INL/RPT-24-81473
Revision 0

Idaho National Laboratory Site Environmental Surveillance Program Report: Second Quarter 2024

March 2025

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EXECUTIVE SUMMARY

Some human-made radionuclides were detected in samples collected during the second quarter of 2024. None of the radionuclides detected in samples collected during the second quarter of 2024 could be directly linked with Idaho National Laboratory (INL) Site activities. All detected radionuclide concentrations were well below standards set by the U.S. Department of Energy (DOE) and regulatory standards established by the U.S. Environmental Protection Agency (EPA) for protection of the public.

This report for the second quarter of 2024 contains results from the INL Site environmental surveillance program's monitoring of the U.S. Department of Energy's INL Site's onsite, boundary and offsite location environment, April 1 through June 30, 2024. All sample types (media) and the sampling schedule followed during 2024 are listed in Appendix A. This report contains results for the following sample types:

- Air, including particulate air filters, charcoal cartridges, and atmospheric moisture
- Quarterly air filter composites
- Precipitation
- Water (effluent, groundwater, and drinking water)
- Milk
- Large game animal sampling.

Table ES-1. Summary of results for the second quarter of 2024.

MEDIA	SAMPLE TYPE	ANALYSIS	RESULTS
Air	Particulate Filters	Gross alpha, gross beta	No statistically significant differences were observed for the quarter, any month during the quarter, or between sampling locations for gross alpha or gross beta concentrations. No result exceeded the Derived Concentration Standard (DCS) values for gross alpha or gross beta activity in air. Results were consistent with historical data.
	Quarterly Composite	Gamma-emitting radionuclides, strontium-90, chlorine-36, actinides (americium, plutonium, and uranium)	No cesium-137, americium-241, plutonium-238, plutonium-239/240, or strontium-90 was detected in quarterly composited samples collected during the second quarter of 2024. Uranium-233/244 and uranium-238 were detected in composite samples from several locations. None of the results exceeded the corresponding DCS values.
	Charcoal Cartridge	Iodine-131	Iodine-131 was not detected in any of the charcoal cartridges counted during the quarter.
Atmospheric Moisture	Liquid	Tritium	Two of the 20 results showed tritium concentrations greater than the 3s uncertainty. Both results were below the DCS value.
Precipitation	Liquid	Tritium	None of the 14 results showed tritium concentrations greater than the 3s uncertainty.
Effluent	Liquid	Gross alpha, gross beta, tritium, gamma-emitting radionuclides	No human-made gamma-emitting radionuclides were detected in effluent samples collected during the quarter. Gross alpha and gross beta detected in the Cold Waste Pond (CWP) and Industrial Waste Pond (IWP) effluent samples were below allowable discharge limits. Uranium-233/234 and uranium-238 detected in IWP effluent samples were also below allowable discharge limits. The CWP gross alpha results for May and June exceeded the 5 pCi/L contingency analysis threshold. The samples were re-logged and analyzed for radium-226 and radium-228 which resulted in non-detects for both analytes.
Groundwater	Liquid	Gross alpha, gross beta, tritium, carbon-14, iodine-129, technetium-99, strontium-90,	No human-made gamma-emitting radionuclides were detected in groundwater samples collected during the quarter. Gross alpha and gross beta were detected in some groundwater samples collected from Advanced Test Reactor (ATR)

Table ES-1. continued.

MEDIA	SAMPLE TYPE	ANALYSIS	RESULTS
		gamma-emitting radionuclides, and actinides (americium, plutonium, uranium)	Complex, Materials and Fuels Complex (MFC), and the Remote-Handled Low-Level Waste (RHLLW) Disposal Facility. Tritium was detected in several samples collected from the ATR Complex and RHLLW Disposal Facility. Uranium-233/234 and uranium-238 were detected in MFC groundwater samples. All concentrations were below applicable groundwater standards.
Surface water	Liquid	Gross alpha, gross beta, tritium	Gross alpha and tritium were not detected in any surface water samples. Gross beta was detected in all four samples. All concentrations were similar to previous results.
Drinking water	Liquid	Gross alpha, gross beta, tritium, Iodine-129	Gross alpha activity was detected in the samples collected at Critical Infrastructure Test Range Complex and Atomic City. Gross beta was detected in all onsite and offsite drinking water samples. Tritium was detected in samples collected from Central Facilities Area. Concentrations were similar to previous results.
Milk	Liquid	Iodine-131, other gamma-emitting radionuclides	Forty-four milk samples were collected at seven locations (including the offsite control sample from Broomfield, Colorado, and three duplicates). No human-made gamma-emitting radionuclides or tritium were detected. Strontium-90 was detected in a milk sample collected from Terreton. The result was within the range of the past several years and below the DCS value for ^{90}Sr in milk.
Large game animals	Tissue	Gamma-emitting radionuclides	No human-made gamma-emitting radionuclides were found in any of the tissue samples collected during the second quarter.
Environmental Dosimeters	External radiation	Gamma-emitting and neutron radioactivity	Measurements of environmental radiation made using optically stimulated luminescent dosimeters (OSLDs) were primarily below the background level upper tolerance limit (UTL) except for two locations in Idaho Falls (IF-638W and IF-675S) and one location at Test Area North (TAN LOFT). Measurements that exceeded the UTL were within historical values. Neutron dose monitoring performed at INL buildings and facilities were reported to be below the minimum measurable quantity of 10 mrem.

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FIGURES

TABLES

ACRONYMS

ATR	Advanced Test Reactor
CFA	Central Facilities Area
CFR	Code of Federal Regulations
CITRC	Critical Infrastructure Test Range Complex
CTF	Contained Test Facility
CWP	Cold Waste Pond
DCS	Derived Concentration Standard
DEQ	Department of Environmental Quality
DOE	U.S. Department of Energy
DOECAP-AP	DOE Consolidated Audit Program – Accreditation Program
EBR-I	Experimental Breeder Reactor I
EFS	Experimental Field Station
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
GEL	GEL Laboratories, LLC
HWY	Highway
ICP	Idaho Cleanup Project
ICPP	Idaho Chemical Processing Plant
IDAPA	Idaho Administrative Procedures Act
INEEL	Idaho National Engineering and Environmental Laboratory
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center (formerly ICPP)
IRC	INL Research Center
IWP	Industrial Waste Pond
MCL	maximum contaminant level
MFC	Materials and Fuels Complex
NRF	Naval Reactors Facility
NRTS	National Reactor Testing Station
OSLD	optically stimulated luminescent dosimeters
PBF	Power Burst Facility
PE	performance evaluation
PT	performance testing
RHLLW	Remote-Handled Low-Level Waste
RWMC	Radioactive Waste Management Complex
SMC	Specific Manufacturing Capability
TAN	Test Area North
UTL	upper tolerance limit

UNITS

Bq	becquerel
Ci	curie
g	gram
L	liter
µCi	microcurie
ml	milliliter
mrem	millirem
mR	milliroentgen
pCi	picocurie

1. INL Contractor Program Description

Operations at the Idaho National Laboratory (INL) Site are conducted under requirements imposed by the U.S. Department of Energy (DOE) under authority of the Atomic Energy Act and the U.S. Environmental Protection Agency (EPA) under several acts (e.g., the Clean Air Act and Safe Drinking Water Act). The requirements imposed by DOE are specified in DOE Orders. These requirements include those to monitor the effects of DOE radiological activities both inside and outside the boundaries of DOE facilities (DOE 2011, DOE 2015).

The INL Site contractors (INL and the Idaho Cleanup Project [ICP] contractors) perform environmental surveillance monitoring within the INL Site boundaries. The INL contractor also provides environmental surveillance monitoring off the INL Site.

This report contains the INL contractor's environmental surveillance monitoring results for samples collected during the second quarter of 2024 (April 1 – June 30, 2024). Compliance monitoring results from the INL Site contractors and U.S. Geological Survey are reported in the Annual Site Environmental Report (https://inl.gov/aser/).

The INL environmental surveillance program is designed to satisfy the following objectives:

- verify compliance with applicable environmental laws, regulations, and DOE Orders
- characterize and define trends in the physical, chemical, and biological condition of environmental media on and around the INL Site
- assess the potential radiation dose to members of the public from INL Site effluents
- present laboratory data which has been reviewed using an EPA quality assurance process.

The goal of the surveillance program is to monitor different media at a number of potential exposure points within the various exposure pathways, including air, water, agricultural products, wildlife, and soil that could possibly contribute to the radiation dose received by the public.

The INL contractor's environmental surveillance program collects the following environmental samples:

- air at 18 INL Site locations and at 14 locations off the INL Site
- atmospheric moisture at three INL Site locations and at five locations off the INL Site
- precipitation collected at one INL Site location and three locations off the INL Site
- liquid effluent collected at two INL Site locations
- groundwater collected at thirteen INL Site locations
- drinking water collected at eight INL Site locations and at eight locations off the INL Site
- surface water collected from three springs located downgradient of the INL Site and from five locations along the Big Lost River, when it is flowing, on the INL Site
- agricultural products, including milk at six dairies around the INL Site, potatoes from at least eight regional producers, alfalfa from three locations off the INL Site, grain (wheat and barley) from approximately nine regional producers, and lettuce from approximately seven home-owned and portable gardens on and around the INL Site
- soil from 30 locations on and around the INL Site every five years
- environmental dosimeters from 185 locations semi-annually

- various numbers of wildlife including bats, big game (pronghorn, mule deer, and elk), and waterfowl sampled from the INL Site.

Table A-1 in Appendix A lists samples, sampling locations, and collection frequency for the INL contractor.

Two laboratories were used to perform analyses on routine environmental samples collected during the quarter identified in this report. The INL Environmental Services In Situ Gamma Laboratory was used to scan charcoal cartridges for gamma-emitting radionuclides. GEL Laboratories, LLC, (GEL) performed routine gross alpha, gross beta, tritium, and gamma spectrometry analyses. Analyses requiring radiochemistry including strontium-90 (^{90}Sr), chlorine-36 (^{36}Cl), plutonium-238 (^{238}Pu), plutonium-239/240 ($^{239/240}$Pu), uranium-233/234 ($^{233/234}$U), uranium-235 (^{235}U), uranium-238 (^{238}U), and americium-241 (^{241}Am) were also performed by GEL.

In the event of non-routine occurrences, such as suspected releases of radioactive material, the INL contractor may increase the frequency of sampling and/or the number of sampling locations based on the nature of the release and wind distribution patterns. Any data found to be outside historical norms is thoroughly investigated to determine if an INL Site origin is likely. Investigation may include re-sampling and/or re-analysis of prior samples.

In the event of any suspected worldwide nuclear incidents, like the 1986 Chernobyl accident or the 2011 Fukushima accident, the EPA may request additional sampling be performed through RadNet. RadNet is a nationwide environmental radiation monitoring system that monitors the nation's air, precipitation, and drinking water for radiation. The INL contractor currently operates a high-volume air sampler and collects precipitation and drinking water in Idaho Falls for this national program and routinely sends samples to EPA's Eastern Environmental Radiation Facility for analyses. The RadNet data collected at Idaho Falls are not reported by the INL contractor but are available through the EPA RadNet website (https://www.epa.gov/radnet).

Once samples have been collected and analyzed, the INL contractor has the responsibility for quality control of the data, entry into databases, and reporting in quarterly reports. The quarterly reports are then consolidated into the INL Site Environmental Report for each calendar year. The annual report also includes data collected by other INL Site contractors.

The results reported in the quarterly and annual reports are assessed in terms of data quality and statistical significance with respect to laboratory analytical uncertainties, sample locations, reported INL Site releases, meteorological data, and worldwide events that might conceivably affect the INL Site environment. First, field collection and laboratory information are reviewed to determine identifiable errors that would invalidate or limit use of the data. Examples of such limitations include insufficient sample volume, torn filters, evidence of laboratory cross-contamination or quality control issues. Data that pass initial screening are further evaluated using statistical methods. Statistical tools are necessary for data evaluation particularly since environmental measurements typically involve the determination of minute concentrations, which are difficult to detect and even more difficult to distinguish from other measurements.

Results are presented in this report with an analytical uncertainty term, s, where 's' is the estimated sample standard deviation (σ), assuming a Gaussian or normal distribution. All results are reported in this document, even those that do not necessarily represent detections. The term 'detected,' as used for the discussion of results in this report, does not imply any degree of risk to the public or environment, but rather indicates that the radionuclide was measured at a concentration sufficient for the analytical instrument to record a value that is statistically different from background. Laboratory measurements

involve the analysis of a target sample and the analysis of a prepared laboratory blank (i.e., a sample which is identical to the sample collected in the environment, except that the radionuclide of interest is absent). In order to conclude that a radionuclide has been detected, it is essential to consider two fundamental aspects of the problem of detection: (1) the instrument signal for the sample must be greater than that observed for the blank before the decision can be made that the radionuclide has been detected; and (2) an estimate must be made of the minimum radionuclide concentration that will yield a sufficiently large observed signal before the correct decision can be made for detection or non-detection. Each laboratory currently defines a detection of radioactivity in an individual sample if the result exceeds a detection level calculated by the laboratory after the analysis of a background sample, based on calculations derived by Currie (1984). The minimum detectable concentration is defined as the concentration at which there is a 95% confidence that an analyte signal will be distinguishable from an analyte-free sample.

In addition, the INL contractor uses the three standard deviation (3s) criterion to minimize the chance that a potentially false positive result is included in the data set. Statistically, the probability that a result can exceed the absolute value of its total uncertainty at 3s by chance alone is less than 1%. A result that is greater than three times the total uncertainty of the measurement represents a statistically positive detection with over 99% confidence (DOE 2022). The INL contractor reports measured radionuclide concentrations greater than or equal to their respective 3s uncertainties as being detected with confidence.

Concentrations between two standard deviations (2s) and 3s are reported as questionably detected. That is, the radionuclide may be present in the sample; however, the probability that a result can exceed the absolute value of its total uncertainty at 2s by chance alone may be as high as 5%. Measurements made between 2s and 3s are examined further to determine if they are a part of a pattern (temporal or spatial) that might warrant further investigation or recounting. For example, if a radionuclide is routinely detected at > 3s at a specific location, a sample result between 2s and 3s might be considered detected.

If a result is less than or equal to 2s there is even less statistical confidence that the radionuclide is present in the sample. Analytical results in this report are presented as the result value ± one standard deviation (1s) for reporting consistency with the annual report. To obtain the 2s or 3s values simply multiply the uncertainty term by 2 or 3.

Data are also compared to historical measurements using the upper tolerance limit (UTL). The UTL is a value such that 99% of the population (all valid measurements made between 2011-2020) is less than the UTL with 95% confidence (EPA 2015). With a 99%/95% UTL it is expected that approximately 1% of the measurements will exceed the UTL if the concentration of a radionuclide is within the normal range. This means that if a concentration exceeds the UTL it does not necessarily indicate that the sampling location is outside of the normal range. Rather, it indicates that the measurement should be closely examined to determine if it is unusually high.

For more information concerning the INL environmental surveillance monitoring program, please email George.KrauszerII@inl.gov, or visit https://inl.gov/environmental-monitoring/.

2. INL Site

The INL Site is a nuclear energy and homeland security research and environmental management facility. It is owned and administered by the DOE, Idaho Operations Office and occupies about 890 mi^2 (2,300 km^2) of the upper Snake River Plain in Southeastern Idaho (Figure 1). The history of the INL Site began during World War II when the U.S. Naval Ordnance Station was located in Pocatello, Idaho. This station, one of two such installations in the U.S., retooled large guns from U.S. Navy warships. The retooled guns were tested on the nearby, uninhabited plain, known as the Naval Proving Ground. In the years following the war, as the nation worked to develop nuclear power, the Atomic Energy Commission, predecessor to the DOE, became interested in the Naval Proving Ground and made plans for a facility to build, test, and perfect nuclear power reactors.

The Naval Proving Ground became the National Reactor Testing Station (NRTS) in 1949, under the Atomic Energy Commission. By the end of 1951, a reactor at the NRTS became the first to produce useful amounts of electricity. Over time the site has operated 52 various types of reactors, associated research centers, and waste handling areas. The NRTS was renamed the Idaho National Engineering Laboratory in 1974, and the Idaho National Engineering and Environmental Laboratory (INEEL) in January 1997. With renewed interest in nuclear power the DOE announced in 2003 that Argonne National Laboratory and the INEEL would be the lead laboratories for development of the next generation of power reactors. On February 1, 2005, the INEEL and Argonne National Laboratory-West became the INL. The INL is committed to providing international nuclear leadership for the 21st Century, developing and demonstrating compelling national security technologies, and delivering excellence in science and technology as one of the DOE's multi-program national laboratories. Battelle Energy Alliance, LLC, is responsible for the management and operations of the INL.

The ICP is a separately managed effort. The ICP is charged with safely and cost-effectively completing the majority of cleanup work from past laboratory missions in an ongoing process. The Idaho Environmental Coalition, LLC, is responsible for the ICP.

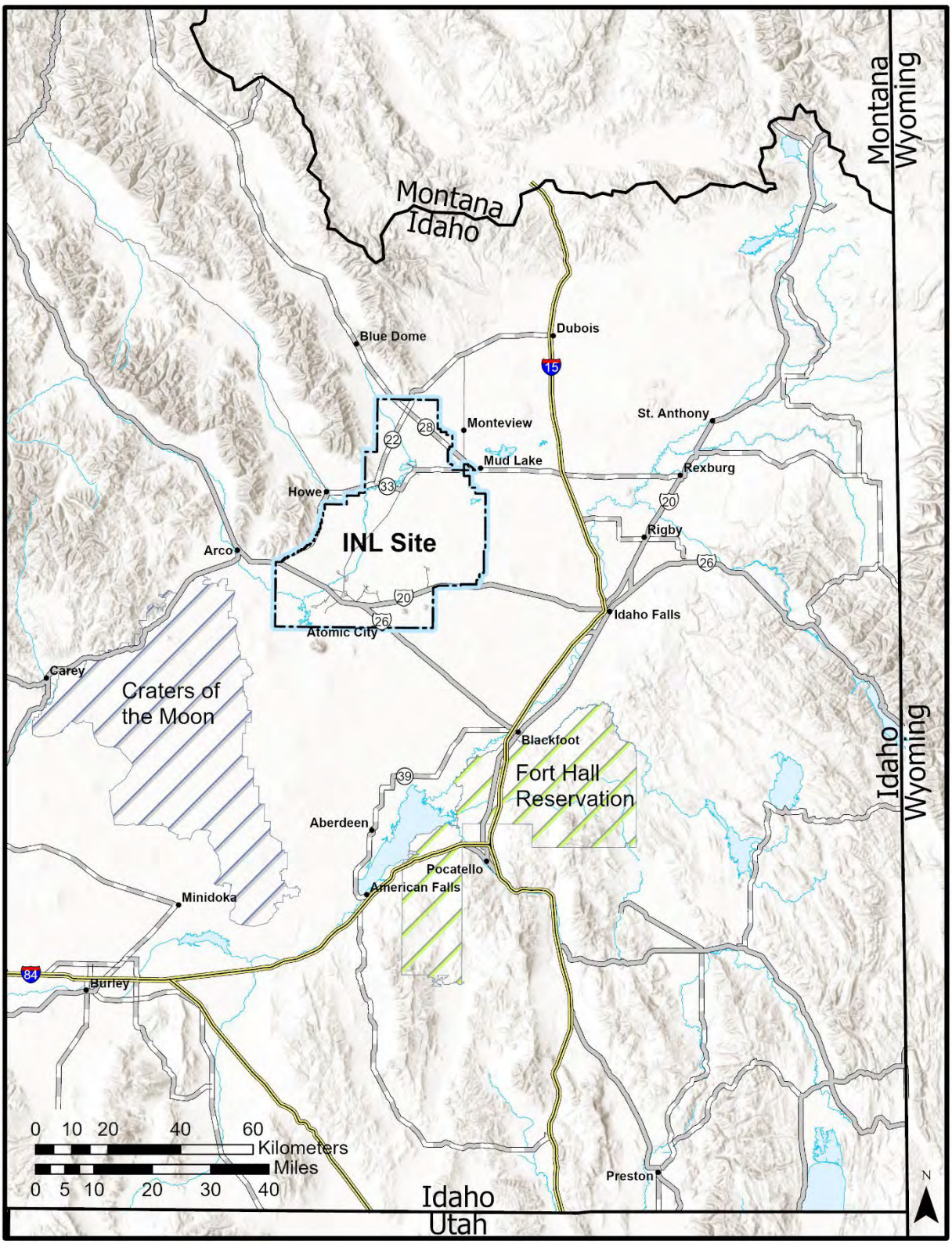

Figure 1. Location of the INL Site.

3. Air Sampling

The primary pathway by which radionuclides can move off the INL Site is through the air and for this reason the air pathway is the primary focus of monitoring on and around the INL Site. Samples for particulates and iodine-131 (^{131}I) gas in air were collected weekly for the duration of the quarter at 32 locations using low-volume air samplers (four of which have replicate samplers). Moisture in the atmosphere was sampled at eight locations around the INL Site and analyzed for tritium. Air sampling activities and results for the second quarter of 2024 are discussed below.

3.1 Low-volume Air Sampling

Radioactivity associated with airborne particulates was monitored continuously at 32 locations during the second quarter of 2024 (Figure 2). Twenty of these samplers are located onsite, seven are situated off the INL Site near the boundary, and nine have been placed at locations off the INL Site. Samplers are divided into onsite, boundary, and offsite groups to determine if there is a gradient of radionuclide concentrations, increasing towards the INL Site. Each replicate sampler is relocated every other year to a new location. During the second quarter 2024, replicate samplers were located at Howe (boundary location), Sugar City (offsite location), Highway 26 Rest Area (onsite location), and Remote-Handled Low-Level Waste facility (RHLLW) (onsite location). Particulates in air were collected on membrane particulate filters (1.2 µm pore size), whereas gases passing through the filter were collected with an activated charcoal cartridge.

Filters and charcoal cartridges were changed weekly at each station during the quarter. Each particulate filter was analyzed for gross alpha and gross beta radioactivity using thin-window gas flow proportional counting systems after waiting about four days for shorter-lived naturally occurring daughter products of radon and thorium to decay.

The weekly particulate filters collected during the quarter for each location were composited and analyzed for gamma-emitting radionuclides. Composites were also analyzed for ^{90}Sr, ^{238}Pu, $^{239/240}Pu$, $^{233/234}U$, ^{235}U, ^{238}U, and ^{241}Am. Additional samples were collected at Materials and Fuels Complex (MFC) and analyzed for ^{36}Cl.

Charcoal cartridges are analyzed for gamma-emitting radionuclides, specifically for ^{131}I. The INL Environmental Services In Situ Gamma Laboratory individually scans the cartridges. If the scan of an individual cartridge results in a positive detection, the cartridge is shipped to GEL for analysis. Iodine-131 is of particular interest because it is produced in relatively large quantities by nuclear fission, is readily accumulated in human and animal thyroids, and has a half-life of eight days. This means that any elevated level of ^{131}I in the environment could be from a recent release of fission products.

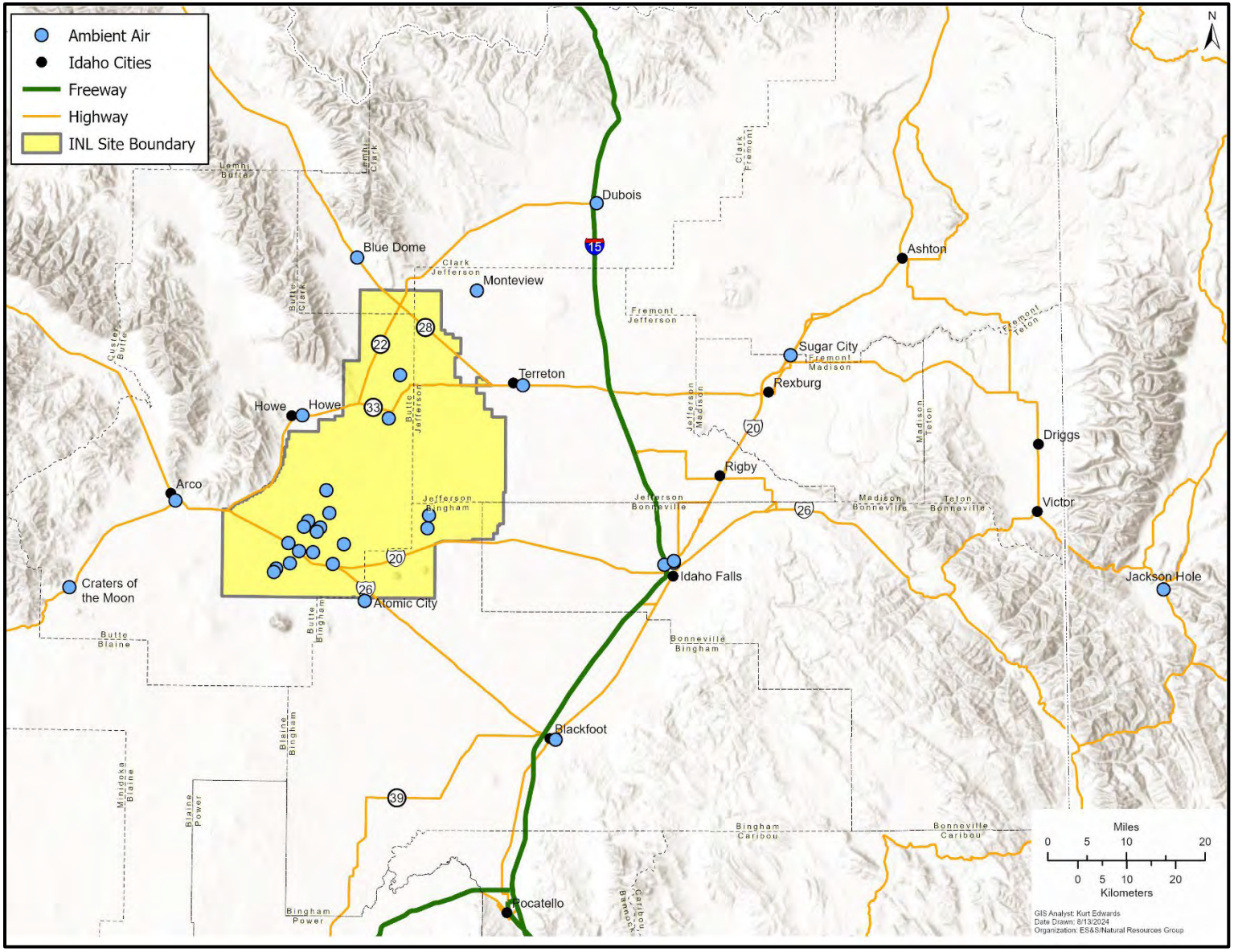

Figure 2. INL contractor low-volume air monitoring locations.

Gross alpha results are reported in Appendix B, Table B-1 and shown in Figures 3 through 6. Gross alpha concentrations measured in individual samples ranged from a low of $(-1.2 \pm 0.3) \times 10^{-16}$ µCi/ml collected at INL Research Center (IRC) on June 12, 2024, to a high of $(4.0 \pm 0.7) \times 10^{-15}$ µCi/ml collected at Advanced Test Reactor (ATR) Complex on June 26, 2024. All results were less than the DOE Derived Concentration Standard (DCS) of 1.1×10^{-13} µCi/ml for $^{239/240}$Pu. In addition, the results were consistent with historical data, as represented by the 99%/95% UTL for gross alpha activity (4.8×10^{-15} µCi/ml). The UTL was determined using ten years of historical data (measured from 2011 through 2020) and the ProUCL statistical software (https://www.epa.gov/land-research/proucl-software). The 99%/95% UTL is a value such that 99% of the population (all possible air measurements) is less than the UTL with 95% confidence. With a 99%/95% UTL it is expected that approximately 1% of the measurements will exceed the UTL if the concentration of gross alpha is within the normal range. This means that if a concentration exceeds the UTL it does not necessarily indicate that the result is outside of the normal range. Rather, it indicates that the measurement should be closely examined to determine if it is unusually high.

Gross alpha data have been tested for distribution (normally or log-normally distributed) and generally show no consistent discernible distribution. Because there is no discernible distribution of the data, a parametric test of significance cannot be used. The non-parametric Kruskal-Wallis analysis of variance by ranks test of multiple independent groups was used to determine statistical differences between onsite, boundary, and offsite locations. The test assesses the hypothesis that the different samples in the comparison were drawn from the same distribution or from distributions with the same median. In the computation of the Kruskal-Wallis test, each of the N observations is replaced by a rank. That is, all the results from all the locations are combined and ranked in a single series with the smallest result replaced by rank 1 and the largest result replaced by rank N (i.e., the total number of results). The sum of the ranks in each location group (i.e., onsite, boundary, and offsite) is found and then averaged for each group. If the samples are from the same populations, the average ranks should be about the same, whereas if the samples are from populations with different medians, the average ranks should differ. Statistically significant difference exists between data groups if the p-value (or probability value) is less than 0.05. Values greater than 0.05 translate into a 95% confidence that the medians are statistically the same. The p-value for each comparison is shown in Appendix C, Table C-1. There was no statistically significant difference among groups for the quarter, or any month during the quarter (Appendix C, Table C-1). To determine if there were any differences between stations and where the differences occur, the Kruskal-Wallis analysis of variance by ranks test was used again. No statistical differences were determined between stations (Appendix C, Table C-2).

Gross beta results are presented in Appendix B, Table B-1 and displayed in Figures 7 through 10. Gross beta concentrations measured in individual samples ranged from a low of $(-2.0 \pm 2.9) \times 10^{-16}$ µCi/ml collected at IRC on June 12, 2024, to a high of $(4.4 \pm 0.2) \times 10^{-14}$ µCi/ml collected at ATR Complex on June 26, 2024. All results were less than the DCS of 9.6×10^{-12} µCi/ml for ^{90}Sr. In addition, the results were consistent with historical data, as represented by the 99%/95% UTL for gross beta activity (6.1×10^{-14} µCi/ml). The data were tested quarterly and generally are found to be neither normally nor log-normally distributed. Box and whiskers plots were used to present the non-parametric data. Outliers and extreme values were retained in subsequent statistical analyses because they are within the range of measurements made in the past ten years, and because these values could not be attributed to mistakes in collection, analysis, or reporting procedures.

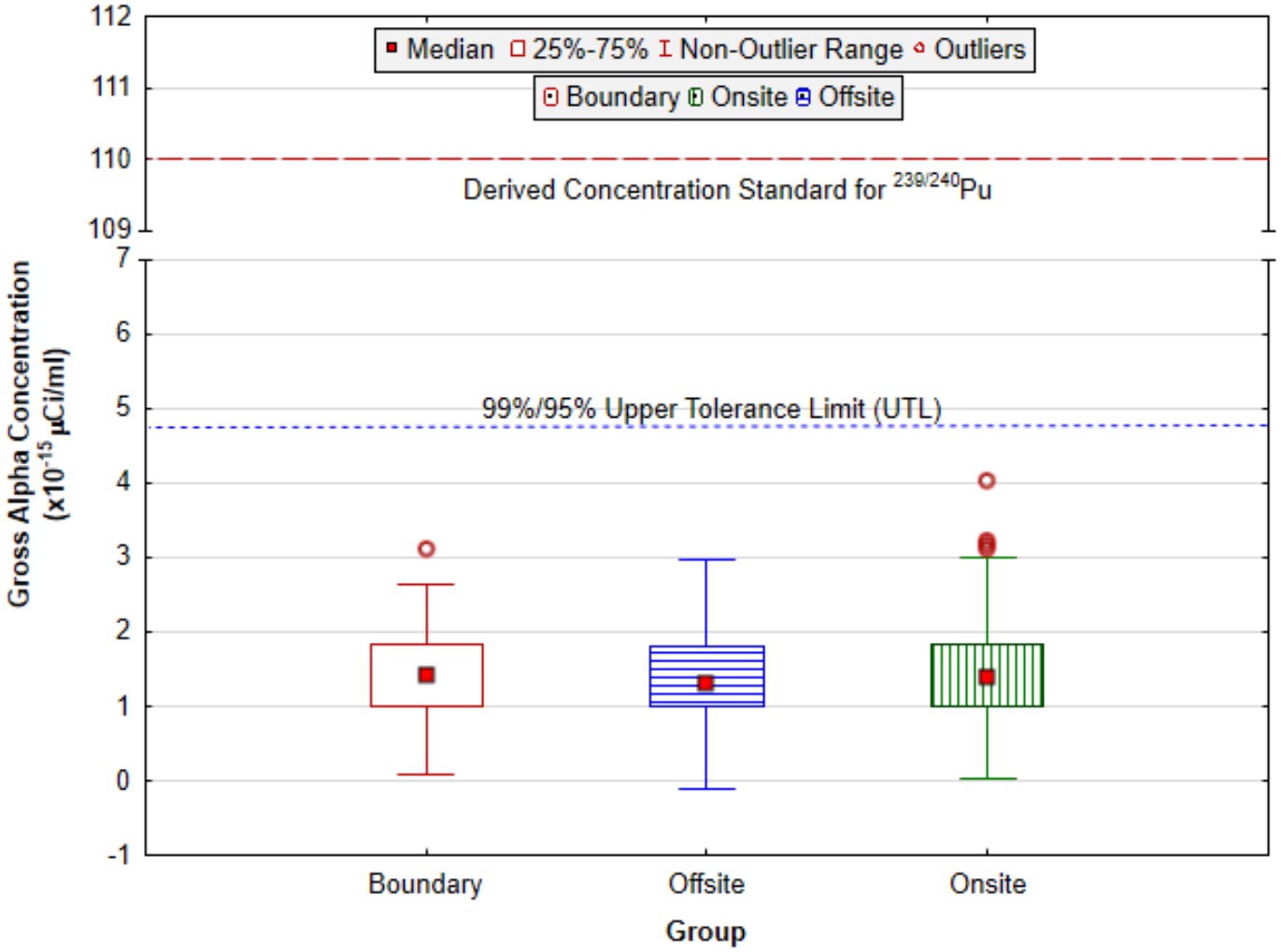

Figure 3. Gross alpha concentrations in air at onsite, boundary, and offsite locations for the second quarter of 2024. *The DCS is the concentration of $^{239/240}Pu$ in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{238}U, ^{234}U, ^{232}Th, ^{226}Ra, and ^{210}Po) in uncertain proportions, a meaningful DCS cannot be constructed for gross alpha concentrations. The DCS for $^{239/240}Pu$ is shown because it is the most restrictive human-made alpha emitter. The UTL represents the value below which 99% of the population values are expected to fall with 95% confidence.*

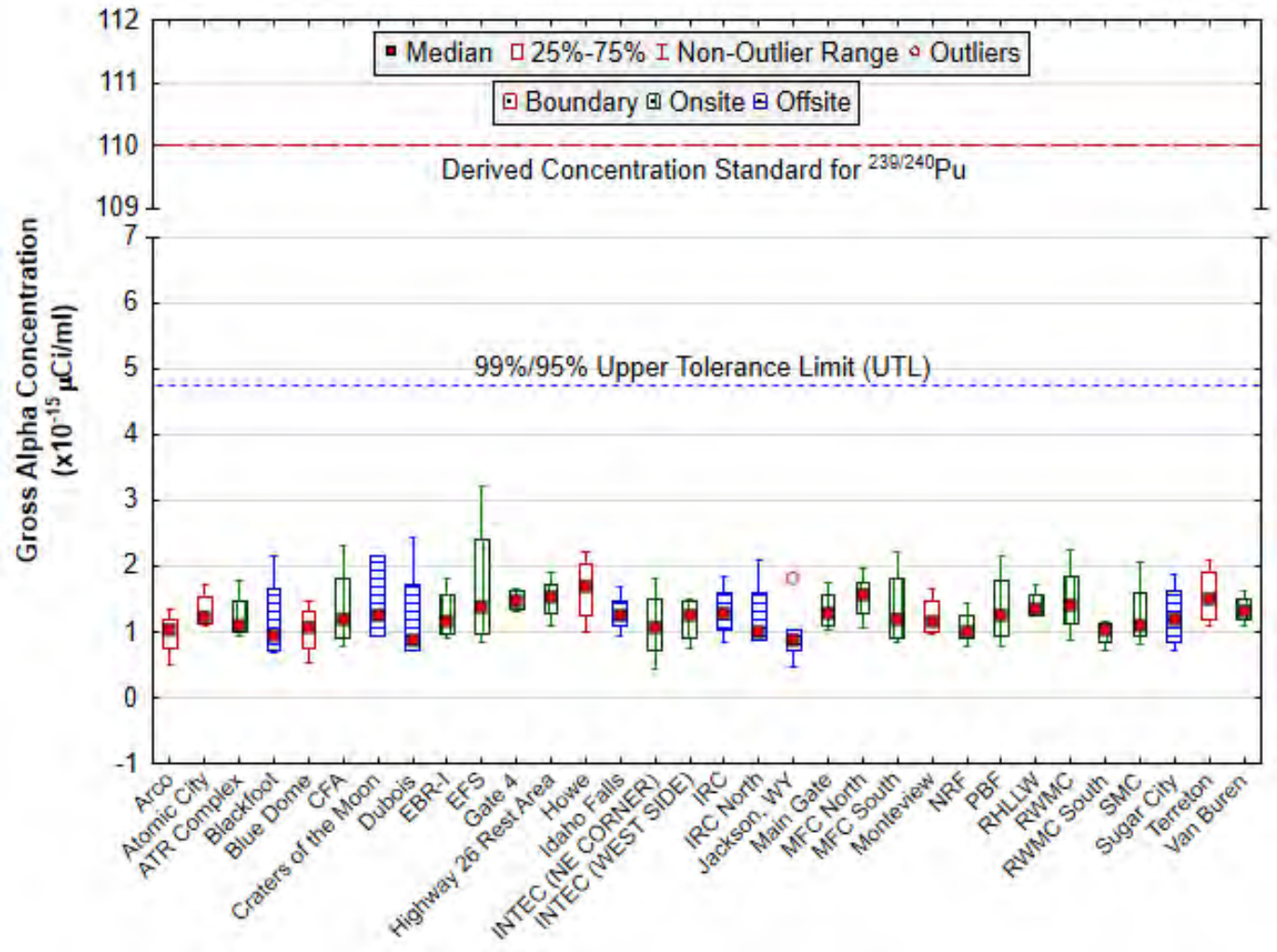

Figure 4. April 2024 gross alpha concentrations in air at onsite, boundary, and offsite locations. *The DCS is the concentration of $^{239/240}Pu$ in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{238}U, ^{234}U, ^{232}Th, ^{226}Ra, and ^{210}Po) in uncertain proportions, a meaningful DCS cannot be constructed for gross alpha concentrations. The DCS for $^{239/240}Pu$ is shown because it is the most restrictive human-made alpha emitter. The UTL represents the value below which 99% of the population values are expected to fall with 95% confidence.*

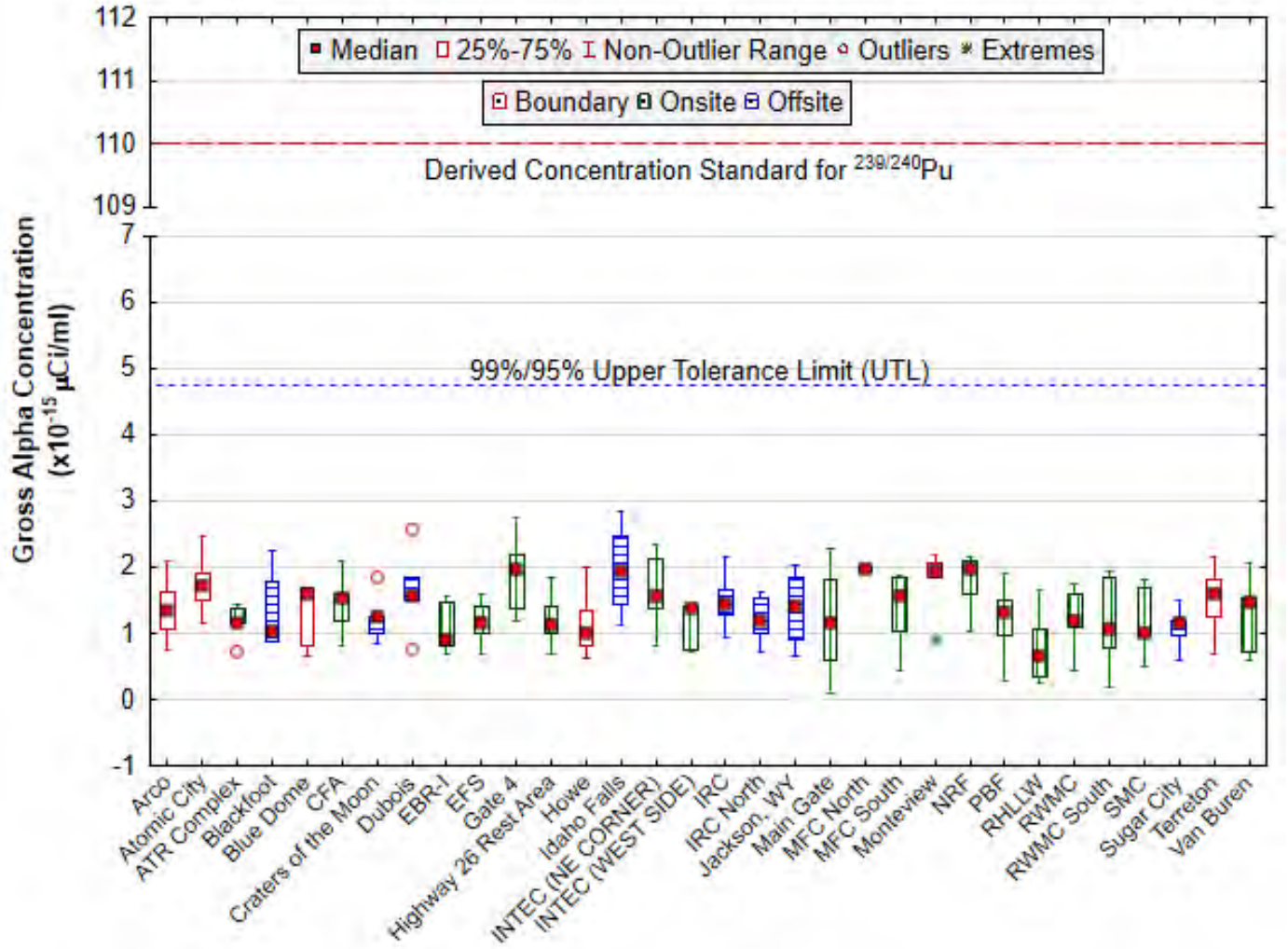

Figure 5. May 2024 gross alpha concentrations in air at onsite, boundary, and offsite locations. *The DCS is the concentration of $^{239/240}Pu$ in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{238}U, ^{234}U, ^{232}Th, ^{226}Ra, and ^{210}Po) in uncertain proportions, a meaningful DCS cannot be constructed for gross alpha concentrations. The DCS for $^{239/240}Pu$ is shown because it is the most restrictive human-made alpha emitter. The UTL represents the value below which 99% of the population values are expected to fall with 95% confidence.*

