INL/RPT-22-69353
Revision 0

Idaho National Laboratory Site Environmental Surveillance Program Report: Fourth Quarter 2021

July 2022

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INL is a U.S. Department of Energy National Laboratory
operated by Battelle Energy Alliance, LLC

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EXECUTIVE SUMMARY

Some human-made radionuclides were detected in samples collected during the fourth quarter of 2021. None of the radionuclides detected in samples collected during the fourth quarter of 2021 could be directly linked with 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 fourth quarter of 2021 contains results from the INL Site environmental surveillance program's monitoring of the U.S. Department of Energy's Idaho National Laboratory (INL) Site's onsite, boundary and distant location environment, October 1 through December 31, 2021. All sample types (media) and the sampling schedule followed during 2021 are listed in Appendix A. This report contains results for the following sample types:

- Air, including particulate air filters, charcoal cartridges, and atmospheric moisture
- Precipitation
- Drinking and surface water
- Milk
- Potatoes
- Waterfowl
- OSLDs
- TLDs

Table ES-1. Summary of results for the fourth quarter of 2021.

Media	Sample Type	Analysis	Results
Air	Particulate Filters	Gross alpha, gross beta	There were no statistically significant differences for October and December gross alpha and gross beta concentrations. Statistically significant differences were observed for gross alpha and gross beta concentrations for the quarter and the month of November. No result exceeded the Derived Concentration Standard (DCS) for gross alpha or gross beta activity in air. A few results exceeded the 99%/95% upper tolerance limit (UTL) but appear to be due to naturally higher concentrations during periods of temperature inversion.
	Quarterly Composite	Gamma-emitting radionuclides, strontium-90, actinides (americium and plutonium)	Strontium-90 (^{90}Sr) was detected in quarterly composited samples from Atomic City and Arco. Strontium-90 was not detected in a duplicate sample collected from Arco. Results were well below the DCS, within historical measurements, and probably originate from historical nuclear weapons testing. Human-made gamma-emitting radionuclides (e.g., cesium-137), americium-241, plutonium-238, and plutonium-239/240 were not detected in any of the fourth quarter composite air samples.
	Charcoal Cartridge	Iodine-131	Iodine-131 was not detected in any of the batches of charcoal cartridges counted during the quarter.
Atmospheric Moisture	Liquid	Tritium	Three of twenty results showed tritium concentrations greater than the 3s uncertainty during the quarter. No sample result exceeded the UTL or DCS for tritium in air.
Precipitation	Liquid	Tritium	A total of 23 samples were collected during the fourth quarter. Five of the tritium results were greater than the 3s uncertainty. One result exceeded the UTL, however, the value is within historical range and below the DCS for tritium in water.
Drinking/Surface Water	Liquid	Gross alpha, gross beta, tritium	Gross alpha activity was detected in five of nine drinking water samples and in one of the four surface water samples. Gross beta activity was detected in eight of the nine drinking water and in all four surface water

Media	Sample Type	Analysis	Results
			samples. All concentrations were generally similar to previous results. Tritium was not detected in any drinking water or surface water samples. Results were similar to previous results and those in precipitation and well below the DCS for tritium in drinking water.
Milk	Liquid	Iodine-131, other gamma-emitting radionuclides, strontium-90, tritium	Forty-three milk samples were collected at seven locations (including the offsite control sample from Colorado and two duplicates). No gamma-emitting radionuclides or tritium were detected. Strontium-90 was detected in four of six semiannual samples analyzed at concentrations consistent with historical measurements. Tritium was not detected in any of the milk samples analyzed during fourth quarter.
Potatoes	Vegetation	Gamma-emitting radionuclides, strontium-90	No human-made gamma-emitting radionuclides were found in any of the ten samples (including a duplicate and a control) collected this year.
Waterfowl	Tissue	Gamma-emitting radionuclides, strontium-90, actinides (americium and plutonium)	Two human-made radionuclides were detected in some ducks at levels suggesting that they were ingested from Advanced Test Reactor Complex effluent ponds. The maximum dose from eating the edible tissue of a contaminated duck was estimated to be 0.002 mrem/year.
Environmental Dosimeters	Environmental radiation	External radioactivity	Measurements of environmental radiation made using optically stimulated luminescent dosimeters (OSLDs) were primarily below the background level UTL except for select locations at Sugar City; Materials and Fuels Complex (MFC) (listed as Argonne National Laboratory or ANL); Idaho Nuclear Technology and Engineering Center (INTEC) (listed as Idaho Chemical Processing Plant or ICPP); and the Radioactive Waste Management Complex (RWMC). Measurements that exceeded the UTL are within historical values and/or likely due to operations in those areas. 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

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ACRONYMS

ANL	Argonne National Laboratory
ARA	Auxiliary Reactor Area
ATR	Advanced Test Reactor
BEA	Battelle Energy Alliance
CFA	Central Facilities Area
DCS	Derived Concentration Standard
DEQ-IOP	Idaho Department of Environmental Quality, INL Oversight Program
DOE	U.S. Department of Energy
EBR I	Experimental Breeder Reactor I
EFS	Experimental Field Station
EPA	Environmental Protection Agency
ESER	Environmental Surveillance, Education, and Research
FAA	Federal Aviation Administration
GATE4	Gate 4
HWY	Highway
ICP	Idaho Cleanup Project
ICPP	Idaho Chemical Processing Plant
IF	Idaho Falls
INL	Idaho National Laboratory
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
MDC	minimum detectable concentration
MFC	Materials and Fuels Complex
NRF	Naval Reactors Facility
NRTS	National Reactor Testing Station
OSLD	optically stimulated luminescent dosimeter
PBF SPERT	Power Burst Facility Special Power Excursion Reactor
REST	Rest Area
RHLLW	Remote-handled Low-level Waste
RRL	Resident Receptor Location
RWMC	Radioactive Waste Management Complex
SMC	Specific Manufacturing Capability
TAN LOFT	Test Area North, Loss-of-Fluid Test

TLD	thermoluminescent dosimeter
TRA	Test Reactor Area
TREAT	Transient Reactor Test
UTL	upper tolerance limit
VANB	Van Buren
VNSFS	Veolia Nuclear Solutions – Federal Services

UNITS

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

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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 activities both inside and outside the boundaries of DOE facilities (DOE 2011a, DOE 2015a).

During calendar year 2021, environmental surveillance within the INL Site boundaries was primarily the responsibility of the INL and Idaho Cleanup Project (ICP) contractors. The INL contractor also provides surveillance off the INL Site.

In December 2020, DOE initiated transition of the Environmental Surveillance, Education, and Research (ESER) Program from DOE management to the INL contract managed by Battelle Energy Alliance, LLC (BEA). A team composed of DOE, BEA and the ESER Program contractor, Veolia Nuclear Solutions – Federal Services (VNSFS), successfully transitioned the program on September 30, 2021. It is now called the Environmental Monitoring and Natural Resource Services. The ESER Program environmental surveillance scope has been integrated into the INL environmental surveillance program. Sampling activities conducted prior to September 30, 2021, were performed by VNSFS while sampling activities conducted after September 30, 2021, were performed under BEA.

This report is the first completed post-transition that contains integrated surveillance monitoring results from the INL contractor for samples collected during the fourth quarter of 2021 (October 1 – December 31, 2021).

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.

Environmental samples collected include:

- air at 42 low-volume air samplers (four of which are used as replicate samplers) at 32 locations on and around the INL Site
- atmospheric moisture at three INL Site locations and at four locations off the INL Site
- precipitation collected at one INL Site location and three locations off the INL Site
- drinking water collected from 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 local producers, alfalfa from three locations off the INL Site, grain (wheat and barley) from approximately nine local producers, and lettuce from approximately seven home-owned and portable gardens on and around the INL Site
- soil from 29 locations on and around the INL Site biennially
- environmental dosimeters from 196 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.

Four 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. The Idaho State University Environmental Assessment Laboratory performed routine gross alpha, gross beta, tritium, and gamma spectrometry analyses. ALS Fort Collins performed routine gross alpha, gross beta, and for gamma-emitting radionuclides, such as: americium-241 (^{241}Am), cobalt-60 (^{60}Co), cesium-134, cesium-137 (^{137}Cs), europium-152, and antimony-125. Analyses requiring radiochemistry including strontium-90 (^{90}Sr), plutonium-238 (^{238}Pu), plutonium-239/240 ($^{239/240}$Pu), and ^{241}Am were performed by GEL Laboratories.

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 (MDC) 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 a three standard deviation criterion to minimize the chance that a potentially false positive result is included in the data set. A false positive result is indicated when the range encompassing the result, plus or minus the total uncertainty at three standard deviations, includes zero (e.g., 2.5 +/- 1.0; range of -0.5 to 5.5). Statistically, the probability that a result can exceed the absolute value of its total uncertainty at three standard deviations 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 2015b, NBS 1961). The INL contractor reports measured radionuclide concentrations greater than or equal to their respective 3s uncertainties as being detected with confidence.

Concentrations between 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 two standard deviations 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 (in this case, 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 site 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 program, please email scott.lee@inl.gov, or visit https://idahoeser.inl.gov/.

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

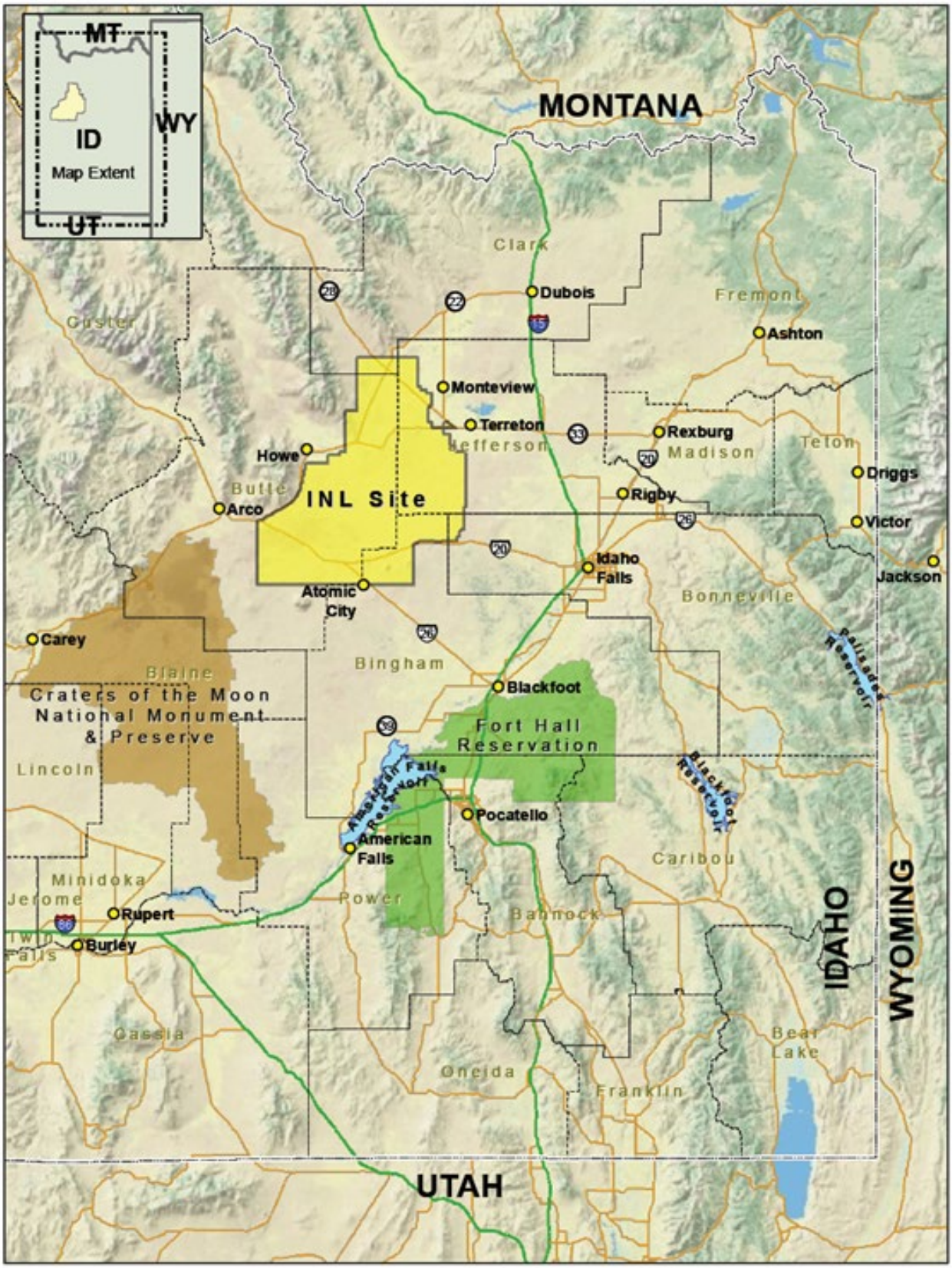

Figure 1. Location of the INL Site.

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 38 locations using low-volume air samplers. Moisture in the atmosphere was sampled at seven locations around the INL Site and analyzed for tritium. Air sampling activities and results for the fourth quarter of 2021 are discussed below. A summary of approximate MDCs for radiological analyses and DOE Derived Concentration Standard (DCS) (DOE 2011b) values is provided in Appendix B.

3.1 Low-volume Air Sampling

Radioactivity associated with airborne particulates was monitored continuously by 42 low-volume air samplers (four of which are used as replicate samplers) at 32 locations during the fourth quarter of 2021 (Figure 2). Seventeen of these samplers are located onsite, seven are situated off the INL Site near the boundary, and eight have been placed at locations distant to the INL Site. Currently, several locations have two samplers as a result of the ESER program being transferred to BEA. The locations include: Blackfoot, Craters of the Moon, Experimental Field Station (EFS), Idaho Falls, Sugar City, and Van Buren. One sampler at each location is being scheduled for deactivation since duplicate samplers are already in place. Samplers are divided into onsite, boundary, and distant 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 fourth quarter 2021, replicate samplers were located at Arco (boundary location), Mud Lake (boundary location), INTEC – westside (onsite location), and RWMC (onsite location). An average of 19,661 ft^3 (557 m^3) of air was sampled at each location, each week, at an average flow rate of 1.96 ft^3/min (0.06 m^3/min). Particulates in air were collected on membrane particulate filters (1.2 µm pore size). 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. Selected composites were also analyzed by location for ^{90}Sr, ^{238}Pu, $^{239/240}Pu$, and ^{241}Am as determined by a rotating quarterly schedule.

Charcoal cartridges were analyzed for gamma-emitting radionuclides, specifically for ^{131}I, using two methods. Cartridges analyzed by Idaho State University Environmental Assessment Laboratory are done in batches of ten as an initial scan. If the scan results in ^{131}I activity above 3-sigma, the cartridges are split into smaller batches and analyzed to identify the cartridge which contains the radioanalyte above 3-sigma. Cartridges which are analyzed by the INL Environmental Services In Situ Gamma Laboratory are scanned individually. If the scan of an individual cartridge results in a positive detection, the cartridge is shipped to ALS Laboratories 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.

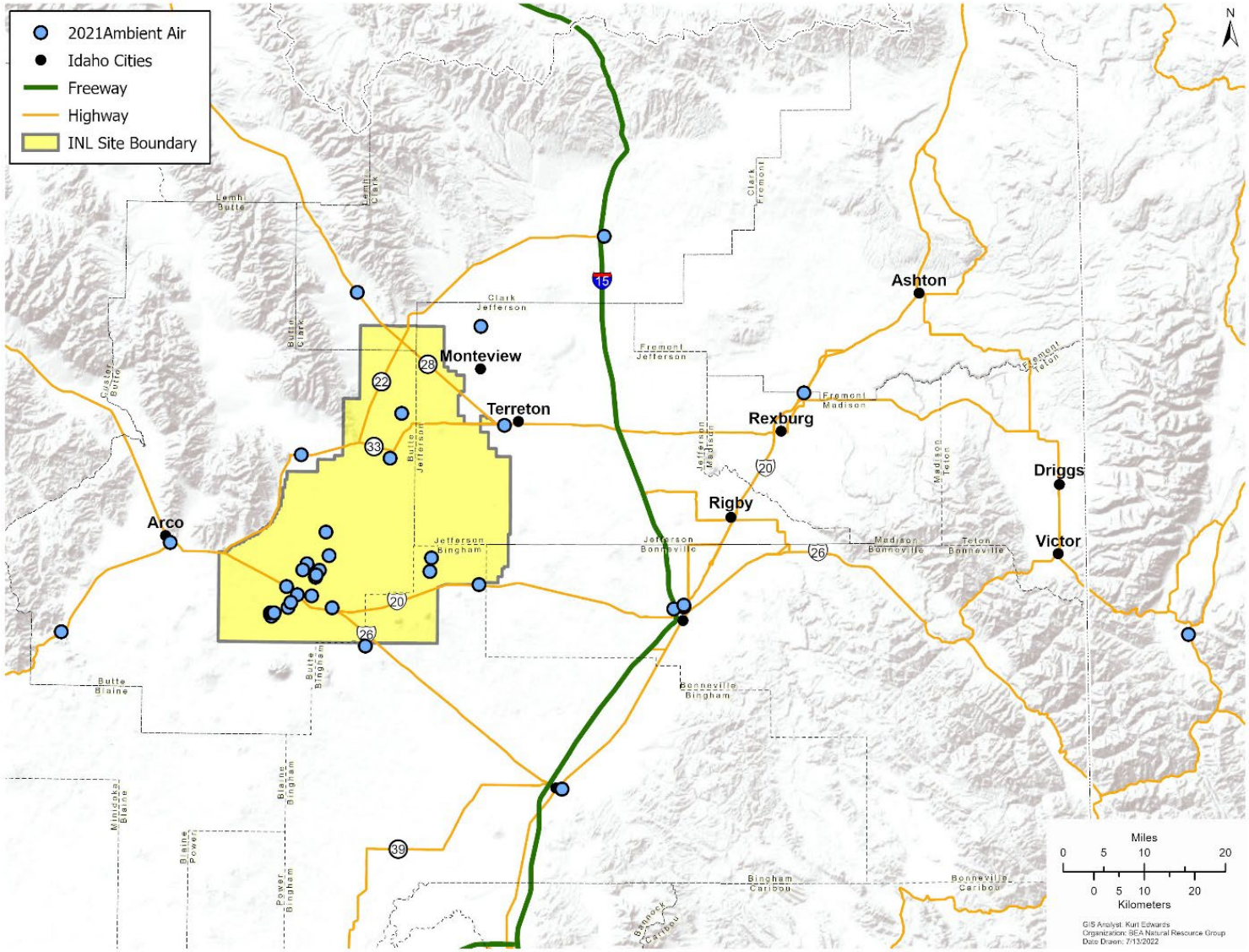

Figure 2. INL contractor air monitoring locations.

