Wolf Creek
Nuclear Operating Corporation

Ron Benham
Director Nuclear and Regulatory Affairs

April 26, 2022
RA 22-0036

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

Subject: Docket No. 50-482: 2021 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, 2021, through December 31, 2021.

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

Sincerely,

Ron Benham

Ron Benham

RDB

Enclosure I: Wolf Creek Generating Station 2021 Annual Radiological Environmental Operating Report

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

Enclosure I to RA 22-0036

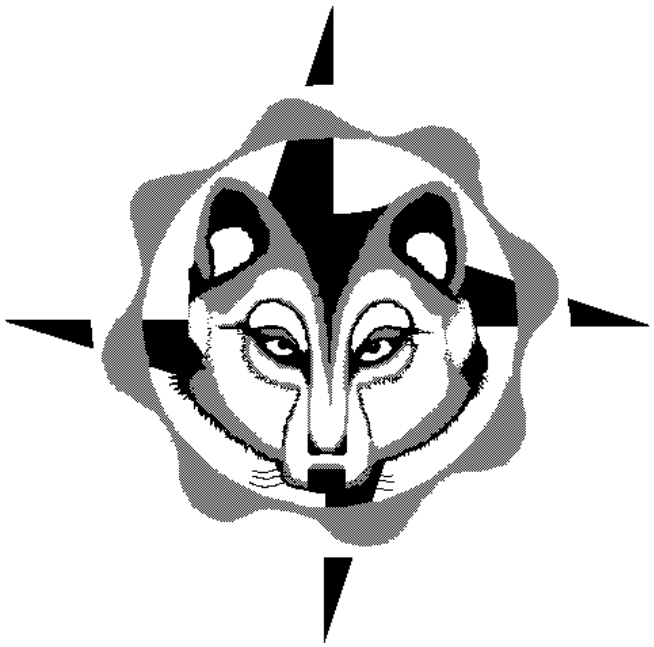
WOLF CREEK GENERATING STATION
2021 ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
(156 pages including this page)

Enclosure I

WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

2021 ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT



March 28, 2022

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EXECUTIVE SUMMARY

Plant-related activation, corrosion, or fission products were not detected during 2021 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 2021 in surface water, fish, and deer samples.

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

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

INTRODUCTION

The 2021 Annual Radiological Environmental Operating Report for Wolf Creek Generating Station (WCGS) covers the period from January 1 through December 31, 2021. WCGS is in Coffey County, Kansas, approximately five miles northeast of Burlington, Kansas.

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

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

I. PROGRAM DESCRIPTION

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

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

A. Airborne Pathway

Low volume air sampling pumps with digital flow meters continuously sampled air through 47 mm glass fiber particulate filters and radioiodine canisters, respectively. The air particulate filters and radioiodine canisters were collected weekly. Gross beta analysis was performed weekly on the air particulate filters. Gamma isotopic analysis was also performed quarterly on

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

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

B. Direct Radiation Pathway

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

C. Waterborne Pathway

Gamma isotopic analysis was performed on the water samples. In addition to gamma isotopic analysis, analysis for I-131 was performed monthly on drinking water and quarterly on ground water samples. Gross beta analysis was performed monthly on drinking water samples. Tritium analysis was performed monthly for surface water and quarterly for drinking water. Tritium analysis was also performed quarterly on ground water samples. Four surface water samples from the Coffey County Lake Spillway (SP) location and four surface water samples from the John Redmond Reservoir (JRR) location were also analyzed for Fe-55. The waterborne pathway sample locations are shown in Figures 3 and 5.

Monthly grab samples of surface water were collected from the John Redmond Reservoir (JRR) control location and from the Coffey County Lake Spillway (SP) indicator location. The surface water sample locations are shown in Figure 3.

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. The ground water sample locations are shown in Figure 3.

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. The drinking water sample locations are shown in Figures 3 and 5.

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. The shoreline sediment sample locations are shown in Figure 3.

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. No samples from R-2 were taken due to no growth in the garden.

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

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

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

Aquatic vegetation was collected from indicator locations at the Makeup Discharge Structure (MUDS), Environmental Education Area (EEA) and Stringtown Cemetery (SC). Gamma isotopic analyses were performed on the aquatic vegetation samples. These samples were collected as part of a cooperative sampling effort with the KDHE. The sample locations are identified on Figure 3.

Terrestrial vegetation (grass) was sampled from the Environmental Education Area (EEA) and the Makeup Discharge Structure (MUDS) indicator sample locations. Gamma isotopic analysis was performed on the grass samples. These samples were collected as part of a cooperative sampling effort with the KDHE. The sample locations are identified on Figure 4.

Soil was sampled from the Environmental Education Area (EEA) and Makeup Discharge Structure (MUDS). Gamma isotopic analysis was performed on the soil samples. These samples were collected as part of a cooperative sampling effort with the KDHE. The sample locations are identified on Figure 3.

Turkey was sampled from indicator sample location R 1.5. 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 A 1.42. 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 2021 were compared to pre-operational monitoring results of 1983 and 1984. The weekly gross beta analyses range for 1983 and 1984 was 0.0064 to 0.084 pCi/m^3. The 2021 weekly gross beta analyses range for indicator locations was 0.010 to 0.071 pCi/m^3. The 2021 weekly gross beta analyses range was within the 1983 and 1984 pre-operational range. Additionally, the annual mean for indicator locations for 2021 (0.028 pCi/m^3) was lower than the annual mean for 1983 (0.032 pCi/m^3).

The gross beta results for the indicator locations were also compared to the control location. The annual mean for indicator locations for 2021 (0.028 pCi/m^3) was the same as the controlled location (0.028 pCi/m^3). The indicator location with the highest gross beta annual mean was location 49 (0.029 pCi/m^3). One point higher than the controlled location (0.028 pCi/m^3).

Naturally occurring Be-7 activity was detected, as was the case during pre-operational monitoring. In 1984, the range for Be-7 detected activity was 0.024 to 0.211 pCi/m^3 for indicator locations and the annual mean for indicator locations was 0.069 pCi/m^3. In 2021, the range for Be-7 detected activity was 0.066 to 0.120 pCi/m^3 for indicator locations and the annual mean for indicator locations was 0.092 pCi/m^3. The control location annual mean for Be-7 detected activity (0.086 pCi/m^3) was lower than the annual mean of the indicator locations (0.092 pCi/m^3). The indicator location with the highest annual mean of detected Be-7 activity was location 32 (0.096 pCi/ m^3).

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

The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2021 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 2021 was 15.6 mR per standardized 90-day quarter. The annual mean of the control sample locations in 2021 was 15.1 mR per standardized 90-day quarter.

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

The indicator sample location with the highest annual mean was location 22 (21.5 mR per standardized 90-day quarter) which is slightly higher than the annual mean of the control sample locations (15.1 mR per standardized 90-day quarter).

Based upon Condition Report 00027489, improvements were made in measuring and subtracting transit dose in 2010. As expected, the OSL results increased during 2010 based on how transit dosimeters are handled. Chart 3 visibly displays the increase of the OSL results since 2010. Chart 3 also displays how closely the indicator and control location OSL dosimeter results are for 2018. Condition Report 00128355 was written to reduce data elimination based on standard deviation starting in Quarter 3 of 2018. In 2021 no change in corrected trend was noted due to this change.

We recognize the dip on chart 3 for the first quarter in 2021. The dip was due to UPS not picking up the dosimeters until the following day. The transit dosimeters were outside the lead longer then normal, which caused the value to be higher. The uncorrected data was reviewed and still trendable with previous data.

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 13,457 pCi/L and the range was 11,817 to 15,543 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 (CR#10013322). Tritium activity was not detected in samples obtained from the John Redmond Reservoir (JRR) control sample location.

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

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

Tritium was the only activity detected during 2021 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 2021 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 (2.896 pCi/L) was slightly higher when compared to the annual mean of the control sample location gross beta activity (2.790 pCi/L). The 2021 annual means of gross beta activity for both the indicator and control sample locations were lower than those of the pre-operational monitoring year of 1984. In 1984, the annual mean of the indicator sample location gross beta activity was 7.5 pCi/L and the annual mean of the control sample location gross beta activity was 6.4 pCi/L.

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

No tritium was detected in the indicator sample location during 2021. No release limits were exceeded, and results were well below required detection limits. No other radionuclides were detected by the gamma isotopic analyses of the indicator or control location samples.

The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2021 in drinking water samples and no unusual trends were noted.

(4) Shoreline Sediment

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

No other radionuclides were detected in the DC or JRR shoreline sediment samples during 2021. The AP 07B-004 required lower limits of detection were met. Plant-related activation, corrosion, or fission products were not detected during 2021 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 2021 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 with an annual mean of 7,518 pCi/kg. The detected tritium activity was attributable to plant operation. An adult consuming 21 kilograms of fish, at the maximum measured tritium concentration (9,947 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 2021. 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 2021 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 2021 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 2021 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 31 to 372 pCi/kg.

The detected Cs-137 activity in the sample collected from the indicator sample locations was likely due to fallout since the measured activity is within the decay corrected range of pre-operational Cs-137 detected activity.

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

Fe-55 activity was not detected in the two samples obtained from indicator sample locations.

No other radionuclides were detected in bottom sediment samples. Plant-related activation, corrosion, or fission products were not detected during 2021 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 activities 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 2021 in aquatic vegetation samples and no unusual trends were noted.

(3) Terrestrial Vegetation

Naturally occurring Be-7 and K-40 activities 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 2021 in terrestrial vegetation and no unusual trends were noted.

(4) Soil

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

Cs-137 activity was also detected in three samples collected in 2021. The detectable annual mean of the three was 157 pCi/kg, with a range of 112 to 184 pCi/L. Data was reviewed for soil samples collected pre-operationally. The detected Cs-137 activity range from February of 1985 was 255 to 2,160 pCi/kg. The decay corrected range of pre-operational Cs-137 activity detected in soil is approximately 99 to 842 pCi/kg. The detected Cs-137 activity in soil sampled in 2021 is below and within the decay corrected pre-operational range and is likely due to fallout.

Plant-related activation, corrosion, or fission products were not detected during 2021 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 (371.0 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 (371.0 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 (906.0 pCi/kg) was also detected in the deer sample. The detected tritium activity was attributable to plant operation.

An adult consuming 72.6 kilograms of deer meat, at the measured tritium concentration (906.0 pCi/kg), would receive a committed effective dose equivalent of 0.004 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 2021.

IV. PROGRAM DEVIATIONS

Air Samples

Location 32 failed to meet the requirement for "continuous sampler operation" (CR# 10006111). As described in footnote (1) of procedure AP 07B-004, *Offsite Dose Calculation Manual (Radiological Environmental Monitoring Program)*, Table 5-1, deviations are permitted from the required sampling schedule due to malfunction of sampling equipment and other legitimate reasons.

Ground Water Protection

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

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

V. INTERLABORATORY COMPARISON PROGRAM

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

VI. COMPARISON TO THE RADIOACTIVE EFFLUENT RELEASE PROGRAM

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

The theoretical doses calculated by the Radioactive Effluent Release Program assume a person drinks the water from Coffey County Lake and eats the fish from Coffey County Lake. Based upon these assumptions the dose to man from both pathways was calculated to be 0.316 mRem for 2021.

Using sample data obtained from the REMP, an adult drinking 2 liters per day of surface water from Coffey County Lake, using the average tritium activity (10,450 pCi/L), would receive a committed effective dose equivalent of 0.484 mRem per year. For an adult eating 21 kg of fish per year from Coffey County Lake, using the average tritium activity (9,291 pCi/kg), would receive a committed effective dose equivalent of 0.012 mRem per year. Based upon the REMP results, the dose from both pathways was calculated to be 0.496 mRem per year.

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

The tritium dose values are being compared on a qualitative basis. It is not expected that the annual doses, as calculated in the Radioactive Effluent Release Report, would compare directly to those calculated from the REMP. The Radioactive Effluent Release Report provides a "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 2021

(CR# 10006111) Air sample was not collected at location #32 on 5/24/21. This was due to pump 8412 failing; the pump will only stay on for approximately 10-20 seconds then shut off. I pulled the pump from the field and replaced it with a new pump.

(CR# 10013322) For 2021 the yearly average surface water tritium level in Coffey County Lake (CCL) trended higher than the previous year. Possible contributors to this trend include limited makeup water pumped from the John Redmond Reservoir (JRR) discharge structure due to equipment issues, a drier year based on local weather conditions, and performing flexible power operation of the plant. This trend was mentioned in the 2021 Annual Radiological Environmental Operating Report (AREOR). It should be noted that after the tritium peaked in March the monthly tritium values trended down and leveled off for the remainder of 2021. Additionally, the makeup water equipment issues have been resolved allowing makeup water from JRR to CCL, and local weather patterns have been normal. Flexible power operations of the plant will continue as scheduled.

TABLE 1

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

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

TABLE 1 (Cont.)

EXPOSURE PATHWAY/ SAMPLE TYPE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLE COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
DIRECT RADIATION	**(See Figures 2 & 5)**		
	39 routine monitoring stations with two or more dosimeters measuring dose continuously, placed as follows: An inner ring of stations, one in each meteorological sector 0-3 mile range from the site (Locations 1, 7, 9, 11-13, 18, 26, 27, 29, 30, 37, 38, 46, 49, 55, & 54 on Figure 2). An outer ring of stations, one in each meteorological sector in the 3 to 5 mile range from the site (Locations 4, 5, 15-17, 19, 22-25, 32, 34-36, 50 & 51 on Figure 2). Four sectors [A, B, G & J] contain an additional station (Locations 2, 8, 14 & 20). The balance of the stations to be placed in special interest areas such as population centers (Locations 23, 32 & 52), nearby residences	Quarterly	Gamma dose quarterly

TABLE 1 (Cont.)

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

TABLE 1 (Cont.)

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

TABLE 1 (Cont.)

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

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

Sample Type	Location Identifier	Distance from Reactor	Direction	Sector
Air Particulates and Radioiodine	2	2.7	N	A
	18	3.0	SSE	H
	32	3.1	WNW	P
	37	2.0	NNW	R
	49	0.8	NNE	B
	53	10.8	ENE	D
Dosimeters	1	1.4	N	A
	2	2.7	N	A
	4	4.0	NNE	B
	5	4.1	NE	C
	7	2.1	NE	C
	8	1.7	NNE	B
	9	2.0	ENE	D
	11	1.7	E	E
	12	1.9	ESE	F
	13	1.6	SE	G
	14	2.5	SE	G
	15	4.6	ESE	F
	16	4.3	E	E
	17	3.7	SE	G
	18	3.0	SSE	H
	19	3.9	SSE	H
	20	3.3	S	J
	22	3.9	SSW	K
	23	4.3	SW	L
	24	4.1	WSW	M
	25	3.4	W	N
	26	2.4	WSW	M
	27	2.2	SW	L
	29	2.7	SSW	K
	30	2.5	W	N
	32	3.1	WNW	P
	34	4.4	NW	Q
	35	4.6	NNW	R
	36	4.2	N	A
	37	2.0	NNW	R
	38	1.2	NW	Q
	39	13.1	N	A
	41	0.8	NNW	R
	42	0.8	SSE	H
	43	0.7	WNW	P
	44	3.0	NNW	R

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

Sample Type	Location Identifier	Distance from Reactor	Direction	Sector
Dosimeters	46	1.6	WNW	P
	49	0.8	NNE	B
	50	3.6	ENE	D
	51	4.3	S	J
	52	3.6	SW	L
	53	10.8	ENE	D
	54	0.18	S	K
	55	0.25	SSW	L
Surface Water	JRR	3.7	W	N
	SP	3.2	SSE	H
Ground Water	B-12	1.9	NNE	B
	C-10	2.7	W	N
	C-49/L-49	2.8	SW	L
	F-1	2.5	ESE	F
	G-2	3.6	SE	G
	J-1	3.8	S	J
	J-2	4.3	S	J
Drinking Water	BW-15	3.9	SW	L
	IO-DW	26.1	SSE	H
Shoreline Sediment	DC	0.8	WNW	P
	EEA	3.0	NNW	R
	JRR	3.6	W	N
	SC	0.8	NNW	R
Fish	CCL	0.6	E to NNW	E to R
	JRR	3.7	W	N
Food/Garden	A-3	2.6	N	A
	B-1	0.8	NNE	B
	D-2	14.8	ENE	D
	H-2	3.0	SSE	H
	Q-6	2.4	NW	Q
Crops	NR-D1	8.9	S	J
	NR-D2	11.5	S	J
	NR-U1	4.0	SSW	K
Bottom Sediment	DC	0.9	WNW	P
	EEA	3.0	NNW	R
	ESW	0.5	E	E
	JRR	3.7	W	N
	MUDS	1.5	WNW	P
	UHS	0.6	E	E
Aquatic Vegetation	DC ALT	1.5	NW	Q
	EEA	3.0	NNW	R
	MUDS	1.5	WNW	P
	SC	0.8	NNW	R

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

Sample Type	Location Identifier	Distance from Reactor	Direction	Sector
Terrestrial Vegetation	EEA	3.0	NNW	R
	MUDS	1.5	WNW	P
Soil	EEA	3.0	NNW	R
	MUDS	1.5	WNW	P
Meat (Turkey)	R1.5	1.5	NNE	R
Meat (Deer)	A1.42	1.42	N	A

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	8.0	18.5	20.7	20.5	67.7
2	7.4	18.1	20.7	18.8	65.0
4	6.4	18.5	22.4	21.1	68.4
5	8.0	16.5	17.8	15.7	58.0
7	8.4	19.1	19.1	17.7	64.3
8	6.1	18.8	21.1	21.1	67.1
9	5.1	14.9	18.4	16.1	54.5
11	9.4	16.8	22.0	19.1	67.3
12	6.1	18.5	20.4	18.4	63.4
13	9.0	18.5	23.7	21.5	72.7
14	9.4	17.8	20.4	17.4	65.0
15	6.7	19.1	21.1	18.1	65.0
16	6.1	19.4	18.1	18.8	62.4
17	2.1	19.4	20.1	20.1	61.7
18	4.7	17.5	20.7	15.7	58.6
19	7.4	18.5	21.7	19.1	66.7
20	7.4	16.5	19.4	17.8	61.1
22	6.7	21.1	24.3	21.5	73.6
23	7.0	21.7	19.8	19.1	67.6
24	7.4	20.7	20.1	18.4	66.6
25	6.4	16.8	17.1	15.7	56.0
26	8.0	16.2	18.8	18.1	61.1
27	8.4	16.5	19.1	19.1	63.1
29	6.4	12.9	15.5	17.1	51.9
30	6.4	18.5	19.8	18.8	63.5
32	5.4	16.2	18.8	16.4	56.8
34	7.7	20.4	21.0	19.4	68.5
35	9.0	18.8	18.5	19.8	66.1
36	6.4	19.4	18.1	17.4	61.3
37	8.0	17.5	18.1	16.1	59.7
38	7.7	20.5	20.1	21.1	69.4
39	4.1	16.5	16.8	17.8	55.2
41	2.8	18.5	19.4	18.1	58.8
42	5.1	11.3	10.6	12.7	39.7
43	8.0	11.9	12.9	13.7	46.5
44	5.7	17.8	20.4	18.1	62.0
46	4.1	17.5	18.1	18.1	57.8
49	5.4	16.2	16.8	15.7	54.1
50	6.7	23.7	20.8	21.5	72.7
51	0.8	20.4	18.8	18.4	58.4
52	8.4	18.8	20.4	20.1	67.7
53	5.7	20.1	20.8	18.8	65.4
54	4.4	20.1	20.4	19.1	64.0
55	5.7	19.1	20.4	18.4	63.6

FIGURE 1

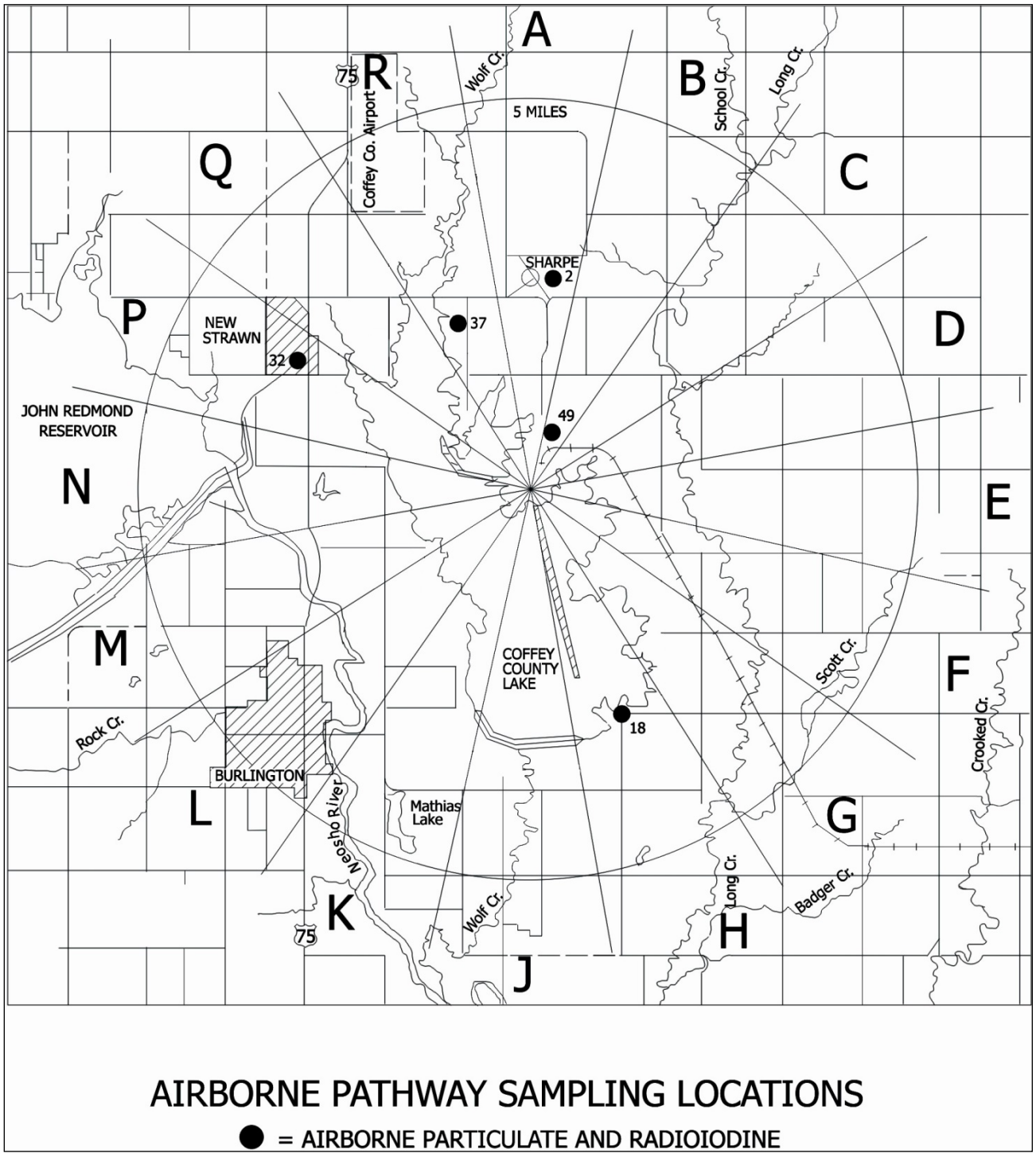
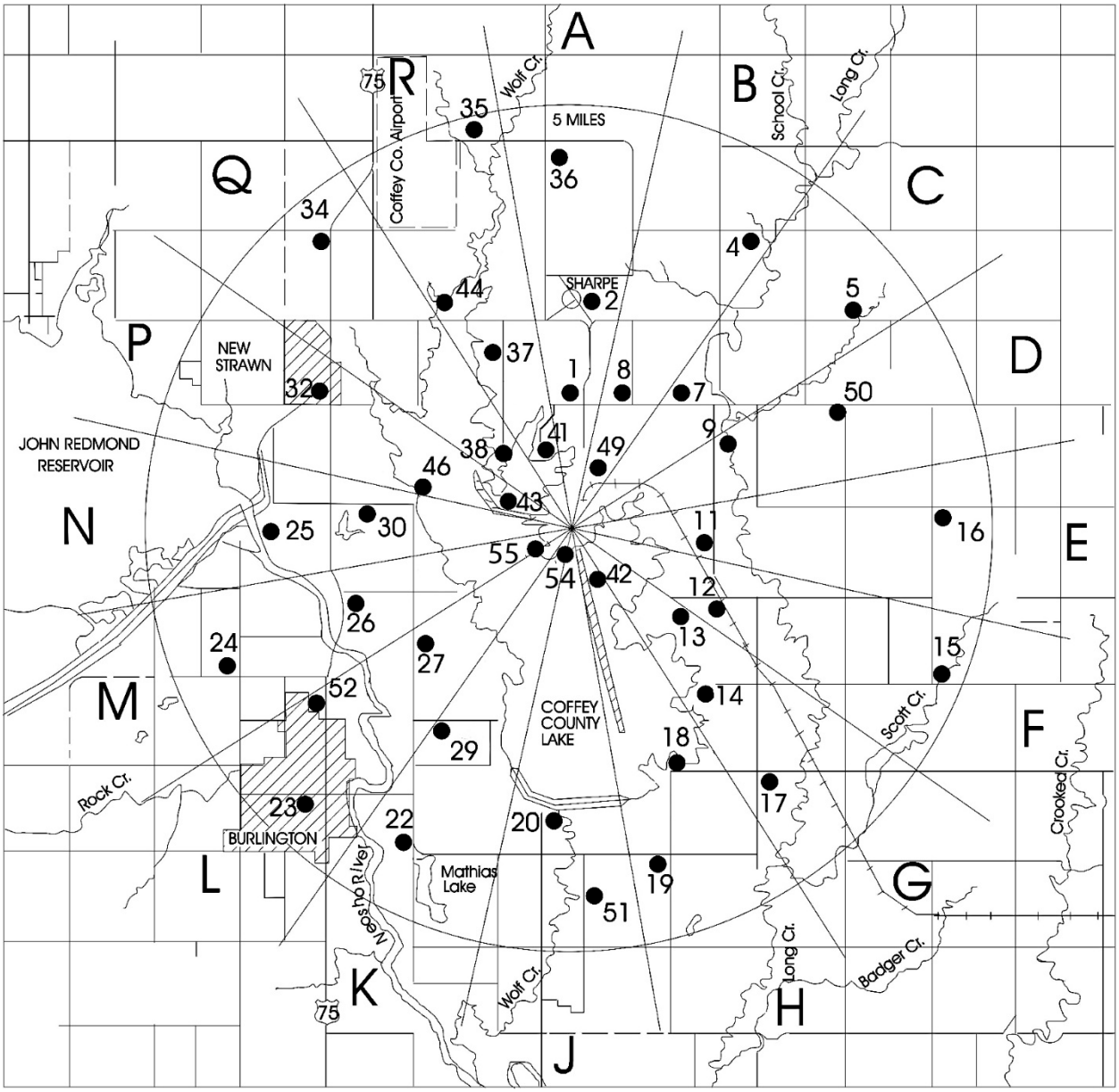

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
75
Wolf Cr.
5 MILES
School Cr.
Long Cr.
Coffey Co. Airport
SHARPE
2
37
NEW STRAWN
32
JOHN REDMOND RESERVOIR
49
COFFEY COUNTY LAKE
18
Scott Cr.
Crooked Cr.
Rock Cr.
BURLINGTON
Neosho River
Mathias Lake
Badger Cr.
AIRBORNE PATHWAY SAMPLING LOCATIONS
● = AIRBORNE PARTICULATE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

FIGURE 2



DIRECT RADIATION PATHWAY SAMPLING LOCATIONS

● = DOSIMETER LOCATIONS

FIGURE 3

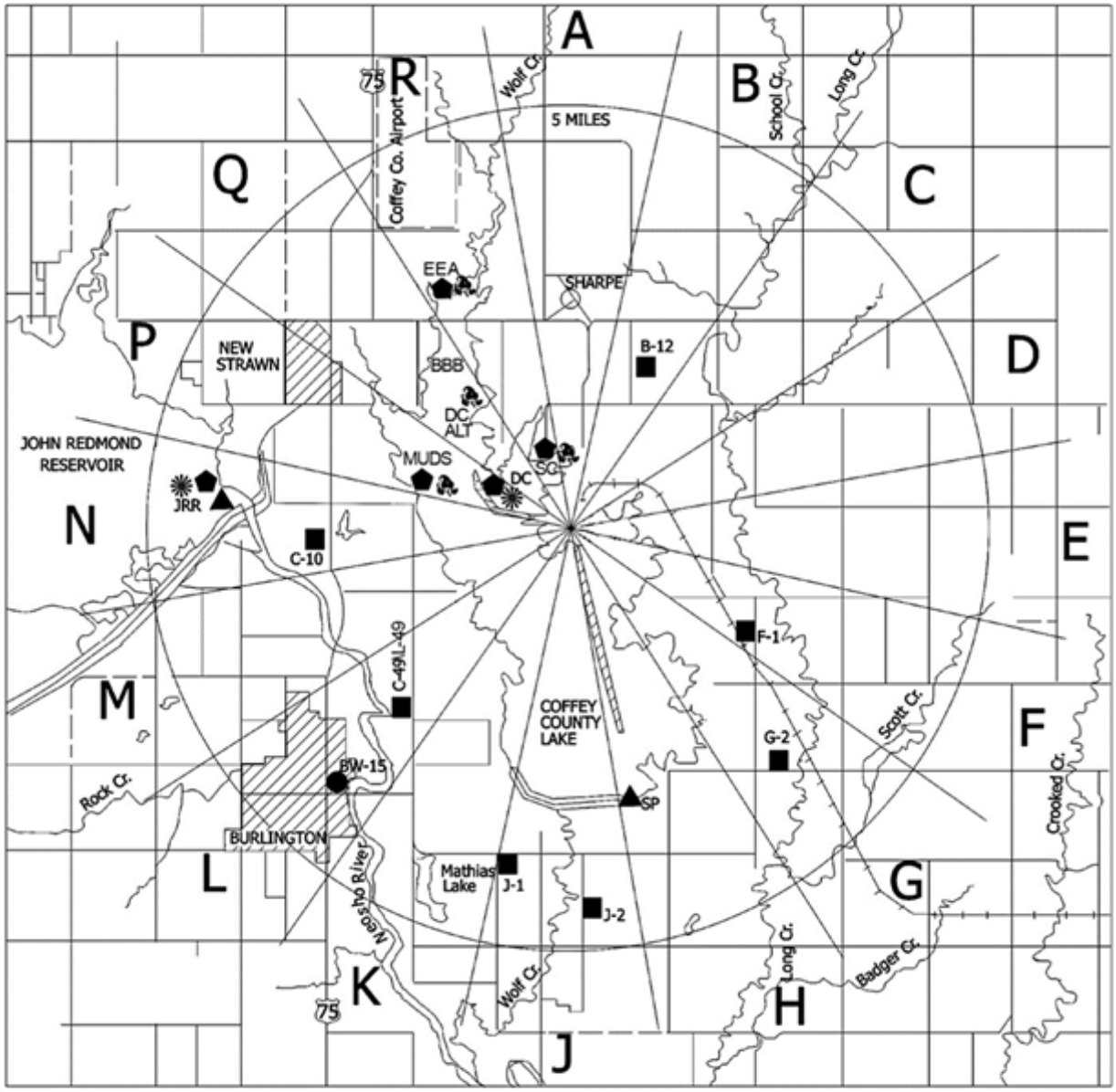

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
75
5 MILES
Wolf Cr.
School Cr.
Long Cr.
Coffey Co. Airport
EEA
SHARPE
NEW STRAWN
BBB
B-12
DC ALT
JOHN REDMOND RESERVOIR
MUDS
SG
DC
JRR
C-10
F-1
C-49L-49
COFFEY COUNTY LAKE
Scott Cr.
G-2
BW-15
SP
Rock Cr.
Crooked Cr.
BURLINGTON
Neosho River
Mathias Lake
J-1
J-2
Badger Cr.
WATERBORNE PATHWAY SAMPLING LOCATIONS
= DRINKING WATER
= SURFACE WATER
= GROUND WATER
= SHORELINE SEDIMENT
= BOTTOM SEDIMENT
= AQUATIC VEGETATION

FIGURE 4

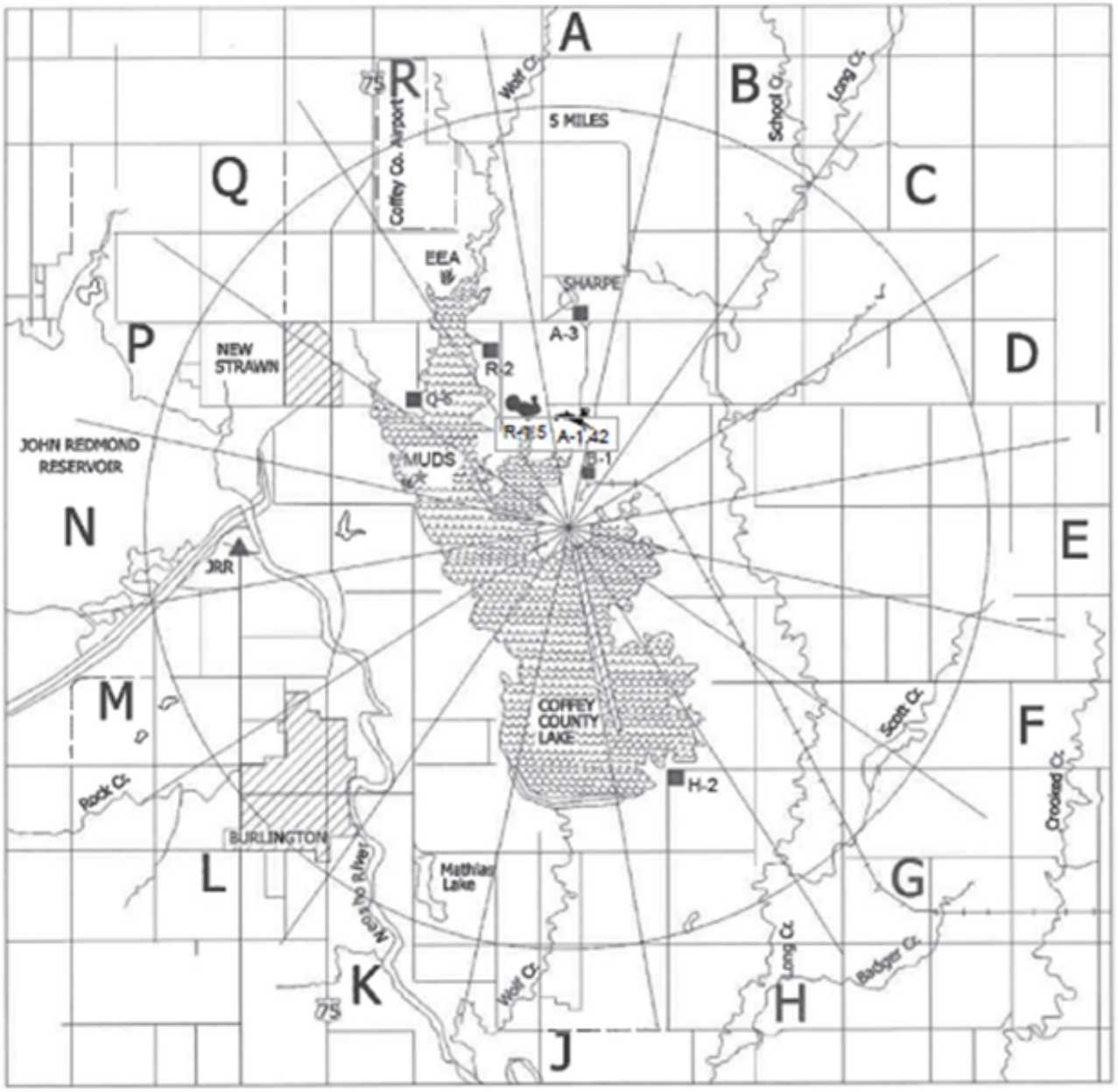

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
5 MILES
Coffey Co. Airport
West Cr.
School Cr.
Long Cr.
EEA
SHARPE
A-3
R-2
Q-5
R-1,5
A-1,42
B-1
NEW STRAWN
JOHN REDMOND RESERVOIR
MUDS
JRR
COFFEY COUNTY LAKE
H-2
Scott Cr.
Crooked Cr.
Rock Cr.
BURLINGTON
Neosho River
Mathias Lake
Badger Cr.
75
INGESTION PATHWAY SAMPLING LOCATIONS
▲ = FISH (JRR)
= FISH (CCL)
■ = BROADLEAF VEGETATION
= TERRESTRIAL VEGETATION
=Deer
=Turkey