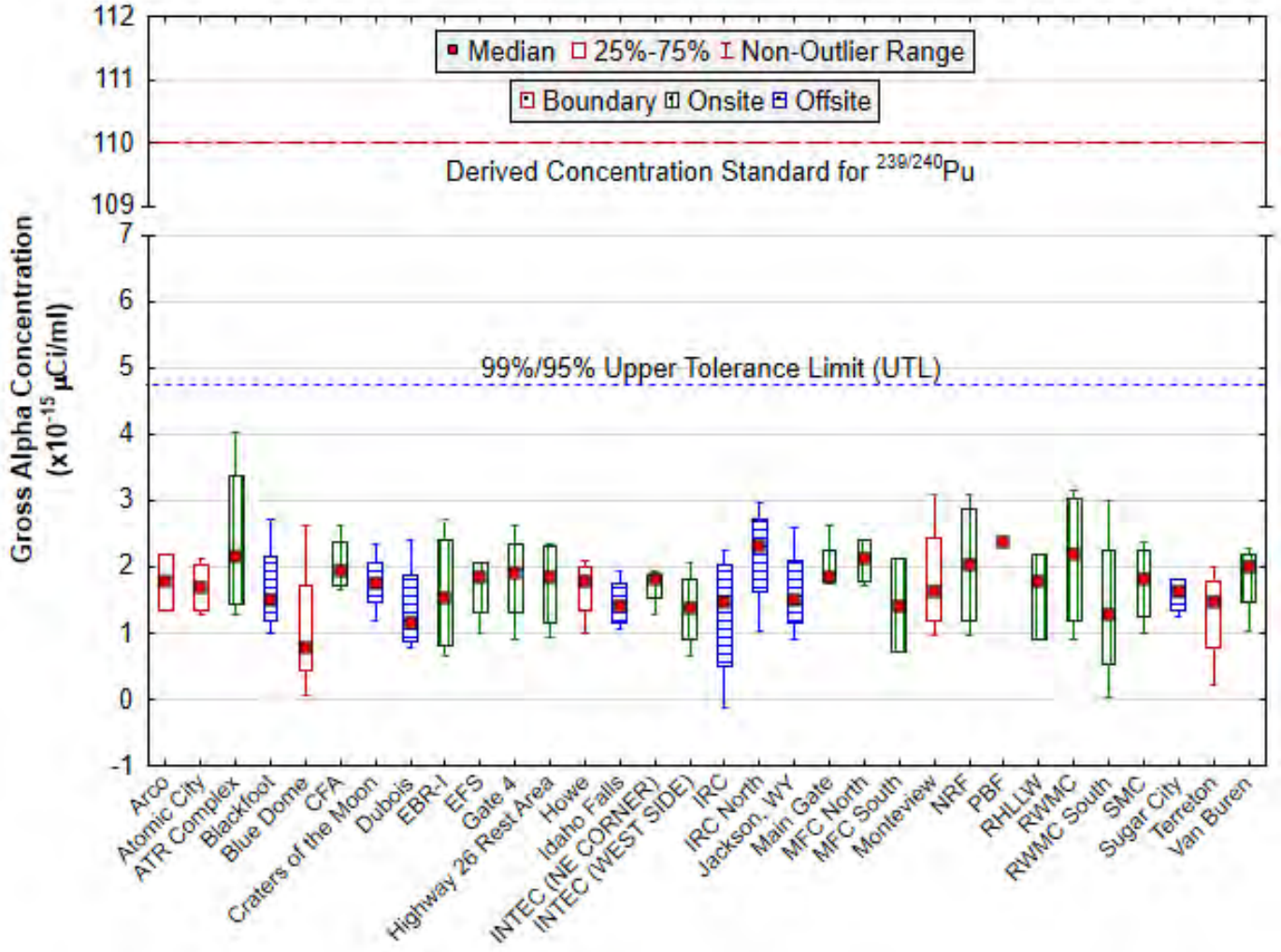

Figure 6. June 2024 gross alpha concentrations in air at onsite, boundary, and offsite locations. *The DCS is the concentration of $^{239/240}Pu$ in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{238}U, ^{234}U, ^{232}Th, ^{226}Ra, and ^{210}Po) in uncertain proportions, a meaningful DCS cannot be constructed for gross alpha concentrations. The DCS for $^{239/240}Pu$ is shown because it is the most restrictive human-made alpha emitter. The UTL represents the value below which 99% of the population values are expected to fall with 95% confidence.*

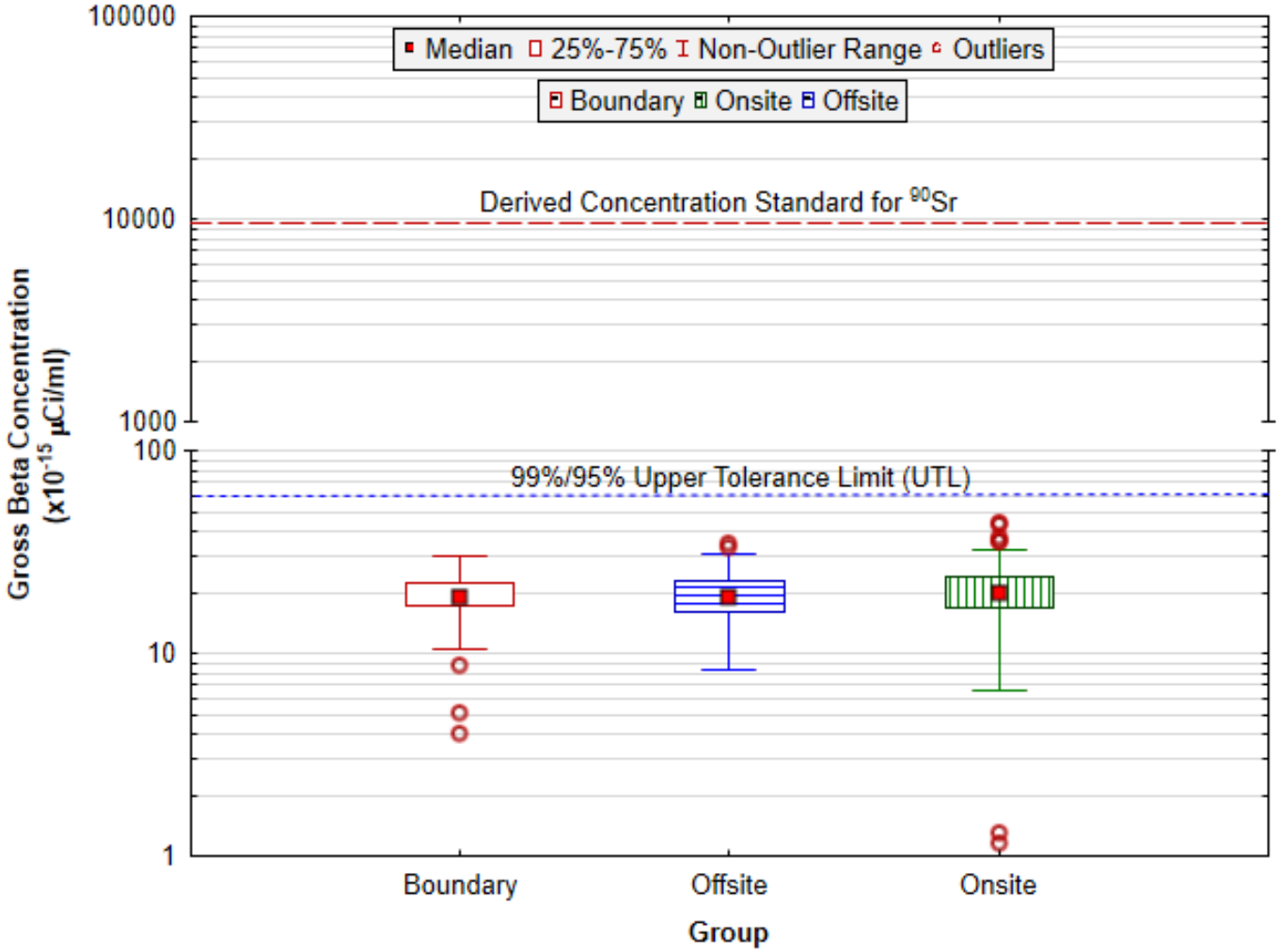

Figure 7. Gross beta concentrations in air at onsite, boundary, and offsite locations for the second quarter of 2024. *The DCS is the concentration of ^{90}Sr in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{40}K, ^{228}Ra, and ^{210}Pb) in uncertain proportions, a meaningful DCS cannot be constructed for gross beta concentration. The DCS for ^{90}Sr is shown because it is the most restrictive human-made beta emitter. The UTL represents the value below which 99% of the population values are expected to fall with 95% confidence.*

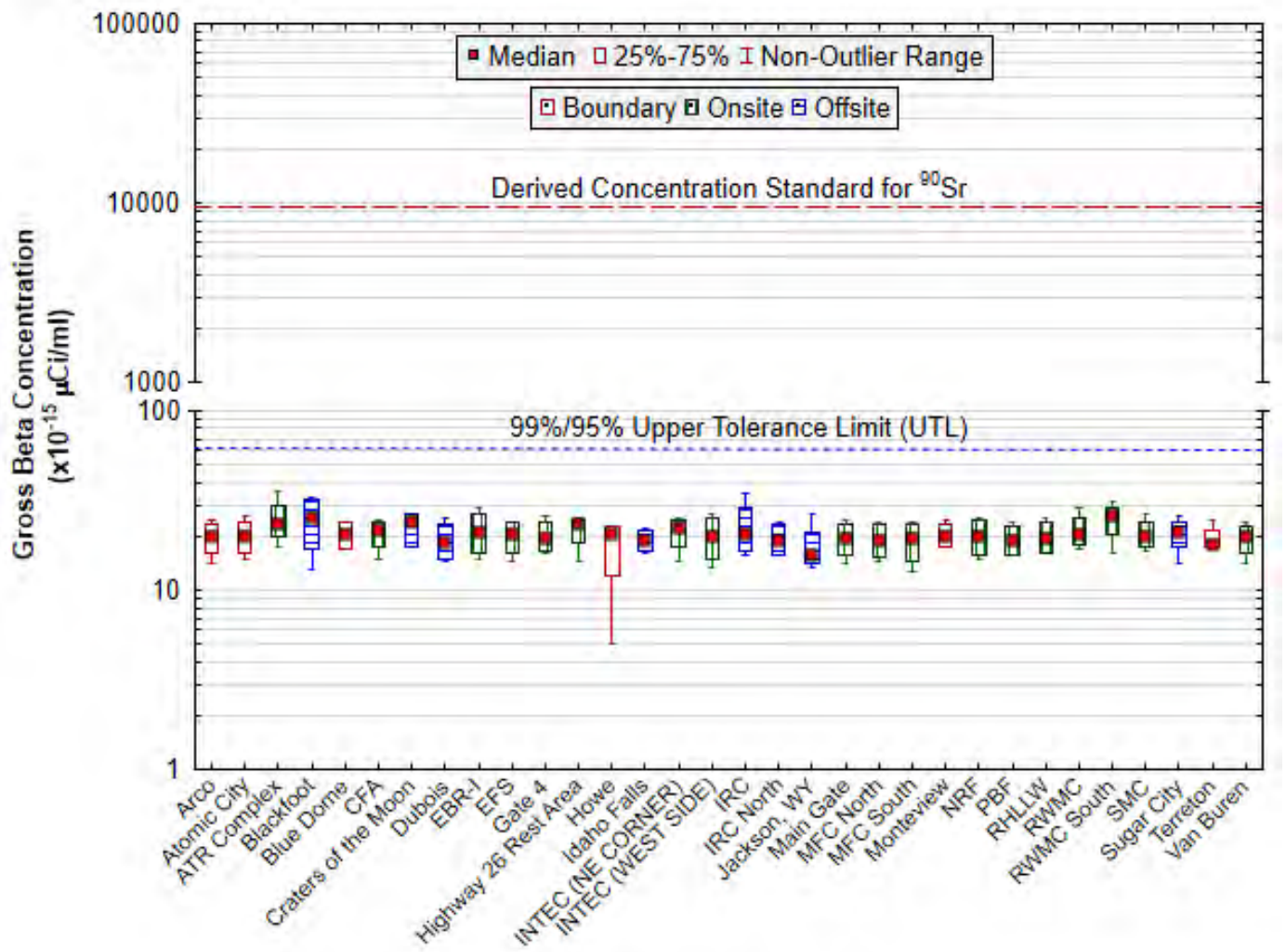

Figure 8. April 2024 gross beta concentrations in air at onsite, boundary, and offsite locations. *The DCS is the concentration of ^{90}Sr in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{40}K, ^{228}Ra, and ^{210}Pb) in uncertain proportions, a meaningful DCS cannot be constructed for gross beta concentrations. The DCS for ^{90}Sr is shown because it is the most restrictive human-made beta emitter. The UTL represents the value below which 99% of the population values are expected to fall with 95% confidence.*

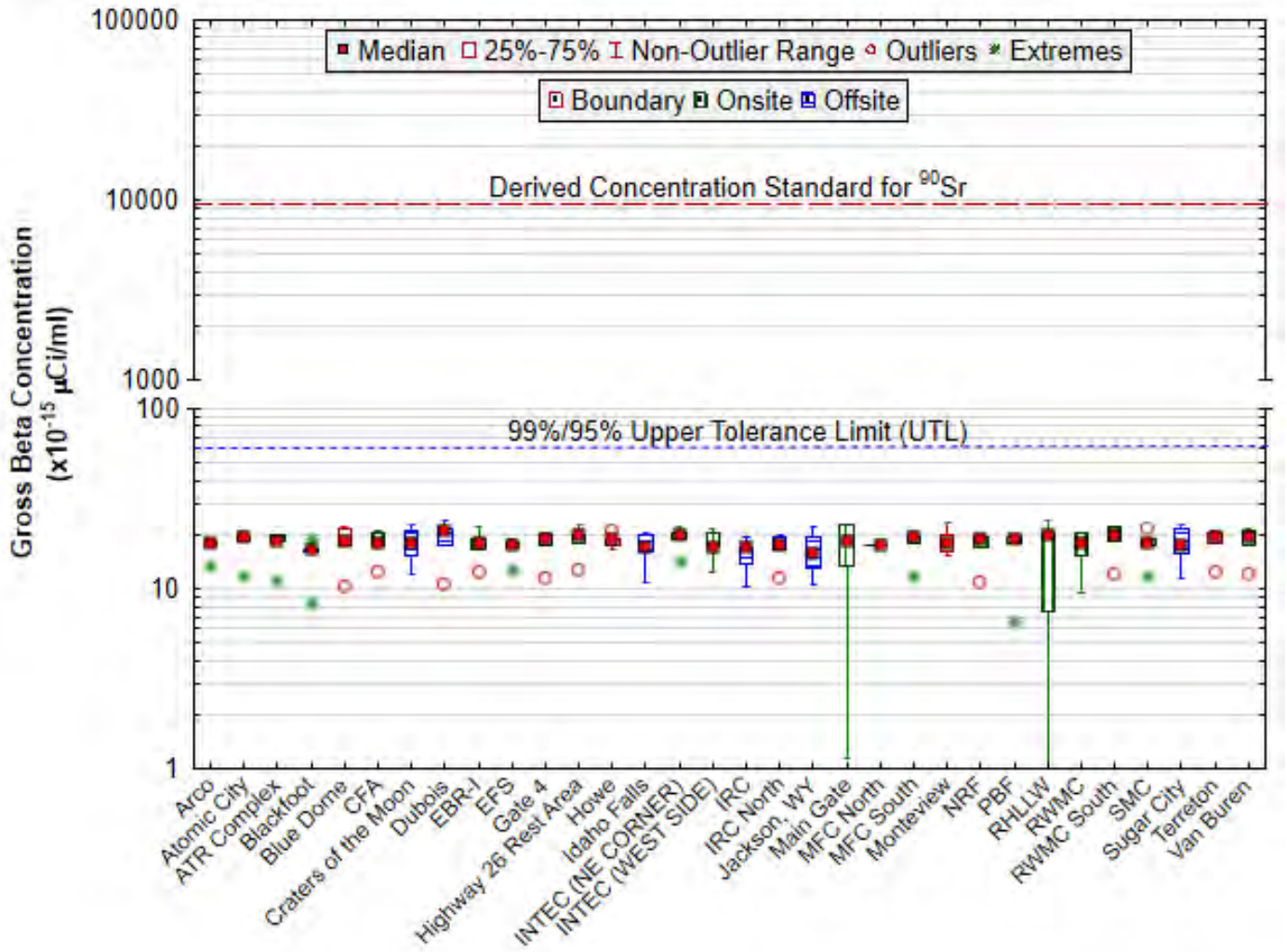

Figure 9. May 2024 gross beta concentrations in air at onsite, boundary, and offsite locations. *The DCS is the concentration of ^{90}Sr in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{40}K, ^{228}Ra, and ^{210}Pb) in uncertain proportions, a meaningful DCS cannot be constructed for gross beta concentrations. The DCS for ^{90}Sr is shown because it is the most restrictive human-made beta emitter. The UTL represents the value below which 99% of the population values are expected to fall with 95% confidence.*

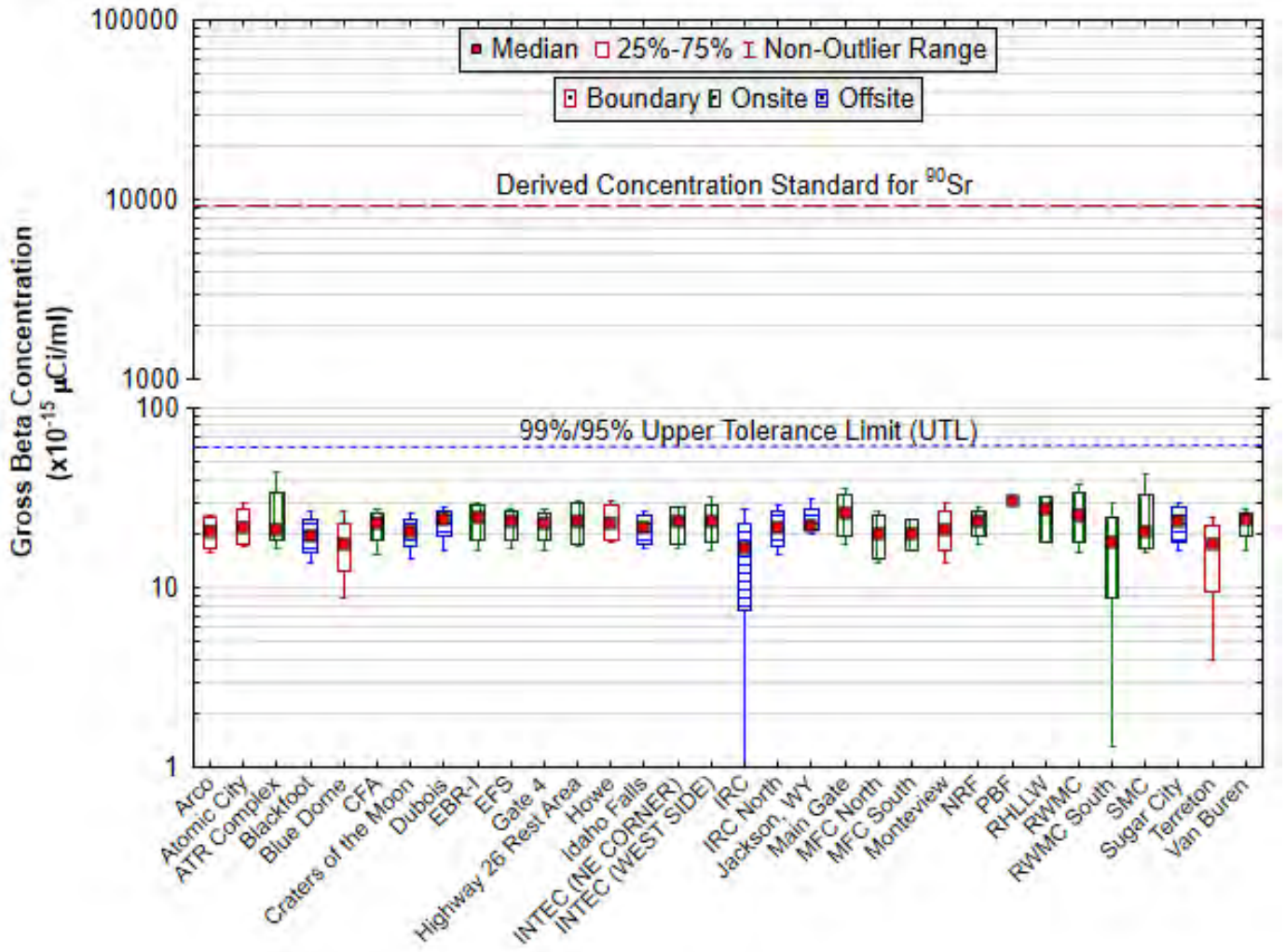

Figure 10. June 2024 gross beta concentrations in air at onsite, boundary, and offsite locations. *The DCS is the concentration of ^{90}Sr in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{40}K, ^{228}Ra, and ^{210}Pb) in uncertain proportions, a meaningful DCS cannot be constructed for gross beta concentrations. The DCS for ^{90}Sr is shown because it is the most restrictive human-made beta emitter. The UTL represents the value below which 99% of the population are expected to fall with 95% confidence.*

There were no statistically significant differences in the gross beta data between groups for the quarter or any month of the quarter (Appendix C, Table C-1). To determine if there were any differences between stations and where the differences occur, multiple comparisons were also made using the Kruskal-Wallis analysis of variance by ranks test between gross beta concentrations measured at all locations. No statistical differences were determined between stations (Appendix C, Table C-3).

Iodine-131 was not detected in any of the charcoal cartridges measured during the second quarter. Weekly ^{131}I results for each location are listed in Appendix B, Table B-2.

No cesium-137 (^{137}Cs) or other human-made gamma-emitting radionuclides were detected in quarterly air filter composite samples collected in the second quarter of 2024. Americium-241 (^{241}Am), ^{238}Pu, $^{239/240}Pu$, and ^{90}Sr were not detected in any composite samples. Chlorine-36 was not detected in the composite samples collected at MFC (North and South). Quarterly ^{241}Am, ^{137}Cs, ^{65}Zn, ^{238}Pu, $^{239/240}Pu$, ^{90}Sr, and ^{36}Cl results are listed in Appendix B, Table B-3.

Composite samples from several locations resulted in detections of $^{233/234}U$ and ^{238}U (Appendix B, Table B-3). Monitoring of $^{233/234}U$ and ^{238}U was initiated in the third quarter of 2023 resulting in a limited data set. Once enough data has been collected, a UTL will be determined. Uranium occurs naturally in various rocks and soil, can be suspended in the air and captured on an air filter. All detected results were below the DCS values for these radionuclides in air (i.e., 1.8×10^{-13} µCi/mL for ^{238}U, and 1.6×10^{-13} µCi/mL for $^{233/234}U$).

3.2 Atmospheric Moisture Sampling

Atmospheric moisture is collected by pulling air through a column of absorbent material (molecular sieve material) to absorb water vapor. The water is then extracted from the absorbent material by heat distillation. The resulting water samples are then analyzed for tritium using liquid scintillation.

Results were available for 20 atmospheric moisture samples collected at the onsite and offsite locations during the second quarter of 2024 (Figure 11). Two of the results exceeded the 3s uncertainty level for tritium, with a maximum reported value of $(5.2 \pm 1.7) \times 10^{-13}$ µCi/mL$_{air}$ at Craters of the Moon on May 8, 2024. Both sample results were below the 99%/95% UTL for atmospheric moisture (1.6×10^{-12} µCi/mL$_{air}$). Results are similar between the sampling locations. The DCS for tritium in air (as water vapor) is 1.3×10^{-7} µCi/mL$_{air}$. Results are shown in Appendix B, Table B-4.

3.3 Precipitation Sampling

Precipitation samples are gathered when enough precipitation occurs to allow for the collection of the minimum sample volume of approximately 50 mL. Samples are taken of monthly composites from Idaho Falls, and weekly (when available) from Experimental Field Station (EFS) (onsite) and Atomic City and Howe (boundary) (Figure 11). These are the same locations where atmospheric moisture samples are collected. Precipitation samples are analyzed for tritium. Storm events in the second quarter of 2024 produced sufficient amounts of precipitation to yield 14 samples.

None of the results exceeded the 3s uncertainty level for tritium. These results are listed in Appendix B, Table B-5. Low levels of tritium exist in the environment at all times as a result of cosmic ray reactions with water molecules in the upper atmosphere. Long-term data collected around the globe since 1961 by the International Atomic Energy Agency suggest that tritium levels have steadily decreased since the Nuclear Test Ban Treaty in 1963 and are close to their pre-nuclear test values (Cauquoin et al. 2015) and that there are no longer remnants of fallout from weapons testing. The 99%/95% UTL for tritium in precipitation is 300 pCi/L. The DCS for tritium in water is 2.6 x 106 pCi/L.

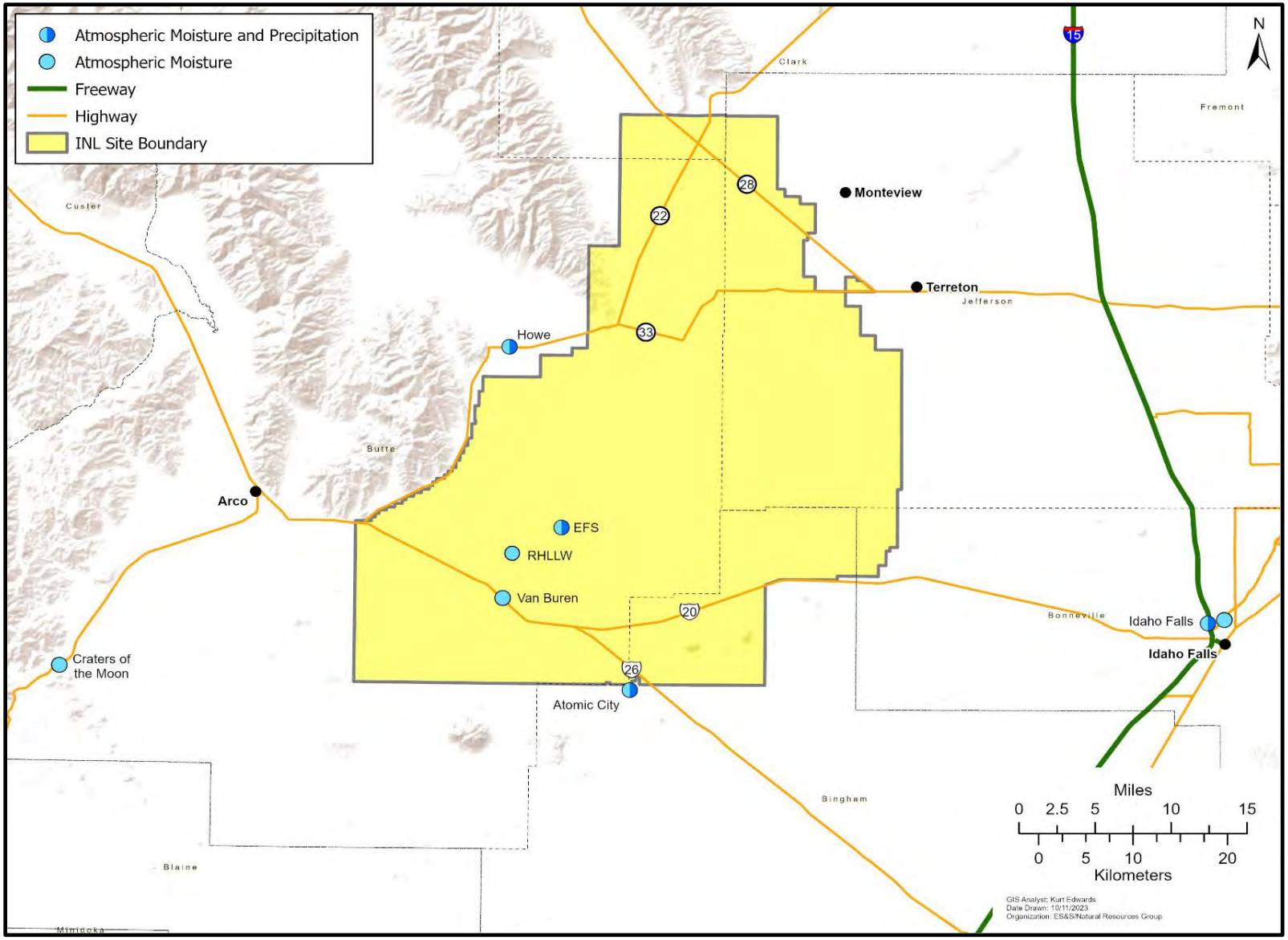

Figure 11. Atmospheric moisture and precipitation monitoring locations.

4. Liquid Effluent

Some INL Site operations retain wastewater in lined, total containment evaporative ponds constructed to eliminate liquid effluent discharge to the environment. Other INL Site operations, including the ATR Complex and MFC, discharge liquid effluents to unlined infiltration basins or ponds that may potentially contain nonhazardous levels of radioactive, or nonradioactive, contamination. Effluent discharges to the environment are subject to specified discharge limits, permit limits, or maximum contamination levels. The INL contractor conducts liquid effluent monitoring on the systems that discharge to the environment to ensure compliance with permit requirements and DOE Order 458.1. These programs sample groundwater related to liquid effluent. This section discusses results from environmental surveillance monitoring effluent samples available during the second quarter of 2024. Environmental surveillance groundwater sampling results associated with the effluent discharges are discussed in Section 5. Permit required compliance sampling is reported in the Annual Site Environmental Report (https://inl.gov/aser/). See Appendix A, Table A-1 for a sampling schedule. Liquid effluent sample locations are shown in Figure 12. Second quarter 2024 results for effluent are listed in Appendix B, Table B-6.

4.1 ATR Complex Cold Waste Pond

The ATR Complex Cold Waste Pond (CWP) was excavated in 1982 and consists of two unlined cells with a design capacity of 38.69 ML (10.22 MG) and a depth of 3 m (10 ft). The CWP function as percolation basins for the infiltration of nonhazardous industrial liquid effluent consisting primarily of noncontact cooling tower blowdown, once-through cooling water for air conditioning units, coolant water from air compressors, and wastewater from secondary system drains and other nonradioactive drains throughout the ATR Complex. As noted in Appendix A, Table A-1, environmental surveillance samples of the effluent are collected monthly for gross alpha, gross beta, gamma spectrometry, and tritium.

Gross alpha and gross beta were the only radiological constituents detected in the CWP effluent during the second quarter 2024. Because the overall limiting effluent concentration constraint for radium-226 (^{226}Ra) is the federal drinking water maximum contaminant level (MCL) (40 CFR 141 and IDAPA 58.01.11) of 5 pCi/L. Additional analysis of ^{226}Ra and radium-228 (^{228}Ra) is performed when gross alpha exceeds a screening level of 5 pCi/L. The gross alpha results for May (5.69 ± 1.47) pCi/L and June (8.37 ± 1.6) pCi/L were re-logged for ^{226}Ra and ^{228}Ra analysis. The results for ^{226}Ra and ^{228}Ra were non-detect. Gross beta results remain below screening levels (15 pCi/L) and within historical ranges.

4.2 MFC Industrial Waste Pond

The MFC Industrial Waste Pond (IWP) is an unlined basin that was first excavated in 1959 and has a design capacity of 1,078.84 ML (285 MG) at a maximum water depth of 3.96 m (13 ft). The effluent discharged to the MFC IWP consists primarily of nonhazardous noncontact cooling water, cooling tower drains, and air wash flows. Small volumes of power plant cooling water system blowdown, intermittent reverse osmosis blowdown, and floor drain and laboratory sink discharges are also sent to the IWP. Environmental surveillance samples are collected from the IWP three times per year in the second, third, and fourth quarter for gross alpha, gross beta, gamma spectrometry, and tritium. In addition to the analytes previously mentioned, sampling is performed annually during the third quarter for analysis of select isotopes of americium, strontium, plutonium, and uranium.

Gross alpha and gross beta were detected in the IWP during the second quarter 2024. The gross alpha and gross beta results did not exceed the respective screening levels (gross alpha: 5 pCi/L, gross beta: 15 pCi/L), therefore no additional analysis was performed. The detected results were within historical ranges.

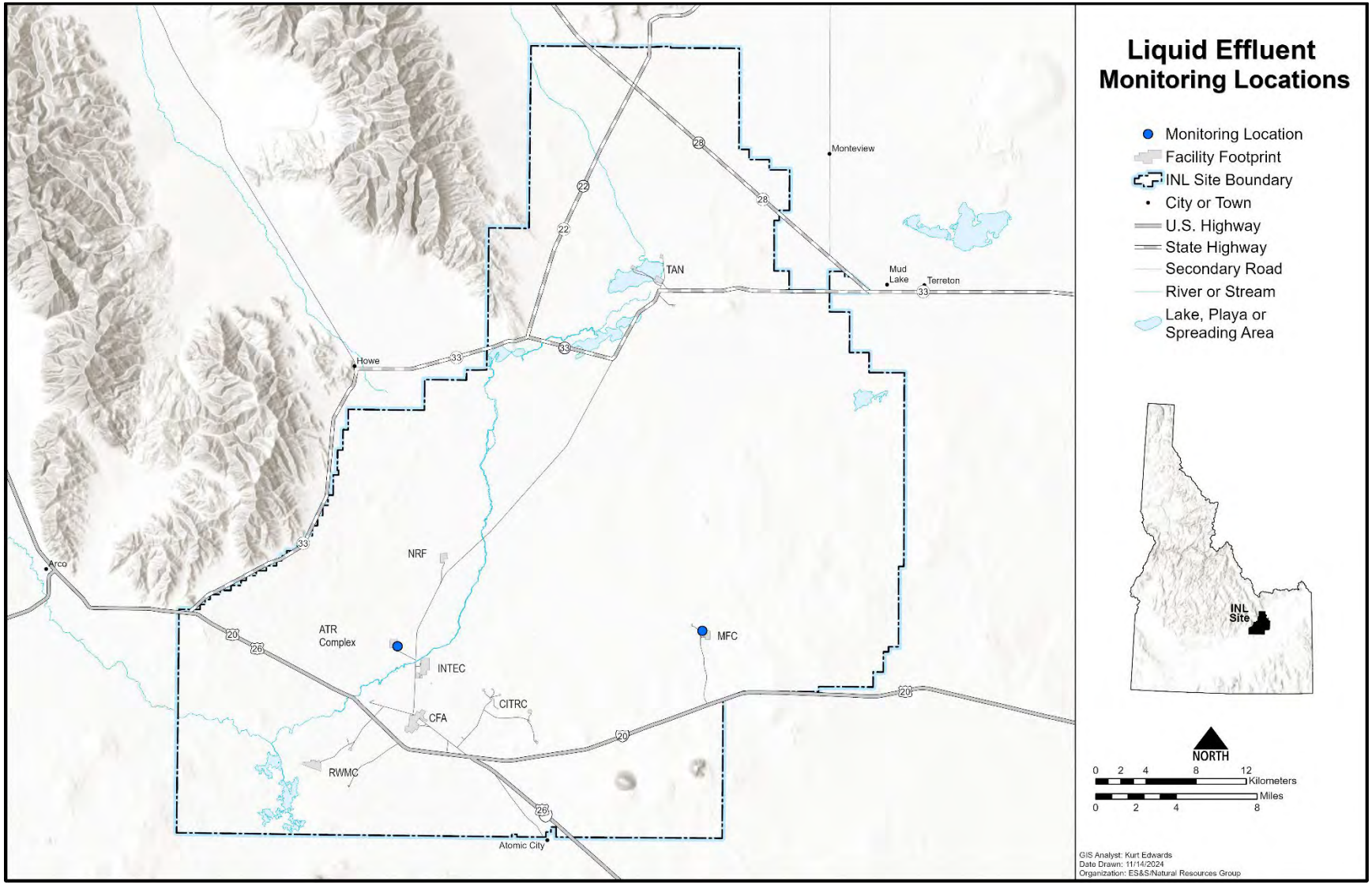

Figure 12. INL contractor liquid effluent monitoring locations.

5. Groundwater, Surface Water, and Drinking Water

The eastern Snake River Plain Aquifer serves as the primary source for drinking water and crop irrigation in the upper Snake River Basin. The INL contractor conducts surveillance monitoring on and off the INL Site within the eastern Snake River Plain Aquifer hydrogeologic system to comply with DOE Order 458.1. Additional sampling is performed by the INL contractor to demonstrate compliance with federal and state regulations and reuse permit requirements. Results for compliance monitoring are reported in the Annual Site Environmental Report. Monitoring results are also evaluated against public drinking water system Maximum Contaminant Limits and state groundwater standards to ensure the requirements of DOE Order 458.1 are met. Monitoring includes the collection of water from the aquifer (including dedicated monitoring wells and drinking water wells), downgradient springs along the Snake River where the aquifer discharges water and an ephemeral stream (the Big Lost River), which flows through the INL Site and helps to recharge the aquifer. This section discusses environmental surveillance monitoring results from onsite groundwater, onsite and offsite drinking water, and offsite surface water samples available during the second quarter of 2024. See Table A-1, Appendix A for a sampling schedule.

5.1 Groundwater Sampling

The INL contractor conducts semiannual groundwater monitoring in the second quarter (April/May) and third/fourth quarter (September/October) at the ATR Complex and MFC to ensure compliance with reuse permit requirements and DOE Order 458.1. Groundwater is sampled at upgradient and downgradient locations to measure potential impacts from the associated liquid effluent discharges at both facilities. Permit required compliance sampling is reported in the Annual Site Environmental Report (https://inl.gov/aser/). Groundwater samples were collected from seven wells at the ATR Complex and three wells at MFC during the second quarter. Groundwater monitoring locations are shown in Figure 13. Second quarter 2024 results for groundwater are listed in Appendix B, Table B-7.

The seven wells at the ATR Complex were analyzed for gross alpha, gross beta, gamma spectrometry, tritium, and ^{90}Sr. Gross alpha, gross beta, and tritium were positively detected in some of the samples and were all well below applicable groundwater standards (IDAPA 58.01.11).

The three wells at MFC were analyzed for gross alpha, gross beta, gamma spectrometry, tritium, ^{241}Am, and select uranium isotopes. Gross alpha, gross beta, $^{233/234}$U, and ^{238}U were positively detected in some of the samples and were well below applicable groundwater standards.

The INL contractor also conducts annual groundwater monitoring in the second quarter (April/May) at the RHLLW Disposal Facility. The RHLLW Disposal Facility does not generate or discharge liquid effluent. Groundwater monitoring is performed to ensure compliance with DOE Order 435.1 and DOE Order 458.1. Groundwater samples were collected from three wells during the second quarter at the RHLLW Disposal Facility and analyzed for gross alpha, gross beta, carbon-14, ^{129}I, technetium-99, and tritium. Gross alpha, gross beta, and tritium were positively detected in some of the samples and were well below applicable groundwater standards.

5.2 Surface Water Sampling

Surface water samples, including a duplicate, were collected at three Thousand Springs locations. All samples were analyzed for gross alpha, gross beta, and tritium. Results are listed in Appendix B, Table B-8.

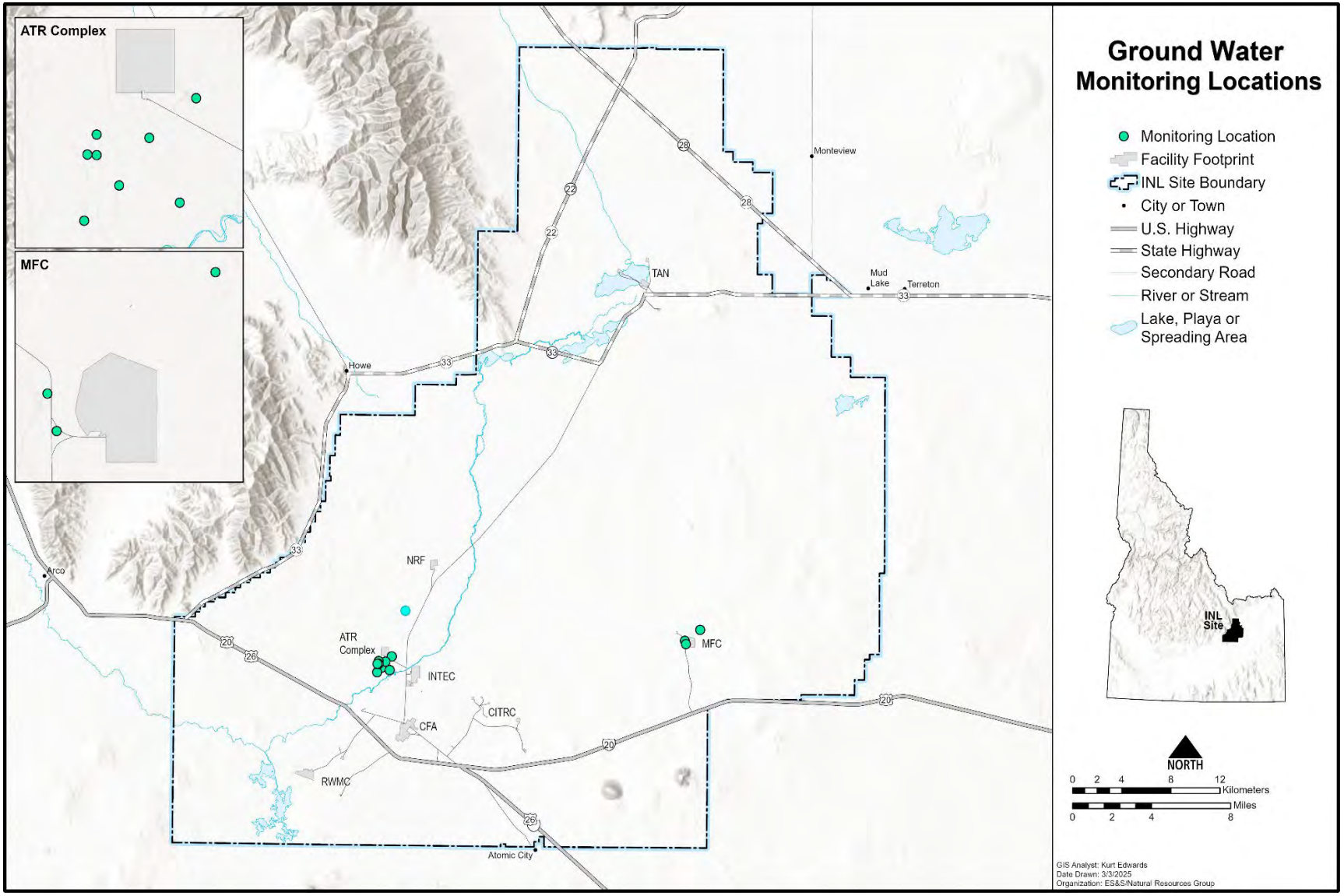

Figure 13. INL contractor groundwater monitoring locations.

