-40	18,479.0 +/-	612.8
12-Nov-24	BOTTOM SEDIMENT	MN-54	<	31.9
12-Nov-24	BOTTOM SEDIMENT	CO-58	<	42.9
12-Nov-24	BOTTOM SEDIMENT	FE-59	<	107.3
12-Nov-24	BOTTOM SEDIMENT	CO-60	<	30.3
12-Nov-24	BOTTOM SEDIMENT	ZN-65	<	68.7
12-Nov-24	BOTTOM SEDIMENT	CS-134	<	26.8
12-Nov-24	BOTTOM SEDIMENT	CS-137	84.4 +/-	20.7

Exposure Pathway - Aquatic
Bottom Sediment
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
14-Aug-24	BOTTOM SEDIMENT	K-40	8,395.9 +/-	226.6
14-Aug-24	BOTTOM SEDIMENT	MN-54	<	10.7
14-Aug-24	BOTTOM SEDIMENT	CO-58	<	15.2
14-Aug-24	BOTTOM SEDIMENT	FE-59	<	44.9
14-Aug-24	BOTTOM SEDIMENT	CO-60	<	9.7
14-Aug-24	BOTTOM SEDIMENT	ZN-65	<	24.1
14-Aug-24	BOTTOM SEDIMENT	CS-134	<	8.4
14-Aug-24	BOTTOM SEDIMENT	CS-137	16.9 +/-	6.9

**Exposure Pathway - Terrestrial
Vegetation
Location: EEA**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
14-Jun-24	GRASS	BE-7	1,344.8 +/-	194.8
14-Jun-24	GRASS	BE-7	1,344.8 +/-	194.8
14-Jun-24	GRASS	BE-7	1,344.8 +/-	194.8
14-Jun-24	GRASS	K-40	8,530.8 +/-	545.0
14-Jun-24	GRASS	K-40	8,530.8 +/-	545.0
14-Jun-24	GRASS	K-40	8,530.8 +/-	545.0
14-Jun-24	GRASS	MN-54	<	18.7
14-Jun-24	GRASS	MN-54	<	18.7
14-Jun-24	GRASS	MN-54	<	18.7
14-Jun-24	GRASS	CO-58	<	11.3
14-Jun-24	GRASS	CO-58	<	11.3
14-Jun-24	GRASS	CO-58	<	11.3
14-Jun-24	GRASS	FE-59	<	31.1
14-Jun-24	GRASS	FE-59	<	31.1
14-Jun-24	GRASS	FE-59	<	31.1
14-Jun-24	GRASS	CO-60	<	12.8
14-Jun-24	GRASS	CO-60	<	12.8
14-Jun-24	GRASS	CO-60	<	12.8
14-Jun-24	GRASS	ZN-65	<	48.2
14-Jun-24	GRASS	ZN-65	<	48.2
14-Jun-24	GRASS	ZN-65	<	48.2
14-Jun-24	GRASS	ZR-NB-95	<	12.0
14-Jun-24	GRASS	ZR-NB-95	<	12.0
14-Jun-24	GRASS	ZR-NB-95	<	12.0
14-Jun-24	GRASS	I-131	<	21.8
14-Jun-24	GRASS	I-131	<	21.8
14-Jun-24	GRASS	I-131	<	21.8
14-Jun-24	GRASS	CS-134	<	12.6
14-Jun-24	GRASS	CS-134	<	12.6
14-Jun-24	GRASS	CS-134	<	12.6
14-Jun-24	GRASS	CS-137	<	15.9
14-Jun-24	GRASS	CS-137	<	15.9
14-Jun-24	GRASS	CS-137	<	15.9