Gross alpha results are reported in Table C-1 and shown in Figures 3 through 6. Gross alpha concentrations measured in individual samples ranged from a low of $(-5.4 \pm 5.0) \times 10^{-16}$ µCi/ml collected at ATR Complex on December 15, 2021, to a high of $(5.1 \pm 1.4) \times 10^{-15}$ µCi/ml collected at RHLLW on November 17, 2021. All results were less than the Derived Concentration Standard (DCS) of 3.4×10^{-14} µCi/ml for $^{239/240}$Pu (see Table B-1 of Appendix B). In addition, the results were consistent with historical data, as represented by the 99%/95% upper tolerance limit (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 lognormally 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 nonparametric Kruskal-Wallis analysis of variance by ranks test of multiple independent groups was used to determine statistical differences between Onsite, Boundary, and Distant 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 Distant) 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 Table D-1. There was no statistically significant difference among groups for October and December, however, there were statistically significant difference among groups for the quarter and November (Table D-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 differences were determined (Table D-2).

Gross beta results are presented in Table C-1 and displayed in Figures 7 through 10. Gross beta concentrations measured in individual samples ranged from a low of $(7.7 \pm 0.28) \times 10^{-15}$ µCi/ml collected at Sugar City on October 27, 2021, to a high of $(7.7 \pm 0.16) \times 10^{-14}$ µCi/ml collected at EFS on December 1, 2021. The typical temporal fluctuations in gross beta concentrations in air were observed during the quarter because of temperature inversions. All results were less than the Derived Concentration Standard (DCS) of 2.5×10^{-11} µCi/ml for ^{90}Sr (see Table B-1 of Appendix B). In addition, the results were consistent with historical data, as represented by the 99%/95% upper tolerance limit (UTL) for gross beta activity (6.3×10^{-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.

There were no statistically significant differences in the gross beta data between groups for October and December, yet data measured during the quarter and month of November had statistically significant differences (Table D-1). To determine if there were any differences between stations and where the

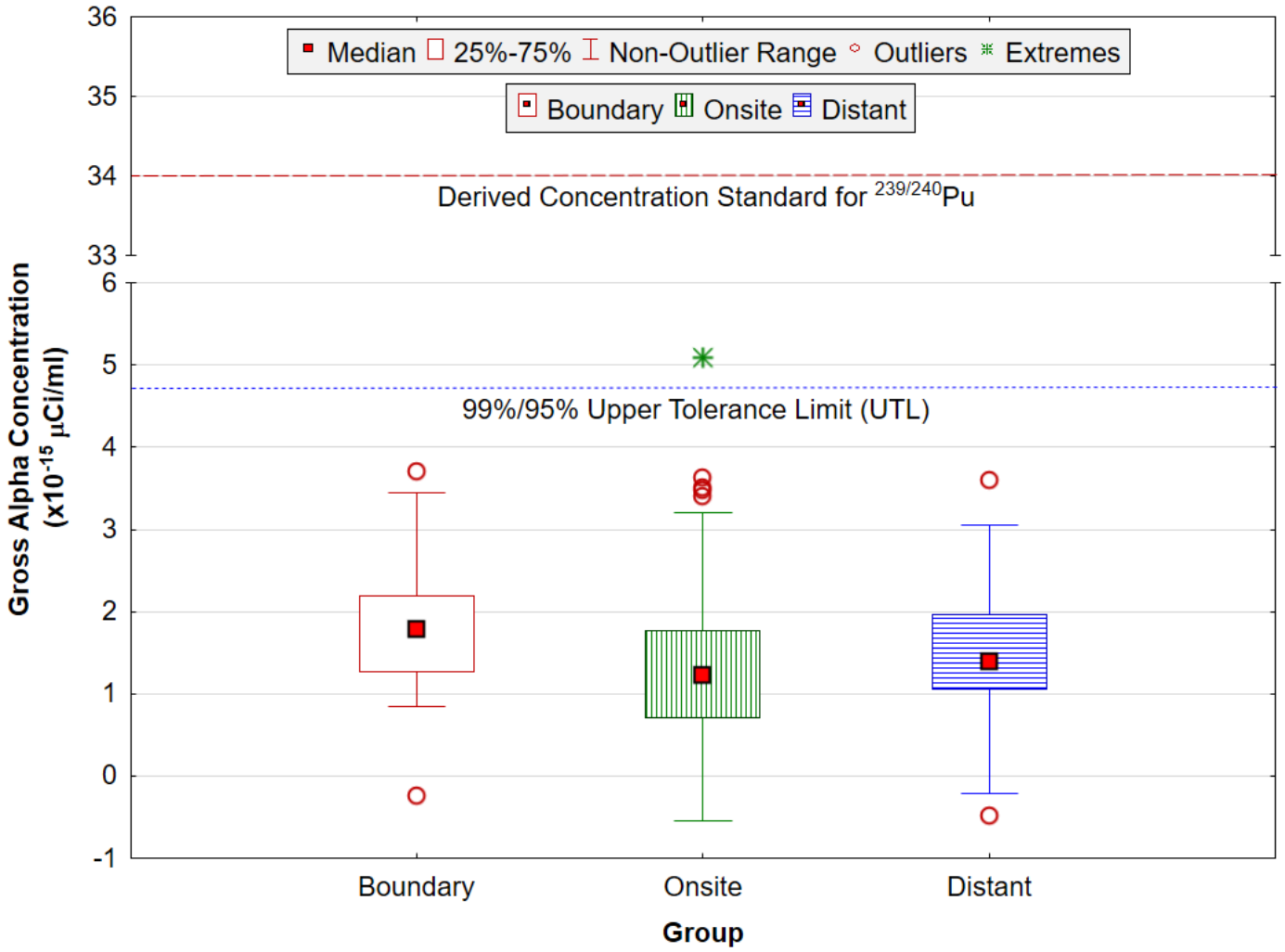

Figure 3. Gross alpha concentrations in air at onsite, boundary, and distant locations for the fourth quarter of 2021. The DCS is the concentration of $^{239/240}Pu$ in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (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.

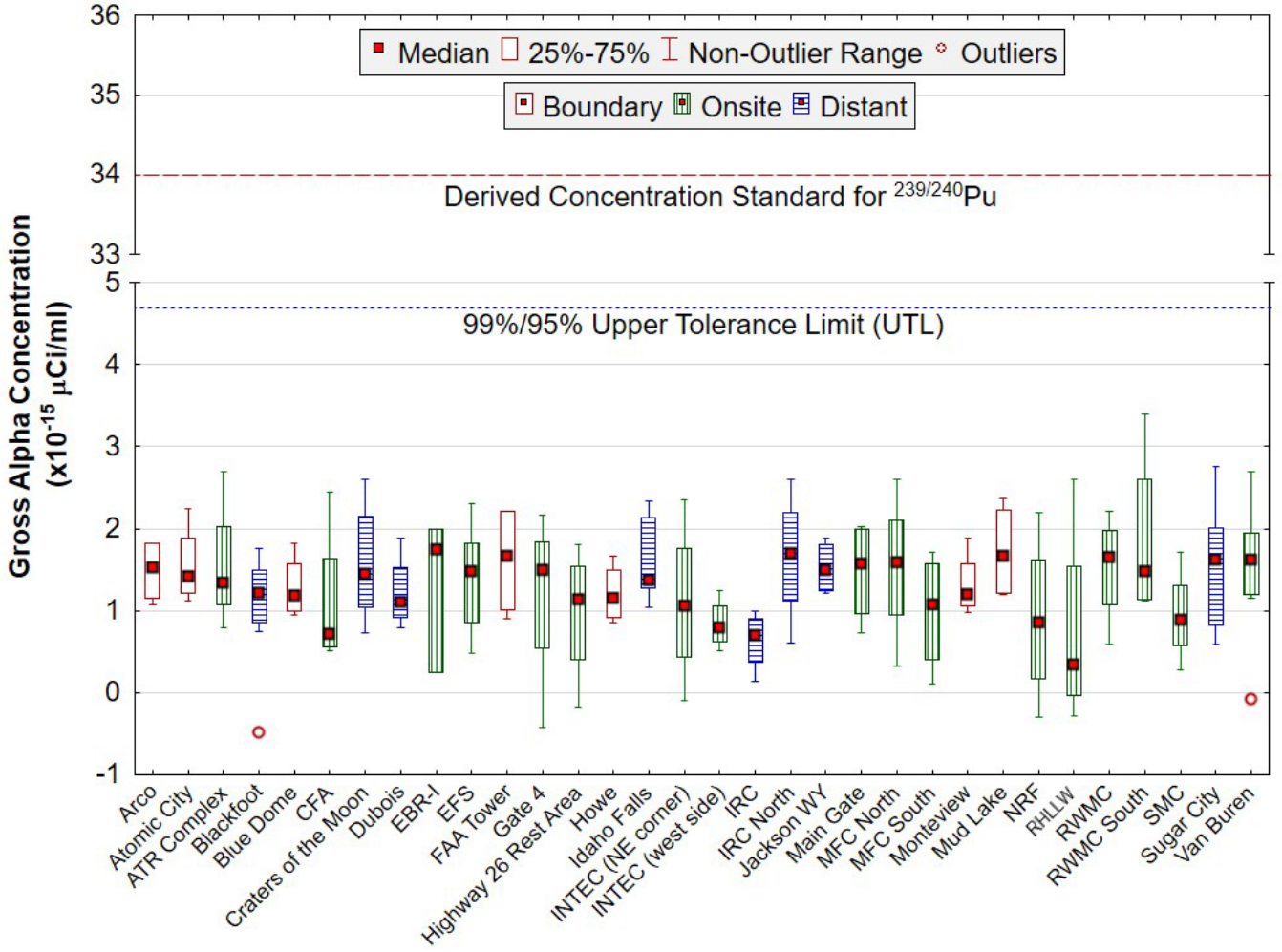

Figure 4. October 2021 gross alpha concentrations in air at onsite, boundary, and distant locations. The DCS is the concentration of $^{239/240}Pu$ in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{238}U, ^{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.

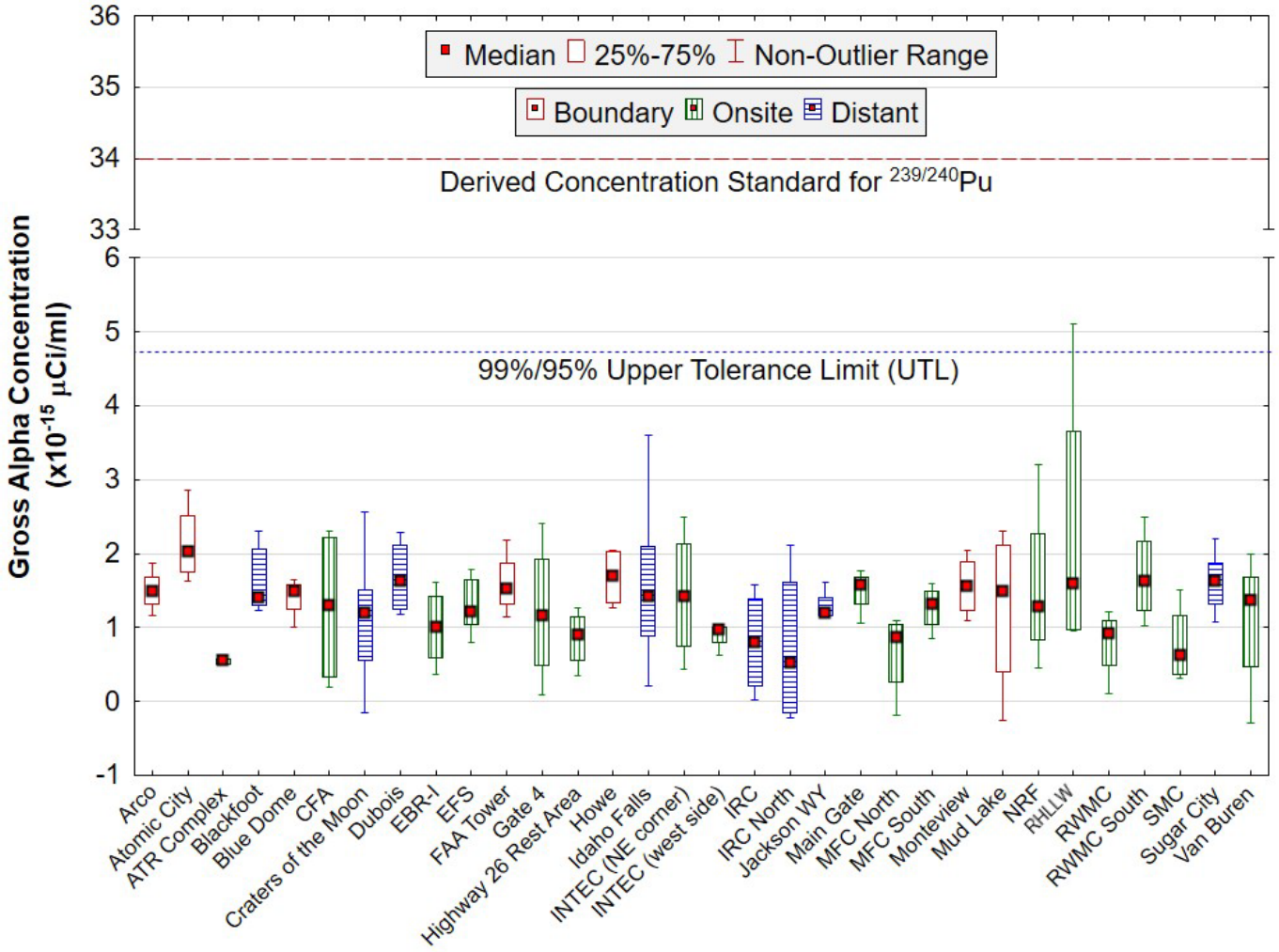

Figure 5. November 2021 gross alpha concentrations in air at onsite, boundary, and distant locations. The DCS is the concentration of $^{239/240}Pu$ in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{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.

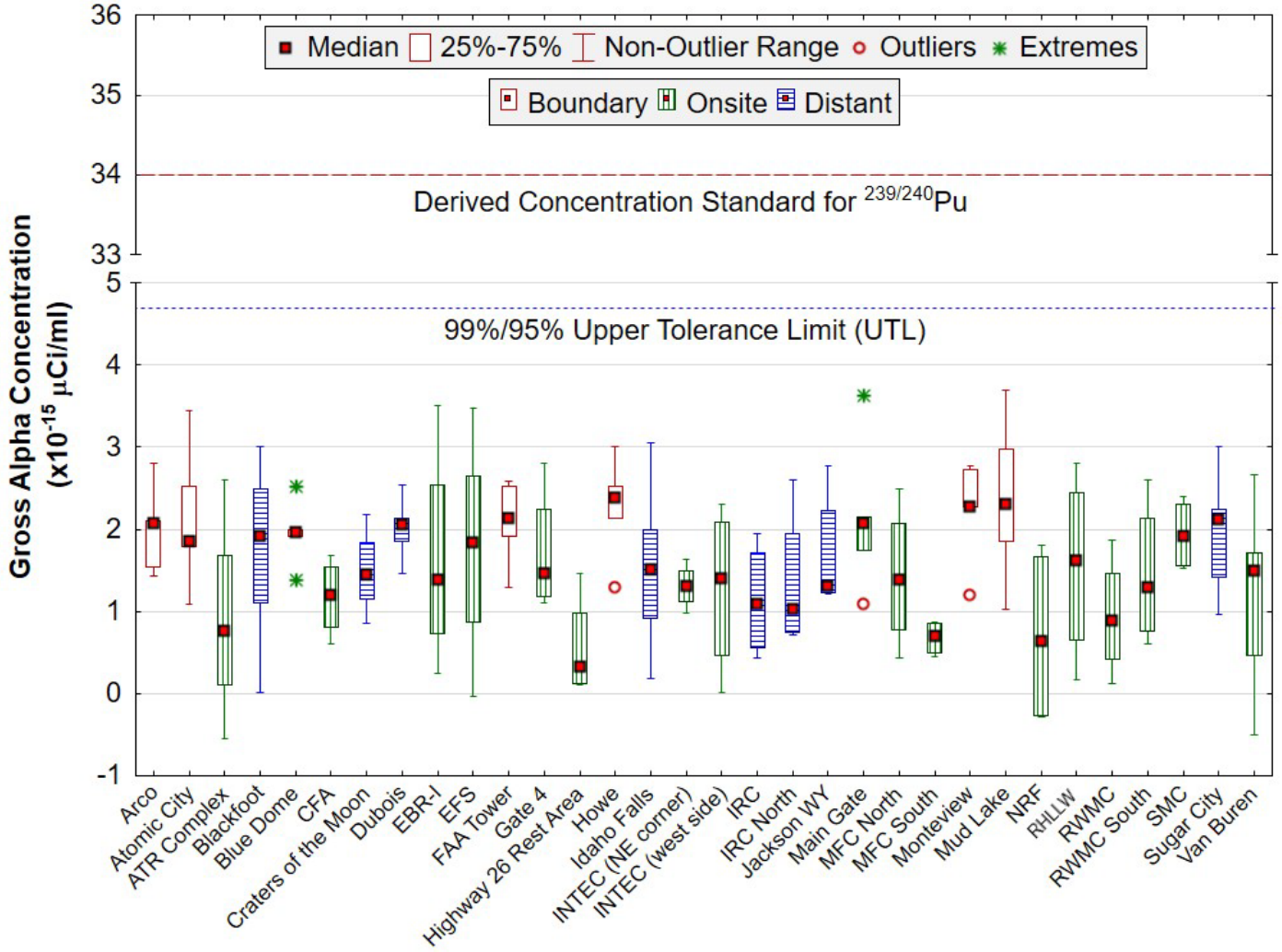

Figure 6. December 2021 gross alpha concentrations in air at onsite, boundary, and distant locations. The DCS is the concentration of $^{239/}$240Pu in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{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.