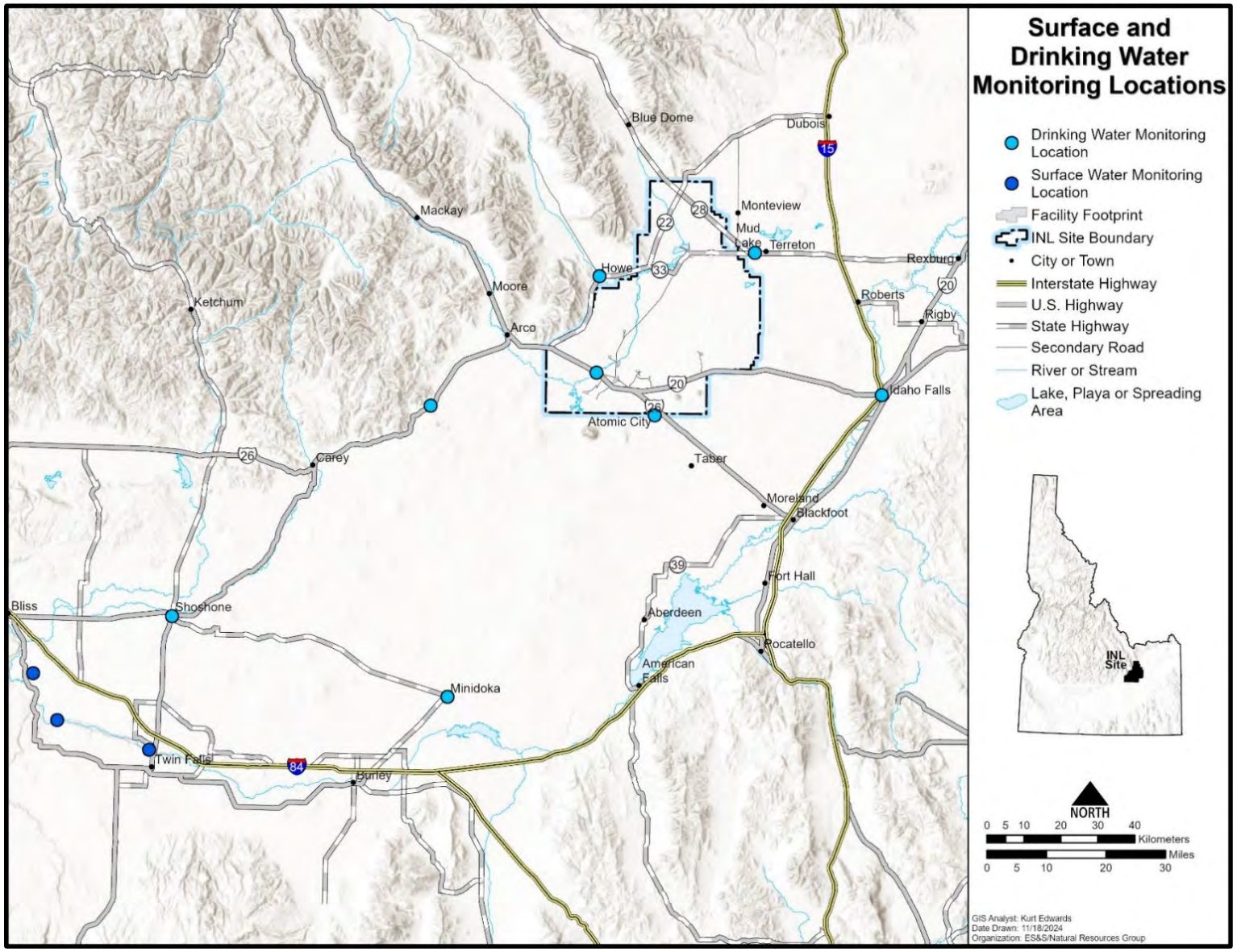

Figure 14. INL contractor surface and drinking water monitoring locations.

Gross alpha activity was not detected in any of the surface water samples. Gross beta activity was detected in all four water samples. All concentrations were similar to previous results from surface water sampling. Natural levels of radioactive decay products of thorium and uranium exist in the Snake River Plain Aquifer and are the likely source of the measured concentrations. The gross beta results ranged from (2.63 ± 0.53) pCi/L at Clear Springs (3.63 ± 0.66) pCi/L collected from Bill Jones, Jr. Trout Farm. Tritium was not detected in any surface water sample.

5.3 Drinking Water Sampling

The public/drinking water source, in southeastern Idaho, is primarily derived from groundwater. Surveillance monitoring of offsite drinking water systems, due to the potential for contaminant migration beyond the INL Site boundary, are conducted by the INL contractor (Figure 14). The INL Site has 11 drinking water systems that are monitored by the INL Site contractors to demonstrate that they are safe for consumption. The INL contractor monitors eight of these drinking water systems (Figure 15), while the ICP contractor monitors three. Drinking water parameters are regulated by the state of Idaho under authority of the Safe Drinking Water Act (42 U.S.C. 300f et seq), "National Primary Drinking Water Regulations" (40 CFR 141-142), and "Idaho Rules for Public Drinking Water Systems" (IDAPA 58.01.08). INL Site drinking water systems are classified as either non-transient or transient, non-community water systems. The four INL contractor transient, non-community water systems are located at Critical Infrastructure Test Range Complex (CITRC), EBR-I, Gun Range, and Main Gate. The four remaining INL contractor water systems are classified as non-transient, non-community water systems and are located at ATR Complex, Central Facilities Area (CFA), MFC, and Test Area North (TAN)/Contained Test Facility (CTF). Compliance monitoring schedules for each water system are set by the Idaho Department of Environmental Quality (DEQ). Compliance results are not reported in these quarterly reports since these results can be found on the Idaho DEQ's public water system switchboard (www.deq.idaho.gov).

In addition to compliance sampling, INL performs surveillance drinking water sampling in accordance with DOE Order 458.1. The INL contractor collects surveillance samples semi-annually from all eight drinking water systems that are analyzed for gross alpha, gross beta, and tritium. An additional sample was collected from CFA and analyzed for ^{129}I. Results are listed in Appendix B, Table B-9.

Gross alpha activity was slightly greater than 3s (3.06 ± 1.01) pCi/L in an onsite sample collected from CITRC. Gross beta was detected in all onsite drinking water samples and tritium was detected in samples collected at CFA. Concentrations were similar to previous results and below maximum contaminants. The MCLs for drinking water are 15 pCi/L for gross alpha, and 20,000 pCi/L for tritium. The EPA public drinking water system regulation specifies a MCL of 4 mrem/yr for gross beta and uses a screening level of 50 pCi/L to determine when individual beta/gamma emitters need to be identified.

The INL contractor also collects samples from municipal water sources that have been through a water treatment facility or a well used for drinking water. Drinking water samples are collected offsite to adhere to DOE Order 458.1 but are not utilized for compliance with drinking water regulations. The results of the offsite samples are compared with historic data to identify trends or detect anomalies. Water samples are collected from nine locations (including a control) off the INL Site. Two downgradient locations of the INL Site, Shoshone and Minidoka, and one upgradient location, Mud Lake, are co-sampled with the state of Idaho DEQ-INL Oversight Program. Samples are also collected at Atomic City, Craters of the Moon, Howe, Idaho Falls, and the public Rest Area at Highway 20/26. All samples were analyzed for gross alpha, gross beta, and tritium. Results are listed in Appendix B, Table B-8.

Gross alpha activity of (2.30 ± 0.76) pCi/L was detected in an offsite drinking water sample collected from Atomic City. Gross beta activity was detected in all offsite drinking water samples, except the control. Concentrations were similar to previous results from offsite drinking water sampling. Natural levels of radioactive decay products of thorium and uranium exist in the Snake River Plain Aquifer and are the likely source of the measured concentrations. The highest reported gross beta result for offsite drinking water was (3.46 ± 0.70) pCi/L in the sample collected from Mud Lake. Tritium was not detected in any offsite drinking water samples.

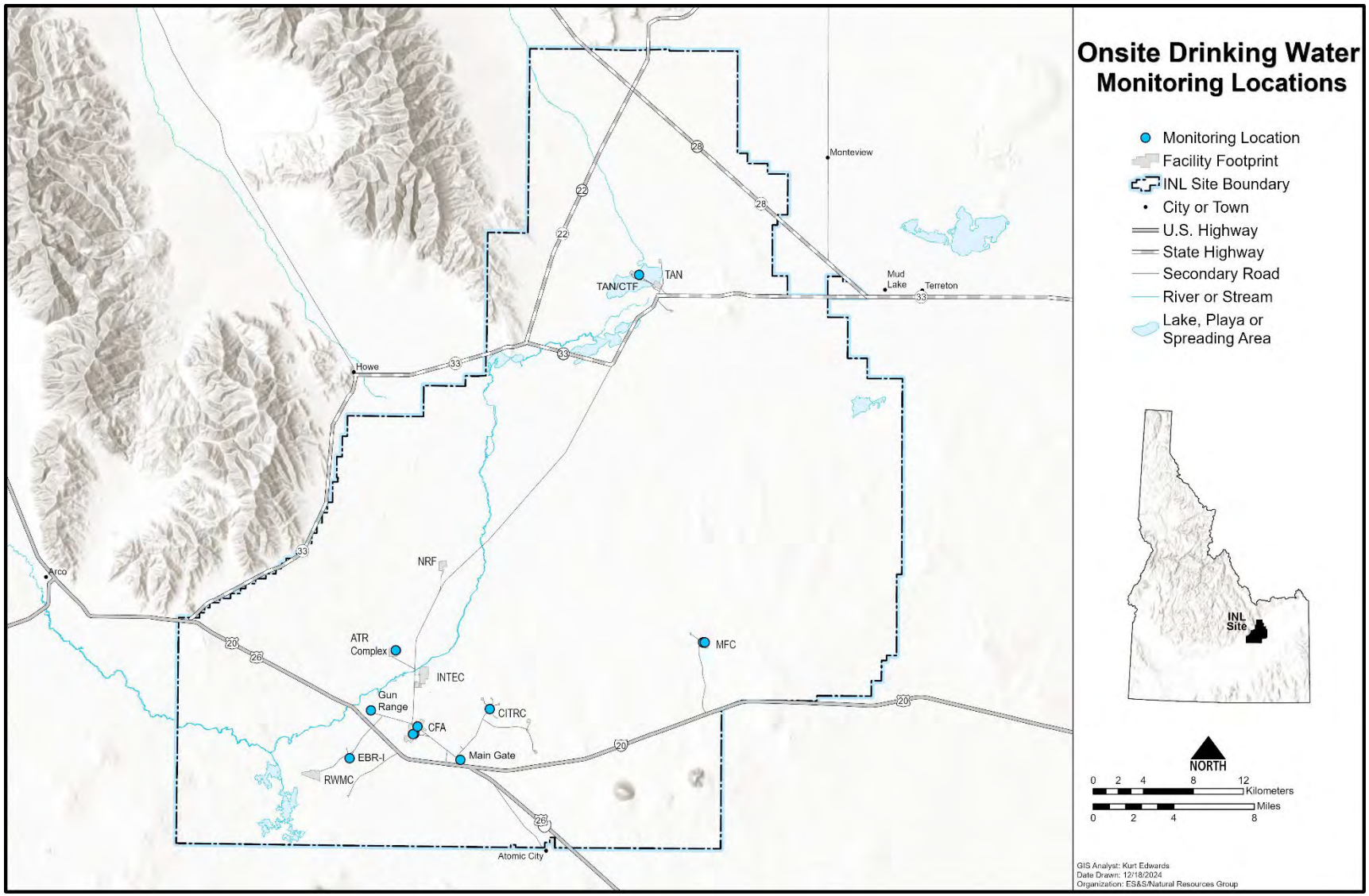

Figure 15. INL contractor onsite drinking water monitoring locations.

6. Agricultural Product and Wildlife

Another potential pathway for contaminants to reach humans is through the food chain. The INL contractor samples multiple agricultural products and game animals from around the INL Site and southeast Idaho. Specifically, milk, alfalfa, grain, potatoes, lettuce, large game animals, and waterfowl are sampled. Milk is sampled throughout the year. Large game animals are sampled whenever they are killed onsite from vehicle collisions. Alfalfa is collected during the second quarter, lettuce and grain are sampled during the fourth quarter, while potatoes are collected during the third or fourth quarter. Waterfowl are collected in either the third or fourth quarter. See Table A-1, Appendix A for a sampling schedule. This section discusses results from milk, and large game animal samples available during the second quarter of 2024.

6.1 Milk Sampling

Milk samples were collected weekly at dairies located in Rigby and Terreton. Monthly samples were collected at six locations around the INL Site (Figure 16) during the second quarter of 2024. In addition to the regional locations, commercially-available organic milk (from Broomfield, Colorado) was purchased as a control sample each month. All samples were analyzed for gamma-emitting radionuclides.

Cesium-137 and ^{131}I were not detected in any weekly or monthly samples during the second quarter. Data for ^{131}I and ^{137}Cs in milk samples are listed in Appendix B, Table B-10.

Tritium was not detected in any of the milk samples collected during the second quarter of 2024. Strontium-90 was detected in a milk sample collected from Terreton on May 20, 2024. The result is within range of historical values and well below the DCS of ^{90}Sr in milk (5,800 pCi/L). Data for tritium and ^{90}Sr in milk samples are listed in Appendix B, Table B-11.

6.2 Large Game Animal Sampling

Two elk were available for sampling during the second quarter of 2024. Muscle and thyroid samples were taken from both animals and only one liver was obtained. A liver sample from one of the animals could not be obtained because it was damaged when the animal was struck by a vehicle. No human-made gamma-emitting radionuclides were detected in the samples. Results for the samples are listed in Appendix B, Table B-12.

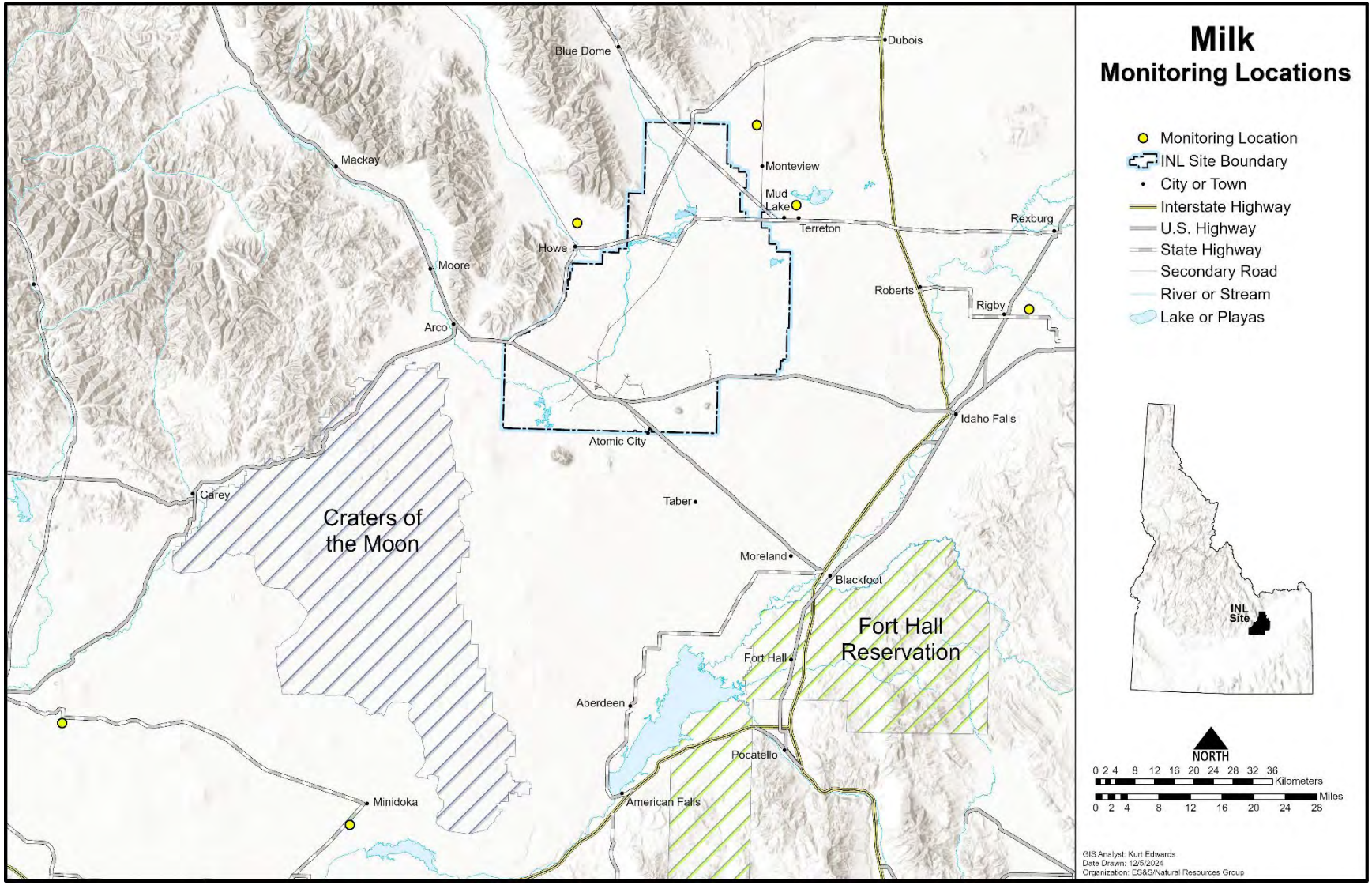

Figure 16. INL contractor milk monitoring locations.

7. Environmental Direct Radiation

An array of optically stimulated luminescent dosimeters (OSLDs) is distributed throughout the Eastern Snake River Plain and on the INL Site (Figure 17) to monitor for environmental radiation. In addition, neutron dose monitoring is conducted around INL facilities and buildings where neutron radiation may be present.

OSLD results from dosimeters collected during the second quarter of 2024 are displayed in Appendix B, Table B-13. Results are presented in dose units of millirem (mrem). Similar to the low-volume air results the environmental dosimeter locations are also divided into onsite, boundary and offsite groupings.

Onsite OSLD values ranged from 53.8 mrem at MFC (ANL O-12) to 277.2 mrem at INTEC (ICPP O-20), with an overall average of 77.23 mrem, which also equates to 0.42 mrem per day.

Boundary OSLD values ranged from 50.8 mrem at Blue Dome (Blue Dome E-1) to 71.1 mrem at East Butte (RRL5 O-1), with an overall average of 58.41 mrem, which also equates to 0.32 mrem per day.

Offsite OSLD values ranged from 47.3 mrem at Dubois (Dubois E-1) to 78.7 mrem at Idaho Falls (IF-652A O-4). The offsite average was 57.58 mrem, which also equates to 0.31 mrem per day.

The reported results for dosimeters collected during second quarter 2024 were primarily below the background UTL values.

The facility dosimeters that exceeded the background UTL for the May 2024 collection period were located in Idaho Falls (IF-638W O-4 and IF-675S O-34) and TAN (TAN LOFT O-10) (Table 1).

Table 1. Dosimetry location above background level UTL.

Area	*Location*	*Ambient dose (mrem)*	*Background UTL (mrem)*
Idaho Falls	IF-638W O-4	69.7	66.4
Idaho Falls	IF-675S O-34	65.2	63
TAN	TAN LOFT O-10	81.7	79.8

All neutron dosimeters collected were reported as ‘M’ which denotes the dose equivalents are below the minimum measurable quantity of 10 mrem. The background level for neutron dose is zero and the current dosimeters have a detection limit of 10 mrem. Any neutron dose measured is considered present due to sources inside the building.

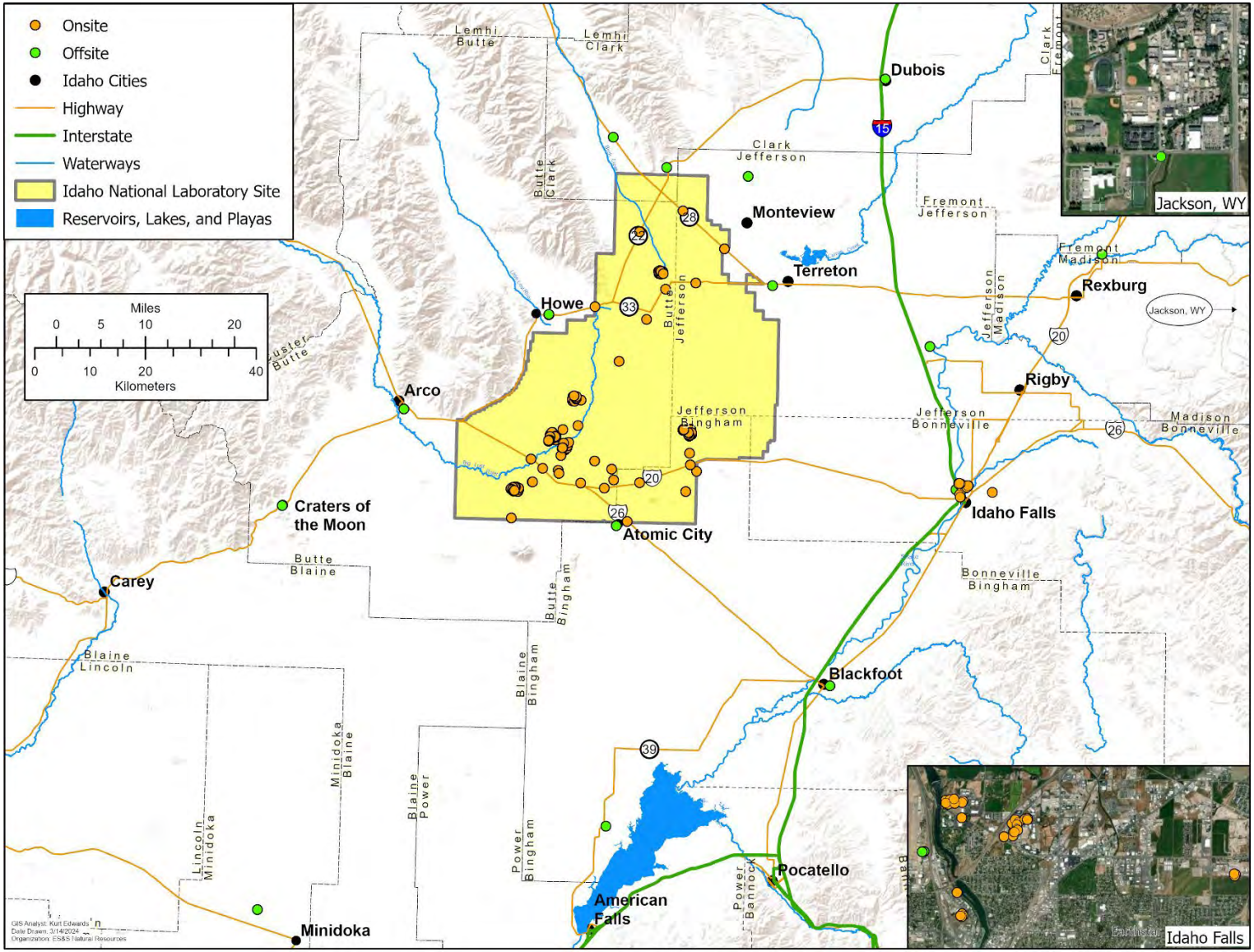

Figure 17. INL contractor OSLD locations.

8. Quality Assurance

Quality assurance consists of planned and systematic activities that give confidence in environmental surveillance program results (NCRP 2012). Environmental surveillance monitoring programs should provide data of known quality for the assessments and decisions being made. Quality assurance and quality control programs were maintained by the INL contractor and GEL performing environmental analyses.

In addition to the quality assurance processes implemented by the INL contractor, GEL utilizes trained personnel, procedures, and quality assurance processes to ensure quality data. Data quality reviews were performed by GEL and any unusual conditions were addressed and identified in the case narrative prior to reporting to INL.

Field sampling elements, laboratory measurements, and quality control samples were reviewed and evaluated by GEL. Results are summarized in Section 8.2. Together this information was used to assess the quality of data provided to INL contractor, and to follow-up and/or conduct a corrective action to improve processes when necessary. This multi-faceted approach to quality assurance and quality control added value to the INL contractor's environmental surveillance monitoring program by providing confidence that all laboratory data reported in this report are reliable and of acceptable quality.

The INL contractor Quality Assurance Program consists of five ongoing tasks which measure: (1) method uncertainty; (2) data completeness; (3) data accuracy, using spike, performance evaluation and laboratory control samples; (4) data precision, using split samples, duplicate samples and recounts; and (5) presence of contamination in samples, using blanks.

Sample results are compared to criteria described in the "Environmental Monitoring Services Quality Assurance Project Plan" (INL 2022).

Assessments of the INL contractor data quality are achieved through analysis of performance evaluation (PE), and duplicate samples; through sample recounts; through analysis of blank samples; and through comparison of sample results to established method quality objectives.

8.1 Inter-laboratory Program Performance Testing Evaluations

Laboratories used for routine analyses of radionuclides in environmental media were selected by the INL contractor based on a laboratory's capabilities to meet program objectives, such as the ability to meet required detection levels, and past results in performance testing (PT) programs. The DOE Consolidated Audit Program – Accreditation Program (DOECAP-AP) (comprised of third-party accreditation bodies) issues an annual accreditation certificate to laboratories seeking and maintaining accreditation. The rigorous accreditation process reviews each method, media, and analyte analyzed at the laboratory. An annual audit is performed to evaluate a laboratory's technical capability and competence, along with their proficiency in complying with DOE quality assurance requirements as outlined in the Quality Systems Manual (QSM 2021).

INL contracts with analytical laboratories who participate in ISO 17043 accredited PT programs as outlined in the Quality Systems Manual (QSM 2021). The analytical laboratory is responsible for reviewing their PT results and correcting potential quality concerns identified by the PT provider. Analytical results from these PT providers are then compared to performance evaluation (PE) results relative for each media and analyte tested. DOE Consolidated Audit Program accreditation is obtained and/or maintained by achieving a history of two successful studies (acceptable scores) out of the most recent three attempts. Second quarter 2024 PT participation and results are listed below.

GEL Laboratories, LLC

GEL is accredited through DOECAP-AP and participated in PT study through Environmental Resource Associates during the second quarter. GEL had acceptable results for analytes, methods, and media of interest to the INL contractor.

8.2 Quality Control Sample Program

The INL contractor sends quality control samples to laboratories along with routine environmental samples to be analyzed in tandem. The samples are prepared in a way that the quality control samples are analogous to the field samples. Blanks, duplicate/replicate samples and PE samples for second quarter are discussed below.

8.2.1 Blanks

The INL contractor submits field blanks along with the regular samples to test for the introduction of contamination during the process of field collection, laboratory preparation, and laboratory analysis. The laboratory is not aware of which samples are blanks. In the event a data quality or trending issue is identified, the concern will be documented in the Issues Management System to track resolutions and/or corrective actions.

No concerns were identified in blanks that would indicate data quality or trending issues with sampling, handling, shipment, or analysis by the laboratory contributed to the actual sample results. Second quarter 2024 blanks are discussed below.

GEL Laboratories, LLC

A total of 50 analytes were analyzed by GEL in various media. The media analyzed included: air filters, quarterly air filter composites, atmospheric moisture, precipitation, and milk.

8.2.2 Duplicate/Replicate Samples

The INL contractor submits field duplicate/replicate samples with the regular samples to assess field collection, homogeneity, reproducibility, laboratory preparation, laboratory analysis, and precision. In the event a data quality or trending issue is identified, the concern will be documented in the Issues Management System to track resolutions and/or corrective actions.

No concerns were identified in duplicate/replicates that would indicate data quality or trending issues with sampling, handling, shipment, homogeneity, reproducibility, or preparation and analysis by the laboratory contributed to the actual sample results. Second quarter 2024 duplicate/replicate samples are discussed below.

GEL Laboratories, LLC

A total of 234 analytes were analyzed by GEL in various media. The media analyzed included: air filters, quarterly air filter composites, and milk samples.

8.2.3 Performance Evaluation Samples

PE samples are prepared samples that contain known values of analyte(s) of interest to the specific project, INL Site contractor program, or laboratory. PE samples are used to assist in improving accuracy of laboratory data by evaluating the analytical method (e.g., new media, new analyte, or adverse trends in PT or PE samples). The samples are matched as closely as possible to the specific media, analytes of interest, and expected concentration or activity levels appropriate for the specific project, program, or use in decision-making. In some cases, the PE sample matrix may differ from the field samples (i.e., using deionized water with a known amount of analyte to simulate an atmospheric moisture sample). The PE

samples are generally submitted with batches of field samples, so they are processed simultaneously in the laboratory. In the event a data quality or trending issue is identified, the concern will be documented in INL's Issues Management System for tracking responses from the laboratory on the resolutions and/or corrective actions. These concerns provide for an opportunity for the INL contractor to work with the laboratory to fine tune methods, processes, and procedures that will lead to improved accuracy of the data.

In addition to the INL contractor PE program, GEL participates in the Mixed Analyte Performance Evaluation Program conducted by the DOE Radiological and Environmental Sciences Laboratory. Mixed Analyte Performance Evaluation Program provides quality assurance oversight for environmental analytical services through a performance-based PE program that tests the ability of the laboratories to correctly analyze for radiological, stable organic and inorganic constituents representative of those at DOE sites. These results are then compared with the INL contractor's internal PE results.

GEL Laboratories, LLC

During second quarter 2024, GEL provided analytical results for air, (e.g., air filters, quarterly air filter composites) atmospheric moisture, precipitation, liquid effluent, groundwater, surface water, drinking water, milk, and large game animals. A total of 63 PE analytes were evaluated with 61 receiving an agreement evaluation. Nonagreement evaluations were received for beta and gamma PE analytes, specifically tritium in milk and ^{226}Ra in groundwater. Both nonagreements were first time occurrences. The INL contractor contacted GEL and requested a review of the nonagreements.

GEL identified the nonagreement for tritium in milk may have been due to the detector over-correcting for interference caused by the sample matrix during analysis. No changes to the process were implemented, however GEL will monitor to see if the issue occurs with future samples. No other samples were impacted by this issue.

GEL reviewed the gamma spectrometry result for ^{226}Ra in groundwater and confirmed a peak with no known interferences was present. GEL was not able to pinpoint the cause of the nonagreement.

8.3 Invalid Samples

Twenty-four samples (12 air filters and 12 charcoal cartridges) were deemed invalid due to a mechanical issue and power outages at Howe QA, Craters of the Moon, MFC North, MFC South, PBF, and RHLLW (Appendix B, Tables B-1 and B-2). For a sample to be considered valid, a minimum air volume of 5,760 ft^3 must be obtained.

9. References

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Appendix A
Summary of Sampling Schedule

Table A-1. Summary of the INL contractor's sampling schedule.

SAMPLE TYPE ANALYSIS	COLLECTION FREQUENCY	LOCATIONS		
		OFFSITE	BOUNDARY	ONSITE
Air Sampling				
Low-volume Air				
Gross Alpha, Gross Beta, ^{131}I	weekly	Blackfoot; Craters of the Moon; Dubois; Idaho Falls; IRC; IRC – North; Jackson, WY; Sugar City	Arco; Atomic City; Blue Dome; Howe; Monteview; Terreton	ATR Complex; CFA; EBR-I; EFS, Gate 4; Hwy 26 Rest Area; INTEC (NE corner); INTEC (westside); Main Gate; MFC – North; MFC – South; NRF; PBF; RHLLW; RWMC; RWMC – South; SMC; Van Buren
Gamma Spec	quarterly	Blackfoot; Craters of the Moon; Dubois; Idaho Falls; IRC; IRC – North; Jackson, WY; Sugar City	Arco; Atomic City; Blue Dome; Howe; Monteview; Terreton	ATR Complex; CFA; EBR-I; EFS; Gate 4; Hwy 26 Rest Area; INTEC (NE corner); INTEC (westside); Main Gate; MFC – North; MFC – South; NRF; PBF; RHLLW; RWMC; RWMC – South; SMC; Van Buren
^{90}Sr, Transuranics	quarterly	Blackfoot; Craters of the Moon; Dubois; Idaho Falls; IRC; IRC – North; Jackson, WY; Sugar City	Arco; Atomic City; Blue Dome; Howe; Monteview; Terreton	ATR Complex; CFA; EBR-I; EFS; Gate 4; Hwy 26 Rest Area; INTEC (NE corner); INTEC (westside); Main Gate; MFC – North; MFC – South; NRF; PBF; RHLLW; RWMC; RWMC – South; SMC; Van Buren
Atmospheric Moisture				
Tritium	2 to 13 weeks	Idaho Falls (NOAA); Idaho Falls (IRC); Craters of the Moon	Atomic City; Howe	EFS; RHLLW; Van Buren
Precipitation				
Tritium	monthly	Idaho Falls	None	None
Tritium	weekly	None	Atomic City; Howe	EFS

Table A-1. continued.

SAMPLE TYPE ANALYSIS	COLLECTION FREQUENCY	LOCATIONS		
		OFFSITE	BOUNDARY	ONSITE
Water Sampling				
Drinking Water				
Gross Alpha, Gross Beta, Tritium	semi-annually	Craters of the Moon; Idaho Falls; Minidoka; Shoshone	Atomic City; Howe; Mud Lake; Rest Area	ATR Complex; CFA; CITRC; EBR-I; Gun Range; Main Gate; MFC; TAN CTF
^{129}I, ^{90}Sr	semi-annually	None	None	CFA
Liquid Effluent				
Gross Alpha, Gross Beta, Tritium, Gamma Spec	monthly	None	None	ATR Complex
Gross Alpha, Gross Beta, Tritium, Gamma Spec	tri-annually	None	None	MFC
^{90}Sr, Transuranics	annually	None	None	MFC
Groundwater				
Gross Alpha, Gross Beta, Tritium, Gamma Spec, ^{90}Sr	semi-annually	None	None	ATR Complex
Gross Alpha, Gross Beta, Tritium, Gamma Spec, Transuranics	semi-annually	None	None	MFC
Gross Alpha, Gross Beta, Tritium, ^{14}C, ^{129}I, ^{99}Tc	annually	None	None	RHLLW
Surface Water				
Gross Alpha, Gross Beta, Tritium	semi-annually	Buhl; Hagerman; Twin Falls	None	Big Lost River (when flowing)

Table A-1. continued.

SAMPLE TYPE ANALYSIS	COLLECTION FREQUENCY	LOCATIONS		
		OFFSITE	BOUNDARY	ONSITE
External Radiation Sampling				
OSLDs				
Gamma Radiation	semiannual	Aberdeen; Blackfoot; Craters of the Moon; Dubois; Idaho Falls; Jackson, WY; Minidoka; Roberts; Sugar City	Arco; Atomic City; Birch Creek; Blue Dome; Howe; Monteview; Mud Lake; Resident Receptor Location	ATR Complex; Auxiliary Reactor Area; CFA; EBR-I; EFS; Gate 4; Haul E; Haul W; Hwy 20; Hwy 22; Hwy 28; Hwy 33; INTEC; Lincoln Boulevard; MFC; NRF; PBF Special Power Excursion Reactor; RWMC; RHLLW; Resident Receptor Locations; Rest Area; TAN, Loss-of-Fluid Test; Transient Reactor Test Facility; Van Buren
Neutron				
Neutron Radiation	semiannual	Idaho Falls	None	MFC; RHLLW
Soil Sampling				
Gamma Spec, ^{90}Sr, Transuranics	every five years	Blackfoot; Carey; St. Anthony	Atomic City; Birch Creek; Butte City; FAA Tower; Frenchmans Cabin; Howe; Monteview; Mud Lake (2)	EFS; Hwy 26 Rest Area; RWMC
Agricultural Product Sampling				
Milk				
Gamma Spec (^{131}I)	weekly	Rigby	Terreton	None
Gamma Spec (131I)	monthly	Dietrich; Minidoka; Monteview; Rigby	Howe; Terreton	None

Table A-1. continued.

SAMPLE TYPE ANALYSIS	COLLECTION FREQUENCY	LOCATIONS		
		OFFSITE	BOUNDARY	ONSITE
Tritium, ^{90}Sr	Semi-annually	Dietrich; Minidoka; Monteview; Rigby	Howe; Terreton	None
Potatoes				
Gamma Spec, ^{90}Sr	annually	Varies among Blackfoot; Driggs; Hamer; Idaho Falls; Rupert; Shelley; occasional samples across the U.S.	Varies among Arco; Monteview; Mud Lake; Terreton	None
Alfalfa				
Gamma Spec, ^{90}Sr	annually	Idaho Falls	Howe; Mud Lake	None
Grain				
Gamma Spec, ^{90}Sr	annually	Varies among American Falls; Blackfoot; Carey; Idaho Falls; Roberts; Rupert/Minidoka	Varies among Arco; Monteview; Mud Lake; Taber; Terreton	None
Lettuce				
Gamma Spec, ^{90}Sr	annually	Varies among Blackfoot; Carey; Idaho Falls; Rigby; Sugar City	Varies among Arco; Atomic City; FAA Tower; Howe; Monteview	EFS
Wildlife Sampling				
Big Game				
Gamma Spec	varies	Occasional samples across the U.S.	Public Highways	INL Site roads
Waterfowl				
Gamma Spec, ^{90}Sr, Transuranics	annually	Varies among: American Falls; Firth; Fort Hall; Heise; Market Lake; Mud Lake; Swan Valley	None	INL Site wastewater disposal ponds

Appendix B
Sample Analysis Results

Table B-1. Weekly gross alpha and gross beta concentrations in air.