FIGURE 5

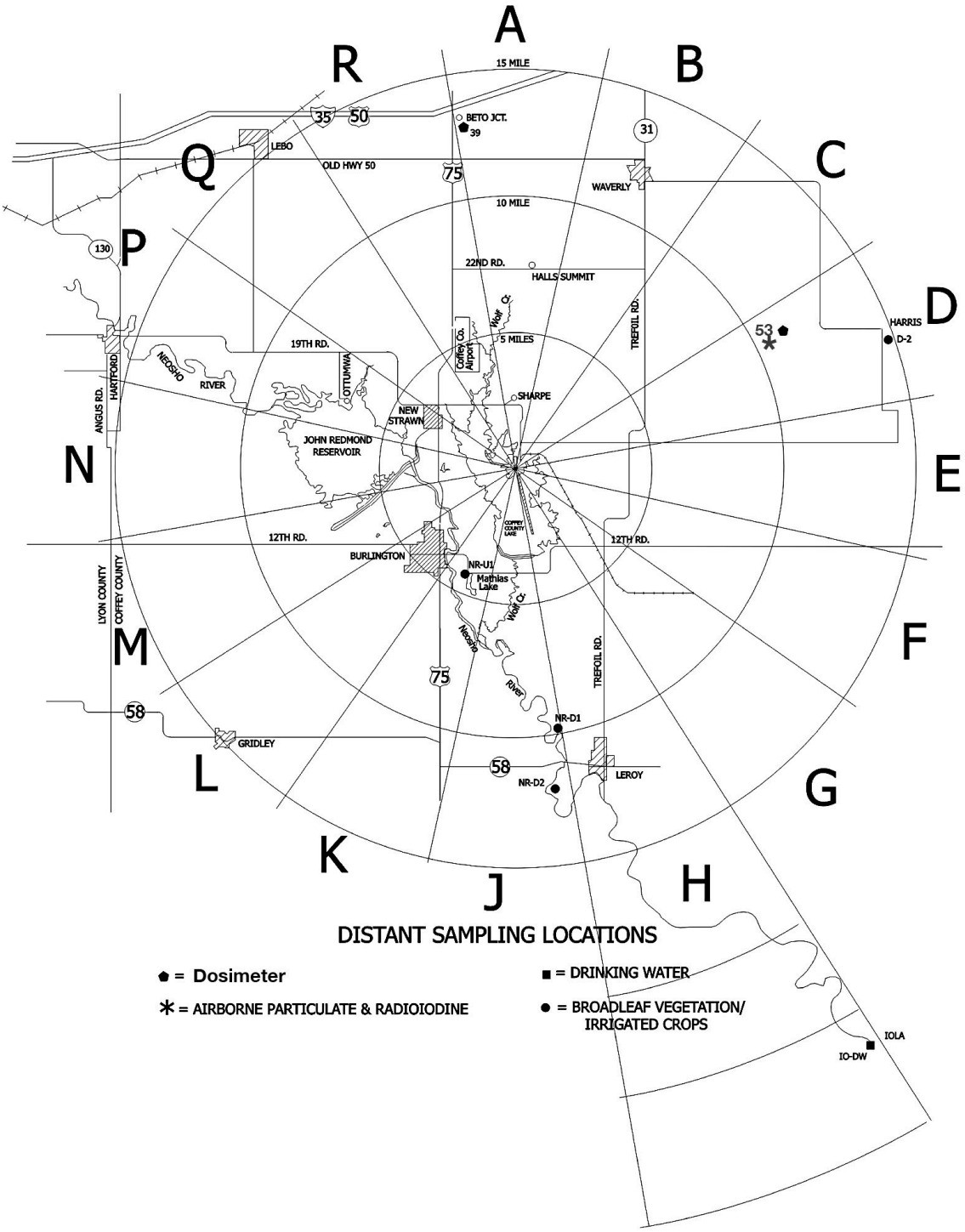

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R
15 MILE
10 MILE
5 MILES
BETO JCT.
39
LEBO
OLD HWY 50
WAVERLY
22ND RD.
HALLS SUMMIT
19TH RD.
12TH RD.
HARRIS
D-2
53
TREFOIL RD.
Coffey Co. Airport
Wolf Ck.
NEOSHO RIVER
OTTUMWA
HARTFORD
ANGUS RD.
NEW STRAWN
SHARPE
JOHN REDMOND RESERVOIR
COFFEY COUNTY LAKE
BURLINGTON
NR-U1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

CHART 1

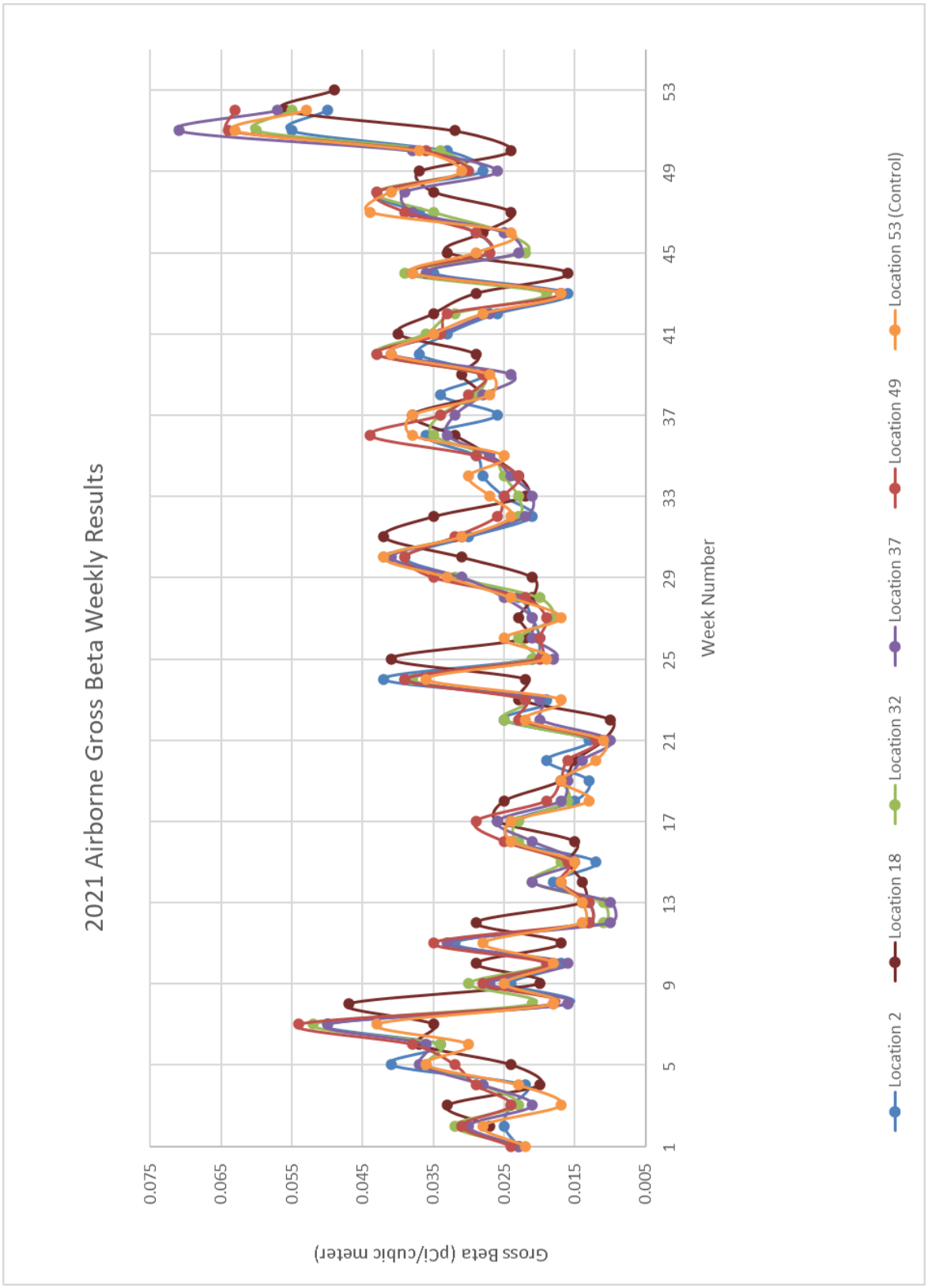

2021 Airborne Gross Beta Weekly Results
Gross Beta (pCi/cubic meter)
0.075
0.065
0.055
0.045
0.035
0.025
0.015
0.005
Week Number
1
5
9
13
17
21
25
29
33
37
41
45
49
53
Location 2
Location 18
Location 32
Location 37
Location 49
Location 53 (Control)

CHART 2

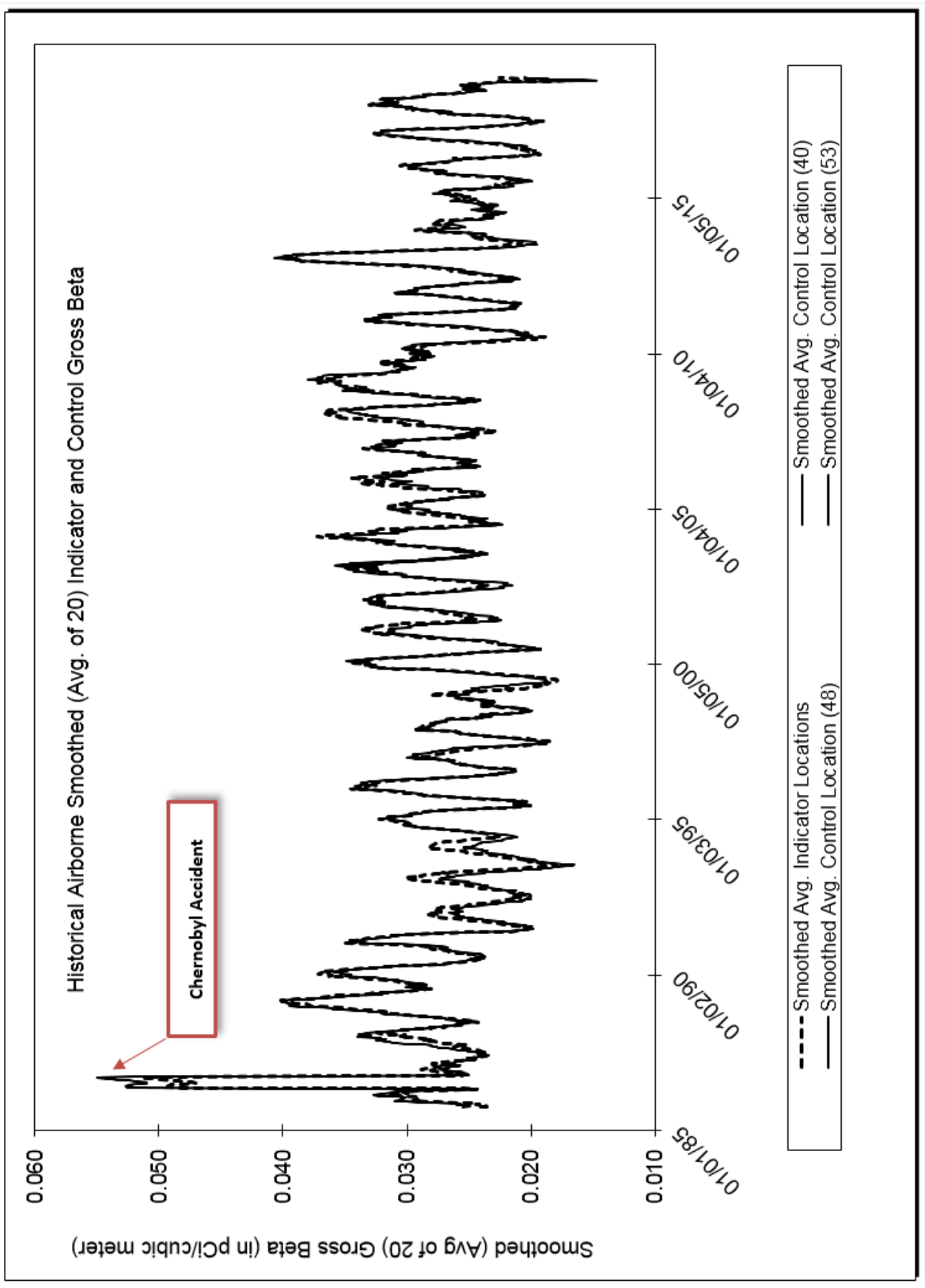

Historical Airborne Smoothed (Avg. of 20) Indicator and Control Gross Beta
Smoothed (Avg of 20) Gross Beta (in pCi/cubic meter)
0.060
0.050
0.040
0.030
0.020
0.010
01/01/85
01/02/90
01/03/95
01/05/00
01/04/05
01/04/10
01/05/15
Chernobyl Accident
Smoothed Avg. Indicator Locations
Smoothed Avg. Control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

CHART 3

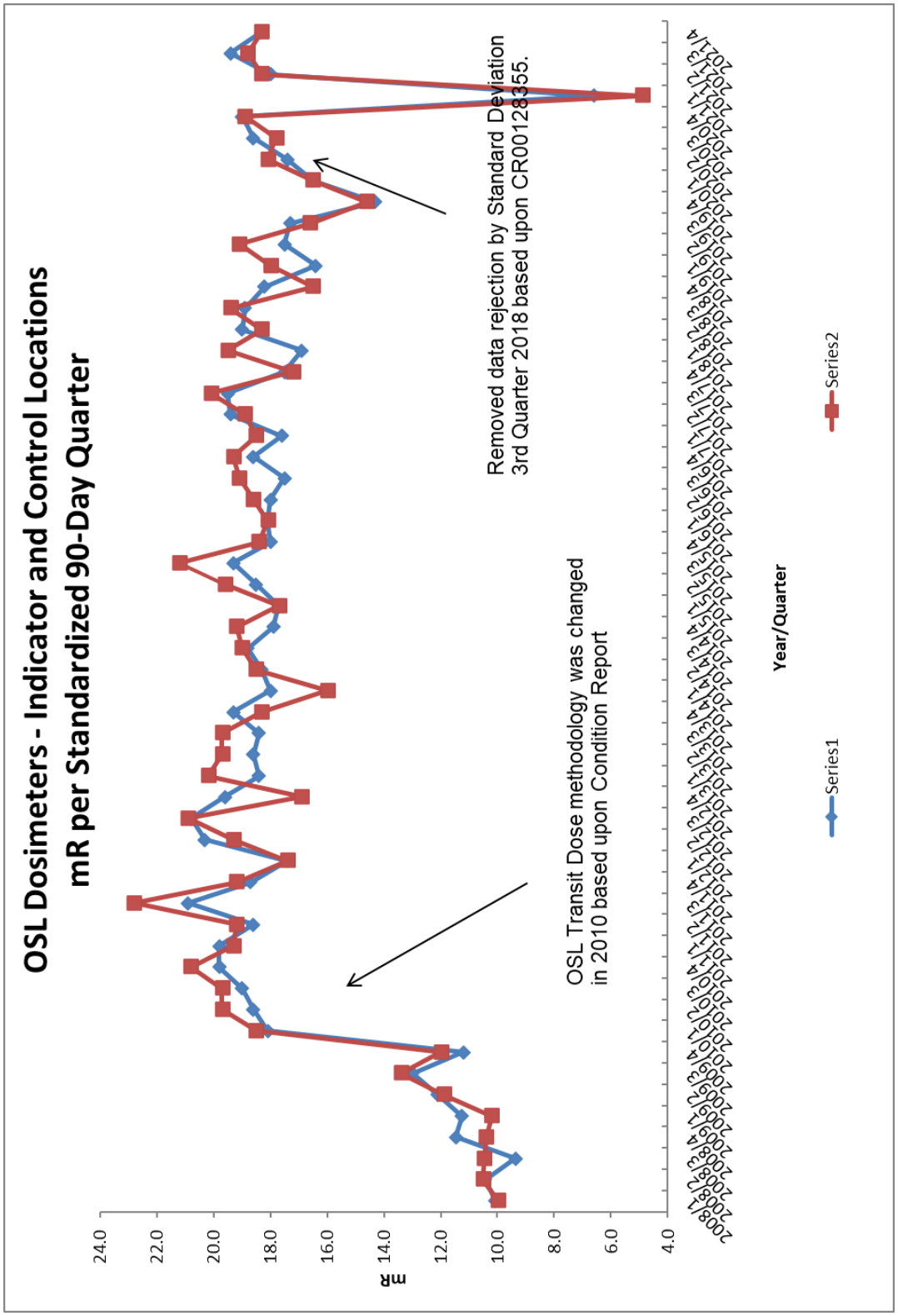

OSL Dosimeters - Indicator and Control Locations
mR per Standardized 90-Day Quarter
Removed data rejection by Standard Deviation
3rd Quarter 2018 based upon CR00128355.
OSL Transit Dose methodology was changed
in 2010 based upon Condition Report
mR
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0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

CHART 4

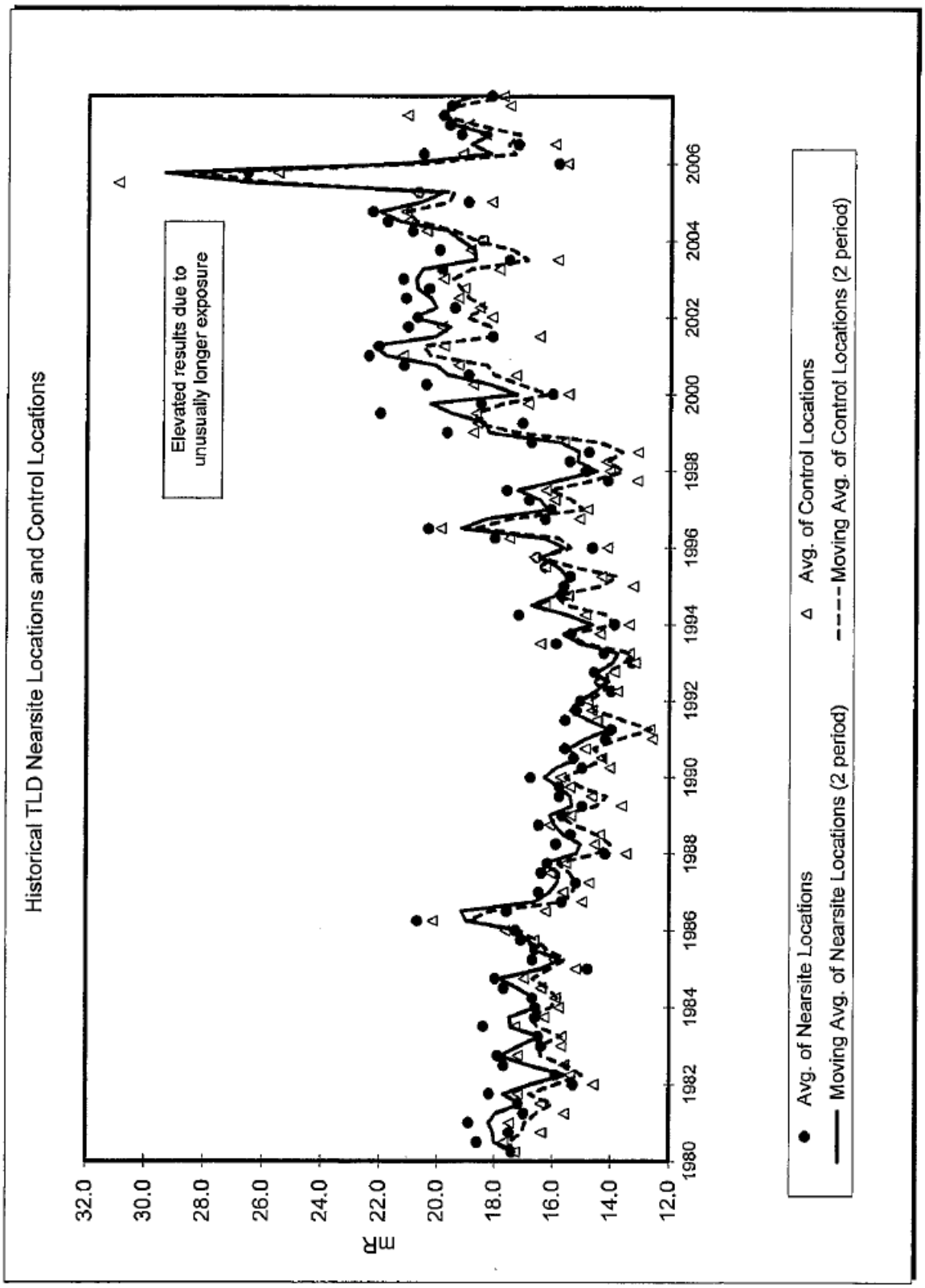

Historical TLD Nearsite Locations and Control Locations
Elevated results due to unusually longer exposure
mR
32.0
30.0
28.0
26.0
24.0
22.0
20.0
18.0
16.0
14.0
12.0
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
Avg. of Nearsite Locations
Moving Avg. of Nearsite Locations (2 period)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

CHART 5

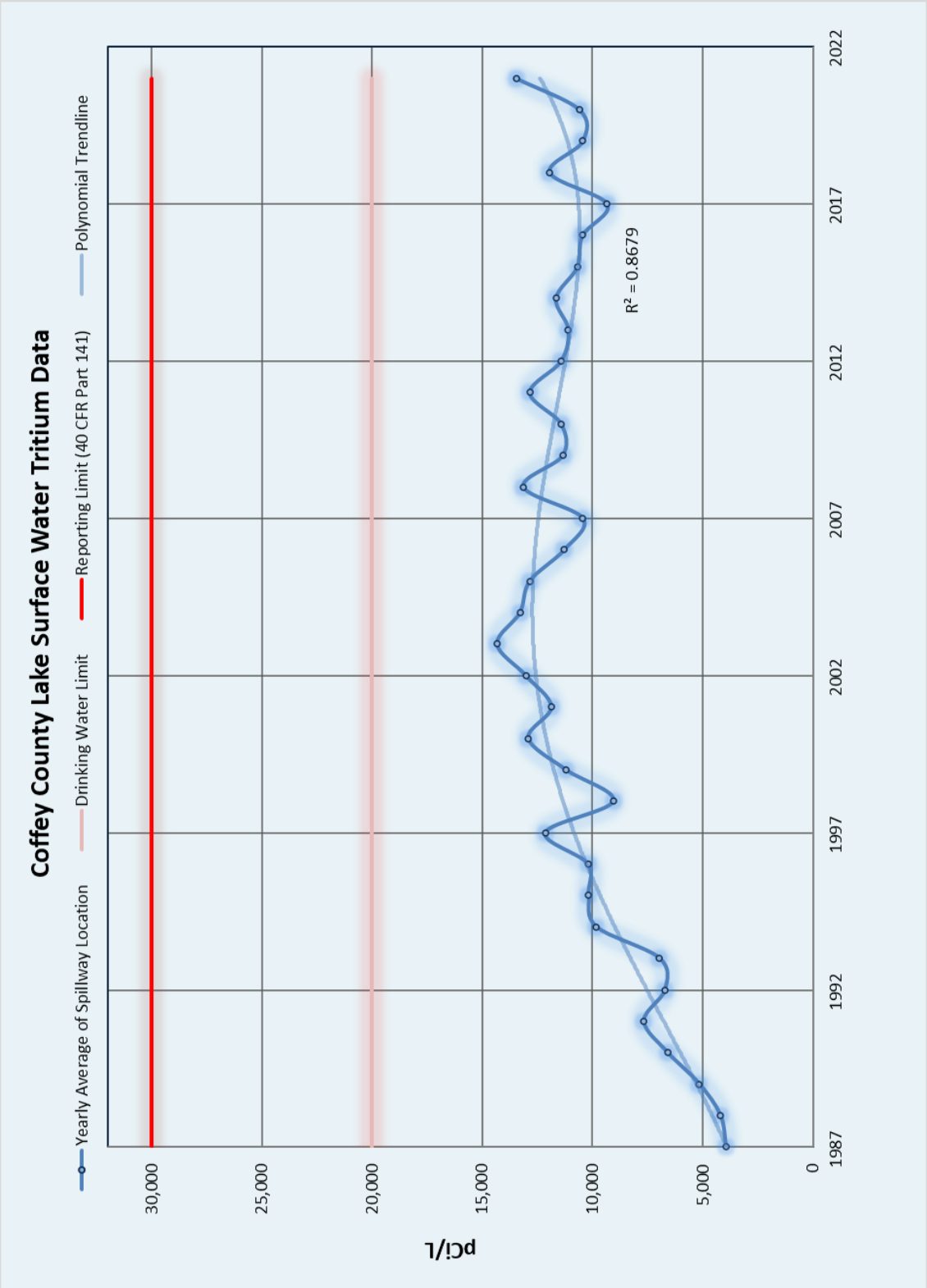

Coffey County Lake Surface Water Tritium Data
Yearly Average of Spillway Location
Drinking Water Limit
Reporting Limit (40 CFR Part 141)
Polynomial Trendline
R² = 0.8679
pCi/L
30,000
25,000
20,000
15,000
10,000
5,000
0
1987
1992
1997
2002
2007
2012
2017
2022

CHART 6

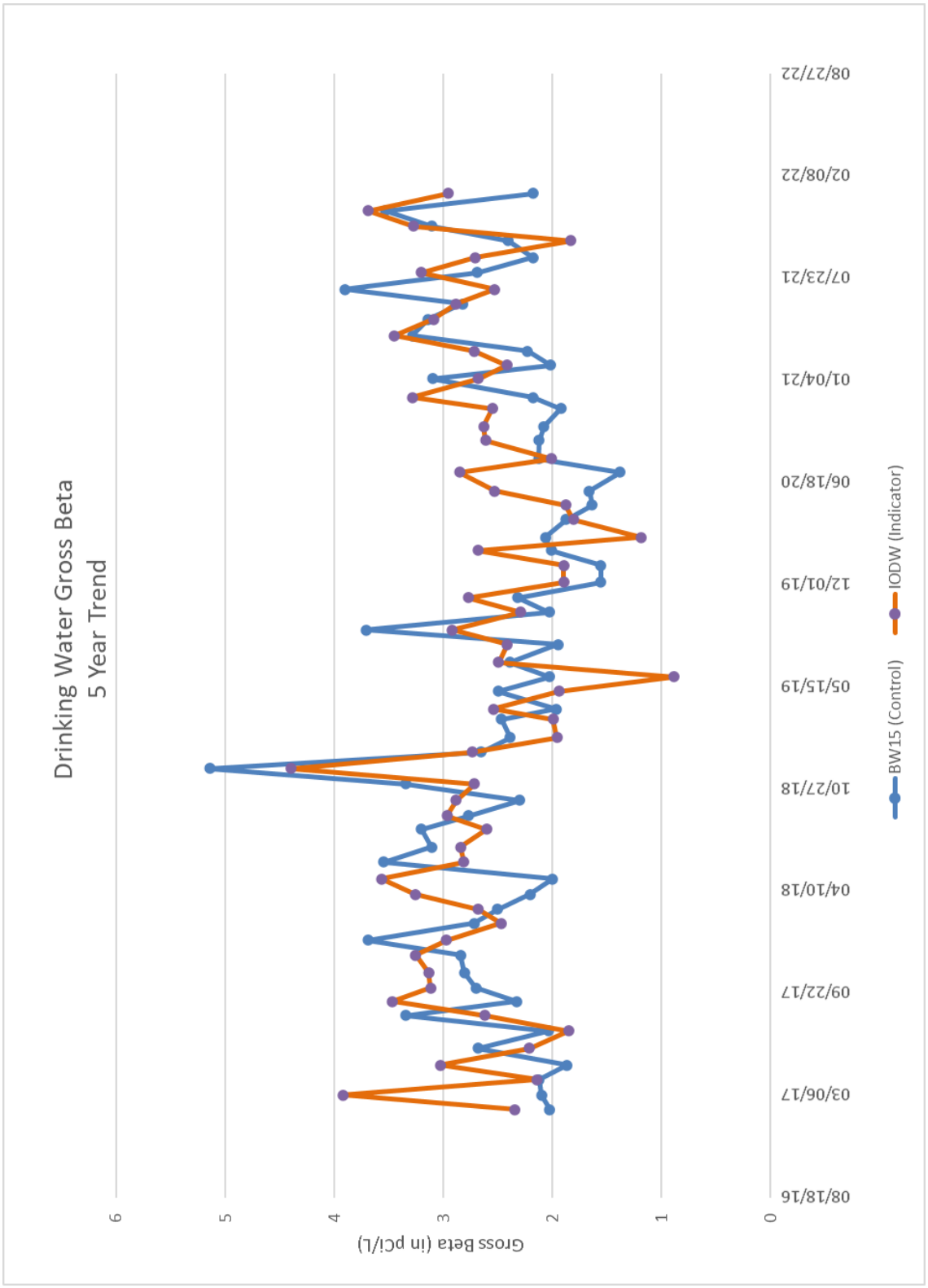
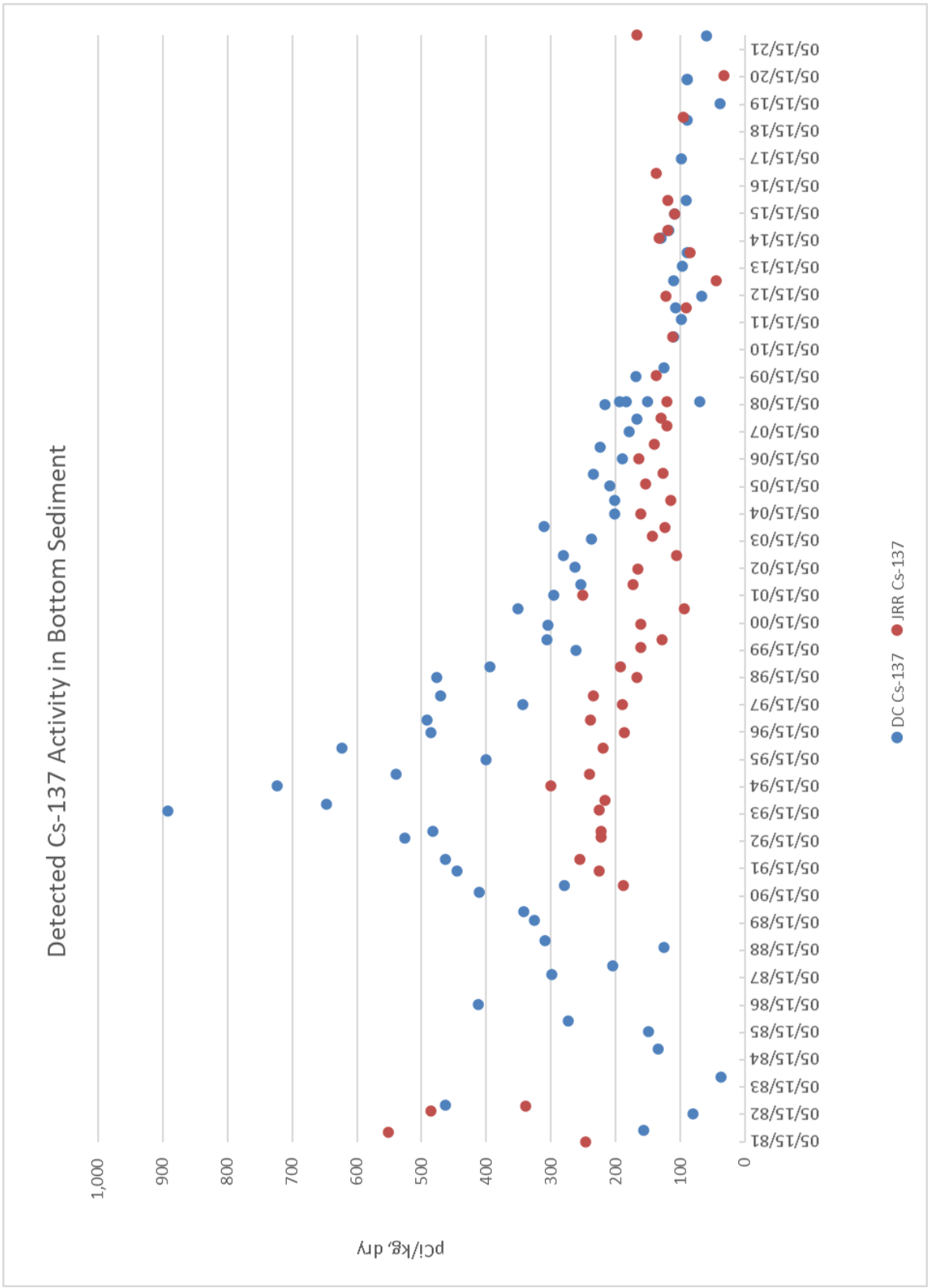

Drinking Water Gross Beta
5 Year Trend
Gross Beta (in pCi/L)
0
1
2
3
4
5
6
08/18/16
03/06/17
09/22/17
04/10/18
10/27/18
05/15/19
12/01/19
06/18/20
01/04/21
07/23/21
02/08/22
08/27/22
BW15 (Control)
IODW (Indicator)

CHART 7


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

Enclosure I

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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, 2021 through December, 2021

Appendix A

Interlaboratory/ Intralaboratory Comparison Program Results

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

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

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

Table A-2 lists results for thermoluminescent dosimeters (TLDs), via irradiation and evaluation by the University of Wisconsin-Madison Radiation Calibration Laboratory at the University of Wisconsin Medical Radiation Research Center.

Table A-3 lists results of the analyses on intralaboratory "spiked" samples for the past twelve months. All samples are prepared using NIST traceable sources. Data for previous years available upon request.

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

Table A-5 lists analytical results from the intralaboratory "duplicate" program for the past twelve months. Acceptance is based on each result being within 25% of the mean of the two results or the two sigma uncertainties of each result overlap.

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

Results in Table A-7 were obtained through participation in the MRAD PT Study Proficiency Testing Program administered by Environmental Resource Associates, serving as a replacement for studies conducted previously by the Environmental Measurement Laboratory Quality Assessment Program (EML).

Attachment A lists the laboratory acceptance criteria for various analyses.

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

Attachment A

ACCEPTANCE CRITERIA FOR INTRALABORATORY "SPIKED" SAMPLES

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

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

RAD study

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result	ERA Result	Control Limits	Acceptance
RAD-124 Study						
ERW-94	1/11/2021	Ba-133	24.1 ± 3.5	23.8	18.4 - 27.4	Pass
ERW-94	1/11/2021	Cs-134	46.1 ± 3.1	42.8	34.2 - 47.1	Pass
ERW-94	1/11/2021	Cs-137	154 ± 6.0	148	133 - 165	Pass
ERW-94	1/11/2021	Co-60	39.4 ± 3.2	34.6	30.8 - 40.8	Pass
ERW-94	1/11/2021	Zn-65	66.2 ± 6.3	61.6	54.6 - 75.0	Pass
ERDW-96	1/11/2021	Gr. Alpha	58.4 ± 2.6	63.3	33.2 - 78.5	Pass
ERDW-96	1/11/2021	Gr. Beta	38.1 ± 1.3	39.8	26.4 - 47.3	Pass
ERDW-98	1/11/2021	Ra-226	16.3 ± 0.5	15.5	11.5 - 17.8	Pass
ERDW-98	1/11/2021	Ra-228	12.3 ± 1.2	12.9	8.54 - 15.8	Pass
ERDW-98	1/11/2021	Uranium	33.2 ± 1.8	30.1	24.4 - 33.4	Pass
ERW-100	1/11/2021	H-3	2,100 ± 160	2,120	1,750 - 2,350	Pass
RAD-126 Study						
ERDW-2194	7/12/2021	Ba-133	44.1 ± 4.0	45.5	37.2 - 50.6	Pass
ERDW-2194	7/12/2021	Cs-134	85.2 ± 3.9	87.5	71.8 - 96.2	Pass
ERDW-2194	7/12/2021	Cs-137	218 ± 8	208	187 - 230	Pass
ERDW-2194	7/12/2021	Co-60	91.7 ± 4.0	87.1	78.4 - 98.1	Pass
ERDW-2194	7/12/2021	Zn-65	114 ± 9	102	91.8 - 122.0	Pass
ERDW-2196	7/12/2021	Gr. Alpha	61.5 ± 2.9	49.1	25.6 - 61.7	Pass
ERDW-2196	7/12/2021	Gr. Beta	31.7 ± 1.3	31.5	20.3 - 39.2	Pass
ERDW-2200	7/12/2021	Ra-226	16.5 ± 0.5	13.4	10.0 - 15.4	Fail[b]
ERDW-2200	7/12/2021	Ra-228	8.7 ± 1.0	7.6	4.81 - 9.7	Pass
ERDW-2200	7/12/2021	Uranium	71.7 ± 2.3	62.3	50.9 - 68.5	Fail[c]
ERDW-2202	7/12/2021	H-3	11,300 ± 300	10,400	9,050 - 11,400	Pass
ERDW-2198	7/12/2021	I-131	22.3 ± 1.1	20.8	17.2 - 25.0	Pass

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

[b] The radium-226 result did not meet ERA acceptance criteria.

[c] The uranium result did not meet ERA acceptance criteria.