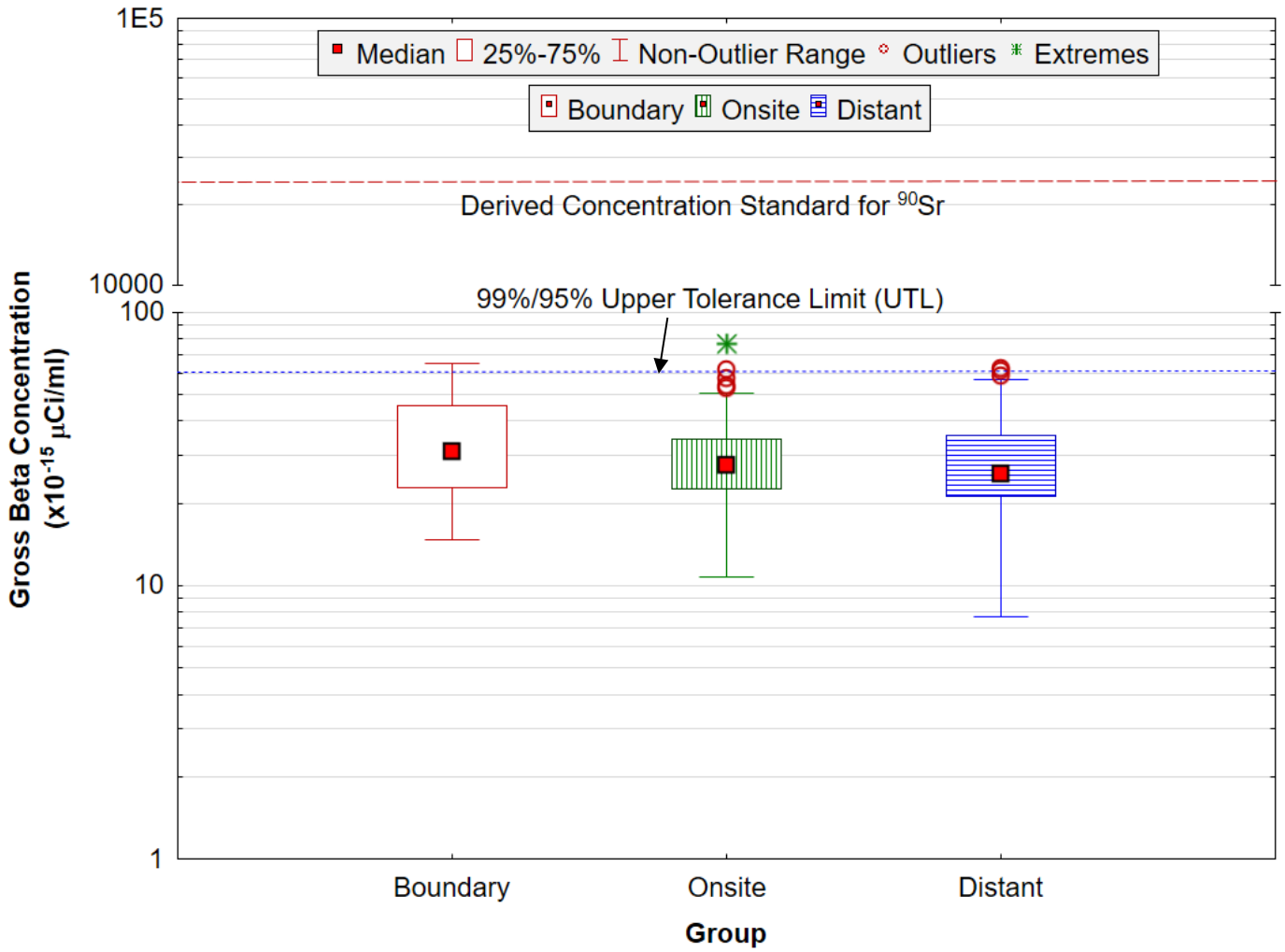

Figure 7. Gross beta concentrations in air at onsite, boundary, and distant locations for the fourth quarter of 2021. The DCS is the concentration of ^{90}Sr in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (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.

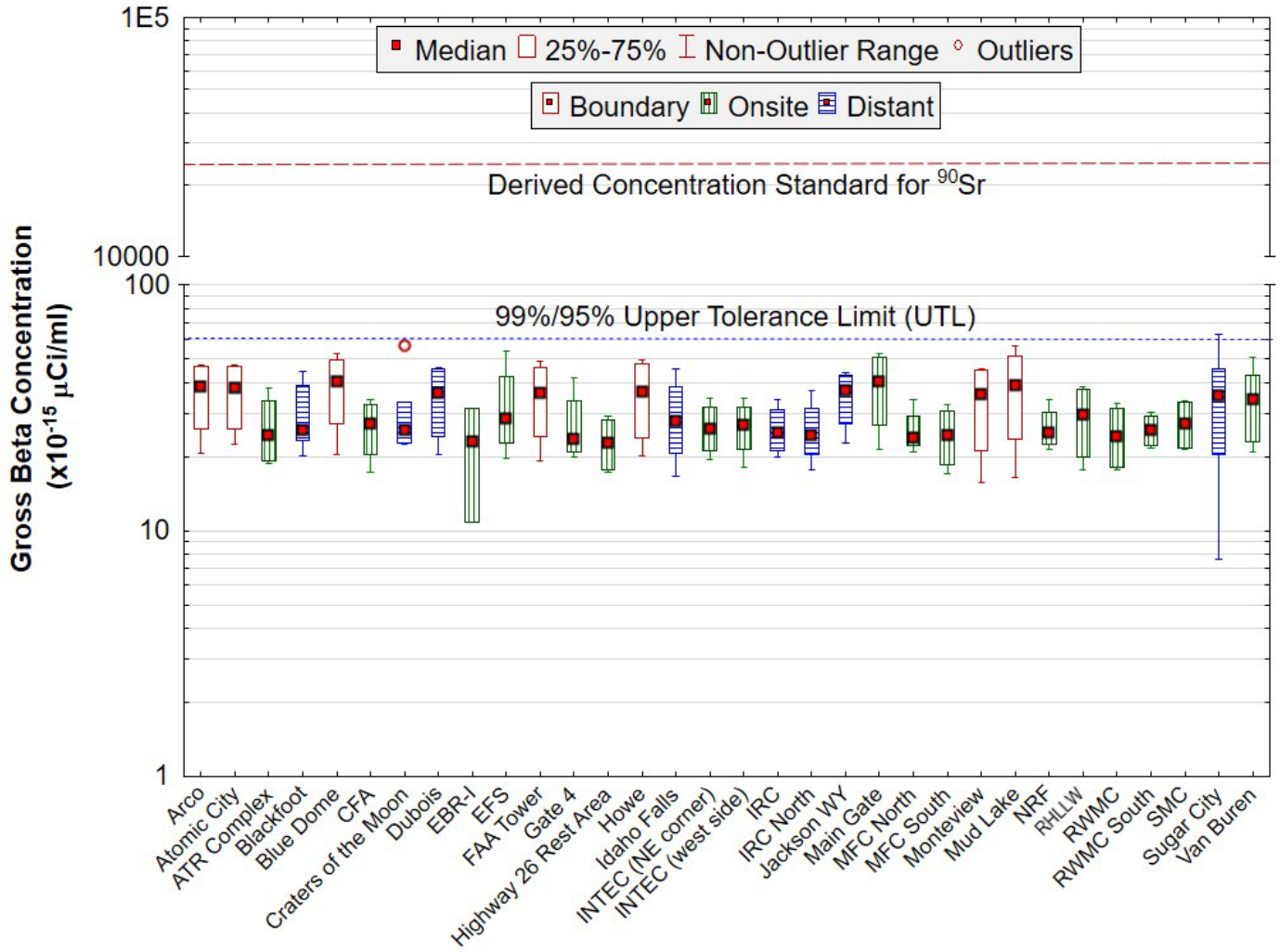

Figure 8. October 2021 gross beta concentrations in air at onsite, boundary, and distant locations. The DCS is the concentration of ^{90}Sr in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{40}K, ^{228}Ra, 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.

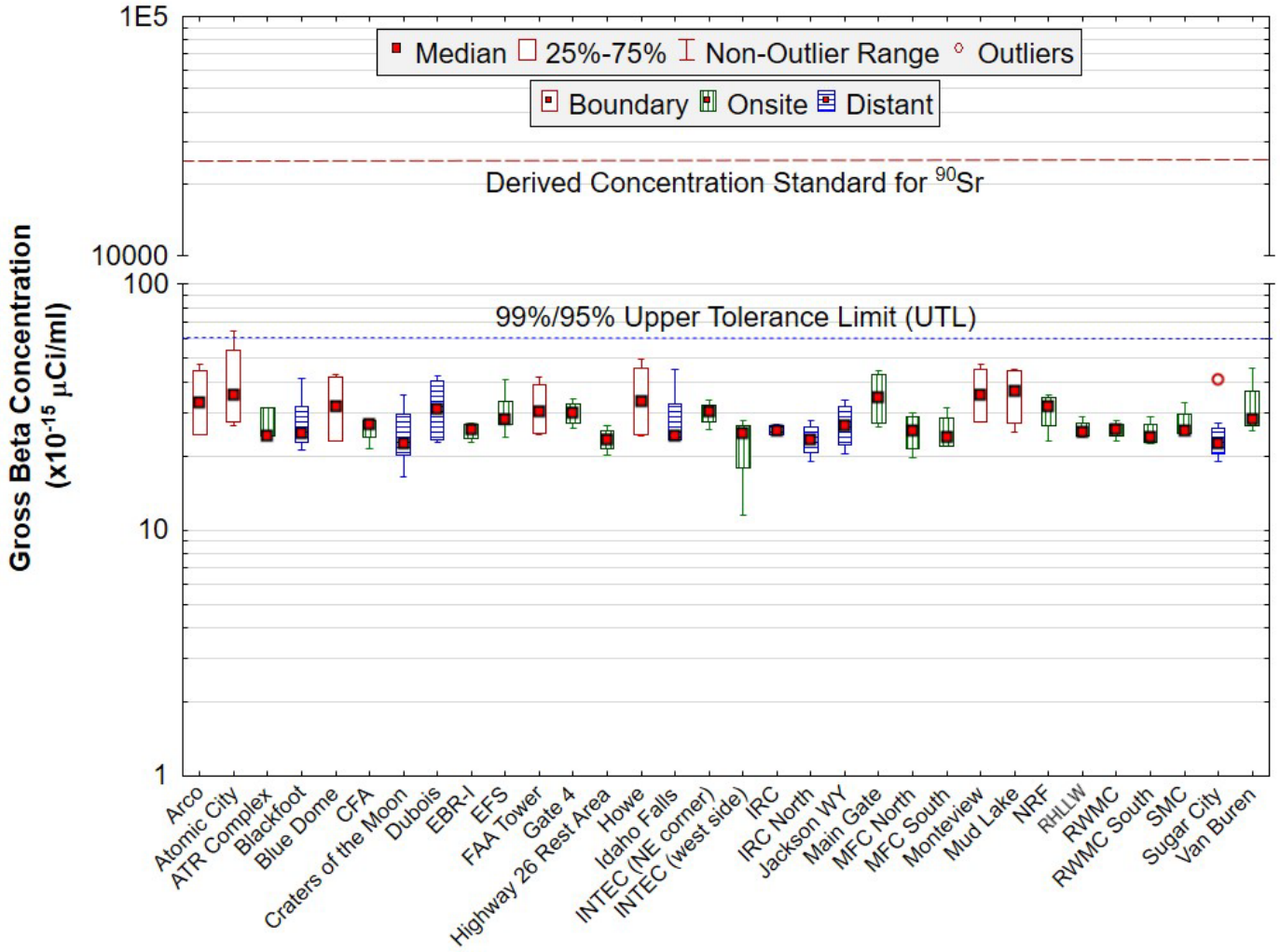

Figure 9. November 2021 gross beta concentrations in air at onsite, boundary, and distant locations. The DCS is the concentration of ^{90}Sr in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{40}K, ^{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.

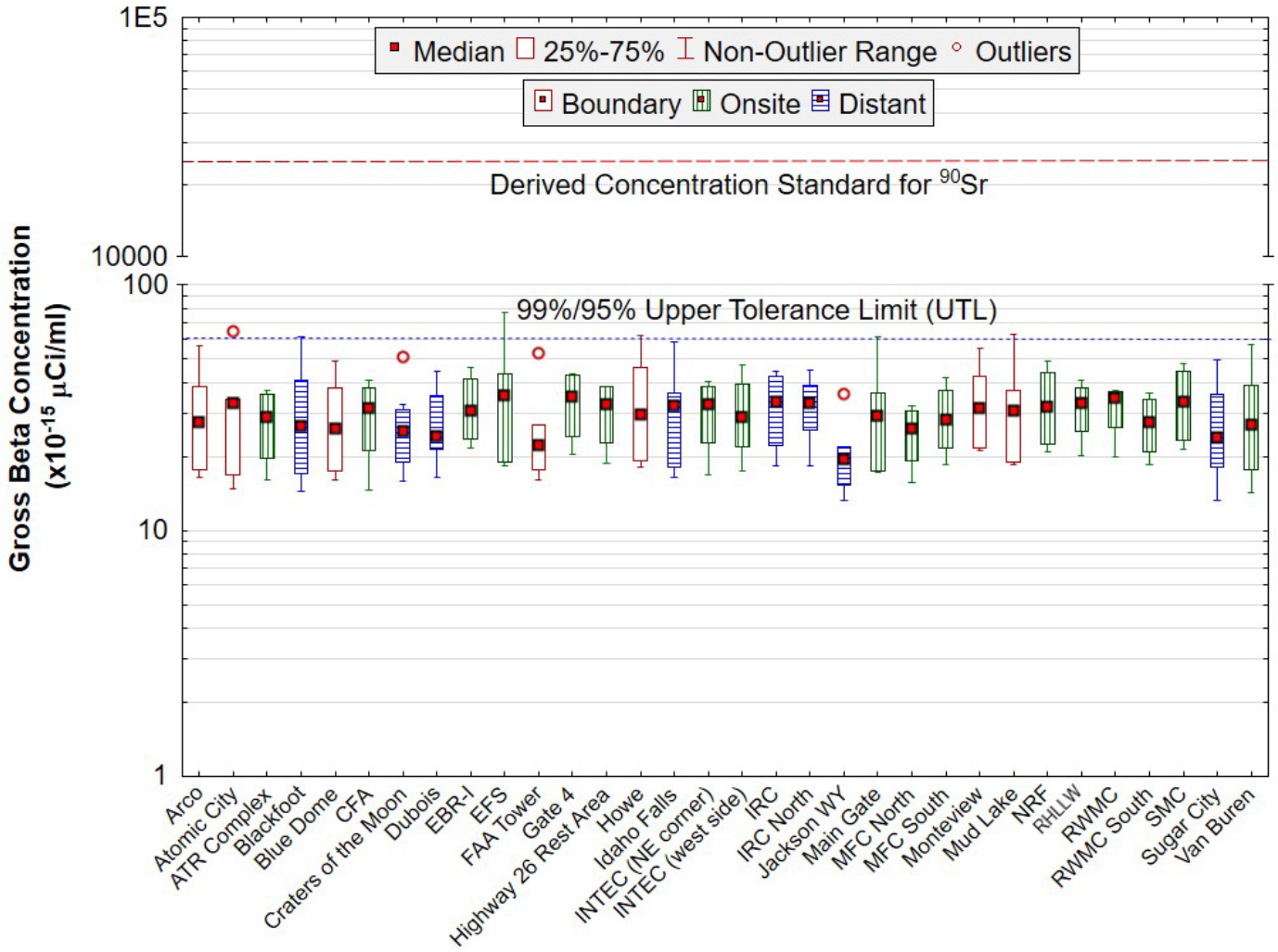

Figure 10. December 2021 gross beta concentrations in air at onsite, boundary, and distant locations. The DCS is the concentration of ^{90}Sr in air which, if inhaled for a year, would result in a dose of 100 mrem/yr. Because the measurements include naturally occurring radionuclides (such as ^{40}K, ^{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.

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 differences were determined (Table D-3).

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

No ^{137}Cs or other human-made gamma-emitting radionuclides were found in quarterly air composites. Strontium-90, a beta-emitting radionuclide associated with historic nuclear weapons testing fallout, was detected in a composite sample collected from Arco ($[4.0 \pm 1.0] \times 10^{-17}$ µCi/ml) and a composite sample collected from Atomic City ($[4.4 \pm 1.1] \times 10^{-17}$ µCi/ml) (Table C-3). However, ^{90}Sr was not detected in a duplicate sample collected at Arco. The results are well below the DCS for ^{90}Sr in air (2.5E-11 µCi/ml) and within historical measurements.

Americium-241, ^{238}Pu and $^{239/240}Pu$, alpha-emitting radionuclides, were not detected in any composite sample.