Sampling Group and Location	Sampling Date	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS ALPHA Result > 3s	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS BETA Result > 3s
BOUNDARY							
ARCO	04/03/24	0.49 ± 0.23	1.81 ± 0.84	No	17.90 ± 0.97	66.23 ± 3.60	**Yes**
	04/10/24	0.99 ± 0.32	3.65 ± 1.20	**Yes**	14.30 ± 0.87	52.91 ± 3.23	**Yes**
	04/17/24	1.34 ± 0.40	4.96 ± 1.47	**Yes**	24.40 ± 1.16	90.28 ± 4.29	**Yes**
	04/24/24	1.05 ± 0.35	3.89 ± 1.28	**Yes**	22.30 ± 1.08	82.51 ± 4.00	**Yes**
	05/01/24	1.61 ± 0.42	5.96 ± 1.55	**Yes**	17.40 ± 0.97	64.38 ± 3.60	**Yes**
	05/08/24	1.07 ± 0.33	3.96 ± 1.22	**Yes**	13.40 ± 0.83	49.58 ± 3.08	**Yes**
	05/15/24	1.33 ± 0.41	4.92 ± 1.51	**Yes**	18.40 ± 1.06	68.08 ± 3.92	**Yes**
	05/22/24	2.10 ± 0.47	7.77 ± 1.72	**Yes**	18.10 ± 0.98	66.97 ± 3.61	**Yes**
	05/29/24	0.74 ± 0.29	2.73 ± 1.08	No	18.00 ± 0.99	66.60 ± 3.66	**Yes**
	06/05/24	1.34 ± 0.38	4.96 ± 1.41	**Yes**	15.80 ± 0.93	58.46 ± 3.43	**Yes**
	06/12/24	2.19 ± 0.48	8.10 ± 1.79	**Yes**	23.30 ± 1.12	86.21 ± 4.14	**Yes**
	06/19/24	1.36 ± 0.36	5.03 ± 1.34	**Yes**	17.20 ± 0.95	63.64 ± 3.50	**Yes**
	06/26/24	2.18 ± 0.45	8.07 ± 1.68	**Yes**	25.60 ± 1.14	94.72 ± 4.22	**Yes**
ATOMIC CITY	04/03/24	1.13 ± 0.32	4.18 ± 1.18	**Yes**	17.80 ± 0.99	65.86 ± 3.65	**Yes**
	04/10/24	1.10 ± 0.35	4.07 ± 1.29	**Yes**	14.70 ± 0.90	54.39 ± 3.31	**Yes**
	04/17/24	1.73 ± 0.44	6.40 ± 1.64	**Yes**	25.80 ± 1.19	95.46 ± 4.40	**Yes**
	04/24/24	1.31 ± 0.38	4.85 ± 1.41	**Yes**	22.10 ± 1.09	81.77 ± 4.03	**Yes**
	05/01/24	1.90 ± 0.47	7.03 ± 1.72	**Yes**	19.30 ± 1.06	71.41 ± 3.92	**Yes**
	05/08/24	1.72 ± 0.43	6.36 ± 1.57	**Yes**	11.80 ± 0.81	43.66 ± 2.99	**Yes**
	05/15/24	2.47 ± 0.52	9.14 ± 1.91	**Yes**	20.30 ± 1.05	75.11 ± 3.89	**Yes**
	05/22/24	1.50 ± 0.41	5.55 ± 1.52	**Yes**	19.40 ± 1.03	71.78 ± 3.81	**Yes**
	05/29/24	1.16 ± 0.37	4.29 ± 1.35	**Yes**	18.50 ± 1.00	68.45 ± 3.70	**Yes**
	06/05/24	1.41 ± 0.41	5.22 ± 1.50	**Yes**	17.10 ± 0.98	63.27 ± 3.63	**Yes**
	06/12/24	1.96 ± 0.47	7.25 ± 1.73	**Yes**	25.90 ± 1.19	95.83 ± 4.40	**Yes**
	06/19/24	1.27 ± 0.34	4.70 ± 1.25	**Yes**	17.60 ± 0.98	65.12 ± 3.63	**Yes**
	06/26/24	2.11 ± 0.44	7.81 ± 1.62	**Yes**	29.40 ± 1.27	108.78 ± 4.70	**Yes**
BLUE DOME	04/03/24	0.95 ± 0.32	3.52 ± 1.19	No	17.20 ± 0.97	63.64 ± 3.57	**Yes**
	04/10/24	0.53 ± 0.24	1.95 ± 0.90	No	17.10 ± 0.95	63.27 ± 3.51	**Yes**
	04/17/24	1.15 ± 0.32	4.26 ± 1.18	**Yes**	24.30 ± 1.15	89.91 ± 4.26	**Yes**
	04/24/24	1.48 ± 0.36	5.48 ± 1.34	**Yes**	23.30 ± 1.12	86.21 ± 4.14	**Yes**
	05/01/24	1.69 ± 0.40	6.25 ± 1.48	**Yes**	17.70 ± 0.97	65.49 ± 3.58	**Yes**
	05/08/24	0.81 ± 0.29	3.01 ± 1.06	No	10.40 ± 0.75	38.48 ± 2.78	**Yes**
	05/15/24	1.58 ± 0.37	5.85 ± 1.38	**Yes**	21.60 ± 1.08	79.92 ± 4.00	**Yes**
	05/22/24	1.69 ± 0.38	6.25 ± 1.41	**Yes**	22.20 ± 1.08	82.14 ± 4.00	**Yes**
	05/29/24	0.67 ± 0.25	2.48 ± 0.93	No	18.50 ± 0.99	68.45 ± 3.68	**Yes**
	06/05/24	0.78 ± 0.27	2.87 ± 1.00	No	16.30 ± 0.95	60.31 ± 3.52	**Yes**
	06/12/24	0.08 ± 0.12	0.29 ± 0.44	No	8.67 ± 0.70	32.08 ± 2.59	**Yes**
	06/19/24	0.79 ± 0.29	2.92 ± 1.07	No	19.00 ± 0.99	70.30 ± 3.64	**Yes**
	06/26/24	2.64 ± 0.52	9.77 ± 1.92	**Yes**	26.60 ± 1.17	98.42 ± 4.33	**Yes**
HOWE	04/03/24	0.99 ± 0.30	3.65 ± 1.12	**Yes**	18.90 ± 1.03	69.93 ± 3.81	**Yes**
	04/10/24	1.52 ± 0.46	5.62 ± 1.69	**Yes**	5.09 ± 0.67	18.83 ± 2.48	**Yes**
	04/17/24	2.21 ± 0.50	8.18 ± 1.86	**Yes**	22.80 ± 1.14	84.36 ± 4.22	**Yes**
	04/24/24	1.85 ± 0.45	6.85 ± 1.67	**Yes**	22.60 ± 1.11	83.62 ± 4.11	**Yes**
	05/01/24	1.34 ± 0.38	4.96 ± 1.40	**Yes**	18.90 ± 1.00	69.93 ± 3.70	**Yes**
	05/08/24	0.81 ± 0.30	3.01 ± 1.11	No	18.80 ± 1.00	69.56 ± 3.69	**Yes**
	05/15/24	1.00 ± 0.34	3.70 ± 1.24	No	17.50 ± 0.97	64.75 ± 3.59	**Yes**
	05/22/24	2.01 ± 0.47	7.44 ± 1.74	**Yes**	21.00 ± 1.06	77.70 ± 3.92	**Yes**
	05/29/24	0.64 ± 0.28	2.38 ± 1.04	No	16.50 ± 0.94	61.05 ± 3.46	**Yes**
	06/05/24	0.99 ± 0.35	3.66 ± 1.28	No	17.80 ± 1.00	65.86 ± 3.69	**Yes**
	06/12/24	1.68 ± 0.43	6.22 ± 1.58	**Yes**	26.80 ± 1.18	99.16 ± 4.37	**Yes**
	06/19/24	2.10 ± 0.44	7.77 ± 1.61	**Yes**	18.70 ± 1.03	69.19 ± 3.81	**Yes**
	06/26/24	1.87 ± 0.41	2.73 ± 0.94	No	30.40 ± 1.27	112.48 ± 4.70	**Yes**
HOWE (duplicate)	04/03/24	0.97 ± 0.32	3.60 ± 1.17	**Yes**	19.50 ± 1.03	72.15 ± 3.81	**Yes**
a	04/10/24						
	04/17/24	1.66 ± 0.42	6.14 ± 1.56	**Yes**	21.30 ± 1.05	78.81 ± 3.89	**Yes**
	04/24/24	1.54 ± 0.41	5.70 ± 1.53	**Yes**	23.30 ± 1.12	86.21 ± 4.14	**Yes**
	05/01/24	1.50 ± 0.38	5.55 ± 1.40	**Yes**	17.20 ± 0.95	63.64 ± 3.52	**Yes**
	05/08/24	1.36 ± 0.36	5.03 ± 1.34	**Yes**	12.20 ± 0.81	45.14 ± 2.98	**Yes**
	05/15/24	1.09 ± 0.35	4.03 ± 1.29	**Yes**	20.70 ± 1.05	76.59 ± 3.89	**Yes**
	05/22/24	1.83 ± 0.45	6.77 ± 1.66	**Yes**	20.60 ± 1.06	76.22 ± 3.92	**Yes**
	05/29/24	0.59 ± 0.24	2.17 ± 0.87	No	18.70 ± 1.00	69.19 ± 3.69	**Yes**
	06/05/24	1.28 ± 0.39	4.74 ± 1.43	**Yes**	18.60 ± 1.01	68.82 ± 3.74	**Yes**
	06/12/24	1.65 ± 0.42	6.11 ± 1.55	**Yes**	23.50 ± 1.10	86.95 ± 4.07	**Yes**
	06/19/24	1.81 ± 0.45	6.70 ± 1.65	**Yes**	18.70 ± 1.03	69.19 ± 3.81	**Yes**
	06/26/24	1.73 ± 0.44	6.40 ± 1.61	**Yes**	25.10 ± 1.16	92.87 ± 4.29	**Yes**
MONTEVIEW	04/03/24	1.30 ± 0.35	4.81 ± 1.31	**Yes**	17.30 ± 0.95	64.01 ± 3.52	**Yes**
	04/10/24	1.01 ± 0.33	3.74 ± 1.23	**Yes**	17.50 ± 0.97	64.75 ± 3.59	**Yes**
	04/17/24	1.66 ± 0.44	6.14 ± 1.62	**Yes**	24.60 ± 1.17	91.02 ± 4.33	**Yes**
	04/24/24	0.97 ± 0.34	3.59 ± 1.25	No	22.50 ± 1.10	83.25 ± 4.07	**Yes**
	05/01/24	2.18 ± 0.48	8.07 ± 1.76	**Yes**	16.30 ± 0.94	60.31 ± 3.46	**Yes**
	05/08/24	0.92 ± 0.32	3.41 ± 1.17	No	15.40 ± 0.91	56.98 ± 3.37	**Yes**
	05/15/24	1.85 ± 0.45	6.85 ± 1.68	**Yes**	18.10 ± 1.00	66.97 ± 3.70	**Yes**
	05/22/24	2.05 ± 0.47	7.59 ± 1.73	**Yes**	23.10 ± 1.11	85.47 ± 4.11	**Yes**
	05/29/24	1.94 ± 0.50	7.18 ± 1.83	**Yes**	19.90 ± 1.13	73.63 ± 4.18	**Yes**
	06/05/24	0.96 ± 0.33	3.57 ± 1.23	No	13.80 ± 0.89	51.06 ± 3.29	**Yes**
	06/12/24	3.10 ± 0.57	11.47 ± 2.11	**Yes**	23.70 ± 1.13	87.69 ± 4.18	**Yes**
	06/19/24	1.42 ± 0.38	5.25 ± 1.39	**Yes**	18.30 ± 0.99	67.71 ± 3.67	**Yes**
	06/26/24	1.80 ± 0.42	6.66 ± 1.57	**Yes**	29.60 ± 1.25	109.52 ± 4.63	**Yes**
TERRETON	04/03/24	1.70 ± 0.44	6.29 ± 1.64	**Yes**	17.10 ± 1.00	63.27 ± 3.68	**Yes**

Table B-1. Weekly gross alpha and gross beta concentrations in air.

Sampling Group and Location	Sampling Date	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS ALPHA Result > 3s	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS BETA Result > 3s
	04/10/24	1.09 ± 0.31	4.03 ± 1.15	Yes	17.70 ± 0.99	65.49 ± 3.67	Yes
	04/17/24	2.08 ± 0.45	7.70 ± 1.65	Yes	24.90 ± 1.14	92.13 ± 4.22	Yes
	04/24/24	1.31 ± 0.70	4.85 ± 2.60	No	18.20 ± 1.94	67.34 ± 7.18	Yes
	05/01/24	1.82 ± 0.40	6.73 ± 1.47	Yes	20.50 ± 1.04	75.85 ± 3.85	Yes
	05/08/24	0.69 ± 0.25	2.53 ± 0.92	No	12.50 ± 0.83	46.25 ± 3.07	Yes
	05/15/24	1.25 ± 0.36	4.63 ± 1.31	Yes	19.60 ± 1.03	72.52 ± 3.81	Yes
	05/22/24	1.60 ± 0.40	5.92 ± 1.48	Yes	17.80 ± 0.98	65.86 ± 3.63	Yes
	05/29/24	2.14 ± 0.50	7.92 ± 1.84	Yes	20.90 ± 1.14	77.33 ± 4.22	Yes
	06/05/24	1.37 ± 0.39	5.07 ± 1.43	Yes	15.00 ± 0.93	55.50 ± 3.45	Yes
	06/12/24	0.20 ± 0.16	0.75 ± 0.58	No	4.02 ± 0.51	14.87 ± 1.89	Yes
	06/19/24	1.99 ± 0.45	7.36 ± 1.67	Yes	19.80 ± 1.02	73.26 ± 3.77	Yes
	06/26/24	1.58 ± 0.40	5.85 ± 1.47	Yes	24.60 ± 1.32	91.02 ± 4.88	Yes
OFFSITE							
BLACKFOOT	04/03/24	0.74 ± 0.29	2.74 ± 1.07	No	33.30 ± 1.38	123.21 ± 5.11	Yes
	04/10/24	1.16 ± 0.34	4.29 ± 1.25	Yes	13.00 ± 0.84	48.10 ± 3.09	Yes
	04/17/24	2.16 ± 0.49	7.99 ± 1.82	Yes	30.30 ± 1.28	112.11 ± 4.74	Yes
	04/24/24	0.70 ± 0.29	2.58 ± 1.06	No	20.80 ± 1.05	76.96 ± 3.89	Yes
	05/01/24	2.24 ± 0.48	8.29 ± 1.79	Yes	16.60 ± 0.95	61.42 ± 3.50	Yes
	05/08/24	0.88 ± 0.31	3.27 ± 1.13	No	8.25 ± 0.68	30.53 ± 2.50	Yes
	05/15/24	1.77 ± 0.43	6.55 ± 1.60	Yes	19.00 ± 1.00	70.30 ± 3.70	Yes
	05/22/24	0.88 ± 0.32	3.24 ± 1.17	No	16.20 ± 0.93	59.94 ± 3.45	Yes
	05/29/24	1.03 ± 0.34	3.81 ± 1.26	Yes	16.70 ± 0.94	61.79 ± 3.47	Yes
	06/05/24	0.99 ± 0.35	3.65 ± 1.28	No	13.90 ± 0.89	51.43 ± 3.29	Yes
	06/12/24	2.72 ± 0.55	10.06 ± 2.03	Yes	21.10 ± 1.09	78.07 ± 4.03	Yes
	06/19/24	1.39 ± 0.38	5.14 ± 1.41	Yes	17.70 ± 0.96	65.49 ± 3.56	Yes
	06/26/24	1.60 ± 0.43	5.92 ± 1.59	Yes	27.00 ± 1.23	99.90 ± 4.55	Yes
CRATERS OF THE MOON [b]	04/03/24	0.95 ± 0.32	3.53 ± 1.20	No	17.30 ± 0.97	64.01 ± 3.59	Yes
	04/10/24						
	04/17/24	1.25 ± 0.34	4.63 ± 1.25	Yes	26.70 ± 1.21	98.79 ± 4.48	Yes
	04/24/24	2.15 ± 0.43	7.96 ± 1.60	Yes	23.70 ± 1.13	87.69 ± 4.18	Yes
	05/01/24	1.85 ± 0.42	6.85 ± 1.54	Yes	17.90 ± 0.97	66.23 ± 3.57	Yes
	05/08/24	0.86 ± 0.29	3.17 ± 1.06	No	11.90 ± 0.77	44.03 ± 2.86	Yes
	05/15/24	1.26 ± 0.32	4.66 ± 1.20	Yes	21.10 ± 1.04	78.07 ± 3.85	Yes
	05/22/24	1.24 ± 0.33	4.59 ± 1.21	Yes	23.00 ± 1.09	85.10 ± 4.03	Yes
	05/29/24	1.01 ± 0.30	3.74 ± 1.12	Yes	15.40 ± 0.92	56.98 ± 3.39	Yes
	06/05/24	1.18 ± 0.33	4.37 ± 1.21	Yes	14.60 ± 0.90	54.02 ± 3.32	Yes
	06/12/24	1.77 ± 0.40	6.55 ± 1.47	Yes	25.80 ± 1.17	95.46 ± 4.33	Yes
	06/19/24	1.73 ± 0.43	6.40 ± 1.58	Yes	19.10 ± 1.01	70.67 ± 3.74	Yes
	06/26/24	2.34 ± 0.49	8.66 ± 1.81	Yes	22.00 ± 1.07	81.40 ± 3.96	Yes
DUBOIS	04/03/24	0.72 ± 0.26	2.67 ± 0.96	No	15.50 ± 0.93	57.35 ± 3.46	Yes
	04/10/24	0.72 ± 0.29	2.68 ± 1.09	No	14.50 ± 0.91	53.65 ± 3.35	Yes
	04/17/24	2.43 ± 0.53	8.99 ± 1.95	Yes	25.30 ± 1.20	93.61 ± 4.44	Yes
	04/24/24	1.00 ± 0.34	3.70 ± 1.24	No	21.30 ± 1.06	78.81 ± 3.92	Yes
	05/01/24	0.76 ± 0.30	2.80 ± 1.09	No	17.40 ± 0.98	64.38 ± 3.63	Yes
	05/08/24	1.85 ± 0.44	6.85 ± 1.64	Yes	10.50 ± 0.78	38.85 ± 2.87	Yes
	05/15/24	1.51 ± 0.41	5.59 ± 1.51	Yes	20.90 ± 1.06	77.33 ± 3.92	Yes
	05/22/24	1.57 ± 0.41	5.81 ± 1.53	Yes	21.70 ± 1.07	80.29 ± 3.96	Yes
	05/29/24	2.56 ± 0.57	9.47 ± 2.12	Yes	24.30 ± 1.24	89.91 ± 4.59	Yes
	06/05/24	0.79 ± 0.32	2.93 ± 1.18	No	16.00 ± 0.96	59.20 ± 3.54	Yes
	06/12/24	1.37 ± 0.39	5.07 ± 1.44	Yes	28.20 ± 1.21	104.34 ± 4.48	Yes
	06/19/24	0.94 ± 0.29	3.48 ± 1.09	Yes	23.00 ± 1.11	85.10 ± 4.11	Yes
	06/26/24	2.40 ± 0.46	8.88 ± 1.71	Yes	24.60 ± 1.16	91.02 ± 4.29	Yes
IDAHO FALLS	04/03/24	0.93 ± 0.30	3.43 ± 1.11	Yes	16.00 ± 0.91	59.20 ± 3.38	Yes
	04/10/24	1.28 ± 0.33	4.74 ± 1.21	Yes	16.90 ± 0.94	62.53 ± 3.49	Yes
	04/17/24	1.68 ± 0.44	6.22 ± 1.64	Yes	21.30 ± 1.09	78.81 ± 4.03	Yes
	04/24/24	1.24 ± 0.39	4.59 ± 1.44	Yes	22.20 ± 1.13	82.14 ± 4.18	Yes
	05/01/24	2.47 ± 0.51	9.14 ± 1.87	Yes	16.10 ± 0.93	59.57 ± 3.43	Yes
	05/08/24	1.94 ± 0.45	7.18 ± 1.67	Yes	10.90 ± 0.79	40.33 ± 2.91	Yes
	05/15/24	1.12 ± 0.36	4.14 ± 1.33	Yes	19.70 ± 1.04	72.89 ± 3.85	Yes
	05/22/24	2.83 ± 0.54	10.47 ± 2.01	Yes	20.70 ± 1.05	76.59 ± 3.89	Yes
	05/29/24	1.45 ± 0.40	5.37 ± 1.47	Yes	17.00 ± 0.96	62.90 ± 3.57	Yes
	06/05/24	1.24 ± 0.37	4.59 ± 1.35	Yes	16.40 ± 0.94	60.68 ± 3.49	Yes
	06/12/24	1.58 ± 0.41	5.85 ± 1.53	Yes	24.00 ± 1.14	88.80 ± 4.22	Yes
	06/19/24	1.05 ± 0.34	3.89 ± 1.27	Yes	18.90 ± 1.02	69.93 ± 3.77	Yes
	06/26/24	1.94 ± 0.46	7.18 ± 1.70	Yes	26.90 ± 1.20	99.53 ± 4.44	Yes
IRC	04/03/24	0.83 ± 0.28	3.08 ± 1.05	No	17.10 ± 0.94	63.27 ± 3.47	Yes
	04/10/24	1.31 ± 0.36	4.85 ± 1.32	Yes	15.80 ± 0.90	58.46 ± 3.34	Yes
	04/17/24	1.85 ± 0.46	6.85 ± 1.69	Yes	34.40 ± 1.36	127.28 ± 5.03	Yes
	04/24/24	1.26 ± 0.37	4.66 ± 1.35	Yes	24.10 ± 1.11	89.17 ± 4.11	Yes
	05/01/24	1.28 ± 0.36	4.74 ± 1.33	Yes	13.90 ± 0.85	51.43 ± 3.15	Yes
	05/08/24	0.93 ± 0.30	3.43 ± 1.12	Yes	10.20 ± 0.72	37.74 ± 2.65	Yes
	05/15/24	2.15 ± 0.47	7.96 ± 1.74	Yes	19.30 ± 1.00	71.41 ± 3.70	Yes
	05/22/24	1.65 ± 0.43	6.11 ± 1.60	Yes	17.20 ± 0.99	63.64 ± 3.64	Yes
	05/29/24	1.45 ± 0.40	5.37 ± 1.48	Yes	16.90 ± 0.95	62.53 ± 3.52	Yes
	06/05/24	1.80 ± 0.45	6.66 ± 1.66	Yes	15.10 ± 0.92	55.87 ± 3.40	Yes
	06/12/24	-0.12 ± 0.03	-0.43 ± 0.10	No	-0.20 ± 0.29	-0.73 ± 1.07	No
	06/19/24	1.14 ± 0.35	4.22 ± 1.30	Yes	18.40 ± 1.00	68.08 ± 3.69	Yes
	06/26/24	2.26 ± 0.50	8.36 ± 1.84	Yes	27.40 ± 1.21	101.38 ± 4.48	Yes
IRC NORTH	04/03/24	0.87 ± 0.30	3.22 ± 1.10	No	15.50 ± 0.92	57.35 ± 3.40	Yes
	04/10/24	0.91 ± 0.31	3.35 ± 1.14	No	16.00 ± 0.93	59.20 ± 3.43	Yes

Table B-1. Weekly gross alpha and gross beta concentrations in air.

Sampling Group and Location	Sampling Date	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS ALPHA Result > 3s	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS BETA Result > 3s
	04/17/24	2.10 ± 0.49	7.77 ± 1.81	Yes	24.10 ± 1.16	89.17 ± 4.29	Yes
	04/24/24	1.07 ± 0.34	3.96 ± 1.27	Yes	22.20 ± 1.07	82.14 ± 3.96	Yes
	05/01/24	1.00 ± 0.32	3.69 ± 1.18	Yes	16.40 ± 0.95	60.68 ± 3.53	Yes
	05/08/24	0.71 ± 0.27	2.64 ± 1.00	No	11.50 ± 0.78	42.55 ± 2.87	Yes
	05/15/24	1.63 ± 0.42	6.03 ± 1.57	Yes	20.00 ± 1.04	74.00 ± 3.85	Yes
	05/22/24	1.53 ± 0.42	5.66 ± 1.54	Yes	19.30 ± 1.03	71.41 ± 3.81	Yes
	05/29/24	1.19 ± 0.33	4.40 ± 1.22	Yes	17.40 ± 0.98	64.38 ± 3.62	Yes
	06/05/24	1.02 ± 0.36	3.77 ± 1.33	No	15.20 ± 0.94	56.24 ± 3.49	Yes
	06/12/24	2.20 ± 0.51	8.14 ± 1.89	Yes	24.30 ± 1.19	89.91 ± 4.40	Yes
	06/19/24	2.45 ± 0.49	9.07 ± 1.81	Yes	18.50 ± 1.00	68.45 ± 3.70	Yes
	06/26/24	2.97 ± 0.57	10.99 ± 2.12	Yes	28.70 ± 1.26	106.19 ± 4.66	Yes
JACKSON, WY	04/02/24	0.87 ± 0.31	3.23 ± 1.16	No	13.40 ± 0.87	49.58 ± 3.23	Yes
	04/09/24	0.47 ± 0.24	1.73 ± 0.89	No	14.30 ± 0.91	52.91 ± 3.37	Yes
	04/16/24	1.03 ± 0.31	3.81 ± 1.16	Yes	26.80 ± 1.23	99.16 ± 4.55	Yes
	04/23/24	0.73 ± 0.26	2.69 ± 0.95	No	20.80 ± 1.07	76.96 ± 3.96	Yes
	04/30/24	1.80 ± 0.43	6.66 ± 1.58	Yes	15.60 ± 0.95	57.72 ± 3.50	Yes
	05/07/24	1.69 ± 0.41	6.25 ± 1.52	Yes	10.60 ± 0.78	39.22 ± 2.87	Yes
	05/14/24	0.65 ± 0.25	2.42 ± 0.91	No	16.10 ± 0.95	59.57 ± 3.52	Yes
	05/21/24	2.02 ± 0.43	7.47 ± 1.58	Yes	22.40 ± 1.12	82.88 ± 4.14	Yes
	05/28/24	1.13 ± 0.32	4.18 ± 1.19	Yes	15.40 ± 0.93	56.98 ± 3.45	Yes
	06/04/24	0.90 ± 0.30	3.32 ± 1.09	Yes	19.90 ± 1.06	73.63 ± 3.92	Yes
	06/11/24	1.39 ± 0.36	5.14 ± 1.34	Yes	23.10 ± 1.13	85.47 ± 4.18	Yes
	06/18/24	1.62 ± 0.43	5.99 ± 1.58	Yes	21.80 ± 1.11	80.66 ± 4.11	Yes
	06/25/24	2.59 ± 0.54	9.58 ± 2.00	Yes	31.00 ± 1.32	114.70 ± 4.88	Yes
SUGAR CITY	04/03/24	0.71 ± 0.33	2.62 ± 1.21	No	20.80 ± 1.21	76.96 ± 4.48	Yes
	04/10/24	1.01 ± 0.34	3.74 ± 1.25	No	14.00 ± 0.88	51.80 ± 3.26	Yes
	04/17/24	1.35 ± 0.35	5.00 ± 1.30	Yes	25.90 ± 1.20	95.83 ± 4.44	Yes
	04/24/24	1.88 ± 0.43	6.96 ± 1.59	Yes	21.70 ± 1.07	80.29 ± 3.96	Yes
	05/01/24	0.96 ± 0.30	3.55 ± 1.11	Yes	15.80 ± 0.95	58.46 ± 3.51	Yes
	05/08/24	0.60 ± 0.24	2.23 ± 0.87	No	11.40 ± 0.80	42.18 ± 2.95	Yes
	05/15/24	1.50 ± 0.38	5.55 ± 1.41	Yes	17.50 ± 0.96	64.75 ± 3.56	Yes
	05/22/24	1.15 ± 0.32	4.26 ± 1.18	Yes	21.40 ± 1.07	79.18 ± 3.96	Yes
	05/29/24	1.20 ± 0.39	4.44 ± 1.43	Yes	22.70 ± 1.20	83.99 ± 4.44	Yes
	06/05/24	1.26 ± 0.37	4.66 ± 1.37	Yes	16.30 ± 0.97	60.31 ± 3.57	Yes
	06/12/24	1.82 ± 0.42	6.73 ± 1.54	Yes	26.60 ± 1.16	98.42 ± 4.29	Yes
	06/19/24	1.42 ± 0.53	5.25 ± 1.94	No	19.80 ± 1.55	73.26 ± 5.74	Yes
	06/26/24	1.80 ± 0.42	6.66 ± 1.57	Yes	29.50 ± 1.25	109.15 ± 4.63	Yes
SUGAR CITY (duplicate)	04/03/24	0.78 ± 0.35	2.89 ± 1.30	No	19.00 ± 1.17	70.30 ± 4.33	Yes
	04/10/24	1.42 ± 0.41	5.25 ± 1.50	Yes	15.60 ± 0.96	57.72 ± 3.55	Yes
	04/17/24	2.30 ± 0.49	8.51 ± 1.79	Yes	27.00 ± 1.22	99.90 ± 4.51	Yes
	04/24/24	1.22 ± 0.33	4.51 ± 1.21	Yes	21.50 ± 1.08	79.55 ± 4.00	Yes
	05/01/24	1.24 ± 0.38	4.59 ± 1.39	Yes	17.60 ± 0.99	65.12 ± 3.66	Yes
	05/08/24	1.41 ± 0.39	5.22 ± 1.42	Yes	11.60 ± 0.80	42.92 ± 2.95	Yes
	05/15/24	1.42 ± 0.35	5.25 ± 1.31	Yes	20.70 ± 1.06	76.59 ± 3.92	Yes
	05/22/24	1.37 ± 0.37	5.07 ± 1.38	Yes	19.50 ± 1.03	72.15 ± 3.81	Yes
	05/29/24	1.03 ± 0.34	3.81 ± 1.25	Yes	17.30 ± 0.97	64.01 ± 3.57	Yes
	06/05/24	1.00 ± 0.31	3.70 ± 1.16	Yes	16.50 ± 0.99	61.05 ± 3.65	Yes
	06/12/24	2.35 ± 0.45	8.70 ± 1.68	Yes	25.10 ± 1.16	92.87 ± 4.29	Yes
	06/19/24	1.39 ± 0.36	5.14 ± 1.32	Yes	20.40 ± 1.06	75.48 ± 3.92	Yes
	06/26/24	2.33 ± 0.46	8.62 ± 1.69	Yes	28.30 ± 1.24	104.71 ± 4.59	Yes
ONSITE							
ATR COMPLEX	04/03/24	1.06 ± 0.30	3.92 ± 1.11	Yes	35.60 ± 1.33	131.72 ± 4.92	Yes
	04/10/24	1.14 ± 0.31	4.22 ± 1.15	Yes	17.50 ± 0.97	64.75 ± 3.58	Yes
	04/17/24	1.77 ± 0.46	6.55 ± 1.68	Yes	24.00 ± 1.16	88.80 ± 4.29	Yes
	04/24/24	0.93 ± 0.35	3.44 ± 1.28	No	22.30 ± 1.13	82.51 ± 4.18	Yes
	05/01/24	0.72 ± 0.30	2.66 ± 1.09	No	20.10 ± 1.05	74.37 ± 3.89	Yes
	05/08/24	1.16 ± 0.36	4.29 ± 1.32	Yes	11.00 ± 0.80	40.70 ± 2.95	Yes
	05/15/24	1.37 ± 0.40	5.07 ± 1.49	Yes	18.30 ± 1.03	67.71 ± 3.81	Yes
	05/22/24	1.45 ± 0.41	5.37 ± 1.50	Yes	20.00 ± 1.05	74.00 ± 3.89	Yes
	05/29/24	1.17 ± 0.36	4.33 ± 1.35	Yes	18.50 ± 1.01	68.45 ± 3.74	Yes
	06/05/24	1.29 ± 0.38	4.77 ± 1.41	Yes	16.70 ± 0.97	61.79 ± 3.59	Yes
	06/12/24	2.75 ± 0.54	10.18 ± 2.01	Yes	22.50 ± 1.12	83.25 ± 4.14	Yes
	06/19/24	1.56 ± 0.41	5.77 ± 1.52	Yes	19.70 ± 1.04	72.89 ± 3.85	Yes
	06/26/24	4.02 ± 0.68	14.87 ± 2.52	Yes	44.40 ± 1.60	164.28 ± 5.92	Yes
CFA	04/03/24	1.34 ± 0.38	4.96 ± 1.39	Yes	19.50 ± 1.12	72.15 ± 4.14	Yes
	04/10/24	0.80 ± 0.29	2.95 ± 1.07	No	15.00 ± 0.89	55.50 ± 3.30	Yes
	04/17/24	1.02 ± 0.36	3.77 ± 1.31	No	23.70 ± 1.16	87.69 ± 4.29	Yes
	04/24/24	2.31 ± 0.51	8.55 ± 1.88	Yes	24.70 ± 1.17	91.39 ± 4.33	Yes
	05/01/24	1.58 ± 0.41	5.85 ± 1.53	Yes	17.30 ± 0.98	64.01 ± 3.61	Yes
	05/08/24	0.82 ± 0.30	3.04 ± 1.12	No	12.30 ± 0.83	45.51 ± 3.05	Yes
	05/15/24	1.52 ± 0.41	5.62 ± 1.51	Yes	20.30 ± 1.05	75.11 ± 3.89	Yes
	05/22/24	2.09 ± 0.48	7.73 ± 1.76	Yes	21.20 ± 1.06	78.44 ± 3.92	Yes
	05/29/24	1.20 ± 0.38	4.44 ± 1.39	Yes	18.00 ± 1.00	66.60 ± 3.70	Yes
	06/05/24	1.75 ± 0.44	6.48 ± 1.62	Yes	15.30 ± 0.91	56.61 ± 3.37	Yes
	06/12/24	2.61 ± 0.53	9.66 ± 1.95	Yes	27.10 ± 1.20	100.27 ± 4.44	Yes
	06/19/24	2.14 ± 0.47	7.92 ± 1.75	Yes	21.30 ± 1.06	78.81 ± 3.92	Yes
	06/26/24	1.67 ± 0.43	6.18 ± 1.59	Yes	24.80 ± 1.17	91.76 ± 4.33	Yes
EBR-I	04/03/24	1.04 ± 0.34	3.85 ± 1.24	Yes	17.30 ± 0.96	64.01 ± 3.57	Yes
	04/10/24	0.90 ± 0.31	3.33 ± 1.16	No	14.90 ± 0.90	55.13 ± 3.32	Yes
	04/17/24	1.81 ± 0.41	6.70 ± 1.50	Yes	24.40 ± 1.17	90.28 ± 4.33	Yes

Table B-1. Weekly gross alpha and gross beta concentrations in air.

		GROSS ALPHA							GROSS BETA						
Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
	04/24/24	1.29	±	0.34	4.77	±	1.24	Yes	28.80	±	1.23	106.56	±	4.55	Yes
	05/01/24	1.47	±	0.37	5.44	±	1.38	Yes	18.00	±	0.97	66.60	±	3.57	Yes
	05/08/24	0.92	±	0.29	3.39	±	1.07	Yes	12.50	±	0.78	46.25	±	2.89	Yes
	05/15/24	1.57	±	0.36	5.81	±	1.33	Yes	19.00	±	0.99	70.30	±	3.66	Yes
	05/22/24	0.69	±	0.25	2.55	±	0.94	No	21.90	±	1.08	81.03	±	4.00	Yes
	05/29/24	0.82	±	0.27	3.03	±	1.00	Yes	16.50	±	0.93	61.05	±	3.44	Yes
	06/05/24	1.01	±	0.30	3.74	±	1.12	Yes	16.20	±	0.94	59.94	±	3.47	Yes
	06/12/24	2.71	±	0.49	10.03	±	1.81	Yes	29.70	±	1.26	109.89	±	4.66	Yes
	06/19/24	0.65	±	0.26	2.40	±	0.97	No	20.30	±	1.03	75.11	±	3.81	Yes
	06/26/24	2.08	±	0.46	7.70	±	1.68	Yes	28.80	±	1.23	106.56	±	4.55	Yes
EFS	04/03/24	0.83	±	0.27	3.09	±	0.99	Yes	17.50	±	0.95	64.75	±	3.52	Yes
	04/10/24	1.10	±	0.30	4.07	±	1.12	Yes	14.60	±	0.88	54.02	±	3.24	Yes
	04/17/24	3.21	±	0.59	11.88	±	2.16	Yes	24.30	±	1.14	89.91	±	4.22	Yes
	04/24/24	1.62	±	0.43	5.99	±	1.59	Yes	23.10	±	1.13	85.47	±	4.18	Yes
	05/01/24	1.42	±	0.35	5.25	±	1.31	Yes	18.00	±	0.98	66.60	±	3.64	Yes
	05/08/24	0.68	±	0.25	2.52	±	0.92	No	12.70	±	0.83	46.99	±	3.09	Yes
	05/15/24	1.59	±	0.42	5.88	±	1.54	Yes	18.70	±	1.00	69.19	±	3.70	Yes
	05/22/24	1.16	±	0.39	4.29	±	1.43	No	17.40	±	1.05	64.38	±	3.89	Yes
	05/29/24	1.00	±	0.32	3.70	±	1.19	Yes	17.10	±	0.95	63.27	±	3.53	Yes
	06/05/24	1.00	±	0.33	3.70	±	1.21	Yes	16.60	±	0.93	61.42	±	3.45	Yes
	06/12/24	2.05	±	0.46	7.59	±	1.72	Yes	26.00	±	1.17	96.20	±	4.33	Yes
	06/19/24	1.62	±	0.41	5.99	±	1.52	Yes	20.50	±	1.04	75.85	±	3.85	Yes
	06/26/24	2.06	±	0.47	7.62	±	1.74	Yes	27.20	±	1.21	100.64	±	4.48	Yes
GATE 4	04/03/24	1.37	±	0.36	5.07	±	1.32	Yes	16.60	±	0.93	61.42	±	3.43	Yes
	04/10/24	1.31	±	0.37	4.85	±	1.38	Yes	16.10	±	0.93	59.57	±	3.46	Yes
	04/17/24	1.56	±	0.41	5.77	±	1.52	Yes	25.90	±	1.16	95.83	±	4.29	Yes
	04/24/24	1.66	±	0.43	6.14	±	1.58	Yes	22.00	±	1.08	81.40	±	4.00	Yes
	05/01/24	2.19	±	0.48	8.10	±	1.78	Yes	20.10	±	1.03	74.37	±	3.81	Yes
	05/08/24	1.19	±	0.35	4.40	±	1.30	Yes	11.40	±	0.78	42.18	±	2.89	Yes
	05/15/24	1.39	±	0.39	5.14	±	1.45	Yes	20.50	±	1.05	75.85	±	3.89	Yes
	05/22/24	2.75	±	0.54	10.18	±	1.98	Yes	18.70	±	1.00	69.19	±	3.70	Yes
	05/29/24	1.96	±	0.44	7.25	±	1.61	Yes	17.30	±	0.92	64.01	±	3.41	Yes
	06/05/24	0.91	±	0.31	3.35	±	1.15	No	16.00	±	0.92	59.20	±	3.39	Yes
	06/12/24	2.05	±	0.45	7.59	±	1.68	Yes	24.40	±	1.11	90.28	±	4.11	Yes
	06/19/24	2.62	±	0.49	9.69	±	1.79	Yes	20.70	±	1.01	76.59	±	3.74	Yes
	06/26/24	1.74	±	0.40	6.44	±	1.48	Yes	27.40	±	1.15	101.38	±	4.26	Yes
HIGHWAY 26 REST AREA	04/03/24	1.08	±	0.35	4.00	±	1.28	Yes	22.20	±	1.08	82.14	±	4.00	Yes
	04/10/24	1.56	±	0.40	5.77	±	1.48	Yes	14.60	±	0.88	54.02	±	3.24	Yes
	04/17/24	1.51	±	0.38	5.59	±	1.41	Yes	25.20	±	1.14	93.24	±	4.22	Yes
	04/24/24	1.89	±	0.39	6.99	±	1.46	Yes	24.60	±	1.12	91.02	±	4.14	Yes
	05/01/24	1.85	±	0.42	6.85	±	1.54	Yes	20.20	±	1.02	74.74	±	3.77	Yes
	05/08/24	0.69	±	0.26	2.56	±	0.97	No	12.70	±	0.80	46.99	±	2.97	Yes
	05/15/24	1.12	±	0.31	4.14	±	1.15	Yes	22.60	±	1.09	83.62	±	4.03	Yes
	05/22/24	1.40	±	0.37	5.18	±	1.36	Yes	20.20	±	1.03	74.74	±	3.81	Yes
	05/29/24	0.99	±	0.30	3.65	±	1.09	Yes	17.90	±	0.97	66.23	±	3.58	Yes
	06/05/24	0.93	±	0.29	3.43	±	1.07	Yes	16.90	±	0.96	62.53	±	3.53	Yes
	06/12/24	2.29	±	0.45	8.47	±	1.67	Yes	28.90	±	1.24	106.93	±	4.59	Yes
	06/19/24	1.38	±	0.37	5.11	±	1.36	Yes	18.00	±	0.97	66.60	±	3.60	Yes
	06/26/24	2.34	±	0.46	8.66	±	1.70	Yes	30.30	±	1.29	112.11	±	4.77	Yes
HIGHWAY 26 REST AREA (duplicate)	04/03/24	0.95	±	0.32	3.51	±	1.19	No	17.80	±	0.98	65.86	±	3.62	Yes
	04/10/24	0.68	±	0.28	2.51	±	1.02	No	16.10	±	0.92	59.57	±	3.39	Yes
	04/17/24	1.82	±	0.40	6.73	±	1.48	Yes	24.00	±	1.14	88.80	±	4.22	Yes
	04/24/24	1.32	±	0.35	4.88	±	1.30	Yes	24.50	±	1.09	90.65	±	4.03	Yes
	05/01/24	1.25	±	0.37	4.63	±	1.36	Yes	17.70	±	0.98	65.49	±	3.61	Yes
	05/08/24	0.80	±	0.29	2.96	±	1.09	No	11.50	±	0.79	42.55	±	2.92	Yes
	05/15/24	1.55	±	0.38	5.74	±	1.42	Yes	20.90	±	1.03	77.33	±	3.81	Yes
	05/22/24	1.37	±	0.34	5.07	±	1.27	Yes	23.80	±	1.12	88.06	±	4.14	Yes
	05/29/24	1.05	±	0.35	3.89	±	1.28	Yes	16.60	±	0.94	61.42	±	3.49	Yes
	06/05/24	1.53	±	0.39	5.66	±	1.43	Yes	17.50	±	0.95	64.75	±	3.53	Yes
	06/12/24	2.79	±	0.52	10.32	±	1.91	Yes	28.30	±	1.21	104.71	±	4.48	Yes
	06/19/24	1.94	±	0.45	7.18	±	1.67	Yes	17.40	±	0.97	64.38	±	3.59	Yes
	06/26/24	2.76	±	0.52	10.21	±	1.93	Yes	29.00	±	1.24	107.30	±	4.59	Yes
INTEC (NE CORNER)	04/03/24	0.44	±	0.25	1.62	±	0.93	No	20.50	±	1.10	75.85	±	4.07	Yes
	04/10/24	1.17	±	0.35	4.33	±	1.29	Yes	14.40	±	0.87	53.28	±	3.22	Yes
	04/17/24	1.80	±	0.42	6.66	±	1.54	Yes	25.50	±	1.15	94.35	±	4.26	Yes
	04/24/24	0.98	±	0.30	3.61	±	1.09	Yes	23.90	±	1.14	88.43	±	4.22	Yes
	05/01/24	2.33	±	0.47	8.62	±	1.74	Yes	20.60	±	1.04	76.22	±	3.85	Yes
	05/08/24	0.81	±	0.29	3.01	±	1.06	No	14.20	±	0.86	52.54	±	3.19	Yes
	05/15/24	1.57	±	0.37	5.81	±	1.37	Yes	22.00	±	1.09	81.40	±	4.03	Yes
	05/22/24	2.11	±	0.45	7.81	±	1.65	Yes	19.80	±	1.01	73.26	±	3.74	Yes
	05/29/24	1.38	±	0.35	5.11	±	1.31	Yes	19.10	±	1.03	70.67	±	3.81	Yes
	06/05/24	1.27	±	0.34	4.70	±	1.25	Yes	16.70	±	0.96	61.79	±	3.53	Yes
	06/12/24	1.80	±	0.41	6.66	±	1.50	Yes	27.60	±	1.22	102.12	±	4.51	Yes
	06/19/24	1.84	±	0.42	6.81	±	1.56	Yes	18.70	±	0.99	69.19	±	3.66	Yes
	06/26/24	1.93	±	0.42	7.14	±	1.56	Yes	28.50	±	1.26	105.45	±	4.66	Yes
INTEC (WEST SIDE)	04/03/24	1.07	±	0.36	3.96	±	1.33	No	16.30	±	0.98	60.31	±	3.61	Yes
	04/10/24	1.50	±	0.40	5.55	±	1.47	Yes	13.40	±	0.86	49.58	±	3.18	Yes
	04/17/24	1.46	±	0.38	5.40	±	1.42	Yes	26.80	±	1.19	99.16	±	4.40	Yes
	04/24/24	0.74	±	0.26	2.73	±	0.97	No	23.80	±	1.15	88.06	±	4.26	Yes
	05/01/24	0.77	±	0.28	2.84	±	1.02	No	17.10	±	0.95	63.27	±	3.51	Yes

Table B-1. Weekly gross alpha and gross beta concentrations in air.