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

				mrem		
Lab Code	Irradiation Date	Description	Delivered Dose	Reported[b] Dose	Performance[c] Quotient (P)	
Environmental, Inc.		Group 1				
2021-1	11/8/2021	Spike 1	167.0	171.4	0.03	
2021-1	11/8/2021	Spike 2	167.0	159.4	-0.05	
2021-1	11/8/2021	Spike 3	167.0	160.8	-0.04	
2021-1	11/8/2021	Spike 4	167.0	164.5	-0.01	
2021-1	11/8/2021	Spike 5	167.0	156.7	-0.06	
2021-1	11/8/2021	Spike 6	167.0	152.3	-0.09	
2021-1	11/8/2021	Spike 7	167.0	158.7	-0.05	
2021-1	11/8/2021	Spike 8	167.0	161.6	-0.03	
2021-1	11/8/2021	Spike 9	167.0	152.4	-0.09	
2021-1	11/8/2021	Spike 10	167.0	155.7	-0.07	
2021-1	11/8/2021	Spike 11	167.0	158.8	-0.05	
2021-1	11/8/2021	Spike 12	167.0	163.1	-0.02	
2021-1	11/8/2021	Spike 13	167.0	162.2	-0.03	
2021-1	11/8/2021	Spike 14	167.0	158.8	-0.05	
2021-1	11/8/2021	Spike 15	167.0	173.5	0.04	
2021-1	11/8/2021	Spike 16	167.0	158.7	-0.05	
2021-1	11/8/2021	Spike 17	167.0	162.9	-0.02	
2021-1	11/8/2021	Spike 18	167.0	159.3	-0.05	
2021-1	11/8/2021	Spike 19	167.0	158.2	-0.05	
2021-1	11/8/2021	Spike 20	167.0	161.7	-0.03	
Mean (Spike 1-20)				160.5	-0.04	Pass[d]
Standard Deviation (Spike 1-20)				5.2	0.03	Pass[d]

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

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

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

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

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

				mrem		
Lab Code	Irradiation Date	Description	Delivered Dose	Reported[b] Dose	Performance[c] Quotient (P)	
Environmental, Inc.		Group 2				
2021-2	11/8/2021	Spike 21	102.0	98.3	-0.04	
2021-2	11/8/2021	Spike 22	102.0	88.4	-0.13	
2021-2	11/8/2021	Spike 23	102.0	96.7	-0.05	
2021-2	11/8/2021	Spike 24	102.0	101.4	-0.01	
2021-2	11/8/2021	Spike 25	102.0	98.5	-0.03	
2021-2	11/8/2021	Spike 26	102.0	96.3	-0.06	
2021-2	11/8/2021	Spike 27	102.0	95.8	-0.06	
2021-2	11/8/2021	Spike 28	102.0	94.3	-0.08	
2021-2	11/8/2021	Spike 29	102.0	93.5	-0.08	
2021-2	11/8/2021	Spike 30	102.0	95.7	-0.06	
2021-2	11/8/2021	Spike 31	102.0	101.7	0.00	
2021-2	11/8/2021	Spike 32	102.0	98.5	-0.03	
2021-2	11/8/2021	Spike 33	102.0	96.7	-0.05	
2021-2	11/8/2021	Spike 34	102.0	87.2	-0.15	
2021-2	11/8/2021	Spike 35	102.0	89.7	-0.12	
2021-2	11/8/2021	Spike 36	102.0	88.5	-0.13	
2021-2	11/8/2021	Spike 37	102.0	85.4	-0.16	
2021-2	11/8/2021	Spike 38	102.0	90.0	-0.12	
2021-2	11/8/2021	Spike 39	102.0	90.9	-0.11	
2021-2	11/8/2021	Spike 40	102.0	92.6	-0.09	
Mean (Spike 21-40)				94.0	-0.08	Pass[d]
Standard Deviation (Spike 21-40)				4.7	0.05	Pass[d]

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

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

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

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

TABLE A-4. Intralaboratory "Spiked" Samples

Lab Code[b]	Date	Concentration[a] Analysis	Laboratory results 2s, n=1[c]	Known Activity	Control Limits[d]	Acceptance	Ratio Lab/Known
SPW-55	1/8/2021	H-3	1,889 ± 150	2,110	1,688 - 2,532	Pass	0.90
SPDW-62	1/11/2021	Gr. Alpha	34.3 ± 1.7	64.9	34.0 - 80.4	Pass	0.53
SPDW-62	1/11/2021	Gr. Beta	9.2 ± 0.8	8.9	3.6 - 17.4	Pass	1.04
SPW-131	1/19/2021	Sr-90	18.0 ± 1.1	17.9	14.3 - 21.5	Pass	1.00
SPW-133	1/19/2021	H-3	1,842 ± 150	2,110	1,688 - 2,532	Pass	0.87
SPW-188	1/18/2021	Ra-228	14.2 ± 1.7	14.9	10.4 - 19.3	Pass	0.96
SPW-236	1/26/2021	Ra-228	12.2 ± 1.9	15.3	10.7 - 19.9	Pass	0.80
SPW-305	2/5/2021	H-3	1,785 ± 147	2,110	1,688 - 2,532	Pass	0.85
SPW-372	2/12/2021	H-3	1,742 ± 145	2,110	1,688 - 2,532	Pass	0.83
SPW-526	3/5/2021	H-3	1,899 ± 150	2,110	1,688 - 2,532	Pass	0.90
SPW-692	3/19/2021	H-3	1,953 ± 151	2,110	1,688 - 2,532	Pass	0.93
SPW-694	1/4/2021	Ra-226	9.7 ± 0.4	12.3	8.6 - 16.0	Pass	0.79
SPW-800	3/30/2021	Ra-228	15.8 ± 2.0	15.3	10.7 - 19.9	Pass	1.03
SPW-802	3/31/2021	H-3	1,878 ± 150	2,110	1,688 - 2,532	Pass	0.89
SPW-810	3/19/2021	Ra-226	11.4 ± 0.3	12.3	8.6 - 16.0	Pass	0.93
SPDW-30103	3/31/2021	Ra-226	13.5 ± 0.4	12.3	8.6 - 16.0	Pass	1.10
SPW-812	4/1/2021	H-3	2,005 ± 155	2,110	1,688 - 2,532	Pass	0.95
SPW-919	4/7/2021	H-3	1,877 ± 149	2,110	1,688 - 2,532	Pass	0.89
SPW-944	4/9/2021	Gr. Alpha	56.7 ± 2.5	58.4	29.2 - 87.6	Pass	0.97
SPW-944	4/9/2021	Gr. Beta	35.1 ± 1.3	38.1	30.5 - 45.7	Pass	0.92
SPW-1048	4/15/2021	H-3	1,915 ± 152	2,110	1,688 - 2,532	Pass	0.91
SPW-1250	4/30/2021	H-3	2,015 ± 154	2,110	1,688 - 2,532	Pass	0.95
SPW-1373	5/11/2021	Gr. Alpha	63.5 ± 2.9	58.4	29.2 - 87.6	Pass	1.09
SPW-1373	5/11/2021	Gr. Beta	38.5 ± 1.3	38.1	30.5 - 45.7	Pass	1.01
SPW-1377	5/11/2021	Sr-90	17.4 ± 1.2	17.9	14.3 - 21.5	Pass	0.97
SPDW-30108	5/28/2021	H-3	2,222 ± 161	2,110	1,688 - 2,532	Pass	1.05
SPDW-30125	5/13/2021	Ra-226	10.9 ± 0.3	12.3	8.6 - 16.0	Pass	0.89
SPDW-30118	6/4/2021	H-3	2,230 ± 163	2,110	1,688 - 2,532	Pass	1.06
SPMI-1672	6/8/2021	Sr-90	14.2 ± 0.9	13.6	10.9 - 16.3	Pass	1.04
SPDW-30160	6/11/2021	Ra-226	11.4 ± 0.3	12.3	8.6 - 16.0	Pass	0.93
SPDW-30129	6/15/2021	H-3	2,238 ± 162	2,110	1,688 - 2,532	Pass	1.06
SPDW-30134	6/18/2021	Gr. Alpha	17.9 ± 1.4	23.5	11.8 - 35.3	Pass	0.76
SPDW-30134	6/18/2021	Gr. Beta	60.9 ± 1.6	67.6	54.1 - 81.1	Pass	0.90
SPDW-30148	6/25/2021	Ra-228	15.1 ± 2.9	15.3	10.7 - 19.9	Pass	0.98
SPDW-30206	7/8/2021	Ra-226	12.7 ± 0.4	12.3	8.6 - 16.0	Pass	1.03
SPDW-3001	7/29/2021	Ra-226	11.6 ± 0.3	12.3	8.6 - 16.0	Pass	0.95

[a] Liquid sample results are reported in pCi/Liter, air filters (pCi/m3), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).
[b] Laboratory codes : W & SPW (Water), MI (milk), AP (air filter), SO (soil), VE (vegetation), CH (charcoal canister), F (fish), U (urine).
[c] Results are based on single determinations.
[d] Acceptance criteria are listed in Attachment A of this report.

TABLE A-4. Intralaboratory "Spiked" Samples

Lab Code[b]	Date	Concentration[a] Analysis	Laboratory results 2s, n=1[c]	Known Activity	Control Limits[d]	Acceptance	Ratio Lab/Known
SPDW-30224	8/2/2021	Gr. Alpha	38.6 ± 2.1	49.1	24.6 - 73.7	Pass	0.79
SPDW-30224	8/2/2021	Gr. Beta	27.8 ± 1.2	31.5	25.2 - 37.8	Pass	0.88
SPDW-30226	8/13/2021	H-3	2,074 ± 157	2,110	1,688 - 2,532	Pass	0.98
SPDW-30231	8/18/2021	Ra-228	14.5 ± 2.2	15.3	10.7 - 19.9	Pass	0.95
SPW-2783	9/3/2021	Sr-90	18.9 ± 1.2	17.1	13.7 - 20.5	Pass	1.10
SPDW-2785	9/3/2021	H-3	2,135 ± 158	2,110	1,688 - 2,532	Pass	1.01
SPDW-2891	9/10/2021	H-3	2,159 ± 160	2,110	1,688 - 2,532	Pass	1.02
SPDW-3115	9/17/2021	Ra-226	11.3 ± 0.3	12.3	8.6 - 16.0	Pass	0.92
SPDW-3036	9/23/2021	Ra-228	18.0 ± 2.6	15.3	10.7 - 19.9	Pass	1.17
SPDW-3223	9/28/2021	Ra-228	16.6 ± 2.5	15.3	10.7 - 19.9	Pass	1.08
SPDW-3288	9/29/2021	U-234	29.2 ± 1.6	23.0	16.1 - 29.9	Pass	1.27
SPDW-3288	9/29/2021	U-238	28.2 ± 1.6	23.2	16.3 - 30.2	Pass	1.21
SPDW-30276	9/29/2021	Ra-226	9.4 ± 0.4	12.3	8.6 - 16.0	Pass	0.76
SPDW-3157	10/1/2021	H-3	2,111 ± 158	2,110	1,688 - 2,532	Pass	1.00
SPDW-3290	10/12/2021	Gr. Alpha	34.6 ± 2.1	49.1	24.6 - 73.7	Pass	0.70
SPDW-3290	10/12/2021	Gr. Beta	25.1 ± 1.1	31.5	25.2 - 37.8	Pass	0.80
SPDW-3393	10/15/2021	H-3	2,184 ± 161	2,110	1,688 - 2,532	Pass	1.04
SPDW-3604	10/28/2021	H-3	2,104 ± 15	2,110	1,688 - 2,532	Pass	1.00
SPDW-30283	11/4/2021	Ra-226	11.7 ± 0.3	12.3	8.6 - 16.0	Pass	0.95
SPDW-3769	11/10/2021	H-3	2,026 ± 156	2,110	1,688 - 2,532	Pass	0.96
SPDW-3860	11/18/2021	H-3	2,161 ± 161	2,110	1,688 - 2,532	Pass	1.02
SPDW-30290	11/22/2021	Ra-226	12.0 ± 0.3	12.3	8.6 - 16.0	Pass	0.97
SPDW-3958	12/3/2021	H-3	2,126 ± 160	2,110	1,688 - 2,532	Pass	1.01
SPW-3971	12/7/2021	Sr-90	19.0 ± 1.2	17.1	13.7 - 20.5	Pass	1.11
SPDW-30287	12/9/2021	Ra-228	12.3 ± 1.7	15.3	10.7 - 19.9	Pass	0.80
SPDW-30295	12/16/2021	H-3	2,265 ± 163	2,110	1,688 - 2,532	Pass	1.07
SPDW-30301	12/30/2021	H-3	2,055 ± 163	2,110	1,688 - 2,532	Pass	0.97
SPDW-30307	12/13/2021	Ra-226	11.7 ± 0.4	12.3	8.6 - 16.0	Pass	0.95

[a] Liquid sample results are reported in pCi/Liter, air filters (pCi/m3), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).
[b] Laboratory codes : W & SPW (Water), MI (milk), AP (air filter), SO (soil), VE (vegetation), CH (charcoal canister), F (fish), U (urine).
[c] Results are based on single determinations.
[d] Acceptance criteria are listed in Attachment A of this report.

TABLE A-5. Intralaboratory "Blank" Samples

Lab Code[b]	Sample Type	Date	Analysis[c]	Concentration[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[d]	Criteria (4.66 σ)
SPW-54	Water	1/8/2021	H-3	153	24 ± 77	200
SPDW-61	Water	1/11/2021	Gr. Alpha	0.56	-0.32 ± 0.37	2
SPDW-61	Water	1/11/2021	Gr. Beta	0.73	-0.11 ± 0.49	4
SPW-130	Water	1/19/2021	Sr-89	0.66	-0.12 ± 0.49	5
SPW-130	Water	1/19/2021	Sr-90	0.68	-0.02 ± 0.31	1
SPW-132	Water	1/19/2021	H-3	165	38 ± 79	200
SPW-4923	Water	1/26/2021	I-131	0.28	0.26 ± 0.16	1
SPW-187	Water	1/18/2021	Ra-228	1.44	0.81 ± 0.76	2
SPW-235	Water	1/26/2021	Ra-228	1.54	0.94 ± 0.82	2
SPW-254	Water	2/2/2021	I-131	0.29	-0.06 ± 0.13	1
SPW-304	Water	2/5/2021	H-3	159	6 ± 74	200
SPW-371	Water	2/12/2021	H-3	154	-37 ± 70	200
SPW-525	Water	3/5/2021	H-3	160	97 ± 80	200
SPW-691	Water	3/19/2021	H-3	158	-38 ± 71	200
SPW-693	Water	1/4/2021	Ra-226	0.03	-0.01 ± 0.01	2
SPW-799	Water	3/30/2021	Ra-228	1.03	0.06 ± 0.48	2
SPW-809	Water	3/19/2021	Ra-226	0.04	0.01 ± 0.03	2
SPDW-30102	Water	3/31/2021	Ra-226	0.03	0.00 ± 0.03	2
SPW-811	Water	4/1/2021	H-3	158	-29 ± 77	200
SPW-918	Water	4/7/2021	H-3	156	93 ± 79	200
SPW-943	Water	4/9/2021	Gr. Alpha	0.39	-0.08 ± 0.27	2
SPW-943	Water	4/9/2021	Gr. Beta	0.73	0.04 ± 0.51	4
SPW-1047	Water	4/15/2021	H-3	160	-51 ± 74	200
SPW-1249	Water	4/30/2021	H-3	158	109 ± 81	200
SPW-1372	Water	5/11/2021	Gr. Alpha	0.35	0.27 ± 0.27	2
SPW-1372	Water	5/11/2021	Gr. Beta	0.68	0.27 ± 0.49	4
SPW-1376	Water	5/11/2021	Sr-89	0.52	0.23 ± 0.39	5
SPW-1376	Water	5/11/2021	Sr-90	0.51	-0.06 ± 0.23	1
SPDW-30124	Water	5/13/2021	Ra-226	0.03	-0.02 ± 0.03	2
SPDW-30104	Water	5/26/2021	Ra-228	1.30	-0.04 ± 0.60	2
SPDW-30107	Water	5/28/2021	H-3	157	33 ± 76	200
SPDW-30117	Water	6/4/2021	H-3	165	67 ± 81	200
SPMI-1671	Milk	6/8/2021	Sr-89	0.46	0.23 ± 0.42	5
SPMI-1671	Milk	6/8/2021	Sr-90	0.45	0.23 ± 0.24	1
SPDW-30159	Water	6/11/2021	Ra-226	0.04	-0.02 ± 0.04	2
SPDW-30128	Water	6/15/2021	H-3	161	17 ± 76	200
SPDW-30133	Water	6/17/2021	I-131	0.20	0.06 ± 0.12	1
SPDW-30134	Water	6/18/2021	Gr. Alpha	0.46	-0.11 ± 0.32	2
SPDW-30134	Water	6/18/2021	Gr. Beta	0.70	-0.10 ± 0.49	4
SPDW-30147	Water	6/25/2021	Ra-228	1.76	-0.15 ± 0.80	2

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

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

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

[d] Activity reported is a net activity result.

TABLE A-5. Intralaboratory "Blank" Samples

Lab Code[b]	Sample Type	Date	Analysis[c]	Concentration[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[d]	Criteria (4.66 σ)
SPDW-30205	Water	7/8/2021	Ra-226	0.03	0.02 ± 0.03	2
SPDW-3000	Water	7/29/2021	Ra-226	0.03	0.03 ± 0.03	2
SPDW-30223	Water	8/2/2021	Gr. Alpha	0.46	-0.13 ± 0.31	2
SPDW-30223	Water	8/2/2021	Gr. Beta	0.70	0.16 ± 0.49	4
SPDW-30225	Water	8/13/2021	H-3	161	-2 ± 75	200
SPDW-30230	Water	8/18/2021	Ra-228	1.02	0.47 ± 0.53	2
SPW-2782	Water	9/3/2021	Sr-89	0.60	-0.16 ± 0.48	5
SPW-2782	Water	9/3/2021	Sr-90	0.63	0.20 ± 0.32	1
SPDW-2784	Water	9/3/2021	H-3	157	-50 ± 69	200
SPDW-2890	Water	9/10/2021	H-3	163	-59 ± 72	200
SPDW-2981	Water	9/17/2021	H-3	162	11 ± 78	200
SPDW-3114	Water	9/17/2021	Ra-226	0.03	0.04 ± 0.03	2
SPDW-3035	Water	9/23/2021	Ra-228	1.15	0.10 ± 0.55	2
SPDW-3222	Water	9/28/2021	Ra-228	1.37	-0.30 ± 0.60	2
SPDW-3287	Water	9/29/2021	U-234	0.22	0.19 ± 0.23	1
SPDW-3287	Water	9/29/2021	U-238	0.38	-0.05 ± 0.21	1
SPDW-30275	Water	9/29/2021	Ra-226	0.05	0.03 ± 0.04	2
SPDW-3156	Water	10/1/2021	H-3	161	-11 ± 75	200
SPDW-3289	Water	10/12/2021	Gr. Alpha	0.40	0.21 ± 0.30	2
SPDW-3289	Water	10/12/2021	Gr. Beta	0.72	0.31 ± 0.52	4
SPDW-3392	Water	10/15/2021	H-3	158	58 ± 79	200
SPDW-3603	Water	10/28/2021	H-3	163	26 ± 77	200
SPDW-30282	Water	11/4/2021	Ra-226	0.04	0.04 ± 0.03	2
SPDW-3768	Water	11/10/2021	H-3	162	31 ± 77	200
SPDW-3859	Water	11/18/2021	H-3	162	45 ± 78	200
SPDW-30289	Water	11/22/2021	Ra-226	0.03	0.19 ± 0.03	2
SPDW-3957	Water	12/3/2021	H-3	161	118 ± 84	200
SPW-3970	Water	12/7/2021	Sr-89	0.54	-0.12 ± 0.43	5
SPW-3970	Water	12/7/2021	Sr-90	0.54	0.08 ± 0.26	1
SPDW-30286	Water	12/9/2021	Ra-228	0.91	-0.26 ± 0.39	2
SPDW-30288	Water	12/10/2021	I-131	0.22	0.00 ± 0.12	1
SPDW-30306	Water	12/13/2021	Ra-226	0.05	-0.05 ± 0.04	2
SPDW-30294	Water	12/16/2021	H-3	162	-33 ± 73	200
SPDW-30300	Water	12/30/2021	H-3	166	68 ± 91	200

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

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

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

[d] Activity reported is a net activity result.

TABLE A-6. Intralaboratory "Duplicate" Samples

Lab Code[b]	Date	Analysis	Concentration[a] First Result	Second Result	Averaged Result	Acceptance
S-20,21	1/5/2021	K-40	23.3 ± 0.6	22.6 ± 1.6	23.0 ± 0.9	Pass
XW-295,296	1/13/2021	H-3	245 ± 87	288 ± 89	267 ± 62	Pass
S-143,144	1/14/2021	K-40	7.47 ± 0.76	8.38 ± 0.22	7.93 ± 0.40	Pass
S-360,361	2/10/2021	K-40	9.23 ± 0.54	9.00 ± 0.68	9.12 ± 0.43	Pass
S-406,407	2/15/2021	K-40	2.92 ± 0.28	2.94 ± 0.94	2.93 ± 0.49	Pass
W-469,470	2/22/2021	Ra-226	0.75 ± 0.21	0.87 ± 0.22	0.81 ± 0.15	Pass
W-448,449	2/25/2021	Gr. Alpha	3.52 ± 1.84	3.72 ± 1.87	3.62 ± 1.31	Pass
W-448,449	2/25/2021	Gr. Beta	8.71 ± 1.36	8.91 ± 1.40	8.81 ± 0.98	Pass
W-448,449	2/25/2021	Ra-226	1.87 ± 0.25	1.82 ± 0.28	1.85 ± 0.19	Pass
W-448,449	2/25/2021	Ra-228	2.65 ± 1.26	2.53 ± 1.35	2.59 ± 0.92	Pass
P-511,512	3/2/2021	H-3	198 ± 85	202 ± 86	200 ± 60	Pass
WW-630,631	3/10/2021	H-3	144 ± 82	148 ± 82	146 ± 58	Pass
WW-743,744	3/16/2021	H-3	183 ± 85	167 ± 84	175 ± 60	Pass
S-785,786	3/25/2021	Pb-214	0.59 ± 0.08	0.34 ± 0.05	0.47 ± 0.05	Pass
S-785,786	3/25/2021	Ac-228	0.61 ± 0.12	0.58 ± 0.13	0.60 ± 0.09	Pass
AP-1052,1053	3/30/2021	Be-7	0.081 ± 0.010	0.075 ± 0.011	0.078 ± 0.007	Pass
AP-966,967	3/30/2021	Be-7	0.080 ± 0.010	0.085 ± 0.009	0.083 ± 0.007	Pass
SWU-835,836	3/30/2021	Gr. Beta	1.22 ± 0.56	1.27 ± 0.55	1.24 ± 0.39	Pass
AP-1204,1205	3/30/2021	Be-7	0.187 ± 0.102	0.160 ± 0.088	0.173 ± 0.067	Pass
AP-1029,1030	4/2/2021	Be-7	0.067 ± 0.012	0.079 ± 0.012	0.073 ± 0.009	Pass
SW-922,923	4/7/2021	H-3	440 ± 99	307 ± 93	373 ± 68	Pass
WW-987,988	4/12/2021	H-3	190 ± 87	284 ± 92	237 ± 63	Pass
F-1246,1247	4/22/2021	K-40	3.26 ± 0.66	2.83 ± 0.46	3.04 ± 0.40	Pass
SWT-1311,1312	4/27/2021	Gr. Beta	1.05 ± 0.52	1.16 ± 0.55	1.10 ± 0.38	Pass
WW-1401,1402	5/5/2021	Gr. Alpha	1.10 ± 1.00	2.50 ± 1.20	1.80 ± 0.78	Pass
WW-1401,1402	5/5/2021	K-40	126 ± 15	105 ± 30	115 ± 17	Pass
DW-30071.,30072	5/6/2021	Ra-226	0.98 ± 0.15	0.67 ± 0.13	0.83 ± 0.10	Pass
DW-30071.,30072	5/6/2021	Ra-228	0.83 ± 0.51	1.21 ± 0.54	1.02 ± 0.37	Pass
DW-30078,30079	5/10/2021	Gr. Alpha	4.90 ± 0.92	5.92 ± 0.99	5.41 ± 0.68	Pass
AP-051120A,B	5/11/2021	Gr. Beta	0.006 ± 0.002	0.005 ± 0.002	0.005 ± 0.002	Pass
DW-30083,30084	5/11/2021	Ra-226	0.34 ± 0.13	0.19 ± 0.20	0.27 ± 0.12	Pass
DW-30083,30084	5/11/2021	Ra-228	0.98 ± 0.60	0.15 ± 0.56	0.57 ± 0.41	Pass
S-1506,1507	5/18/2021	K-40	10.1 ± 0.8	14.9 ± 1.2	12.5 ± 0.7	Pass
DW-30092,30093	5/20/2021	Gr. Alpha	2.86 ± 0.85	2.40 ± 0.90	2.63 ± 0.62	Pass
DW-30095,30096	5/21/2021	Ra-226	1.18 ± 0.16	0.73 ± 0.15	0.96 ± 0.11	Pass
DW-30095,30096	5/21/2021	Ra-228	1.44 ± 0.63	0.61 ± 0.59	1.03 ± 0.43	Pass
AP-052521A,B	5/25/2021	Gr. Beta	0.021 ± 0.003	0.022 ± 0.003	0.021 ± 0.002	Pass
S-1589,1590	5/28/2021	Pb-214	1.16 ± 0.08	1.06 ± 0.09	1.11 ± 0.06	Pass
S-1589,1590	5/28/2021	Ac-228	1.17 ± 0.18	1.08 ± 0.14	1.13 ± 0.11	Pass

TABLE A-6. Intralaboratory "Duplicate" Samples

			Concentration[a]			
Lab Code[b]	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
AP-060121A,B	6/1/2021	Gr. Beta	0.015 ± 0.003	0.013 ± 0.003	0.014 ± 0.002	Pass
DW-30113,30114	6/1/2021	Ra-226	2.00 ± 0.34	2.64 ± 0.26	2.32 ± 0.21	Pass
DW-30113,30114	6/1/2021	Ra-228	2.50 ± 0.78	3.13 ± 0.82	2.82 ± 0.57	Pass
PS-1631,1632	6/2/2021	K-40	21.1 ± 0.8	20.4 ± 0.8	20.7 ± 0.6	Pass
DW-30119,30120	6/3/2021	Gr. Alpha	1.18 ± 0.75	0.66 ± 0.64	0.92 ± 0.49	Pass
WW-1908,1909	6/4/2021	H-3	150 ± 85	176 ± 87	163 ± 61	Pass
VE-1717,1718	6/7/2021	Be-7	0.50 ± 0.19	0.38 ± 0.14	0.44 ± 0.12	Pass
VE-1717,1718	6/7/2021	K-40	5.26 ± 0.47	5.45 ± 0.44	5.35 ± 0.32	Pass
AP-060821A,B	6/8/2021	Gr. Beta	0.030 ± 0.004	0.028 ± 0.004	0.029 ± 0.003	Pass
AP-1822,1823	6/10/2021	Be-7	0.23 ± 0.12	0.22 ± 0.12	0.22 ± 0.08	Pass
CF-1844,1845	6/14/2021	K-40	8.37 ± 0.44	8.33 ± 0.35	8.35 ± 0.28	Pass
AP-061521A,B	6/15/2021	Gr. Beta	0.020 ± 0.004	0.017 ± 0.003	0.019 ± 0.002	Pass
DW-30131,30132	6/17/2021	Ra-226	0.41 ± 0.21	0.34 ± 0.23	0.38 ± 0.16	Pass
DW-30131,30132	6/17/2021	Ra-228	0.42 ± 0.85	0.52 ± 0.74	0.47 ± 0.56	Pass
DW-30138,30139	6/17/2021	Gr. Alpha	1.59 ± 0.84	2.21 ± 0.95	1.90 ± 0.63	Pass
S-1929,1930	6/22/2021	K-40	19.4 ± 1.0	19.2 ± 1.1	19.3 ± 0.7	Pass
AP-062221A,B	6/22/2021	Gr. Beta	0.014 ± 0.003	0.012 ± 0.028	0.013 ± 0.014	Pass
DW-30150,30151	6/28/2021	Ra-226	0.53 ± 0.15	0.55 ± 0.19	0.54 ± 0.12	Pass
DW-30150,30151	6/28/2021	Ra-228	0.76 ± 0.54	0.52 ± 0.52	0.64 ± 0.37	Pass
AP-2160,2161	6/28/2021	Be-7	0.11 ± 0.01	0.11 ± 0.01	0.11 ± 0.01	Pass
DW-30150,30151	6/28/2021	Ra-226	0.53 ± 0.15	0.55 ± 0.19	0.54 ± 0.12	Pass
DW-30150,30151	6/28/2021	Ra-228	0.76 ± 0.54	0.52 ± 0.52	0.64 ± 0.37	Pass
AP-2218,2119	6/29/2021	Be-7	0.11 ± 0.01	0.12 ± 0.01	0.11 ± 0.01	Pass
AP-2235,2236	6/30/2021	Be-7	0.10 ± 0.01	0.11 ± 0.01	0.10 ± 0.01	Pass
CF-2139,2140	7/12/2021	Be-7	0.49 ± 0.12	0.65 ± 0.20	0.57 ± 0.12	Pass
CF-2139,2140	7/12/2021	K-40	8.25 ± 0.41	7.94 ± 0.46	8.10 ± 0.31	Pass
VE-2214,2215	7/12/2021	K-40	3.26 ± 0.11	3.41 ± 0.25	3.34 ± 0.14	Pass
DW-30169,30170	7/12/2021	Gr. Alpha	2.61 ± 0.87	2.09 ± 0.84	2.35 ± 0.60	Pass
DW-30169,30170	7/12/2021	Gr. Beta	2.09 ± 0.67	2.52 ± 0.60	2.31 ± 0.45	Pass
DW-30169,30170	7/12/2021	Ra-226	0.84 ± 0.24	0.82 ± 0.20	0.83 ± 0.16	Pass
DW-30169,30170	7/12/2021	Ra-228	0.80 ± 0.54	0.84 ± 0.50	0.82 ± 0.37	Pass
AP-71320,71321	7/13/2021	Gr. Beta	0.015 ± 0.003	0.010 ± 0.003	0.013 ± 0.002	Pass
XW-2424,2425	7/16/2021	H-3	193 ± 86	104 ± 81	149 ± 59	Pass
DW-30183,30184	7/19/2021	Ra-226	1.37 ± 0.18	1.21 ± 0.27	1.29 ± 0.16	Pass
DW-30183,30185	7/19/2021	Ra-228	1.51 ± 0.69	1.52 ± 0.68	1.52 ± 0.48	Pass
AP-71920,71921	7/19/2021	Gr. Beta	0.021 ± 0.004	0.020 ± 0.003	0.021 ± 0.002	Pass
S-2277,2278	7/20/2021	K-40	13.6 ± 0.9	12.3 ± 0.9	12.9 ± 0.6	Pass
DW-30191,30192	7/20/2021	Gr. Alpha	3.88 ± 0.94	3.66 ± 94.00	3.77 ± 47.00	Pass
SG-2382,2383	7/23/2021	Pb-214	1.88 ± 0.21	1.94 ± 0.21	1.91 ± 0.15	Pass
SG-2382,2383	7/23/2021	Ac-228	1.69 ± 0.28	1.96 ± 0.33	1.83 ± 0.22	Pass
DW-30207,30208	7/26/2021	Gr. Alpha	5.47 ± 1.29	5.20 ± 1.24	5.34 ± 0.89	Pass
DW-30207,30208	7/26/2021	Gr. Beta	5.89 ± 0.77	6.11 ± 0.73	6.00 ± 0.53	Pass

TABLE A-6. Intralaboratory "Duplicate" Samples

			Concentration[a]			
Lab Code[b]	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
DW-30210,30211	7/28/2021	Ra-226	0.48 ± 0.13	0.62 ± 0.11	0.55 ± 0.09	Pass
DW-30210,30211	7/28/2021	Ra-228	0.45 ± 0.53	0.73 ± 0.65	0.59 ± 0.42	Pass
S-2509,2510	8/1/2021	K-40	14.2 ± 0.5	13.7 ± 1.0	14.0 ± 0.6	Pass
S-2509,2510	8/1/2021	Be-7	7.27 ± 0.29	7.97 ± 0.69	7.62 ± 0.37	Pass
DW-30221,30222	8/6/2021	Gr. Alpha	2.19 ± 1.55	2.08 ± 1.54	2.14 ± 1.09	Pass
DW-30221,30222	8/6/2021	Gr. Beta	1.19 ± 1.04	2.76 ± 1.08	1.98 ± 0.75	Pass
DW-30221,30222	8/6/2021	Ra-226	2.00 ± 0.22	1.58 ± 0.26	1.79 ± 0.17	Pass
DW-30221,30222	8/6/2021	Ra-228	1.69 ± 0.56	1.75 ± 0.54	1.72 ± 0.39	Pass
VE-2551,2552	8/11/2021	K-40	2.68 ± 0.20	2.61 ± 0.27	2.64 ± 0.17	Pass
VE-2551,2552	8/11/2021	Be-7	0.16 ± 0.08	0.18 ± 0.08	0.17 ± 0.05	Pass
AP-2578,2579	8/12/2021	Be-7	0.18 ± 0.09	0.20 ± 0.11	0.19 ± 0.07	Pass
AP-082421A,B	8/24/2021	Gr. Beta	0.032 ± 0.004	0.028 ± 0.004	0.030 ± 0.003	Pass
AP-083121A,B	8/24/2021	Gr. Beta	0.027 ± 0.004	0.029 ± 0.004	0.028 ± 0.003	Pass
VE-2684,2685	8/25/2021	K-40	2.15 ± 0.26	1.92 ± 0.27	2.03 ± 0.19	Pass
VE-2684,2685	8/25/2021	Be-7	0.20 ± 0.10	0.26 ± 0.11	0.23 ± 0.07	Pass
VE-2728,2729	8/25/2021	K-40	2.34 ± 0.41	2.27 ± 0.40	2.31 ± 0.29	Pass
DW-30238,30239	8/25/2021	Gr. Alpha	3.94 ± 0.91	2.43 ± 0.86	3.185 ± 0.63	Pass
DW-30238,30239	8/25/2021	Ra-226	2.57 ± 0.24	1.83 ± 0.24	2.20 ± 0.17	Pass
DW-30238,30239	8/25/2021	Ra-228	2.86 ± 0.83	2.52 ± 0.66	2.69 ± 0.53	Pass
SW-2641,2642	8/31/2021	H-3	289 ± 92	310 ± 93	300 ± 65	Pass
VE-2858,2859	9/2/2021	K-40	8.36 ± 0.41	8.02 ± 0.47	8.19 ± 0.31	Pass
SG-2934,2935	9/13/2021	Pb-214	2.72 ± 0.22	2.54 ± 0.27	2.63 ± 0.17	Pass
SG-2934,2935	9/13/2021	Ac-228	3.16 ± 0.39	3.22 ± 0.58	3.19 ± 0.35	Pass
DW-30249,30250	9/17/2021	Ra-226	0.70 ± 0.18	1.00 ± 0.17	0.85 ± 0.12	Pass
S-3042,3043	9/22/2021	K-40	7.55 ± 0.80	7.57 ± 0.81	7.56 ± 0.57	Pass
DW-30249,30250	9/17/2021	Ra-226	0.70 ± 0.18	1.00 ± 0.17	0.85 ± 0.12	Pass
S-3042,3043	9/22/2021	K-40	7.55 ± 0.80	7.57 ± 0.81	7.56 ± 0.57	Pass
DW-30256,30257	10/8/2021	Gr. Alpha	2.35 ± 0.79	2.71 ± 0.92	2.53 ± 0.61	Pass
S-3279,3280	10/11/2021	K-40	10.08 ± 0.58	9.18 ± 0.53	9.63 ± 0.39	Pass
DW-30262,30263	10/14/2021	Ra-226	1.49 ± 0.30	1.51 ± 0.17	1.50 ± 0.17	Pass
DW-30262,30263	10/14/2021	Ra-228	1.16 ± 0.79	2.08 ± 0.82	1.62 ± 0.57	Pass
AP-102521A,B	10/25/2021	Gr. Beta	0.026 ± 0.005	0.030 ± 0.010	0.028 ± 0.010	Pass
XWW-3707,3708	10/27/2021	H-3	206 ± 87	268 ± 90	237 ± 63	Pass
AP-110121A,B	11/1/2021	Gr. Beta	0.017 ± 0.004	0.016 ± 0.00	0.016 ± 0.003	Pass
DW-30277,30278	11/5/2021	Gr. Alpha	10.11 ± 1.19	9.72 ± 1.11	9.92 ± 0.81	Pass
DW-30277,30278	11/5/2021	Gr .Beta	5.53 ± 0.72	4.22 ± 0.69	4.88 ± 0.50	Pass
DW-30277,30278	11/5/2021	Ra-226	6.27 ± 0.32	6.34 ± 0.37	6.31 ± 0.25	Pass
DW-30277,30278	11/5/2021	Ra-228	3.10 ± 0.86	3.76 ± 0.90	3.43 ± 0.62	Pass
AP-111521A,B	11/15/2021	Gr. Beta	0.022 ± 0.004	0.026 ± 0.005	0.024 ± 0.003	Pass
AP-112221A,B	11/22/2021	Gr. Beta	0.023 ± 0.004	0.025 ± 0.005	0.024 ± 0.003	Pass
AP-112921A,B	11/29/2021	Gr. Beta	0.038 ± 0.005	0.035 ± 0.005	0.037 ± 0.004	Pass

TABLE A-6. Intralaboratory "Duplicate" Samples

			Concentration[a]			
Lab Code[b]	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
DW-30297,8	12/15/2021	Ra-226	1.71 ± 0.15	1.21 ± 0.13	1.46 ± 0.10	Pass
DW-30297,8	12/15/2021	Ra-228	2.44 ± 0.98	1.96 ± 0.97	2.20 ± 0.69	Pass
S-4182,4183	12/19/2021	Pb-214	1.19 ± 0.06	1.07 ± 0.08	1.13 ± 0.05	Pass
S-4182,4183	12/19/2021	Ac-228	1.08 ± 0.11	1.15 ± 0.14	1.12 ± 0.09	Pass
S-4182,4183	12/19/2021	K-40	1.75 ± 0.74	1.80 ± 0.84	1.78 ± 0.56	Pass
AP-122721A,B	12/27/2021	Gr. Beta	0.063 ± 0.006	0.060 ± 0.006	0.062 ± 0.004	Pass
AP-4350,4351	12/28/2021	Be-7	0.06 ± 0.02	0.06 ± 0.02	0.06 ± 0.01	Pass
AP-4845,4846	12/31/2021	Be-7	0.07 ± 0.01	0.06 ± 0.02	0.06 ± 0.01	Pass

Note: Duplicate analyses are performed on every twentieth sample received. Results are not listed for those analyses with activities that measure below the LLD.