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 twenty atmospheric moisture samples collected at the onsite, boundary, and distant locations during the fourth quarter of 2021 (Figure 11). Three of the results exceeded the 3s uncertainty level for tritium, with a maximum reported value of $(9.3 \pm 1.8) \times 10^{-13}$ µCi/mL$_{air}$ at Idaho Falls. The maximum result is below the 99%/95% UTL of 1.6×10^{-12} µCi/mL$_{air}$. Results are similar between the sampling locations. All samples were significantly below the DOE DCS for tritium in air (as water vapor) of 2.1×10^{-7} µCi/mL$_{air}$. Results are shown in Table C-4, Appendix C.

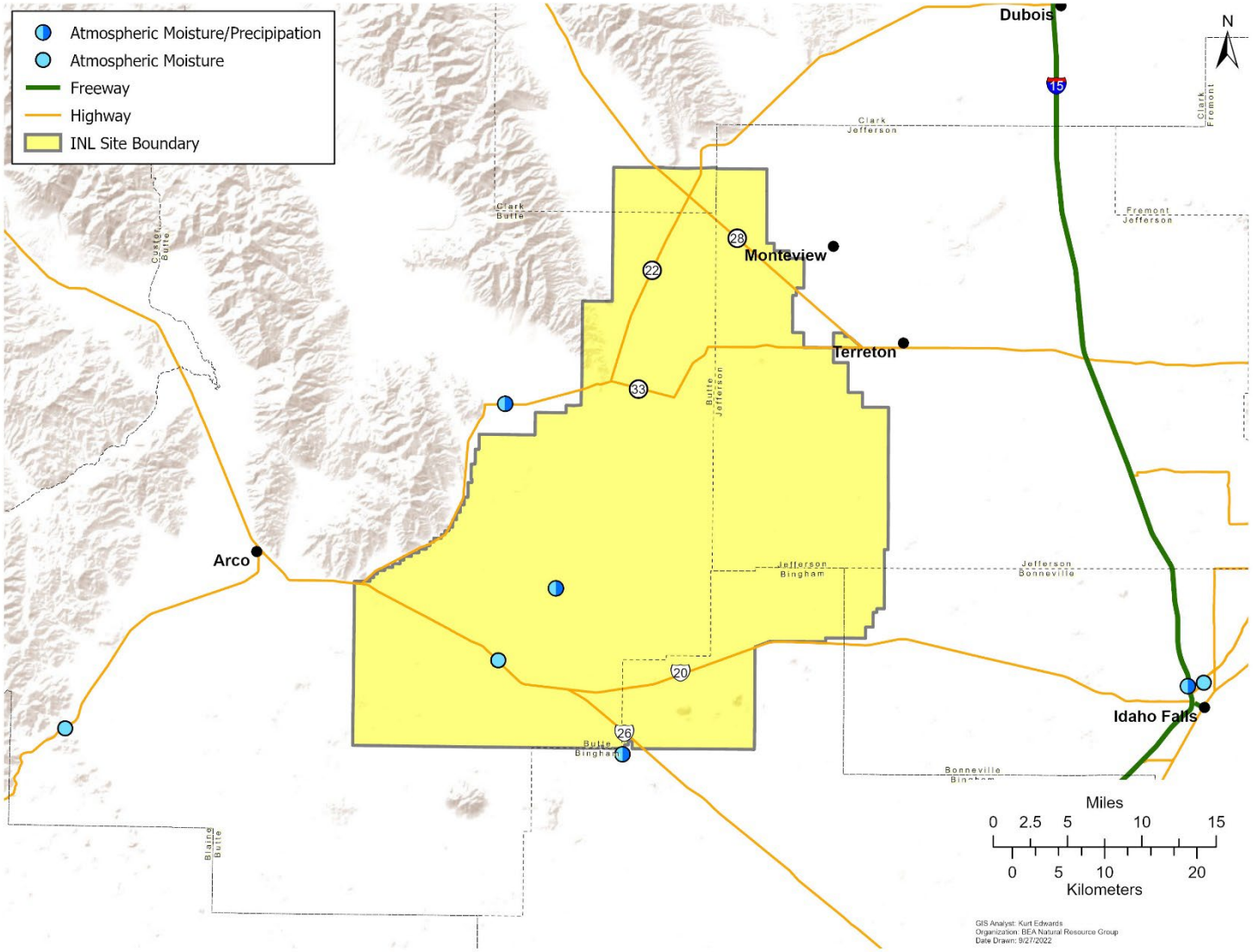

Figure 11. Moisture and precipitation monitoring locations.

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4. Precipitation and Water

4.1 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 the 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 fourth quarter of 2021 produced sufficient amounts of precipitation to yield 23 samples.

Tritium was measured above the 3s values in five of the 23 samples. These results are listed in Table C-5 (Appendix C). 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 maximum value in the fourth quarter was (391 ± 31) pCi/L in a Howe sample collected on November 10, 2021. The result exceeds the 99%/95% UTL of 300 pCi/L. However, the result is well below the DCS for tritium in water (1.9×10^6 pCi/L) and within the range of historical values (-244 to 413 pCi/L) measured from 2011-2020.

4.2 Water Sampling

Drinking water samples were collected at eight locations. A control sample of bottled water was also prepared. Surface water samples were collected at three Thousand Springs locations (plus a duplicate). All samples were analyzed for gross alpha, gross beta, and tritium. Results are listed in Table C-6 of Appendix C.

Gross alpha activity was detected in five of the nine drinking water samples (Atomic City, Craters of the Moon, Howe, Rest Area and Shoshone samples) and in one of the four surface water samples. The highest reported gross alpha value was (8.8 ± 0.83) pCi/L in the surface water sample from Alpheus Springs. Gross beta activity was detected in 8 of the 9 drinking water samples (all except the control), and in all four of the surface water samples. All concentrations were similar to previous results from drinking and 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 highest reported gross beta value was (14.1 ± 1.0) pCi/L in the surface water sample collected from Alpheus Spring near Twin Falls. This location has historically shown the highest levels of natural activity. Tritium was not detected in any of the drinking water samples or surface water samples.

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5. 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 and large game animals are sampled whenever large game animals 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 more details on agricultural product and wildlife sampling. This section discusses results from milk, potato, and wildlife samples available during the fourth quarter of 2021.

5.1 Milk Sampling

Milk samples were collected weekly at Rigby and Terreton. Monthly samples were collected at five other locations around the INL Site (Figure 12) during the fourth quarter of 2021. In addition to the local locations, commercially-available organic milk (from Colorado) was purchased as a control sample each month. All samples were analyzed for gamma emitting radionuclides, with particular emphasis on ^{131}I. Semi-annual samples were collected and analyzed for ^{90}Sr and tritium during the fourth quarter.

Neither ^{131}I nor ^{137}Cs was detected in any weekly or monthly samples during the fourth quarter. No other human-made gamma-emitting radionuclides were found either. Data for ^{131}I and ^{137}Cs in milk samples are listed in Appendix C, Table C-7.

Results for ^{90}Sr and tritium are listed in Appendix C, Table C-8. Strontium-90 was detected in four of the seven semiannual samples. The maximum result (0.51 ± 0.08) pCi/L was detected in a sample collected at Terreton. The result is consistent with ^{90}Sr concentrations observed in previous years. There is no DCS for ^{90}Sr in milk; however, for comparison the result was well below the drinking water DCS of 1.1×10^3 pCi/L. Tritium was not detected in any of the milk samples analyzed this quarter.

5.2 Potato Sampling

Locally-grown potatoes from eight southeast Idaho locations (Figure 13) and one duplicate from Arco were analyzed for gamma-emitting radionuclides like ^{137}Cs and for ^{90}Sr. A control sample from a local grocery store (grown in Ohio state) was also analyzed. No human-made gamma-emitters were found in any sample. Strontium-90 was not reported in any sample. Data for potato samples are listed in Appendix C, Table C-9.

5.3 Large Game Animal Sampling

Two mule deer and one elk were available for sampling during the fourth quarter of 2021. Muscle, liver, and thyroid samples were taken from three animals. No human-made gamma-emitting radionuclides were detected in any of the tissues. Results for the tissue samples are listed in Appendix C, Table C-10.

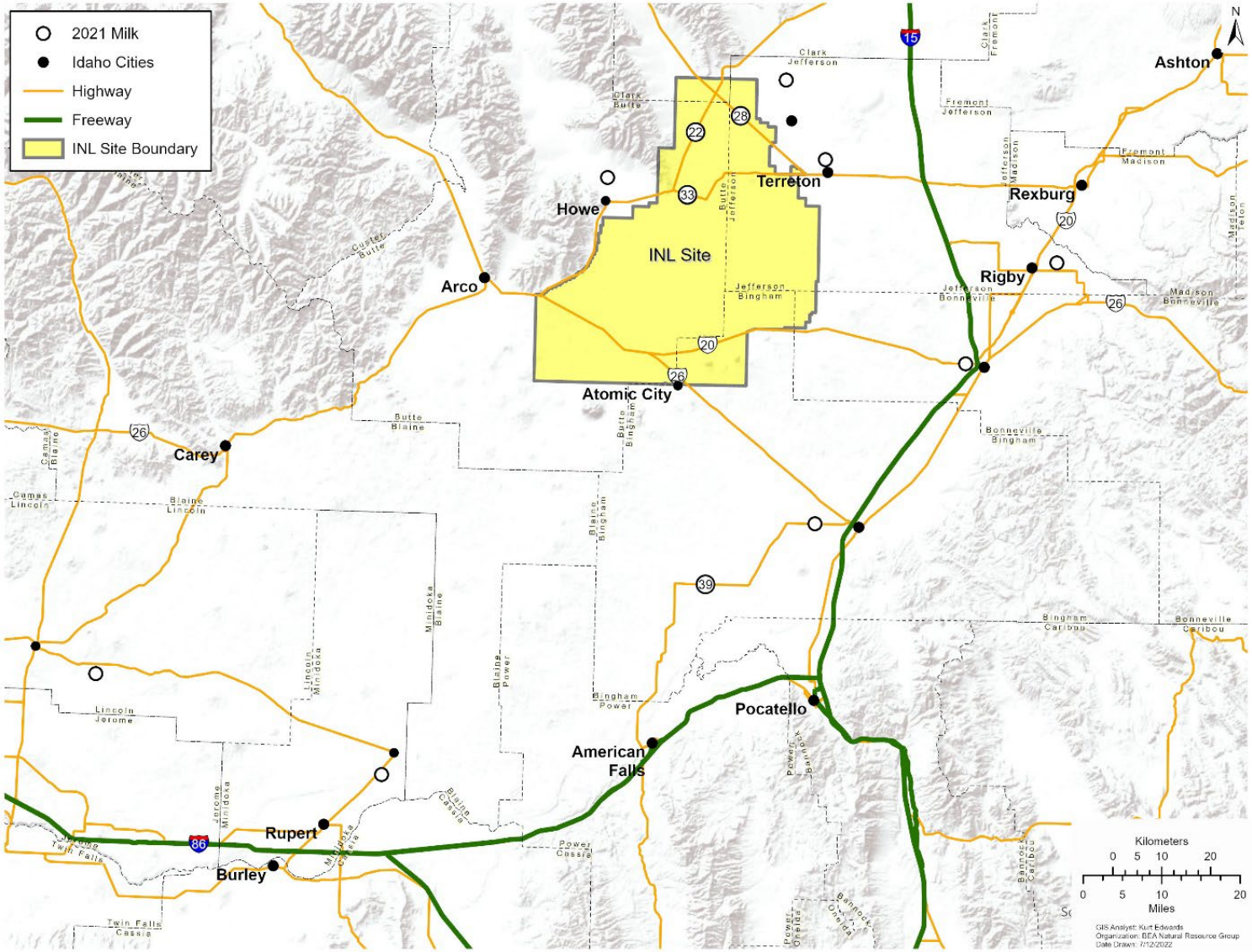

Figure 12. INL contractor milk monitoring locations.

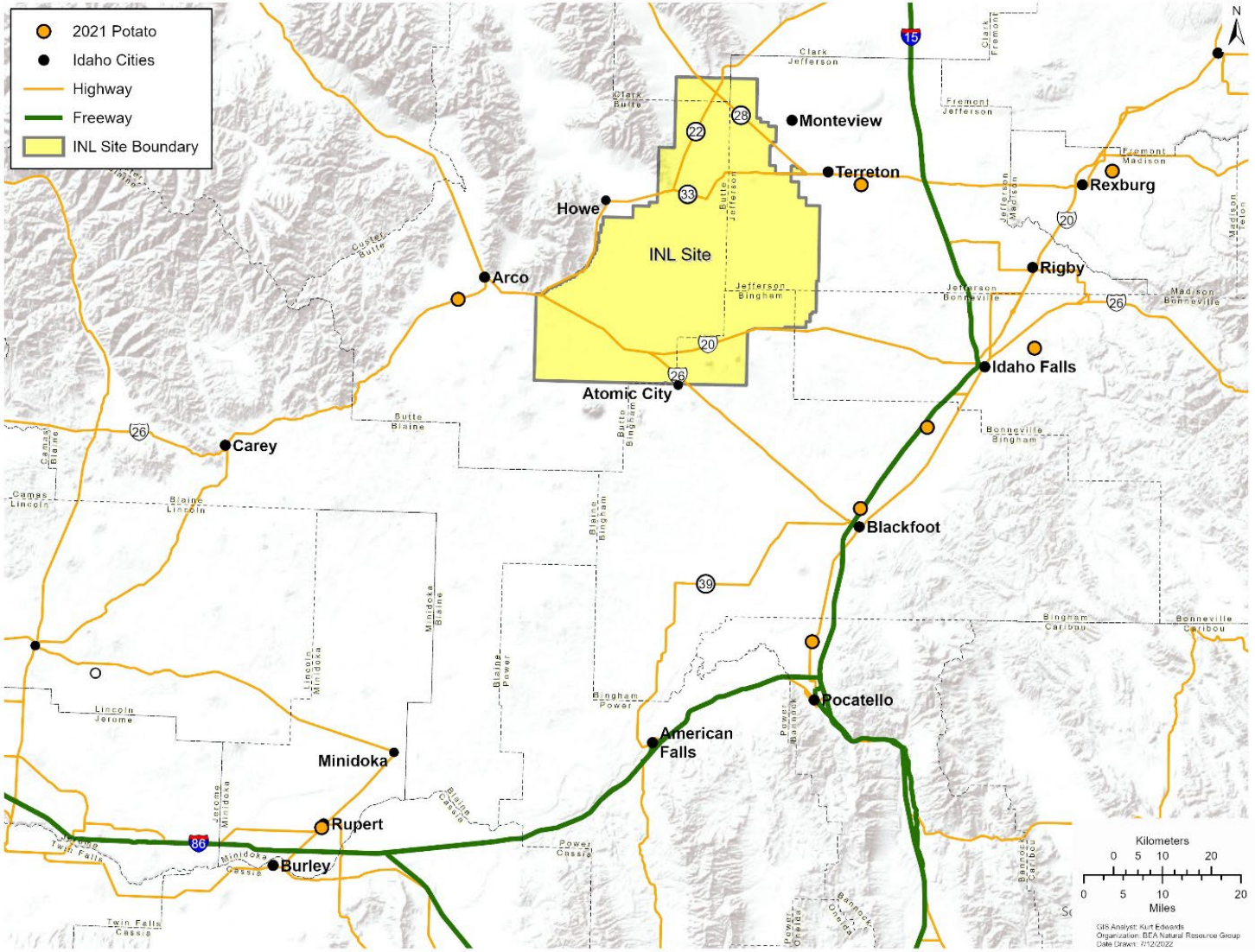

Figure 13. INL contractor potato monitoring locations.

5.4 Waterfowl

Waterfowl are collected each year by the INL contractor at a wastewater pond on the INL Site and at a location off the INL Site. Two waterfowl were collected from wastewater ponds located at the ATR Complex plus three control waterfowl collected from Burton and Swan Valley. Each sample was divided into the following three sub-samples: (1) edible tissue (muscle, gizzard, heart, and liver); (2) external portion (feathers, feet, and head); and (3) all remaining tissue. All samples were analyzed for gamma-emitting radionuclides, ^{90}Sr, and actinides (^{241}Am, ^{238}Pu, and $^{239/240}$Pu). These radionuclides were selected because they have historically been measured in liquid effluents from some INL Site facilities.

A total of two human-made radionuclides were detected in edible, exterior, and remainder sub-samples from ducks collected at the ATR Complex ponds (Table 1). These were ^{60}Co, and ^{90}Sr. Only ^{90}Sr was found in the edible tissues (Appendix C, Table C-11). One radionuclide (^{90}Sr) was detected in the control ducks.

The maximum potential dose from eating 225 g (8 oz) of duck meat collected in 2021 was calculated. Doses from consuming waterfowl are conservatively based on the assumption that ducks are eaten immediately after leaving the pond and no radioactive decay occurs. The maximum potential dose of 0.002 mrem estimated from these waterfowl sample results is lower than the dose estimated for 2020 (0.078 mrem).

Table 1. Radionuclide concentrations detected in waterfowl collected in 2021.