Sampling Group and Location		Sampling Date	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS ALPHA Result > 3s	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS BETA Result > 3s
		05/08/24	0.73 ± 0.28	2.71 ± 1.02	No	12.30 ± 0.82	45.51 ± 3.02	Yes
		05/15/24	1.38 ± 0.34	5.11 ± 1.27	Yes	21.70 ± 1.07	80.29 ± 3.96	Yes
		05/22/24	1.43 ± 0.36	5.29 ± 1.34	Yes	20.70 ± 1.01	76.59 ± 3.74	Yes
		05/29/24	1.42 ± 0.35	5.25 ± 1.31	Yes	16.80 ± 0.95	62.16 ± 3.53	Yes
		06/05/24	0.67 ± 0.25	2.48 ± 0.92	No	16.00 ± 0.93	59.20 ± 3.43	Yes
		06/12/24	1.17 ± 0.33	4.33 ± 1.21	Yes	26.60 ± 1.18	98.42 ± 4.37	Yes
		06/19/24	1.55 ± 0.39	5.74 ± 1.42	Yes	19.90 ± 1.01	73.63 ± 3.74	Yes
		06/26/24	2.05 ± 0.44	7.59 ± 1.62	Yes	31.70 ± 1.33	117.29 ± 4.92	Yes
MAIN GATE		04/03/24	1.19 ± 0.36	4.40 ± 1.33	Yes	16.90 ± 0.95	62.53 ± 3.52	Yes
		04/10/24	1.03 ± 0.29	3.81 ± 1.08	Yes	14.30 ± 0.87	52.91 ± 3.22	Yes
		04/17/24	1.75 ± 0.42	6.48 ± 1.54	Yes	24.50 ± 1.15	90.65 ± 4.26	Yes
		04/24/24	1.36 ± 0.38	5.03 ± 1.39	Yes	22.30 ± 1.10	82.51 ± 4.07	Yes
		05/01/24	1.80 ± 0.41	6.66 ± 1.52	Yes	18.40 ± 1.04	68.08 ± 3.85	Yes
		05/08/24	0.61 ± 0.24	2.25 ± 0.88	No	13.40 ± 0.86	49.58 ± 3.18	Yes
		05/15/24	1.15 ± 0.34	4.26 ± 1.26	Yes	22.50 ± 1.09	83.25 ± 4.03	Yes
		05/22/24	2.29 ± 0.47	8.47 ± 1.74	Yes	22.60 ± 1.08	83.62 ± 4.00	Yes
		05/29/24	0.08 ± 0.13	0.29 ± 0.49	No	1.14 ± 0.36	4.22 ± 1.32	Yes
		06/05/24	1.74 ± 0.41	6.44 ± 1.53	Yes	17.40 ± 0.96	64.38 ± 3.55	Yes
		06/12/24	1.87 ± 0.43	6.92 ± 1.58	Yes	35.60 ± 1.35	131.72 ± 5.00	Yes
		06/19/24	1.82 ± 0.44	6.73 ± 1.62	Yes	21.80 ± 1.07	80.66 ± 3.96	Yes
		06/26/24	2.64 ± 0.54	9.77 ± 2.00	Yes	30.20 ± 1.29	111.74 ± 4.77	Yes
MFC NORTH		04/03/24	1.56 ± 0.40	5.77 ± 1.46	Yes	16.10 ± 0.91	59.57 ± 3.35	Yes
		04/10/24	1.05 ± 0.33	3.89 ± 1.23	Yes	14.50 ± 0.87	53.65 ± 3.21	Yes
		04/17/24	1.97 ± 0.41	7.29 ± 1.53	Yes	24.30 ± 1.14	89.91 ± 4.22	Yes
		04/24/24	1.54 ± 0.40	5.70 ± 1.47	Yes	21.90 ± 1.09	81.03 ± 4.03	Yes
	b	05/01/24						
	b	05/08/24						
		05/15/24	2.00 ± 0.45	7.40 ± 1.68	Yes	17.70 ± 1.00	65.49 ± 3.70	Yes
		05/22/24	1.95 ± 0.44	7.22 ± 1.61	Yes	17.40 ± 1.04	64.38 ± 3.85	Yes
	b	05/29/24						
		06/05/24	1.86 ± 0.44	6.88 ± 1.64	Yes	13.90 ± 0.90	51.43 ± 3.33	Yes
		06/12/24	1.73 ± 0.44	6.40 ± 1.64	Yes	24.60 ± 1.22	91.02 ± 4.51	Yes
		06/19/24	2.42 ± 0.48	8.95 ± 1.78	Yes	15.00 ± 0.96	55.50 ± 3.57	Yes
		06/26/24	2.41 ± 0.49	8.92 ± 1.82	Yes	26.50 ± 1.20	98.05 ± 4.44	Yes
MFC SOUTH		04/03/24	0.84 ± 0.30	3.12 ± 1.11	No	16.40 ± 0.91	60.68 ± 3.37	Yes
		04/10/24	0.96 ± 0.32	3.56 ± 1.18	Yes	12.60 ± 0.82	46.62 ± 3.02	Yes
		04/17/24	2.21 ± 0.45	8.18 ± 1.68	Yes	24.00 ± 1.11	88.80 ± 4.11	Yes
		04/24/24	1.41 ± 0.38	5.22 ± 1.39	Yes	22.70 ± 1.09	83.99 ± 4.03	Yes
		05/01/24	1.84 ± 0.39	6.81 ± 1.45	Yes	19.20 ± 0.99	71.04 ± 3.68	Yes
		05/08/24	0.45 ± 0.21	1.67 ± 0.78	No	11.80 ± 0.82	43.66 ± 3.04	Yes
		05/15/24	1.55 ± 0.39	5.74 ± 1.46	Yes	18.10 ± 0.99	66.97 ± 3.67	Yes
		05/22/24	1.03 ± 0.33	3.81 ± 1.21	Yes	19.20 ± 1.01	71.04 ± 3.74	Yes
		05/29/24	1.88 ± 0.44	6.96 ± 1.61	Yes	19.50 ± 1.03	72.15 ± 3.81	Yes
		06/05/24	0.71 ± 0.27	2.62 ± 1.01	No	16.00 ± 0.92	59.20 ± 3.39	Yes
		06/12/24	2.12 ± 0.53	7.84 ± 1.94	Yes	24.10 ± 1.31	89.17 ± 4.85	Yes
	b	06/19/24						
	b	06/26/24						
NRF		04/03/24	1.00 ± 0.31	3.70 ± 1.14	Yes	14.90 ± 0.88	55.13 ± 3.24	Yes
		04/10/24	0.79 ± 0.29	2.91 ± 1.05	No	16.40 ± 0.92	60.68 ± 3.42	Yes
		04/17/24	1.02 ± 0.35	3.77 ± 1.29	No	25.50 ± 1.18	94.35 ± 4.37	Yes
		04/24/24	1.45 ± 0.41	5.37 ± 1.50	Yes	24.00 ± 1.14	88.80 ± 4.22	Yes
		05/01/24	1.96 ± 0.46	7.25 ± 1.68	Yes	16.90 ± 0.96	62.53 ± 3.54	Yes
		05/08/24	1.03 ± 0.34	3.81 ± 1.24	Yes	10.80 ± 0.78	39.96 ± 2.89	Yes
		05/15/24	2.14 ± 0.48	7.92 ± 1.78	Yes	20.00 ± 1.04	74.00 ± 3.85	Yes
		05/22/24	2.08 ± 0.47	7.70 ± 1.74	Yes	19.30 ± 1.01	71.41 ± 3.74	Yes
		05/29/24	1.59 ± 0.43	5.88 ± 1.57	Yes	19.00 ± 1.02	70.30 ± 3.77	Yes
		06/05/24	0.96 ± 0.34	3.54 ± 1.24	No	17.40 ± 0.97	64.38 ± 3.59	Yes
		06/12/24	3.10 ± 0.57	11.47 ± 2.11	Yes	25.70 ± 1.17	95.09 ± 4.33	Yes
		06/19/24	1.43 ± 0.39	5.29 ± 1.45	Yes	21.20 ± 1.06	78.44 ± 3.92	Yes
		06/26/24	2.64 ± 0.53	9.77 ± 1.96	Yes	28.10 ± 1.22	103.97 ± 4.51	Yes
PBF		04/03/24	1.40 ± 0.38	5.18 ± 1.40	Yes	16.10 ± 0.92	59.57 ± 3.39	Yes
		04/10/24	0.80 ± 0.29	2.95 ± 1.07	No	15.60 ± 0.91	57.72 ± 3.36	Yes
		04/17/24	2.16 ± 0.43	7.99 ± 1.61	Yes	24.10 ± 1.14	89.17 ± 4.22	Yes
		04/24/24	1.10 ± 0.32	4.07 ± 1.18	Yes	21.60 ± 1.10	79.92 ± 4.07	Yes
		05/01/24	0.98 ± 0.31	3.61 ± 1.16	Yes	19.40 ± 1.02	71.78 ± 3.77	Yes
		05/08/24	0.28 ± 0.19	1.04 ± 0.69	No	6.56 ± 0.63	24.27 ± 2.31	Yes
		05/15/24	1.51 ± 0.37	5.59 ± 1.36	Yes	18.90 ± 1.02	69.93 ± 3.77	Yes
		05/22/24	1.91 ± 0.41	7.07 ± 1.52	Yes	19.80 ± 1.04	73.26 ± 3.85	Yes
		05/29/24	1.32 ± 0.35	4.88 ± 1.30	Yes	18.10 ± 1.01	66.97 ± 3.74	Yes
	b	06/05/24						
	b	06/12/24						
	b	06/19/24						
		06/26/24	2.38 ± 0.51	8.81 ± 1.88	Yes	30.40 ± 1.28	112.48 ± 4.74	Yes
RHLLW		04/03/24	1.25 ± 0.36	4.63 ± 1.34	Yes	16.10 ± 0.91	59.57 ± 3.38	Yes
		04/10/24	1.26 ± 0.36	4.66 ± 1.34	Yes	16.10 ± 0.92	59.57 ± 3.39	Yes
		04/17/24	1.40 ± 0.37	5.18 ± 1.35	Yes	22.40 ± 1.07	82.88 ± 3.96	Yes
		04/24/24	1.73 ± 0.39	6.40 ± 1.44	Yes	25.10 ± 1.16	92.87 ± 4.29	Yes
		05/01/24	1.07 ± 0.34	3.96 ± 1.26	Yes	19.80 ± 1.01	73.26 ± 3.74	Yes
		05/08/24	0.25 ± 0.28	0.93 ± 1.02	No	7.44 ± 0.99	27.53 ± 3.66	Yes
		05/15/24	0.65 ± 0.25	2.42 ± 0.91	No	24.30 ± 1.15	89.91 ± 4.26	Yes

Table B-1. Weekly gross alpha and gross beta concentrations in air.

Sampling Group and Location	Sampling Date	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS ALPHA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS ALPHA Result > 3s	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)	GROSS BETA Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)	GROSS BETA Result > 3s
	05/22/24	1.67 ± 0.40	6.18 ± 1.48	Yes	20.50 ± 1.03	75.85 ± 3.81	Yes
	05/29/24	0.34 ± 0.21	1.24 ± 0.77	No	0.13 ± 0.29	0.48 ± 1.08	No
	06/05/24	0.91 ± 0.29	3.38 ± 1.06	Yes	17.90 ± 0.98	66.23 ± 3.61	Yes
	06/12/24	2.19 ± 0.44	8.10 ± 1.63	Yes	27.10 ± 1.20	100.27 ± 4.44	Yes
b	06/19/24						
	06/26/24	1.79 ± 0.48	6.62 ± 1.76	Yes	32.40 ± 1.57	119.88 ± 5.81	Yes
RHLLW (duplicate)	04/03/24	0.88 ± 0.28	3.24 ± 1.04	Yes	16.50 ± 0.95	61.05 ± 3.52	Yes
	04/10/24	1.18 ± 0.31	4.37 ± 1.16	Yes	16.50 ± 0.93	61.05 ± 3.43	Yes
	04/17/24	1.57 ± 0.42	5.81 ± 1.54	Yes	24.00 ± 1.13	88.80 ± 4.18	Yes
	04/24/24	1.66 ± 0.43	6.14 ± 1.58	Yes	25.90 ± 1.17	95.83 ± 4.33	Yes
	05/01/24	0.98 ± 0.30	3.64 ± 1.09	Yes	21.20 ± 1.05	78.44 ± 3.89	Yes
	05/08/24	0.88 ± 0.29	3.26 ± 1.06	Yes	12.10 ± 0.83	44.77 ± 3.08	Yes
	05/15/24	0.99 ± 0.34	3.65 ± 1.24	No	20.50 ± 1.05	75.85 ± 3.89	Yes
	05/22/24	1.46 ± 0.39	5.40 ± 1.46	Yes	20.40 ± 1.03	75.48 ± 3.81	Yes
	05/29/24	1.08 ± 0.33	4.00 ± 1.22	Yes	18.70 ± 0.99	69.19 ± 3.65	Yes
	06/05/24	1.11 ± 0.34	4.11 ± 1.27	Yes	17.70 ± 0.97	65.49 ± 3.57	Yes
	06/12/24	0.84 ± 0.31	3.12 ± 1.13	No	20.00 ± 1.04	74.00 ± 3.85	Yes
b	06/19/24						
	06/26/24	2.41 ± 0.84	8.92 ± 3.11	No	25.60 ± 1.98	94.72 ± 7.33	Yes
RWMC	04/03/24	1.39 ± 0.35	5.14 ± 1.30	Yes	19.10 ± 1.02	70.67 ± 3.77	Yes
	04/10/24	0.88 ± 0.27	3.24 ± 1.01	Yes	16.80 ± 0.94	62.16 ± 3.49	Yes
	04/17/24	2.26 ± 0.50	8.36 ± 1.86	Yes	28.90 ± 1.26	106.93 ± 4.66	Yes
	04/24/24	1.44 ± 0.40	5.33 ± 1.47	Yes	22.00 ± 1.07	81.40 ± 3.96	Yes
	05/01/24	1.58 ± 0.41	5.85 ± 1.52	Yes	18.10 ± 0.98	66.97 ± 3.63	Yes
	05/08/24	0.44 ± 0.48	1.64 ± 1.77	No	9.38 ± 1.55	34.71 ± 5.74	Yes
	05/15/24	1.74 ± 0.43	6.44 ± 1.58	Yes	20.70 ± 1.03	76.59 ± 3.81	Yes
	05/22/24	1.20 ± 0.37	4.44 ± 1.35	Yes	20.70 ± 1.05	76.59 ± 3.89	Yes
	05/29/24	1.08 ± 0.33	4.00 ± 1.24	Yes	15.10 ± 0.88	55.87 ± 3.26	Yes
	06/05/24	0.92 ± 0.32	3.39 ± 1.17	No	15.80 ± 0.92	58.46 ± 3.39	Yes
	06/12/24	3.17 ± 0.58	11.73 ± 2.13	Yes	30.70 ± 1.27	113.59 ± 4.70	Yes
	06/19/24	1.47 ± 0.39	5.44 ± 1.44	Yes	20.20 ± 1.02	74.74 ± 3.77	Yes
	06/26/24	2.90 ± 0.55	10.73 ± 2.03	Yes	37.60 ± 1.39	139.12 ± 5.14	Yes
RWMC SOUTH	04/03/24	1.11 ± 0.43	4.11 ± 1.58	No	30.90 ± 1.56	114.33 ± 5.77	Yes
	04/10/24	0.71 ± 0.29	2.63 ± 1.07	No	16.20 ± 0.94	59.94 ± 3.49	Yes
	04/17/24	0.97 ± 0.30	3.58 ± 1.09	Yes	26.60 ± 1.19	98.42 ± 4.40	Yes
	04/24/24	1.16 ± 0.33	4.29 ± 1.23	Yes	25.30 ± 1.12	93.61 ± 4.14	Yes
	05/01/24	1.95 ± 0.41	7.22 ± 1.51	Yes	18.40 ± 0.98	68.08 ± 3.64	Yes
	05/08/24	0.18 ± 0.14	0.67 ± 0.52	No	12.20 ± 0.81	45.14 ± 2.98	Yes
	05/15/24	0.79 ± 0.27	2.93 ± 1.01	No	22.10 ± 1.03	81.77 ± 3.81	Yes
	05/22/24	1.05 ± 0.30	3.89 ± 1.12	Yes	21.90 ± 1.08	81.03 ± 4.00	Yes
	05/29/24	1.84 ± 0.42	6.81 ± 1.54	Yes	19.80 ± 1.00	73.26 ± 3.69	Yes
	06/05/24	1.51 ± 0.38	5.59 ± 1.42	Yes	16.20 ± 0.92	59.94 ± 3.39	Yes
	06/12/24	0.02 ± 0.09	0.09 ± 0.35	No	1.30 ± 0.37	4.81 ± 1.36	Yes
	06/19/24	1.07 ± 0.31	3.96 ± 1.13	Yes	19.80 ± 1.02	73.26 ± 3.77	Yes
	06/26/24	3.00 ± 0.54	11.10 ± 2.00	Yes	29.70 ± 1.25	109.89 ± 4.63	Yes
SMC	04/03/24	1.11 ± 0.31	4.11 ± 1.15	Yes	18.60 ± 1.00	68.82 ± 3.69	Yes
	04/10/24	0.83 ± 0.27	3.06 ± 1.00	Yes	16.70 ± 0.96	61.79 ± 3.55	Yes
	04/17/24	2.07 ± 0.47	7.66 ± 1.75	Yes	26.80 ± 1.19	99.16 ± 4.40	Yes
	04/24/24	1.06 ± 0.35	3.92 ± 1.30	Yes	21.30 ± 1.06	78.81 ± 3.92	Yes
	05/01/24	0.99 ± 0.33	3.66 ± 1.22	No	17.90 ± 0.98	66.23 ± 3.61	Yes
	05/08/24	0.51 ± 0.24	1.90 ± 0.89	No	11.60 ± 0.79	42.92 ± 2.92	Yes
	05/15/24	1.69 ± 0.43	6.25 ± 1.59	Yes	21.80 ± 1.08	80.66 ± 4.00	Yes
	05/22/24	1.80 ± 0.44	6.66 ± 1.63	Yes	19.10 ± 1.01	70.67 ± 3.74	Yes
	05/29/24	0.96 ± 0.31	3.56 ± 1.16	Yes	17.70 ± 0.94	65.49 ± 3.47	Yes
	06/05/24	1.01 ± 0.33	3.74 ± 1.21	Yes	15.80 ± 0.91	58.46 ± 3.38	Yes
	06/12/24	2.14 ± 0.46	7.92 ± 1.71	Yes	23.30 ± 1.08	86.21 ± 4.00	Yes
	06/19/24	1.46 ± 0.38	5.40 ± 1.42	Yes	17.60 ± 0.95	65.12 ± 3.51	Yes
	06/26/24	2.36 ± 0.49	8.73 ± 1.82	Yes	42.50 ± 1.47	157.25 ± 5.44	Yes
VAN BUREN	04/03/24	1.11 ± 0.35	4.11 ± 1.30	Yes	18.30 ± 1.00	67.71 ± 3.69	Yes
	04/10/24	1.63 ± 0.37	6.03 ± 1.37	Yes	14.30 ± 0.88	52.91 ± 3.26	Yes
	04/17/24	1.39 ± 0.38	5.14 ± 1.39	Yes	24.20 ± 1.15	89.54 ± 4.26	Yes
	04/24/24	1.25 ± 0.36	4.63 ± 1.32	Yes	21.30 ± 1.07	78.81 ± 3.96	Yes
	05/01/24	0.71 ± 0.27	2.64 ± 0.99	No	19.20 ± 1.05	71.04 ± 3.89	Yes
	05/08/24	0.60 ± 0.23	2.20 ± 0.86	No	12.10 ± 0.81	44.77 ± 3.00	Yes
	05/15/24	1.53 ± 0.39	5.66 ± 1.44	Yes	20.90 ± 1.06	77.33 ± 3.92	Yes
	05/22/24	2.06 ± 0.45	7.62 ± 1.67	Yes	21.50 ± 1.07	79.55 ± 3.96	Yes
	05/29/24	1.48 ± 0.39	5.48 ± 1.43	Yes	17.50 ± 0.97	64.75 ± 3.58	Yes
	06/05/24	1.03 ± 0.33	3.81 ± 1.23	Yes	16.00 ± 0.94	59.20 ± 3.47	Yes
	06/12/24	2.10 ± 0.46	7.77 ± 1.69	Yes	24.90 ± 1.15	92.13 ± 4.26	Yes
	06/19/24	2.29 ± 0.50	8.47 ± 1.83	Yes	22.60 ± 1.11	83.62 ± 4.11	Yes
	06/26/24	1.91 ± 0.47	7.07 ± 1.72	Yes	27.50 ± 1.24	101.75 ± 4.59	Yes

a. Pump seized, insufficient volume
b. Power outage, insufficent volume

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
BOUNDARY								
ARCO	04/03/24	-224.81	±	173.59	-831.80	±	642.28	No
	04/10/24	47.29	±	114.29	174.98	±	422.87	No
	04/17/24	-137.79	±	124.95	-509.82	±	462.32	No
	04/24/24	-104.64	±	122.64	-387.17	±	453.77	No
	05/01/24	-3.94	±	121.78	-14.58	±	450.59	No
	05/08/24	-20.14	±	121.35	-74.53	±	449.00	No
	05/15/24	-140.15	±	124.32	-518.56	±	459.98	No
	05/22/24	-54.09	±	98.31	-200.14	±	363.74	No
	05/29/24	129.69	±	90.23	479.85	±	333.85	No
	06/05/24	-132.64	±	92.99	-490.77	±	344.07	No
	06/12/24	-33.63	±	94.87	-124.42	±	351.01	No
	06/19/24	-24.27	±	92.30	-89.80	±	341.51	No
	06/26/24	110.97	±	92.27	410.59	±	341.41	No
ATOMIC CITY	04/03/24	-127.25	±	114.77	-470.83	±	424.65	No
	04/10/24	-130.70	±	114.10	-483.59	±	422.17	No
	04/17/24	102.61	±	123.64	379.66	±	457.47	No
	04/24/24	202.68	±	114.34	749.92	±	423.06	No
	05/01/24	-179.14	±	159.63	-662.82	±	590.63	No
	05/08/24	-154.49	±	132.65	-571.61	±	490.81	No
	05/15/24	-92.12	±	174.29	-340.85	±	644.87	No
	05/22/24	-49.61	±	98.54	-183.55	±	364.61	No
	05/29/24	-14.76	±	90.30	-54.63	±	334.11	No
	06/05/24	-1.75	±	99.35	-6.47	±	367.58	No
	06/12/24	-113.07	±	115.26	-418.36	±	426.46	No
	06/19/24	-77.94	±	145.81	-288.37	±	539.50	No
	06/26/24	-146.70	±	102.52	-542.79	±	379.32	No
BLUE DOME	04/03/24	42.16	±	113.87	155.98	±	421.32	No
	04/10/24	-94.73	±	110.57	-350.50	±	409.11	No
	04/17/24	-179.71	±	151.10	-664.93	±	559.07	No
	04/24/24	77.89	±	117.46	288.17	±	434.60	No
	05/01/24	-131.27	±	120.27	-485.70	±	445.00	No
	05/08/24	-152.01	±	179.95	-562.44	±	665.82	No
	05/15/24	-123.57	±	155.92	-457.21	±	576.90	No
	05/22/24	58.14	±	87.51	215.13	±	323.79	No
	05/29/24	159.59	±	139.95	590.48	±	517.82	No
	06/05/24	-65.57	±	171.98	-242.59	±	636.33	No
	06/12/24	-14.55	±	87.30	-53.85	±	323.01	No
	06/19/24	73.26	±	85.63	271.07	±	316.85	No
	06/26/24	-13.80	±	91.12	-51.05	±	337.13	No
HOWE	04/03/24	-39.56	±	187.71	-146.37	±	694.53	No
	04/10/24	22.18	±	142.35	82.07	±	526.70	No
	04/17/24	-138.50	±	123.70	-512.45	±	457.69	No
	04/24/24	-129.02	±	113.64	-477.37	±	420.47	No
	05/01/24	-303.10	±	183.46	-1121.47	±	678.80	No
	05/08/24	-30.57	±	112.84	-113.10	±	417.51	No
	05/15/24	-316.18	±	187.44	-1169.87	±	693.53	No
	05/22/24	77.65	±	136.02	287.29	±	503.27	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
	05/29/24	101.64	±	92.94	376.07	±	343.89	No
	06/05/24	5.38	±	93.61	19.91	±	346.35	No
	06/12/24	9.95	±	164.07	36.83	±	607.06	No
	06/19/24	2.40	±	91.53	8.87	±	338.67	No
	06/26/24	-226.43	±	137.20	-837.79	±	507.64	No
HOWE (duplicate)	04/03/24	111.11	±	143.94	411.11	±	532.58	No
a	04/10/24							
	04/17/24	10.48	±	117.46	38.77	±	434.60	No
	04/24/24	-70.85	±	119.26	-262.15	±	441.26	No
	05/01/24	-132.00	±	146.63	-488.40	±	542.53	No
	05/08/24	54.99	±	111.69	203.47	±	413.25	No
	05/15/24	-45.51	±	117.61	-168.40	±	435.16	No
	05/22/24	30.35	±	86.82	112.29	±	321.24	No
	05/29/24	-86.76	±	100.26	-321.01	±	370.96	No
	06/05/24	75.42	±	96.52	279.05	±	357.12	No
	06/12/24	-179.50	±	143.40	-664.15	±	530.58	No
	06/19/24	-15.83	±	176.10	-58.57	±	651.57	No
	06/26/24	225.76	±	179.56	835.31	±	664.37	No
MONTEVIEW	04/03/24	-134.63	±	118.94	-498.13	±	440.08	No
	04/10/24	122.16	±	166.43	451.99	±	615.79	No
	04/17/24	-141.68	±	128.01	-524.22	±	473.64	No
	04/24/24	-147.80	±	111.89	-546.86	±	413.99	No
	05/01/24	4.92	±	107.73	18.19	±	398.60	No
	05/08/24	-181.04	±	153.52	-669.85	±	568.02	No
	05/15/24	-138.03	±	123.32	-510.71	±	456.28	No
	05/22/24	40.64	±	87.52	150.38	±	323.81	No
	05/29/24	-102.11	±	115.30	-377.81	±	426.61	No
	06/05/24	-77.16	±	122.72	-285.48	±	454.06	No
	06/12/24	20.92	±	89.46	77.41	±	330.99	No
	06/19/24	-19.33	±	98.32	-71.53	±	363.78	No
	06/26/24	-133.46	±	94.80	-493.80	±	350.75	No
TERRETON	04/03/24	-148.12	±	128.71	-548.04	±	476.23	No
	04/10/24	-123.32	±	111.22	-456.28	±	411.51	No
	04/17/24	-140.38	±	122.50	-519.41	±	453.25	No
	04/24/24	-416.23	±	382.83	-1540.05	±	1416.47	No
	05/01/24	-25.32	±	140.94	-93.67	±	521.48	No
	05/08/24	-16.80	±	117.61	-62.14	±	435.16	No
	05/15/24	-36.52	±	117.28	-135.13	±	433.94	No
	05/22/24	-124.63	±	90.65	-461.13	±	335.42	No
	05/29/24	45.09	±	136.95	166.83	±	506.72	No
	06/05/24	4.12	±	100.30	15.25	±	371.11	No
	06/12/24	-100.92	±	88.46	-373.40	±	327.29	No
	06/19/24	63.50	±	86.97	234.93	±	321.79	No
	06/26/24	2.72	±	94.73	10.05	±	350.52	No
OFFSITE								
BLACKFOOT	04/03/24	-139.07	±	123.43	-514.56	±	456.69	No
	04/10/24	29.42	±	114.45	108.84	±	423.47	No
	04/17/24	-136.41	±	122.23	-504.72	±	452.25	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
	04/24/24	-107.32	±	148.55	-397.08	±	549.64	No
	05/01/24	-27.46	±	114.40	-101.61	±	423.28	No
	05/08/24	-133.37	±	115.78	-493.47	±	428.39	No
	05/15/24	-115.10	±	106.18	-425.87	±	392.87	No
	05/22/24	152.60	±	91.14	564.62	±	337.23	No
	05/29/24	-36.13	±	88.97	-133.67	±	329.20	No
	06/05/24	-49.79	±	100.06	-184.21	±	370.22	No
	06/12/24	106.42	±	95.08	393.75	±	351.78	No
	06/19/24	-118.79	±	86.22	-439.52	±	319.02	No
	06/26/24	-75.63	±	102.73	-279.82	±	380.10	No
CRATERS OF THE	04/03/24	-52.36	±	106.54	-193.72	±	394.20	No
b	04/10/24							
	04/17/24	-133.61	±	139.92	-494.36	±	517.70	No
	04/24/24	-25.66	±	118.81	-94.94	±	439.60	No
	05/01/24	-141.17	±	155.02	-522.33	±	573.57	No
	05/08/24	-125.05	±	107.45	-462.69	±	397.57	No
	05/15/24	46.07	±	115.42	170.47	±	427.05	No
	05/22/24	80.52	±	137.00	297.92	±	506.90	No
	05/29/24	-117.91	±	87.28	-436.27	±	322.93	No
	06/05/24	-71.61	±	179.42	-264.94	±	663.85	No
	06/12/24	-34.96	±	94.92	-129.34	±	351.21	No
	06/19/24	-68.43	±	89.44	-253.17	±	330.91	No
	06/26/24	1.09	±	130.04	4.03	±	481.15	No
DUBOIS	04/03/24	28.46	±	116.22	105.30	±	430.01	No
	04/10/24	-107.93	±	115.64	-399.34	±	427.87	No
	04/17/24	-11.52	±	126.41	-42.63	±	467.72	No
	04/24/24	-135.01	±	121.73	-499.54	±	450.40	No
	05/01/24	93.93	±	133.53	347.54	±	494.06	No
	05/08/24	-289.28	±	171.51	-1070.34	±	634.59	No
	05/15/24	-136.91	±	118.08	-506.57	±	436.90	No
	05/22/24	-140.02	±	95.07	-518.07	±	351.77	No
	05/29/24	15.03	±	104.42	55.60	±	386.35	No
	06/05/24	-1.08	±	98.27	-4.01	±	363.61	No
	06/12/24	-85.92	±	135.30	-317.92	±	500.61	No
	06/19/24	-176.31	±	140.85	-652.35	±	521.15	No
	06/26/24	-66.28	±	98.99	-245.23	±	366.25	No
IDAHO FALLS	04/03/24	-134.88	±	119.30	-499.06	±	441.41	No
	04/10/24	53.35	±	172.17	197.39	±	637.03	No
	04/17/24	-149.40	±	163.05	-552.78	±	603.29	No
	04/24/24	-144.63	±	126.16	-535.13	±	466.79	No
	05/01/24	-29.27	±	114.05	-108.29	±	421.99	No
	05/08/24	-180.46	±	146.25	-667.70	±	541.13	No
	05/15/24	-183.70	±	151.41	-679.69	±	560.22	No
	05/22/24	-27.24	±	84.69	-100.78	±	313.35	No
	05/29/24	37.25	±	94.57	137.84	±	349.92	No
	06/05/24	-117.53	±	168.90	-434.86	±	624.93	No
	06/12/24	-98.58	±	100.39	-364.76	±	371.44	No
	06/19/24	-69.02	±	149.61	-255.37	±	553.56	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
	06/26/24	-164.70	±	138.63	-609.39	±	512.93	No
IRC	04/03/24	-107.39	±	110.01	-397.34	±	407.04	No
	04/10/24	-59.63	±	108.58	-220.63	±	401.75	No
	04/17/24	-90.44	±	112.12	-334.62	±	414.84	No
	04/24/24	21.98	±	121.20	81.32	±	448.44	No
	05/01/24	61.63	±	109.67	228.02	±	405.78	No
	05/08/24	23.49	±	100.19	86.90	±	370.70	No
	05/15/24	90.28	±	105.22	334.04	±	389.31	No
	05/22/24	30.24	±	94.71	111.89	±	350.44	No
	05/29/24	-64.66	±	90.78	-239.22	±	335.88	No
	06/05/24	-121.31	±	98.96	-448.85	±	366.14	No
	06/12/24	-18.56	±	97.02	-68.67	±	358.97	No
	06/19/24	2.90	±	88.80	10.71	±	328.56	No
	06/26/24	-15.38	±	91.45	-56.89	±	338.37	No
IRC NORTH	04/03/24	-132.56	±	116.20	-490.47	±	429.94	No
	04/10/24	26.25	±	113.69	97.11	±	420.65	No
	04/17/24	-138.31	±	128.99	-511.75	±	477.26	No
	04/24/24	-44.81	±	110.20	-165.78	±	407.74	No
	05/01/24	-131.29	±	137.35	-485.77	±	508.20	No
	05/08/24	72.54	±	111.91	268.40	±	414.07	No
	05/15/24	68.11	±	110.09	252.00	±	407.33	No
	05/22/24	-57.22	±	117.49	-211.70	±	434.71	No
	05/29/24	-53.74	±	88.82	-198.85	±	328.62	No
	06/05/24	-47.54	±	153.85	-175.90	±	569.25	No
	06/12/24	-133.05	±	108.34	-492.29	±	400.86	No
	06/19/24	-88.86	±	96.00	-328.78	±	355.19	No
	06/26/24	-75.69	±	91.83	-280.03	±	339.76	No
JACKSON, WY	04/02/24	11.15	±	127.56	41.27	±	471.97	No
	04/09/24	-195.32	±	161.05	-722.68	±	595.89	No
	04/16/24	11.65	±	130.40	43.09	±	482.48	No
	04/23/24	-106.74	±	129.24	-394.94	±	478.19	No
	04/30/24	-327.73	±	200.27	-1212.60	±	741.00	No
	05/07/24	0.00	±	58.68	0.00	±	217.11	No
	05/14/24	-191.02	±	152.60	-706.77	±	564.62	No
	05/21/24	-48.62	±	153.92	-179.88	±	569.50	No
	05/28/24	42.27	±	92.10	156.38	±	340.77	No
	06/04/24	-77.61	±	111.57	-287.14	±	412.81	No
	06/11/24	-29.44	±	134.80	-108.94	±	498.76	No
	06/18/24	46.92	±	155.57	173.60	±	575.61	No
	06/25/24	4.66	±	103.87	17.24	±	384.32	No
SUGAR CITY	04/03/24	-56.18	±	160.20	-207.88	±	592.74	No
	04/10/24	-184.38	±	153.60	-682.21	±	568.32	No
	04/17/24	-140.10	±	125.07	-518.37	±	462.76	No
	04/24/24	-176.89	±	151.42	-654.49	±	560.25	No
	05/01/24	-122.11	±	111.04	-451.81	±	410.85	No
	05/08/24	-20.06	±	105.51	-74.23	±	390.39	No
	05/15/24	-142.72	±	123.89	-528.06	±	458.39	No
	05/22/24	-24.02	±	110.16	-88.89	±	407.59	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
	05/29/24	29.78	±	110.36	110.20	±	408.33	No
	06/05/24	109.90	±	103.56	406.63	±	383.17	No
	06/12/24	28.90	±	95.55	106.93	±	353.52	No
	06/19/24	56.05	±	389.19	207.39	±	1440.00	No
	06/26/24	-118.43	±	129.73	-438.19	±	480.00	No
SUGAR CITY (duplicate)	04/03/24	-176.25	±	152.80	-652.13	±	565.36	No
	04/10/24	-136.85	±	116.93	-506.35	±	432.64	No
	04/17/24	-76.74	±	129.39	-283.95	±	478.74	No
	04/24/24	-5.02	±	173.70	-18.57	±	642.69	No
	05/01/24	12.06	±	112.98	44.60	±	418.03	No
	05/08/24	-25.50	±	132.75	-94.36	±	491.18	No
	05/15/24	-226.25	±	185.42	-837.13	±	686.05	No
	05/22/24	2.97	±	91.09	11.00	±	337.04	No
	05/29/24	-1.98	±	108.27	-7.33	±	400.60	No
	06/05/24	-42.31	±	111.22	-156.54	±	411.51	No
	06/12/24	-53.12	±	95.09	-196.54	±	351.84	No
	06/19/24	-257.87	±	187.78	-954.12	±	694.79	No
	06/26/24	-40.44	±	94.35	-149.62	±	349.10	No
ONSITE								
ATR COMPLEX	04/03/24	0.00	±	0.00	0.00	±	0.01	No
	04/10/24	86.27	±	116.24	319.20	±	430.09	No
	04/17/24	-134.96	±	121.73	-499.35	±	450.40	No
	04/24/24	-40.91	±	120.76	-151.36	±	446.81	No
	05/01/24	109.13	±	142.01	403.78	±	525.44	No
	05/08/24	-51.92	±	118.26	-192.12	±	437.56	No
	05/15/24	-63.40	±	128.47	-234.56	±	475.34	No
	05/22/24	-18.80	±	92.63	-69.54	±	342.73	No
	05/29/24	-105.42	±	98.49	-390.05	±	364.42	No
	06/05/24	-121.25	±	99.94	-448.63	±	369.79	No
	06/12/24	15.29	±	97.88	56.55	±	362.14	No
	06/19/24	-145.88	±	99.08	-539.76	±	366.59	No
	06/26/24	100.05	±	104.19	370.19	±	385.50	No
CFA	04/03/24	-159.77	±	174.37	-591.15	±	645.17	No
	04/10/24	-22.45	±	178.29	-83.07	±	659.67	No
	04/17/24	-47.15	±	114.64	-174.44	±	424.17	No
	04/24/24	18.36	±	123.36	67.92	±	456.43	No
	05/01/24	-135.01	±	158.16	-499.54	±	585.19	No
	05/08/24	82.18	±	118.46	304.07	±	438.30	No
	05/15/24	-34.83	±	114.51	-128.88	±	423.69	No
	05/22/24	24.87	±	95.64	92.03	±	353.88	No
	05/29/24	53.57	±	98.92	198.21	±	366.00	No
	06/05/24	91.52	±	93.99	338.61	±	347.75	No
	06/12/24	200.82	±	179.39	743.03	±	663.74	No
	06/19/24	124.90	±	94.55	462.13	±	349.82	No
	06/26/24	-126.93	±	92.13	-469.64	±	340.87	No
EBR-I	04/03/24	-5.11	±	113.25	-18.89	±	419.03	No
	04/10/24	-43.82	±	117.36	-162.15	±	434.23	No
	04/17/24	30.98	±	118.83	114.63	±	439.67	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
	04/24/24	-133.61	±	119.06	-494.36	±	440.52	No
	05/01/24	-188.91	±	178.82	-698.97	±	661.63	No
	05/08/24	-39.72	±	140.29	-146.97	±	519.07	No
	05/15/24	-42.09	±	108.43	-155.72	±	401.19	No
	05/22/24	103.20	±	93.46	381.84	±	345.82	No
	05/29/24	-69.25	±	130.33	-256.23	±	482.22	No
	06/05/24	9.44	±	88.74	34.93	±	328.35	No
	06/12/24	27.06	±	103.24	100.11	±	381.99	No
	06/19/24	-14.54	±	89.07	-53.81	±	329.54	No
	06/26/24	109.39	±	92.08	404.74	±	340.70	No
EFS	04/03/24	-132.15	±	113.73	-488.96	±	420.80	No
	04/10/24	-169.47	±	144.30	-627.04	±	533.91	No
	04/17/24	-81.28	±	107.48	-300.72	±	397.68	No
	04/24/24	-146.22	±	161.60	-541.01	±	597.92	No
	05/01/24	-84.62	±	115.75	-313.11	±	428.28	No
	05/08/24	-181.10	±	144.68	-670.07	±	535.32	No
	05/15/24	-87.66	±	106.21	-324.35	±	392.98	No
	05/22/24	-47.00	±	103.15	-173.90	±	381.66	No
	05/29/24	-30.78	±	110.92	-113.88	±	410.40	No
	06/05/24	-64.11	±	92.25	-237.19	±	341.31	No
	06/12/24	72.66	±	95.08	268.85	±	351.79	No
	06/19/24	-49.74	±	94.16	-184.02	±	348.38	No
	06/26/24	53.77	±	145.96	198.96	±	540.05	No
GATE 4	04/03/24	-131.20	±	117.22	-485.44	±	433.71	No
	04/10/24	-127.41	±	114.92	-471.42	±	425.20	No
	04/17/24	-170.84	±	143.15	-632.11	±	529.66	No
	04/24/24	-5.92	±	120.05	-21.91	±	444.19	No
	05/01/24	-53.45	±	115.26	-197.76	±	426.46	No
	05/08/24	-86.87	±	105.78	-321.40	±	391.39	No
	05/15/24	124.09	±	125.77	459.13	±	465.35	No
	05/22/24	37.89	±	88.50	140.20	±	327.43	No
	05/29/24	-48.79	±	87.03	-180.54	±	322.00	No
	06/05/24	-177.25	±	143.41	-655.83	±	530.62	No
	06/12/24	-122.96	±	85.86	-454.95	±	317.68	No
	06/19/24	-34.51	±	85.28	-127.68	±	315.55	No
	06/26/24	130.72	±	89.72	483.66	±	331.98	No
HIGHWAY 26 REST AREA	04/03/24	71.56	±	167.41	264.77	±	619.42	No
	04/10/24	-211.72	±	167.67	-783.36	±	620.38	No
	04/17/24	106.09	±	171.87	392.53	±	635.92	No
	04/24/24	-127.41	±	110.83	-471.42	±	410.07	No
	05/01/24	84.11	±	108.62	311.22	±	401.89	No
	05/08/24	-129.35	±	114.50	-478.60	±	423.65	No
	05/15/24	-71.84	±	134.72	-265.80	±	498.46	No
	05/22/24	-55.72	±	92.04	-206.17	±	340.56	No
	05/29/24	91.43	±	87.87	338.27	±	325.12	No
	06/05/24	39.98	±	94.85	147.94	±	350.94	No
	06/12/24	128.15	±	135.41	474.16	±	501.02	No
	06/19/24	8.71	±	157.29	32.22	±	581.97	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
	06/26/24	-14.98	±	92.74	-55.44	±	343.13	No
HIGHWAY 26 REST	04/03/24	-127.26	±	109.55	-470.86	±	405.34	No
AREA (duplicate)	04/10/24	17.01	±	108.40	62.92	±	401.08	No
	04/17/24	58.99	±	120.79	218.26	±	446.92	No
	04/24/24	-83.01	±	173.85	-307.12	±	643.25	No
	05/01/24	-266.26	±	179.91	-985.16	±	665.67	No
	05/08/24	-133.09	±	119.16	-492.43	±	440.89	No
	05/15/24	-25.59	±	109.36	-94.67	±	404.63	No
	05/22/24	53.33	±	93.49	197.33	±	345.92	No
	05/29/24	-82.99	±	93.54	-307.04	±	346.11	No
	06/05/24	-45.38	±	95.59	-167.91	±	353.68	No
	06/12/24	-196.54	±	119.36	-727.20	±	441.63	No
	06/19/24	117.83	±	93.47	435.97	±	345.84	No
	06/26/24	211.50	±	172.57	782.55	±	638.51	No
INTEC (NE CORNER)	04/03/24	77.39	±	200.74	286.35	±	742.74	No
	04/10/24	-21.46	±	109.59	-79.39	±	405.48	No
	04/17/24	-59.53	±	122.85	-220.27	±	454.55	No
	04/24/24	-130.38	±	117.03	-482.41	±	433.01	No
	05/01/24	-141.71	±	132.12	-524.33	±	488.84	No
	05/08/24	62.54	±	141.20	231.39	±	522.44	No
	05/15/24	73.13	±	106.92	270.57	±	395.60	No
	05/22/24	105.74	±	86.07	391.24	±	318.44	No
	05/29/24	-154.05	±	149.63	-569.99	±	553.63	No
	06/05/24	-26.39	±	89.97	-97.66	±	332.88	No
	06/12/24	-113.58	±	112.19	-420.25	±	415.10	No
	06/19/24	39.97	±	89.94	147.89	±	332.76	No
	06/26/24	-74.69	±	94.43	-276.34	±	349.38	No
INTEC (WEST SIDE)	04/03/24	27.19	±	131.29	100.59	±	485.77	No
	04/10/24	-129.20	±	112.93	-478.04	±	417.84	No
	04/17/24	25.05	±	115.46	92.70	±	427.20	No
	04/24/24	18.32	±	115.63	67.78	±	427.83	No
	05/01/24	-131.98	±	114.58	-488.33	±	423.95	No
	05/08/24	2.98	±	128.84	11.03	±	476.71	No
	05/15/24	41.67	±	108.28	154.19	±	400.64	No
	05/22/24	8.62	±	104.72	31.89	±	387.46	No
	05/29/24	-80.60	±	95.51	-298.21	±	353.39	No
	06/05/24	19.58	±	94.01	72.46	±	347.84	No
	06/12/24	-64.17	±	118.45	-237.41	±	438.27	No
	06/19/24	110.21	±	93.07	407.78	±	344.34	No
	06/26/24	55.09	±	190.55	203.83	±	705.04	No
MAIN GATE	04/03/24	300.63	±	177.37	1112.33	±	656.27	No
	04/10/24	-172.02	±	144.11	-636.47	±	533.21	No
	04/17/24	61.43	±	77.30	227.28	±	286.02	No
	04/24/24	-183.77	±	153.61	-679.95	±	568.36	No
	05/01/24	-160.86	±	157.93	-595.18	±	584.34	No
	05/08/24	-124.16	±	108.99	-459.39	±	403.26	No
	05/15/24	-299.17	±	176.79	-1106.93	±	654.12	No
	05/22/24	-9.52	±	87.10	-35.23	±	322.28	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location		Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
		05/29/24	-141.89	±	100.81	-524.99	±	373.00	No
		06/05/24	-71.23	±	110.88	-263.54	±	410.26	No
		06/12/24	-77.71	±	96.70	-287.53	±	357.80	No
		06/19/24	16.74	±	95.39	61.92	±	352.94	No
		06/26/24	-118.39	±	127.69	-438.04	±	472.45	No
MFC NORTH		04/03/24	-126.54	±	113.31	-468.20	±	419.25	No
		04/10/24	25.79	±	110.89	95.44	±	410.29	No
		04/17/24	50.24	±	111.25	185.87	±	411.63	No
		04/24/24	-185.39	±	186.11	-685.94	±	688.61	No
	b	05/01/24							
	b	05/08/24							
		05/15/24	-72.09	±	114.11	-266.74	±	422.21	No
		05/22/24	94.48	±	100.28	349.57	±	371.04	No
	b	05/29/24							
		06/05/24	43.31	±	102.69	160.25	±	379.95	No
		06/12/24	-121.02	±	106.69	-447.77	±	394.75	No
		06/19/24	28.73	±	100.00	106.29	±	370.00	No
		06/26/24	-128.77	±	94.06	-476.45	±	348.03	No
MFC SOUTH		04/03/24	-43.35	±	107.06	-160.38	±	396.12	No
		04/10/24	-37.44	±	118.35	-138.52	±	437.90	No
		04/17/24	16.54	±	112.65	61.19	±	416.81	No
		04/24/24	-141.04	±	123.08	-521.85	±	455.40	No
		05/01/24	-129.83	±	114.57	-480.37	±	423.91	No
		05/08/24	-27.11	±	115.14	-100.31	±	426.02	No
		05/15/24	-211.18	±	177.37	-781.37	±	656.27	No
		05/22/24	-30.34	±	112.33	-112.24	±	415.62	No
		05/29/24	-158.97	±	107.63	-588.19	±	398.23	No
		06/05/24	9.10	±	88.10	33.68	±	325.96	No
		06/12/24	-153.92	±	133.87	-569.50	±	495.32	No
	b	06/19/24							
	b	06/26/24							
NRF		04/03/24	-135.88	±	150.10	-502.76	±	555.37	No
		04/10/24	25.22	±	117.97	93.31	±	436.49	No
		04/17/24	-137.98	±	119.47	-510.53	±	442.04	No
		04/24/24	-140.89	±	154.70	-521.29	±	572.39	No
		05/01/24	46.62	±	127.99	172.49	±	473.56	No
		05/08/24	-37.14	±	109.42	-137.40	±	404.85	No
		05/15/24	-42.16	±	113.57	-155.99	±	420.21	No
		05/22/24	-126.77	±	90.07	-469.05	±	333.26	No
		05/29/24	-13.09	±	90.01	-48.42	±	333.05	No
		06/05/24	66.67	±	88.12	246.69	±	326.03	No
		06/12/24	-183.13	±	146.30	-677.58	±	541.31	No
		06/19/24	-107.80	±	101.24	-398.86	±	374.59	No
		06/26/24	-104.70	±	97.97	-387.39	±	362.49	No
PBF		04/03/24	209.38	±	113.51	774.71	±	419.99	No
		04/10/24	-32.02	±	111.82	-118.48	±	413.73	No
		04/17/24	-13.10	±	114.81	-48.45	±	424.80	No
		04/24/24	-113.28	±	120.10	-419.14	±	444.37	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location		Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
		05/01/24	-55.95	±	132.71	-207.02	±	491.03	No
		05/08/24	-136.88	±	137.71	-506.46	±	509.53	No
		05/15/24	-127.67	±	115.14	-472.38	±	426.02	No
		05/22/24	-120.65	±	117.11	-446.41	±	433.31	No
		05/29/24	9.14	±	99.53	33.80	±	368.28	No
	b	06/05/24							
	b	06/12/24							
	b	06/19/24							
		06/26/24	43.57	±	170.68	161.22	±	631.52	No
RHLLW		04/03/24	-89.31	±	115.12	-330.44	±	425.94	No
		04/10/24	62.70	±	111.03	231.98	±	410.81	No
		04/17/24	91.99	±	110.31	340.36	±	408.15	No
		04/24/24	-129.44	±	112.70	-478.93	±	416.99	No
		05/01/24	-123.72	±	141.28	-457.76	±	522.74	No
		05/08/24	36.88	±	207.28	136.45	±	766.94	No
		05/15/24	-180.12	±	145.18	-666.44	±	537.17	No
		05/22/24	-30.33	±	135.07	-112.23	±	499.76	No
		05/29/24	73.99	±	103.83	273.77	±	384.17	No
		06/05/24	-2.45	±	86.21	-9.07	±	318.98	No
		06/12/24	68.64	±	94.99	253.95	±	351.46	No
	b	06/19/24							
		06/26/24	37.77	±	125.84	139.75	±	465.61	No
RHLLW (duplicate)		04/03/24	-133.35	±	119.15	-493.40	±	440.86	No
		04/10/24	-60.55	±	114.04	-224.05	±	421.95	No
		04/17/24	-118.11	±	111.75	-437.01	±	413.48	No
		04/24/24	101.43	±	116.88	375.29	±	432.46	No
		05/01/24	53.99	±	117.56	199.77	±	434.97	No
		05/08/24	41.87	±	145.31	154.91	±	537.65	No
		05/15/24	-59.85	±	134.30	-221.45	±	496.91	No
		05/22/24	55.60	±	87.04	205.70	±	322.06	No
		05/29/24	0.93	±	116.85	3.43	±	432.35	No
		06/05/24	-97.56	±	116.36	-360.96	±	430.53	No
		06/12/24	-135.61	±	103.92	-501.76	±	384.50	No
	b	06/19/24							
		06/26/24	-338.89	±	268.85	-1253.89	±	994.75	No
RWMC		04/03/24	120.43	±	112.54	445.59	±	416.40	No
		04/10/24	-169.15	±	144.61	-625.86	±	535.06	No
		04/17/24	-139.59	±	124.73	-516.48	±	461.50	No
		04/24/24	80.80	±	176.88	298.97	±	654.46	No
		05/01/24	0.69	±	118.37	2.56	±	437.97	No
		05/08/24	-653.11	±	521.36	-2416.51	±	1929.03	No
		05/15/24	-4.39	±	103.75	-16.25	±	383.88	No
		05/22/24	-70.24	±	97.29	-259.89	±	359.97	No
		05/29/24	79.81	±	89.21	295.28	±	330.08	No
		06/05/24	-179.66	±	143.53	-664.74	±	531.06	No
		06/12/24	15.43	±	178.32	57.09	±	659.78	No
		06/19/24	23.34	±	159.24	86.37	±	589.19	No
		06/26/24	15.28	±	133.77	56.54	±	494.95	No