[a] Results are reported in units of pCi/L, except for air filters (pCi/Filter or pCi/m3), food products, vegetation, soil and sediment (pCi/g).

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

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

			Concentration[a]			
Lab Code [b]	Reference Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAAP-594	2/1/2021	Gross Alpha	1.30 ± 0.08	1.77	0.53 - 3.01	Pass
MAAP-594	2/1/2021	Gross Beta	0.81 ± 0.04	0.649	0.325 - 0.974	Pass
MADW-571	2/1/2021	Gross Alpha	0.73 ± 0.06	0.87	0.26 - 1.48	Pass
MADW-572	2/1/2021	Gross Beta	2.38 ± 0.06	2.50	1.25 - 3.75	Pass
MASO-591	2/1/2021	Cs-134	-2.57 ± 2.21	0	NA [c]	Pass
MASO-591	2/1/2021	Cs-137	1700 ± 20	1550	1085 - 2015	Pass
MASO-591	2/1/2021	Co-57	977 ± 7	920	644 - 1196	Pass
MASO-591	2/1/2021	Co-60	1360 ± 10	1370	959 - 1781	Pass
MASO-591	2/1/2021	Mn-54	0.91 ± 2.85	0	NA [c]	Pass
MASO-591	2/1/2021	Zn-65	687 - 17	604	423 - 785	Pass
MASO-591	2/1/2021	K-40	682 ± 53	618	433 - 803	Pass
MAW-569	2/1/2021	Cs-134	10.5 ± 0.3	11.5	8.1 - 15.0	Pass
MAW-569	2/1/2021	Cs-137	8.53 ± 0.32	7.9	5.5 - 10.3	Pass
MAW-569	2/1/2021	Co-57	12.2 ± 0.3	11.4	8.0 - 14.8	Pass
MAW-569	2/1/2021	Co-60	0.03 ± 0.05	0	NA [c]	Pass
MAW-569	2/1/2021	Mn-54	16.5 ± 0.4	15.5	10.9 - 20.2	Pass
MAW-569	2/1/2021	Zn-65	11.5 ± 0.5	10.5	7.40 - 13.7	Pass
MAW-569	2/1/2021	K-40	9.93 ± 1.42	0	NA [c]	Fail [d]
MAAP-592	2/1/2021	Cs-134	1.54 ± 0.06	2.14	1.50 - 2.78	Pass
MAAP-592	2/1/2021	Cs-137	-0.011 ± 0.020	0	NA [c]	Pass
MAAP-592	2/1/2021	Co-57	0.636 ± 0.042	0.69	0.480 - 0.892	Pass
MAAP-592	2/1/2021	Co-60	-0.64 ± 0.02	0	NA [c]	Fail [e]
MAAP-592	2/1/2021	Mn-54	0.312 ± 0.058	0.312	0.218 - 0.406	Pass
MAAP-592	2/1/2021	Zn-65	0.41 ± 0.07	0.352	0.246 - 0.458	Pass
MAVE-588	2/1/2021	Cs-134	3.73 ± 0.09	3.60	2.50 - 4.70	Pass
MAVE-588	2/1/2021	Cs-137	5.69 ± 0.10	4.69	3.28 - 6.10	Pass
MAVE-588	2/1/2021	Co-57	6.23 ± 0.07	5.05	3.54 - 6.57	Pass
MAVE-588	2/1/2021	Co-60	3.29 ± 0.06	2.99	2.09 - 3.89	Pass
MAVE-588	2/1/2021	Mn-54	6.17 ± 0.16	5.25	3.68 - 6.83	Pass
MAVE-588	2/1/2021	Zn-65	-0.04 ± 0.08	0	NA [c]	Pass
MAAP-3007	8/1/2021	Gross Alpha	0.45 ± 0.04	0.960	0.288 - 1.632	Pass
MAAP-3007	8/1/2021	Gross Beta	0.71 ± 0.04	0.553	0.277 - 0.830	Pass
MADW-2688	8/1/2021	Gross Alpha	0.19 ± 0.03	0.232	0.070 - 0.394	Pass
MADW-2688	8/1/2021	Gross Beta	2.60 ± 0.06	2.807	1.404 - 4.211	Pass

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

			Concentration[a]			
Lab Code [b]	Reference Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MASO-3004	8/1/2021	Cs-134	1035 ± 10	1170	819 - 1521	Pass
MASO-3004	8/1/2021	Cs-137	628 ± 11	572	400 - 744	Pass
MASO-3004	8/1/2021	Co-57	-0.11 ± 1.26	0	NA [c]	Pass
MASO-3004	8/1/2021	Co-60	720 ± 7	722	714 - 1326	Pass
MASO-3004	8/1/2021	Mn-54	456 ± 11	410	287 - 533	Pass
MASO-3004	8/1/2021	Zn-65	1002 ± 22	907	635 - 1179	Pass
MASO-3004	8/1/2021	K-40	663 ± 50	607	425 - 789	Pass
MADW-3003	8/1/2021	Ra-226	0.32 ± 0.06	0.226	0.158 ± 0.294	Fail[f]
MADW-3003	8/1/2021	Sr-90	3.63 ± 0.16	3.9	2.70 - 5.02	Pass
MADW-3003	8/1/2021	U-234	0.02 - 0.01	0.02	NA [g]	Pass
MADW-3003	8/1/2021	U-238	0.02 - 0.01	0.01	NA [g]	Pass

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

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

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

[d] The sample spectrum was reanalyzed utilizing the minimum data point background width method. The result was 1.59 ± 1.77 Bq/L which satisfies MAPEP criteria for a false positive test.

[e] A decimal was misplaced in one of two cobalt-60 results while calculating a mean result causing MAPEP to fail the result as a statistically significant negative value at 3 standard deviations. The correct mean result (-0.0004 ± 0.0186) is not a statistically significant negative value and would not have failed.

f Radium result did not meet MAPEP acceptance criteria.

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

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

MRAD-30 Study

Lab Code [b]	Date	Analysis	Concentration [a] Laboratory Result	ERA Value [c]	Control Limits [d]	Acceptance
ERAP-722	3/22/2021	Cs-134	898	1030	668 - 1260	Pass
ERAP-722	3/22/2021	Cs-137	181	163	134 - 214	Pass
ERAP-722	3/22/2021	Co-60	1270	1220	1040 - 1550	Pass
ERAP-722	3/22/2021	Mn-54	< 4.3	< 50.0	0.00 - 50.0	Pass
ERAP-722	3/22/2021	Zn-65	908	771	632 - 1180	Pass
ERAP-722	3/22/2021	Sr-90	184	189	120 - 257	Pass
ERAP-724	3/22/2021	Gross Alpha	88.4	96.1	50.2 - 158	Pass
ERAP-724	3/22/2021	Gross Beta	74.1	62.6	38.0 - 94.6	Pass

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

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

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

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

Appendix B

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

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

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

Location of Facility: Coffey County, Kansas Reporting Period: Annual 2021

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 (312)	0.01	0.028 (259/259) (0.010 - 0.071)	49 0.8 miles NNE	0.029 (53/53) (0.012 - 0.064)	Station 53 0.028 (53/53) (0.011 - 0.063)	0
Air Radioiodine (pCi/m^3)	Gamma (24) Be-7	-	0.092 (20/20) (0.066 - 0.120)	2 2.7 miles N	0.096 (4/4) (0.072 - 0.119)	0.086 (4/4) (0.064 - 0.115)	0
	I-131 (312)	0.07	- (0/259)	N/A	N/A	Station 53 - (0/53)	0
Direct Radiation Dosimeters (mR per std. 90-day Qtr.)	Gamma Dose (176)	-	15.6 (160/160) (0.8 – 24.3)	22 3.9 miles SSW	18.4 (4/4) (6.7 – 24.3)	Stations 39 & 53 15.1 (8/8) (4.1 – 20.8)	0
Surface Water (pCi/l)	Gamma (24)		- (0/12)	N/A	N/A	JRR - (0/12)	0
	Tritium (24)	30,000	11,817 (12/12) (13,457 – 15,543)	SP 3.2 miles SSE	11,817 (12/12) (13,457 – 15,543)	- (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	2.9 (12/12) (1.8 – 3.7)	IO-DW 26.1 miles SSE	2.9 (12/12) (1.8 – 3.7)	2.8 (12/12) (2.0 - 3.9)	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 (4)					JRR	
	K-40	-	7,686 (4/4) (5,938 – 9,184)	JRR 3.6 miles W	8,941 (2/2) (8,697 – 9,184)	8,941 (2/2) (8,697 – 9,184)	0
	Cs-137	-	(0-2)	N/A	N/A	(0-2)	0
Fish – Flesh (pCi/kg wet)	Gamma (22)					JRR	
	K-40	-	3,595 (12/12) (2,683 – 4,695)	CCL 0.6 miles E to NNW	3,595 (13/13) (2,683 – 4,695)	3,379(10/10) (2,457- 3,836)	0
	Tritium (22)	-	7,518 (12/12) (4,597 – 9,947)	CCL 0.6 miles E to NNW	7,518 (13/13) (4,597 – 9,947)	- (0/10)	0

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

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

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Location of Facility: Coffey County, Kansas Reporting Period: Annual 2021

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	ODCM Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Indicator Location with Highest Annual Mean Name Distance and Direction	** Mean (f) ** Range	Control Locations ** Mean (f) ** Range	Number of Nonroutine Reported Measurements **
Food and Garden (pCi/kg wet)	Gamma (33)					D-2	
	Be-7	-	927 (28/28) (245 – 1,684)	Q-6 2.4 miles NW	986 (5/5) (281 – 1,591)	1,035 (7/7) (411 – 1,625)	0
	K-40	-	5,732 (18/18) (3,234 – 8,312)	A-3 2.6 miles N	6,074 (7/7) (4,510 – 8,312)	6,160(7/7) 3,440 – 7,767)	0
Crops (pCi/kg wet)	Gamma (3)					NR-U1	
	K-40	-	9,316 (2/2) (2,794-15,837)	NR-D2 11.5 miles S	15,837 (1-1) (15,837-15,837)	3,401 (1-1) (3,401-3,401)	0
Bottom Sediment (pCi/kg dry)	Gamma (4)					JRR	
	K-40	-	13,471 (2/2) (12,574-18,725)	DC 0.9 miles WNW	13,471 (2/2) (12,574-18,725)	16,489 (2/2) (14,253 – 18,725)	0
	Cs-137	-	59.9 (2/2) (49.7 – 60.1)	DC 0.9 miles WNW	59.9 (2/2) (49.7-60.1)	- (0/2)	0
	Fe-55 (2)	-	- (0/2)	N/A	N/A	No Control	0

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

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY
Name of Facility: Wolf Creek Generating Station Docket No.: 50-482
Location of Facility: Coffey County, Kansas Reporting Period: Annual 2021

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	ODCM Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Indicator Location with Highest Annual Mean Name Distance and Direction	** Mean (f) ** Range	Control Locations ** Mean (f) ** Range	Number of Nonroutine Reported Measurements **
Aquatic Vegetation (pCi/kg wet)	Gamma (3)					No Control	
	Be-7	-	552 (3/3) (267 - 702)	EEA 3.0 miles NNW	702 (1/1) (702 - 702)	-	0
	K-40	-	3,458 (3/3) (2,797- 4,449)	SC 0.8 miles NNW	4,449 (1/1) (4,449 - 4,449)	-	0
	Cs-137	-	- (0/4)	N/A	N/A	-	0
Terrestrial Vegetation (pCi/kg wet)	Gamma (1)					No Control	
	Be-7	-	351 (1/1) (351 – 351)	MUDS 1.5 miles WNW	351 (1/1) (351 – 351)	-	0
	K-40	-	2,207 (1/1) (2,207 – 2,207)	MUDS 1.5 miles WNW	2,207 (1/1) (2,207 – 2,207)	-	0
Soil (pCi/kg dry)	Gamma (3)					No Control	
	K-40	-	11,545 (3/3) (10,551-13,209)	MUDS 1.5 miles WNW	12,042 (2/2) (10,874-13,209)	-	0
	Cs-137	-	157 (3/3) (112-184)	EEA 3.0 miles NNW	184 (1/1) (184-184)	-	0
Meat (pCi/kg wet)	Gamma (2)					No Control	
Deer/Turkey	K-40	-	2,937 (2/2) (2,256 – 3,617)	A1.42 (Deer) 1.42 miles N	3,617(1/1) (3,617 – 3,617)	-	0
	Tritium	-	639 (2/2)	A1.42 (Deer)	906 (1/1)	No Control	0

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

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

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Location of Facility: Coffey County, Kansas Reporting Period: Annual 2021

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 **
			(371-907)	1.42 miles N	(906 - 906)		

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

APPENDIX C

INDIVIDUAL SAMPLE RESULTS

Air Particulate Filters and Radioiodine Canisters

Location: 002

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
28-Dec-20	04-Jan-21	300	0.034	+/-	0.005	<	0.008	
04-Jan-21	11-Jan-21	304	0.023	+/-	0.004	<	0.005	
11-Jan-21	18-Jan-21	298	0.025	+/-	0.005	<	0.011	
18-Jan-21	25-Jan-21	305	0.024	+/-	0.004	<	0.007	
25-Jan-21	01-Feb-21	303	0.022	+/-	0.004	<	0.007	
01-Feb-21	08-Feb-21	296	0.041	+/-	0.005	<	0.009	
08-Feb-21	17-Feb-21	424	0.034	+/-	0.004	<	0.012	
17-Feb-21	22-Feb-21	214	0.050	+/-	0.007	<	0.017	
22-Feb-21	01-Mar-21	296	0.016	+/-	0.004	<	0.014	
01-Mar-21	08-Mar-21	298	0.024	+/-	0.004	<	0.007	
08-Mar-21	15-Mar-21	300	0.017	+/-	0.004	<	0.008	
15-Mar-21	22-Mar-21	307	0.032	+/-	0.004	<	0.008	
22-Mar-21	29-Mar-21	304	0.013	+/-	0.004	<	0.008	
29-Mar-21	05-Apr-21	302	0.013	+/-	0.004	<	0.007	
05-Apr-21	12-Apr-21	298	0.018	+/-	0.004	<	0.016	
12-Apr-21	19-Apr-21	300	0.012	+/-	0.004	<	0.011	
19-Apr-21	26-Apr-21	301	0.024	+/-	0.004	<	0.011	
26-Apr-21	03-May-21	297	0.024	+/-	0.004	<	0.010	
26-Apr-21	03-May-21	297	0.023	+/-	0.004			Duplicate
03-May-21	10-May-21	305	0.015	+/-	0.004	<	0.009	
03-May-21	10-May-21	305	0.014	+/-	0.004			Duplicate
10-May-21	17-May-21	300	0.013	+/-	0.004	<	0.006	
17-May-21	24-May-21	295	0.019	+/-	0.004	<	0.018	
24-May-21	01-Jun-21	345	0.013	+/-	0.004	<	0.018	
01-Jun-21	07-Jun-21	256	0.025	+/-	0.005	<	0.017	
07-Jun-21	14-Jun-21	297	0.019	+/-	0.004	<	0.010	
14-Jun-21	21-Jun-21	300	0.042	+/-	0.005	<	0.018	
21-Jun-21	28-Jun-21	292	0.021	+/-	0.004	<	0.018	
28-Jun-21	06-Jul-21	342	0.020	+/-	0.004	<	0.016	
06-Jul-21	12-Jul-21	262	0.021	+/-	0.005	<	0.015	
12-Jul-21	19-Jul-21	290	0.023	+/-	0.004	<	0.014	
19-Jul-21	26-Jul-21	287	0.031	+/-	0.005	<	0.019	
26-Jul-21	02-Aug-21	299	0.039	+/-	0.005	<	0.010	
02-Aug-21	09-Aug-21	290	0.030	+/-	0.005	<	0.015	
09-Aug-21	16-Aug-21	307	0.021	+/-	0.004	<	0.012	
16-Aug-21	23-Aug-21	300	0.025	+/-	0.004	<	0.015	
23-Aug-21	30-Aug-21	298	0.028	+/-	0.005	<	0.021	
30-Aug-21	07-Sep-21	344	0.029	+/-	0.004	<	0.012	
07-Sep-21	13-Sep-21	258	0.036	+/-	0.005	<	0.019	
13-Sep-21	20-Sep-21	292	0.026	+/-	0.005	<	0.014	
13-Sep-21	20-Sep-21	292	0.031	+/-	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
20-Sep-21	28-Sep-21	354	0.034 +/- 0.004	< 0.014	
28-Sep-21	04-Oct-21	257	0.028 +/- 0.005	< 0.016	
04-Oct-21	11-Oct-21	306	0.037 +/- 0.005	< 0.016	
11-Oct-21	18-Oct-21	293	0.033 +/- 0.005	< 0.018	
18-Oct-21	25-Oct-21	301	0.026 +/- 0.005	< 0.011	
18-Oct-21	25-Oct-21	301	0.030 +/- 0.005		Duplicate
25-Oct-21	01-Nov-21	294	0.016 +/- 0.004	< 0.009	
01-Nov-21	08-Nov-21	293	0.035 +/- 0.005	< 0.013	
08-Nov-21	15-Nov-21	295	0.027 +/- 0.005	< 0.014	
15-Nov-21	22-Nov-21	299	0.029 +/- 0.005	< 0.015	
22-Nov-21	29-Nov-21	299	0.037 +/- 0.005	< 0.011	
29-Nov-21	06-Dec-21	299	0.043 +/- 0.005	< 0.016	
06-Dec-21	13-Dec-21	291	0.028 +/- 0.005	< 0.010	
13-Dec-21	20-Dec-21	300	0.033 +/- 0.005	< 0.025	
20-Dec-21	27-Dec-21	290	0.055 +/- 0.005	< 0.016	
27-Dec-21	03-Jan-22	306	0.050 +/- 0.005	< 0.015	

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
28-Dec-20	04-Jan-21	300	0.039 +/- 0.005	< 0.008	
04-Jan-21	11-Jan-21	307	0.027 +/- 0.005	< 0.005	
11-Jan-21	18-Jan-21	294	0.033 +/- 0.005	< 0.011	
18-Jan-21	25-Jan-21	305	0.020 +/- 0.004	< 0.007	
25-Jan-21	01-Feb-21	312	0.024 +/- 0.004	< 0.007	
01-Feb-21	08-Feb-21	299	0.037 +/- 0.005	< 0.008	
08-Feb-21	17-Feb-21	423	0.035 +/- 0.004	< 0.012	
17-Feb-21	22-Feb-21	206	0.047 +/- 0.007	< 0.018	
22-Feb-21	01-Mar-21	299	0.020 +/- 0.004	< 0.014	
01-Mar-21	08-Mar-21	293	0.029 +/- 0.005	< 0.007	
01-Mar-21	08-Mar-21	293	0.028 +/- 0.005		Duplicate
08-Mar-21	15-Mar-21	295	0.017 +/- 0.004	< 0.008	
15-Mar-21	22-Mar-21	302	0.029 +/- 0.004	< 0.008	
22-Mar-21	29-Mar-21	298	0.014 +/- 0.004	< 0.008	
29-Mar-21	05-Apr-21	300	0.014 +/- 0.004	< 0.007	
05-Apr-21	12-Apr-21	301	0.016 +/- 0.004	< 0.015	
12-Apr-21	19-Apr-21	297	0.015 +/- 0.004	< 0.011	
19-Apr-21	26-Apr-21	300	0.026 +/- 0.004	< 0.011	
19-Apr-21	26-Apr-21	300	0.023 +/- 0.004		Duplicate
26-Apr-21	03-May-21	299	0.025 +/- 0.004	< 0.009	
03-May-21	10-May-21	306	0.017 +/- 0.004	< 0.009	
10-May-21	17-May-21	293	0.015 +/- 0.004	< 0.006	
17-May-21	24-May-21	303	0.011 +/- 0.004	< 0.018	
24-May-21	01-Jun-21	330	0.010 +/- 0.004	< 0.018	
24-May-21	01-Jun-21	330	0.011 +/- 0.004		Duplicate
01-Jun-21	07-Jun-21	254	0.023 +/- 0.005	< 0.017	
07-Jun-21	14-Jun-21	295	0.022 +/- 0.005	< 0.010	
14-Jun-21	21-Jun-21	302	0.041 +/- 0.005	< 0.018	
21-Jun-21	28-Jun-21	294	0.022 +/- 0.004	< 0.018	
28-Jun-21	06-Jul-21	344	0.023 +/- 0.004	< 0.016	
06-Jul-21	12-Jul-21	257	0.021 +/- 0.005	< 0.015	
12-Jul-21	19-Jul-21	300	0.021 +/- 0.004	< 0.014	
19-Jul-21	26-Jul-21	295	0.031 +/- 0.005	< 0.018	
26-Jul-21	02-Aug-21	295	0.042 +/- 0.005	< 0.010	
26-Jul-21	02-Aug-21	295	0.042 +/- 0.005		Duplicate
02-Aug-21	09-Aug-21	293	0.035 +/- 0.005	< 0.014	
09-Aug-21	16-Aug-21	291	0.022 +/- 0.004	< 0.012	
16-Aug-21	23-Aug-21	298	0.023 +/- 0.004	< 0.015	
23-Aug-21	30-Aug-21	298	0.027 +/- 0.005	< 0.021	
30-Aug-21	07-Sep-21	335	0.032 +/- 0.004	< 0.012	
07-Sep-21	13-Sep-21	256	0.038 +/- 0.005	< 0.019	

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
13-Sep-21	20-Sep-21	291	0.029 +/- 0.005	< 0.014	
20-Sep-21	28-Sep-21	353	0.031 +/- 0.004	< 0.014	
28-Sep-21	04-Oct-21	245	0.029 +/- 0.006	< 0.017	
04-Oct-21	11-Oct-21	310	0.040 +/- 0.005	< 0.016	
11-Oct-21	18-Oct-21	281	0.035 +/- 0.005	< 0.018	
11-Oct-21	18-Oct-21	281	0.033 +/- 0.005		Duplicate
18-Oct-21	25-Oct-21	301	0.029 +/- 0.005	< 0.011	
25-Oct-21	01-Nov-21	313	0.016 +/- 0.004	< 0.008	
01-Nov-21	08-Nov-21	299	0.033 +/- 0.005	< 0.013	
08-Nov-21	15-Nov-21	299	0.028 +/- 0.005	< 0.014	
15-Nov-21	22-Nov-21	301	0.024 +/- 0.005	< 0.015	
22-Nov-21	29-Nov-21	298	0.035 +/- 0.005	< 0.011	
29-Nov-21	06-Dec-21	295	0.037 +/- 0.005	< 0.016	
06-Dec-21	13-Dec-21	295	0.024 +/- 0.005	< 0.010	
13-Dec-21	20-Dec-21	302	0.032 +/- 0.004	< 0.025	
20-Dec-21	27-Dec-21	288	0.056 +/- 0.006	< 0.016	
27-Dec-21	03-Jan-22	307	0.049 +/- 0.005	< 0.015	

Air Particulate Filters and Radioiodine Canisters

Location: 032

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)	I-131 Concentration (pCi/m3)	Duplicate Analysis
28-Dec-20	04-Jan-21	305	0.037 +/- 0.005	< 0.008	
04-Jan-21	11-Jan-21	305	0.023 +/- 0.004	< 0.005	
11-Jan-21	18-Jan-21	296	0.032 +/- 0.005	< 0.011	
18-Jan-21	25-Jan-21	306	0.023 +/- 0.004	< 0.007	
25-Jan-21	01-Feb-21	307	0.028 +/- 0.004	< 0.007	
01-Feb-21	08-Feb-21	303	0.036 +/- 0.005	< 0.009	
08-Feb-21	17-Feb-21	399	0.034 +/- 0.004	< 0.012	
17-Feb-21	22-Feb-21	215	0.052 +/- 0.007	< 0.017	
22-Feb-21	01-Mar-21	303	0.021 +/- 0.004	< 0.014	
01-Mar-21	08-Mar-21	296	0.030 +/- 0.005	< 0.007	
08-Mar-21	15-Mar-21	297	0.019 +/- 0.004	< 0.008	
08-Mar-21	15-Mar-21	297	0.019 +/- 0.004		Duplicate
15-Mar-21	22-Mar-21	306	0.033 +/- 0.004	< 0.008	
22-Mar-21	29-Mar-21	300	0.011 +/- 0.004	< 0.008	
29-Mar-21	05-Apr-21	299	0.011 +/- 0.004	< 0.007	
05-Apr-21	12-Apr-21	297	0.021 +/- 0.004	< 0.016	
05-Apr-21	12-Apr-21	297	0.022 +/- 0.004		Duplicate
12-Apr-21	19-Apr-21	300	0.017 +/- 0.004	< 0.011	
19-Apr-21	26-Apr-21	304	0.023 +/- 0.004	< 0.011	
26-Apr-21	03-May-21	299	0.023 +/- 0.004	< 0.010	
03-May-21	10-May-21	309	0.016 +/- 0.004	< 0.009	
10-May-21	17-May-21	302	0.017 +/- 0.004	< 0.006	
10-May-21	17-May-21	302	0.016 +/- 0.004		Duplicate
24-May-21	01-Jun-21	354	0.011 +/- 0.003	< 0.017	
01-Jun-21	07-Jun-21	259	0.025 +/- 0.005	< 0.017	
07-Jun-21	14-Jun-21	302	0.022 +/- 0.004	< 0.010	
14-Jun-21	21-Jun-21	299	0.038 +/- 0.005	< 0.018	
21-Jun-21	28-Jun-21	294	0.021 +/- 0.004	< 0.018	
28-Jun-21	06-Jul-21	341	0.023 +/- 0.004	< 0.016	
28-Jun-21	06-Jul-21	341	0.022 +/- 0.004		Duplicate
06-Jul-21	12-Jul-21	257	0.018 +/- 0.005	< 0.015	
12-Jul-21	19-Jul-21	297	0.020 +/- 0.004	< 0.014	
19-Jul-21	26-Jul-21	292	0.032 +/- 0.005	< 0.018	
26-Jul-21	02-Aug-21	295	0.042 +/- 0.005	< 0.010	
02-Aug-21	09-Aug-21	293	0.031 +/- 0.005	< 0.014	
09-Aug-21	16-Aug-21	309	0.023 +/- 0.004	< 0.011	
09-Aug-21	16-Aug-21	309	0.026 +/- 0.004		Duplicate
16-Aug-21	23-Aug-21	294	0.023 +/- 0.004	< 0.015	
23-Aug-21	30-Aug-21	299	0.025 +/- 0.005	< 0.021	
30-Aug-21	07-Sep-21	346	0.027 +/- 0.004	< 0.012	
07-Sep-21	13-Sep-21	257	0.035 +/- 0.005	< 0.019	

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
13-Sep-21	20-Sep-21	295	0.034 +/- 0.005	< 0.013	
20-Sep-21	28-Sep-21	352	0.029 +/- 0.004	< 0.014	
28-Sep-21	04-Oct-21	250	0.028 +/- 0.005	< 0.016	
28-Sep-21	04-Oct-21	250	0.029 +/- 0.005		Duplicate
04-Oct-21	11-Oct-21	297	0.043 +/- 0.005	< 0.017	
11-Oct-21	18-Oct-21	299	0.036 +/- 0.005	< 0.017	
18-Oct-21	25-Oct-21	300	0.032 +/- 0.005	< 0.012	
25-Oct-21	01-Nov-21	298	0.019 +/- 0.004	< 0.009	
01-Nov-21	08-Nov-21	296	0.039 +/- 0.005	< 0.013	
08-Nov-21	15-Nov-21	303	0.022 +/- 0.004	< 0.013	
08-Nov-21	15-Nov-21	303	0.026 +/- 0.005		Duplicate
15-Nov-21	22-Nov-21	303	0.025 +/- 0.005	< 0.015	
15-Nov-21	22-Nov-21	303	0.023 +/- 0.004		Duplicate
22-Nov-21	29-Nov-21	296	0.035 +/- 0.005	< 0.011	
29-Nov-21	06-Dec-21	297	0.043 +/- 0.005	< 0.016	
06-Dec-21	13-Dec-21	295	0.030 +/- 0.005	< 0.010	
13-Dec-21	20-Dec-21	303	0.034 +/- 0.005	< 0.025	
20-Dec-21	27-Dec-21	289	0.060 +/- 0.006	< 0.016	
27-Dec-21	03-Jan-22	308	0.055 +/- 0.006	< 0.015	

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
28-Dec-20	04-Jan-21	301	0.043	+/-	0.005	<	0.008	
04-Jan-21	11-Jan-21	309	0.023	+/-	0.004	<	0.005	
11-Jan-21	18-Jan-21	293	0.030	+/-	0.005	<	0.011	
18-Jan-21	25-Jan-21	309	0.021	+/-	0.004	<	0.007	
25-Jan-21	01-Feb-21	309	0.028	+/-	0.004	<	0.007	
01-Feb-21	08-Feb-21	300	0.037	+/-	0.005	<	0.008	
08-Feb-21	17-Feb-21	413	0.036	+/-	0.004	<	0.012	
17-Feb-21	22-Feb-21	219	0.050	+/-	0.007	<	0.017	
22-Feb-21	01-Mar-21	300	0.016	+/-	0.004	<	0.014	
01-Mar-21	08-Mar-21	297	0.027	+/-	0.005	<	0.007	
08-Mar-21	15-Mar-21	298	0.016	+/-	0.004	<	0.008	
15-Mar-21	22-Mar-21	306	0.033	+/-	0.004	<	0.008	
22-Mar-21	29-Mar-21	302	0.010	+/-	0.004	<	0.008	
29-Mar-21	05-Apr-21	328	0.010	+/-	0.003	<	0.007	
05-Apr-21	12-Apr-21	297	0.021	+/-	0.004	<	0.016	
12-Apr-21	19-Apr-21	301	0.015	+/-	0.004	<	0.011	
19-Apr-21	26-Apr-21	305	0.021	+/-	0.004	<	0.011	
26-Apr-21	03-May-21	297	0.026	+/-	0.004	<	0.010	
03-May-21	10-May-21	306	0.017	+/-	0.004	<	0.009	
10-May-21	17-May-21	303	0.016	+/-	0.004	<	0.006	
17-May-21	24-May-21	297	0.014	+/-	0.004	<	0.018	
24-May-21	01-Jun-21	349	0.010	+/-	0.003	<	0.018	
01-Jun-21	07-Jun-21	250	0.020	+/-	0.005	<	0.018	
07-Jun-21	14-Jun-21	305	0.020	+/-	0.004	<	0.010	
07-Jun-21	14-Jun-21	305	0.018	+/-	0.004			Duplicate
14-Jun-21	21-Jun-21	297	0.039	+/-	0.005	<	0.019	
21-Jun-21	28-Jun-21	294	0.018	+/-	0.004	<	0.018	
28-Jun-21	06-Jul-21	336	0.021	+/-	0.004	<	0.016	
06-Jul-21	12-Jul-21	264	0.021	+/-	0.005	<	0.015	
12-Jul-21	19-Jul-21	297	0.025	+/-	0.005	<	0.014	
19-Jul-21	26-Jul-21	300	0.031	+/-	0.005	<	0.018	
26-Jul-21	02-Aug-21	301	0.041	+/-	0.005	<	0.010	
02-Aug-21	09-Aug-21	294	0.031	+/-	0.005	<	0.014	
09-Aug-21	16-Aug-21	315	0.022	+/-	0.004	<	0.011	
16-Aug-21	23-Aug-21	288	0.021	+/-	0.004	<	0.015	
23-Aug-21	30-Aug-21	305	0.024	+/-	0.004	<	0.021	
30-Aug-21	07-Sep-21	326	0.027	+/-	0.004	<	0.013	
07-Sep-21	13-Sep-21	251	0.033	+/-	0.005	<	0.020	
13-Sep-21	20-Sep-21	286	0.032	+/-	0.005	<	0.014	
20-Sep-21	28-Sep-21	358	0.028	+/-	0.004	<	0.014	
28-Sep-21	04-Oct-21	257	0.024	+/-	0.005	<	0.016	

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
04-Oct-21	11-Oct-21	300	0.041 +/- 0.005	< 0.016	
11-Oct-21	18-Oct-21	298	0.034 +/- 0.005	< 0.017	
18-Oct-21	25-Oct-21	299	0.027 +/- 0.005	< 0.012	
25-Oct-21	01-Nov-21	299	0.017 +/- 0.004	< 0.009	
01-Nov-21	08-Nov-21	300	0.036 +/- 0.005	< 0.012	
08-Nov-21	15-Nov-21	313	0.023 +/- 0.004	< 0.013	
15-Nov-21	22-Nov-21	305	0.025 +/- 0.005	< 0.014	
22-Nov-21	29-Nov-21	294	0.038 +/- 0.005	< 0.011	
22-Nov-21	29-Nov-21	294	0.035 +/- 0.005		Duplicate
29-Nov-21	06-Dec-21	298	0.039 +/- 0.005	< 0.016	
06-Dec-21	13-Dec-21	296	0.026 +/- 0.005	< 0.010	
13-Dec-21	20-Dec-21	301	0.038 +/- 0.005	< 0.025	
20-Dec-21	27-Dec-21	292	0.071 +/- 0.006	< 0.016	
27-Dec-21	03-Jan-22	305	0.057 +/- 0.006	< 0.015	

Air Particulate Filters and Radioiodine Canisters

Location: 049

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
28-Dec-20	04-Jan-21	293	0.043	+/-	0.005	<	0.008	
04-Jan-21	11-Jan-21	303	0.024	+/-	0.004	<	0.005	
11-Jan-21	18-Jan-21	296	0.031	+/-	0.005	<	0.011	
18-Jan-21	25-Jan-21	309	0.024	+/-	0.004	<	0.007	
25-Jan-21	01-Feb-21	311	0.029	+/-	0.004	<	0.007	
01-Feb-21	08-Feb-21	300	0.032	+/-	0.005	<	0.008	
08-Feb-21	17-Feb-21	403	0.038	+/-	0.004	<	0.012	
17-Feb-21	22-Feb-21	222	0.054	+/-	0.007	<	0.016	
22-Feb-21	01-Mar-21	300	0.018	+/-	0.004	<	0.014	
01-Mar-21	08-Mar-21	294	0.028	+/-	0.005	<	0.007	
08-Mar-21	15-Mar-21	299	0.019	+/-	0.004	<	0.008	
15-Mar-21	22-Mar-21	308	0.035	+/-	0.004	<	0.008	
22-Mar-21	29-Mar-21	306	0.013	+/-	0.004	<	0.008	
29-Mar-21	05-Apr-21	300	0.013	+/-	0.004	<	0.007	
05-Apr-21	12-Apr-21	293	0.017	+/-	0.004	<	0.016	
12-Apr-21	19-Apr-21	302	0.016	+/-	0.004	<	0.011	
19-Apr-21	26-Apr-21	302	0.025	+/-	0.004	<	0.011	
26-Apr-21	03-May-21	301	0.029	+/-	0.004	<	0.010	
03-May-21	10-May-21	309	0.019	+/-	0.004	<	0.009	
10-May-21	17-May-21	302	0.017	+/-	0.004	<	0.006	
17-May-21	24-May-21	290	0.016	+/-	0.004	<	0.019	
24-May-21	01-Jun-21	340	0.012	+/-	0.004	<	0.018	
01-Jun-21	07-Jun-21	257	0.023	+/-	0.005	<	0.017	
07-Jun-21	14-Jun-21	298	0.022	+/-	0.005	<	0.010	
14-Jun-21	21-Jun-21	296	0.039	+/-	0.005	<	0.019	
21-Jun-21	28-Jun-21	300	0.020	+/-	0.004	<	0.018	
28-Jun-21	06-Jul-21	343	0.020	+/-	0.004	<	0.016	
06-Jul-21	12-Jul-21	257	0.019	+/-	0.005	<	0.015	
06-Jul-21	12-Jul-21	257	0.022	+/-	0.005			Duplicate
12-Jul-21	19-Jul-21	298	0.022	+/-	0.004	<	0.014	
19-Jul-21	26-Jul-21	295	0.035	+/-	0.005	<	0.018	
26-Jul-21	02-Aug-21	299	0.039	+/-	0.005	<	0.010	
02-Aug-21	09-Aug-21	294	0.032	+/-	0.005	<	0.014	
09-Aug-21	16-Aug-21	307	0.026	+/-	0.004	<	0.012	
16-Aug-21	23-Aug-21	294	0.025	+/-	0.005	<	0.015	
23-Aug-21	30-Aug-21	299	0.023	+/-	0.005	<	0.021	
30-Aug-21	07-Sep-21	343	0.029	+/-	0.004	<	0.012	
07-Sep-21	13-Sep-21	259	0.044	+/-	0.006	<	0.019	
13-Sep-21	20-Sep-21	298	0.034	+/-	0.005	<	0.013	
20-Sep-21	28-Sep-21	358	0.030	+/-	0.004	<	0.014	
28-Sep-21	04-Oct-21	250	0.028	+/-	0.005	<	0.016	