**Exposure Pathway - Terrestrial
Vegetation
Location: MUDS**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
28-May-24	GRASS	BE-7	1,944.4 +/-	95.5
28-May-24	GRASS	BE-7	1,944.4 +/-	95.5
28-May-24	GRASS	K-40	6,132.3 +/-	154.1
28-May-24	GRASS	K-40	6,132.3 +/-	154.1
28-May-24	GRASS	MN-54	<	6.0
28-May-24	GRASS	MN-54	<	6.0
28-May-24	GRASS	CO-58	<	6.4
28-May-24	GRASS	CO-58	<	6.4
28-May-24	GRASS	FE-59	<	10.3
28-May-24	GRASS	FE-59	<	10.3
28-May-24	GRASS	CO-60	<	3.9
28-May-24	GRASS	CO-60	<	3.9
28-May-24	GRASS	CO-60	<	3.9
28-May-24	GRASS	ZN-65	<	12.7
28-May-24	GRASS	ZN-65	<	12.7
28-May-24	GRASS	ZR-NB-95	<	7.1
28-May-24	GRASS	ZR-NB-95	<	7.1
28-May-24	GRASS	I-131	<	37.9
28-May-24	GRASS	I-131	<	38.0
28-May-24	GRASS	CS-134	<	4.6
28-May-24	GRASS	CS-134	<	4.6
28-May-24	GRASS	CS-137	<	3.0
28-May-24	GRASS	CS-137	<	3.0

**Exposure Pathway - Terrestrial
Soil
Location: EEA**

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
09-Feb-24	SOIL	K-40	7,083.2 +/-	509.2
09-Feb-24	SOIL	MN-54	<	29.7
09-Feb-24	SOIL	CO-58	<	19.8
09-Feb-24	SOIL	FE-59	<	81.5
09-Feb-24	SOIL	CO-60	<	21.6
09-Feb-24	SOIL	ZN-65	<	40.7
09-Feb-24	SOIL	CS-134	<	22.6
09-Feb-24	SOIL	CS-137	85.1 +/-	28.0
09-Sep-24	SOIL	K-40	14,522.0 +/-	516.8
09-Sep-24	SOIL	K-40	14,778.0 +/-	273.2 Duplicate
09-Sep-24	SOIL	MN-54	<	21.3
09-Sep-24	SOIL	MN-54	<	11.7 Duplicate
09-Sep-24	SOIL	CO-58	<	12.6 Duplicate
09-Sep-24	SOIL	CO-58	<	18.2
09-Sep-24	SOIL	FE-59	<	37.7
09-Sep-24	SOIL	FE-59	<	22.3 Duplicate
09-Sep-24	SOIL	CO-60	<	21.5
09-Sep-24	SOIL	CO-60	<	10.3 Duplicate
09-Sep-24	SOIL	ZN-65	<	41.3
09-Sep-24	SOIL	ZN-65	<	25.3 Duplicate
09-Sep-24	SOIL	CS-134	<	9.2 Duplicate
09-Sep-24	SOIL	CS-134	<	18.5
09-Sep-24	SOIL	CS-137	80.7 +/-	21.2
09-Sep-24	SOIL	CS-137	97.8 +/-	8.8 Duplicate

Exposure Pathway - Terrestrial
Soil
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)	Duplicate Analysis
10-Dec-24	SOIL	K-40	11,327 +/-	206.2
10-Dec-24	SOIL	MN-54	<	9.6
10-Dec-24	SOIL	CO-58	<	8.9
10-Dec-24	SOIL	FE-59	<	23.8
10-Dec-24	SOIL	CO-60	<	6.7
10-Dec-24	SOIL	ZN-65	<	17.1
10-Dec-24	SOIL	CS-134	<	7.0
10-Dec-24	SOIL	CS-137	152.0 +/-	7.2

Exposure Pathway - Ingestion
Meat
Location: R1.4

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
24-Apr-24	WILD TURKEY	K-40	2,700.1 +/-	128.3
24-Apr-24	WILD TURKEY	MN-54	<	4.9
24-Apr-24	WILD TURKEY	CO-58	<	3.1
24-Apr-24	WILD TURKEY	FE-59	<	11.2
24-Apr-24	WILD TURKEY	CO-60	<	6.0
24-Apr-24	WILD TURKEY	ZN-65	<	9.4
24-Apr-24	WILD TURKEY	CS-134	<	4.5
24-Apr-24	WILD TURKEY	CS-137	<	5.5
24-Apr-24	WILD TURKEY	H-3	341.0 +/-	85.0