Table B-2. Weekly iodine-131 activity in air.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-15}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-11}$ Bq/mL)			Result > 3s
RWMC SOUTH	04/03/24	-48.84	±	165.09	-180.72	±	610.83	No
	04/10/24	-105.00	±	114.68	-388.50	±	424.32	No
	04/17/24	-46.10	±	109.17	-170.55	±	403.93	No
	04/24/24	-265.41	±	173.68	-982.02	±	642.62	No
	05/01/24	-70.54	±	148.98	-261.01	±	551.23	No
	05/08/24	-295.38	±	175.90	-1092.91	±	650.83	No
	05/15/24	-67.62	±	135.50	-250.21	±	501.35	No
	05/22/24	-103.10	±	95.61	-381.47	±	353.75	No
	05/29/24	-44.05	±	90.41	-163.00	±	334.50	No
	06/05/24	20.77	±	93.72	76.84	±	346.76	No
	06/12/24	-15.29	±	94.69	-56.59	±	350.34	No
	06/19/24	5.19	±	85.35	19.19	±	315.80	No
	06/26/24	-18.44	±	91.02	-68.24	±	336.76	No
SMC	04/03/24	-101.44	±	119.56	-375.33	±	442.37	No
	04/10/24	-67.76	±	107.91	-250.72	±	399.27	No
	04/17/24	-138.84	±	121.67	-513.71	±	450.18	No
	04/24/24	-110.15	±	136.63	-407.56	±	505.53	No
	05/01/24	54.03	±	118.32	199.91	±	437.78	No
	05/08/24	-118.96	±	106.54	-440.15	±	394.20	No
	05/15/24	-30.51	±	116.29	-112.87	±	430.27	No
	05/22/24	8.89	±	89.53	32.91	±	331.25	No
	05/29/24	-38.08	±	86.71	-140.89	±	320.84	No
	06/05/24	-20.47	±	87.97	-75.74	±	325.48	No
	06/12/24	92.06	±	82.68	340.60	±	305.90	No
	06/19/24	-164.07	±	131.07	-607.06	±	484.96	No
	06/26/24	-9.62	±	86.63	-35.58	±	320.54	No
VAN BUREN	04/03/24	-73.74	±	108.39	-272.83	±	401.04	No
	04/10/24	-123.35	±	109.95	-456.40	±	406.82	No
	04/17/24	128.94	±	180.00	477.08	±	666.00	No
	04/24/24	-72.64	±	126.79	-268.76	±	469.12	No
	05/01/24	-14.48	±	120.52	-53.56	±	445.92	No
	05/08/24	-133.41	±	117.61	-493.62	±	435.16	No
	05/15/24	-20.77	±	149.07	-76.83	±	551.56	No
	05/22/24	-31.13	±	99.83	-115.17	±	369.39	No
	05/29/24	10.13	±	89.02	37.48	±	329.37	No
	06/05/24	-98.72	±	107.94	-365.27	±	399.38	No
	06/12/24	-1.18	±	91.07	-4.38	±	336.96	No
	06/19/24	-40.60	±	91.43	-150.22	±	338.30	No
	06/26/24	-83.00	±	96.50	-307.09	±	357.03	No

a. Pump seized, insufficient volume
b. Power outage, insufficent volume

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
BOUNDARY									
ARCO	06/30/24	Americium-241	0.64	±	3.43	2.38	±	12.69	No
	06/30/24	Cesium-137	3.14	±	28.90	11.62	±	106.93	No
	06/30/24	Plutonium-238	-5.06	±	2.37	-18.72	±	8.77	No
	06/30/24	Plutonium-239/240	-1.81	±	2.66	-6.70	±	9.84	No
	06/30/24	Strontium-90	20.10	±	28.80	74.37	±	106.56	No
	06/30/24	Uranium-233/234	7.48	±	5.53	27.68	±	20.46	No
	06/30/24	Uranium-238	26.80	±	8.11	99.16	±	30.01	**Yes**
	06/30/24	Zinc-65	-6.29	±	70.10	-23.27	±	259.37	No
ATOMIC CITY	06/30/24	Americium-241	1.28	±	2.45	4.74	±	9.07	No
	06/30/24	Cesium-137	34.50	±	28.80	127.65	±	106.56	No
	06/30/24	Plutonium-238	1.39	±	2.42	5.14	±	8.95	No
	06/30/24	Plutonium-239/240	1.01	±	1.94	3.74	±	7.18	No
	06/30/24	Strontium-90	2.12	±	26.90	7.84	±	99.53	No
	06/30/24	Uranium-233/234	16.30	±	6.71	60.31	±	24.83	No
	06/30/24	Uranium-238	10.80	±	4.82	39.96	±	17.83	No
	06/30/24	Zinc-65	15.80	±	60.70	58.46	±	224.59	No
BLUE DOME	06/30/24	Americium-241	3.11	±	2.72	11.51	±	10.06	No
	06/30/24	Cesium-137	-22.50	±	34.40	-83.25	±	127.28	No
	06/30/24	Plutonium-238	-1.05	±	1.63	-3.89	±	6.03	No
	06/30/24	Plutonium-239/240	-0.23	±	2.77	-0.87	±	10.25	No
	06/30/24	Strontium-90	56.40	±	29.00	208.68	±	107.30	No
	06/30/24	Uranium-233/234	4.32	±	4.06	15.98	±	15.02	No
	06/30/24	Uranium-238	3.72	±	3.02	13.76	±	11.17	No
	06/30/24	Zinc-65	56.90	±	75.90	210.53	±	280.83	No
HOWE	06/30/24	Americium-241	-0.50	±	3.83	-1.85	±	14.17	No
	06/30/24	Cesium-137	35.80	±	29.80	132.46	±	110.26	No
	06/30/24	Plutonium-238	4.95	±	4.03	18.32	±	14.91	No
	06/30/24	Plutonium-239/240	0.63	±	3.66	2.33	±	13.54	No
	06/30/24	Strontium-90	23.40	±	28.30	86.58	±	104.71	No
	06/30/24	Uranium-233/234	15.90	±	7.40	58.83	±	27.38	No
	06/30/24	Uranium-238	11.40	±	6.17	42.18	±	22.83	No

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Zinc-65	147.00	±	77.70	543.90	±	287.49	No
HOWE (duplicate)	06/30/24	Americium-241	0.50	±	2.69	1.86	±	9.95	No
	06/30/24	Cesium-137	0.00	±	57.20	0.00	±	211.64	No
	06/30/24	Plutonium-238	-1.41	±	2.18	-5.22	±	8.07	No
	06/30/24	Plutonium-239/240	-1.33	±	3.08	-4.92	±	11.40	No
	06/30/24	Strontium-90	56.20	±	27.10	207.94	±	100.27	No
	06/30/24	Uranium-233/234	15.10	±	6.25	55.87	±	23.13	No
	06/30/24	Uranium-238	12.90	±	5.65	47.73	±	20.91	No
	06/30/24	Zinc-65	-37.00	±	89.40	-136.90	±	330.78	No
MONTEVIEW	06/30/24	Americium-241	3.59	±	3.15	13.28	±	11.66	No
	06/30/24	Cesium-137	39.80	±	30.80	147.26	±	113.96	No
	06/30/24	Plutonium-238	-1.78	±	2.10	-6.59	±	7.77	No
	06/30/24	Plutonium-239/240	-2.66	±	2.19	-9.84	±	8.10	No
	06/30/24	Strontium-90	2.60	±	26.30	9.62	±	97.31	No
	06/30/24	Uranium-233/234	14.00	±	4.85	51.80	±	17.95	No
	06/30/24	Uranium-238	21.10	±	5.77	78.07	±	21.35	**Yes**
	06/30/24	Zinc-65	47.70	±	70.80	176.49	±	261.96	No
TERRETON	06/30/24	Americium-241	3.47	±	4.07	12.84	±	15.06	No
	06/30/24	Cesium-137	-10.80	±	40.20	-39.96	±	148.74	No
	06/30/24	Plutonium-238	0.00	±	2.26	0.00	±	8.36	No
	06/30/24	Plutonium-239/240	-1.57	±	2.43	-5.81	±	8.99	No
	06/30/24	Strontium-90	96.80	±	34.70	358.16	±	128.39	No
	06/30/24	Uranium-233/234	17.20	±	6.92	63.64	±	25.60	No
	06/30/24	Uranium-238	25.50	±	7.41	94.35	±	27.42	**Yes**
	06/30/24	Zinc-65	-67.90	±	94.60	-251.23	±	350.02	No
OFFSITE									
BLACKFOOT	06/30/24	Americium-241	0.47	±	2.50	1.74	±	9.25	No
	06/30/24	Cesium-137	29.30	±	32.10	108.41	±	118.77	No
	06/30/24	Plutonium-238	1.17	±	2.25	4.33	±	8.33	No
	06/30/24	Plutonium-239/240	-0.31	±	2.36	-1.14	±	8.73	No
	06/30/24	Strontium-90	1.02	±	25.70	3.77	±	95.09	No
	06/30/24	Uranium-233/234	16.20	±	5.05	59.94	±	18.69	**Yes**

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Uranium-238	10.90	±	3.90	40.33	±	14.43	No
	06/30/24	Zinc-65	-1.74	±	82.50	-6.44	±	305.25	No
CRATERS OF THE	06/30/24	Americium-241	3.34	±	2.93	12.36	±	10.84	No
MOON	06/30/24	Cesium-137	59.90	±	38.60	221.63	±	142.82	No
	06/30/24	Plutonium-238	0.07	±	2.48	0.24	±	9.18	No
	06/30/24	Plutonium-239/240	-0.79	±	1.77	-2.90	±	6.55	No
	06/30/24	Strontium-90	2.02	±	18.50	7.47	±	68.45	No
	06/30/24	Uranium-233/234	5.55	±	6.40	20.54	±	23.68	No
	06/30/24	Uranium-238	13.20	±	6.23	48.84	±	23.05	No
	06/30/24	Zinc-65	-156.00	±	138.00	-577.20	±	510.60	No
DUBOIS	06/30/24	Americium-241	0.90	±	4.81	3.33	±	17.80	No
	06/30/24	Cesium-137	42.40	±	35.80	156.88	±	132.46	No
	06/30/24	Plutonium-238	0.00	±	2.59	0.00	±	9.58	No
	06/30/24	Plutonium-239/240	4.42	±	4.45	16.35	±	16.47	No
	06/30/24	Strontium-90	36.50	±	31.50	135.05	±	116.55	No
	06/30/24	Uranium-233/234	8.52	±	4.75	31.52	±	17.58	No
	06/30/24	Uranium-238	4.97	±	3.78	18.39	±	13.99	No
	06/30/24	Zinc-65	159.00	±	87.80	588.30	±	324.86	No
IDAHO FALLS	06/30/24	Americium-241	1.92	±	2.70	7.10	±	9.99	No
	06/30/24	Cesium-137	28.90	±	34.50	106.93	±	127.65	No
	06/30/24	Plutonium-238	-0.60	±	2.12	-2.22	±	7.84	No
	06/30/24	Plutonium-239/240	0.05	±	2.07	0.20	±	7.66	No
	06/30/24	Strontium-90	21.90	±	27.80	81.03	±	102.86	No
	06/30/24	Uranium-233/234	17.70	±	6.41	65.49	±	23.72	No
	06/30/24	Uranium-238	26.20	±	6.77	96.94	±	25.05	**Yes**
	06/30/24	Zinc-65	-50.60	±	79.60	-187.22	±	294.52	No
IRC	06/30/24	Americium-241	-2.81	±	2.32	-10.40	±	8.58	No
	06/30/24	Cesium-137	75.70	±	38.90	280.09	±	143.93	No
	06/30/24	Plutonium-238	-1.23	±	1.90	-4.55	±	7.03	No
	06/30/24	Plutonium-239/240	0.14	±	3.20	0.50	±	11.84	No
	06/30/24	Strontium-90	21.10	±	19.50	78.07	±	72.15	No
	06/30/24	Uranium-233/234	15.10	±	5.16	55.87	±	19.09	No

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Uranium-238	20.50	±	5.72	75.85	±	21.16	**Yes**
	06/30/24	Zinc-65	-175.00	±	122.00	-647.50	±	451.40	No
IRC NORTH	06/30/24	Americium-241	-0.40	±	1.77	-1.48	±	6.55	No
	06/30/24	Cesium-137	54.20	±	38.50	200.54	±	142.45	No
	06/30/24	Plutonium-238	4.09	±	3.02	15.13	±	11.17	No
	06/30/24	Plutonium-239/240	0.65	±	3.96	2.41	±	14.65	No
	06/30/24	Strontium-90	20.30	±	23.20	75.11	±	85.84	No
	06/30/24	Uranium-233/234	23.20	±	9.40	85.84	±	34.78	No
	06/30/24	Uranium-238	10.50	±	6.59	38.85	±	24.38	No
	06/30/24	Zinc-65	-2.04	±	86.60	-7.55	±	320.42	No
JACKSON, WY	06/30/24	Americium-241	1.51	±	2.90	5.59	±	10.73	No
	06/30/24	Cesium-137	51.70	±	36.90	191.29	±	136.53	No
	06/30/24	Plutonium-238	0.69	±	1.97	2.57	±	7.29	No
	06/30/24	Plutonium-239/240	1.07	±	2.44	3.96	±	9.03	No
	06/30/24	Strontium-90	46.80	±	27.10	173.16	±	100.27	No
	06/30/24	Uranium-233/234	11.30	±	5.25	41.81	±	19.43	No
	06/30/24	Uranium-238	7.73	±	4.17	28.60	±	15.43	No
	06/30/24	Zinc-65	-44.60	±	84.10	-165.02	±	311.17	No
SUGAR CITY	06/30/24	Americium-241	0.07	±	2.72	0.27	±	10.06	No
	06/30/24	Cesium-137	5.48	±	36.60	20.28	±	135.42	No
	06/30/24	Plutonium-238	-0.76	±	1.72	-2.82	±	6.36	No
	06/30/24	Plutonium-239/240	2.03	±	2.86	7.51	±	10.58	No
	06/30/24	Strontium-90	54.90	±	30.10	203.13	±	111.37	No
	06/30/24	Uranium-233/234	18.70	±	5.83	69.19	±	21.57	**Yes**
	06/30/24	Uranium-238	4.98	±	3.23	18.43	±	11.95	No
	06/30/24	Zinc-65	210.00	±	94.60	777.00	±	350.02	No
SUGAR CITY (duplicate)	06/30/24	Americium-241	0.08	±	2.90	0.28	±	10.73	No
	06/30/24	Cesium-137	38.60	±	31.70	142.82	±	117.29	No
	06/30/24	Plutonium-238	2.15	±	4.05	7.96	±	14.99	No
	06/30/24	Plutonium-239/240	-2.83	±	3.07	-10.47	±	11.36	No
	06/30/24	Strontium-90	22.10	±	34.00	81.77	±	125.80	No
	06/30/24	Uranium-233/234	17.80	±	7.27	65.86	±	26.90	No

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Uranium-238	38.30	±	9.33	141.71	±	34.52	**Yes**
	06/30/24	Zinc-65	-63.00	±	135.00	-233.10	±	499.50	No
ONSITE									
ATR COMPLEX	06/30/24	Americium-241	2.61	±	2.62	9.66	±	9.69	No
	06/30/24	Cesium-137	-34.80	±	33.20	-128.76	±	122.84	No
	06/30/24	Plutonium-238	0.86	±	2.43	3.17	±	8.99	No
	06/30/24	Plutonium-239/240	5.01	±	3.80	18.54	±	14.06	No
	06/30/24	Strontium-90	48.50	±	30.10	179.45	±	111.37	No
	06/30/24	Uranium-233/234	7.45	±	3.63	27.57	±	13.43	No
	06/30/24	Uranium-238	11.60	±	4.23	42.92	±	15.65	No
	06/30/24	Zinc-65	-185.00	±	96.40	-684.50	±	356.68	No
CFA	06/30/24	Americium-241	-1.02	±	1.58	-3.77	±	5.85	No
	06/30/24	Cesium-137	44.20	±	35.60	163.54	±	131.72	No
	06/30/24	Plutonium-238	3.29	±	3.34	12.17	±	12.36	No
	06/30/24	Plutonium-239/240	0.06	±	2.44	0.24	±	9.03	No
	06/30/24	Strontium-90	21.70	±	15.80	80.29	±	58.46	No
	06/30/24	Uranium-233/234	32.30	±	7.55	119.51	±	27.94	**Yes**
	06/30/24	Uranium-238	16.30	±	5.02	60.31	±	18.57	**Yes**
	06/30/24	Zinc-65	14.40	±	71.10	53.28	±	263.07	No
EBR-I	06/30/24	Americium-241	1.30	±	2.48	4.81	±	9.18	No
	06/30/24	Cesium-137	62.20	±	34.00	230.14	±	125.80	No
	06/30/24	Plutonium-238	4.90	±	5.68	18.13	±	21.02	No
	06/30/24	Plutonium-239/240	-3.91	±	3.23	-14.47	±	11.95	No
	06/30/24	Strontium-90	-34.80	±	27.70	-128.76	±	102.49	No
	06/30/24	Uranium-233/234	8.90	±	5.33	32.93	±	19.72	No
	06/30/24	Uranium-238	5.55	±	4.22	20.54	±	15.61	No
	06/30/24	Zinc-65	-109.00	±	76.00	-403.30	±	281.20	No
EFS	06/30/24	Americium-241	0.49	±	2.60	1.80	±	9.62	No
	06/30/24	Cesium-137	18.50	±	34.00	68.45	±	125.80	No
	06/30/24	Plutonium-238	-0.39	±	1.73	-1.45	±	6.40	No
	06/30/24	Plutonium-239/240	-0.79	±	1.78	-2.91	±	6.59	No
	06/30/24	Strontium-90	2.71	±	18.80	10.03	±	69.56	No

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Uranium-233/234	7.28	±	5.77	26.94	±	21.35	No
	06/30/24	Uranium-238	8.36	±	4.91	30.93	±	18.17	No
	06/30/24	Zinc-65	49.80	±	92.80	184.26	±	343.36	No
GATE 4	06/30/24	Americium-241	1.49	±	2.59	5.51	±	9.58	No
	06/30/24	Cesium-137	20.40	±	34.30	75.48	±	126.91	No
	06/30/24	Plutonium-238	5.50	±	4.56	20.35	±	16.87	No
	06/30/24	Plutonium-239/240	9.90	±	5.35	36.63	±	19.80	No
	06/30/24	Strontium-90	-25.90	±	18.30	-95.83	±	67.71	No
	06/30/24	Uranium-233/234	6.42	±	4.05	23.75	±	14.99	No
	06/30/24	Uranium-238	8.85	±	4.58	32.75	±	16.95	No
	06/30/24	Zinc-65	59.90	±	66.50	221.63	±	246.05	No
HIGHWAY 26 REST	06/30/24	Americium-241	-0.61	±	2.68	-2.25	±	9.92	No
AREA	06/30/24	Cesium-137	31.50	±	36.90	116.55	±	136.53	No
	06/30/24	Plutonium-238	1.56	±	2.25	5.77	±	8.33	No
	06/30/24	Plutonium-239/240	-0.38	±	1.65	-1.39	±	6.11	No
	06/30/24	Strontium-90	20.10	±	27.00	74.37	±	99.90	No
	06/30/24	Uranium-233/234	9.51	±	4.57	35.19	±	16.91	No
	06/30/24	Uranium-238	8.58	±	4.01	31.75	±	14.84	No
	06/30/24	Zinc-65	93.70	±	98.20	346.69	±	363.34	No
HIGHWAY 26 REST	06/30/24	Americium-241	2.44	±	2.86	9.03	±	10.58	No
AREA (duplicate)	06/30/24	Cesium-137	2.93	±	29.30	10.84	±	108.41	No
	06/30/24	Plutonium-238	-1.67	±	1.62	-6.18	±	5.99	No
	06/30/24	Plutonium-239/240	-1.61	±	2.24	-5.96	±	8.29	No
	06/30/24	Strontium-90	71.70	±	35.20	265.29	±	130.24	No
	06/30/24	Uranium-233/234	6.88	±	4.88	25.46	±	18.06	No
	06/30/24	Uranium-238	13.90	±	5.83	51.43	±	21.57	No
	06/30/24	Zinc-65	-52.80	±	73.70	-195.36	±	272.69	No
INTEC (NE CORNER)	06/30/24	Americium-241	-0.29	±	2.25	-1.08	±	8.33	No
	06/30/24	Cesium-137	29.70	±	36.30	109.89	±	134.31	No
	06/30/24	Plutonium-238	1.60	±	2.80	5.92	±	10.36	No
	06/30/24	Plutonium-239/240	-4.81	±	2.07	-17.80	±	7.66	No
	06/30/24	Strontium-90	-1.02	±	28.40	-3.77	±	105.08	No

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Uranium-233/234	8.87	±	4.18	32.82	±	15.47	No
	06/30/24	Uranium-238	6.50	±	3.40	24.05	±	12.58	No
	06/30/24	Zinc-65	-133.00	±	87.30	-492.10	±	323.01	No
INTEC (WEST SIDE)	06/30/24	Americium-241	-0.91	±	2.05	-3.35	±	7.59	No
	06/30/24	Cesium-137	52.40	±	35.80	193.88	±	132.46	No
	06/30/24	Plutonium-238	-0.43	±	1.88	-1.58	±	6.96	No
	06/30/24	Plutonium-239/240	6.67	±	4.04	24.68	±	14.95	No
	06/30/24	Strontium-90	-27.10	±	26.50	-100.27	±	98.05	No
	06/30/24	Uranium-233/234	7.15	±	5.22	26.46	±	19.31	No
	06/30/24	Uranium-238	5.72	±	4.23	21.16	±	15.65	No
	06/30/24	Zinc-65	42.80	±	90.20	158.36	±	333.74	No
MAIN GATE	06/30/24	Americium-241	-1.45	±	2.24	-5.37	±	8.29	No
	06/30/24	Cesium-137	14.90	±	31.40	55.13	±	116.18	No
	06/30/24	Plutonium-238	-0.98	±	2.26	-3.62	±	8.36	No
	06/30/24	Plutonium-239/240	0.75	±	2.12	2.77	±	7.84	No
	06/30/24	Strontium-90	41.50	±	30.10	153.55	±	111.37	No
	06/30/24	Uranium-233/234	6.05	±	4.75	22.39	±	17.58	No
	06/30/24	Uranium-238	8.58	±	4.73	31.75	±	17.50	No
	06/30/24	Zinc-65	-34.00	±	73.90	-125.80	±	273.43	No
MFC NORTH	06/30/24	Americium-241	1.22	±	3.47	4.51	±	12.84	No
	06/30/24	Cesium-137	97.00	±	47.50	358.90	±	175.75	No
	06/30/24	Chlorine-36	-46.20	±	24.50	-170.94	±	90.65	No
	06/30/24	Plutonium-238	0.10	±	3.91	0.38	±	14.47	No
	06/30/24	Plutonium-239/240	-3.71	±	3.06	-13.73	±	11.32	No
	06/30/24	Strontium-90	-31.00	±	26.60	-114.70	±	98.42	No
	06/30/24	Uranium-233/234	25.00	±	7.82	92.50	±	28.93	**Yes**
	06/30/24	Uranium-238	19.90	±	6.38	73.63	±	23.61	**Yes**
	06/30/24	Zinc-65	-13.30	±	75.10	-49.21	±	277.87	No
MFC SOUTH	06/30/24	Americium-241	-2.75	±	2.26	-10.18	±	8.36	No
	06/30/24	Cesium-137	16.80	±	33.60	62.16	±	124.32	No
	06/30/24	Chlorine-36	1.65	±	21.80	6.11	±	80.66	No
	06/30/24	Plutonium-238	3.03	±	3.04	11.21	±	11.25	No

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Plutonium-239/240	0.07	±	2.60	0.25	±	9.62	No
	06/30/24	Strontium-90	63.10	±	28.80	233.47	±	106.56	No
	06/30/24	Uranium-233/234	9.10	±	4.40	33.67	±	16.28	No
	06/30/24	Uranium-238	7.94	±	3.88	29.38	±	14.36	No
	06/30/24	Zinc-65	-127.00	±	151.00	-469.90	±	558.70	No
NRF	06/30/24	Americium-241	0.48	±	2.54	1.76	±	9.40	No
	06/30/24	Cesium-137	-0.65	±	32.30	-2.40	±	119.51	No
	06/30/24	Plutonium-238	-0.93	±	2.11	-3.46	±	7.81	No
	06/30/24	Plutonium-239/240	-2.72	±	3.16	-10.06	±	11.69	No
	06/30/24	Strontium-90	-27.60	±	32.80	-102.12	±	121.36	No
	06/30/24	Uranium-233/234	30.20	±	6.96	111.74	±	25.75	**Yes**
	06/30/24	Uranium-238	11.10	±	4.21	41.07	±	15.58	No
	06/30/24	Zinc-65	62.90	±	126.00	232.73	±	466.20	No
PBF	06/30/24	Americium-241	4.93	±	4.46	18.24	±	16.50	No
	06/30/24	Cesium-137	65.30	±	39.00	241.61	±	144.30	No
	06/30/24	Plutonium-238	0.08	±	2.98	0.29	±	11.03	No
	06/30/24	Plutonium-239/240	1.96	±	2.82	7.25	±	10.43	No
	06/30/24	Strontium-90	13.80	±	35.80	51.06	±	132.46	No
	06/30/24	Uranium-233/234	10.80	±	5.80	39.96	±	21.46	No
	06/30/24	Uranium-238	2.57	±	3.61	9.51	±	13.36	No
	06/30/24	Zinc-65	74.70	±	93.20	276.39	±	344.84	No
RHLLW	06/30/24	Americium-241	-0.53	±	2.31	-1.94	±	8.55	No
	06/30/24	Cesium-137	0.00	±	98.80	0.00	±	365.56	No
	06/30/24	Plutonium-238	-3.69	±	2.15	-13.65	±	7.96	No
	06/30/24	Plutonium-239/240	-3.28	±	2.11	-12.14	±	7.81	No
	06/30/24	Strontium-90	35.30	±	27.60	130.61	±	102.12	No
	06/30/24	Uranium-233/234	-1.90	±	3.12	-7.03	±	11.54	No
	06/30/24	Uranium-238	-0.41	±	3.16	-1.52	±	11.69	No
	06/30/24	Zinc-65	-62.10	±	88.90	-229.77	±	328.93	No
RHLLW (duplicate)	06/30/24	Americium-241	-1.91	±	2.27	-7.07	±	8.40	No
	06/30/24	Cesium-137	46.30	±	35.40	171.31	±	130.98	No
	06/30/24	Plutonium-238	-1.10	±	2.54	-4.07	±	9.40	No

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Plutonium-239/240	-1.04	±	3.11	-3.85	±	11.51	No
	06/30/24	Strontium-90	97.80	±	40.10	361.86	±	148.37	No
	06/30/24	Uranium-233/234	11.30	±	6.69	41.81	±	24.75	No
	06/30/24	Uranium-238	8.70	±	5.80	32.19	±	21.46	No
	06/30/24	Zinc-65	-13.90	±	82.90	-51.43	±	306.73	No
RWMC	06/30/24	Americium-241	0.87	±	2.46	3.21	±	9.10	No
	06/30/24	Cesium-137	-17.80	±	31.80	-65.86	±	117.66	No
	06/30/24	Plutonium-238	-0.41	±	1.81	-1.52	±	6.70	No
	06/30/24	Plutonium-239/240	2.60	±	3.05	9.62	±	11.29	No
	06/30/24	Strontium-90	30.40	±	20.30	112.48	±	75.11	No
	06/30/24	Uranium-233/234	20.00	±	6.18	74.00	±	22.87	**Yes**
	06/30/24	Uranium-238	13.00	±	4.77	48.10	±	17.65	No
	06/30/24	Zinc-65	88.10	±	83.20	325.97	±	307.84	No
RWMC SOUTH	06/30/24	Americium-241	0.00	±	1.44	0.00	±	5.33	No
	06/30/24	Cesium-137	34.20	±	37.90	126.54	±	140.23	No
	06/30/24	Plutonium-238	0.79	±	2.23	2.91	±	8.25	No
	06/30/24	Plutonium-239/240	3.80	±	3.09	14.06	±	11.43	No
	06/30/24	Strontium-90	24.30	±	33.10	89.91	±	122.47	No
	06/30/24	Uranium-233/234	3.95	±	4.36	14.62	±	16.13	No
	06/30/24	Uranium-238	2.60	±	3.05	9.62	±	11.29	No
	06/30/24	Zinc-65	-92.90	±	94.70	-343.73	±	350.39	No
SMC	06/30/24	Americium-241	0.92	±	2.60	3.39	±	9.62	No
	06/30/24	Cesium-137	86.10	±	40.90	318.57	±	151.33	No
	06/30/24	Plutonium-238	-0.47	±	2.06	-1.73	±	7.62	No
	06/30/24	Plutonium-239/240	-3.27	±	2.36	-12.10	±	8.73	No
	06/30/24	Strontium-90	72.70	±	39.40	268.99	±	145.78	No
	06/30/24	Uranium-233/234	8.73	±	3.99	32.30	±	14.76	No
	06/30/24	Uranium-238	12.90	±	4.25	47.73	±	15.73	**Yes**
	06/30/24	Zinc-65	-37.90	±	74.10	-140.23	±	274.17	No
VAN BUREN	06/30/24	Americium-241	0.99	±	2.82	3.68	±	10.43	No
	06/30/24	Cesium-137	24.20	±	33.30	89.54	±	123.21	No
	06/30/24	Plutonium-238	-1.25	±	1.92	-4.63	±	7.10	No

Table B-3. Quarterly cesium-137, strontium-90, and actinide concentrations in composite air filters.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
	06/30/24	Plutonium-239/240	0.55	±	3.22	2.05	±	11.91	No
	06/30/24	Strontium-90	-38.30	±	22.70	-141.71	±	83.99	No
	06/30/24	Uranium-233/234	8.65	±	6.03	32.01	±	22.31	No
	06/30/24	Uranium-238	2.13	±	3.72	7.88	±	13.76	No
	06/30/24	Zinc-65	36.60	±	92.50	135.42	±	342.25	No

Table B-4. Tritium concentrations in atmospheric moisture.

Sampling Group and Location	Sampling Date	Result ± 1s Uncertainty ($\times 10^{-13}$ µCi/mL$_{air}$)	Result ± 1s Uncertainty ($\times 10^{-9}$ Bq/mL$_{air}$)	Result > 3s
BOUNDARY				
ATOMIC CITY	05/01/24	4.97 ± 1.66	18.39 ± 6.14	No
	06/05/24	2.89 ± 1.35	10.69 ± 5.00	No
HOWE	04/17/24	4.16 ± 1.55	15.39 ± 5.74	No
	05/22/24	4.54 ± 1.99	16.80 ± 7.36	No
	06/19/24	6.50 ± 2.27	24.05 ± 8.40	No
OFFSITE				
CRATERS OF THE MOON	04/03/24	3.60 ± 1.17	13.32 ± 4.33	**Yes**
	05/08/24	5.24 ± 1.66	19.39 ± 6.14	**Yes**
	06/12/24	5.79 ± 2.09	21.42 ± 7.73	No
IDAHO FALLS (IRC)	04/24/24	2.74 ± 1.49	10.14 ± 5.51	No
	05/29/24	-1.38 ± 2.66	-5.11 ± 9.84	No
	06/26/24	-1.89 ± 1.64	-6.99 ± 6.07	No
IDAHO FALLS (NOAA)	04/17/24	-0.51 ± 1.21	-1.89 ± 4.48	No
	05/22/24	0.91 ± 2.75	3.37 ± 10.18	No
	06/26/24	-0.29 ± 1.44	-1.06 ± 5.33	No
ONSITE				
EFS	05/08/24	4.38 ± 1.72	16.21 ± 6.36	No
	06/12/24	4.58 ± 1.83	16.95 ± 6.77	No
RHLLW	04/10/24	3.03 ± 2.25	11.21 ± 8.33	No
	05/22/24	1.37 ± 1.18	5.07 ± 4.37	No
VAN BUREN	04/24/24	3.32 ± 2.56	12.28 ± 9.47	No
	05/29/24	5.09 ± 3.10	18.83 ± 11.47	No

Table B-5. Monthly and weekly tritium concentrations in precipitation.