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
04-Oct-21	11-Oct-21	300	0.043 +/- 0.005	< 0.016	
11-Oct-21	18-Oct-21	304	0.034 +/- 0.005	< 0.017	
18-Oct-21	25-Oct-21	301	0.033 +/- 0.005	< 0.011	
25-Oct-21	01-Nov-21	299	0.017 +/- 0.004	< 0.009	
25-Oct-21	01-Nov-21	299	0.016 +/- 0.004		Duplicate
01-Nov-21	08-Nov-21	308	0.038 +/- 0.005	< 0.012	
08-Nov-21	15-Nov-21	301	0.027 +/- 0.005	< 0.014	
15-Nov-21	22-Nov-21	300	0.029 +/- 0.005	< 0.015	
22-Nov-21	29-Nov-21	301	0.039 +/- 0.005	< 0.011	
29-Nov-21	06-Dec-21	301	0.043 +/- 0.005	< 0.016	
06-Dec-21	13-Dec-21	299	0.030 +/- 0.005	< 0.010	
13-Dec-21	20-Dec-21	306	0.036 +/- 0.005	< 0.025	
20-Dec-21	27-Dec-21	293	0.064 +/- 0.006	< 0.016	
27-Dec-21	03-Jan-22	297	0.063 +/- 0.006	< 0.015	

Air Particulate Filters and Radioiodine Canisters

Location: 053

Collection StartDate	Collection EndDate	Volume m3	Gross Beta Concentration (pCi/m3)			I-131 Concentration (pCi/m3)		Duplicate Analysis
28-Dec-20	04-Jan-21	305	0.036	+/-	0.005	<	0.008	
28-Dec-20	04-Jan-21	305	0.035	+/-	0.005			Duplicate
04-Jan-21	11-Jan-21	299	0.022	+/-	0.004	<	0.005	
11-Jan-21	18-Jan-21	300	0.028	+/-	0.005	<	0.011	
18-Jan-21	25-Jan-21	307	0.017	+/-	0.004	<	0.007	
25-Jan-21	01-Feb-21	303	0.023	+/-	0.004	<	0.007	
01-Feb-21	08-Feb-21	300	0.036	+/-	0.005	<	0.009	
01-Feb-21	08-Feb-21	300	0.039	+/-	0.005			Duplicate
08-Feb-21	17-Feb-21	392	0.030	+/-	0.004	<	0.013	
08-Feb-21	17-Feb-21	392	0.029	+/-	0.004			Duplicate
17-Feb-21	22-Feb-21	216	0.043	+/-	0.006	<	0.017	
22-Feb-21	01-Mar-21	300	0.018	+/-	0.004	<	0.014	
22-Feb-21	01-Mar-21	300	0.016	+/-	0.004			Duplicate
01-Mar-21	08-Mar-21	296	0.025	+/-	0.005	<	0.007	
08-Mar-21	15-Mar-21	301	0.018	+/-	0.004	<	0.008	
15-Mar-21	22-Mar-21	301	0.028	+/-	0.004	<	0.008	
22-Mar-21	29-Mar-21	302	0.014	+/-	0.004	<	0.008	
29-Mar-21	05-Apr-21	302	0.014	+/-	0.004	<	0.007	
29-Mar-21	05-Apr-21	302	0.014	+/-	0.004			Duplicate
05-Apr-21	12-Apr-21	302	0.017	+/-	0.004	<	0.015	
12-Apr-21	19-Apr-21	299	0.015	+/-	0.004	<	0.011	
12-Apr-21	19-Apr-21	299	0.016	+/-	0.004			Duplicate
19-Apr-21	26-Apr-21	303	0.024	+/-	0.004	<	0.011	
26-Apr-21	03-May-21	300	0.024	+/-	0.004	<	0.010	
03-May-21	10-May-21	297	0.013	+/-	0.004	<	0.010	
10-May-21	17-May-21	300	0.017	+/-	0.004	<	0.006	
17-May-21	24-May-21	295	0.012	+/-	0.004	<	0.018	
17-May-21	24-May-21	295	0.012	+/-	0.004			Duplicate
24-May-21	01-Jun-21	342	0.011	+/-	0.004	<	0.018	
01-Jun-21	07-Jun-21	251	0.022	+/-	0.005	<	0.018	
07-Jun-21	14-Jun-21	295	0.017	+/-	0.004	<	0.010	
14-Jun-21	21-Jun-21	296	0.036	+/-	0.005	<	0.019	
21-Jun-21	28-Jun-21	289	0.019	+/-	0.004	<	0.018	
28-Jun-21	06-Jul-21	341	0.025	+/-	0.004	<	0.016	
06-Jul-21	12-Jul-21	256	0.017	+/-	0.005	<	0.015	
12-Jul-21	19-Jul-21	294	0.024	+/-	0.004	<	0.014	
19-Jul-21	26-Jul-21	294	0.033	+/-	0.005	<	0.018	
26-Jul-21	02-Aug-21	293	0.042	+/-	0.005	<	0.010	
02-Aug-21	09-Aug-21	293	0.031	+/-	0.005	<	0.014	
09-Aug-21	16-Aug-21	307	0.024	+/-	0.004	<	0.012	
16-Aug-21	23-Aug-21	293	0.027	+/-	0.005	<	0.015	

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-Aug-21	30-Aug-21	292	0.030	+/-	0.005	<	0.022	
30-Aug-21	07-Sep-21	342	0.025	+/-	0.004	<	0.012	
07-Sep-21	13-Sep-21	258	0.038	+/-	0.005	<	0.019	
13-Sep-21	20-Sep-21	295	0.038	+/-	0.005	<	0.013	
20-Sep-21	28-Sep-21	354	0.027	+/-	0.004	<	0.014	
28-Sep-21	04-Oct-21	254	0.027	+/-	0.005	<	0.016	
04-Oct-21	11-Oct-21	302	0.041	+/-	0.005	<	0.016	
11-Oct-21	18-Oct-21	293	0.035	+/-	0.005	<	0.018	
18-Oct-21	25-Oct-21	301	0.028	+/-	0.005	<	0.011	
25-Oct-21	01-Nov-21	296	0.017	+/-	0.004	<	0.009	
01-Nov-21	08-Nov-21	292	0.038	+/-	0.005	<	0.013	
08-Nov-21	15-Nov-21	303	0.029	+/-	0.005	<	0.013	
15-Nov-21	22-Nov-21	299	0.024	+/-	0.005	<	0.015	
22-Nov-21	29-Nov-21	300	0.044	+/-	0.005	<	0.011	
29-Nov-21	06-Dec-21	300	0.041	+/-	0.005	<	0.016	
06-Dec-21	13-Dec-21	293	0.031	+/-	0.005	<	0.010	
13-Dec-21	20-Dec-21	303	0.037	+/-	0.005	<	0.025	
20-Dec-21	27-Dec-21	293	0.063	+/-	0.006	<	0.016	
20-Dec-21	27-Dec-21	293	0.060	+/-	0.006			Duplicate
27-Dec-21	03-Jan-22	310	0.053	+/-	0.005	<	0.015	

Quarterly Air Particulates - Gamma

Location: 002

29-Mar-21

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

28-Jun-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.119	+/-	0.015
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Sep-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.105	+/-	0.018
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

03-Jan-22

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

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 018

29-Mar-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.074	+/-	0.013
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Jun-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.119	+/-	0.013
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Sep-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.100	+/-	0.019
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

03-Jan-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.077	+/-	0.015
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.002
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 032

29-Mar-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.079	+/-	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

28-Jun-21

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

28-Sep-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.115	+/-	0.016
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

03-Jan-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.081	+/-	0.017
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 037

29-Mar-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.066	+/-	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

28-Jun-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.120	+/-	0.016
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Sep-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.081	+/-	0.017
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

03-Jan-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.068	+/-	0.015
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.002
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 049

29-Mar-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.079	+/-	0.017
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Jun-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.108	+/-	0.017
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Sep-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.105	+/-	0.018
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

03-Jan-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.075	+/-	0.015
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.002
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Quarterly Air Particulates - Gamma

Location: 053

29-Mar-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.065	+/-	0.015
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Jun-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.115	+/-	0.016
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.001
CO-60		<	0.001
ZN-65		<	0.001
ZR-NB-95		<	0.001
CS-134		<	0.001
CS-137		<	0.001

28-Sep-21

Nuclide	Concentration (pCi/m3)		
BE-7	0.098	+/-	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		<	0.002
CS-134		<	0.001
CS-137		<	0.001

03-Jan-22

Nuclide	Concentration (pCi/m3)		
BE-7	0.064	+/-	0.016
MN-54		<	0.001
CO-58		<	0.001
FE-59		<	0.003
CO-60		<	0.001
ZN-65		<	0.003
ZR-NB-95		<	0.002
CS-134		<	0.001
CS-137		<	0.001

***Duplicate Analysis**

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
11-Jan-21	SURFACE WATER	MN-54	<	4.3	
11-Jan-21	SURFACE WATER	CO-58	<	4.8	
11-Jan-21	SURFACE WATER	FE-59	<	5.7	
11-Jan-21	SURFACE WATER	CO-60	<	5.6	
11-Jan-21	SURFACE WATER	ZN-65	<	15.1	
11-Jan-21	SURFACE WATER	ZR-NB-95	<	8.2	
11-Jan-21	SURFACE WATER	I-131	<	7.3	
11-Jan-21	SURFACE WATER	CS-134	<	6.2	
11-Jan-21	SURFACE WATER	CS-137	<	6.4	
11-Jan-21	SURFACE WATER	BA-LA-140	<	3.8	
11-Jan-21	SURFACE WATER	H-3	<	165.0	
24-Feb-21	SURFACE WATER	MN-54	<	2.3	
24-Feb-21	SURFACE WATER	CO-58	<	1.6	
24-Feb-21	SURFACE WATER	FE-59	<	4.1	
24-Feb-21	SURFACE WATER	CO-60	<	2.1	
24-Feb-21	SURFACE WATER	ZN-65	<	7.0	
24-Feb-21	SURFACE WATER	ZR-NB-95	<	2.7	
24-Feb-21	SURFACE WATER	I-131	<	5.3	
24-Feb-21	SURFACE WATER	CS-134	<	3.4	
24-Feb-21	SURFACE WATER	CS-137	<	2.3	
24-Feb-21	SURFACE WATER	BA-LA-140	<	3.7	
24-Feb-21	SURFACE WATER	H-3	<	161.0	
09-Mar-21	SURFACE WATER	MN-54	<	1.8	
09-Mar-21	SURFACE WATER	CO-58	<	1.8	
09-Mar-21	SURFACE WATER	FE-59	<	5.2	
09-Mar-21	SURFACE WATER	CO-60	<	2.7	
09-Mar-21	SURFACE WATER	ZN-65	<	5.8	
09-Mar-21	SURFACE WATER	ZR-NB-95	<	3.8	
09-Mar-21	SURFACE WATER	I-131	<	4.6	
09-Mar-21	SURFACE WATER	CS-134	<	3.9	
09-Mar-21	SURFACE WATER	CS-137	<	3.4	
09-Mar-21	SURFACE WATER	BA-LA-140	<	5.5	
09-Mar-21	SURFACE WATER	H-3	<	158.0	
09-Mar-21	SURFACE WATER	FE-55	<	129.0	
13-Apr-21	SURFACE WATER	MN-54	<	4.8	
13-Apr-21	SURFACE WATER	CO-58	<	2.9	
13-Apr-21	SURFACE WATER	FE-59	<	6.7	
13-Apr-21	SURFACE WATER	CO-60	<	2.9	

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
13-Apr-21	SURFACE WATER	ZN-65	<	4.8	
13-Apr-21	SURFACE WATER	ZR-NB-95	<	2.7	
13-Apr-21	SURFACE WATER	I-131	<	3.9	
13-Apr-21	SURFACE WATER	CS-134	<	4.7	
13-Apr-21	SURFACE WATER	CS-137	<	4.6	
13-Apr-21	SURFACE WATER	BA-LA-140	<	2.9	
13-Apr-21	SURFACE WATER	H-3	<	160.0	
04-May-21	SURFACE WATER	MN-54	<	5.1	
04-May-21	SURFACE WATER	CO-58	<	4.9	
04-May-21	SURFACE WATER	FE-59	<	8.2	
04-May-21	SURFACE WATER	CO-60	<	3.3	
04-May-21	SURFACE WATER	ZN-65	<	7.0	
04-May-21	SURFACE WATER	ZR-NB-95	<	3.7	
04-May-21	SURFACE WATER	I-131	<	6.8	
04-May-21	SURFACE WATER	CS-134	<	6.0	
04-May-21	SURFACE WATER	CS-137	<	5.1	
04-May-21	SURFACE WATER	BA-LA-140	<	4.5	
04-May-21	SURFACE WATER	H-3	<	158.0	
04-May-21	SURFACE WATER	FE-55	<	160.0	
22-Jun-21	SURFACE WATER	MN-54	<	3.1	
22-Jun-21	SURFACE WATER	CO-58	<	2.8	
22-Jun-21	SURFACE WATER	FE-59	<	7.1	
22-Jun-21	SURFACE WATER	CO-60	<	1.8	
22-Jun-21	SURFACE WATER	ZN-65	<	7.6	
22-Jun-21	SURFACE WATER	ZR-NB-95	<	4.1	
22-Jun-21	SURFACE WATER	I-131	<	9.2	
22-Jun-21	SURFACE WATER	CS-134	<	4.5	
22-Jun-21	SURFACE WATER	CS-137	<	3.8	
22-Jun-21	SURFACE WATER	BA-LA-140	<	4.5	
22-Jun-21	SURFACE WATER	H-3	<	158.0	
14-Jul-21	SURFACE WATER	MN-54	<	2.2	
14-Jul-21	SURFACE WATER	CO-58	<	1.3	
14-Jul-21	SURFACE WATER	FE-59	<	6.3	
14-Jul-21	SURFACE WATER	CO-60	<	1.3	
14-Jul-21	SURFACE WATER	ZN-65	<	5.6	
14-Jul-21	SURFACE WATER	ZR-NB-95	<	3.1	
14-Jul-21	SURFACE WATER	I-131	<	4.0	
14-Jul-21	SURFACE WATER	CS-134	<	2.6	

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
14-Jul-21	SURFACE WATER	CS-137	<	3.1	
14-Jul-21	SURFACE WATER	BA-LA-140	<	2.7	
14-Jul-21	SURFACE WATER	H-3	<	156.0	
23-Aug-21	SURFACE WATER	MN-54	<	4.5	
23-Aug-21	SURFACE WATER	CO-58	<	3.8	
23-Aug-21	SURFACE WATER	FE-59	<	8.4	
23-Aug-21	SURFACE WATER	CO-60	<	1.8	
23-Aug-21	SURFACE WATER	ZN-65	<	4.0	
23-Aug-21	SURFACE WATER	ZR-NB-95	<	2.7	
23-Aug-21	SURFACE WATER	I-131	<	5.3	
23-Aug-21	SURFACE WATER	CS-134	<	4.4	
23-Aug-21	SURFACE WATER	CS-137	<	4.1	
23-Aug-21	SURFACE WATER	BA-LA-140	<	1.6	
23-Aug-21	SURFACE WATER	H-3	<	157.0	
23-Aug-21	SURFACE WATER	FE-55	<	142.0	
28-Sep-21	SURFACE WATER	MN-54	<	2.7	
28-Sep-21	SURFACE WATER	CO-58	<	3.1	
28-Sep-21	SURFACE WATER	FE-59	<	5.8	
28-Sep-21	SURFACE WATER	CO-60	<	2.2	
28-Sep-21	SURFACE WATER	ZN-65	<	3.4	
28-Sep-21	SURFACE WATER	ZR-NB-95	<	3.2	
28-Sep-21	SURFACE WATER	I-131	<	9.7	
28-Sep-21	SURFACE WATER	CS-134	<	4.0	
28-Sep-21	SURFACE WATER	CS-137	<	2.4	
28-Sep-21	SURFACE WATER	BA-LA-140	<	2.9	
28-Sep-21	SURFACE WATER	H-3	<	161.0	
12-Oct-21	SURFACE WATER	MN-54	<	1.9	Duplicate
12-Oct-21	SURFACE WATER	MN-54	<	2.3	
12-Oct-21	SURFACE WATER	CO-58	<	2.8	
12-Oct-21	SURFACE WATER	CO-58	<	1.7	Duplicate
12-Oct-21	SURFACE WATER	FE-59	<	4.4	
12-Oct-21	SURFACE WATER	FE-59	<	4.0	Duplicate
12-Oct-21	SURFACE WATER	CO-60	<	1.8	Duplicate
12-Oct-21	SURFACE WATER	CO-60	<	3.5	
12-Oct-21	SURFACE WATER	ZN-65	<	4.8	
12-Oct-21	SURFACE WATER	ZN-65	<	4.6	Duplicate
12-Oct-21	SURFACE WATER	ZR-NB-95	<	4.0	
12-Oct-21	SURFACE WATER	ZR-NB-95	<	3.2	Duplicate

Exposure Pathway - Waterborne
Surface Water
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
12-Oct-21	SURFACE WATER	I-131	<	5.4	Duplicate
12-Oct-21	SURFACE WATER	I-131	<	5.1	
12-Oct-21	SURFACE WATER	CS-134	<	2.8	
12-Oct-21	SURFACE WATER	CS-134	<	3.8	Duplicate
12-Oct-21	SURFACE WATER	CS-137	<	2.7	Duplicate
12-Oct-21	SURFACE WATER	CS-137	<	2.5	
12-Oct-21	SURFACE WATER	BA-LA-140	<	4.1	
12-Oct-21	SURFACE WATER	BA-LA-140	<	3.3	Duplicate
12-Oct-21	SURFACE WATER	H-3	<	159.0	Duplicate
12-Oct-21	SURFACE WATER	H-3	<	159.0	
22-Nov-21	SURFACE WATER	MN-54	<	1.3	
22-Nov-21	SURFACE WATER	CO-58	<	0.9	
22-Nov-21	SURFACE WATER	FE-59	<	2.4	
22-Nov-21	SURFACE WATER	CO-60	<	0.9	
22-Nov-21	SURFACE WATER	ZN-65	<	2.1	
22-Nov-21	SURFACE WATER	ZR-NB-95	<	2.4	
22-Nov-21	SURFACE WATER	I-131	<	14.9	
22-Nov-21	SURFACE WATER	CS-134	<	1.1	
22-Nov-21	SURFACE WATER	CS-137	<	1.2	
22-Nov-21	SURFACE WATER	BA-LA-140	<	6.0	
22-Nov-21	SURFACE WATER	H-3	<	161.0	
22-Nov-21	SURFACE WATER	FE-55	<	57.0	
08-Dec-21	SURFACE WATER	MN-54	<	2.5	
08-Dec-21	SURFACE WATER	CO-58	<	3.8	
08-Dec-21	SURFACE WATER	FE-59	<	6.9	
08-Dec-21	SURFACE WATER	CO-60	<	2.8	
08-Dec-21	SURFACE WATER	ZN-65	<	7.1	
08-Dec-21	SURFACE WATER	ZR-NB-95	<	2.7	
08-Dec-21	SURFACE WATER	I-131	<	3.7	
08-Dec-21	SURFACE WATER	CS-134	<	3.7	
08-Dec-21	SURFACE WATER	CS-137	<	3.5	
08-Dec-21	SURFACE WATER	BA-LA-140	<	4.3	
08-Dec-21	SURFACE WATER	H-3	<	162.0	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
11-Jan-21	SURFACE WATER	MN-54	<	3.4	
11-Jan-21	SURFACE WATER	CO-58	<	2.2	
11-Jan-21	SURFACE WATER	FE-59	<	3.5	
11-Jan-21	SURFACE WATER	CO-60	<	2.4	
11-Jan-21	SURFACE WATER	ZN-65	<	6.6	
11-Jan-21	SURFACE WATER	ZR-NB-95	<	2.2	
11-Jan-21	SURFACE WATER	I-131	<	5.0	
11-Jan-21	SURFACE WATER	CS-134	<	3.4	
11-Jan-21	SURFACE WATER	CS-137	<	3.5	
11-Jan-21	SURFACE WATER	BA-LA-140	<	3.9	
11-Jan-21	SURFACE WATER	H-3	13,744 +/-	360.0	
09-Feb-21	SURFACE WATER	H-3	15,086 +/-	376.0	
09-Feb-21	SURFACE WATER	H-3	15,104 +/-	377.0	Duplicate
24-Feb-21	SURFACE WATER	MN-54	<	1.8	
24-Feb-21	SURFACE WATER	CO-58	<	2.2	
24-Feb-21	SURFACE WATER	FE-59	<	4.4	
24-Feb-21	SURFACE WATER	CO-60	<	2.4	
24-Feb-21	SURFACE WATER	ZN-65	<	7.4	
24-Feb-21	SURFACE WATER	ZR-NB-95	<	1.4	
24-Feb-21	SURFACE WATER	I-131	<	4.9	
24-Feb-21	SURFACE WATER	CS-134	<	4.1	
24-Feb-21	SURFACE WATER	CS-137	<	3.0	
24-Feb-21	SURFACE WATER	BA-LA-140	<	5.9	
24-Feb-21	SURFACE WATER	H-3	14,486 +/-	368.0	
09-Mar-21	SURFACE WATER	MN-54	<	4.3	
09-Mar-21	SURFACE WATER	CO-58	<	2.8	
09-Mar-21	SURFACE WATER	FE-59	<	6.1	
09-Mar-21	SURFACE WATER	CO-60	<	3.6	
09-Mar-21	SURFACE WATER	ZN-65	<	8.7	
09-Mar-21	SURFACE WATER	ZR-NB-95	<	3.2	
09-Mar-21	SURFACE WATER	I-131	<	6.5	
09-Mar-21	SURFACE WATER	CS-134	<	4.6	
09-Mar-21	SURFACE WATER	CS-137	<	5.0	
09-Mar-21	SURFACE WATER	BA-LA-140	<	2.8	
09-Mar-21	SURFACE WATER	H-3	15,543 +/-	381.0	
09-Mar-21	SURFACE WATER	FE-55	<	132.0	
13-Apr-21	SURFACE WATER	MN-54	<	4.2	
13-Apr-21	SURFACE WATER	CO-58	<	3.5	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
13-Apr-21	SURFACE WATER	FE-59	<	6.5	
13-Apr-21	SURFACE WATER	CO-60	<	3.4	
13-Apr-21	SURFACE WATER	ZN-65	<	2.1	
13-Apr-21	SURFACE WATER	ZR-NB-95	<	4.2	
13-Apr-21	SURFACE WATER	I-131	<	6.7	
13-Apr-21	SURFACE WATER	CS-134	<	5.2	
13-Apr-21	SURFACE WATER	CS-137	<	4.1	
13-Apr-21	SURFACE WATER	BA-LA-140	<	1.9	
13-Apr-21	SURFACE WATER	H-3	14,806 +/-	373.0	
04-May-21	SURFACE WATER	MN-54	<	3.6	
04-May-21	SURFACE WATER	CO-58	<	3.8	
04-May-21	SURFACE WATER	FE-59	<	10.5	
04-May-21	SURFACE WATER	CO-60	<	1.3	
04-May-21	SURFACE WATER	ZN-65	<	5.3	
04-May-21	SURFACE WATER	ZR-NB-95	<	3.3	
04-May-21	SURFACE WATER	I-131	<	6.1	
04-May-21	SURFACE WATER	CS-134	<	4.7	
04-May-21	SURFACE WATER	CS-137	<	6.0	
04-May-21	SURFACE WATER	BA-LA-140	<	2.3	
04-May-21	SURFACE WATER	H-3	14,817 +/-	374.0	
04-May-21	SURFACE WATER	FE-55	<	164.0	
22-Jun-21	SURFACE WATER	MN-54	<	2.6	
22-Jun-21	SURFACE WATER	MN-54	<	2.5	Duplicate
22-Jun-21	SURFACE WATER	CO-58	<	4.0	
22-Jun-21	SURFACE WATER	CO-58	<	2.1	Duplicate
22-Jun-21	SURFACE WATER	FE-59	<	5.0	
22-Jun-21	SURFACE WATER	FE-59	<	5.0	Duplicate
22-Jun-21	SURFACE WATER	CO-60	<	1.5	
22-Jun-21	SURFACE WATER	CO-60	<	1.8	Duplicate
22-Jun-21	SURFACE WATER	ZN-65	<	5.0	
22-Jun-21	SURFACE WATER	ZN-65	<	4.2	Duplicate
22-Jun-21	SURFACE WATER	ZR-NB-95	<	1.9	
22-Jun-21	SURFACE WATER	ZR-NB-95	<	3.1	Duplicate
22-Jun-21	SURFACE WATER	I-131	<	6.3	Duplicate
22-Jun-21	SURFACE WATER	I-131	<	5.2	
22-Jun-21	SURFACE WATER	CS-134	<	2.7	Duplicate
22-Jun-21	SURFACE WATER	CS-134	<	4.1	
22-Jun-21	SURFACE WATER	CS-137	<	2.7	Duplicate

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
22-Jun-21	SURFACE WATER	CS-137	<	4.3	
22-Jun-21	SURFACE WATER	BA-LA-140	<	3.0	Duplicate
22-Jun-21	SURFACE WATER	BA-LA-140	<	3.2	
22-Jun-21	SURFACE WATER	H-3	13,908 +/-	364.0	
22-Jun-21	SURFACE WATER	H-3	13,961 +/-	364.0	Duplicate
14-Jul-21	SURFACE WATER	MN-54	<	3.4	
14-Jul-21	SURFACE WATER	CO-58	<	3.0	
14-Jul-21	SURFACE WATER	FE-59	<	8.2	
14-Jul-21	SURFACE WATER	CO-60	<	3.6	
14-Jul-21	SURFACE WATER	ZN-65	<	3.8	
14-Jul-21	SURFACE WATER	ZR-NB-95	<	3.2	
14-Jul-21	SURFACE WATER	I-131	<	6.4	
14-Jul-21	SURFACE WATER	CS-134	<	4.3	
14-Jul-21	SURFACE WATER	CS-137	<	4.1	
14-Jul-21	SURFACE WATER	BA-LA-140	<	1.5	
14-Jul-21	SURFACE WATER	H-3	13,573 +/-	362.0	
23-Aug-21	SURFACE WATER	MN-54	<	1.8	
23-Aug-21	SURFACE WATER	CO-58	<	2.6	
23-Aug-21	SURFACE WATER	FE-59	<	4.5	
23-Aug-21	SURFACE WATER	CO-60	<	3.0	
23-Aug-21	SURFACE WATER	ZN-65	<	2.4	
23-Aug-21	SURFACE WATER	ZR-NB-95	<	2.3	
23-Aug-21	SURFACE WATER	I-131	<	4.0	
23-Aug-21	SURFACE WATER	CS-134	<	2.8	
23-Aug-21	SURFACE WATER	CS-137	<	3.0	
23-Aug-21	SURFACE WATER	BA-LA-140	<	3.1	
23-Aug-21	SURFACE WATER	H-3	12,614 +/-	348.0	
23-Aug-21	SURFACE WATER	FE-55	<	153.0	
28-Sep-21	SURFACE WATER	MN-54	<	2.1	
28-Sep-21	SURFACE WATER	CO-58	<	1.6	
28-Sep-21	SURFACE WATER	FE-59	<	5.7	
28-Sep-21	SURFACE WATER	CO-60	<	2.4	
28-Sep-21	SURFACE WATER	ZN-65	<	4.0	
28-Sep-21	SURFACE WATER	ZR-NB-95	<	3.0	
28-Sep-21	SURFACE WATER	I-131	<	5.5	
28-Sep-21	SURFACE WATER	CS-134	<	2.4	
28-Sep-21	SURFACE WATER	CS-137	<	2.5	
28-Sep-21	SURFACE WATER	BA-LA-140	<	4.3	

Exposure Pathway - Waterborne
Surface Water
Location: SP

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
28-Sep-21	SURFACE WATER	H-3	12,131	+/- 341.0	
12-Oct-21	SURFACE WATER	MN-54	<	3.2	
12-Oct-21	SURFACE WATER	CO-58	<	2.6	
12-Oct-21	SURFACE WATER	FE-59	<	6.5	
12-Oct-21	SURFACE WATER	CO-60	<	2.9	
12-Oct-21	SURFACE WATER	ZN-65	<	4.2	
12-Oct-21	SURFACE WATER	ZR-NB-95	<	2.8	
12-Oct-21	SURFACE WATER	I-131	<	5.1	
12-Oct-21	SURFACE WATER	CS-134	<	2.8	
12-Oct-21	SURFACE WATER	CS-137	<	1.9	
12-Oct-21	SURFACE WATER	BA-LA-140	<	3.6	
12-Oct-21	SURFACE WATER	H-3	11,824	+/- 338.0	
22-Nov-21	SURFACE WATER	MN-54	<	0.9	
22-Nov-21	SURFACE WATER	CO-58	<	1.1	
22-Nov-21	SURFACE WATER	FE-59	<	3.6	
22-Nov-21	SURFACE WATER	CO-60	<	1.4	
22-Nov-21	SURFACE WATER	ZN-65	<	2.3	
22-Nov-21	SURFACE WATER	ZR-NB-95	<	2.5	
22-Nov-21	SURFACE WATER	I-131	<	14.7	
22-Nov-21	SURFACE WATER	CS-134	<	1.3	
22-Nov-21	SURFACE WATER	CS-137	<	1.6	
22-Nov-21	SURFACE WATER	BA-LA-140	<	4.2	
22-Nov-21	SURFACE WATER	H-3	12,224	+/- 344.0	
22-Nov-21	SURFACE WATER	FE-55	<	57.0	
08-Dec-21	SURFACE WATER	MN-54	<	6.2	
08-Dec-21	SURFACE WATER	CO-58	<	5.8	
08-Dec-21	SURFACE WATER	FE-59	<	15.0	
08-Dec-21	SURFACE WATER	CO-60	<	5.3	
08-Dec-21	SURFACE WATER	ZN-65	<	8.5	
08-Dec-21	SURFACE WATER	ZR-NB-95	<	4.8	
08-Dec-21	SURFACE WATER	I-131	<	9.7	
08-Dec-21	SURFACE WATER	CS-134	<	8.4	
08-Dec-21	SURFACE WATER	CS-137	<	3.2	
08-Dec-21	SURFACE WATER	BA-LA-140	<	6.7	
08-Dec-21	SURFACE WATER	H-3	11,817	+/- 338.0	

Exposure Pathway - Waterborne
Ground Water
Location: B-12

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
09-Mar-21	OFFSITE GROUNDWATER	MN-54	<	3.0	
09-Mar-21	OFFSITE GROUNDWATER	CO-58	<	2.1	
09-Mar-21	OFFSITE GROUNDWATER	FE-59	<	2.3	
09-Mar-21	OFFSITE GROUNDWATER	CO-60	<	2.2	
09-Mar-21	OFFSITE GROUNDWATER	ZN-65	<	5.5	
09-Mar-21	OFFSITE GROUNDWATER	ZR-NB-95	<	1.5	
09-Mar-21	OFFSITE GROUNDWATER	I-131	<	0.314	
09-Mar-21	OFFSITE GROUNDWATER	CS-134	<	2.6	
09-Mar-21	OFFSITE GROUNDWATER	CS-137	<	2.8	
09-Mar-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.5	
09-Mar-21	OFFSITE GROUNDWATER	H-3	<	158.0	
26-May-21	OFFSITE GROUNDWATER	MN-54	<	4.0	
26-May-21	OFFSITE GROUNDWATER	CO-58	<	4.2	
26-May-21	OFFSITE GROUNDWATER	FE-59	<	9.0	
26-May-21	OFFSITE GROUNDWATER	CO-60	<	3.1	
26-May-21	OFFSITE GROUNDWATER	ZN-65	<	4.5	
26-May-21	OFFSITE GROUNDWATER	ZR-NB-95	<	3.1	
26-May-21	OFFSITE GROUNDWATER	I-131	<	0.32	
26-May-21	OFFSITE GROUNDWATER	CS-134	<	4.4	
26-May-21	OFFSITE GROUNDWATER	CS-137	<	4.3	
26-May-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.0	
26-May-21	OFFSITE GROUNDWATER	H-3	<	165.0	
11-Aug-21	OFFSITE GROUNDWATER	MN-54	<	3.8	
11-Aug-21	OFFSITE GROUNDWATER	CO-58	<	3.7	
11-Aug-21	OFFSITE GROUNDWATER	FE-59	<	6.8	
11-Aug-21	OFFSITE GROUNDWATER	CO-60	<	3.0	
11-Aug-21	OFFSITE GROUNDWATER	ZN-65	<	3.4	
11-Aug-21	OFFSITE GROUNDWATER	ZR-NB-95	<	3.8	
11-Aug-21	OFFSITE GROUNDWATER	I-131	<	0.301	
11-Aug-21	OFFSITE GROUNDWATER	CS-134	<	4.0	
11-Aug-21	OFFSITE GROUNDWATER	CS-137	<	3.3	
11-Aug-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.7	
11-Aug-21	OFFSITE GROUNDWATER	H-3	<	157.0	
26-Oct-21	OFFSITE GROUNDWATER	MN-54	<	3.0	
26-Oct-21	OFFSITE GROUNDWATER	CO-58	<	3.3	
26-Oct-21	OFFSITE GROUNDWATER	FE-59	<	5.0	
26-Oct-21	OFFSITE GROUNDWATER	CO-60	<	3.2	
26-Oct-21	OFFSITE GROUNDWATER	ZN-65	<	5.8	

Exposure Pathway - Waterborne
Ground Water
Location: B-12

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
26-Oct-21	OFFSITE GROUNDWATER	ZR-NB-95	<	5.1	
26-Oct-21	OFFSITE GROUNDWATER	I-131	<	0.291	
26-Oct-21	OFFSITE GROUNDWATER	CS-134	<	4.9	
26-Oct-21	OFFSITE GROUNDWATER	CS-137	<	3.2	
26-Oct-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.9	
26-Oct-21	OFFSITE GROUNDWATER	H-3	<	163.0	

Exposure Pathway - Waterborne
Ground Water
Location: C-10

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
09-Mar-21	OFFSITE GROUNDWATER	MN-54	<	3.7	
09-Mar-21	OFFSITE GROUNDWATER	CO-58	<	2.4	
09-Mar-21	OFFSITE GROUNDWATER	FE-59	<	5.8	
09-Mar-21	OFFSITE GROUNDWATER	CO-60	<	4.5	
09-Mar-21	OFFSITE GROUNDWATER	ZN-65	<	4.3	
09-Mar-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.6	
09-Mar-21	OFFSITE GROUNDWATER	I-131	<	0.295	
09-Mar-21	OFFSITE GROUNDWATER	CS-134	<	4.4	
09-Mar-21	OFFSITE GROUNDWATER	CS-137	<	2.3	
09-Mar-21	OFFSITE GROUNDWATER	BA-LA-140	<	5.6	
09-Mar-21	OFFSITE GROUNDWATER	H-3	<	158.0	
26-May-21	OFFSITE GROUNDWATER	MN-54	<	4.6	
26-May-21	OFFSITE GROUNDWATER	CO-58	<	2.9	
26-May-21	OFFSITE GROUNDWATER	FE-59	<	7.9	
26-May-21	OFFSITE GROUNDWATER	CO-60	<	1.9	
26-May-21	OFFSITE GROUNDWATER	ZN-65	<	6.6	
26-May-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.3	
26-May-21	OFFSITE GROUNDWATER	I-131	<	0.446	
26-May-21	OFFSITE GROUNDWATER	CS-134	<	5.2	
26-May-21	OFFSITE GROUNDWATER	CS-137	<	4.1	
26-May-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.1	
26-May-21	OFFSITE GROUNDWATER	H-3	<	165.0	
11-Aug-21	OFFSITE GROUNDWATER	MN-54	<	1.8	
11-Aug-21	OFFSITE GROUNDWATER	CO-58	<	2.5	
11-Aug-21	OFFSITE GROUNDWATER	FE-59	<	2.7	
11-Aug-21	OFFSITE GROUNDWATER	CO-60	<	2.5	
11-Aug-21	OFFSITE GROUNDWATER	ZN-65	<	4.4	
11-Aug-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.7	
11-Aug-21	OFFSITE GROUNDWATER	I-131	<	0.372	
11-Aug-21	OFFSITE GROUNDWATER	CS-134	<	3.4	
11-Aug-21	OFFSITE GROUNDWATER	CS-137	<	3.2	
11-Aug-21	OFFSITE GROUNDWATER	BA-LA-140	<	4.1	
11-Aug-21	OFFSITE GROUNDWATER	H-3	<	157.0	
26-Oct-21	OFFSITE GROUNDWATER	MN-54	<	3.6	
26-Oct-21	OFFSITE GROUNDWATER	CO-58	<	1.9	
26-Oct-21	OFFSITE GROUNDWATER	FE-59	<	5.2	
26-Oct-21	OFFSITE GROUNDWATER	CO-60	<	3.2	
26-Oct-21	OFFSITE GROUNDWATER	ZN-65	<	2.6	