Exposure Pathway - Ingestion
Meat
Location: R1.8

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)	Duplicate Analysis
06-Dec-24	DEER	K-40	2,565.8 +/-	112.9
06-Dec-24	DEER	MN-54	<	4.7
06-Dec-24	DEER	CO-58	<	5.8
06-Dec-24	DEER	FE-59	<	14.3
06-Dec-24	DEER	CO-60	<	5.3
06-Dec-24	DEER	ZN-65	<	12.2
06-Dec-24	DEER	CS-134	<	4.4
06-Dec-24	DEER	CS-137	<	5.4
06-Dec-24	DEER	H-3	1,324.0 +/-	115.0

APPENDIX D
LAND USE CENSUS REPORT

WOLF CREEK GENERATING STATION

2024 LAND USE CENSUS REPORT



Prepared by:

A handwritten signature in black ink, appearing to read "Joseph p. Augustyn".

Joseph p. Augustyn

02/06/2025

Date

Peer Review:

A handwritten signature in black ink, appearing to read "Matt Vopat".

Jon Matthew Vopat

02/18/2025

Date

Approved by:

A handwritten signature in black ink, appearing to read "Daniel Michel".

Daniel Michel

02/27/2025

Date

EXECUTIVE SUMMARY

The annual Land Use Census of rural residents within five miles of the Wolf Creek Generating Station (WCGS) has been completed in 2024 in accordance with AP 07B-004, [Offsite Dose Calculation Manual (Radiological Environmental Monitoring Program)].

A change was necessary regarding milk locations. Location J3.80-11RD1626 provided a survey showing that they are producing milk for human consumption. Changes to AP 07B-004 might be made regarding the milk location.

The two broadleaf vegetation locations with the highest calculated annual average D/Q rankings are A2.60-17TE1527 and Q2.35-MILA1619. Since these gardens are currently listed as sample locations for the Radiological Environmental Monitoring Program in procedure AP 07B-004 (locations A-3 and Q-6), no program changes are necessary regarding broadleaf vegetation locations.

BACKGROUND

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

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

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

METHODOLOGY

Over two hundred surveys were mailed to the rural residents living within five miles of WCGS. The survey excluded the residents of New Strawn and Burlington. These locations were excluded due to the large number of households and the low likelihood that information gained from these residences would affect the locations chosen for REMP sampling. Drive-by information was collected for the nearest residences in each sector that did not return surveys. Also used Google Earth/Maps to obtain images of properties.

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

RESULTS

No changes were identified for the nearest occupied residence in each sector. Six changes were noted for the nearest garden producing broadleaf vegetation. These changes are identified as an underlined entry in the Tables. There was one change regarding milk sample locations. One survey came back with the property producing milk for human consumption. According with AP 07B-004 (REMP) Offsite Dose Calculation Manual a sample should be taken semimonthly April-November if available. Discussions with the property are ongoing.

TABLE 1
2024 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	<u>C4.89-18RD1859</u>
D	D2.33-RERD1520	None	<u>D3.18-RERD1618</u>
E	E1.78-QULA1451	None	E4.40-TRRD1551
F	F1.84-QULA1419	None	F3.37-14RD1904
G	G2.82-13Rd1790	None	<u>None</u>
H	H3.09-12RD1711	None	H3.15-QURD1181
J	J3.70-11RD1540	<u>J3.80-11RD1626</u>	J3.80-11RD1626
K	K2.79-12LA1435	None	None
L	L2.10-NARD1339	None	L2.39-NARD1309
M	M2.34-14RD1346	None	<u>M4.52-13RD1151</u>
N	N2.08-15RD1350	None	<u>None</u>
P	P2.66-16RD1268	None	<u>None</u>
Q	Q2.35-MILA1619	None	Q2.35-MILA1619
R	R2.08-NALN1650	None	R4.43-NARD1891

NOTE: Entries underlined indicate changes from the 2023 Land Use Census.