Location	Start Date	End Date	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
BOUNDARY									
ATOMIC CITY	03/27/24	04/03/24	-4.06	±	24.40	-0.15	±	0.90	No
	04/24/24	05/01/24	16.30	±	26.50	0.60	±	0.98	No
	05/01/24	05/08/24	44.70	±	27.50	1.65	±	1.02	No
HOWE	03/27/24	04/03/24	73.10	±	30.60	2.70	±	1.13	No
	04/24/24	05/02/24	16.60	±	26.70	0.61	±	0.99	No
	05/02/24	05/08/24	17.70	±	27.40	0.65	±	1.01	No
	05/15/24	05/22/24	41.30	±	27.90	1.53	±	1.03	No
	06/12/24	06/19/24	25.40	±	27.70	0.94	±	1.02	No
OFFSITE									
IDAHO FALLS	04/01/24	04/30/24	63.30	±	28.90	2.34	±	1.07	No
	05/01/24	05/31/24	2.34	±	32.40	0.09	±	1.20	No
	06/01/24	06/30/24	20.80	±	26.40	0.77	±	0.98	No
ONSITE									
EFS	03/27/24	04/03/24	36.50	±	26.10	1.35	±	0.97	No
	05/01/24	05/08/24	8.37	±	27.40	0.31	±	1.01	No
	05/22/24	05/29/24	31.30	±	27.30	1.16	±	1.01	No

Table B-6. Gamma emitters, tritum, alpha, and beta concentrations in effluent water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
ATR COMPLEX COLD WASTE	04/09/24	Americium-241	5.00	±	4.10	0.19	±	0.15	No
PONDS	04/09/24	Antimony-125	1.06	±	1.27	0.04	±	0.05	No
	04/09/24	Cerium-144	-3.93	±	3.64	-0.15	±	0.13	No
	04/09/24	Cesium-134	0.73	±	0.65	0.03	±	0.02	No
	04/09/24	Cesium-137	-1.34	±	1.17	-0.05	±	0.04	No
	04/09/24	Cobalt-58	-0.48	±	0.50	-0.02	±	0.02	No
	04/09/24	Cobalt-60	-0.95	±	0.54	-0.04	±	0.02	No
	04/09/24	Europium-152	0.58	±	1.37	0.02	±	0.05	No
	04/09/24	Europium-154	-0.69	±	1.31	-0.03	±	0.05	No
	04/09/24	Europium-155	-3.78	±	3.15	-0.14	±	0.12	No
	04/09/24	Gross alpha	3.77	±	1.23	0.14	±	0.05	**Yes**
	04/09/24	Gross beta	2.18	±	0.81	0.08	±	0.03	No
	04/09/24	Manganese-54	0.07	±	0.45	0.00	±	0.02	No
	04/09/24	Niobium-95	0.50	±	0.57	0.02	±	0.02	No
	04/09/24	Potassium-40	-14.20	±	11.70	-0.53	±	0.43	No
	04/09/24	Radium-226	-22.10	±	24.00	-0.82	±	0.89	No
	04/09/24	Ruthenium-103	-0.32	±	0.54	-0.01	±	0.02	No
	04/09/24	Ruthenium-106	6.30	±	4.54	0.23	±	0.17	No
	04/09/24	Silver-108 meta-stable	-0.30	±	0.40	-0.01	±	0.01	No
	04/09/24	Silver-110 meta-stable	-0.55	±	0.60	-0.02	±	0.02	No
	04/09/24	Tritium	-15.80	±	94.70	-0.59	±	3.51	No
	04/09/24	Uranium-235	5.38	±	6.18	0.20	±	0.23	No
	04/09/24	Zinc-65	-0.72	±	1.06	-0.03	±	0.04	No
	04/09/24	Zirconium-95	1.29	±	0.86	0.05	±	0.03	No
ATR COMPLEX COLD WASTE	05/14/24	Americium-241	9.50	±	6.01	0.35	±	0.22	No
PONDS	05/14/24	Antimony-125	-0.09	±	1.17	0.00	±	0.04	No
	05/14/24	Cerium-144	-8.91	±	5.44	-0.33	±	0.20	No
	05/14/24	Cesium-134	-0.30	±	0.50	-0.01	±	0.02	No
	05/14/24	Cesium-137	0.34	±	0.43	0.01	±	0.02	No
	05/14/24	Cobalt-58	-0.54	±	0.52	-0.02	±	0.02	No
	05/14/24	Cobalt-60	-2.25	±	1.15	-0.08	±	0.04	No
	05/14/24	Europium-152	1.41	±	1.27	0.05	±	0.05	No
	05/14/24	Europium-154	-0.50	±	1.19	-0.02	±	0.04	No
	05/14/24	Europium-155	0.95	±	1.72	0.04	±	0.06	No
a	05/14/24	Gross alpha	5.69	±	1.47	0.21	±	0.05	**Yes**
	05/14/24	Gross beta	5.86	±	0.86	0.22	±	0.03	**Yes**
	05/14/24	Manganese-54	-0.54	±	0.53	-0.02	±	0.02	No

Table B-6. Gamma emitters, tritum, alpha, and beta concentrations in effluent water.

Sampling Group and Location		Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
		05/14/24	Niobium-95	-0.12	±	0.53	0.00	±	0.02	No
		05/14/24	Potassium-40	-14.50	±	10.60	-0.54	±	0.39	No
		05/14/24	Radium-226	2.05	±	25.50	0.08	±	0.94	No
	a	05/14/24	Radium-226	0.15	±	0.11	0.01	±	0.00	No
	a	05/14/24	Radium-228	0.33	±	0.17	0.01	±	0.01	No
		05/14/24	Ruthenium-103	-0.68	±	0.68	-0.03	±	0.03	No
		05/14/24	Ruthenium-106	-5.37	±	4.04	-0.20	±	0.15	No
		05/14/24	Silver-108 meta-stable	0.52	±	0.39	0.02	±	0.01	No
		05/14/24	Silver-110 meta-stable	0.90	±	0.64	0.03	±	0.02	No
		05/14/24	Tritium	97.20	±	91.00	3.60	±	3.37	No
		05/14/24	Uranium-235	5.09	±	6.14	0.19	±	0.23	No
		05/14/24	Zinc-65	1.71	±	0.90	0.06	±	0.03	No
		05/14/24	Zirconium-95	1.05	±	0.96	0.04	±	0.04	No
ATR COMPLEX COLD WASTE		06/11/24	Americium-241	-6.02	±	3.92	-0.22	±	0.15	No
PONDS		06/11/24	Antimony-125	-0.82	±	0.95	-0.03	±	0.04	No
		06/11/24	Cerium-144	1.86	±	2.67	0.07	±	0.10	No
		06/11/24	Cesium-134	0.68	±	0.40	0.03	±	0.01	No
		06/11/24	Cesium-137	0.66	±	0.38	0.02	±	0.01	No
		06/11/24	Cobalt-58	-0.13	±	0.44	0.00	±	0.02	No
		06/11/24	Cobalt-60	0.13	±	0.46	0.00	±	0.02	No
		06/11/24	Europium-152	-0.14	±	1.03	-0.01	±	0.04	No
		06/11/24	Europium-154	-0.28	±	1.06	-0.01	±	0.04	No
		06/11/24	Europium-155	0.18	±	1.39	0.01	±	0.05	No
	a	06/11/24	Gross alpha	8.37	±	1.60	0.31	±	0.06	**Yes**
		06/11/24	Gross beta	9.84	±	1.13	0.36	±	0.04	**Yes**
		06/11/24	Manganese-54	-0.28	±	0.40	-0.01	±	0.01	No
		06/11/24	Niobium-95	-0.14	±	0.47	-0.01	±	0.02	No
		06/11/24	Potassium-40	2.54	±	10.40	0.09	±	0.39	No
		06/11/24	Radium-226	-29.10	±	22.20	-1.08	±	0.82	No
	a	06/11/24	Radium-226	-0.02	±	0.04	0.00	±	0.00	No
	a	06/11/24	Radium-228	0.15	±	0.20	0.01	±	0.01	No
		06/11/24	Ruthenium-103	-0.42	±	0.57	-0.02	±	0.02	No
		06/11/24	Ruthenium-106	-1.13	±	3.42	-0.04	±	0.13	No
		06/11/24	Silver-108 meta-stable	-0.68	±	0.34	-0.03	±	0.01	No
		06/11/24	Silver-110 meta-stable	-0.43	±	0.51	-0.02	±	0.02	No
		06/11/24	Tritium	17.70	±	86.00	0.66	±	3.19	No
		06/11/24	Uranium-235	2.80	±	5.15	0.10	±	0.19	No

Table B-6. Gamma emitters, tritum, alpha, and beta concentrations in effluent water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	06/11/24	Zinc-65	2.18	±	0.95	0.08	±	0.04	No
	06/11/24	Zirconium-95	-0.62	±	0.76	-0.02	±	0.03	No
MFC INDUSTRIAL WASTE POND	04/02/24	Americium-241	-1.01	±	4.32	-0.04	±	0.16	No
	04/02/24	Antimony-125	-0.80	±	1.15	-0.03	±	0.04	No
	04/02/24	Cerium-144	4.88	±	3.25	0.18	±	0.12	No
	04/02/24	Cesium-134	-1.82	±	1.10	-0.07	±	0.04	No
	04/02/24	Cesium-137	0.38	±	0.49	0.01	±	0.02	No
	04/02/24	Cobalt-58	-0.21	±	0.47	-0.01	±	0.02	No
	04/02/24	Cobalt-60	0.00	±	0.46	0.00	±	0.02	No
	04/02/24	Europium-152	4.41	±	1.69	0.16	±	0.06	No
	04/02/24	Europium-154	-1.77	±	1.24	-0.07	±	0.05	No
	04/02/24	Europium-155	0.52	±	1.66	0.02	±	0.06	No
	04/02/24	Gross alpha	2.83	±	1.03	0.10	±	0.04	No
	04/02/24	Gross beta	6.84	±	0.69	0.25	±	0.03	**Yes**
	04/02/24	Manganese-54	-0.36	±	0.42	-0.01	±	0.02	No
	04/02/24	Niobium-95	-2.00	±	1.03	-0.07	±	0.04	No
	04/02/24	Potassium-40	-12.20	±	12.10	-0.45	±	0.45	No
	04/02/24	Radium-226	-34.70	±	19.90	-1.29	±	0.74	No
	04/02/24	Ruthenium-103	0.23	±	0.54	0.01	±	0.02	No
	04/02/24	Ruthenium-106	2.94	±	4.01	0.11	±	0.15	No
	04/02/24	Silver-108 meta-stable	-0.08	±	0.37	0.00	±	0.01	No
	04/02/24	Silver-110 meta-stable	0.15	±	0.65	0.01	±	0.02	No
	04/02/24	Tritium	98.60	±	102.00	3.65	±	3.78	No
	04/02/24	Uranium-235	-4.94	±	5.77	-0.18	±	0.21	No
	04/02/24	Zinc-65	0.29	±	1.05	0.01	±	0.04	No
	04/02/24	Zirconium-95	0.17	±	0.87	0.01	±	0.03	No
MFC INDUSTRIAL WASTE POND (duplicate)	04/02/24	Americium-241	3.91	±	2.32	0.14	±	0.09	No
	04/02/24	Antimony-125	0.42	±	0.98	0.02	±	0.04	No
	04/02/24	Cerium-144	0.70	±	2.45	0.03	±	0.09	No
	04/02/24	Cesium-134	-0.45	±	0.44	-0.02	±	0.02	No
	04/02/24	Cesium-137	0.35	±	0.39	0.01	±	0.01	No
	04/02/24	Cobalt-58	-0.62	±	0.52	-0.02	±	0.02	No
	04/02/24	Cobalt-60	0.24	±	0.42	0.01	±	0.02	No
	04/02/24	Europium-152	-1.33	±	1.12	-0.05	±	0.04	No
	04/02/24	Europium-154	-1.06	±	1.07	-0.04	±	0.04	No
	04/02/24	Europium-155	-0.17	±	1.27	-0.01	±	0.05	No
	04/02/24	Gross alpha	3.97	±	0.83	0.15	±	0.03	**Yes**

Table B-6. Gamma emitters, tritum, alpha, and beta concentrations in effluent water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	04/02/24	Gross beta	5.06	±	0.37	0.19	±	0.01	**Yes**
	04/02/24	Manganese-54	-0.54	±	0.64	-0.02	±	0.02	No
	04/02/24	Niobium-95	0.14	±	0.42	0.01	±	0.02	No
	04/02/24	Potassium-40	2.95	±	12.60	0.11	±	0.47	No
	04/02/24	Radium-226	21.20	±	19.90	0.79	±	0.74	No
	04/02/24	Ruthenium-103	-0.59	±	0.46	-0.02	±	0.02	No
	04/02/24	Ruthenium-106	-1.01	±	3.62	-0.04	±	0.13	No
	04/02/24	Silver-108 meta-stable	0.47	±	0.34	0.02	±	0.01	No
	04/02/24	Silver-110 meta-stable	0.41	±	0.51	0.02	±	0.02	No
	04/02/24	Tritium	-100.00	±	90.40	-3.70	±	3.35	No
	04/02/24	Uranium-235	2.43	±	2.69	0.09	±	0.10	No
	04/02/24	Zinc-65	-0.70	±	0.94	-0.03	±	0.03	No
	04/02/24	Zirconium-95	1.15	±	0.79	0.04	±	0.03	No

a. Gross alpha result greater than 5 pCi/L. Sample was re-logged and analyzed for ^{226}Ra and ^{228}Ra using EPA method 903.1 and gas flow proportional counting respectivley.

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
ATR COMPLEX									
MIDDLE-1823 MONITORING	04/23/24	Americium-241	-1.29	±	4.57	-0.05	±	0.17	No
WELL	04/23/24	Antimony-125	-0.73	±	1.14	-0.03	±	0.04	No
	04/23/24	Cerium-144	4.74	±	3.44	0.18	±	0.13	No
	04/23/24	Cesium-134	-1.22	±	1.01	-0.05	±	0.04	No
	04/23/24	Cesium-137	0.80	±	0.49	0.03	±	0.02	No
	04/23/24	Cobalt-58	0.70	±	0.53	0.03	±	0.02	No
	04/23/24	Cobalt-60	0.12	±	0.46	0.00	±	0.02	No
	04/23/24	Europium-152	-0.89	±	1.31	-0.03	±	0.05	No
	04/23/24	Europium-154	-0.40	±	1.28	-0.01	±	0.05	No
	04/23/24	Europium-155	2.74	±	1.83	0.10	±	0.07	No
	04/23/24	Gross alpha	1.04	±	0.38	0.04	±	0.01	No
	04/23/24	Gross beta	2.31	±	0.26	0.09	±	0.01	**Yes**
	04/23/24	Manganese-54	-0.79	±	0.50	-0.03	±	0.02	No
	04/23/24	Niobium-95	-0.11	±	0.55	0.00	±	0.02	No
	04/23/24	Potassium-40	0.52	±	12.50	0.02	±	0.46	No
	04/23/24	Radium-226	5.52	±	22.10	0.20	±	0.82	No
	04/23/24	Ruthenium-103	0.16	±	0.65	0.01	±	0.02	No
	04/23/24	Ruthenium-106	2.94	±	3.76	0.11	±	0.14	No
	04/23/24	Silver-108 meta-stable	0.18	±	0.36	0.01	±	0.01	No
	04/23/24	Silver-110 meta-stable	0.38	±	0.59	0.01	±	0.02	No
	04/23/24	Strontium-90	0.18	±	0.21	0.01	±	0.01	No
	04/23/24	Tritium	404.00	±	127.00	14.96	±	4.70	**Yes**
	04/23/24	Uranium-235	-0.86	±	5.36	-0.03	±	0.20	No
	04/23/24	Zinc-65	0.29	±	1.00	0.01	±	0.04	No
	04/23/24	Zirconium-95	0.86	±	1.02	0.03	±	0.04	No
TRA-08 MONITORING WELL	04/23/24	Americium-241	0.71	±	2.28	0.03	±	0.08	No
	04/23/24	Antimony-125	-0.22	±	1.11	-0.01	±	0.04	No
	04/23/24	Cerium-144	2.04	±	2.75	0.08	±	0.10	No
	04/23/24	Cesium-134	0.15	±	0.44	0.01	±	0.02	No
	04/23/24	Cesium-137	0.34	±	0.43	0.01	±	0.02	No
	04/23/24	Cobalt-58	0.35	±	0.50	0.01	±	0.02	No
	04/23/24	Cobalt-60	-0.08	±	0.36	0.00	±	0.01	No
	04/23/24	Europium-152	0.30	±	1.18	0.01	±	0.04	No
	04/23/24	Europium-154	-0.70	±	1.12	-0.03	±	0.04	No
	04/23/24	Europium-155	2.10	±	1.49	0.08	±	0.06	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	04/23/24	Gross alpha	0.59	±	0.36	0.02	±	0.01	No
	04/23/24	Gross beta	2.15	±	0.25	0.08	±	0.01	**Yes**
	04/23/24	Manganese-54	-0.06	±	0.42	0.00	±	0.02	No
	04/23/24	Niobium-95	0.02	±	0.48	0.00	±	0.02	No
	04/23/24	Potassium-40	-13.80	±	11.70	-0.51	±	0.43	No
	04/23/24	Radium-226	4.85	±	23.00	0.18	±	0.85	No
	04/23/24	Ruthenium-103	-0.72	±	0.65	-0.03	±	0.02	No
	04/23/24	Ruthenium-106	-2.01	±	3.44	-0.07	±	0.13	No
	04/23/24	Silver-108 meta-stable	-0.61	±	0.72	-0.02	±	0.03	No
	04/23/24	Silver-110 meta-stable	0.65	±	0.58	0.02	±	0.02	No
	04/23/24	Strontium-90	0.07	±	0.14	0.00	±	0.01	No
	04/23/24	Tritium	397.00	±	127.00	14.70	±	4.70	**Yes**
	04/23/24	Uranium-235	4.08	±	5.11	0.15	±	0.19	No
	04/23/24	Zinc-65	0.47	±	0.71	0.02	±	0.03	No
	04/23/24	Zirconium-95	1.05	±	0.85	0.04	±	0.03	No
USGS-058 MONITORING WELL	04/22/24	Americium-241	2.18	±	4.85	0.08	±	0.18	No
	04/22/24	Antimony-125	-1.11	±	1.30	-0.04	±	0.05	No
	04/22/24	Cerium-144	-2.03	±	3.36	-0.08	±	0.12	No
	04/22/24	Cesium-134	-0.27	±	0.49	-0.01	±	0.02	No
	04/22/24	Cesium-137	0.74	±	0.53	0.03	±	0.02	No
	04/22/24	Cobalt-58	0.26	±	0.53	0.01	±	0.02	No
	04/22/24	Cobalt-60	0.31	±	0.49	0.01	±	0.02	No
	04/22/24	Europium-152	1.51	±	1.51	0.06	±	0.06	No
	04/22/24	Europium-154	-0.20	±	1.39	-0.01	±	0.05	No
	04/22/24	Europium-155	-0.95	±	2.28	-0.04	±	0.08	No
	04/22/24	Gross alpha	0.76	±	0.47	0.03	±	0.02	No
	04/22/24	Gross beta	1.85	±	0.30	0.07	±	0.01	**Yes**
	04/22/24	Manganese-54	0.13	±	0.47	0.00	±	0.02	No
	04/22/24	Niobium-95	1.53	±	0.67	0.06	±	0.02	No
	04/22/24	Potassium-40	27.00	±	13.80	1.00	±	0.51	No
	04/22/24	Radium-226	15.80	±	23.90	0.59	±	0.89	No
	04/22/24	Ruthenium-103	-0.11	±	1.14	0.00	±	0.04	No
	04/22/24	Ruthenium-106	5.15	±	4.50	0.19	±	0.17	No
	04/22/24	Silver-108 meta-stable	-0.56	±	0.44	-0.02	±	0.02	No
	04/22/24	Silver-110 meta-stable	0.89	±	0.71	0.03	±	0.03	No
	04/22/24	Strontium-90	0.37	±	0.22	0.01	±	0.01	No
	04/22/24	Tritium	216.00	±	112.00	8.00	±	4.15	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	04/22/24	Uranium-235	-3.27	±	5.28	-0.12	±	0.20	No
	04/22/24	Zinc-65	0.29	±	1.00	0.01	±	0.04	No
	04/22/24	Zirconium-95	1.10	±	1.05	0.04	±	0.04	No
USGS-065 MONITORING WELL	04/24/24	Americium-241	2.68	±	4.83	0.10	±	0.18	No
	04/24/24	Antimony-125	-0.28	±	1.23	-0.01	±	0.05	No
	04/24/24	Cerium-144	-0.74	±	3.50	-0.03	±	0.13	No
	04/24/24	Cesium-134	0.17	±	0.51	0.01	±	0.02	No
	04/24/24	Cesium-137	0.47	±	0.51	0.02	±	0.02	No
	04/24/24	Cobalt-58	-0.15	±	0.55	-0.01	±	0.02	No
	04/24/24	Cobalt-60	0.21	±	0.45	0.01	±	0.02	No
	04/24/24	Europium-152	-0.07	±	1.41	0.00	±	0.05	No
	04/24/24	Europium-154	-1.29	±	1.40	-0.05	±	0.05	No
	04/24/24	Europium-155	0.97	±	2.05	0.04	±	0.08	No
	04/24/24	Gross alpha	3.10	±	0.64	0.11	±	0.02	**Yes**
	04/24/24	Gross beta	4.15	±	0.39	0.15	±	0.01	**Yes**
	04/24/24	Manganese-54	-0.07	±	0.45	0.00	±	0.02	No
	04/24/24	Niobium-95	0.90	±	0.60	0.03	±	0.02	No
	04/24/24	Potassium-40	-2.01	±	9.24	-0.07	±	0.34	No
	04/24/24	Radium-226	-26.20	±	20.30	-0.97	±	0.75	No
	04/24/24	Ruthenium-103	0.05	±	1.17	0.00	±	0.04	No
	04/24/24	Ruthenium-106	-1.23	±	4.31	-0.05	±	0.16	No
	04/24/24	Silver-108 meta-stable	0.11	±	0.42	0.00	±	0.02	No
	04/24/24	Silver-110 meta-stable	-0.82	±	0.70	-0.03	±	0.03	No
	04/24/24	Strontium-90	0.81	±	0.30	0.03	±	0.01	No
	04/24/24	Tritium	621.00	±	141.00	23.00	±	5.22	**Yes**
	04/24/24	Uranium-235	7.28	±	7.45	0.27	±	0.28	No
	04/24/24	Zinc-65	-1.08	±	1.02	-0.04	±	0.04	No
	04/24/24	Zirconium-95	2.23	±	1.08	0.08	±	0.04	No
USGS-076 MONITORING WELL	04/25/24	Americium-241	0.32	±	3.39	0.01	±	0.13	No
	04/25/24	Antimony-125	-0.06	±	0.93	0.00	±	0.03	No
	04/25/24	Cerium-144	-4.32	±	2.95	-0.16	±	0.11	No
	04/25/24	Cesium-134	0.18	±	0.39	0.01	±	0.01	No
	04/25/24	Cesium-137	0.32	±	0.38	0.01	±	0.01	No
	04/25/24	Cobalt-58	-0.07	±	0.39	0.00	±	0.01	No
	04/25/24	Cobalt-60	0.01	±	0.37	0.00	±	0.01	No
	04/25/24	Europium-152	1.79	±	1.11	0.07	±	0.04	No
	04/25/24	Europium-154	0.10	±	1.03	0.00	±	0.04	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	04/25/24	Europium-155	0.99	±	1.46	0.04	±	0.05	No
	04/25/24	Gross alpha	0.43	±	0.35	0.02	±	0.01	No
	04/25/24	Gross beta	2.31	±	0.27	0.09	±	0.01	**Yes**
	04/25/24	Manganese-54	-0.27	±	0.38	-0.01	±	0.01	No
	04/25/24	Niobium-95	0.30	±	0.97	0.01	±	0.04	No
	04/25/24	Potassium-40	5.23	±	11.60	0.19	±	0.43	No
	04/25/24	Radium-226	-33.20	±	19.50	-1.23	±	0.72	No
	04/25/24	Ruthenium-103	-0.37	±	0.50	-0.01	±	0.02	No
	04/25/24	Ruthenium-106	0.73	±	3.44	0.03	±	0.13	No
	04/25/24	Silver-108 meta-stable	0.59	±	0.34	0.02	±	0.01	No
	04/25/24	Silver-110 meta-stable	-0.04	±	0.50	0.00	±	0.02	No
	04/25/24	Strontium-90	0.41	±	0.19	0.02	±	0.01	No
	04/25/24	Tritium	299.00	±	114.00	11.07	±	4.22	No
	04/25/24	Uranium-235	-1.03	±	4.53	-0.04	±	0.17	No
	04/25/24	Zinc-65	-0.22	±	0.75	-0.01	±	0.03	No
	04/25/24	Zirconium-95	0.68	±	0.74	0.03	±	0.03	No
USGS-098 MONITORING WELL	04/22/24	Americium-241	8.21	±	4.27	0.30	±	0.16	No
	04/22/24	Antimony-125	0.01	±	1.20	0.00	±	0.04	No
	04/22/24	Cerium-144	-1.08	±	3.66	-0.04	±	0.14	No
	04/22/24	Cesium-134	0.58	±	0.46	0.02	±	0.02	No
	04/22/24	Cesium-137	0.53	±	1.46	0.02	±	0.05	No
	04/22/24	Cobalt-58	0.49	±	0.52	0.02	±	0.02	No
	04/22/24	Cobalt-60	0.00	±	0.46	0.00	±	0.02	No
	04/22/24	Europium-152	-0.45	±	1.31	-0.02	±	0.05	No
	04/22/24	Europium-154	-0.91	±	1.27	-0.03	±	0.05	No
	04/22/24	Europium-155	-0.05	±	1.79	0.00	±	0.07	No
	04/22/24	Gross alpha	1.43	±	0.40	0.05	±	0.01	**Yes**
	04/22/24	Gross beta	2.26	±	0.31	0.08	±	0.01	**Yes**
	04/22/24	Manganese-54	-0.66	±	0.48	-0.02	±	0.02	No
	04/22/24	Niobium-95	0.03	±	0.56	0.00	±	0.02	No
	04/22/24	Potassium-40	5.01	±	12.60	0.19	±	0.47	No
	04/22/24	Radium-226	37.90	±	26.70	1.40	±	0.99	No
	04/22/24	Ruthenium-103	-0.99	±	0.67	-0.04	±	0.02	No
	04/22/24	Ruthenium-106	-2.05	±	4.08	-0.08	±	0.15	No
	04/22/24	Silver-108 meta-stable	-0.07	±	0.37	0.00	±	0.01	No
	04/22/24	Silver-110 meta-stable	-0.49	±	0.64	-0.02	±	0.02	No
	04/22/24	Strontium-90	-0.04	±	0.19	0.00	±	0.01	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	04/22/24	Tritium	150.00	±	107.00	5.56	±	3.96	No
	04/22/24	Uranium-235	0.22	±	10.20	0.01	±	0.38	No
	04/22/24	Zinc-65	0.13	±	0.91	0.00	±	0.03	No
	04/22/24	Zirconium-95	1.79	±	1.06	0.07	±	0.04	No
USGS-136 MONITORING WELL (ATR REUSE)	04/24/24	Americium-241	5.15	±	3.76	0.19	±	0.14	No
	04/24/24	Antimony-125	0.09	±	1.29	0.00	±	0.05	No
	04/24/24	Cerium-144	1.84	±	2.88	0.07	±	0.11	No
	04/24/24	Cesium-134	-0.45	±	0.54	-0.02	±	0.02	No
	04/24/24	Cesium-137	1.09	±	0.85	0.04	±	0.03	No
	04/24/24	Cobalt-58	-0.88	±	0.69	-0.03	±	0.03	No
	04/24/24	Cobalt-60	0.17	±	0.49	0.01	±	0.02	No
	04/24/24	Europium-152	-1.23	±	1.38	-0.05	±	0.05	No
	04/24/24	Europium-154	-0.56	±	1.36	-0.02	±	0.05	No
	04/24/24	Europium-155	-0.05	±	1.43	0.00	±	0.05	No
	04/24/24	Gross alpha	1.31	±	0.52	0.05	±	0.02	No
	04/24/24	Gross beta	1.76	±	0.27	0.07	±	0.01	**Yes**
	04/24/24	Manganese-54	-0.58	±	0.46	-0.02	±	0.02	No
	04/24/24	Niobium-95	-0.02	±	0.57	0.00	±	0.02	No
	04/24/24	Potassium-40	-8.87	±	13.40	-0.33	±	0.50	No
	04/24/24	Radium-226	1.36	±	24.10	0.05	±	0.89	No
	04/24/24	Ruthenium-103	-1.12	±	0.69	-0.04	±	0.03	No
	04/24/24	Ruthenium-106	2.03	±	4.38	0.08	±	0.16	No
	04/24/24	Silver-108 meta-stable	0.70	±	0.47	0.03	±	0.02	No
	04/24/24	Silver-110 meta-stable	0.38	±	0.64	0.01	±	0.02	No
	04/24/24	Strontium-90	0.60	±	0.30	0.02	±	0.01	No
	04/24/24	Tritium	429.00	±	119.00	15.89	±	4.41	**Yes**
	04/24/24	Uranium-235	0.00	±	3.87	0.00	±	0.14	No
	04/24/24	Zinc-65	0.76	±	1.27	0.03	±	0.05	No
	04/24/24	Zirconium-95	0.26	±	1.04	0.01	±	0.04	No
USGS-136 MONITORING WELL (ATR REUSE) (duplicate)	04/24/24	Americium-241	6.79	±	4.21	0.25	±	0.16	No
	04/24/24	Antimony-125	-0.95	±	0.96	-0.04	±	0.04	No
	04/24/24	Cerium-144	1.12	±	2.62	0.04	±	0.10	No
	04/24/24	Cesium-134	-0.12	±	0.38	0.00	±	0.01	No
	04/24/24	Cesium-137	0.04	±	0.37	0.00	±	0.01	No
	04/24/24	Cobalt-58	0.03	±	0.42	0.00	±	0.02	No
	04/24/24	Cobalt-60	-0.42	±	0.38	-0.02	±	0.01	No
	04/24/24	Europium-152	0.65	±	1.05	0.02	±	0.04	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	04/24/24	Europium-154	0.09	±	1.04	0.00	±	0.04	No
	04/24/24	Europium-155	0.19	±	1.43	0.01	±	0.05	No
	04/24/24	Gross alpha	0.74	±	0.39	0.03	±	0.01	No
	04/24/24	Gross beta	2.10	±	0.33	0.08	±	0.01	**Yes**
	04/24/24	Manganese-54	0.47	±	0.36	0.02	±	0.01	No
	04/24/24	Niobium-95	-0.78	±	0.83	-0.03	±	0.03	No
	04/24/24	Potassium-40	0.00	±	9.41	0.00	±	0.35	No
	04/24/24	Radium-226	-22.30	±	18.60	-0.83	±	0.69	No
	04/24/24	Ruthenium-103	0.30	±	0.48	0.01	±	0.02	No
	04/24/24	Ruthenium-106	0.09	±	3.29	0.00	±	0.12	No
	04/24/24	Silver-108 meta-stable	-0.05	±	0.29	0.00	±	0.01	No
	04/24/24	Silver-110 meta-stable	-0.56	±	0.54	-0.02	±	0.02	No
	04/24/24	Strontium-90	0.40	±	0.30	0.01	±	0.01	No
	04/24/24	Tritium	276.00	±	99.90	10.22	±	3.70	No
	04/24/24	Uranium-235	1.21	±	4.57	0.04	±	0.17	No
	04/24/24	Zinc-65	1.47	±	0.86	0.05	±	0.03	No
	04/24/24	Zirconium-95	0.17	±	0.77	0.01	±	0.03	No
RHLLW									
USGS-136 MONITORING WELL (RHLLW)	04/24/24	Carbon-14	-2.06	±	12.20	-0.08	±	0.45	No
	04/24/24	Gross alpha	1.62	±	0.40	0.06	±	0.01	**Yes**
	04/24/24	Gross beta	4.38	±	0.37	0.16	±	0.01	**Yes**
	04/24/24	Iodine-129	-0.01	±	0.09	0.00	±	0.00	No
	04/24/24	Technetium-99	-33.50	±	12.00	-1.24	±	0.44	No
	04/24/24	Tritium	284.00	±	92.50	10.52	±	3.43	**Yes**
USGS-140 MONITORING WELL (RHLLW)	04/29/24	Carbon-14	4.47	±	11.90	0.17	±	0.44	No
	04/29/24	Gross alpha	1.06	±	0.38	0.04	±	0.01	No
	04/29/24	Gross beta	2.34	±	0.28	0.09	±	0.01	**Yes**
	04/29/24	Iodine-129	0.08	±	0.10	0.00	±	0.00	No
	04/29/24	Technetium-99	4.83	±	10.00	0.18	±	0.37	No
	04/29/24	Tritium	358.00	±	123.00	13.26	±	4.56	No
USGS-140 MONITORING WELL (RHLLW) (duplicate)	04/29/24	Carbon-14	1.19	±	11.80	0.04	±	0.44	No
	04/29/24	Gross alpha	1.94	±	0.46	0.07	±	0.02	**Yes**
	04/29/24	Gross beta	2.73	±	0.29	0.10	±	0.01	**Yes**
	04/29/24	Iodine-129	0.06	±	0.24	0.00	±	0.01	No
	04/29/24	Technetium-99	-7.03	±	9.88	-0.26	±	0.37	No
	04/29/24	Tritium	588.00	±	141.00	21.78	±	5.22	**Yes**
USGS-141 MONITORING WELL	04/30/24	Carbon-14	-11.60	±	12.00	-0.43	±	0.44	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
(RHLLW)	04/30/24	Gross alpha	1.95	±	0.51	0.07	±	0.02	**Yes**
	04/30/24	Gross beta	2.96	±	0.43	0.11	±	0.02	**Yes**
	04/30/24	Iodine-129	0.01	±	0.21	0.00	±	0.01	No
	04/30/24	Technetium-99	-13.30	±	12.50	-0.49	±	0.46	No
	04/30/24	Tritium	634.00	±	129.00	23.48	±	4.78	**Yes**
		MFC							
ANL-MON-A-012 MONITORING	04/16/24	Americium-241	0.00	±	0.03	0.00	±	0.00	No
WELL	04/16/24	Americium-241	0.67	±	2.17	0.02	±	0.08	No
	04/16/24	Antimony-125	-0.79	±	1.01	-0.03	±	0.04	No
	04/16/24	Cerium-144	-1.23	±	2.55	-0.05	±	0.09	No
	04/16/24	Cesium-134	0.34	±	0.41	0.01	±	0.02	No
	04/16/24	Cesium-137	0.30	±	0.38	0.01	±	0.01	No
	04/16/24	Cobalt-58	0.28	±	0.43	0.01	±	0.02	No
	04/16/24	Cobalt-60	0.61	±	0.43	0.02	±	0.02	No
	04/16/24	Europium-152	-0.71	±	1.09	-0.03	±	0.04	No
	04/16/24	Europium-154	0.14	±	1.09	0.01	±	0.04	No
	04/16/24	Europium-155	-0.27	±	1.30	-0.01	±	0.05	No
	04/16/24	Gross alpha	0.28	±	0.26	0.01	±	0.01	No
	04/16/24	Gross beta	3.21	±	0.25	0.12	±	0.01	**Yes**
	04/16/24	Manganese-54	0.08	±	0.46	0.00	±	0.02	No
	04/16/24	Niobium-95	0.37	±	0.42	0.01	±	0.02	No
	04/16/24	Potassium-40	27.80	±	14.90	1.03	±	0.55	No
	04/16/24	Radium-226	20.30	±	23.00	0.75	±	0.85	No
	04/16/24	Ruthenium-103	0.46	±	0.75	0.02	±	0.03	No
	04/16/24	Ruthenium-106	-2.50	±	3.40	-0.09	±	0.13	No
	04/16/24	Silver-108 meta-stable	0.19	±	0.33	0.01	±	0.01	No
	04/16/24	Silver-110 meta-stable	0.21	±	0.46	0.01	±	0.02	No
	04/16/24	Tritium	-76.30	±	86.40	-2.83	±	3.20	No
	04/16/24	Uranium-233/234	1.09	±	0.14	0.04	±	0.01	**Yes**
a	04/16/24	Uranium-235	0.02	±	0.02	0.00	±	0.00	No
	04/16/24	Uranium-235	3.57	±	4.93	0.13	±	0.18	No
	04/16/24	Uranium-238	0.60	±	0.10	0.02	±	0.00	**Yes**
	04/16/24	Zinc-65	-0.70	±	0.77	-0.03	±	0.03	No
	04/16/24	Zirconium-95	-0.45	±	0.73	-0.02	±	0.03	No
ANL-MON-A-013 MONITORING	04/17/24	Americium-241	0.00	±	0.02	0.00	±	0.00	No
WELL	04/17/24	Americium-241	-0.31	±	1.61	-0.01	±	0.06	No
	04/17/24	Antimony-125	0.12	±	1.00	0.00	±	0.04	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	04/17/24	Cerium-144	0.89	±	2.26	0.03	±	0.08	No
	04/17/24	Cesium-134	-1.91	±	0.80	-0.07	±	0.03	No
	04/17/24	Cesium-137	-0.69	±	0.91	-0.03	±	0.03	No
	04/17/24	Cobalt-58	-0.20	±	0.38	-0.01	±	0.01	No
	04/17/24	Cobalt-60	-0.13	±	0.40	0.00	±	0.01	No
	04/17/24	Europium-152	1.27	±	1.09	0.05	±	0.04	No
	04/17/24	Europium-154	1.23	±	1.05	0.05	±	0.04	No
	04/17/24	Europium-155	-0.14	±	1.19	-0.01	±	0.04	No
	04/17/24	Gross alpha	0.30	±	0.42	0.01	±	0.02	No
	04/17/24	Gross beta	3.55	±	0.23	0.13	±	0.01	**Yes**
	04/17/24	Manganese-54	-0.44	±	0.36	-0.02	±	0.01	No
	04/17/24	Niobium-95	0.79	±	0.43	0.03	±	0.02	No
	04/17/24	Potassium-40	3.99	±	8.98	0.15	±	0.33	No
	04/17/24	Radium-226	0.00	±	18.90	0.00	±	0.70	No
	04/17/24	Ruthenium-103	-0.16	±	0.50	-0.01	±	0.02	No
	04/17/24	Ruthenium-106	-1.30	±	3.10	-0.05	±	0.11	No
	04/17/24	Silver-108 meta-stable	-0.41	±	0.34	-0.02	±	0.01	No
	04/17/24	Silver-110 meta-stable	0.36	±	0.49	0.01	±	0.02	No
	04/17/24	Tritium	71.70	±	95.40	2.66	±	3.53	No
	04/17/24	Uranium-233/234	1.64	±	0.21	0.06	±	0.01	**Yes**
a	04/17/24	Uranium-235	0.02	±	0.03	0.00	±	0.00	No
	04/17/24	Uranium-235	4.22	±	4.77	0.16	±	0.18	No
	04/17/24	Uranium-238	0.97	±	0.15	0.04	±	0.01	**Yes**
	04/17/24	Zinc-65	-0.16	±	0.74	-0.01	±	0.03	No
	04/17/24	Zirconium-95	-0.06	±	0.62	0.00	±	0.02	No
ANL-MON-A-014 MONITORING	04/17/24	Americium-241	0.01	±	0.03	0.00	±	0.00	No
WELL	04/17/24	Americium-241	-1.55	±	2.28	-0.06	±	0.08	No
	04/17/24	Antimony-125	0.98	±	1.11	0.04	±	0.04	No
	04/17/24	Cerium-144	-1.68	±	3.01	-0.06	±	0.11	No
	04/17/24	Cesium-134	-0.24	±	0.46	-0.01	±	0.02	No
	04/17/24	Cesium-137	-0.27	±	0.86	-0.01	±	0.03	No
	04/17/24	Cobalt-58	0.55	±	0.67	0.02	±	0.02	No
	04/17/24	Cobalt-60	0.35	±	0.45	0.01	±	0.02	No
	04/17/24	Europium-152	1.46	±	1.26	0.05	±	0.05	No
	04/17/24	Europium-154	-1.10	±	1.45	-0.04	±	0.05	No
	04/17/24	Europium-155	-2.52	±	1.68	-0.09	±	0.06	No
	04/17/24	Gross alpha	0.49	±	0.30	0.02	±	0.01	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location		Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
		04/17/24	Gross beta	3.83	±	0.23	0.14	±	0.01	**Yes**
		04/17/24	Manganese-54	0.40	±	0.42	0.01	±	0.02	No
		04/17/24	Niobium-95	0.30	±	0.46	0.01	±	0.02	No
		04/17/24	Potassium-40	0.37	±	13.10	0.01	±	0.49	No
		04/17/24	Radium-226	0.00	±	26.00	0.00	±	0.96	No
		04/17/24	Ruthenium-103	-0.29	±	0.74	-0.01	±	0.03	No
		04/17/24	Ruthenium-106	1.58	±	4.05	0.06	±	0.15	No
		04/17/24	Silver-108 meta-stable	0.32	±	0.37	0.01	±	0.01	No
		04/17/24	Silver-110 meta-stable	-0.30	±	0.60	-0.01	±	0.02	No
		04/17/24	Tritium	-30.60	±	88.20	-1.13	±	3.27	No
		04/17/24	Uranium-233/234	1.28	±	0.19	0.05	±	0.01	**Yes**
		04/17/24	Uranium-235	1.61	±	5.81	0.06	±	0.22	No
	a	04/17/24	Uranium-235	0.10	±	0.06	0.00	±	0.00	No
		04/17/24	Uranium-238	0.69	±	0.13	0.03	±	0.00	**Yes**
		04/17/24	Zinc-65	-2.60	±	1.16	-0.10	±	0.04	No
		04/17/24	Zirconium-95	-0.47	±	0.82	-0.02	±	0.03	No
ANL-MON-A-014 MONITORING		04/17/24	Americium-241	0.00	±	0.02	0.00	±	0.00	No
WELL (duplicate)		04/17/24	Americium-241	-0.82	±	2.34	-0.03	±	0.09	No
		04/17/24	Antimony-125	0.32	±	1.31	0.01	±	0.05	No
		04/17/24	Cerium-144	-0.08	±	2.69	0.00	±	0.10	No
		04/17/24	Cesium-134	-0.81	±	0.89	-0.03	±	0.03	No
		04/17/24	Cesium-137	0.09	±	0.41	0.00	±	0.02	No
		04/17/24	Cobalt-58	0.36	±	0.45	0.01	±	0.02	No
		04/17/24	Cobalt-60	-0.42	±	0.39	-0.02	±	0.01	No
		04/17/24	Europium-152	-1.57	±	1.18	-0.06	±	0.04	No
		04/17/24	Europium-154	0.95	±	1.05	0.04	±	0.04	No
		04/17/24	Europium-155	0.97	±	1.40	0.04	±	0.05	No
		04/17/24	Gross alpha	1.39	±	0.44	0.05	±	0.02	**Yes**
		04/17/24	Gross beta	3.72	±	0.35	0.14	±	0.01	**Yes**
		04/17/24	Manganese-54	0.11	±	0.42	0.00	±	0.02	No
		04/17/24	Niobium-95	0.00	±	0.46	0.00	±	0.02	No
		04/17/24	Potassium-40	11.00	±	10.70	0.41	±	0.40	No
		04/17/24	Radium-226	-30.20	±	16.60	-1.12	±	0.61	No
		04/17/24	Ruthenium-103	-0.59	±	0.50	-0.02	±	0.02	No
		04/17/24	Ruthenium-106	1.77	±	3.49	0.07	±	0.13	No
		04/17/24	Silver-108 meta-stable	0.00	±	0.99	0.00	±	0.04	No
		04/17/24	Silver-110 meta-stable	0.49	±	0.55	0.02	±	0.02	No

Appendix B-7. Gamma emitters, tritium, alpha, beta concentrations in ground water.