Exposure Pathway - Waterborne
Ground Water
Location: C-10

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
26-Oct-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.2	
26-Oct-21	OFFSITE GROUNDWATER	I-131	<	0.406	
26-Oct-21	OFFSITE GROUNDWATER	CS-134	<	3.3	
26-Oct-21	OFFSITE GROUNDWATER	CS-137	<	3.8	
26-Oct-21	OFFSITE GROUNDWATER	BA-LA-140	<	2.6	
26-Oct-21	OFFSITE GROUNDWATER	H-3	<	163.0	

Exposure Pathway - Waterborne
Ground Water
Location: C-49

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
09-Mar-21	OFFSITE GROUNDWATER	MN-54	<	4.5	
09-Mar-21	OFFSITE GROUNDWATER	CO-58	<	3.1	
09-Mar-21	OFFSITE GROUNDWATER	FE-59	<	6.6	
09-Mar-21	OFFSITE GROUNDWATER	CO-60	<	3.3	
09-Mar-21	OFFSITE GROUNDWATER	ZN-65	<	7.7	
09-Mar-21	OFFSITE GROUNDWATER	ZR-NB-95	<	4.5	
09-Mar-21	OFFSITE GROUNDWATER	I-131	<	0.375	
09-Mar-21	OFFSITE GROUNDWATER	CS-134	<	4.4	
09-Mar-21	OFFSITE GROUNDWATER	CS-137	<	5.2	
09-Mar-21	OFFSITE GROUNDWATER	BA-LA-140	<	1.6	
09-Mar-21	OFFSITE GROUNDWATER	H-3	<	158.0	
26-May-21	OFFSITE GROUNDWATER	MN-54	<	4.3	
26-May-21	OFFSITE GROUNDWATER	CO-58	<	2.6	
26-May-21	OFFSITE GROUNDWATER	FE-59	<	3.2	
26-May-21	OFFSITE GROUNDWATER	CO-60	<	2.2	
26-May-21	OFFSITE GROUNDWATER	ZN-65	<	3.3	
26-May-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.4	
26-May-21	OFFSITE GROUNDWATER	I-131	<	0.421	
26-May-21	OFFSITE GROUNDWATER	CS-134	<	3.7	
26-May-21	OFFSITE GROUNDWATER	CS-137	<	2.9	
26-May-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.5	
26-May-21	OFFSITE GROUNDWATER	H-3	<	165.0	
11-Aug-21	OFFSITE GROUNDWATER	MN-54	<	2.1	
11-Aug-21	OFFSITE GROUNDWATER	CO-58	<	2.9	
11-Aug-21	OFFSITE GROUNDWATER	FE-59	<	5.3	
11-Aug-21	OFFSITE GROUNDWATER	CO-60	<	2.2	
11-Aug-21	OFFSITE GROUNDWATER	ZN-65	<	2.6	
11-Aug-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.2	
11-Aug-21	OFFSITE GROUNDWATER	I-131	<	0.284	
11-Aug-21	OFFSITE GROUNDWATER	CS-134	<	2.8	
11-Aug-21	OFFSITE GROUNDWATER	CS-137	<	2.4	
11-Aug-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.4	
11-Aug-21	OFFSITE GROUNDWATER	H-3	<	157.0	
26-Oct-21	OFFSITE GROUNDWATER	MN-54	<	5.1	
26-Oct-21	OFFSITE GROUNDWATER	CO-58	<	4.4	
26-Oct-21	OFFSITE GROUNDWATER	FE-59	<	8.4	
26-Oct-21	OFFSITE GROUNDWATER	CO-60	<	4.5	
26-Oct-21	OFFSITE GROUNDWATER	ZN-65	<	3.7	

Exposure Pathway - Waterborne
Ground Water
Location: C-49

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
26-Oct-21	OFFSITE GROUNDWATER	ZR-NB-95	<	3.4	
26-Oct-21	OFFSITE GROUNDWATER	I-131	<	0.345	
26-Oct-21	OFFSITE GROUNDWATER	CS-134	<	4.9	
26-Oct-21	OFFSITE GROUNDWATER	CS-137	<	5.1	
26-Oct-21	OFFSITE GROUNDWATER	BA-LA-140	<	1.7	
26-Oct-21	OFFSITE GROUNDWATER	H-3	<	163.0	

Exposure Pathway - Waterborne
Ground Water
Location: F-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
09-Mar-21	OFFSITE GROUNDWATER	MN-54	<	3.1	
09-Mar-21	OFFSITE GROUNDWATER	CO-58	<	2.4	
09-Mar-21	OFFSITE GROUNDWATER	FE-59	<	4.8	
09-Mar-21	OFFSITE GROUNDWATER	CO-60	<	2.4	
09-Mar-21	OFFSITE GROUNDWATER	ZN-65	<	5.8	
09-Mar-21	OFFSITE GROUNDWATER	ZR-NB-95	<	4.0	
09-Mar-21	OFFSITE GROUNDWATER	I-131	<	0.342	
09-Mar-21	OFFSITE GROUNDWATER	CS-134	<	4.2	
09-Mar-21	OFFSITE GROUNDWATER	CS-137	<	2.6	
09-Mar-21	OFFSITE GROUNDWATER	BA-LA-140	<	2.7	
09-Mar-21	OFFSITE GROUNDWATER	H-3	<	158.0	
26-May-21	OFFSITE GROUNDWATER	MN-54	<	4.1	
26-May-21	OFFSITE GROUNDWATER	CO-58	<	2.8	
26-May-21	OFFSITE GROUNDWATER	FE-59	<	6.0	
26-May-21	OFFSITE GROUNDWATER	CO-60	<	2.0	
26-May-21	OFFSITE GROUNDWATER	ZN-65	<	5.4	
26-May-21	OFFSITE GROUNDWATER	ZR-NB-95	<	4.1	
26-May-21	OFFSITE GROUNDWATER	I-131	<	0.313	
26-May-21	OFFSITE GROUNDWATER	CS-134	<	4.4	
26-May-21	OFFSITE GROUNDWATER	CS-137	<	3.3	
26-May-21	OFFSITE GROUNDWATER	BA-LA-140	<	4.6	
26-May-21	OFFSITE GROUNDWATER	H-3	<	165.0	
11-Aug-21	OFFSITE GROUNDWATER	MN-54	<	3.9	
11-Aug-21	OFFSITE GROUNDWATER	CO-58	<	3.7	
11-Aug-21	OFFSITE GROUNDWATER	FE-59	<	7.0	
11-Aug-21	OFFSITE GROUNDWATER	CO-60	<	2.1	
11-Aug-21	OFFSITE GROUNDWATER	ZN-65	<	4.7	
11-Aug-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.9	
11-Aug-21	OFFSITE GROUNDWATER	I-131	<	0.357	
11-Aug-21	OFFSITE GROUNDWATER	CS-134	<	5.0	
11-Aug-21	OFFSITE GROUNDWATER	CS-137	<	5.4	
11-Aug-21	OFFSITE GROUNDWATER	BA-LA-140	<	2.8	
11-Aug-21	OFFSITE GROUNDWATER	H-3	<	157.0	
26-Oct-21	OFFSITE GROUNDWATER	MN-54	<	2.5	
26-Oct-21	OFFSITE GROUNDWATER	CO-58	<	3.1	
26-Oct-21	OFFSITE GROUNDWATER	FE-59	<	5.3	
26-Oct-21	OFFSITE GROUNDWATER	CO-60	<	2.7	
26-Oct-21	OFFSITE GROUNDWATER	ZN-65	<	2.6	

Exposure Pathway - Waterborne
Ground Water
Location: F-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
26-Oct-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.0	
26-Oct-21	OFFSITE GROUNDWATER	I-131	<	0.469	
26-Oct-21	OFFSITE GROUNDWATER	CS-134	<	3.4	
26-Oct-21	OFFSITE GROUNDWATER	CS-137	<	4.0	
26-Oct-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.4	
26-Oct-21	OFFSITE GROUNDWATER	H-3	<	163.0	

Exposure Pathway - Waterborne
Ground Water
Location: G-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
09-Mar-21	OFFSITE GROUNDWATER	MN-54	<	2.3	
09-Mar-21	OFFSITE GROUNDWATER	CO-58	<	3.1	
09-Mar-21	OFFSITE GROUNDWATER	FE-59	<	7.6	
09-Mar-21	OFFSITE GROUNDWATER	CO-60	<	2.4	
09-Mar-21	OFFSITE GROUNDWATER	ZN-65	<	7.4	
09-Mar-21	OFFSITE GROUNDWATER	ZR-NB-95	<	5.9	
09-Mar-21	OFFSITE GROUNDWATER	I-131	<	0.273	
09-Mar-21	OFFSITE GROUNDWATER	CS-134	<	4.2	
09-Mar-21	OFFSITE GROUNDWATER	CS-137	<	2.9	
09-Mar-21	OFFSITE GROUNDWATER	BA-LA-140	<	4.9	
09-Mar-21	OFFSITE GROUNDWATER	H-3	<	158.0	
26-May-21	OFFSITE GROUNDWATER	MN-54	<	2.2	
26-May-21	OFFSITE GROUNDWATER	CO-58	<	1.7	
26-May-21	OFFSITE GROUNDWATER	FE-59	<	2.0	
26-May-21	OFFSITE GROUNDWATER	CO-60	<	1.9	
26-May-21	OFFSITE GROUNDWATER	ZN-65	<	5.1	
26-May-21	OFFSITE GROUNDWATER	ZR-NB-95	<	3.6	
26-May-21	OFFSITE GROUNDWATER	I-131	<	0.286	
26-May-21	OFFSITE GROUNDWATER	CS-134	<	3.2	
26-May-21	OFFSITE GROUNDWATER	CS-137	<	3.5	
26-May-21	OFFSITE GROUNDWATER	BA-LA-140	<	1.4	
26-May-21	OFFSITE GROUNDWATER	H-3	<	165.0	
11-Aug-21	OFFSITE GROUNDWATER	MN-54	<	4.8	
11-Aug-21	OFFSITE GROUNDWATER	CO-58	<	2.6	
11-Aug-21	OFFSITE GROUNDWATER	FE-59	<	8.0	
11-Aug-21	OFFSITE GROUNDWATER	CO-60	<	1.1	
11-Aug-21	OFFSITE GROUNDWATER	ZN-65	<	10.4	
11-Aug-21	OFFSITE GROUNDWATER	ZR-NB-95	<	4.0	
11-Aug-21	OFFSITE GROUNDWATER	I-131	<	0.253	
11-Aug-21	OFFSITE GROUNDWATER	CS-134	<	5.2	
11-Aug-21	OFFSITE GROUNDWATER	CS-137	<	5.0	
11-Aug-21	OFFSITE GROUNDWATER	BA-LA-140	<	1.6	
11-Aug-21	OFFSITE GROUNDWATER	H-3	<	157.0	
26-Oct-21	OFFSITE GROUNDWATER	MN-54	<	4.4	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	MN-54	<	3.2	
26-Oct-21	OFFSITE GROUNDWATER	CO-58	<	2.6	
26-Oct-21	OFFSITE GROUNDWATER	CO-58	<	4.8	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	FE-59	<	6.8	Duplicate

Exposure Pathway - Waterborne
Ground Water
Location: G-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
26-Oct-21	OFFSITE GROUNDWATER	FE-59	<	4.1	
26-Oct-21	OFFSITE GROUNDWATER	CO-60	<	3.1	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	CO-60	<	2.2	
26-Oct-21	OFFSITE GROUNDWATER	ZN-65	<	5.0	
26-Oct-21	OFFSITE GROUNDWATER	ZN-65	<	9.8	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	ZR-NB-95	<	4.9	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	ZR-NB-95	<	3.9	
26-Oct-21	OFFSITE GROUNDWATER	I-131	<	0.49	
26-Oct-21	OFFSITE GROUNDWATER	I-131	<	0.413	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	CS-134	<	5.4	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	CS-134	<	3.0	
26-Oct-21	OFFSITE GROUNDWATER	CS-137	<	4.9	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	CS-137	<	2.7	
26-Oct-21	OFFSITE GROUNDWATER	BA-LA-140	<	4.0	
26-Oct-21	OFFSITE GROUNDWATER	BA-LA-140	<	2.7	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	H-3	<	163.0	Duplicate
26-Oct-21	OFFSITE GROUNDWATER	H-3	<	163.0	

Exposure Pathway - Waterborne
Ground Water
Location: J-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
09-Mar-21	OFFSITE GROUNDWATER	MN-54	<	1.7	
09-Mar-21	OFFSITE GROUNDWATER	CO-58	<	2.4	
09-Mar-21	OFFSITE GROUNDWATER	FE-59	<	4.6	
09-Mar-21	OFFSITE GROUNDWATER	CO-60	<	2.3	
09-Mar-21	OFFSITE GROUNDWATER	ZN-65	<	5.7	
09-Mar-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.8	
09-Mar-21	OFFSITE GROUNDWATER	I-131	<	0.335	
09-Mar-21	OFFSITE GROUNDWATER	CS-134	<	3.7	
09-Mar-21	OFFSITE GROUNDWATER	CS-137	<	3.6	
09-Mar-21	OFFSITE GROUNDWATER	BA-LA-140	<	2.6	
09-Mar-21	OFFSITE GROUNDWATER	H-3	<	158.0	
26-May-21	OFFSITE GROUNDWATER	MN-54	<	3.6	
26-May-21	OFFSITE GROUNDWATER	CO-58	<	2.9	
26-May-21	OFFSITE GROUNDWATER	FE-59	<	5.3	
26-May-21	OFFSITE GROUNDWATER	CO-60	<	2.6	
26-May-21	OFFSITE GROUNDWATER	ZN-65	<	5.6	
26-May-21	OFFSITE GROUNDWATER	ZR-NB-95	<	3.6	
26-May-21	OFFSITE GROUNDWATER	I-131	<	0.316	
26-May-21	OFFSITE GROUNDWATER	CS-134	<	3.8	
26-May-21	OFFSITE GROUNDWATER	CS-137	<	2.2	
26-May-21	OFFSITE GROUNDWATER	BA-LA-140	<	2.7	
26-May-21	OFFSITE GROUNDWATER	H-3	<	165.0	
11-Aug-21	OFFSITE GROUNDWATER	MN-54	<	2.5	
11-Aug-21	OFFSITE GROUNDWATER	CO-58	<	3.0	
11-Aug-21	OFFSITE GROUNDWATER	FE-59	<	4.6	
11-Aug-21	OFFSITE GROUNDWATER	CO-60	<	2.3	
11-Aug-21	OFFSITE GROUNDWATER	ZN-65	<	7.1	
11-Aug-21	OFFSITE GROUNDWATER	ZR-NB-95	<	4.7	
11-Aug-21	OFFSITE GROUNDWATER	I-131	<	0.253	
11-Aug-21	OFFSITE GROUNDWATER	CS-134	<	4.3	
11-Aug-21	OFFSITE GROUNDWATER	CS-137	<	3.0	
11-Aug-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.1	
11-Aug-21	OFFSITE GROUNDWATER	H-3	<	157.0	
26-Oct-21	OFFSITE GROUNDWATER	MN-54	<	2.4	
26-Oct-21	OFFSITE GROUNDWATER	CO-58	<	2.1	
26-Oct-21	OFFSITE GROUNDWATER	FE-59	<	5.0	
26-Oct-21	OFFSITE GROUNDWATER	CO-60	<	2.7	
26-Oct-21	OFFSITE GROUNDWATER	ZN-65	<	2.7	

Exposure Pathway - Waterborne
Ground Water
Location: J-1

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
26-Oct-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.8	
26-Oct-21	OFFSITE GROUNDWATER	I-131	<	0.393	
26-Oct-21	OFFSITE GROUNDWATER	CS-134	<	3.0	
26-Oct-21	OFFSITE GROUNDWATER	CS-137	<	2.0	
26-Oct-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.0	
26-Oct-21	OFFSITE GROUNDWATER	H-3	<	163.0	

Exposure Pathway - Waterborne
Ground Water
Location: J-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
09-Mar-21	OFFSITE GROUNDWATER	MN-54	<	2.7	
09-Mar-21	OFFSITE GROUNDWATER	MN-54	<	3.2	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	CO-58	<	4.0	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	CO-58	<	3.3	
09-Mar-21	OFFSITE GROUNDWATER	FE-59	<	7.4	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	FE-59	<	5.3	
09-Mar-21	OFFSITE GROUNDWATER	CO-60	<	2.6	
09-Mar-21	OFFSITE GROUNDWATER	CO-60	<	2.9	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	ZN-65	<	6.5	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	ZN-65	<	5.1	
09-Mar-21	OFFSITE GROUNDWATER	ZR-NB-95	<	3.3	
09-Mar-21	OFFSITE GROUNDWATER	ZR-NB-95	<	5.6	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	I-131	<	0.344	
09-Mar-21	OFFSITE GROUNDWATER	I-131	<	0.452	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	CS-134	<	3.8	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	CS-134	<	3.3	
09-Mar-21	OFFSITE GROUNDWATER	CS-137	<	2.9	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	CS-137	<	2.2	
09-Mar-21	OFFSITE GROUNDWATER	BA-LA-140	<	3.3	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	BA-LA-140	<	4.3	
09-Mar-21	OFFSITE GROUNDWATER	H-3	<	158.0	Duplicate
09-Mar-21	OFFSITE GROUNDWATER	H-3	<	158.0	
26-May-21	OFFSITE GROUNDWATER	MN-54	<	3.9	
26-May-21	OFFSITE GROUNDWATER	CO-58	<	4.6	
26-May-21	OFFSITE GROUNDWATER	FE-59	<	7.4	
26-May-21	OFFSITE GROUNDWATER	CO-60	<	2.5	
26-May-21	OFFSITE GROUNDWATER	ZN-65	<	6.7	
26-May-21	OFFSITE GROUNDWATER	ZR-NB-95	<	4.2	
26-May-21	OFFSITE GROUNDWATER	I-131	<	0.439	
26-May-21	OFFSITE GROUNDWATER	CS-134	<	4.6	
26-May-21	OFFSITE GROUNDWATER	CS-137	<	3.6	
26-May-21	OFFSITE GROUNDWATER	BA-LA-140	<	5.1	
26-May-21	OFFSITE GROUNDWATER	H-3	<	165.0	
11-Aug-21	OFFSITE GROUNDWATER	MN-54	<	1.7	
11-Aug-21	OFFSITE GROUNDWATER	CO-58	<	2.2	
11-Aug-21	OFFSITE GROUNDWATER	FE-59	<	3.7	
11-Aug-21	OFFSITE GROUNDWATER	CO-60	<	2.3	
11-Aug-21	OFFSITE GROUNDWATER	ZN-65	<	6.3	

Exposure Pathway - Waterborne
Ground Water
Location: J-2

Collection Date	Sample Description	Nuclide	Concentration (pCi/Liter)		Duplicate Analysis
11-Aug-21	OFFSITE GROUNDWATER	ZR-NB-95	<	2.4	
11-Aug-21	OFFSITE GROUNDWATER	I-131	<	0.234	
11-Aug-21	OFFSITE GROUNDWATER	CS-134	<	3.5	
11-Aug-21	OFFSITE GROUNDWATER	CS-137	<	3.8	
11-Aug-21	OFFSITE GROUNDWATER	BA-LA-140	<	2.7	
11-Aug-21	OFFSITE GROUNDWATER	H-3	<	157.0	
26-Oct-21	OFFSITE GROUNDWATER	MN-54	<	2.8	
26-Oct-21	OFFSITE GROUNDWATER	CO-58	<	2.1	
26-Oct-21	OFFSITE GROUNDWATER	FE-59	<	5.6	
26-Oct-21	OFFSITE GROUNDWATER	CO-60	<	2.5	
26-Oct-21	OFFSITE GROUNDWATER	ZN-65	<	8.0	
26-Oct-21	OFFSITE GROUNDWATER	ZR-NB-95	<	5.6	
26-Oct-21	OFFSITE GROUNDWATER	I-131	<	0.241	
26-Oct-21	OFFSITE GROUNDWATER	CS-134	<	4.7	
26-Oct-21	OFFSITE GROUNDWATER	CS-137	<	3.0	
26-Oct-21	OFFSITE GROUNDWATER	BA-LA-140	<	2.7	
26-Oct-21	OFFSITE GROUNDWATER	H-3	<	163.0	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-Jan-21	MN-54	< 2.4	
07-Jan-21	CO-58	< 3.6	
07-Jan-21	FE-59	< 9.7	
07-Jan-21	CO-60	< 3.3	
07-Jan-21	ZN-65	< 11.6	
07-Jan-21	ZR-NB-95	< 2.8	
07-Jan-21	I-131	< 0.397	
07-Jan-21	CS-134	< 4.9	
07-Jan-21	CS-137	< 3.4	
07-Jan-21	BA-LA-140	< 2.5	
07-Jan-21	GROSS BETA	3.100 +/- 0.676	
02-Feb-21	MN-54	< 2.6	
02-Feb-21	CO-58	< 1.8	
02-Feb-21	FE-59	< 5.1	
02-Feb-21	CO-60	< 2.3	
02-Feb-21	ZN-65	< 1.9	
02-Feb-21	ZR-NB-95	< 2.3	
02-Feb-21	I-131	< 0.43	
02-Feb-21	CS-134	< 3.2	
02-Feb-21	CS-137	< 2.4	
02-Feb-21	BA-LA-140	< 3.2	
02-Feb-21	GROSS BETA	2.014 +/- 0.604	
02-Mar-21	MN-54	< 3.8	
02-Mar-21	CO-58	< 2.1	
02-Mar-21	FE-59	< 4.1	
02-Mar-21	CO-60	< 2.3	
02-Mar-21	ZN-65	< 3.6	
02-Mar-21	ZR-NB-95	< 2.7	
02-Mar-21	I-131	< 0.34	
02-Mar-21	CS-134	< 4.0	
02-Mar-21	CS-137	< 3.7	
02-Mar-21	BA-LA-140	< 2.0	
02-Mar-21	GROSS BETA	2.226 +/- 0.615	
01-Apr-21	MN-54	< 2.2	
01-Apr-21	CO-58	< 3.8	
01-Apr-21	FE-59	< 3.7	
01-Apr-21	CO-60	< 3.0	
01-Apr-21	ZN-65	< 5.1	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Apr-21	ZR-NB-95	< 3.9	
01-Apr-21	I-131	< 0.402	
01-Apr-21	CS-134	< 4.2	
01-Apr-21	CS-137	< 4.0	
01-Apr-21	BA-LA-140	< 3.3	
01-Apr-21	GROSS BETA	3.286 +/- 0.705	
03-May-21	MN-54	< 3.5	
03-May-21	CO-58	< 2.9	
03-May-21	FE-59	< 3.6	
03-May-21	CO-60	< 2.1	
03-May-21	ZN-65	< 4.3	
03-May-21	ZR-NB-95	< 3.3	
03-May-21	I-131	< 0.365	
03-May-21	CS-134	< 3.6	
03-May-21	CS-137	< 3.0	
03-May-21	BA-LA-140	< 3.8	
03-May-21	GROSS BETA	3.141 +/- 0.688	
02-Jun-21	MN-54	< 3.1	
02-Jun-21	CO-58	< 3.1	
02-Jun-21	FE-59	< 4.9	
02-Jun-21	CO-60	< 2.0	
02-Jun-21	ZN-65	< 6.1	
02-Jun-21	ZR-NB-95	< 2.3	
02-Jun-21	I-131	< 0.234	
02-Jun-21	CS-134	< 3.6	
02-Jun-21	CS-137	< 3.8	
02-Jun-21	BA-LA-140	< 2.3	
02-Jun-21	GROSS BETA	2.827 +/- 0.672	
01-Jul-21	MN-54	< 2.2	
01-Jul-21	CO-58	< 3.6	
01-Jul-21	FE-59	< 3.0	
01-Jul-21	CO-60	< 3.0	
01-Jul-21	ZN-65	< 4.5	
01-Jul-21	ZR-NB-95	< 3.5	
01-Jul-21	I-131	< 0.308	
01-Jul-21	CS-134	< 3.9	
01-Jul-21	CS-137	< 2.9	
01-Jul-21	BA-LA-140	< 3.1	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Jul-21	GROSS BETA	3.906 +/- 0.746	
03-Aug-21	MN-54	< 2.9	
03-Aug-21	CO-58	< 2.8	
03-Aug-21	FE-59	< 6.1	
03-Aug-21	CO-60	< 2.6	
03-Aug-21	ZN-65	< 5.9	
03-Aug-21	ZR-NB-95	< 4.1	
03-Aug-21	I-131	< 0.3	
03-Aug-21	CS-134	< 4.6	
03-Aug-21	CS-137	< 5.0	
03-Aug-21	BA-LA-140	< 3.0	
03-Aug-21	GROSS BETA	2.686 +/- 0.638	
01-Sep-21	MN-54	< 2.6	
01-Sep-21	CO-58	< 2.0	
01-Sep-21	FE-59	< 4.0	
01-Sep-21	CO-60	< 2.0	
01-Sep-21	ZN-65	< 1.7	
01-Sep-21	ZR-NB-95	< 2.3	
01-Sep-21	I-131	< 0.284	
01-Sep-21	CS-134	< 2.6	
01-Sep-21	CS-137	< 2.0	
01-Sep-21	BA-LA-140	< 2.9	
01-Sep-21	GROSS BETA	2.181 +/- 0.612	
04-Oct-21	MN-54	< 3.1	
04-Oct-21	CO-58	< 3.5	
04-Oct-21	FE-59	< 4.3	
04-Oct-21	CO-60	< 1.5	
04-Oct-21	ZN-65	< 4.4	
04-Oct-21	ZR-NB-95	< 2.4	
04-Oct-21	I-131	< 0.255	
04-Oct-21	CS-134	< 3.1	
04-Oct-21	CS-137	< 2.8	
04-Oct-21	BA-LA-140	< 2.1	
04-Oct-21	GROSS BETA	2.404 +/- 0.64	
01-Nov-21	MN-54	< 2.5	
01-Nov-21	CO-58	< 1.5	
01-Nov-21	FE-59	< 4.4	
01-Nov-21	CO-60	< 2.7	

Exposure Pathway - Waterborne
Drinking Water
Location: BW-15

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Nov-21	ZN-65	< 3.4	
01-Nov-21	ZR-NB-95	< 3.3	
01-Nov-21	I-131	< 0.381	
01-Nov-21	CS-134	< 4.6	
01-Nov-21	CS-137	< 3.9	
01-Nov-21	BA-LA-140	< 1.6	
01-Nov-21	GROSS BETA	3.106 +/- 0.689	
02-Dec-21	MN-54	< 2.7	
02-Dec-21	CO-58	< 2.6	
02-Dec-21	FE-59	< 3.9	
02-Dec-21	CO-60	< 2.3	
02-Dec-21	ZN-65	< 6.3	
02-Dec-21	ZR-NB-95	< 4.1	
02-Dec-21	I-131	< 0.33	
02-Dec-21	CS-134	< 3.1	
02-Dec-21	CS-137	< 2.9	
02-Dec-21	BA-LA-140	< 1.1	
02-Dec-21	GROSS BETA	3.530 +/- 0.718	
05-Jan-22	MN-54	< 3.6	
05-Jan-22	CO-58	< 2.9	
05-Jan-22	FE-59	< 2.9	
05-Jan-22	CO-60	< 2.4	
05-Jan-22	ZN-65	< 5.5	
05-Jan-22	ZR-NB-95	< 2.1	
05-Jan-22	I-131	< 0.427	
05-Jan-22	CS-134	< 4.3	
05-Jan-22	CS-137	< 2.1	
05-Jan-22	BA-LA-140	< 1.7	
05-Jan-22	GROSS BETA	2.174 +/- 0.64	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-Jan-21	MN-54	< 2.8	
07-Jan-21	CO-58	< 2.5	
07-Jan-21	FE-59	< 6.2	
07-Jan-21	CO-60	< 3.1	
07-Jan-21	ZN-65	< 5.2	
07-Jan-21	ZR-NB-95	< 2.6	
07-Jan-21	I-131	< 0.307	
07-Jan-21	CS-134	< 3.9	
07-Jan-21	CS-137	< 4.0	
07-Jan-21	BA-LA-140	< 2.2	
07-Jan-21	GROSS BETA	2.680 +/- 0.684	
02-Feb-21	MN-54	< 4.9	
02-Feb-21	CO-58	< 3.0	
02-Feb-21	FE-59	< 11.6	
02-Feb-21	CO-60	< 6.2	
02-Feb-21	ZN-65	< 15.8	
02-Feb-21	ZR-NB-95	< 7.8	
02-Feb-21	I-131	< 0.426	
02-Feb-21	CS-134	< 6.1	
02-Feb-21	CS-137	< 3.8	
02-Feb-21	BA-LA-140	< 2.8	
02-Feb-21	GROSS BETA	2.420 +/- 0.661	
02-Mar-21	MN-54	< 1.9	
02-Mar-21	CO-58	< 2.6	
02-Mar-21	FE-59	< 3.2	
02-Mar-21	CO-60	< 2.4	
02-Mar-21	ZN-65	< 3.2	
02-Mar-21	ZR-NB-95	< 2.8	
02-Mar-21	I-131	< 0.291	
02-Mar-21	CS-134	< 3.4	
02-Mar-21	CS-137	< 2.9	
02-Mar-21	BA-LA-140	< 5.2	
02-Mar-21	GROSS BETA	2.720 +/- 0.68	
01-Apr-21	MN-54	< 2.2	
01-Apr-21	CO-58	< 2.3	
01-Apr-21	FE-59	< 6.2	
01-Apr-21	CO-60	< 2.0	
01-Apr-21	ZN-65	< 4.6	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Apr-21	ZR-NB-95	< 2.4	
01-Apr-21	I-131	< 0.402	
01-Apr-21	CS-134	< 3.0	
01-Apr-21	CS-137	< 3.2	
01-Apr-21	BA-LA-140	< 4.3	
01-Apr-21	GROSS BETA	3.450 +/- 0.726	
03-May-21	MN-54	< 2.7	
03-May-21	CO-58	< 2.9	
03-May-21	FE-59	< 3.0	
03-May-21	CO-60	< 2.3	
03-May-21	ZN-65	< 3.0	
03-May-21	ZR-NB-95	< 3.5	
03-May-21	I-131	< 0.359	
03-May-21	CS-134	< 3.8	
03-May-21	CS-137	< 2.7	
03-May-21	BA-LA-140	< 3.2	
03-May-21	GROSS BETA	3.091 +/- 0.755	
02-Jun-21	MN-54	< 3.4	
02-Jun-21	CO-58	< 1.5	
02-Jun-21	FE-59	< 4.7	
02-Jun-21	CO-60	< 2.3	
02-Jun-21	ZN-65	< 3.7	
02-Jun-21	ZR-NB-95	< 3.0	
02-Jun-21	I-131	< 0.248	
02-Jun-21	CS-134	< 3.3	
02-Jun-21	CS-137	< 3.5	
02-Jun-21	BA-LA-140	< 2.1	
02-Jun-21	GROSS BETA	2.883 +/- 0.719	
01-Jul-21	MN-54	< 2.1	
01-Jul-21	CO-58	< 2.0	
01-Jul-21	FE-59	< 2.3	
01-Jul-21	CO-60	< 1.8	
01-Jul-21	ZN-65	< 3.0	
01-Jul-21	ZR-NB-95	< 2.1	
01-Jul-21	I-131	< 0.306	
01-Jul-21	CS-134	< 3.0	
01-Jul-21	CS-137	< 3.2	
01-Jul-21	BA-LA-140	< 1.3	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Jul-21	GROSS BETA	2.528 +/- 0.653	
03-Aug-21	MN-54	< 2.7	
03-Aug-21	CO-58	< 3.6	
03-Aug-21	FE-59	< 4.4	
03-Aug-21	CO-60	< 2.3	
03-Aug-21	ZN-65	< 5.8	
03-Aug-21	ZR-NB-95	< 2.2	
03-Aug-21	I-131	< 0.274	
03-Aug-21	CS-134	< 3.9	
03-Aug-21	CS-137	< 3.3	
03-Aug-21	BA-LA-140	< 1.8	
03-Aug-21	GROSS BETA	3.203 +/- 0.715	
01-Sep-21	MN-54	< 1.6	
01-Sep-21	CO-58	< 2.0	
01-Sep-21	FE-59	< 4.5	
01-Sep-21	CO-60	< 2.7	
01-Sep-21	ZN-65	< 2.3	
01-Sep-21	ZR-NB-95	< 3.2	
01-Sep-21	I-131	< 0.281	
01-Sep-21	CS-134	< 2.9	
01-Sep-21	CS-137	< 2.3	
01-Sep-21	BA-LA-140	< 5.6	
01-Sep-21	GROSS BETA	2.704 +/- 0.681	
04-Oct-21	MN-54	< 3.6	
04-Oct-21	CO-58	< 3.2	
04-Oct-21	FE-59	< 8.5	
04-Oct-21	CO-60	< 3.0	
04-Oct-21	ZN-65	< 9.2	
04-Oct-21	ZR-NB-95	< 3.5	
04-Oct-21	I-131	< 0.243	
04-Oct-21	CS-134	< 5.2	
04-Oct-21	CS-137	< 3.3	
04-Oct-21	BA-LA-140	< 5.2	
04-Oct-21	GROSS BETA	1.829 +/- 0.603	
01-Nov-21	MN-54	< 1.6	
01-Nov-21	CO-58	< 2.0	
01-Nov-21	FE-59	< 3.8	
01-Nov-21	CO-60	< 2.5	

Exposure Pathway - Waterborne
Drinking Water
Location: IO-DW

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
01-Nov-21	ZN-65	< 3.0	
01-Nov-21	ZR-NB-95	< 2.2	
01-Nov-21	I-131	< 0.245	
01-Nov-21	CS-134	< 3.2	
01-Nov-21	CS-137	< 3.9	
01-Nov-21	BA-LA-140	< 1.2	
01-Nov-21	GROSS BETA	3.273 +/- 0.73	
02-Dec-21	MN-54	< 2.6	
02-Dec-21	CO-58	< 3.1	
02-Dec-21	FE-59	< 7.0	
02-Dec-21	CO-60	< 2.6	
02-Dec-21	ZN-65	< 2.9	
02-Dec-21	ZR-NB-95	< 2.2	
02-Dec-21	I-131	< 0.314	
02-Dec-21	CS-134	< 2.8	
02-Dec-21	CS-137	< 3.2	
02-Dec-21	BA-LA-140	< 3.3	
02-Dec-21	GROSS BETA	3.688 +/- 0.758	
05-Jan-22	MN-54	< 2.6	
05-Jan-22	CO-58	< 2.2	
05-Jan-22	FE-59	< 3.4	
05-Jan-22	CO-60	< 1.6	
05-Jan-22	ZN-65	< 6.3	
05-Jan-22	ZR-NB-95	< 3.0	
05-Jan-22	I-131	< 0.325	
05-Jan-22	CS-134	< 3.3	
05-Jan-22	CS-137	< 3.8	
05-Jan-22	BA-LA-140	< 1.9	
05-Jan-22	GROSS BETA	2.959 +/- 0.702	

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

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-Jan-21	H-3	< 165	
01-Apr-21	H-3	181 +/- 84	
01-Apr-21	H-3	< 159	
02-Jun-21	H-3	< 157	
01-Jul-21	H-3	< 159	
04-Oct-21	H-3	< 159	
04-Oct-21	H-3	< 159	Duplicate
05-Jan-22	H-3	< 157	

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

Collection Date	Nuclide	Concentration (pCi/Liter)	Duplicate Analysis
07-Jan-21	H-3	< 165	
01-Apr-21	H-3	< 156	
01-Jul-21	H-3	< 159	
04-Oct-21	H-3	< 156	
05-Jan-22	H-3	179 +/- 85	
05-Jan-22	H-3	< 203	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: DC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
05-May-21	SHORELINE SEDIMENTS	K-40	5,938.0 +/-	509.7	
05-May-21	SHORELINE SEDIMENTS	MN-54	<	29.0	
05-May-21	SHORELINE SEDIMENTS	CO-58	<	18.0	
05-May-21	SHORELINE SEDIMENTS	FE-59	<	29.7	
05-May-21	SHORELINE SEDIMENTS	CO-60	<	18.7	
05-May-21	SHORELINE SEDIMENTS	ZN-65	<	55.6	
05-May-21	SHORELINE SEDIMENTS	CS-134	<	17.6	
05-May-21	SHORELINE SEDIMENTS	CS-137	<	22.4	
09-Nov-21	SHORELINE SEDIMENTS	K-40	6,926.5 +/-	635.9	
09-Nov-21	SHORELINE SEDIMENTS	MN-54	<	29.3	
09-Nov-21	SHORELINE SEDIMENTS	CO-58	<	25.4	
09-Nov-21	SHORELINE SEDIMENTS	FE-59	<	42.7	
09-Nov-21	SHORELINE SEDIMENTS	CO-60	<	29.8	
09-Nov-21	SHORELINE SEDIMENTS	ZN-65	<	63.7	
09-Nov-21	SHORELINE SEDIMENTS	CS-134	<	27.5	
09-Nov-21	SHORELINE SEDIMENTS	CS-137	<	24.4	