Radionuclides Detected in Waterfowl Tissue (pCi/kg)			
Species	**Portion**	**Radionuclide**	**Concentration**
Northern Shoveler	Exterior	^{60}Co	49 ± 6
		^{90}Sr	196 ± 9
	Remainder	^{60}Co	7 ± 2
		^{90}Sr	112 ± 7
Northern Shoveler	Edible	^{90}Sr	49 ± 5
	Exterior	^{60}Co	71 ± 7
		^{90}Sr	177 ± 6
	Remainder	^{90}Sr	99 ± 6
Mallard	Edible	^{90}Sr	24 ± 5
	Exterior	^{90}Sr	21 ± 4
Mallard	Edible	^{90}Sr	73 ± 4
	Exterior	^{90}Sr	22 ± 4
	Remainder	^{90}Sr	11 ± 3
Mallard	Edible	^{90}Sr	30 ± 3
	Exterior	^{90}Sr	30 ± 4
	Remainder	^{90}Sr	16 ± 4

6. Environmental Radiation

An array of optically stimulated luminescent dosimeters (OSLDs) are distributed throughout the Eastern Snake River Plain and on the INL Site (Figure 14) to monitor for environmental radiation. In May 2021 the ESER contractor and INL Contractor deployed OSLDs at various locations, including around INL Site facilities (Figure 14). Beginning in November 2011, two OSLDs were place in the same locations (Figure 14) as the TLDs at the ESER locations to run a side-by-side comparison of the two dosimeter technologies. 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 fourth quarter of 2021 are displayed in Appendix C, Table C-12. 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 distant groupings. The onsite OSLD values ranged from 48.4 mrem at IF-638E to 325.7 mrem at ICPP O-20, with an overall average of 78.4 mrem. The boundary OSLD values ranged from 56.5 mrem at Birch Creek (Reno Ranch) to 83.7 mrem at RRL 5, with an overall average of 66.6 mrem. This equates to an average daily dose of 0.37 mrem. Distant results varied from 57.3 mrem at Blackfoot O-9 to 83.3 mrem at Sugar City. The distant average was 68.3 mrem, which also equates to 0.38 mrem per day. The reported results for dosimeters collected during fourth quarter 2021 were primarily below the background UTL values. Table 2 lists the locations that exceeded the background level UTL. The dosimeter result (83.3 mrem) at Sugar City slightly exceeded the background UTL of 80.8 mrem. This result is within the historical range of results measured at this location.

The facility OSLDs that exceeded the background level UTL are located at Materials and Fuels Complex or MFC (listed as Argonne National Laboratory or ANL), INTEC (listed as Idaho Chemical Processing Plant (ICPP), and the Radioactive Waste Management Complex (RWMC) (Table 2). The ANL O-21 result appears to be following a trend since 2020. The ICPP results presented in Table 2 appear to follow a pattern of elevated measurements observed at those locations. The locations have consistently shown higher results when compared to other locations at INTEC. The RWMC O-11A dosimeter result was only slightly above the UTL. The dosimeter result for RWMC O-13A is the highest seen for that area. The UTL exceedances for locations near MFC, INTEC, and RWMC are most likely due to operations in those areas.

Table 2. Dosimetry location above background level UTL.

Location	***Ambient dose (mrem)***	***Background UTL (mrem)***
ANL O-21	103.7	86.3
ICPP O-20	325.7	197.1
ICPP O-27	203.6	197.1
ICPP O-28	209.3	197.1
ICPP O-30	233.8	197.1
RWMC O-11A	89.5	86.71
RWMC O-13A	223.3	86.71
Sugar City	83.3	80.8

All neutron dosimeters collected in 2021 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. The INL contractor follows the recommendations of the manufacturer to prevent environmental damage to the neutron dosimetry by wrapping each in aluminum foil. To keep the foil intact, the dosimeter is inserted into an ultraviolet protective cloth pouch when deployed.

TLD results from fourth quarter are presented in Appendix C, Table C-13. The results for TLDs are provided in exposure units of milliroentgen (mR). The fourth quarter boundary values ranged from 50.6 mR at Blue Dome to 62.2 mR at Mud Lake, with an overall average of 57.0 mR. This results in an average daily exposure rate of 0.31 mR per day. The distant results for fourth quarter ranged from 49.0 mR at Dubois to 76.8 mR at Sugar City. The overall distant exposure was 59.5 mR with an average daily exposure rate of 0.33 mR day.

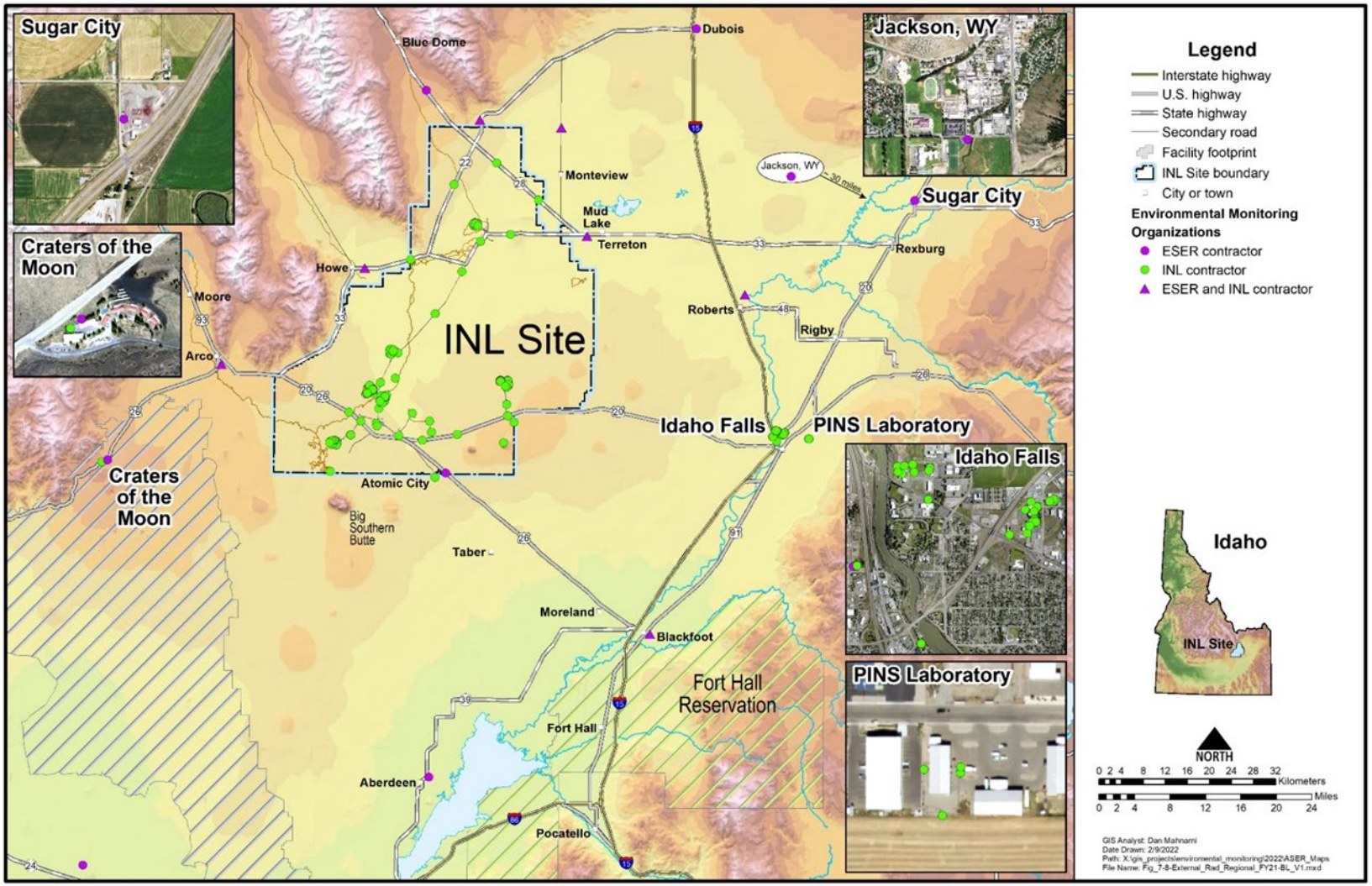

Figure 14. INL contractor OSLD locations.

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7. Quality Assurance

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
5. presence of contamination in samples, using blanks.

Sample results are compared to criteria described in the *Quality Assurance Project Plan for the INL Site Offsite Environmental Surveillance Program* (VNSFS 2018) and the *Quality Assurance Project Plan for Environmental Monitoring Program Sampling* (PLN-3059). Criteria established by DOE for Quality Assurance activities include:

- Quality assurance program
- Personnel training and qualification
- Quality improvement process
- Documents and records
- Established work processes
- Established standards for design and verification
- Established procurement requirements
- Inspection and acceptance testing
- Management assessment
- Independent assessment.

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

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8. 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		
		Distant	**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, FAA Tower, Howe, Monteview, Mud Lake, Blue Dome	ATR Complex, CFA, EBR-I, EFS, Gate 4, Hwy 26 Rest Area, INTEC (NE corner), INTEC (west side), Main Gate, MFC - North, MFC - South, NRF, 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, FAA Tower, Howe, Monteview, Mud Lake, Blue Dome	ATR Complex, CFA, EBR-I, EFS, Gate 4, Hwy 26 Rest Area, INTEC (NE corner), INTEC (west side), Main Gate, MFC - North, MFC - South, NRF, RHLLW, RWMC, RWMC – South, SMC, Van Buren
^{90}Sr, Transuranics	quarterly	Rotating schedule	Rotating schedule	Rotating schedule
Atmospheric Moisture				
Tritium	2 to 13 weeks	Idaho Falls, Craters of the Moon	Atomic City, Howe	EFS, MFC, Van Buren
Precipitation				
Tritium	monthly	Idaho Falls	None	None
Tritium	weekly	None	Atomic City, Howe	EFS
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	None

Table A-1. continued.

Surface Water				
Gross Alpha, Gross Beta, Tritium	semi-annually	Buhl, Hagerman, Twin Falls	None	Big Lost River (when flowing)
Environmental Radiation Sampling				
TLDs/OSLDs				
Gamma Radiation	semiannual	Aberdeen, Blackfoot, Craters of the Moon, Dubois, Idaho Falls, Jackson WY, Minidoka, Sugar City, Roberts	Arco, Atomic City, Birch Creek, Blue Dome, Howe, Monteview, Mud Lake Resident Receptor Location	Advanced Test Reactor Complex; Auxiliary Reactor Area; Central Facilities Area; Experimental Breeder Reactor I; Experimental Field Station; Gate 4; Haul E; Haul W; Highway 20; Highway 22; Highway 28; Highway 33; Idaho Nuclear Technology and Engineering Center; Lincoln Boulevard; Materials and Fuels Complex; Naval Reactors Facility; Power Burst Facility Special Power Excursion Reactor; Radioactive Waste Management Complex; Remote-handled Low-level Waste; Resident Receptor Locations; Rest Area; Test Area North, Loss-of-Fluid Test; Transient Reactor Test; Van Buren
Soil Sampling				
Soil				
Gamma Spec, ^{90}Sr, Transuranics	biennially	Carey, Blackfoot, St. Anthony	Butte City, Monteview, Atomic City, FAA Tower, Howe, Mud Lake (2), Birch Creek, Frenchman's Cabin	RWMC, EFS, Hwy 26 Rest Area
Agricultural Product Sampling				
Milk				

Gamma Spec (^{131}I)	weekly	Idaho Falls	Terreton	None

Table A-1. continued.

Gamma Spec (^{131}I)	monthly	Blackfoot, Dietrich, Fort Hall, Idaho Falls, Minidoka	Howe, Terreton	None
Tritium, ^{90}Sr	Semi-annually	Blackfoot, Dietrich, Fort Hall, Idaho Falls, Minidoka	Howe, Terreton	None
Potatoes				
Gamma Spec, ^{90}Sr	annually	Varies among Blackfoot, Idaho Falls, Rupert, Shelley, Hamer, Driggs, 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, Rupert/Minidoka, Roberts	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: Heise, Firth, Fort Hall, Mud Lake, Market Lake, and American Falls	None	INL Site wastewater disposal ponds

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Appendix B
Summary of MDCs and DCSs

Table B-1. Summary of approximate MDC for radiological analyses performed during fourth quarter 2021.

Sample Type	Analysis	Average MDC[a]	DCS[b]
Air (particulate filter)[e]	Gross alpha	4.9×10^{-16} µCi/mL	3.4×10^{-14} µCi/ml[c]
	Gross beta	3.2×10^{-15} µCi/mL	2.5×10^{-11} µCi/ml[d]
	^{137}Cs	9.1×10^{-17} µCi/mL	9.8×10^{-11} µCi/ml
	^{90}Sr	4.3×10^{-17} µCi/mL	2.5×10^{-11} µCi/ml
	^{241}Am	3.8×10^{-18} µCi/mL	4.1×10^{-14} µCi/ml
	^{238}Pu	3.3×10^{-18} µCi/mL	3.7×10^{-14} µCi/ml
	$^{239/240}$Pu	4.4×10^{-18} µCi/mL	3.4×10^{-14} µCi/ml
Air (charcoal cartridge)[e]	^{131}I	9.3×10^{-16} µCi/mL	4.1×10^{-10} µCi/ml
Air (atmospheric moisture)	^{3}H	90 pCi/L_{water} 3.6×10^{-13} µCi/mL_{air}	1.9×10^{6} pCi/L_{water} 2.1×10^{-7} µCi/ml_{air}
Air (precipitation)	^{3}H	90 pCi/L	1.9×10^{6} pCi/L
Milk	^{131}I	0.56 pCi/L	1,300 pCi/L[f]
	^{137}Cs	1.1 pCi/L	3,000 pCi/L[f]
	^{90}Sr	0.36 pCi/L	1,100 pCi/L[f]
	^{3}H	90 pCi/L	1.9×10^{6} pCi/L[f]
Drinking Water/Surface Water	Gross alpha	1.7 pCi/L	140 pCi/L[c]
	Gross beta	1.5 pCi/L	1,100 pCi/L[d]
	^{3}H	89 pCi/L	1.9×10^{6} pCi/L_{water}
Waterfowl	^{137}Cs	3.4 pCi/kg	--[g]
	^{90}Sr	14.5 pCi/kg	--
	^{241}Am	8.7 pCi/kg	--
	^{238}Pu	7.5 pCi/kg	--
	$^{239/240}$Pu	8.0 pCi/kg	--

Table B-1. continued.

a. The MDC is an estimate of the concentration of radioactivity in a given sample type that can be identified with a 95% level of confidence. MDCs are calculated and reported by the laboratories based on actual INL contractor sample results following analysis.
b. DCSs, set by the DOE, represent reference values for radiation exposure. They are based on a radiation dose of 100 mrem/yr for exposure through a particular exposure mode such as direct exposure, inhalation, or ingestion of water.
c. Based on the most restrictive human-made alpha emitter (^{239}Pu).
d. Based on the most restrictive human-made beta emitter (^{90}Sr).
e. The approximate MDC for air is based on an average filtered air volume (pressure corrected) of 445 m^3/week. The MDCs for lettuce, potatoes, grain and soil are per dry weight.
f. There is no DCS established for radionuclides in milk. However, The DCS shown is for the radionuclide ingested in water.
g. – No appropriate DCS available

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Appendix C
Sample Analysis Results