Sampling Group and Location	Sampling Date	Constituent	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	04/17/24	Tritium	56.00	±	93.60	2.07	±	3.47	No
	04/17/24	Uranium-233/234	1.35	±	0.18	0.05	±	0.01	**Yes**
a	04/17/24	Uranium-235	0.08	±	0.04	0.00	±	0.00	No
	04/17/24	Uranium-235	-8.65	±	5.11	-0.32	±	0.19	No
	04/17/24	Uranium-238	0.47	±	0.09	0.02	±	0.00	**Yes**
	04/17/24	Zinc-65	-0.14	±	0.72	-0.01	±	0.03	No
	04/17/24	Zirconium-95	-1.24	±	0.86	-0.05	±	0.03	No

a. Analysis performed using alpha spectrometry.

Table B-8. Gross alpha, gross beta, and tritium concentrations in offsite surface water and drinking water.

Location	Sampling Date	Analyte	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
SURFACE WATER									
ALPHEUS SPRINGS	05/06/24	Gross Alpha	-0.48	±	0.56	-0.02	±	0.02	No
	05/06/24	Gross Beta	3.61	±	0.53	0.13	±	0.02	**Yes**
	05/06/24	Tritium	17.90	±	27.70	0.66	±	1.03	No
ALPHEUS SPRINGS (duplicate)	05/06/24	Gross Alpha	-0.55	±	0.63	-0.02	±	0.02	No
	05/06/24	Gross Beta	3.62	±	0.60	0.13	±	0.02	**Yes**
	05/06/24	Tritium	67.80	±	31.90	2.51	±	1.18	No
BILL JONES, JR. TROUT FARM	05/06/24	Gross Alpha	0.62	±	0.77	0.02	±	0.03	No
	05/06/24	Gross Beta	3.63	±	0.66	0.13	±	0.02	**Yes**
	05/06/24	Tritium	30.70	±	29.80	1.14	±	1.10	No
CLEAR SPRINGS	05/06/24	Gross Alpha	0.22	±	0.72	0.01	±	0.03	No
	05/06/24	Gross Beta	2.63	±	0.53	0.10	±	0.02	**Yes**
	05/06/24	Tritium	54.60	±	30.80	2.02	±	1.14	No
DRINKING WATER									
ATOMIC CITY	05/01/24	Gross Alpha	2.30	±	0.76	0.09	±	0.03	**Yes**
	05/01/24	Gross Beta	3.16	±	0.64	0.12	±	0.02	**Yes**
	05/01/24	Tritium	22.30	±	28.00	0.83	±	1.04	No
CONTROL	05/07/24	Gross Alpha	-0.21	±	0.28	-0.01	±	0.01	No
	05/07/24	Gross Beta	0.06	±	0.51	0.00	±	0.02	No
	05/07/24	Tritium	31.00	±	28.40	1.15	±	1.05	No
CRATERS OF THE MOON	05/09/24	Gross Alpha	2.52	±	0.86	0.09	±	0.03	No
	05/09/24	Gross Beta	3.28	±	0.73	0.12	±	0.03	**Yes**
	05/09/24	Tritium	54.80	±	31.10	2.03	±	1.15	No
HOWE	05/08/24	Gross Alpha	0.94	±	0.83	0.03	±	0.03	No
	05/08/24	Gross Beta	2.60	±	0.58	0.10	±	0.02	**Yes**
	05/08/24	Tritium	41.60	±	30.00	1.54	±	1.11	No
IDAHO FALLS	05/07/24	Gross Alpha	0.44	±	0.71	0.02	±	0.03	No
	05/07/24	Gross Beta	3.25	±	0.62	0.12	±	0.02	**Yes**
	05/07/24	Tritium	26.60	±	28.20	0.99	±	1.04	No
MINIDOKA	05/06/24	Gross Alpha	1.70	±	0.91	0.06	±	0.03	No
	05/06/24	Gross Beta	2.92	±	0.54	0.11	±	0.02	**Yes**
	05/06/24	Tritium	50.20	±	29.60	1.86	±	1.10	No
MUD LAKE	05/07/24	Gross Alpha	-0.27	±	0.72	-0.01	±	0.03	No
	05/07/24	Gross Beta	3.46	±	0.70	0.13	±	0.03	**Yes**
	05/07/24	Tritium	43.80	±	29.20	1.62	±	1.08	No
REST AREA	05/01/24	Gross Alpha	1.96	±	0.72	0.07	±	0.03	No
	05/01/24	Gross Beta	3.07	±	0.64	0.11	±	0.02	**Yes**

Table B-8. Gross alpha, gross beta, and tritium concentrations in offsite surface water and drinking water.

Location	Sampling Date	Analyte	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	05/01/24	Tritium	37.20	±	29.40	1.38	±	1.09	No
SHOSHONE	05/06/24	Gross Alpha	1.95	±	0.77	0.07	±	0.03	No
	05/06/24	Gross Beta	3.12	±	0.65	0.12	±	0.02	**Yes**
	05/06/24	Tritium	28.50	±	29.00	1.06	±	1.07	No

Table B-9. Gross alpha, gross beta, and tritium concentrations in onsite drinking water.

Location	Sampling Date	Analyte	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
DRINKING WATER									
ATR COMPLEX (PWS[a] 6120020)	04/15/24	Gross Alpha	2.16	±	0.96	0.08	±	0.04	No
	04/15/24	Gross Beta	2.68	±	0.75	0.10	±	0.03	**Yes**
	04/15/24	Tritium	78.30	±	96.70	2.90	±	3.58	No
CFA (PWS 6120008)	04/15/24	Gross Alpha	2.84	±	1.04	0.11	±	0.04	No
	04/15/24	Gross Beta	7.68	±	0.77	0.28	±	0.03	**Yes**
	04/15/24	Tritium	1880.00	±	241.00	69.63	±	8.93	**Yes**
	04/15/24	Iodine-129	3.55E-03		3.53E-02	1.31E-04	±	1.31E-03	No
CFA-1 (PWS 6120008)	04/15/24	Tritium	1370.00	±	197.00	50.74	±	7.30	**Yes**
CFA-2 (PWS 6120008)	04/15/24	Tritium	1860.00	±	240.00	68.89	±	8.89	**Yes**
CITRC (PWS 6120019)	04/15/24	Gross Alpha	3.06	±	1.01	0.11	±	0.04	**Yes**
	04/15/24	Gross Beta	6.74	±	0.92	0.00	±	0.00	**Yes**
	04/15/24	Tritium	46.80	±	94.20	1.73	±	3.49	No
EBR-I (PWS 6120009)	04/15/24	Gross Alpha	1.97	±	0.82	0.07	±	0.03	No
	04/15/24	Gross Beta	3.61	±	0.75	0.13	±	0.03	**Yes**
	04/15/24	Tritium	57.10	±	94.40	2.11	±	3.50	No
GUN RANGE (PWS 6120025)	04/15/24	Gross Alpha	0.63	±	0.75	0.02	±	0.03	No
	04/15/24	Gross Beta	5.47	±	0.86	0.20	±	0.03	**Yes**
	04/15/24	Tritium	79.10	±	96.00	2.93	±	3.56	No
MAIN GATE (PWS 6120015)	04/15/24	Gross Alpha	1.79	±	0.85	0.07	±	0.03	No
	04/15/24	Gross Beta	2.40	±	0.72	0.09	±	0.03	**Yes**
	04/15/24	Tritium	-46.80	±	88.70	-1.73	±	3.29	No
MFC-1 (PWS 6060036)	04/15/24	Gross Alpha	2.35	±	0.94	0.09	±	0.03	No
	04/15/24	Gross Beta	3.14	±	0.76	0.12	±	0.03	**Yes**
	04/15/24	Tritium	67.10	±	95.70	2.49	±	3.54	No
MFC-2 (PWS 6060036)	04/15/24	Gross Alpha	2.80	±	1.00	0.10	±	0.04	No
	04/15/24	Gross Beta	4.87	±	1.06	0.18	±	0.04	**Yes**
	04/15/24	Tritium	-45.10	±	88.30	-1.67	±	3.27	No
TAN / CTF (PWS 6120013)	04/15/24	Gross Alpha	2.50	±	0.98	0.09	±	0.04	No
	04/15/24	Gross Beta	3.85	±	0.80	0.14	±	0.03	**Yes**
	04/15/24	Tritium	46.50	±	93.70	1.72	±	3.47	No

a. PWS = public water system

Table B-10. Weekly and monthly iodine-131 concentrations in milk.

Location	Sampling Date	Iodine-131			Cesium-137		
		Result ± 1s Uncertainty (pCi/L)	Result ± 1s Uncertainty (Bq/L)	Result > 3s	Result ± 1s Uncertainty (pCi/L)	Result ± 1s Uncertainty (Bq/L)	Result > 3s
CONTROL	04/16/24	0.01 ± 0.22	0.00 ± 0.01	No	3.92 ± 2.62	0.15 ± 0.10	No
	05/21/24	-0.01 ± 0.25	0.00 ± 0.01	No	4.72 ± 2.39	0.17 ± 0.09	No
	06/18/24	0.72 ± 0.33	0.03 ± 0.01	No	1.82 ± 2.06	0.07 ± 0.08	No
DIETRICH	04/15/24	0.03 ± 0.20	0.00 ± 0.01	No	0.20 ± 1.71	0.01 ± 0.06	No
	05/20/24	-0.26 ± 0.27	-0.01 ± 0.01	No	1.72 ± 2.30	0.06 ± 0.09	No
	06/17/24	0.27 ± 0.27	0.01 ± 0.01	No	-0.24 ± 2.14	-0.01 ± 0.08	No
HOWE	04/15/24	0.20 ± 0.30	0.01 ± 0.01	No	0.42 ± 2.05	0.02 ± 0.08	No
	05/21/24	0.13 ± 0.20	0.00 ± 0.01	No	0.04 ± 1.73	0.00 ± 0.06	No
duplicate	05/21/24	-0.09 ± 0.27	0.00 ± 0.01	No	-0.27 ± 1.96	-0.01 ± 0.07	No
	06/18/24	0.03 ± 0.20	0.00 ± 0.01	No	-0.47 ± 1.84	-0.02 ± 0.07	No
MINIDOKA	04/15/24	-0.02 ± 0.21	0.00 ± 0.01	No	-0.67 ± 1.81	-0.02 ± 0.07	No
	05/20/24	0.58 ± 0.43	0.02 ± 0.02	No	0.75 ± 2.21	0.03 ± 0.08	No
	06/17/24	0.38 ± 0.24	0.01 ± 0.01	No	-1.40 ± 2.29	-0.05 ± 0.08	No
MONTEVIEW	04/16/24	0.18 ± 0.21	0.01 ± 0.01	No	1.24 ± 1.86	0.05 ± 0.07	No
	05/21/24	0.20 ± 0.22	0.01 ± 0.01	No	2.31 ± 1.92	0.09 ± 0.07	No
	06/18/24	-0.20 ± 0.23	-0.01 ± 0.01	No	2.37 ± 1.89	0.09 ± 0.07	No
RIGBY	04/02/24	-0.43 ± 0.24	-0.02 ± 0.01	No	0.57 ± 2.36	0.02 ± 0.09	No
	04/08/24	-0.04 ± 0.24	0.00 ± 0.01	No	2.01 ± 2.20	0.07 ± 0.08	No
	04/16/24	0.00 ± 0.55	0.00 ± 0.02	No	6.29 ± 2.71	0.23 ± 0.10	No
duplicate	04/16/24	0.34 ± 0.20	0.01 ± 0.01	No	2.70 ± 1.95	0.10 ± 0.07	No
	04/22/24	0.01 ± 0.19	0.00 ± 0.01	No	-1.41 ± 2.07	-0.05 ± 0.08	No
	04/30/24	-0.20 ± 0.23	-0.01 ± 0.01	No	2.60 ± 1.94	0.10 ± 0.07	No
	05/06/24	0.17 ± 0.19	0.01 ± 0.01	No	0.55 ± 1.75	0.02 ± 0.06	No
	05/13/24	-0.17 ± 0.18	-0.01 ± 0.01	No	1.54 ± 1.80	0.06 ± 0.07	No
	05/21/24	-0.12 ± 0.24	0.00 ± 0.01	No	1.20 ± 1.79	0.04 ± 0.07	No
	05/28/24	-0.12 ± 0.24	0.00 ± 0.01	No	1.62 ± 4.28	0.06 ± 0.16	No
	06/03/24	0.07 ± 0.27	0.00 ± 0.01	No	1.87 ± 1.92	0.07 ± 0.07	No
	06/10/24	-0.23 ± 0.20	-0.01 ± 0.01	No	0.33 ± 2.27	0.01 ± 0.08	No
	06/18/24	-0.18 ± 0.16	-0.01 ± 0.01	No	-2.48 ± 2.12	-0.09 ± 0.08	No
	06/25/24	0.25 ± 0.30	0.01 ± 0.01	No	4.88 ± 2.64	0.18 ± 0.10	No
TERRETON	04/02/24	0.17 ± 0.24	0.01 ± 0.01	No	1.13 ± 3.95	0.04 ± 0.15	No
	04/08/24	-0.09 ± 0.23	0.00 ± 0.01	No	0.68 ± 1.69	0.03 ± 0.06	No
	04/16/24	0.11 ± 0.23	0.00 ± 0.01	No	2.19 ± 2.32	0.08 ± 0.09	No
	04/22/24	0.05 ± 0.14	0.00 ± 0.01	No	1.92 ± 2.47	0.07 ± 0.09	No
	04/30/24	-0.16 ± 0.25	-0.01 ± 0.01	No	-1.61 ± 2.25	-0.06 ± 0.08	No
	05/06/24	0.00 ± 0.15	0.00 ± 0.01	No	2.80 ± 1.69	0.10 ± 0.06	No
	05/14/24	-0.09 ± 0.24	0.00 ± 0.01	No	3.22 ± 3.43	0.12 ± 0.13	No
	05/20/24	-0.30 ± 0.22	-0.01 ± 0.01	No	-1.19 ± 1.44	-0.04 ± 0.05	No

Table B-10. Weekly and monthly iodine-131 concentrations in milk.

Location	Sampling Date	Iodine-131							Cesium-137						
		Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
	05/28/24	0.09	±	0.24	0.00	±	0.01	No	2.72	±	2.09	0.10	±	0.08	No
	06/03/24	-0.13	±	0.23	0.00	±	0.01	No	1.15	±	2.07	0.04	±	0.08	No
	06/11/24	-0.01	±	0.22	0.00	±	0.01	No	1.11	±	4.82	0.04	±	0.18	No
	06/19/24	-0.33	±	0.22	-0.01	±	0.01	No	0.32	±	3.25	0.01	±	0.12	No
duplicate	06/19/24	-0.10	±	0.19	0.00	±	0.01	No	0.41	±	2.13	0.02	±	0.08	No
	06/25/24	-0.15	±	0.30	-0.01	±	0.01	No	1.23	±	1.67	0.05	±	0.06	No

Appendix B-11. Strontium-90 and tritium concentrations in milk.

Location	Sampling Date	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
STRONTIUM-90								
CONTROL (BROOMFIELD	05/21/24	0.31	±	0.12	0.01	±	0.00	No
DEITRICH	05/20/24	-0.06	±	0.11	0.00	±	0.00	No
HOWE	05/21/24	0.34	±	0.16	0.01	±	0.01	No
HOWE (duplicate)	05/21/24	-0.05	±	0.09	0.00	±	0.00	No
MINIDOKA	05/20/24	-0.10	±	0.11	0.00	±	0.00	No
MONTEVIEW	05/21/24	-0.19	±	0.09	-0.01	±	0.00	No
RIGBY	05/21/24	0.27	±	0.10	0.01	±	0.00	No
TERRETON	05/20/24	0.66	±	0.13	0.02	±	0.00	**Yes**
TRITIUM								
CONTROL (BROOMFIELD	05/21/24	2.77	±	31.00	0.10	±	1.15	No
DEITRICH	05/20/24	29.40	±	31.50	1.09	±	1.17	No
HOWE	05/21/24	49.60	±	33.10	1.84	±	1.23	No
HOWE (duplicate)	05/21/24	93.80	±	36.30	3.47	±	1.34	No
MINIDOKA	05/20/24	30.30	±	32.90	1.12	±	1.22	No
MONTEVIEW	05/21/24	74.80	±	33.70	2.77	±	1.25	No
RIGBY	05/21/24	18.00	±	31.10	0.67	±	1.15	No
TERRETON	05/20/24	45.00	±	34.80	1.67	±	1.29	No

Table B-12. Gamma-emitting radionuclides in large game animals.

Species	Collection Date	Tissue	Constituent	Result ± 1s (pCi/kg wet weight)			Result ± 1s Uncertainty (x 10^{-2} Bq/kg wet weight)			Result > 3s
ELK	04/03/24	Liver	Cesium-137	1.11	±	1.30	4.11	±	4.81	No
	04/03/24	Muscle	Cesium-137	1.03	±	1.18	3.81	±	4.37	No
	04/03/24	Thyroid	Iodine-131	-39.00	±	60.70	-144.30	±	224.59	No
ELK	06/18/24	Liver[a]								
	06/18/24	Muscle	Cesium-137	-0.42	±	2.16	-1.56	±	7.99	No
	06/18/24	Thyroid	Iodine-131	43.90	±	26.50	162.43	±	98.05	No

a. A liver sample was not available.

Table B-13. Environmental radiation measurements using OSLDs.

Location	Dosimetry Name	Start Date	End Date	Radiation Measurement ± 1s Uncertainty Result mrem		Sigma Uncertainty mrem	Dose mrem/day
BOUNDARY							
Arco	Arco O-1	11/01/23	05/01/24	67.30	±	6.73	0.37
Atomic City	Atomic City E-1	11/01/23	05/01/24	58.00	±	5.80	0.32
	Atomic City O-2	11/01/23	05/01/24	55.80	±	5.58	0.31
Blue Dome	Blue Dome E-1	11/01/23	05/01/24	50.80	±	5.08	0.28
East Butte	RRL5 O-1	11/02/23	05/02/24	71.10	±	7.11	0.39
Frenchmans Cabin	RRL3 O-1[a]		05/01/24		±		
Howe	Howe O-3	11/01/23	05/01/24	56.00	±	5.60	0.31
	RRL24 O-1	11/01/23	05/01/24	51.40	±	5.14	0.28
Monteview	Monteview O-4	11/01/23	05/01/24	57.70	±	5.77	0.32
	RRL17 O-1	11/01/23	05/01/24	52.80	±	5.28	0.29
Mud Lake	Mud Lake O-5	11/01/23	05/01/24	66.10	±	6.61	0.36
Reno Ranch	Reno Ranch O-6	11/01/23	05/01/24	55.50	±	5.55	0.31
	Boundary Average			**58.41**			**0.32**
OFFSITE							
Aberdeen	Aberdeen E-1	11/01/23	05/06/24	53.10	±	5.31	0.28
Blackfoot	Blackfoot O-9	11/01/23	05/01/24	60.80	±	6.08	0.33
Craters of the Moon	Craters of Moon O-7	11/01/23	05/01/24	52.00	±	5.20	0.29
Dubois	Dubois E-1	11/01/23	05/01/24	47.30	±	4.73	0.26
Idaho Falls	Idaho Falls O-10	11/02/23	05/06/24	58.00	±	5.80	0.31
	IF-603E O-2	11/01/23	05/02/24	51.40	±	5.14	0.28
	IF-603N O-1	11/01/23	05/02/24	53.40	±	5.34	0.29
	IF-603S O-3	11/01/23	05/02/24	53.70	±	5.37	0.29
	IF-603W O-4	11/01/23	05/02/24	59.60	±	5.96	0.33
	IF-616N O-36	11/01/23	05/01/24	49.60	±	4.96	0.27
	IF-627 O-30	11/01/23	05/02/24	54.40	±	5.44	0.30
	IF-638E O-2	11/01/23	05/02/24	47.80	±	4.78	0.26
	IF-638N O-1	11/01/23	05/02/24	59.20	±	5.92	0.32
	IF-638S O-3	11/01/23	05/02/24	65.40	±	6.54	0.36
	IF-638W O-4	11/02/23	05/02/24	69.70	±	6.97	0.38
	IF-652A O-1	11/02/23	05/06/24	63.00	±	6.30	0.34
	IF-652A O-2	11/02/23	05/06/24	60.50	±	6.05	0.33
	IF-652A O-3	11/02/23	05/06/24	68.00	±	6.80	0.37
	IF-652A O-4	11/02/23	05/06/24	78.70	±	7.87	0.42
	IF-665 O-1	11/01/23	05/06/24	56.10	±	5.61	0.30

Table B-13. Environmental radiation measurements using OSLDs.

Location	Dosimetry Name	Start Date	End Date	Radiation Measurement ± 1s Uncertainty Result		Sigma Uncertainty	Dose
				mrem			mrem/day
	IF-665 O-2	11/01/23	05/06/24	64.20	±	6.42	0.34
	IF-665 O-3	11/01/23	05/06/24	53.30	±	5.33	0.28
	IF-665 O-4	11/01/23	05/06/24	55.70	±	5.57	0.30
	IF-665 O-5	11/01/23	05/06/24	52.20	±	5.22	0.28
	IF-665W O-37	11/01/23	05/06/24	64.70	±	6.47	0.35
	IF-675D O-33	11/02/23	05/06/24	53.40	±	5.34	0.29
	IF-675E O-31	11/02/23	05/06/24	50.60	±	5.06	0.27
	IF-675S O-34	11/02/23	05/06/24	65.20	±	6.52	0.35
	IF-675W O-35	11/02/23	05/06/24	51.20	±	5.12	0.28
	IF-688B O-1	11/01/23	05/01/24	61.00	±	6.10	0.33
	IF-688B O-2	11/01/23	05/01/24	48.50	±	4.85	0.27
	IF-689 O-7	11/01/23	05/02/24	55.30	±	5.53	0.30
	IF-689 O-8[b]						
	IF-IDA O-38	11/01/23	05/06/24	55.60	±	5.56	0.30
	IF-IRC O-39	11/02/23	05/02/24	52.00	±	2.63	0.29
Jackson WY	Jackson E-1	11/05/23	05/03/24	49.80	±	4.98	0.28
Minidoka	Minidoka E-1	11/01/23	05/06/24	52.80	±	5.28	0.28
Roberts	RobNOAA	11/01/23	05/01/24	64.10	±	6.41	0.35
Sugar City	Sugar E-1	11/02/23	05/01/24	76.60	±	7.66	0.42
	Offsite Average			**57.58**			**0.31**
			ONSITE				
ARA	ARA I&II O-1	11/01/23	05/01/24	64.30	±	6.43	0.35
ATR Complex	LincolnBlvd O-5	11/01/23	05/01/24	69.00	±	6.90	0.38
	TRA O-1	11/02/23	05/02/24	71.80	±	7.18	0.39
	TRA O-10	11/02/23	05/02/24	114.30	±	11.43	0.63
	TRA O-11	11/02/23	05/02/24	114.80	±	11.48	0.63
	TRA O-12	11/02/23	05/02/24	90.50	±	9.05	0.50
	TRA O-13	11/02/23	05/02/24	66.60	±	6.66	0.37
	TRA O-14	11/02/23	05/02/24	66.40	±	6.64	0.36
	TRA O-15	11/02/23	05/02/24	65.70	±	6.57	0.36
	TRA O-16	11/02/23	05/02/24	67.00	±	6.70	0.37
	TRA O-17	11/02/23	05/06/24	67.60	±	6.76	0.36
	TRA O-18	11/02/23	05/06/24	74.50	±	7.45	0.40
	TRA O-19	11/02/23	05/06/24	79.20	±	7.92	0.43
	TRA O-20	11/02/23	05/06/24	65.00	±	6.50	0.35

Table B-13. Environmental radiation measurements using OSLDs.

Location	Dosimetry Name	Start Date	End Date	Radiation Measurement ± 1s Uncertainty Result mrem		Sigma Uncertainty mrem	Dose mrem/day
	TRA O-21	11/02/23	05/06/24	67.20	±	6.72	0.36
	TRA O-22	11/02/23	05/06/24	61.60	±	6.16	0.33
	TRA O-23	11/02/23	05/02/24	72.90	±	7.29	0.40
	TRA O-24	11/02/23	05/02/24	70.00	±	7.00	0.38
	TRA O-25	11/02/23	05/02/24	65.90	±	6.59	0.36
	TRA O-26	11/02/23	05/02/24	74.60	±	7.46	0.41
	TRA O-27	11/02/23	05/02/24	81.50	±	8.15	0.45
	TRA O-28	11/02/23	05/02/24	75.60	±	7.56	0.42
	TRA O-6	11/02/23	05/02/24	61.70	±	6.17	0.34
	TRA O-7	11/02/23	05/02/24	84.00	±	8.40	0.46
	TRA O-8	11/02/23	05/02/24	89.40	±	8.94	0.49
	TRA O-9	11/02/23	05/02/24	69.30	±	6.93	0.38
CFA	CFA O-1	11/01/23	05/01/24	67.80	±	6.78	0.37
	LincolnBlvd O-1	11/01/23	05/01/24	74.40	±	7.44	0.41
EBR-I	EBR I O-1	11/01/23	05/01/24	54.30	±	5.43	0.30
	EBR I O-2	11/01/23	05/01/24	85.30	±	8.53	0.47
	EBR I O-3	11/01/23	05/01/24	258.00	±	25.80	1.42
EFS	EFS O-1	11/01/23	05/01/24	64.40	±	6.44	0.35
Gate 4	Gate4 O-1	11/01/23	05/01/24	64.20	±	6.42	0.35
Highway	Hwy20 Mile O-266	11/01/23	05/02/24	60.60	±	6.06	0.33
	Hwy20 Mile O-270	11/01/23	05/02/24	64.10	±	6.41	0.35
	Hwy20 Mile O-276	11/01/23	05/02/24	66.40	±	6.64	0.36
	Hwy22 T28 O-1	11/01/23	05/01/24	62.90	±	6.29	0.35
	Hwy28 N2300 O-2	11/01/23	05/01/24	60.50	±	6.05	0.33
	Hwy33 T17 O-3	11/01/23	05/01/24	57.60	±	5.76	0.32
Highway 26 Rest Area	REST O-1	11/01/23	05/01/24	66.30	±	6.63	0.36
INTEC	ICPP O-14	11/01/23	05/01/24	116.80	±	11.68	0.64
	ICPP O-15	11/01/23	05/01/24	141.00	±	14.10	0.77
	ICPP O-17	11/01/23	05/01/24	74.00	±	7.40	0.41
	ICPP O-19	11/01/23	05/01/24	95.90	±	9.59	0.53
	ICPP O-20	11/01/23	05/01/24	277.20	±	27.72	1.52
	ICPP O-21	11/01/23	05/01/24	88.20	±	8.82	0.48
	ICPP O-22	11/01/23	05/01/24	82.10	±	8.21	0.45
	ICPP O-25	11/01/23	05/01/24	102.90	±	10.29	0.57
	ICPP O-26	11/01/23	05/01/24	76.60	±	7.66	0.42
	ICPP O-27	11/01/23	05/01/24	164.30	±	16.43	0.90

Table B-13. Environmental radiation measurements using OSLDs.

Location	Dosimetry Name	Start Date	End Date	Radiation Measurement ± 1s Uncertainty Result mrem		Sigma Uncertainty mrem	Dose mrem/day
	ICPP O-28	11/01/23	05/01/24	205.80	±	20.58	1.13
	ICPP O-30	11/01/23	05/01/24	195.40	±	19.54	1.07
	ICPP O-9	11/01/23	05/01/24	84.50	±	8.45	0.46
	ICPP TreeFarm O-1	11/01/23	05/01/24	115.70	±	11.57	0.64
	ICPP TreeFarm O-2	11/01/23	05/01/24	94.90	±	9.49	0.52
	ICPP TreeFarm O-3	11/01/23	05/01/24	103.50	±	10.35	0.57
	ICPP TreeFarm O-4	11/01/23	05/01/24	117.80	±	11.78	0.65
	LincolnBlvd O-3	11/01/23	05/01/24	76.00	±	7.60	0.42
Main Gate	Main Gate O-1	11/01/23	05/01/24	63.90	±	6.39	0.35
MFC	ANL O-12	11/01/23	05/02/24	53.80	±	5.38	0.29
	ANL O-14	11/01/23	05/02/24	70.80	±	7.08	0.39
	ANL O-15	11/01/23	05/02/24	71.30	±	7.13	0.39
	ANL O-16	11/01/23	05/02/24	63.90	±	6.39	0.35
	ANL O-18	11/01/23	05/02/24	58.20	±	5.82	0.32
	ANL O-19	11/01/23	05/02/24	70.40	±	7.04	0.38
	ANL O-20	11/01/23	05/02/24	66.70	±	6.67	0.36
	ANL O-21	11/01/23	05/02/24	71.10	±	7.11	0.39
	ANL O-22	11/01/23	05/02/24	76.50	±	7.65	0.42
	ANL O-23	11/01/23	05/02/24	81.20	±	8.12	0.44
	ANL O-24	11/01/23	05/02/24	57.10	±	5.71	0.31
	ANL O-25	11/01/23	05/02/24	78.90	±	7.89	0.43
	ANL O-26	11/01/23	05/02/24	72.00	±	7.20	0.39
	ANL O-7	11/01/23	05/02/24	62.00	±	6.20	0.34
	ANL O-8	11/01/23	05/02/24	59.30	±	5.93	0.32
	Haul E O-1	11/01/23	05/02/24	56.00	±	5.60	0.31
	RRL6 O-1	11/01/23	05/02/24	61.90	±	6.19	0.34
	TREAT O-1	11/02/23	05/02/24	65.60	±	6.56	0.36
	TREAT O-2	11/02/23	05/02/24	64.70	±	6.47	0.36
	TREAT O-3	11/02/23	05/02/24	64.20	±	6.42	0.35
	TREAT O-4	11/02/23	05/02/24	64.30	±	6.43	0.35
	TREAT O-5	11/02/23	05/02/24	61.00	±	6.10	0.34
	TREAT O-6	11/02/23	05/02/24	74.10	±	7.41	0.41
	TREAT O-7	11/02/23	05/02/24	68.10	±	6.81	0.37
	TREAT O-8	11/02/23	05/02/24	63.70	±	6.37	0.35
NRF	LincolnBlvd O-15	11/01/23	05/01/24	66.30	±	6.63	0.36
	LincolnBlvd O-9	11/01/23	05/01/24	72.10	±	7.21	0.40

Table B-13. Environmental radiation measurements using OSLDs.

Location	Dosimetry Name	Start Date	End Date	Radiation Measurement ± 1s Uncertainty Result mrem		Sigma Uncertainty mrem	Dose mrem/day
	NRF O-11	11/01/23	05/01/24	70.00	±	7.00	0.38
	NRF O-16	11/01/23	05/01/24	66.50	±	6.65	0.37
	NRF O-18	11/01/23	05/01/24	69.00	±	6.90	0.38
	NRF O-19	11/01/23	05/01/24	71.90	±	7.19	0.39
	NRF O-20	11/01/23	05/01/24	63.90	±	6.39	0.35
	NRF O-25	11/01/23	05/01/24	66.60	±	6.66	0.37
	NRF O-26	11/01/23	05/01/24	67.30	±	6.73	0.37
	NRF O-27	11/01/23	05/01/24	66.80	±	6.68	0.37
	NRF O-28	11/01/23	05/01/24	80.50	±	8.05	0.44
	NRF O-29	11/01/23	05/01/24	71.20	±	7.12	0.39
	NRF O-30	11/01/23	05/01/24	70.20	±	7.02	0.39
	NRF O-31	11/01/23	05/01/24	74.10	±	7.41	0.41
	NRF O-32	11/01/23	05/01/24	63.50	±	6.35	0.35
PBF	Haul W O-2[b]						
	PBF SPERT O-1	11/01/23	05/01/24	59.60	±	5.96	0.33
RHLLW	RHLLW O-1	11/01/23	05/02/24	69.10	±	6.91	0.38
	RHLLW O-2	11/01/23	05/02/24	60.00	±	6.00	0.33
	RHLLW O-3	11/02/23	05/02/24	63.40	±	6.34	0.35
	RHLLW O-4	11/01/23	05/02/24	74.00	±	7.40	0.40
	RHLLW O-5	11/01/23	05/02/24	61.20	±	6.12	0.33
	RHLLW O-6	11/02/23	05/02/24	68.50	±	6.85	0.38
RWMC	RWMC O-11A	11/01/23	05/01/24	71.60	±	7.16	0.39
	RWMC O-13A	11/01/23	05/01/24	63.40	±	6.34	0.35
	RWMC O-19A	11/01/23	05/01/24	54.80	±	5.48	0.30
	RWMC O-21A	11/01/23	05/01/24	63.90	±	6.39	0.35
	RWMC O-23A	11/01/23	05/01/24	72.60	±	7.26	0.40
	RWMC O-25A	11/01/23	05/01/24	64.00	±	6.40	0.35
	RWMC O-27A	11/01/23	05/01/24	69.70	±	6.97	0.38
	RWMC O-29A	11/01/23	05/01/24	65.40	±	6.54	0.36
	RWMC O-39	11/01/23	05/01/24	60.30	±	6.03	0.33
	RWMC O-3A	11/01/23	05/01/24	59.10	±	5.91	0.32
	RWMC O-41	11/01/23	05/01/24	112.80	±	11.28	0.62
	RWMC O-43	11/01/23	05/01/24	66.70	±	6.67	0.37
	RWMC O-46	11/01/23	05/01/24	62.80	±	6.28	0.35
	RWMC O-47	11/01/23	05/01/24	57.30	±	5.73	0.31

Table B-13. Environmental radiation measurements using OSLDs.

Location	Dosimetry Name	Start Date	End Date	Radiation Measurement ± 1s Uncertainty Result		Sigma Uncertainty mrem	Dose mrem/day
	RWMC O-5A	11/01/23	05/01/24	58.90	±	5.89	0.32
	RWMC O-7A	11/01/23	05/01/24	62.60	±	6.26	0.34
	RWMC O-9A	11/01/23	05/01/24	56.60	±	5.66	0.31
TAN	LincolnBlvd O-25	11/01/23	05/01/24	64.90	±	6.49	0.36
	TAN LOFT O-10	11/01/23	05/01/24	81.70	±	8.17	0.45
	TAN LOFT O-11	11/01/23	05/01/24	60.40	±	6.04	0.33
	TAN LOFT O-12	11/01/23	05/01/24	65.90	±	6.59	0.36
	TAN LOFT O-13	11/01/23	05/01/24	63.40	±	6.34	0.35
	TAN LOFT O-6	11/01/23	05/01/24	65.10	±	6.51	0.36
	TAN LOFT O-7	11/01/23	05/01/24	68.90	±	6.89	0.38
	TAN LOFT O-8	11/01/23	05/01/24	63.10	±	6.31	0.35
	TAN LOFT O-9	11/01/23	05/01/24	66.60	±	6.66	0.37
Van Buren	VANB O-1	11/01/23	05/01/24	62.80	±	6.28	0.34
	Onsite Average			**77.23**			**0.42**

a. Dosimeter damaged and unable to get a reading
b. Dosimeter missing from sample site.

Appendix C
Statistical Analysis Results

Table C-1. Results of the Kruskal-Wallace one-way analysis of variance by ranks between onsite, boundary, and offsite sample groups by quarter and by month.

GROSS ALPHA					
Quarter	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	90	20907.00	232.30000		
Onsite	250	57492.50	229.9700	0.3558499	0.8370
Offsite	116	25796.50	222.3836		
April	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	27	2017.500	74.72222		
Onsite	80	5990.500	74.88125	1.999835	0.3679
Offsite	36	2288.000	63.55556		
May	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	35	3439.000	98.25714		
Onsite	97	8094.000	83.44330	2.433563	0.2962
Offsite	44	4043.000	91.88636		
June	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	28	1687.500	60.26786		
Onsite	73	5473.500	74.97945	3.662096	0.1602
Offsite	36	2292.000	63.66667		
GROSS BETA					
Quarter	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	90	20035.00	222.6111		
Onsite	250	58987.50	235.9500	1.860292	0.3945
Offsite	116	25173.50	217.0129		
April	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	27	1920.500	71.12963		
Onsite	80	5910.500	73.88125	0.4381340	0.8033
Offsite	36	2465.000	68.47222		
May	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	35	3248.500	92.81429		
Onsite	97	8921.500	91.97423	2.787484	0.2481
Offsite	44	3406.000	77.40909		

Table C-1. continued.

June	Valid N	Sum of Ranks	Mean Ranks	H[a]	P[b]
Boundary	28	1685.500	60.19643		
Onsite	73	5403.500	74.02055	2.799580	0.2467
Offsite	36	2364.000	65.66667		

a. Kruskal-Wallis test statistic calculated using mean ranks. This test assumes H is approximately distributed as μ^2.
b. A p-value (probability value) greater than 0.05 signifies no statistical difference between data groups. Any values below 0.05 are indicated in red.

Table C-2. Results of multiple comparisons of gross alpha results between locations during the second quarter. A 'p' value greater than 0.05 signifies no statistical difference between data groups. Any values below 0.05 are indicated in red. 'R' represents the average rank for each location.

Depend.: Coded result (x10-15)	Multiple Comparisons p values (2-tailed); Coded result (x10-15) (2nd Qtr 2024 Air Query in 2nd-Qtr-24-LVf) Independent (grouping) variable: Sample Location Kruskal-Wallis test: H (31, N= 406) =28.22695 p =.6094 Include condition: v8='gross alpha																														
	Arco R:190.73	Atomic City R:242.65	ATR Complex R:200.96	Blackfoot R:187.12	Blue Dome R:141.04	CFA R:235.92	Craters of the Moon R:209.58	Dubois R:190.88	EBR 1 R:165.85	EFS R:203.15	Gate 4 R:262.54	Highway 26 Rest Area R:209.46	Howe R:209.58	Idaho Falls R:231.50	INTEC (NE CORNER) R:220.19	INTEC (WEST SIDE) R:160.46	IRC R:201.58	IRC North R:204.27	Jackson WY R:170.23	Main Gate R:220.81	MFC North R:294.00	MFC South R:189.91	Monteview R:233.58	NRF R:227.77	PBF R:196.45	RHLLW R:165.08	RWMC R:214.69	RWMC South R:151.73	SMC R:190.88	Sugar City R:173.73	Arco R:190.73	Atomic City R:242.65
Arco		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Atomic City	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
ATR Complex	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Blackfoot	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Blue Dome	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.963135	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
CFA	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Craters of the Moon	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Dubois	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
EBR-I	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
EFS	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Gate 4	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Highway 26 Rest Area	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Howe	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Idaho Falls	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
INTEC (NE CORNER)	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
INTEC (WEST SIDE)	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
IRC	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
IRC North	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Jackson, WY	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Main Gate	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
MFC North	1.000000	1.000000	1.000000	1.000000	0.963135	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
MFC South	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Monteview	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
NRF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
PBF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
RHLLW	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
RWMC	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000
RWMC South	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000
SMC	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000
Sugar City	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000
Terreton	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000
Van Buren	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	

Table C-3. Results of multiple comparisons of gross beta results between locations during the second quarter. A 'p' value greater than 0.05 signifies no statistical difference between data groups. Any values below 0.05 are indicated in red. 'R' represents the average rank for each location.

Multiple Comparisons p values (2-tailed); Coded result (x10-15) (2nd Qtr 2024 Air Query in 2nd-Qtr-24-LVf)
Independent (grouping) variable: Sample Location
Kruskal-Wallis test: H (31, N= 406) =9.161456 p =1.000
Include condition: v8='gross beta'

Depend.: Coded result (x10-15)	Arco R:183.04	Atomic City R:209.15	ATR Complex R:231.81	Blackfoot R:185.58	Blue Dome R:188.69	CFA R:214.08	Craters of the Moon R:208.79	Dubois R:217.81	EBR 1 R:213.46	EFS R:196.58	Gate 4 R:205.50	Highway 26 Rest Area R:233.50	Howe R:214.38	Idaho Falls R:185.50	INTEC (NE CORNER) R:230.35	INTEC (WEST SIDE) R:204.65	IRC R:157.15	IRC North R:185.19	Jackson WY R:187.27	Main Gate R:215.50	MFC North R:183.00	MFC South R:178.91	Monteview R:206.69	NRF R:208.81	PBF R:194.20	RHLLW R:211.54	RWMC R:216.88	RWMC South R:222.04	SMC R:205.23	Sugar City R:214.42	Terreton R:177.42	Van Buren R:215.23
Arco		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Atomic City	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
ATR Complex	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Blackfoot	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Blue Dome	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
CFA	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Craters of the Moon	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Dubois	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
EBR-I	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
EFS	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Gate 4	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Highway 26 Rest Area	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Howe	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Idaho Falls	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
INTEC (NE CORNER)	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
INTEC (WEST SIDE)	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
IRC	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
IRC North	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Jackson, WY	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Main Gate	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
MFC North	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
MFC South	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Monteview	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
NRF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
PBF	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
RHLLW	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
RWMC	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
RWMC South	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
SMC	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000
Sugar City	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000
Terreton	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000
Van Buren	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000