Exposure Pathway - Waterborne
Shoreline Sediment
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
05-May-21	SHORELINE SEDIMENTS	K-40	9,184.2 +/-	676.1	
05-May-21	SHORELINE SEDIMENTS	MN-54	<	30.1	
05-May-21	SHORELINE SEDIMENTS	CO-58	<	23.1	
05-May-21	SHORELINE SEDIMENTS	FE-59	<	65.2	
05-May-21	SHORELINE SEDIMENTS	CO-60	<	14.0	
05-May-21	SHORELINE SEDIMENTS	ZN-65	<	46.9	
05-May-21	SHORELINE SEDIMENTS	CS-134	<	17.1	
05-May-21	SHORELINE SEDIMENTS	CS-137	<	33.8	
01-Dec-21	SHORELINE SEDIMENTS	K-40	8,697.2 +/-	1,006.0	
01-Dec-21	SHORELINE SEDIMENTS	MN-54	<	63.5	
01-Dec-21	SHORELINE SEDIMENTS	CO-58	<	52.2	
01-Dec-21	SHORELINE SEDIMENTS	FE-59	<	104.2	
01-Dec-21	SHORELINE SEDIMENTS	CO-60	<	56.9	
01-Dec-21	SHORELINE SEDIMENTS	ZN-65	<	124.1	
01-Dec-21	SHORELINE SEDIMENTS	CS-134	<	43.3	
01-Dec-21	SHORELINE SEDIMENTS	CS-137	<	55.7	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
25-Mar-21	CHANNEL CATFISH	K-40	4,694.8 +/-	544.4	
25-Mar-21	CHANNEL CATFISH	MN-54	<	17.5	
25-Mar-21	CHANNEL CATFISH	CO-58	<	14.8	
25-Mar-21	CHANNEL CATFISH	FE-59	<	41.0	
25-Mar-21	CHANNEL CATFISH	CO-60	<	11.7	
25-Mar-21	CHANNEL CATFISH	ZN-65	<	47.6	
25-Mar-21	CHANNEL CATFISH	I-131	<	35.9	
25-Mar-21	CHANNEL CATFISH	CS-134	<	20.3	
25-Mar-21	CHANNEL CATFISH	CS-137	<	18.7	
25-Mar-21	CHANNEL CATFISH	H-3	9,293.0 +/-	265.0	
25-Mar-21	COMMON CARP	K-40	3,627.0 +/-	491.9	
25-Mar-21	COMMON CARP	MN-54	<	20.9	
25-Mar-21	COMMON CARP	CO-58	<	22.7	
25-Mar-21	COMMON CARP	FE-59	<	29.4	
25-Mar-21	COMMON CARP	CO-60	<	11.8	
25-Mar-21	COMMON CARP	ZN-65	<	48.8	
25-Mar-21	COMMON CARP	I-131	<	24.7	
25-Mar-21	COMMON CARP	CS-134	<	17.3	
25-Mar-21	COMMON CARP	CS-137	<	22.6	
25-Mar-21	COMMON CARP	H-3	9,634.0 +/-	269.0	
25-Mar-21	CRAPPIE	K-40	3,678.7 +/-	494.7	
25-Mar-21	CRAPPIE	MN-54	<	19.8	
25-Mar-21	CRAPPIE	CO-58	<	14.3	
25-Mar-21	CRAPPIE	FE-59	<	29.8	
25-Mar-21	CRAPPIE	CO-60	<	8.4	
25-Mar-21	CRAPPIE	ZN-65	<	39.7	
25-Mar-21	CRAPPIE	I-131	<	30.3	
25-Mar-21	CRAPPIE	CS-134	<	20.8	
25-Mar-21	CRAPPIE	CS-137	<	17.6	
25-Mar-21	CRAPPIE	H-3	9,720.0 +/-	271.0	
25-Mar-21	SMALLMOUTH BUFFALO	K-40	2,682.7 +/-	469.0	
25-Mar-21	SMALLMOUTH BUFFALO	MN-54	<	13.6	
25-Mar-21	SMALLMOUTH BUFFALO	CO-58	<	15.7	
25-Mar-21	SMALLMOUTH BUFFALO	FE-59	<	19.7	
25-Mar-21	SMALLMOUTH BUFFALO	CO-60	<	14.8	
25-Mar-21	SMALLMOUTH BUFFALO	ZN-65	<	24.0	
25-Mar-21	SMALLMOUTH BUFFALO	I-131	<	31.9	
25-Mar-21	SMALLMOUTH BUFFALO	CS-134	<	17.5	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
25-Mar-21	SMALLMOUTH BUFFALO	CS-137	<	13.0	
25-Mar-21	SMALLMOUTH BUFFALO	H-3	9,947.0 +/-	277.0	
02-Nov-21	BLUE CATFISH	K-40	3,966.9 +/-	498.5	
02-Nov-21	BLUE CATFISH	MN-54	<	22.2	
02-Nov-21	BLUE CATFISH	CO-58	<	20.9	
02-Nov-21	BLUE CATFISH	FE-59	<	47.6	
02-Nov-21	BLUE CATFISH	CO-60	<	14.2	
02-Nov-21	BLUE CATFISH	ZN-65	<	52.6	
02-Nov-21	BLUE CATFISH	I-131	<	78.6	
02-Nov-21	BLUE CATFISH	CS-134	<	24.2	
02-Nov-21	BLUE CATFISH	CS-137	<	17.1	
02-Nov-21	BLUE CATFISH	H-3	6,709.0 +/-	235.0	
02-Nov-21	CHANNEL CATFISH	K-40	4,006.2 +/-	473.9	
02-Nov-21	CHANNEL CATFISH	MN-54	<	18.2	
02-Nov-21	CHANNEL CATFISH	CO-58	<	15.0	
02-Nov-21	CHANNEL CATFISH	FE-59	<	36.5	
02-Nov-21	CHANNEL CATFISH	CO-60	<	14.4	
02-Nov-21	CHANNEL CATFISH	ZN-65	<	32.1	
02-Nov-21	CHANNEL CATFISH	I-131	<	42.3	
02-Nov-21	CHANNEL CATFISH	CS-134	<	17.3	
02-Nov-21	CHANNEL CATFISH	CS-137	<	18.5	
02-Nov-21	CHANNEL CATFISH	H-3	6,553.0 +/-	230.0	
02-Nov-21	COMMON CARP	K-40	3,576.5 +/-	504.5	
02-Nov-21	COMMON CARP	MN-54	<	14.8	
02-Nov-21	COMMON CARP	CO-58	<	17.3	
02-Nov-21	COMMON CARP	FE-59	<	36.2	
02-Nov-21	COMMON CARP	CO-60	<	11.6	
02-Nov-21	COMMON CARP	ZN-65	<	31.1	
02-Nov-21	COMMON CARP	I-131	<	69.3	
02-Nov-21	COMMON CARP	CS-134	<	19.8	
02-Nov-21	COMMON CARP	CS-137	<	11.1	
02-Nov-21	COMMON CARP	H-3	7,098.0 +/-	244.0	
02-Nov-21	CRAPPIE	K-40	3,590.8 +/-	485.5	
02-Nov-21	CRAPPIE	MN-54	<	20.7	
02-Nov-21	CRAPPIE	CO-58	<	16.5	
02-Nov-21	CRAPPIE	FE-59	<	43.2	
02-Nov-21	CRAPPIE	CO-60	<	19.8	
02-Nov-21	CRAPPIE	ZN-65	<	27.7	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
02-Nov-21	CRAPPIE	I-131	<	47.5	
02-Nov-21	CRAPPIE	CS-134	<	21.1	
02-Nov-21	CRAPPIE	CS-137	<	17.2	
02-Nov-21	CRAPPIE	H-3	5,870.0 +/-	213.0	
02-Nov-21	RIVER CARP SUCKER	K-40	3,388.8 +/-	435.5	
02-Nov-21	RIVER CARP SUCKER	MN-54	<	17.4	
02-Nov-21	RIVER CARP SUCKER	CO-58	<	17.5	
02-Nov-21	RIVER CARP SUCKER	FE-59	<	27.8	
02-Nov-21	RIVER CARP SUCKER	CO-60	<	14.7	
02-Nov-21	RIVER CARP SUCKER	ZN-65	<	30.9	
02-Nov-21	RIVER CARP SUCKER	I-131	<	53.5	
02-Nov-21	RIVER CARP SUCKER	CS-134	<	18.3	
02-Nov-21	RIVER CARP SUCKER	CS-137	<	19.4	
02-Nov-21	RIVER CARP SUCKER	H-3	6,413.0 +/-	216.0	
02-Nov-21	SMALLMOUTH BUFFALO	K-40	2,959.9 +/-	445.5	
02-Nov-21	SMALLMOUTH BUFFALO	MN-54	<	11.3	
02-Nov-21	SMALLMOUTH BUFFALO	CO-58	<	16.2	
02-Nov-21	SMALLMOUTH BUFFALO	FE-59	<	34.5	
02-Nov-21	SMALLMOUTH BUFFALO	CO-60	<	14.9	
02-Nov-21	SMALLMOUTH BUFFALO	ZN-65	<	21.2	
02-Nov-21	SMALLMOUTH BUFFALO	I-131	<	48.9	
02-Nov-21	SMALLMOUTH BUFFALO	CS-134	<	17.7	
02-Nov-21	SMALLMOUTH BUFFALO	CS-137	<	15.4	
02-Nov-21	SMALLMOUTH BUFFALO	H-3	4,597.0 +/-	171.0	
02-Nov-21	WHITE BASS	K-40	3,112.6 +/-	418.0	
02-Nov-21	WHITE BASS	MN-54	<	12.2	
02-Nov-21	WHITE BASS	CO-58	<	9.8	
02-Nov-21	WHITE BASS	FE-59	<	17.5	
02-Nov-21	WHITE BASS	CO-60	<	14.6	
02-Nov-21	WHITE BASS	ZN-65	<	26.2	
02-Nov-21	WHITE BASS	I-131	<	55.0	
02-Nov-21	WHITE BASS	CS-134	<	15.1	
02-Nov-21	WHITE BASS	CS-137	<	16.2	
02-Nov-21	WHITE BASS	H-3	8,063.0 +/-	260.0	
02-Nov-21	WIPER	K-40	3,856.2 +/-	480.0	
02-Nov-21	WIPER	MN-54	<	14.9	
02-Nov-21	WIPER	CO-58	<	20.7	
02-Nov-21	WIPER	FE-59	<	30.8	

Exposure Pathway - Ingestion
Fish
Location: CCL

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
02-Nov-21	WIPER	CO-60	<	23.8	
02-Nov-21	WIPER	ZN-65	<	33.9	
02-Nov-21	WIPER	I-131	<	53.8	
02-Nov-21	WIPER	CS-134	<	19.5	
02-Nov-21	WIPER	CS-137	<	22.0	
02-Nov-21	WIPER	H-3	6,316.0 +/-	220.0	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
27-Apr-21	BIGMOUTH BUFFALO	K-40	4,025.0 +/-	482.4	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	K-40	3,567.5 +/-	486.1	
27-Apr-21	BIGMOUTH BUFFALO	MN-54	<	12.0	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	MN-54	<	15.4	
27-Apr-21	BIGMOUTH BUFFALO	CO-58	<	15.8	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	CO-58	<	16.1	
27-Apr-21	BIGMOUTH BUFFALO	FE-59	<	19.8	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	FE-59	<	29.7	
27-Apr-21	BIGMOUTH BUFFALO	CO-60	<	13.1	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	CO-60	<	15.6	
27-Apr-21	BIGMOUTH BUFFALO	ZN-65	<	34.1	
27-Apr-21	BIGMOUTH BUFFALO	ZN-65	<	17.9	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	I-131	<	54.2	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	I-131	<	40.8	
27-Apr-21	BIGMOUTH BUFFALO	CS-134	<	19.7	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	CS-134	<	18.3	
27-Apr-21	BIGMOUTH BUFFALO	CS-137	<	13.5	
27-Apr-21	BIGMOUTH BUFFALO	CS-137	<	10.1	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	H-3	<	125.0	Duplicate
27-Apr-21	BIGMOUTH BUFFALO	H-3	<	125.0	
27-Apr-21	CHANNEL CATFISH	K-40	3,836.3 +/-	433.4	
27-Apr-21	CHANNEL CATFISH	MN-54	<	12.5	
27-Apr-21	CHANNEL CATFISH	CO-58	<	7.7	
27-Apr-21	CHANNEL CATFISH	FE-59	<	31.5	
27-Apr-21	CHANNEL CATFISH	CO-60	<	12.8	
27-Apr-21	CHANNEL CATFISH	ZN-65	<	11.8	
27-Apr-21	CHANNEL CATFISH	I-131	<	23.8	
27-Apr-21	CHANNEL CATFISH	CS-134	<	12.9	
27-Apr-21	CHANNEL CATFISH	CS-137	<	15.3	
27-Apr-21	CHANNEL CATFISH	H-3	<	126.0	
27-Apr-21	COMMON CARP	K-40	3,503.2 +/-	402.1	
27-Apr-21	COMMON CARP	MN-54	<	11.5	
27-Apr-21	COMMON CARP	CO-58	<	11.6	
27-Apr-21	COMMON CARP	FE-59	<	30.7	
27-Apr-21	COMMON CARP	CO-60	<	16.9	
27-Apr-21	COMMON CARP	ZN-65	<	24.3	
27-Apr-21	COMMON CARP	I-131	<	29.5	
27-Apr-21	COMMON CARP	CS-134	<	17.7	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
27-Apr-21	COMMON CARP	CS-137	<	12.5	
27-Apr-21	COMMON CARP	H-3	<	123.0	
27-Apr-21	CRAPPIE	K-40	3,507.3 +/-	452.7	
27-Apr-21	CRAPPIE	MN-54	<	16.1	
27-Apr-21	CRAPPIE	CO-58	<	15.6	
27-Apr-21	CRAPPIE	FE-59	<	33.4	
27-Apr-21	CRAPPIE	CO-60	<	12.5	
27-Apr-21	CRAPPIE	ZN-65	<	21.5	
27-Apr-21	CRAPPIE	I-131	<	33.3	
27-Apr-21	CRAPPIE	CS-134	<	18.6	
27-Apr-21	CRAPPIE	CS-137	<	14.8	
27-Apr-21	CRAPPIE	H-3	<	125.0	
27-Apr-21	FRESHWATER DRUM	K-40	3,594.7 +/-	423.9	
27-Apr-21	FRESHWATER DRUM	MN-54	<	15.4	
27-Apr-21	FRESHWATER DRUM	CO-58	<	13.1	
27-Apr-21	FRESHWATER DRUM	FE-59	<	8.3	
27-Apr-21	FRESHWATER DRUM	CO-60	<	11.1	
27-Apr-21	FRESHWATER DRUM	ZN-65	<	22.8	
27-Apr-21	FRESHWATER DRUM	I-131	<	30.9	
27-Apr-21	FRESHWATER DRUM	CS-134	<	13.9	
27-Apr-21	FRESHWATER DRUM	CS-137	<	9.6	
27-Apr-21	FRESHWATER DRUM	H-3	<	125.0	
27-Apr-21	SMALLMOUTH BUFFALO	K-40	3,193.0 +/-	459.7	
27-Apr-21	SMALLMOUTH BUFFALO	MN-54	<	15.5	
27-Apr-21	SMALLMOUTH BUFFALO	CO-58	<	12.1	
27-Apr-21	SMALLMOUTH BUFFALO	FE-59	<	28.4	
27-Apr-21	SMALLMOUTH BUFFALO	CO-60	<	14.9	
27-Apr-21	SMALLMOUTH BUFFALO	ZN-65	<	19.3	
27-Apr-21	SMALLMOUTH BUFFALO	I-131	<	28.5	
27-Apr-21	SMALLMOUTH BUFFALO	CS-134	<	15.2	
27-Apr-21	SMALLMOUTH BUFFALO	CS-137	<	7.6	
27-Apr-21	SMALLMOUTH BUFFALO	H-3	<	126.0	
22-Oct-21	BLUE CATFISH	K-40	2,456.8 +/-	482.8	
22-Oct-21	BLUE CATFISH	MN-54	<	22.8	
22-Oct-21	BLUE CATFISH	CO-58	<	21.2	
22-Oct-21	BLUE CATFISH	FE-59	<	36.7	
22-Oct-21	BLUE CATFISH	CO-60	<	11.4	
22-Oct-21	BLUE CATFISH	ZN-65	<	33.5	

Exposure Pathway - Ingestion
Fish
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
22-Oct-21	BLUE CATFISH	I-131	<	84.8	
22-Oct-21	BLUE CATFISH	CS-134	<	20.9	
22-Oct-21	BLUE CATFISH	CS-137	<	21.1	
22-Oct-21	BLUE CATFISH	H-3	<	131.0	
22-Oct-21	CHANNEL CATFISH	K-40	3,334.8 +/-	423.9	
22-Oct-21	CHANNEL CATFISH	MN-54	<	17.5	
22-Oct-21	CHANNEL CATFISH	CO-58	<	10.3	
22-Oct-21	CHANNEL CATFISH	FE-59	<	24.6	
22-Oct-21	CHANNEL CATFISH	CO-60	<	7.8	
22-Oct-21	CHANNEL CATFISH	ZN-65	<	34.6	
22-Oct-21	CHANNEL CATFISH	I-131	<	44.1	
22-Oct-21	CHANNEL CATFISH	CS-134	<	17.7	
22-Oct-21	CHANNEL CATFISH	CS-137	<	13.0	
22-Oct-21	CHANNEL CATFISH	H-3	<	132.0	
22-Oct-21	CRAPPIE	K-40	3,348.7 +/-	427.7	
22-Oct-21	CRAPPIE	MN-54	<	10.0	
22-Oct-21	CRAPPIE	CO-58	<	16.3	
22-Oct-21	CRAPPIE	FE-59	<	43.1	
22-Oct-21	CRAPPIE	CO-60	<	11.2	
22-Oct-21	CRAPPIE	ZN-65	<	35.1	
22-Oct-21	CRAPPIE	I-131	<	61.6	
22-Oct-21	CRAPPIE	CS-134	<	14.7	
22-Oct-21	CRAPPIE	CS-137	<	14.4	
22-Oct-21	CRAPPIE	H-3	<	141.0	
22-Oct-21	WHITE BASS	K-40	3,447.0 +/-	463.4	
22-Oct-21	WHITE BASS	MN-54	<	14.3	
22-Oct-21	WHITE BASS	CO-58	<	14.6	
22-Oct-21	WHITE BASS	FE-59	<	41.4	
22-Oct-21	WHITE BASS	CO-60	<	15.2	
22-Oct-21	WHITE BASS	ZN-65	<	28.9	
22-Oct-21	WHITE BASS	I-131	<	52.4	
22-Oct-21	WHITE BASS	CS-134	<	19.6	
22-Oct-21	WHITE BASS	CS-137	<	13.7	
22-Oct-21	WHITE BASS	H-3	<	128.0	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
19-Apr-21	HORSERADISH LEAVES	BE-7	776.2 +/-	259.9	
19-Apr-21	HORSERADISH LEAVES	K-40	5,142.6 +/-	611.2	
19-Apr-21	HORSERADISH LEAVES	MN-54	<	19.4	
19-Apr-21	HORSERADISH LEAVES	CO-58	<	22.1	
19-Apr-21	HORSERADISH LEAVES	FE-59	<	43.2	
19-Apr-21	HORSERADISH LEAVES	CO-60	<	16.3	
19-Apr-21	HORSERADISH LEAVES	ZN-65	<	23.3	
19-Apr-21	HORSERADISH LEAVES	ZR-NB-95	<	17.5	
19-Apr-21	HORSERADISH LEAVES	I-131	<	30.6	
19-Apr-21	HORSERADISH LEAVES	CS-134	<	27.1	
19-Apr-21	HORSERADISH LEAVES	CS-137	<	17.2	
17-May-21	HORSERADISH LEAVES	BE-7	798.2 +/-	289.5	
17-May-21	HORSERADISH LEAVES	K-40	4,509.7 +/-	576.9	
17-May-21	HORSERADISH LEAVES	MN-54	<	21.5	
17-May-21	HORSERADISH LEAVES	CO-58	<	22.8	
17-May-21	HORSERADISH LEAVES	FE-59	<	40.9	
17-May-21	HORSERADISH LEAVES	CO-60	<	22.8	
17-May-21	HORSERADISH LEAVES	ZN-65	<	51.7	
17-May-21	HORSERADISH LEAVES	ZR-NB-95	<	19.9	
17-May-21	HORSERADISH LEAVES	I-131	<	17.3	
17-May-21	HORSERADISH LEAVES	CS-134	<	24.7	
17-May-21	HORSERADISH LEAVES	CS-137	<	21.3	
15-Jun-21	HORSERADISH LEAVES	BE-7	965.2 +/-	215.8	
15-Jun-21	HORSERADISH LEAVES	K-40	5,568.1 +/-	475.6	
15-Jun-21	HORSERADISH LEAVES	MN-54	<	12.5	
15-Jun-21	HORSERADISH LEAVES	CO-58	<	9.2	
15-Jun-21	HORSERADISH LEAVES	FE-59	<	30.5	
15-Jun-21	HORSERADISH LEAVES	CO-60	<	9.0	
15-Jun-21	HORSERADISH LEAVES	ZN-65	<	30.5	
15-Jun-21	HORSERADISH LEAVES	ZR-NB-95	<	18.1	
15-Jun-21	HORSERADISH LEAVES	I-131	<	40.5	
15-Jun-21	HORSERADISH LEAVES	CS-134	<	16.6	
15-Jun-21	HORSERADISH LEAVES	CS-137	<	19.9	
15-Jul-21	HORSERADISH LEAVES	BE-7	524.3 +/-	153.4	
15-Jul-21	HORSERADISH LEAVES	K-40	5,271.3 +/-	386.9	
15-Jul-21	HORSERADISH LEAVES	MN-54	<	12.5	
15-Jul-21	HORSERADISH LEAVES	CO-58	<	13.3	
15-Jul-21	HORSERADISH LEAVES	FE-59	<	20.9	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
15-Jul-21	HORSERADISH LEAVES	CO-60	<	10.9	
15-Jul-21	HORSERADISH LEAVES	ZN-65	<	24.2	
15-Jul-21	HORSERADISH LEAVES	ZR-NB-95	<	16.4	
15-Jul-21	HORSERADISH LEAVES	I-131	<	44.0	
15-Jul-21	HORSERADISH LEAVES	CS-134	<	12.1	
15-Jul-21	HORSERADISH LEAVES	CS-137	<	13.3	
17-Aug-21	HORSERADISH LEAVES	BE-7	1,590.8 +/-	195.6	
17-Aug-21	HORSERADISH LEAVES	K-40	7,784.0 +/-	511.5	
17-Aug-21	HORSERADISH LEAVES	MN-54	<	13.9	
17-Aug-21	HORSERADISH LEAVES	CO-58	<	15.3	
17-Aug-21	HORSERADISH LEAVES	FE-59	<	25.1	
17-Aug-21	HORSERADISH LEAVES	CO-60	<	18.0	
17-Aug-21	HORSERADISH LEAVES	ZN-65	<	25.1	
17-Aug-21	HORSERADISH LEAVES	ZR-NB-95	<	19.4	
17-Aug-21	HORSERADISH LEAVES	I-131	<	17.4	
17-Aug-21	HORSERADISH LEAVES	CS-134	<	15.7	
17-Aug-21	HORSERADISH LEAVES	CS-137	<	14.1	
21-Sep-21	HORSERADISH LEAVES	BE-7	464.3 +/-	233.6	
21-Sep-21	HORSERADISH LEAVES	K-40	8,312.2 +/-	727.4	
21-Sep-21	HORSERADISH LEAVES	MN-54	<	15.4	
21-Sep-21	HORSERADISH LEAVES	CO-58	<	24.0	
21-Sep-21	HORSERADISH LEAVES	FE-59	<	28.3	
21-Sep-21	HORSERADISH LEAVES	CO-60	<	21.5	
21-Sep-21	HORSERADISH LEAVES	ZN-65	<	36.3	
21-Sep-21	HORSERADISH LEAVES	ZR-NB-95	<	19.1	
21-Sep-21	HORSERADISH LEAVES	I-131	<	53.0	
21-Sep-21	HORSERADISH LEAVES	CS-134	<	27.6	
21-Sep-21	HORSERADISH LEAVES	CS-137	<	14.6	
14-Oct-21	HORSERADISH LEAVES	BE-7	1,254.7 +/-	205.6	
14-Oct-21	HORSERADISH LEAVES	BE-7	1,157.4 +/-	201.5	Duplicate
14-Oct-21	HORSERADISH LEAVES	K-40	6,027.8 +/-	514.9	Duplicate
14-Oct-21	HORSERADISH LEAVES	K-40	5,929.7 +/-	516.0	
14-Oct-21	HORSERADISH LEAVES	MN-54	<	21.4	
14-Oct-21	HORSERADISH LEAVES	MN-54	<	19.3	Duplicate
14-Oct-21	HORSERADISH LEAVES	CO-58	<	18.1	
14-Oct-21	HORSERADISH LEAVES	CO-58	<	11.7	Duplicate
14-Oct-21	HORSERADISH LEAVES	FE-59	<	40.5	
14-Oct-21	HORSERADISH LEAVES	FE-59	<	45.4	Duplicate