Table C-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
BOUNDARY															
ARCO	10/06/21	1.24	±	0.26	4.59	±	0.96	Yes	31.00	±	1.30	114.70	±	4.81	Yes
	10/13/21	1.82	±	0.30	6.73	±	1.10	Yes	45.60	±	1.27	168.72	±	4.70	Yes
	10/20/21	1.83	±	0.29	6.77	±	1.08	Yes	47.20	±	1.29	174.64	±	4.77	Yes
	10/27/21	1.07	±	0.17	3.96	±	0.61	Yes	20.70	±	0.58	76.59	±	2.14	Yes
	11/03/21	1.87	±	0.31	6.92	±	1.14	Yes	47.40	±	1.33	175.38	±	4.92	Yes
	11/10/21	1.17	±	0.22	4.33	±	0.81	Yes	24.40	±	0.76	90.28	±	2.79	Yes
	11/17/21	1.48	±	0.27	5.48	±	1.01	Yes	41.80	±	1.19	154.66	±	4.40	Yes
	11/24/21	1.49	±	0.26	5.51	±	0.98	Yes	24.40	±	0.76	90.28	±	2.82	Yes
	12/01/21	2.10	±	0.31	7.77	±	1.13	Yes	56.10	±	1.36	207.57	±	5.03	Yes
	12/08/21	1.43	±	0.23	5.29	±	0.84	Yes	38.50	±	0.93	142.45	±	3.43	Yes
	12/15/21	1.55	±	0.24	5.74	±	0.87	Yes	17.60	±	0.71	65.12	±	2.61	Yes
	12/22/21	2.81	±	0.28	10.40	±	1.05	Yes	27.50	±	0.77	101.75	±	2.85	Yes
	12/29/21	2.07	±	0.26	7.66	±	0.98	Yes	16.40	±	0.69	60.68	±	2.56	Yes
ARCO (QA-1)	10/06/21	1.23	±	0.26	4.55	±	0.95	Yes	28.70	±	1.26	106.19	±	4.66	Yes
	10/13/21	2.56	±	0.34	9.47	±	1.25	Yes	50.20	±	1.34	185.74	±	4.96	Yes
	10/20/21	1.17	±	0.26	4.33	±	0.95	Yes	49.50	±	1.33	183.15	±	4.92	Yes
	10/27/21	0.95	±	0.16	3.50	±	0.59	Yes	22.50	±	0.60	83.25	±	2.23	Yes
	11/03/21	2.48	±	0.34	9.18	±	1.25	Yes	46.40	±	1.33	171.68	±	4.92	Yes
	11/10/21	1.33	±	0.23	4.92	±	0.85	Yes	24.10	±	0.76	89.17	±	2.81	Yes
	11/17/21	1.22	±	0.26	4.51	±	0.98	Yes	43.40	±	1.22	160.58	±	4.51	Yes
	11/24/21	1.60	±	0.28	5.92	±	1.03	Yes	25.50	±	0.80	94.35	±	2.95	Yes
	12/01/21	3.04	±	0.34	11.25	±	1.27	Yes	52.00	±	1.31	192.40	±	4.85	Yes
	12/08/21	1.98	±	0.26	7.33	±	0.97	Yes	37.70	±	0.95	139.49	±	3.50	Yes
	12/15/21	1.41	±	0.22	5.22	±	0.83	Yes	16.90	±	0.68	62.53	±	2.53	Yes
	12/22/21	3.10	±	0.30	11.47	±	1.11	Yes	28.20	±	0.80	104.34	±	2.95	Yes
	12/29/21	1.83	±	0.25	6.77	±	0.93	Yes	17.50	±	0.71	64.75	±	2.62	Yes
ATOMIC CITY	10/06/21	1.12	±	0.25	4.14	±	0.91	Yes	29.40	±	1.25	108.78	±	4.63	Yes
	10/13/21	1.53	±	0.28	5.66	±	1.02	Yes	47.00	±	1.26	173.90	±	4.66	Yes
	10/20/21	2.25	±	0.32	8.33	±	1.19	Yes	46.50	±	1.33	172.05	±	4.92	Yes
	10/27/21	1.31	±	0.18	4.85	±	0.68	Yes	22.40	±	0.62	82.88	±	2.28	Yes
	11/03/21	2.16	±	0.33	7.99	±	1.20	Yes	42.30	±	1.30	156.51	±	4.81	Yes
	11/10/21	1.88	±	0.27	6.96	±	1.00	Yes	26.40	±	0.82	97.68	±	3.05	Yes
	11/17/21	2.85	±	0.44	10.55	±	1.62	Yes	64.70	±	1.79	239.39	±	6.62	Yes
	11/24/21	1.63	±	0.29	6.03	±	1.07	Yes	28.70	±	0.85	106.19	±	3.15	Yes
	12/01/21	2.53	±	0.33	9.36	±	1.22	Yes	64.50	±	1.43	238.65	±	5.29	Yes
	12/08/21	1.85	±	0.25	6.85	±	0.92	Yes	34.30	±	0.89	126.91	±	3.29	Yes
	12/15/21	1.09	±	0.21	4.03	±	0.77	Yes	16.90	±	0.69	62.53	±	2.56	Yes
	12/22/21	3.45	±	0.33	12.77	±	1.22	Yes	33.10	±	0.89	122.47	±	3.31	Yes
	12/29/21	1.79	±	0.25	6.62	±	0.91	Yes	14.70	±	0.66	54.39	±	2.43	Yes
BLUE DOME	10/06/21	0.95	±	0.24	3.50	±	0.89	Yes	34.10	±	1.34	126.17	±	4.96	Yes
	10/13/21	1.83	±	0.31	6.77	±	1.14	Yes	52.80	±	1.39	195.36	±	5.14	Yes
	10/20/21	1.32	±	0.27	4.88	±	0.98	Yes	46.30	±	1.31	171.31	±	4.85	Yes
	10/27/21	1.06	±	0.17	3.92	±	0.62	Yes	20.40	±	0.59	75.48	±	2.17	Yes
	11/03/21	1.50	±	0.28	5.55	±	1.05	Yes	40.60	±	1.26	150.22	±	4.66	Yes
	11/10/21	1.65	±	0.26	6.11	±	0.95	Yes	23.30	±	0.78	86.21	±	2.88	Yes
	11/17/21	1.01	±	0.25	3.74	±	0.93	Yes	42.80	±	1.21	158.36	±	4.48	Yes
	11/24/21	1.48	±	0.29	5.48	±	1.07	Yes	22.90	±	0.81	84.73	±	2.98	Yes
	12/01/21	1.97	±	0.31	7.29	±	1.14	Yes	49.10	±	1.34	181.67	±	4.96	Yes
	12/08/21	1.91	±	0.26	7.07	±	0.96	Yes	38.00	±	0.95	140.60	±	3.52	Yes
	12/15/21	1.39	±	0.23	5.14	±	0.84	Yes	16.00	±	0.69	59.20	±	2.54	Yes
	12/22/21	2.52	±	0.31	9.32	±	1.14	Yes	25.90	±	0.87	95.83	±	3.20	Yes
	12/29/21	2.00	±	0.27	7.40	±	1.00	Yes	17.40	±	0.73	64.38	±	2.70	Yes

Table C-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
FAA TOWER	10/06/21	1.10	±	0.25	4.07	±	0.94	Yes	29.00	±	1.28	107.30	±	4.74	Yes
	10/13/21	2.22	±	0.33	8.21	±	1.22	Yes	49.10	±	1.36	181.67	±	5.03	Yes
	10/20/21	2.22	±	0.32	8.21	±	1.18	Yes	43.20	±	1.29	159.84	±	4.77	Yes
	10/27/21	0.91	±	0.16	3.37	±	0.60	Yes	19.30	±	0.59	71.41	±	2.18	Yes
	11/03/21	2.19	±	0.32	8.10	±	1.20	Yes	35.40	±	1.22	130.98	±	4.51	Yes
	11/10/21	1.54	±	0.26	5.70	±	0.95	Yes	24.40	±	0.81	90.28	±	3.00	Yes
	11/17/21	1.50	±	0.28	5.55	±	1.04	Yes	42.10	±	1.21	155.77	±	4.48	Yes
	11/24/21	1.14	±	0.27	4.22	±	0.98	Yes	24.90	±	0.81	92.13	±	3.01	Yes
	12/01/21	2.52	±	0.33	9.32	±	1.23	Yes	52.30	±	1.36	193.51	±	5.03	Yes
	12/08/21	2.13	±	0.27	7.88	±	1.01	Yes	22.30	±	0.80	82.51	±	2.94	Yes
	12/15/21	1.29	±	0.23	4.77	±	0.84	Yes	17.70	±	0.73	65.49	±	2.69	Yes
	12/22/21	2.59	±	0.31	9.58	±	1.13	Yes	26.70	±	0.86	98.79	±	3.17	Yes
	12/29/21	1.91	±	0.26	7.07	±	0.97	Yes	16.10	±	0.70	59.57	±	2.60	Yes
HOWE	10/06/21	0.85	±	0.24	3.15	±	0.90	Yes	27.30	±	1.27	101.01	±	4.70	Yes
	10/13/21	1.33	±	0.28	4.92	±	1.02	Yes	49.60	±	1.33	183.52	±	4.92	Yes
	10/20/21	1.66	±	0.28	6.14	±	1.03	Yes	46.20	±	1.27	170.94	±	4.70	Yes
	10/27/21	0.98	±	0.16	3.64	±	0.60	Yes	20.10	±	0.58	74.37	±	2.13	Yes
	11/03/21	2.04	±	0.31	7.55	±	1.15	Yes	49.40	±	1.32	182.78	±	4.88	Yes
	11/10/21	1.27	±	0.23	4.70	±	0.85	Yes	24.00	±	0.77	88.80	±	2.86	Yes
	11/17/21	1.40	±	0.27	5.18	±	0.98	Yes	41.90	±	1.17	155.03	±	4.33	Yes
	11/24/21	2.00	±	0.30	7.40	±	1.12	Yes	25.10	±	0.81	92.87	±	2.98	Yes
	12/01/21	3.01	±	0.35	11.14	±	1.28	Yes	62.10	±	1.41	229.77	±	5.22	Yes
	12/08/21	2.14	±	0.27	7.92	±	1.01	Yes	45.80	±	1.02	169.46	±	3.77	Yes
	12/15/21	1.29	±	0.23	4.77	±	0.84	Yes	18.20	±	0.74	67.34	±	2.72	Yes
	12/22/21	2.38	±	0.28	8.81	±	1.04	Yes	29.70	±	0.85	109.89	±	3.13	Yes
	12/29/21	2.52	±	0.28	9.32	±	1.05	Yes	19.30	±	0.72	71.41	±	2.68	Yes
MONTEVIEW	10/06/21	1.13	±	0.25	4.18	±	0.94	Yes	26.80	±	1.24	99.16	±	4.59	Yes
	10/13/21	1.88	±	0.31	6.96	±	1.14	Yes	45.40	±	1.31	167.98	±	4.85	Yes
	10/20/21	1.27	±	0.25	4.70	±	0.94	Yes	44.70	±	1.25	165.39	±	4.63	Yes
	10/27/21	0.97	±	0.16	3.60	±	0.61	Yes	15.70	±	0.54	58.09	±	1.99	Yes
	11/03/21	1.75	±	0.30	6.48	±	1.11	Yes	43.00	±	1.29	159.10	±	4.77	Yes
	11/10/21	2.04	±	0.27	7.55	±	1.01	Yes	27.60	±	0.82	102.12	±	3.02	Yes
	11/17/21	1.38	±	0.27	5.11	±	1.01	Yes	46.90	±	1.25	173.53	±	4.63	Yes
	11/24/21	1.09	±	0.27	4.03	±	1.00	Yes	27.40	±	0.86	101.38	±	3.19	Yes
	12/01/21	2.77	±	0.34	10.25	±	1.27	Yes	55.00	±	1.38	203.50	±	5.11	Yes
	12/08/21	2.73	±	0.30	10.10	±	1.12	Yes	42.30	±	1.00	156.51	±	3.70	Yes
	12/15/21	1.20	±	0.21	4.44	±	0.79	Yes	21.20	±	0.75	78.44	±	2.76	Yes
	12/22/21	2.28	±	0.31	8.44	±	1.15	Yes	31.30	±	0.97	115.81	±	3.59	Yes
	12/29/21	2.27	±	0.29	8.40	±	1.09	Yes	21.70	±	0.82	80.29	±	3.03	Yes
MUD LAKE	10/06/21	1.22	±	0.25	4.51	±	0.91	Yes	30.70	±	1.25	113.59	±	4.63	Yes
	10/13/21	2.10	±	0.32	7.77	±	1.17	Yes	46.80	±	1.30	173.16	±	4.81	Yes
	10/20/21	2.37	±	0.33	8.77	±	1.24	Yes	56.40	±	1.44	208.68	±	5.33	Yes
	10/27/21	1.20	±	0.17	4.44	±	0.64	Yes	16.50	±	0.54	61.05	±	2.00	Yes
	11/03/21	2.30	±	0.33	8.51	±	1.23	Yes	43.90	±	1.32	162.43	±	4.88	Yes
	11/10/21	-0.25	±	0.12	-0.91	±	0.44	No	25.10	±	0.81	92.87	±	3.00	Yes
	11/17/21	1.05	±	0.26	3.89	±	0.95	Yes	45.00	±	1.25	166.50	±	4.63	Yes
	11/24/21	1.92	±	0.31	7.10	±	1.13	Yes	29.00	±	0.87	107.30	±	3.21	Yes
	12/01/21	3.70	±	0.39	13.69	±	1.42	Yes	63.00	±	1.46	233.10	±	5.40	Yes
	12/08/21	2.30	±	0.28	8.51	±	1.04	Yes	36.90	±	0.95	136.53	±	3.50	Yes
	12/15/21	1.03	±	0.21	3.81	±	0.77	Yes	19.00	±	0.74	70.30	±	2.73	Yes
	12/22/21	2.98	±	0.34	11.03	±	1.27	Yes	30.80	±	0.97	113.96	±	3.59	Yes
	12/29/21	1.86	±	0.27	6.88	±	1.01	Yes	18.60	±	0.78	68.82	±	2.89	Yes

Table C-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
MUD LAKE (QA-2)	10/06/21	0.88	±	0.23	3.24	±	0.84	Yes	31.80	±	1.26	117.66	±	4.66	Yes
	10/13/21	1.82	±	0.30	6.73	±	1.10	Yes	41.10	±	1.24	152.07	±	4.59	Yes
	10/20/21	1.89	±	0.29	6.99	±	1.08	Yes	44.00	±	1.25	162.80	±	4.63	Yes
	10/27/21	0.98	±	0.16	3.64	±	0.60	Yes	20.50	±	0.58	75.85	±	2.15	Yes
	11/03/21	1.86	±	0.30	6.88	±	1.11	Yes	43.60	±	1.27	161.32	±	4.70	Yes
	11/10/21	1.56	±	0.25	5.77	±	0.92	Yes	29.80	±	0.84	110.26	±	3.10	Yes
	11/17/21	1.48	±	0.27	5.48	±	0.98	Yes	45.50	±	1.18	168.35	±	4.37	Yes
	11/24/21	1.69	±	0.29	6.25	±	1.07	Yes	30.70	±	0.87	113.59	±	3.23	Yes
	12/01/21	3.83	±	0.38	14.17	±	1.39	Yes	70.30	±	1.47	260.11	±	5.44	Yes
	12/08/21	3.00	±	0.31	11.10	±	1.15	Yes	46.50	±	1.03	172.05	±	3.81	Yes
	12/15/21	1.35	±	0.22	5.00	±	0.80	Yes	21.20	±	0.72	78.44	±	2.66	Yes
	12/22/21	3.34	±	0.34	12.36	±	1.25	Yes	35.70	±	0.95	132.09	±	3.53	Yes
	12/29/21	2.02	±	0.27	7.47	±	0.99	Yes	20.30	±	0.76	75.11	±	2.80	Yes
DISTANT															
BLACKFOOT	10/06/21	1.35	±	0.26	5.00	±	0.97	Yes	25.80	±	1.21	95.46	±	4.48	Yes
	10/06/21	0.75	±	0.79	2.78	±	2.92	No	34.60	±	3.90	128.02	±	14.43	Yes
	10/13/21	1.45	±	0.27	5.37	±	0.98	Yes	43.20	±	1.20	159.84	±	4.44	Yes
	10/13/21	0.96	±	0.60	3.55	±	2.22	No	20.10	±	2.60	74.37	±	9.62	Yes
	10/20/21	1.76	±	0.30	6.51	±	1.10	Yes	44.40	±	1.31	164.28	±	4.85	Yes
	10/20/21	1.07	±	0.77	3.96	±	2.85	No	25.50	±	3.10	94.35	±	11.47	Yes
	10/27/21	1.55	±	0.20	5.74	±	0.74	Yes	22.70	±	0.63	83.99	±	2.35	Yes
	10/27/21	-0.48	±	0.47	-1.78	±	1.74	No	23.60	±	2.90	87.32	±	10.73	Yes
	11/03/21	2.06	±	0.32	7.62	±	1.18	Yes	37.90	±	1.25	140.23	±	4.63	Yes
	11/03/21	1.23	±	0.74	4.55	±	2.74	No	21.90	±	2.80	81.03	±	10.36	Yes
	11/10/21	1.33	±	0.24	4.92	±	0.88	Yes	23.80	±	0.78	88.06	±	2.88	Yes
	11/10/21	1.44	±	0.89	5.33	±	3.29	No	24.10	±	3.10	89.17	±	11.47	Yes
	11/17/21	2.05	±	0.31	7.59	±	1.15	Yes	41.40	±	1.22	153.18	±	4.51	Yes
	11/17/21	1.27	±	0.83	4.70	±	3.07	No	25.70	±	3.20	95.09	±	11.84	Yes
	11/23/21	2.30	±	1.10	8.51	±	4.07	No	21.20	±	3.00	78.44	±	11.10	Yes
	11/24/21	1.37	±	0.28	5.07	±	1.03	Yes	25.60	±	0.83	94.72	±	3.06	Yes
	12/01/21	3.01	±	0.35	11.14	±	1.31	Yes	61.00	±	1.43	225.70	±	5.29	Yes
	12/01/21	1.92	±	0.96	7.10	±	3.55	No	33.70	±	3.80	124.69	±	14.06	Yes
	12/08/21	2.04	±	0.27	7.55	±	0.99	Yes	44.10	±	1.01	163.17	±	3.74	Yes
	12/08/21	2.50	±	1.20	9.25	±	4.44	No	40.60	±	4.50	150.22	±	16.65	Yes
	12/15/21	1.11	±	0.22	4.11	±	0.81	Yes	18.20	±	0.74	67.34	±	2.75	Yes
	12/15/21	0.01	±	0.59	0.04	±	2.18	No	17.00	±	2.50	62.90	±	9.25	Yes
	12/22/21	2.93	±	0.32	10.84	±	1.18	Yes	26.50	±	0.85	98.05	±	3.15	Yes
	12/22/21	0.36	±	0.61	1.33	±	2.26	No	16.50	±	2.40	61.05	±	8.88	Yes
	12/29/21	1.77	±	0.24	6.55	±	0.88	Yes	14.40	±	0.64	53.28	±	2.36	Yes
CRATERS OF THE MOON	10/06/21	0.73	±	0.23	2.71	±	0.85	Yes	27.70	±	1.25	102.49	±	4.63	Yes
	10/06/21	1.52	±	0.93	5.62	±	3.44	No	33.40	±	3.90	123.58	±	14.43	Yes
	10/13/21	2.15	±	0.39	7.96	±	1.46	Yes	56.70	±	1.72	209.79	±	6.36	Yes
	10/13/21	2.60	±	1.30	9.62	±	4.81	No	23.60	±	3.50	87.32	±	12.95	Yes
	10/27/21	1.04	±	0.18	3.85	±	0.66	Yes	22.60	±	0.65	83.62	±	2.39	Yes
	10/27/21	1.39	±	0.83	5.14	±	3.07	No	22.40	±	2.90	82.88	±	10.73	Yes
	11/03/21	2.56	±	0.32	9.47	±	1.17	Yes	35.40	±	1.12	130.98	±	4.14	Yes
	11/03/21	0.61	±	0.71	2.26	±	2.63	No	21.20	±	2.90	78.44	±	10.73	Yes
	11/10/21	1.58	±	0.24	5.85	±	0.90	Yes	20.70	±	0.72	76.59	±	2.67	Yes
	11/10/21	-0.15	±	0.50	-0.56	±	1.85	No	24.50	±	3.10	90.65	±	11.47	Yes
	11/17/21	1.44	±	0.27	5.33	±	0.98	Yes	34.90	±	1.10	129.13	±	4.07	Yes
	11/17/21	0.52	±	0.71	1.92	±	2.63	No	23.90	±	3.00	88.43	±	11.10	Yes
	11/23/21	1.22	±	0.85	4.51	±	3.15	No	16.50	±	2.50	61.05	±	9.25	Yes
	11/24/21	1.19	±	0.26	4.40	±	0.95	Yes	19.60	±	0.72	72.52	±	2.66	Yes
	12/01/21	2.18	±	0.31	8.07	±	1.16	Yes	50.90	±	1.33	188.33	±	4.92	Yes
	12/01/21	1.35	±	0.79	5.00	±	2.92	No	27.10	±	3.10	100.27	±	11.47	Yes
	12/08/21	1.55	±	0.23	5.74	±	0.86	Yes	29.30	±	0.84	108.41	±	3.12	Yes
	12/08/21	2.05	±	0.98	7.59	±	3.63	No	32.60	±	3.70	120.62	±	13.69	Yes