EXAMPLE: A2.60-17TE1527

"A" = Sector A

"2.60" = 2.60 miles from the reactor

"17TE1527" = address

TABLE 2

SECTOR	2023 NEAREST RESIDENCE	2024 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	F1.84-QULA1419	F1.84-QULA1419
G	G2.82-13RD1790	G2.82-13RD1790
H	H3.09-12RD1711	H3.09-12RD1711
J	J3.70-11RD1540	J3.70-11RD1540
K	K2.79-12LA1435	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	P2.66-16RD1268	P2.66-16RD1268
Q	Q2.35-MILA1619	Q2.35-MILA1619
R	R2.08-NALN1650	R2.08-NALN1650

NOTE: No changes identified from the 2023 Land Use Census.

TABLE 3

2024 LAND USE CENSUS MILK AND GARDEN DATA

SECTOR	2023 MILKING ANIMALS	2024 MILKING ANIMALS	2023 NEAREST BROADLEAF GARDEN	2024 NEAREST BROADLEAF GARDEN
A	None	None	A2.60-17TE1527	A2.60-17TE1527
B	None	None	B4.09-18RD1739	B4.09-18RD1739
C	None	None	C3.58-RERD1675	<u>C4.89-18RD1859</u>
D	None	None	None	<u>D3.18-RERD1618</u>
E	None	None	E4.40-TRRD1551	E4.40-TRRD1551
F	None	None	F3.37-14RD1904	F3.37-14RD1904
G	None	None	G3.60-RERD1198	<u>None</u>
H	None	None	H3.15-QURD1181	H3.15-QURD1181
J	None	<u>J3.80-11RD1626</u>	J3.80-11RD1626	J3.80-11RD1626
K	None	None	None	None
L	None	None	L2.39-NARD1309	L2.39-NARD1309
M	None	None	M3.69-LYLA1290	<u>M4.52-13RD1151</u>
N	None	None	N2.38-RODR9	<u>None</u>
P	None	None	P4.52-KARD1630	<u>None</u>
Q	None	None	Q2.35-MILA1619	Q2.35-MILA1619
R	None	None	R4.43-NARD1891	R4.43-NARD1891

NOTE: Underlined entries indicate changes from the 2023 Land Use Census.

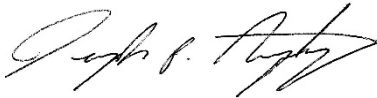
TABLE 4

**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	4.89	7870	7000	1.37E-10	8000	1.10E-10	1.14E-10	12
D	3.18	5118	5000	1.99E-10	6000	1.46E-10	1.93E-10	10
E	4.40	7081	7000	1.28E-10	8000	1.03E-10	1.26E-10	11
F	3.37	5423	5000	2.68E-10	6000	1.97E-10	2.38E-10	8
G								
H	3.15	5069	5000	6.41E-10	6000	4.71E-10	6.29E-10	4
J	3.80	6116	6000	3.37E-10	7000	2.51E-10	3.27E-10	7
K								
L	2.39	3846	3000	1.02E-09	4000	6.11E-10	6.74E-10	3
M	4.52	7274	7000	2.22E-10	8000	1.80E-10	2.10E-10	9
N								
P								
Q	2.35	3782	3000	1.53E-09	4000	9.17E-10	1.05E-09	2
R	4.43	7129	7000	6.24E-10	8000	5.04E-10	6.09E-10	5

*Sector G,K,N and P have no broadleaf gardens to report.

Originated by:



Date: 2/6/2025

Verified by:



Date: 2/18/2025