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-Oct-21	HORSERADISH LEAVES	CO-60	<	13.3	
14-Oct-21	HORSERADISH LEAVES	CO-60	<	13.7	Duplicate
14-Oct-21	HORSERADISH LEAVES	ZN-65	<	38.4	Duplicate
14-Oct-21	HORSERADISH LEAVES	ZN-65	<	35.6	
14-Oct-21	HORSERADISH LEAVES	ZR-NB-95	<	14.9	
14-Oct-21	HORSERADISH LEAVES	ZR-NB-95	<	13.6	Duplicate
14-Oct-21	HORSERADISH LEAVES	I-131	<	36.1	
14-Oct-21	HORSERADISH LEAVES	I-131	<	26.6	Duplicate
14-Oct-21	HORSERADISH LEAVES	CS-134	<	15.7	
14-Oct-21	HORSERADISH LEAVES	CS-134	<	18.8	Duplicate
14-Oct-21	HORSERADISH LEAVES	CS-137	<	18.5	Duplicate
14-Oct-21	HORSERADISH LEAVES	CS-137	<	14.9	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
19-Apr-21	HORSERADISH LEAVES	BE-7	759.1 +/-	225.4	
19-Apr-21	HORSERADISH LEAVES	K-40	5,186.9 +/-	568.4	
19-Apr-21	HORSERADISH LEAVES	MN-54	<	18.6	
19-Apr-21	HORSERADISH LEAVES	CO-58	<	17.4	
19-Apr-21	HORSERADISH LEAVES	FE-59	<	49.6	
19-Apr-21	HORSERADISH LEAVES	CO-60	<	21.9	
19-Apr-21	HORSERADISH LEAVES	ZN-65	<	35.7	
19-Apr-21	HORSERADISH LEAVES	ZR-NB-95	<	17.7	
19-Apr-21	HORSERADISH LEAVES	I-131	<	28.9	
19-Apr-21	HORSERADISH LEAVES	CS-134	<	23.4	
19-Apr-21	HORSERADISH LEAVES	CS-137	<	21.7	
17-May-21	HORSERADISH LEAVES	BE-7	897.3 +/-	118.0	
17-May-21	HORSERADISH LEAVES	K-40	3,964.5 +/-	188.0	
17-May-21	HORSERADISH LEAVES	MN-54	<	9.1	
17-May-21	HORSERADISH LEAVES	CO-58	<	11.0	
17-May-21	HORSERADISH LEAVES	FE-59	<	20.5	
17-May-21	HORSERADISH LEAVES	CO-60	<	6.0	
17-May-21	HORSERADISH LEAVES	ZN-65	<	16.8	
17-May-21	HORSERADISH LEAVES	ZR-NB-95	<	19.0	
17-May-21	HORSERADISH LEAVES	I-131	<	30.2	
17-May-21	HORSERADISH LEAVES	CS-134	<	7.9	
17-May-21	HORSERADISH LEAVES	CS-137	<	8.8	
15-Jun-21	HORSERADISH LEAVES	BE-7	876.5 +/-	266.4	
15-Jun-21	HORSERADISH LEAVES	K-40	5,694.9 +/-	594.9	
15-Jun-21	HORSERADISH LEAVES	MN-54	<	20.3	
15-Jun-21	HORSERADISH LEAVES	CO-58	<	13.0	
15-Jun-21	HORSERADISH LEAVES	FE-59	<	36.1	
15-Jun-21	HORSERADISH LEAVES	CO-60	<	23.2	
15-Jun-21	HORSERADISH LEAVES	ZN-65	<	43.6	
15-Jun-21	HORSERADISH LEAVES	ZR-NB-95	<	19.0	
15-Jun-21	HORSERADISH LEAVES	I-131	<	49.3	
15-Jun-21	HORSERADISH LEAVES	CS-134	<	27.4	
15-Jun-21	HORSERADISH LEAVES	CS-137	<	17.2	
15-Jul-21	HORSERADISH LEAVES	BE-7	1,206.0 +/-	143.7	
15-Jul-21	HORSERADISH LEAVES	K-40	6,310.8 +/-	241.2	
15-Jul-21	HORSERADISH LEAVES	MN-54	<	9.5	
15-Jul-21	HORSERADISH LEAVES	CO-58	<	9.0	
15-Jul-21	HORSERADISH LEAVES	FE-59	<	24.4	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
15-Jul-21	HORSERADISH LEAVES	CO-60	<	7.3	
15-Jul-21	HORSERADISH LEAVES	ZN-65	<	16.2	
15-Jul-21	HORSERADISH LEAVES	ZR-NB-95	<	13.4	
15-Jul-21	HORSERADISH LEAVES	I-131	<	39.2	
15-Jul-21	HORSERADISH LEAVES	CS-134	<	9.4	
15-Jul-21	HORSERADISH LEAVES	CS-137	<	7.8	
17-Aug-21	HORSERADISH LEAVES	BE-7	775.9 +/-	231.5	
17-Aug-21	HORSERADISH LEAVES	K-40	4,934.4 +/-	454.7	
17-Aug-21	HORSERADISH LEAVES	MN-54	<	14.0	
17-Aug-21	HORSERADISH LEAVES	CO-58	<	16.7	
17-Aug-21	HORSERADISH LEAVES	FE-59	<	25.7	
17-Aug-21	HORSERADISH LEAVES	CO-60	<	13.1	
17-Aug-21	HORSERADISH LEAVES	ZN-65	<	24.1	
17-Aug-21	HORSERADISH LEAVES	ZR-NB-95	<	14.8	
17-Aug-21	HORSERADISH LEAVES	I-131	<	23.9	
17-Aug-21	HORSERADISH LEAVES	CS-134	<	18.0	
17-Aug-21	HORSERADISH LEAVES	CS-137	<	17.1	
21-Sep-21	HORSERADISH LEAVES	BE-7	<	244.7	
21-Sep-21	HORSERADISH LEAVES	K-40	5,293.1 +/-	576.2	
21-Sep-21	HORSERADISH LEAVES	MN-54	<	17.8	
21-Sep-21	HORSERADISH LEAVES	CO-58	<	19.1	
21-Sep-21	HORSERADISH LEAVES	FE-59	<	28.0	
21-Sep-21	HORSERADISH LEAVES	CO-60	<	18.1	
21-Sep-21	HORSERADISH LEAVES	ZN-65	<	34.7	
21-Sep-21	HORSERADISH LEAVES	ZR-NB-95	<	16.4	
21-Sep-21	HORSERADISH LEAVES	I-131	<	48.5	
21-Sep-21	HORSERADISH LEAVES	CS-134	<	24.0	
21-Sep-21	HORSERADISH LEAVES	CS-137	<	23.5	
14-Oct-21	HORSERADISH LEAVES	BE-7	1,249.3 +/-	199.4	
14-Oct-21	HORSERADISH LEAVES	K-40	5,339.3 +/-	544.5	
14-Oct-21	HORSERADISH LEAVES	MN-54	<	20.7	
14-Oct-21	HORSERADISH LEAVES	CO-58	<	20.0	
14-Oct-21	HORSERADISH LEAVES	FE-59	<	36.0	
14-Oct-21	HORSERADISH LEAVES	CO-60	<	15.0	
14-Oct-21	HORSERADISH LEAVES	ZN-65	<	39.1	
14-Oct-21	HORSERADISH LEAVES	ZR-NB-95	<	20.2	
14-Oct-21	HORSERADISH LEAVES	I-131	<	23.6	
14-Oct-21	HORSERADISH LEAVES	CS-134	<	20.4	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-Oct-21	HORSERADISH LEAVES	CS-137	<	15.4	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
19-Apr-21	HORSERADISH LEAVES	BE-7	526.6 +/-	214.6	
19-Apr-21	HORSERADISH LEAVES	K-40	4,785.3 +/-	555.4	
19-Apr-21	HORSERADISH LEAVES	MN-54	<	18.7	
19-Apr-21	HORSERADISH LEAVES	CO-58	<	13.7	
19-Apr-21	HORSERADISH LEAVES	FE-59	<	22.9	
19-Apr-21	HORSERADISH LEAVES	CO-60	<	14.9	
19-Apr-21	HORSERADISH LEAVES	ZN-65	<	31.0	
19-Apr-21	HORSERADISH LEAVES	ZR-NB-95	<	16.3	
19-Apr-21	HORSERADISH LEAVES	I-131	<	25.8	
19-Apr-21	HORSERADISH LEAVES	CS-134	<	20.7	
19-Apr-21	HORSERADISH LEAVES	CS-137	<	16.5	
17-May-21	HORSERADISH LEAVES	BE-7	1,066.3 +/-	203.8	
17-May-21	HORSERADISH LEAVES	K-40	3,439.7 +/-	400.8	
17-May-21	HORSERADISH LEAVES	MN-54	<	16.7	
17-May-21	HORSERADISH LEAVES	CO-58	<	15.0	
17-May-21	HORSERADISH LEAVES	FE-59	<	32.4	
17-May-21	HORSERADISH LEAVES	CO-60	<	14.2	
17-May-21	HORSERADISH LEAVES	ZN-65	<	36.8	
17-May-21	HORSERADISH LEAVES	ZR-NB-95	<	19.6	
17-May-21	HORSERADISH LEAVES	I-131	<	14.9	
17-May-21	HORSERADISH LEAVES	CS-134	<	18.2	
17-May-21	HORSERADISH LEAVES	CS-137	<	16.7	
15-Jun-21	HORSERADISH LEAVES	BE-7	1,045.3 +/-	136.8	
15-Jun-21	HORSERADISH LEAVES	K-40	5,765.0 +/-	387.9	
15-Jun-21	HORSERADISH LEAVES	MN-54	<	11.9	
15-Jun-21	HORSERADISH LEAVES	CO-58	<	10.9	
15-Jun-21	HORSERADISH LEAVES	FE-59	<	25.7	
15-Jun-21	HORSERADISH LEAVES	CO-60	<	11.2	
15-Jun-21	HORSERADISH LEAVES	ZN-65	<	33.8	
15-Jun-21	HORSERADISH LEAVES	ZR-NB-95	<	10.1	
15-Jun-21	HORSERADISH LEAVES	I-131	<	18.0	
15-Jun-21	HORSERADISH LEAVES	CS-134	<	13.3	
15-Jun-21	HORSERADISH LEAVES	CS-137	<	13.4	
15-Jul-21	HORSERADISH LEAVES	BE-7	1,624.9 +/-	139.3	
15-Jul-21	HORSERADISH LEAVES	K-40	6,605.4 +/-	292.5	
15-Jul-21	HORSERADISH LEAVES	MN-54	<	10.2	
15-Jul-21	HORSERADISH LEAVES	CO-58	<	6.8	
15-Jul-21	HORSERADISH LEAVES	FE-59	<	20.9	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
15-Jul-21	HORSERADISH LEAVES	CO-60	<	6.2	
15-Jul-21	HORSERADISH LEAVES	ZN-65	<	20.2	
15-Jul-21	HORSERADISH LEAVES	ZR-NB-95	<	12.5	
15-Jul-21	HORSERADISH LEAVES	I-131	<	45.1	
15-Jul-21	HORSERADISH LEAVES	CS-134	<	10.5	
15-Jul-21	HORSERADISH LEAVES	CS-137	<	10.5	
17-Aug-21	HORSERADISH LEAVES	BE-7	1,097.1 +/-	221.6	
17-Aug-21	HORSERADISH LEAVES	K-40	7,761.0 +/-	541.6	
17-Aug-21	HORSERADISH LEAVES	MN-54	<	9.2	
17-Aug-21	HORSERADISH LEAVES	CO-58	<	15.7	
17-Aug-21	HORSERADISH LEAVES	FE-59	<	34.8	
17-Aug-21	HORSERADISH LEAVES	CO-60	<	16.5	
17-Aug-21	HORSERADISH LEAVES	ZN-65	<	20.6	
17-Aug-21	HORSERADISH LEAVES	ZR-NB-95	<	15.4	
17-Aug-21	HORSERADISH LEAVES	I-131	<	21.0	
17-Aug-21	HORSERADISH LEAVES	CS-134	<	20.1	
17-Aug-21	HORSERADISH LEAVES	CS-137	<	9.4	
21-Sep-21	HORSERADISH LEAVES	BE-7	410.6 +/-	192.8	
21-Sep-21	HORSERADISH LEAVES	K-40	7,766.6 +/-	574.8	
21-Sep-21	HORSERADISH LEAVES	MN-54	<	10.8	
21-Sep-21	HORSERADISH LEAVES	CO-58	<	17.7	
21-Sep-21	HORSERADISH LEAVES	FE-59	<	35.5	
21-Sep-21	HORSERADISH LEAVES	CO-60	<	15.4	
21-Sep-21	HORSERADISH LEAVES	ZN-65	<	30.3	
21-Sep-21	HORSERADISH LEAVES	ZR-NB-95	<	15.9	
21-Sep-21	HORSERADISH LEAVES	I-131	<	26.0	
21-Sep-21	HORSERADISH LEAVES	CS-134	<	16.9	
21-Sep-21	HORSERADISH LEAVES	CS-137	<	20.2	
14-Oct-21	HORSERADISH LEAVES	BE-7	1,480.1 +/-	223.5	
14-Oct-21	HORSERADISH LEAVES	K-40	6,996.3 +/-	578.3	
14-Oct-21	HORSERADISH LEAVES	MN-54	<	12.7	
14-Oct-21	HORSERADISH LEAVES	CO-58	<	12.7	
14-Oct-21	HORSERADISH LEAVES	FE-59	<	31.5	
14-Oct-21	HORSERADISH LEAVES	CO-60	<	14.8	
14-Oct-21	HORSERADISH LEAVES	ZN-65	<	36.6	
14-Oct-21	HORSERADISH LEAVES	ZR-NB-95	<	16.8	
14-Oct-21	HORSERADISH LEAVES	I-131	<	18.9	
14-Oct-21	HORSERADISH LEAVES	CS-134	<	17.6	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-Oct-21	HORSERADISH LEAVES	CS-137	<	12.4	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
19-Apr-21	HORSERADISH LEAVES	BE-7	918.5 +/-	317.0	
19-Apr-21	HORSERADISH LEAVES	K-40	5,347.3 +/-	628.7	
19-Apr-21	HORSERADISH LEAVES	MN-54	<	13.1	
19-Apr-21	HORSERADISH LEAVES	CO-58	<	10.8	
19-Apr-21	HORSERADISH LEAVES	FE-59	<	35.0	
19-Apr-21	HORSERADISH LEAVES	CO-60	<	17.9	
19-Apr-21	HORSERADISH LEAVES	ZN-65	<	51.5	
19-Apr-21	HORSERADISH LEAVES	ZR-NB-95	<	20.1	
19-Apr-21	HORSERADISH LEAVES	I-131	<	32.0	
19-Apr-21	HORSERADISH LEAVES	CS-134	<	26.9	
19-Apr-21	HORSERADISH LEAVES	CS-137	<	27.4	
17-May-21	HORSERADISH LEAVES	BE-7	1,683.7 +/-	384.2	
17-May-21	HORSERADISH LEAVES	K-40	3,233.5 +/-	452.7	
17-May-21	HORSERADISH LEAVES	MN-54	<	10.0	
17-May-21	HORSERADISH LEAVES	CO-58	<	19.3	
17-May-21	HORSERADISH LEAVES	FE-59	<	23.5	
17-May-21	HORSERADISH LEAVES	CO-60	<	19.9	
17-May-21	HORSERADISH LEAVES	ZN-65	<	41.4	
17-May-21	HORSERADISH LEAVES	ZR-NB-95	<	14.6	
17-May-21	HORSERADISH LEAVES	I-131	<	26.8	
17-May-21	HORSERADISH LEAVES	CS-134	<	23.0	
17-May-21	HORSERADISH LEAVES	CS-137	<	22.6	
15-Jun-21	HORSERADISH LEAVES	BE-7	1,144.1 +/-	218.1	
15-Jun-21	HORSERADISH LEAVES	K-40	6,308.7 +/-	550.5	
15-Jun-21	HORSERADISH LEAVES	MN-54	<	18.6	
15-Jun-21	HORSERADISH LEAVES	CO-58	<	20.2	
15-Jun-21	HORSERADISH LEAVES	FE-59	<	45.8	
15-Jun-21	HORSERADISH LEAVES	CO-60	<	21.6	
15-Jun-21	HORSERADISH LEAVES	ZN-65	<	53.4	
15-Jun-21	HORSERADISH LEAVES	ZR-NB-95	<	22.3	
15-Jun-21	HORSERADISH LEAVES	I-131	<	24.5	
15-Jun-21	HORSERADISH LEAVES	CS-134	<	19.4	
15-Jun-21	HORSERADISH LEAVES	CS-137	<	15.9	
15-Jul-21	HORSERADISH LEAVES	BE-7	972.1 +/-	207.2	
15-Jul-21	HORSERADISH LEAVES	K-40	6,136.0 +/-	434.2	
15-Jul-21	HORSERADISH LEAVES	MN-54	<	6.6	
15-Jul-21	HORSERADISH LEAVES	CO-58	<	11.4	
15-Jul-21	HORSERADISH LEAVES	FE-59	<	45.5	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
15-Jul-21	HORSERADISH LEAVES	CO-60	<	8.4	
15-Jul-21	HORSERADISH LEAVES	ZN-65	<	15.7	
15-Jul-21	HORSERADISH LEAVES	ZR-NB-95	<	14.1	
15-Jul-21	HORSERADISH LEAVES	I-131	<	48.6	
15-Jul-21	HORSERADISH LEAVES	CS-134	<	15.6	
15-Jul-21	HORSERADISH LEAVES	CS-137	<	12.6	
17-Aug-21	HORSERADISH LEAVES	BE-7	558.6 +/-	196.4	
17-Aug-21	HORSERADISH LEAVES	K-40	6,235.2 +/-	573.1	
17-Aug-21	HORSERADISH LEAVES	MN-54	<	20.1	
17-Aug-21	HORSERADISH LEAVES	CO-58	<	19.8	
17-Aug-21	HORSERADISH LEAVES	FE-59	<	39.8	
17-Aug-21	HORSERADISH LEAVES	CO-60	<	16.4	
17-Aug-21	HORSERADISH LEAVES	ZN-65	<	40.6	
17-Aug-21	HORSERADISH LEAVES	ZR-NB-95	<	21.0	
17-Aug-21	HORSERADISH LEAVES	I-131	<	30.2	
17-Aug-21	HORSERADISH LEAVES	CS-134	<	21.8	
17-Aug-21	HORSERADISH LEAVES	CS-137	<	21.1	
21-Sep-21	HORSERADISH LEAVES	BE-7	444.9 +/-	206.7	
21-Sep-21	HORSERADISH LEAVES	K-40	6,101.3 +/-	644.8	
21-Sep-21	HORSERADISH LEAVES	MN-54	<	21.8	
21-Sep-21	HORSERADISH LEAVES	CO-58	<	12.1	
21-Sep-21	HORSERADISH LEAVES	FE-59	<	46.8	
21-Sep-21	HORSERADISH LEAVES	CO-60	<	24.6	
21-Sep-21	HORSERADISH LEAVES	ZN-65	<	25.7	
21-Sep-21	HORSERADISH LEAVES	ZR-NB-95	<	14.5	
21-Sep-21	HORSERADISH LEAVES	I-131	<	29.2	
21-Sep-21	HORSERADISH LEAVES	CS-134	<	21.7	
21-Sep-21	HORSERADISH LEAVES	CS-137	<	14.6	
14-Oct-21	HORSERADISH LEAVES	BE-7	1,057.3 +/-	261.5	
14-Oct-21	HORSERADISH LEAVES	K-40	6,142.5 +/-	606.1	
14-Oct-21	HORSERADISH LEAVES	MN-54	<	15.5	
14-Oct-21	HORSERADISH LEAVES	CO-58	<	19.4	
14-Oct-21	HORSERADISH LEAVES	FE-59	<	44.4	
14-Oct-21	HORSERADISH LEAVES	CO-60	<	16.5	
14-Oct-21	HORSERADISH LEAVES	ZN-65	<	49.0	
14-Oct-21	HORSERADISH LEAVES	ZR-NB-95	<	20.6	
14-Oct-21	HORSERADISH LEAVES	I-131	<	39.2	
14-Oct-21	HORSERADISH LEAVES	CS-134	<	25.9	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
14-Oct-21	HORSERADISH LEAVES	CS-137	<	22.6	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
17-May-21	HORSERADISH LEAVES	BE-7	1,590.9 +/-	338.5	
17-May-21	HORSERADISH LEAVES	K-40	5,270.7 +/-	602.9	
17-May-21	HORSERADISH LEAVES	MN-54	<	18.8	
17-May-21	HORSERADISH LEAVES	CO-58	<	15.8	
17-May-21	HORSERADISH LEAVES	FE-59	<	29.1	
17-May-21	HORSERADISH LEAVES	CO-60	<	15.4	
17-May-21	HORSERADISH LEAVES	ZN-65	<	27.4	
17-May-21	HORSERADISH LEAVES	ZR-NB-95	<	21.2	
17-May-21	HORSERADISH LEAVES	I-131	<	27.7	
17-May-21	HORSERADISH LEAVES	CS-134	<	24.6	
17-May-21	HORSERADISH LEAVES	CS-137	<	18.1	
15-Jun-21	HORSERADISH LEAVES	BE-7	1,033.1 +/-	288.6	
15-Jun-21	HORSERADISH LEAVES	K-40	5,762.8 +/-	656.8	
15-Jun-21	HORSERADISH LEAVES	MN-54	<	19.5	
15-Jun-21	HORSERADISH LEAVES	CO-58	<	23.5	
15-Jun-21	HORSERADISH LEAVES	FE-59	<	31.8	
15-Jun-21	HORSERADISH LEAVES	CO-60	<	25.7	
15-Jun-21	HORSERADISH LEAVES	ZN-65	<	61.9	
15-Jun-21	HORSERADISH LEAVES	ZR-NB-95	<	29.1	
15-Jun-21	HORSERADISH LEAVES	I-131	<	40.2	
15-Jun-21	HORSERADISH LEAVES	CS-134	<	22.8	
15-Jun-21	HORSERADISH LEAVES	CS-137	<	23.4	
15-Jul-21	HORSERADISH LEAVES	BE-7	665.6 +/-	110.8	
15-Jul-21	HORSERADISH LEAVES	K-40	6,428.8 +/-	260.5	
15-Jul-21	HORSERADISH LEAVES	MN-54	<	10.3	
15-Jul-21	HORSERADISH LEAVES	CO-58	<	10.4	
15-Jul-21	HORSERADISH LEAVES	FE-59	<	19.0	
15-Jul-21	HORSERADISH LEAVES	CO-60	<	7.6	
15-Jul-21	HORSERADISH LEAVES	ZN-65	<	24.1	
15-Jul-21	HORSERADISH LEAVES	ZR-NB-95	<	12.8	
15-Jul-21	HORSERADISH LEAVES	I-131	<	22.1	
15-Jul-21	HORSERADISH LEAVES	CS-134	<	9.4	
15-Jul-21	HORSERADISH LEAVES	CS-137	<	10.4	
21-Sep-21	HORSERADISH LEAVES	BE-7	433.9 +/-	180.8	Duplicate
21-Sep-21	HORSERADISH LEAVES	BE-7	<	281.0	
21-Sep-21	HORSERADISH LEAVES	K-40	6,045.1 +/-	566.5	Duplicate
21-Sep-21	HORSERADISH LEAVES	K-40	6,676.4 +/-	613.9	
21-Sep-21	HORSERADISH LEAVES	MN-54	<	15.5	Duplicate

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
21-Sep-21	HORSERADISH LEAVES	MN-54	<	18.9	
21-Sep-21	HORSERADISH LEAVES	CO-58	<	21.1	Duplicate
21-Sep-21	HORSERADISH LEAVES	CO-58	<	21.2	
21-Sep-21	HORSERADISH LEAVES	FE-59	<	26.7	Duplicate
21-Sep-21	HORSERADISH LEAVES	FE-59	<	35.2	
21-Sep-21	HORSERADISH LEAVES	CO-60	<	24.0	
21-Sep-21	HORSERADISH LEAVES	CO-60	<	18.3	Duplicate
21-Sep-21	HORSERADISH LEAVES	ZN-65	<	45.3	
21-Sep-21	HORSERADISH LEAVES	ZN-65	<	21.6	Duplicate
21-Sep-21	HORSERADISH LEAVES	ZR-NB-95	<	20.6	
21-Sep-21	HORSERADISH LEAVES	ZR-NB-95	<	15.4	Duplicate
21-Sep-21	HORSERADISH LEAVES	I-131	<	28.1	Duplicate
21-Sep-21	HORSERADISH LEAVES	I-131	<	48.3	
21-Sep-21	HORSERADISH LEAVES	CS-134	<	25.8	
21-Sep-21	HORSERADISH LEAVES	CS-134	<	19.0	Duplicate
21-Sep-21	HORSERADISH LEAVES	CS-137	<	17.5	Duplicate
21-Sep-21	HORSERADISH LEAVES	CS-137	<	22.0	
14-Oct-21	HORSERADISH LEAVES	BE-7	1,361.8 +/-	239.3	
14-Oct-21	HORSERADISH LEAVES	K-40	6,145.6 +/-	537.1	
14-Oct-21	HORSERADISH LEAVES	MN-54	<	14.3	
14-Oct-21	HORSERADISH LEAVES	CO-58	<	18.9	
14-Oct-21	HORSERADISH LEAVES	FE-59	<	34.5	
14-Oct-21	HORSERADISH LEAVES	CO-60	<	15.4	
14-Oct-21	HORSERADISH LEAVES	ZN-65	<	42.5	
14-Oct-21	HORSERADISH LEAVES	ZR-NB-95	<	10.6	
14-Oct-21	HORSERADISH LEAVES	I-131	<	27.8	
14-Oct-21	HORSERADISH LEAVES	CS-134	<	20.0	
14-Oct-21	HORSERADISH LEAVES	CS-137	<	14.9	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
06-Oct-21	IRRIGATED CORN	BE-7	<	99.4	
06-Oct-21	IRRIGATED CORN	K-40	2,794.5 +/-	251.0	
06-Oct-21	IRRIGATED CORN	MN-54	<	5.5	
06-Oct-21	IRRIGATED CORN	CO-58	<	7.5	
06-Oct-21	IRRIGATED CORN	FE-59	<	19.3	
06-Oct-21	IRRIGATED CORN	CO-60	<	8.8	
06-Oct-21	IRRIGATED CORN	ZN-65	<	21.6	
06-Oct-21	IRRIGATED CORN	ZR-NB-95	<	9.9	
06-Oct-21	IRRIGATED CORN	I-131	<	34.1	
06-Oct-21	IRRIGATED CORN	CS-134	<	9.2	
06-Oct-21	IRRIGATED CORN	CS-137	<	10.0	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
26-Nov-21	CATTLE FEED	BE-7	<	58.2	
26-Nov-21	CATTLE FEED	K-40	15,837.0 +/-	595.7	
26-Nov-21	CATTLE FEED	MN-54	<	15.5	
26-Nov-21	CATTLE FEED	CO-58	<	10.0	
26-Nov-21	CATTLE FEED	FE-59	<	28.7	
26-Nov-21	CATTLE FEED	CO-60	<	16.3	
26-Nov-21	CATTLE FEED	ZN-65	<	38.9	
26-Nov-21	CATTLE FEED	ZR-NB-95	<	8.6	
26-Nov-21	CATTLE FEED	I-131	<	16.6	
26-Nov-21	CATTLE FEED	CS-134	<	12.2	
26-Nov-21	CATTLE FEED	CS-137	<	16.0	

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

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
30-Sep-21	NON-IRRIGATED CORN	BE-7	<	57.7	
30-Sep-21	NON-IRRIGATED CORN	K-40	3,401.8 +/-	189.4	
30-Sep-21	NON-IRRIGATED CORN	MN-54	<	5.6	
30-Sep-21	NON-IRRIGATED CORN	CO-58	<	5.8	
30-Sep-21	NON-IRRIGATED CORN	FE-59	<	12.5	
30-Sep-21	NON-IRRIGATED CORN	CO-60	<	3.2	
30-Sep-21	NON-IRRIGATED CORN	ZN-65	<	10.7	
30-Sep-21	NON-IRRIGATED CORN	ZR-NB-95	<	6.9	
30-Sep-21	NON-IRRIGATED CORN	I-131	<	10.8	
30-Sep-21	NON-IRRIGATED CORN	CS-134	<	6.2	
30-Sep-21	NON-IRRIGATED CORN	CS-137	<	6.4	

Exposure Pathway - Aquatic
Bottom Sediment
Location: DC

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
05-May-21	BOTTOM SEDIMENT	K-40	12,574.0 +/-	402.7	
05-May-21	BOTTOM SEDIMENT	MN-54	<	19.2	
05-May-21	BOTTOM SEDIMENT	CO-58	<	17.0	
05-May-21	BOTTOM SEDIMENT	FE-59	<	30.0	
05-May-21	BOTTOM SEDIMENT	CO-60	<	18.5	
05-May-21	BOTTOM SEDIMENT	ZN-65	<	36.1	
05-May-21	BOTTOM SEDIMENT	CS-134	<	15.6	
05-May-21	BOTTOM SEDIMENT	CS-137	49.7 +/-	18.0	
05-May-21	BOTTOM SEDIMENT	FE-55	<	14,755.7	
09-Nov-21	BOTTOM SEDIMENT	K-40	14,368.0 +/-	1,359.0	
09-Nov-21	BOTTOM SEDIMENT	MN-54	<	57.9	
09-Nov-21	BOTTOM SEDIMENT	CO-58	<	59.6	
09-Nov-21	BOTTOM SEDIMENT	FE-59	<	114.4	
09-Nov-21	BOTTOM SEDIMENT	CO-60	<	50.1	
09-Nov-21	BOTTOM SEDIMENT	ZN-65	<	109.1	
09-Nov-21	BOTTOM SEDIMENT	CS-134	<	40.2	
09-Nov-21	BOTTOM SEDIMENT	CS-137	<	60.1	
09-Nov-21	BOTTOM SEDIMENT	FE-55	<	5,829.0	

Exposure Pathway - Aquatic
Bottom Sediment
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
25-May-21	BOTTOM SEDIMENT	K-40	12,581.0 +/-	790.5	
25-May-21	BOTTOM SEDIMENT	MN-54	<	34.0	
25-May-21	BOTTOM SEDIMENT	CO-58	<	39.2	
25-May-21	BOTTOM SEDIMENT	FE-59	<	137.9	
25-May-21	BOTTOM SEDIMENT	CO-60	<	25.5	
25-May-21	BOTTOM SEDIMENT	ZN-65	<	82.5	
25-May-21	BOTTOM SEDIMENT	CS-134	<	26.6	
25-May-21	BOTTOM SEDIMENT	CS-137	<	33.7	

Exposure Pathway - Aquatic
Bottom Sediment
Location: JRR

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
05-May-21	BOTTOM SEDIMENT	K-40	14,253.0 +/-	449.1	
05-May-21	BOTTOM SEDIMENT	MN-54	<	18.6	
05-May-21	BOTTOM SEDIMENT	CO-58	<	20.6	
05-May-21	BOTTOM SEDIMENT	FE-59	<	37.8	
05-May-21	BOTTOM SEDIMENT	CO-60	<	18.9	
05-May-21	BOTTOM SEDIMENT	ZN-65	<	38.8	
05-May-21	BOTTOM SEDIMENT	CS-134	<	17.8	
05-May-21	BOTTOM SEDIMENT	CS-137	69.6 +/-	22.4	
01-Dec-21	BOTTOM SEDIMENT	K-40	18,725.0 +/-	1,975.0	
01-Dec-21	BOTTOM SEDIMENT	MN-54	<	85.0	
01-Dec-21	BOTTOM SEDIMENT	CO-58	<	78.3	
01-Dec-21	BOTTOM SEDIMENT	FE-59	<	244.7	
01-Dec-21	BOTTOM SEDIMENT	CO-60	<	52.9	
01-Dec-21	BOTTOM SEDIMENT	ZN-65	<	194.2	
01-Dec-21	BOTTOM SEDIMENT	CS-134	<	58.9	
01-Dec-21	BOTTOM SEDIMENT	CS-137	166.7 +/-	93.7	

Exposure Pathway - Aquatic
Bottom Sediment
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
05-Feb-21	BOTTOM SEDIMENT	K-40	10,306.0	+/- 639.0	
05-Feb-21	BOTTOM SEDIMENT	MN-54	<	26.9	
05-Feb-21	BOTTOM SEDIMENT	CO-58	<	41.1	
05-Feb-21	BOTTOM SEDIMENT	FE-59	<	89.8	
05-Feb-21	BOTTOM SEDIMENT	CO-60	<	26.7	
05-Feb-21	BOTTOM SEDIMENT	ZN-65	<	77.4	
05-Feb-21	BOTTOM SEDIMENT	CS-134	<	24.9	
05-Feb-21	BOTTOM SEDIMENT	CS-137	<	25.5	
02-Dec-21	BOTTOM SEDIMENT	K-40	12,660.0	+/- 920.7	
02-Dec-21	BOTTOM SEDIMENT	MN-54	<	50.6	
02-Dec-21	BOTTOM SEDIMENT	CO-58	<	41.3	
02-Dec-21	BOTTOM SEDIMENT	FE-59	<	131.2	
02-Dec-21	BOTTOM SEDIMENT	CO-60	<	41.4	
02-Dec-21	BOTTOM SEDIMENT	ZN-65	<	125.9	
02-Dec-21	BOTTOM SEDIMENT	CS-134	<	35.1	
02-Dec-21	BOTTOM SEDIMENT	CS-137	<	47.3	

Exposure Pathway - Aquatic Vegetation
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
19-Oct-21	AMERICAN PONDWEED	BE-7	351.4 +/-	108.8	
19-Oct-21	AMERICAN PONDWEED	BE-7	377.8 +/-	71.5	Duplicate
19-Oct-21	AMERICAN PONDWEED	K-40	2,206.6 +/-	141.6	
19-Oct-21	AMERICAN PONDWEED	K-40	2,416.2 +/-	84.5	Duplicate
19-Oct-21	AMERICAN PONDWEED	MN-54	<	4.3	Duplicate
19-Oct-21	AMERICAN PONDWEED	MN-54	<	8.8	
19-Oct-21	AMERICAN PONDWEED	CO-58	<	5.4	Duplicate
19-Oct-21	AMERICAN PONDWEED	CO-58	<	6.7	
19-Oct-21	AMERICAN PONDWEED	FE-59	<	24.0	
19-Oct-21	AMERICAN PONDWEED	FE-59	<	14.5	Duplicate
19-Oct-21	AMERICAN PONDWEED	CO-60	<	6.1	
19-Oct-21	AMERICAN PONDWEED	CO-60	<	4.3	Duplicate
19-Oct-21	AMERICAN PONDWEED	ZN-65	<	15.4	
19-Oct-21	AMERICAN PONDWEED	ZN-65	<	8.2	Duplicate
19-Oct-21	AMERICAN PONDWEED	ZR-NB-95	<	15.0	
19-Oct-21	AMERICAN PONDWEED	ZR-NB-95	<	11.9	Duplicate
19-Oct-21	AMERICAN PONDWEED	I-131	<	396.0	
19-Oct-21	AMERICAN PONDWEED	I-131	<	298.5	Duplicate
19-Oct-21	AMERICAN PONDWEED	CS-134	<	6.0	
19-Oct-21	AMERICAN PONDWEED	CS-134	<	3.7	Duplicate
19-Oct-21	AMERICAN PONDWEED	CS-137	<	4.1	Duplicate
19-Oct-21	AMERICAN PONDWEED	CS-137	<	7.5	

Exposure Pathway - Terrestrial
Vegetation
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Jun-21	PASTURAGE	BE-7	1,683.3 +/-	206.3	
23-Jun-21	PASTURAGE	K-40	8,717.0 +/-	535.7	
23-Jun-21	PASTURAGE	MN-54	<	13.4	
23-Jun-21	PASTURAGE	CO-58	<	12.8	
23-Jun-21	PASTURAGE	FE-59	<	18.5	
23-Jun-21	PASTURAGE	CO-60	<	10.1	
23-Jun-21	PASTURAGE	ZN-65	<	42.9	
23-Jun-21	PASTURAGE	ZR-NB-95	<	15.2	
23-Jun-21	PASTURAGE	I-131	<	32.4	
23-Jun-21	PASTURAGE	CS-134	<	15.8	
23-Jun-21	PASTURAGE	CS-137	<	17.9	

Exposure Pathway - Terrestrial
Vegetation
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
23-Jun-21	PASTURAGE	BE-7	954.8 +/-	263.5	
23-Jun-21	PASTURAGE	BE-7	975.5 +/-	333.6	Duplicate
23-Jun-21	PASTURAGE	K-40	8,121.7 +/-	701.6	Duplicate
23-Jun-21	PASTURAGE	K-40	8,057.4 +/-	556.0	
23-Jun-21	PASTURAGE	MN-54	<	19.7	
23-Jun-21	PASTURAGE	MN-54	<	24.9	Duplicate
23-Jun-21	PASTURAGE	CO-58	<	28.5	Duplicate
23-Jun-21	PASTURAGE	CO-58	<	20.2	
23-Jun-21	PASTURAGE	FE-59	<	51.9	Duplicate
23-Jun-21	PASTURAGE	FE-59	<	21.6	
23-Jun-21	PASTURAGE	CO-60	<	19.5	Duplicate
23-Jun-21	PASTURAGE	CO-60	<	14.1	
23-Jun-21	PASTURAGE	ZN-65	<	42.1	
23-Jun-21	PASTURAGE	ZN-65	<	34.7	Duplicate
23-Jun-21	PASTURAGE	ZR-NB-95	<	21.4	
23-Jun-21	PASTURAGE	ZR-NB-95	<	27.4	Duplicate
23-Jun-21	PASTURAGE	I-131	<	38.5	
23-Jun-21	PASTURAGE	I-131	<	43.6	Duplicate
23-Jun-21	PASTURAGE	CS-134	<	30.1	Duplicate
23-Jun-21	PASTURAGE	CS-134	<	21.0	
23-Jun-21	PASTURAGE	CS-137	<	34.5	Duplicate
23-Jun-21	PASTURAGE	CS-137	<	21.2	

Exposure Pathway - Terrestrial
Soil
Location: EEA

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
26-Apr-21	SOIL	K-40	10,551.0 +/-	699.1	
26-Apr-21	SOIL	MN-54	<	30.8	
26-Apr-21	SOIL	CO-58	<	23.0	
26-Apr-21	SOIL	FE-59	<	50.0	
26-Apr-21	SOIL	CO-60	<	24.4	
26-Apr-21	SOIL	ZN-65	<	71.1	
26-Apr-21	SOIL	CS-134	<	26.0	
26-Apr-21	SOIL	CS-137	183.6 +/-	27.8	

Exposure Pathway - Terrestrial
Soil
Location: MUDS

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Dry)		Duplicate Analysis
26-Apr-21	SOIL	K-40	10,874.0 +/-	717.5	
26-Apr-21	SOIL	MN-54	<	30.8	
26-Apr-21	SOIL	CO-58	<	33.6	
26-Apr-21	SOIL	FE-59	<	66.1	
26-Apr-21	SOIL	CO-60	<	24.1	
26-Apr-21	SOIL	ZN-65	<	63.0	
26-Apr-21	SOIL	CS-134	<	27.0	
26-Apr-21	SOIL	CS-137	112.2 +/-	38.6	
02-Dec-21	SOIL	K-40	13,209.0 +/-	1,161.0	
02-Dec-21	SOIL	MN-54	<	42.5	
02-Dec-21	SOIL	CO-58	<	60.2	
02-Dec-21	SOIL	FE-59	<	83.7	
02-Dec-21	SOIL	CO-60	<	42.4	
02-Dec-21	SOIL	ZN-65	<	144.3	
02-Dec-21	SOIL	CS-134	<	44.5	
02-Dec-21	SOIL	CS-137	176.2 +/-	59.2	

Exposure Pathway - Ingestion
Meat
Location: A1.42

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
13-Nov-21	DEER	K-40	3,617.2 +/-	423.7	
13-Nov-21	DEER	MN-54	<	17.5	
13-Nov-21	DEER	CO-58	<	13.4	
13-Nov-21	DEER	FE-59	<	38.2	
13-Nov-21	DEER	CO-60	<	17.7	
13-Nov-21	DEER	ZN-65	<	34.0	
13-Nov-21	DEER	CS-134	<	18.0	
13-Nov-21	DEER	CS-137	<	16.9	
13-Nov-21	DEER	H-3	906.0 +/-	97.0	

Exposure Pathway - Ingestion
Meat
Location: R1.5

Collection Date	Sample Description	Nuclide	Concentration (pCi/Kg Wet)		Duplicate Analysis
29-Apr-21	WILD TURKEY	K-40	2,256.4 +/-	367.3	
29-Apr-21	WILD TURKEY	MN-54	<	11.0	
29-Apr-21	WILD TURKEY	CO-58	<	8.6	
29-Apr-21	WILD TURKEY	FE-59	<	15.9	
29-Apr-21	WILD TURKEY	CO-60	<	11.8	
29-Apr-21	WILD TURKEY	ZN-65	<	22.2	
29-Apr-21	WILD TURKEY	CS-134	<	13.7	
29-Apr-21	WILD TURKEY	CS-137	<	14.1	
29-Apr-21	WILD TURKEY	H-3	371.0 +/-	67.0	

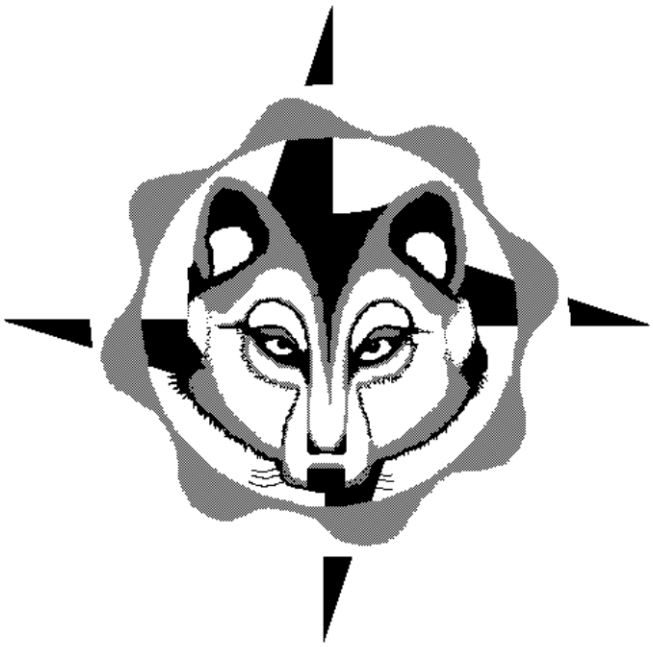
APPENDIX D

LAND USE CENSUS REPORT

Enclosure I

WOLF CREEK GENERATING STATION

2021 LAND USE CENSUS REPORT



Prepared by:

Joseph p. Augustyn — 12/08/2021

Joseph p. Augustyn — Date

Peer Review:

Jon Matthew Vopat — 12/18/2021

Jon Matthew Vopat — Date

Approved by:

Daniel Michel — 3/24/2022

Daniel Michel — Date

EXECUTIVE SUMMARY

The annual Land Use Census of rural residents within five miles of the Wolf Creek Generating Station (WCGS) has been completed in 2021 in accordance with AP 07B-004, [Offsite Dose Calculation Manual (Radiological Environmental Monitoring Program)].

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

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

BACKGROUND

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

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

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

METHODOLOGY

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

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

RESULTS

No changes were identified for the nearest occupied residence in each sector. Ten changes were noted for the nearest garden producing broadleaf vegetation. Three of the ten did not have gardens in that sector. These changes are identified as an underlined entry in the Tables. There were no changes regarding milk sample locations. Again, no locations were identified that milked animals for human consumption.

TABLE 1

2021 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	B3.35-QURD1755
C	C1.92-16RD1655	None	C3.58-RERD1675
D	D2.33-RERD1520	None	None
E	E1.78-QULA1451	None	E4.40-TRRD1551
F	F1.76-14RD1730	None	F2.48-RERD1380
G	G3.03-13RD1820	None	G4.08-SHRD1234
H	H3.09-12RD1711	None	H4.95-10RD1726
J	J3.70-11RD1540	None	J4.37-PLRD1040
K	K2.70-12LA1437	None	None
L	L2.10-NARD1339	None	L2.39-NARD1309
M	M2.34-14RD1346	None	None
N	N2.08-15RD1350	None	N2.38-RODR9
P	P2.76-HW751534	None	P4.69-DEST337
Q	Q2.35-MILA1619	None	Q2.35-MILA1619
R	R2.08-NALN1650	None	None

NOTE: Entries underlined indicate changes from the 2020 Land Use Census.

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

TABLE 2

SECTOR	2020 NEAREST RESIDENCE	2021 NEAREST RESIDENCE
A	A2.60-17TE1527	A2.60-17TE1527
B	B3.53-QURD1755	B3.53-QURD1755
C	C1.92-16RD1655	C1.92-16RD1655
D	D2.33-RERD1520	D2.33-RERD1520
E	E1.78-QULA1451	E1.78-QULA1451
F	F1.76-14RD1730	F1.76-14RD1730
G	G3.03-13RD1820	G3.03-13RD1820
H	H3.09-12RD1711	H3.09-12RD1711
J	J3.70-11RD1540	J3.70-11RD1540
K	K2.70-12LA1437	K2.70-12LA1437
L	L2.10-NARD1339	L2.10-NARD1339
M	M2.34-14RD1346	M2.34-14RD1346
N	N2.08-15RD1350	N2.08-15RD1350
P	P2.76-HW751534	P2.76-HW751534
Q	Q2.35-MILA1619	Q2.35-MILA1619
R	R2.08-NALN1650	R2.08-NALN1650

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

TABLE 3

2020 LAND USE CENSUS MILK AND GARDEN DATA

SECTOR	2020 MILKING ANIMALS	2021 MILKING ANIMALS	2020 NEAREST BROADLEAF GARDEN	2021 NEAREST BROADLEAF GARDEN
A	None	None	A2.60-17TE1527	A2.60-17TE1527
B	None	None	B4.09-18RD1739	B3.35-QURD1755
C	None	None	C3.58-RERD1675	C3.58-RERD1675
D	None	None	D2.33-RERD1520	None
E	None	None	E4.40-TRRD1551	E4.40-TRRD1551
F	None	None	F2.44-RERD1391	F2.48-RERD1380
G	None	None	G3.60-RERD1198	G4.08-SHRD1234
H	None	None	H3.80-11RD1674	H4.95-10RD1726
J	None	None	J3.70-11RD1540	J4.37-PLRD1040
K	None	None	K4.10-NARD1120	None
L	None	None	L2.39-NARD1309	L2.39-NARD1309
M	None	None	M3.69-LYLA1290	None
N	None	None	N2.08-15RD1350	N2.38-RODR9
P	None	None	P2.94-16RD1309	P4.69-DEST337
Q	None	None	Q2.35-MILA1619	Q2.35-MILA1619
R	None	None	None	None

NOTE: Underlined entries indicate changes from the 2020 Land Use Census.

TABLE 4

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

FROM LAND USE			FROM SA-19-002					
SECTOR	DIST (MI)	CALC (METERS)	NEAR DIST	NEAR D / Q	FAR DIST	FAR D / Q	CALC	SECTOR RANKING
A	2.60	4184	4000	1.94E-09	5000	1.32E-09	1.83E-09	1
B	3.53	5681	5000	6.58E-10	6000	4.84E-10	5.40E-10	5
C	3.58	5761	5000	2.51E-10	6000	1.85E-10	2.01E-10	11
*D								
E	4.40	7081	7000	1.28E-10	8000	1.03E-10	1.26E-10	12
F	2.48	3991	3000	6.58E-10	4000	3.95E-10	3.97E-10	6
G	4.08	6566	6000	3.44E-10	7000	2.55E-10	2.94E-10	7
H	4.95	7966	7000	3.50E-10	8000	2.83E-10	2.85E-10	8
J	4.37	7033	5000	4.59E-10	6000	3.37E-10	2.11E-10	10
*K								
L	2.39	3846	3000	1.02E-09	4000	6.11E-10	6.74E-10	4
*M								
N	2.38	3830	3000	1.10E-09	4000	6.62E-10	7.36E-10	3
P	4.69	7548	7000	2.79E-10	8000	2.25E-10	2.49E-10	9
Q	2.35	3782	3000	1.53E-09	4000	9.17E-10	1.05E-09	2
*R								

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

Originated by: [signature] Date: 12/07/2021

Verified by: Matt Vopat Date: 12/18/2021