Table C-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
	12/15/21	1.16	±	0.21	4.29	±	0.78	Yes	15.80	±	0.68	58.46	±	2.52	Yes
	12/15/21	0.86	±	0.74	3.18	±	2.74	No	16.80	±	2.40	62.16	±	8.88	Yes
	12/22/21	1.62	±	0.24	5.99	±	0.89	Yes	21.40	±	0.74	79.18	±	2.75	Yes
	12/22/21	1.15	±	0.79	4.26	±	2.92	No	23.50	±	3.00	86.95	±	11.10	Yes
DUBOIS	10/06/21	0.80	±	0.24	2.96	±	0.90	Yes	28.00	±	1.30	103.60	±	4.81	Yes
	10/13/21	1.17	±	0.26	4.33	±	0.97	Yes	46.30	±	1.28	171.31	±	4.74	Yes
	10/20/21	1.88	±	0.30	6.96	±	1.10	Yes	44.60	±	1.29	165.02	±	4.77	Yes
	10/27/21	1.04	±	0.16	3.85	±	0.61	Yes	20.50	±	0.58	75.85	±	2.13	Yes
	11/03/21	2.28	±	0.33	8.44	±	1.20	Yes	38.40	±	1.24	142.08	±	4.59	Yes
	11/10/21	1.31	±	0.23	4.85	±	0.85	Yes	23.60	±	0.75	87.32	±	2.79	Yes
	11/17/21	1.18	±	0.26	4.37	±	0.96	Yes	42.50	±	1.20	157.25	±	4.44	Yes
	11/24/21	1.96	±	0.31	7.25	±	1.14	Yes	22.70	±	0.79	83.99	±	2.94	Yes
	12/01/21	2.54	±	0.33	9.40	±	1.20	Yes	44.60	±	1.26	165.02	±	4.66	Yes
	12/08/21	2.06	±	0.27	7.62	±	1.00	Yes	35.50	±	0.94	131.35	±	3.49	Yes
	12/15/21	1.47	±	0.24	5.44	±	0.87	Yes	21.50	±	0.77	79.55	±	2.84	Yes
	12/22/21	2.13	±	0.28	7.88	±	1.02	Yes	24.10	±	0.81	89.17	±	2.98	Yes
	12/29/21	1.85	±	0.25	6.85	±	0.92	Yes	16.40	±	0.68	60.68	±	2.52	Yes
IDAHO FALLS	10/06/21	1.38	±	0.27	5.11	±	1.01	Yes	29.80	±	1.31	110.26	±	4.85	Yes
	10/06/21	2.30	±	1.10	8.51	±	4.07	No	36.90	±	4.10	136.53	±	15.17	Yes
	10/13/21	1.96	±	0.31	7.25	±	1.16	Yes	45.20	±	1.31	167.24	±	4.85	Yes
	10/13/21	1.37	±	0.68	5.07	±	2.52	No	16.60	±	2.40	61.42	±	8.88	Yes
	10/20/21	1.05	±	0.24	3.89	±	0.89	Yes	40.10	±	1.22	148.37	±	4.51	Yes
	10/20/21	1.26	±	0.82	4.66	±	3.03	No	25.90	±	3.10	95.83	±	11.47	Yes
	10/27/21	1.30	±	0.18	4.81	±	0.68	Yes	19.90	±	0.60	73.63	±	2.20	Yes
	10/27/21	2.33	±	0.99	8.62	±	3.66	No	21.50	±	2.80	79.55	±	10.36	Yes
	11/03/21	2.23	±	0.32	8.25	±	1.19	Yes	35.40	±	1.20	130.98	±	4.44	Yes
	11/03/21	1.96	±	0.95	7.25	±	3.52	No	23.20	±	2.90	85.84	±	10.73	Yes
	11/10/21	1.53	±	0.25	5.66	±	0.92	Yes	23.50	±	0.78	86.95	±	2.88	Yes
	11/10/21	3.60	±	1.20	13.32	±	4.44	No	23.30	±	3.10	86.21	±	11.47	Yes
	11/17/21	1.31	±	0.27	4.85	±	1.00	Yes	44.80	±	1.23	165.76	±	4.55	Yes
	11/17/21	0.48	±	0.68	1.78	±	2.52	No	24.00	±	3.10	88.80	±	11.47	Yes
	11/23/21	0.21	±	0.68	0.78	±	2.52	No	29.30	±	3.70	108.41	±	13.69	Yes
	11/24/21	1.28	±	0.29	4.74	±	1.07	Yes	24.40	±	0.85	90.28	±	3.13	Yes
	12/01/21	3.06	±	0.36	11.32	±	1.33	Yes	58.30	±	1.42	215.71	±	5.25	Yes
	12/01/21	0.92	±	0.82	3.40	±	3.03	No	35.10	±	3.90	129.87	±	14.43	Yes
	12/08/21	1.70	±	0.25	6.29	±	0.93	Yes	36.30	±	0.95	134.31	±	3.50	Yes
	12/08/21	1.30	±	0.97	4.81	±	3.59	No	40.80	±	4.50	150.96	±	16.65	Yes
	12/15/21	1.51	±	0.24	5.59	±	0.87	Yes	18.10	±	0.72	66.97	±	2.66	Yes
	12/15/21	0.41	±	0.67	1.52	±	2.48	No	17.10	±	2.50	63.27	±	9.25	Yes
	12/22/21	3.04	±	0.32	11.25	±	1.17	Yes	30.70	±	0.87	113.59	±	3.23	Yes
	12/22/21	0.19	±	0.68	0.70	±	2.52	No	32.20	±	3.80	119.14	±	14.06	Yes
	12/29/21	1.99	±	0.25	7.36	±	0.92	Yes	16.50	±	0.66	61.05	±	2.43	Yes
IRC	10/06/21	0.14	±	0.71	0.52	±	2.63	No	34.30	±	3.90	126.91	±	14.43	Yes
	10/13/21	0.99	±	0.66	3.66	±	2.44	No	19.80	±	2.60	73.26	±	9.62	Yes
	10/20/21	0.59	±	0.75	2.18	±	2.78	No	27.80	±	3.40	102.86	±	12.58	Yes
	10/27/21	0.82	±	0.73	3.03	±	2.70	No	22.50	±	3.00	83.25	±	11.10	Yes
	11/03/21	0.03	±	0.58	0.11	±	2.15	No	26.10	±	3.20	96.57	±	11.84	Yes
	11/10/21	1.57	±	0.87	5.81	±	3.22	No	24.30	±	3.10	89.91	±	11.47	Yes
	11/17/21	1.20	±	0.86	4.44	±	3.18	No	26.90	±	3.30	99.53	±	12.21	Yes
	11/23/21	0.39	±	0.81	1.44	±	3.00	No	24.70	±	3.40	91.39	±	12.58	Yes
	12/01/21	1.94	±	0.96	7.18	±	3.55	No	40.40	±	4.30	149.48	±	15.91	Yes
	12/08/21	0.44	±	0.78	1.63	±	2.89	No	44.50	±	4.80	164.65	±	17.76	Yes
	12/15/21	0.69	±	0.70	2.55	±	2.59	No	18.40	±	2.60	68.08	±	9.62	Yes
	12/22/21	1.50	±	0.89	5.55	±	3.29	No	26.00	±	3.20	96.20	±	11.84	Yes

Table C-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
IRC NORTH	10/06/21	2.60	±	1.10	9.62	±	4.07	No	37.10	±	4.20	160.58	±	7.07	Yes
	10/13/21	1.79	±	0.80	6.62	±	2.96	No	17.70	±	2.50	161.58	±	8.07	Yes
	10/20/21	1.62	±	0.95	5.99	±	3.52	No	23.10	±	3.10	162.58	±	9.07	Yes
	10/27/21	0.61	±	0.75	2.26	±	2.78	No	25.90	±	3.20	163.58	±	10.07	Yes
	11/03/21	-0.22	±	0.52	-0.81	±	1.92	No	22.20	±	2.90	164.58	±	11.07	Yes
	11/10/21	2.11	±	0.96	7.81	±	3.55	No	18.90	±	2.60	165.58	±	12.07	Yes
	11/17/21	-0.07	±	0.63	-0.26	±	2.33	No	28.00	±	3.40	166.58	±	13.07	Yes
	11/23/21	1.13	±	0.96	4.18	±	3.55	No	24.30	±	3.30	167.58	±	14.07	Yes
	12/01/21	0.72	±	0.72	2.66	±	2.66	No	32.60	±	3.60	168.58	±	15.07	Yes
	12/08/21	0.76	±	0.85	2.81	±	3.15	No	44.80	±	4.80	169.58	±	16.07	Yes
	12/15/21	1.31	±	0.83	4.85	±	3.07	No	18.40	±	2.60	170.58	±	17.07	Yes
	12/22/21	2.60	±	1.10	9.62	±	4.07	No	33.00	±	3.80	171.58	±	18.07	Yes
JACKSON, WY	10/06/21	1.88	±	0.31	6.96	±	1.14	Yes	32.00	±	1.39	118.40	±	5.14	Yes
	10/13/21	1.27	±	0.27	4.70	±	1.01	Yes	41.90	±	1.28	155.03	±	4.74	Yes
	10/20/21	1.72	±	0.29	6.36	±	1.09	Yes	43.70	±	1.31	161.69	±	4.85	Yes
	10/27/21	1.22	±	0.18	4.51	±	0.66	Yes	22.70	±	0.62	83.99	±	2.28	Yes
	11/03/21	1.62	±	0.29	5.99	±	1.08	Yes	29.60	±	1.16	109.52	±	4.29	Yes
	11/10/21	1.20	±	0.24	4.44	±	0.87	Yes	23.60	±	0.80	87.32	±	2.95	Yes
	11/17/21	1.14	±	0.26	4.22	±	0.96	Yes	33.90	±	1.13	125.43	±	4.18	Yes
	11/24/21	1.18	±	0.28	4.37	±	1.03	Yes	20.50	±	0.79	75.85	±	2.92	Yes
	12/01/21	2.78	±	0.34	10.29	±	1.25	Yes	35.70	±	1.19	132.09	±	4.40	Yes
	12/08/21	1.21	±	0.22	4.48	±	0.81	Yes	21.80	±	0.79	80.66	±	2.93	Yes
	12/15/21	1.31	±	0.23	4.85	±	0.84	Yes	19.50	±	0.75	72.15	±	2.76	Yes
	12/22/21	2.23	±	0.28	8.25	±	1.05	Yes	15.30	±	0.71	56.61	±	2.62	Yes
	12/29/21	1.23	±	0.22	4.55	±	0.83	Yes	13.20	±	0.67	48.84	±	2.48	Yes
SUGAR CITY	10/06/21	1.93	±	0.36	7.14	±	1.33	Yes	39.30	±	1.70	145.41	±	6.29	Yes
	10/06/21	2.10	±	1.00	7.77	±	3.70	No	40.10	±	4.40	148.37	±	16.28	Yes
	10/13/21	2.76	±	0.39	10.21	±	1.44	Yes	62.60	±	1.62	231.62	±	5.99	Yes
	10/13/21	0.69	±	0.58	2.55	±	2.15	No	19.40	±	2.60	71.78	±	9.62	Yes
	10/20/21	1.62	±	0.31	5.99	±	1.15	Yes	51.10	±	1.48	189.07	±	5.48	Yes
	10/20/21	0.95	±	0.76	3.52	±	2.81	No	31.80	±	3.70	117.66	±	13.69	Yes
	10/27/21	0.60	±	0.09	2.21	±	0.33	Yes	7.69	±	0.28	28.45	±	1.02	Yes
	10/27/21	1.62	±	0.85	5.99	±	3.15	No	21.20	±	2.80	78.44	±	10.36	Yes
	11/03/21	1.35	±	0.23	5.00	±	0.84	Yes	19.10	±	0.83	70.67	±	3.07	Yes
	11/03/21	1.07	±	0.83	3.96	±	3.07	No	21.50	±	2.90	79.55	±	10.73	Yes
	11/10/21	1.70	±	0.25	6.29	±	0.91	Yes	23.20	±	0.74	85.84	±	2.73	Yes
	11/10/21	1.56	±	0.90	5.77	±	3.33	No	20.20	±	2.70	74.74	±	9.99	Yes
	11/17/21	1.83	±	0.28	6.77	±	1.03	Yes	40.70	±	1.13	150.59	±	4.18	Yes
	11/17/21	1.92	±	0.97	7.10	±	3.59	No	27.30	±	3.40	101.01	±	12.58	Yes
	11/23/21	2.20	±	1.10	8.14	±	4.07	No	24.30	±	3.30	89.91	±	12.21	Yes
	11/24/21	1.29	±	0.27	4.77	±	1.00	Yes	20.70	±	0.75	76.59	±	2.79	Yes
	12/01/21	2.79	±	0.34	10.32	±	1.25	Yes	49.40	±	1.31	182.78	±	4.85	Yes
	12/01/21	2.18	±	0.94	8.07	±	3.48	No	28.20	±	3.30	104.34	±	12.21	Yes
	12/08/21	2.12	±	0.26	7.84	±	0.98	Yes	35.80	±	0.91	132.46	±	3.36	Yes
	12/08/21	3.00	±	1.20	11.10	±	4.44	No	38.10	±	4.30	140.97	±	15.91	Yes
	12/15/21	0.96	±	0.20	3.56	±	0.73	Yes	16.20	±	0.68	59.94	±	2.53	Yes
	12/15/21	1.86	±	0.94	6.88	±	3.48	No	20.90	±	2.80	77.33	±	10.36	Yes
	12/22/21	1.42	±	0.24	5.25	±	0.88	Yes	23.70	±	0.80	87.69	±	2.97	Yes
	12/22/21	1.06	±	0.76	3.92	±	2.81	No	18.20	±	2.60	67.34	±	9.62	Yes
	12/29/21	2.25	±	0.28	8.33	±	1.02	Yes	13.20	±	0.66	48.84	±	2.44	Yes

Table C-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**
ONSITE															
ATR COMPLEX	10/06/21	2.70	±	1.10	9.99	±	4.07	No	37.90	±	4.20	140.23	±	15.54	**Yes**
	10/13/21	1.34	±	0.75	4.96	±	2.78	No	19.60	±	2.70	72.52	±	9.99	**Yes**
	10/20/21	0.80	±	0.79	2.96	±	2.92	No	29.40	±	3.50	108.78	±	12.95	**Yes**
	10/27/21	1.34	±	0.82	4.96	±	3.03	No	18.80	±	2.60	69.56	±	9.62	**Yes**
	11/03/21	0.56	±	0.71	2.07	±	2.63	No	24.00	±	3.10	88.80	±	11.47	**Yes**
	11/17/21	0.51	±	0.76	1.89	±	2.81	No	24.10	±	3.20	89.17	±	11.84	**Yes**
	11/23/21	0.57	±	0.85	2.11	±	3.15	No	31.50	±	3.80	116.55	±	14.06	**Yes**
	12/01/21	0.75	±	0.77	2.78	±	2.85	No	34.60	±	3.80	128.02	±	14.06	**Yes**
	12/08/21	2.60	±	1.10	9.62	±	4.07	No	37.20	±	4.20	137.64	±	15.54	**Yes**
	12/15/21	-0.54	±	0.50	-2.00	±	1.85	No	16.00	±	2.40	59.20	±	8.88	**Yes**
	12/22/21	0.78	±	0.73	2.89	±	2.70	No	23.30	±	3.00	86.21	±	11.10	**Yes**
CFA	10/06/21	0.82	±	0.74	3.03	±	2.74	No	34.10	±	3.80	126.17	±	14.06	**Yes**
	10/13/21	0.60	±	0.65	2.22	±	2.41	No	17.30	±	2.40	64.01	±	8.88	**Yes**
	10/20/21	2.44	±	0.99	9.03	±	3.66	No	31.20	±	3.50	115.44	±	12.95	**Yes**
	10/27/21	0.52	±	0.66	1.92	±	2.44	No	23.40	±	2.90	86.58	±	10.73	**Yes**
	11/03/21	0.49	±	0.67	1.81	±	2.48	No	25.90	±	3.10	95.83	±	11.47	**Yes**
	11/10/21	2.12	±	0.98	7.84	±	3.63	No	21.50	±	2.80	79.55	±	10.36	**Yes**
	11/17/21	0.19	±	0.67	0.70	±	2.48	No	27.60	±	3.30	102.12	±	12.21	**Yes**
	11/23/21	2.30	±	1.10	8.51	±	4.07	No	28.30	±	3.60	104.71	±	13.32	**Yes**
	12/01/21	1.02	±	0.78	3.77	±	2.89	No	40.80	±	4.30	150.96	±	15.91	**Yes**
	12/08/21	1.69	±	0.95	6.25	±	3.52	No	35.20	±	4.00	130.24	±	14.80	**Yes**
	12/15/21	0.60	±	0.67	2.22	±	2.48	No	14.50	±	2.20	53.65	±	8.14	**Yes**
	12/22/21	1.39	±	0.85	5.14	±	3.15	No	27.70	±	3.30	102.49	±	12.21	**Yes**
EBR-I	10/06/21	2.00	±	1.10	7.40	±	4.07	No	31.50	±	3.80	116.55	±	14.06	**Yes**
	10/13/21	0.25	±	0.50	0.93	±	1.85	No	10.80	±	1.90	39.96	±	7.03	**Yes**
	10/27/21	1.74	±	0.94	6.44	±	3.48	No	23.00	±	3.00	85.10	±	11.10	**Yes**
	11/03/21	0.37	±	0.68	1.37	±	2.52	No	24.50	±	3.10	90.65	±	11.47	**Yes**
	11/10/21	1.23	±	0.86	4.55	±	3.18	No	22.70	±	3.00	83.99	±	11.10	**Yes**
	11/17/21	0.80	±	0.80	2.96	±	2.96	No	26.80	±	3.30	99.16	±	12.21	**Yes**
	11/23/21	1.62	±	0.99	5.99	±	3.66	No	27.20	±	3.50	100.64	±	12.95	**Yes**
	12/01/21	1.57	±	0.93	5.81	±	3.44	No	36.10	±	4.00	133.57	±	14.80	**Yes**
	12/08/21	3.50	±	1.30	12.95	±	4.81	No	46.10	±	4.90	170.57	±	18.13	**Yes**
	12/15/21	0.25	±	0.67	0.93	±	2.48	No	21.70	±	2.90	80.29	±	10.73	**Yes**
	12/22/21	1.20	±	0.84	4.44	±	3.11	No	25.50	±	3.20	94.35	±	11.84	**Yes**
EFS	10/06/21	1.07	±	0.26	3.96	±	0.97	**Yes**	27.70	±	1.30	102.49	±	4.81	**Yes**
	10/06/21	2.30	±	1.10	8.51	±	4.07	No	36.30	±	4.10	134.31	±	15.17	**Yes**
	10/13/21	1.80	±	0.30	6.66	±	1.12	**Yes**	53.60	±	1.38	198.32	±	5.11	**Yes**
	10/13/21	1.76	±	0.77	6.51	±	2.85	No	23.50	±	2.90	86.95	±	10.73	**Yes**
	10/20/21	1.84	±	0.30	6.81	±	1.10	**Yes**	48.00	±	1.33	177.60	±	4.92	**Yes**
	10/20/21	0.65	±	0.72	2.41	±	2.66	No	29.60	±	3.40	109.52	±	12.58	**Yes**
	10/27/21	1.21	±	0.18	4.48	±	0.65	**Yes**	22.10	±	0.60	81.77	±	2.23	**Yes**
	10/27/21	0.48	±	0.61	1.78	±	2.26	No	19.70	±	2.60	72.89	±	9.62	**Yes**
	11/03/21	1.21	±	0.85	4.48	±	3.15	No	23.80	±	3.00	88.06	±	11.10	**Yes**
	11/10/21	1.60	±	0.29	5.92	±	1.07	**Yes**	28.10	±	0.94	103.97	±	3.48	**Yes**
	11/10/21	0.80	±	0.76	2.96	±	2.81	No	26.90	±	3.20	99.53	±	11.84	**Yes**
	11/17/21	1.78	±	0.29	6.59	±	1.08	**Yes**	41.00	±	1.19	151.70	±	4.40	**Yes**
	11/17/21	1.14	±	0.85	4.22	±	3.15	No	27.60	±	3.30	102.12	±	12.21	**Yes**
	11/23/21	1.05	±	0.91	3.89	±	3.37	No	33.30	±	3.90	123.21	±	14.43	**Yes**
	11/24/21	1.65	±	0.28	6.11	±	1.03	**Yes**	32.50	±	0.87	120.25	±	3.20	**Yes**
	12/01/21	3.48	±	0.39	12.88	±	1.43	**Yes**	77.10	±	1.60	285.27	±	5.92	**Yes**
	12/01/21	-0.04	±	0.62	-0.15	±	2.29	No	36.00	±	3.90	133.20	±	14.43	**Yes**
	12/08/21	1.87	±	0.26	6.92	±	0.95	**Yes**	35.40	±	0.92	130.98	±	3.42	**Yes**
	12/08/21	1.80	±	1.10	6.66	±	4.07	No	50.30	±	5.20	186.11	±	19.24	**Yes**
	12/15/21	1.46	±	0.24	5.40	±	0.90	**Yes**	19.50	±	0.77	72.15	±	2.84	**Yes**
	12/15/21	0.28	±	0.64	1.04	±	2.37	No	18.40	±	2.60	68.08	±	9.62	**Yes**
	12/22/21	2.83	±	0.31	10.47	±	1.15	**Yes**	35.40	±	0.94	130.98	±	3.46	**Yes**

Table C-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
	12/29/21	2.46	±	0.30	9.10	±	1.11	**Yes**	18.40	±	0.77	68.08	±	2.85	**Yes**
GATE4	10/06/21	1.50	±	1.10	5.55	±	4.07	No	42.00	±	4.70	155.40	±	17.39	**Yes**
	10/13/21	2.17	±	0.88	8.03	±	3.26	No	19.90	±	2.70	73.63	±	9.99	**Yes**
	10/20/21	-0.42	±	0.52	-1.55	±	1.92	No	25.10	±	3.10	92.87	±	11.47	**Yes**
	10/27/21	1.50	±	0.81	5.55	±	3.00	No	22.00	±	2.80	81.40	±	10.36	**Yes**
	11/03/21	1.43	±	0.87	5.29	±	3.22	No	26.00	±	3.20	96.20	±	11.84	**Yes**
	11/10/21	0.89	±	0.77	3.29	±	2.85	No	28.60	±	3.40	105.82	±	12.58	**Yes**
	11/17/21	2.40	±	1.10	8.88	±	4.07	No	34.20	±	3.90	126.54	±	14.43	**Yes**
	11/23/21	0.09	±	0.70	0.33	±	2.59	No	31.10	±	3.80	115.07	±	14.06	**Yes**
	12/01/21	1.68	±	0.96	6.22	±	3.55	No	43.30	±	4.50	160.21	±	16.65	**Yes**
	12/08/21	2.80	±	1.20	10.36	±	4.44	No	42.10	±	4.60	155.77	±	17.02	**Yes**
	12/15/21	1.10	±	0.81	4.07	±	3.00	No	20.30	±	2.70	75.11	±	9.99	**Yes**
	12/22/21	1.26	±	0.82	4.66	±	3.03	No	27.70	±	3.30	102.49	±	12.21	**Yes**
HWY 26 REST AREA	10/06/21	0.99	±	0.81	3.66	±	3.00	No	29.20	±	3.50	108.04	±	12.95	**Yes**
	10/13/21	1.28	±	0.68	4.74	±	2.52	No	17.20	±	2.40	63.64	±	8.88	**Yes**
	10/20/21	1.80	±	0.91	6.66	±	3.37	No	27.50	±	3.30	101.75	±	12.21	**Yes**
	10/27/21	-0.18	±	0.49	-0.67	±	1.81	No	18.20	±	2.50	67.34	±	9.25	**Yes**
	11/03/21	0.78	±	0.71	2.89	±	2.63	No	22.50	±	2.90	83.25	±	10.73	**Yes**
	11/10/21	1.01	±	0.76	3.74	±	2.81	No	26.40	±	3.20	97.68	±	11.84	**Yes**
	11/17/21	0.35	±	0.60	1.30	±	2.22	No	20.20	±	2.70	74.74	±	9.99	**Yes**
	11/23/21	1.27	±	0.86	4.70	±	3.18	No	24.10	±	3.20	89.17	±	11.84	**Yes**
	12/01/21	0.50	±	0.69	1.85	±	2.55	No	38.30	±	4.10	141.71	±	15.17	**Yes**
	12/08/21	1.47	±	0.92	5.44	±	3.40	No	38.40	±	4.20	142.08	±	15.54	**Yes**
	12/15/21	0.15	±	0.55	0.56	±	2.04	No	18.70	±	2.60	69.19	±	9.62	**Yes**
	12/22/21	0.11	±	0.64	0.41	±	2.37	No	26.70	±	3.20	98.79	±	11.84	**Yes**
INTEC (NE CORNER)	10/06/21	2.36	±	0.95	8.73	±	3.52	No	34.60	±	3.80	128.02	±	14.06	**Yes**
	10/13/21	-0.10	±	0.48	-0.37	±	1.78	No	19.50	±	2.60	72.15	±	9.62	**Yes**
	10/20/21	0.98	±	0.78	3.63	±	2.89	No	29.30	±	3.50	108.41	±	12.95	**Yes**
	10/27/21	1.15	±	0.75	4.26	±	2.78	No	22.60	±	2.90	83.62	±	10.73	**Yes**
	11/03/21	0.44	±	0.66	1.63	±	2.44	No	29.60	±	3.50	109.52	±	12.95	**Yes**
	11/10/21	1.77	±	0.94	6.55	±	3.48	No	25.70	±	3.20	95.09	±	11.84	**Yes**
	11/17/21	1.06	±	0.85	3.92	±	3.15	No	33.90	±	3.90	125.43	±	14.43	**Yes**
	11/23/21	2.50	±	1.20	9.25	±	4.44	No	30.70	±	3.70	113.59	±	13.69	**Yes**
	12/01/21	1.63	±	0.90	6.03	±	3.33	No	36.60	±	4.00	135.42	±	14.80	**Yes**
	12/08/21	1.26	±	0.92	4.66	±	3.40	No	40.20	±	4.40	148.74	±	16.28	**Yes**
	12/15/21	1.35	±	0.82	5.00	±	3.03	No	16.90	±	2.50	62.53	±	9.25	**Yes**
	12/22/21	0.98	±	0.85	3.63	±	3.15	No	28.60	±	3.40	105.82	±	12.58	**Yes**
INTEC (QA-3)	10/06/21	2.40	±	1.10	8.88	±	4.07	No	38.70	±	4.30	143.19	±	15.91	**Yes**
	10/13/21	0.35	±	0.49	1.30	±	1.81	No	19.20	±	2.50	71.04	±	9.25	**Yes**
	10/20/21	0.47	±	0.71	1.74	±	2.63	No	30.20	±	3.50	111.74	±	12.95	**Yes**
	10/27/21	0.29	±	0.61	1.07	±	2.26	No	24.00	±	2.90	88.80	±	10.73	**Yes**
	11/03/21	2.02	±	0.95	7.47	±	3.52	No	23.10	±	3.00	85.47	±	11.10	**Yes**
	11/10/21	0.88	±	0.75	3.26	±	2.78	No	20.00	±	2.70	74.00	±	9.99	**Yes**
	11/17/21	1.25	±	0.83	4.63	±	3.07	No	26.40	±	3.20	97.68	±	11.84	**Yes**
	11/23/21	0.76	±	0.84	2.81	±	3.11	No	25.00	±	3.30	92.50	±	12.21	**Yes**
	12/01/21	0.03	±	0.66	0.11	±	2.44	No	37.70	±	4.10	139.49	±	15.17	**Yes**
	12/08/21	1.23	±	0.94	4.55	±	3.48	No	40.20	±	4.40	148.74	±	16.28	**Yes**
	12/15/21	-0.30	±	0.51	-1.11	±	1.89	No	17.70	±	2.50	65.49	±	9.25	**Yes**
	12/22/21	0.00	±	0.57	0.00	±	2.11	No	23.20	±	3.00	85.84	±	11.10	**Yes**

Table C-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**
INTEC (WESTSIDE)	10/06/21	0.52	±	0.70	1.92	±	2.59	No	34.40	±	3.90	127.28	±	14.43	**Yes**
	10/13/21	0.87	±	0.73	3.22	±	2.70	No	24.70	±	3.00	91.39	±	11.10	**Yes**
	10/20/21	1.24	±	0.80	4.59	±	2.96	No	29.00	±	3.40	107.30	±	12.58	**Yes**
	10/27/21	0.71	±	0.70	2.63	±	2.59	No	18.20	±	2.50	67.34	±	9.25	**Yes**
	11/03/21	0.98	±	0.84	3.63	±	3.11	No	24.20	±	3.10	89.54	±	11.47	**Yes**
	11/10/21	0.63	±	0.72	2.33	±	2.66	No	25.20	±	3.20	93.24	±	11.84	**Yes**
	11/17/21	1.03	±	0.76	3.81	±	2.81	No	11.50	±	2.00	42.55	±	7.40	**Yes**
	11/23/21	0.97	±	0.92	3.59	±	3.40	No	27.70	±	3.70	102.49	±	13.69	**Yes**
	12/01/21	1.89	±	0.98	6.99	±	3.63	No	31.60	±	3.70	116.92	±	13.69	**Yes**
	12/08/21	2.30	±	1.20	8.51	±	4.44	No	47.40	±	5.10	175.38	±	18.87	**Yes**
	12/15/21	0.02	±	0.61	0.07	±	2.26	No	17.40	±	2.60	64.38	±	9.62	**Yes**
	12/22/21	0.91	±	0.79	3.37	±	2.92	No	26.40	±	3.30	97.68	±	12.21	**Yes**
MAIN GATE	10/06/21	0.73	±	0.23	2.72	±	0.86	**Yes**	32.50	±	1.34	120.25	±	4.96	**Yes**
	10/13/21	2.03	±	0.32	7.51	±	1.18	**Yes**	52.80	±	1.39	195.36	±	5.14	**Yes**
	10/20/21	1.96	±	0.31	7.25	±	1.14	**Yes**	48.50	±	1.35	179.45	±	5.00	**Yes**
	10/27/21	1.18	±	0.18	4.37	±	0.65	**Yes**	21.50	±	0.60	79.55	±	2.22	**Yes**
	11/03/21	1.57	±	0.30	5.81	±	1.09	**Yes**	40.80	±	1.29	150.96	±	4.77	**Yes**
	11/10/21	1.59	±	0.25	5.88	±	0.94	**Yes**	26.20	±	0.81	96.94	±	3.00	**Yes**
	11/17/21	1.06	±	0.26	3.92	±	0.95	**Yes**	44.60	±	1.24	165.02	±	4.59	**Yes**
	11/24/21	1.76	±	0.30	6.51	±	1.09	**Yes**	28.40	±	0.85	105.08	±	3.15	**Yes**
	12/01/21	3.63	±	0.38	13.43	±	1.42	**Yes**	61.40	±	1.46	227.18	±	5.40	**Yes**
	12/08/21	1.74	±	0.25	6.44	±	0.93	**Yes**	36.30	±	0.94	134.31	±	3.46	**Yes**
	12/15/21	1.09	±	0.22	4.03	±	0.80	**Yes**	17.30	±	0.73	64.01	±	2.70	**Yes**
	12/22/21	2.15	±	0.28	7.96	±	1.04	**Yes**	29.10	±	0.87	107.67	±	3.22	**Yes**
	12/29/21	2.08	±	0.27	7.70	±	1.01	**Yes**	17.40	±	0.73	64.38	±	2.70	**Yes**
MFC NORTH	10/06/21	2.60	±	1.20	9.62	±	4.44	No	34.30	±	4.00	126.91	±	14.80	**Yes**
	10/13/21	1.61	±	0.81	5.96	±	3.00	No	23.60	±	3.10	87.32	±	11.47	**Yes**
	10/20/21	1.56	±	0.92	5.77	±	3.40	No	23.90	±	3.10	88.43	±	11.47	**Yes**
	10/27/21	0.33	±	0.60	1.22	±	2.22	No	20.90	±	2.80	77.33	±	10.36	**Yes**
	11/03/21	1.00	±	0.81	3.70	±	3.00	No	23.30	±	3.00	86.21	±	11.10	**Yes**
	11/10/21	0.72	±	0.73	2.66	±	2.70	No	19.70	±	2.70	72.89	±	9.99	**Yes**
	11/17/21	-0.19	±	0.53	-0.70	±	1.96	No	30.00	±	3.60	111.00	±	13.32	**Yes**
	11/23/21	1.10	±	0.94	4.07	±	3.48	No	27.40	±	3.50	101.38	±	12.95	**Yes**
	12/01/21	1.13	±	0.81	4.18	±	3.00	No	32.10	±	3.60	118.77	±	13.32	**Yes**
	12/08/21	2.50	±	1.10	9.25	±	4.07	No	29.00	±	3.50	107.30	±	12.95	**Yes**
	12/15/21	0.43	±	0.66	1.59	±	2.44	No	15.70	±	2.40	58.09	±	8.88	**Yes**
	12/22/21	1.65	±	0.93	6.11	±	3.44	No	22.60	±	3.00	83.62	±	11.10	**Yes**
MFC SOUTH	10/06/21	0.72	±	0.83	2.66	±	3.07	No	32.70	±	3.80	120.99	±	14.06	**Yes**
	10/13/21	0.10	±	0.49	0.37	±	1.81	No	20.20	±	2.70	74.74	±	9.99	**Yes**
	10/20/21	1.44	±	0.89	5.33	±	3.29	No	28.50	±	3.40	105.45	±	12.58	**Yes**
	10/27/21	1.71	±	0.86	6.33	±	3.18	No	17.00	±	2.50	62.90	±	9.25	**Yes**
	11/03/21	1.38	±	0.82	5.11	±	3.03	No	21.90	±	2.90	81.03	±	10.73	**Yes**
	11/10/21	1.24	±	0.81	4.59	±	3.00	No	22.10	±	2.90	81.77	±	10.73	**Yes**
	11/17/21	0.85	±	0.75	3.15	±	2.78	No	31.40	±	3.60	116.18	±	13.32	**Yes**
	11/23/21	1.60	±	1.00	5.92	±	3.70	No	25.60	±	3.30	94.72	±	12.21	**Yes**
	12/01/21	0.85	±	0.76	3.15	±	2.81	No	31.70	±	3.50	117.29	±	12.95	**Yes**
	12/08/21	0.87	±	0.87	3.22	±	3.22	No	42.10	±	4.50	155.77	±	16.65	**Yes**
	12/15/21	0.55	±	0.71	2.04	±	2.63	No	18.50	±	2.60	68.45	±	9.62	**Yes**
	12/22/21	0.45	±	0.70	1.67	±	2.59	No	24.70	±	3.10	91.39	±	11.47	**Yes**

Table C-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
NRF	10/06/21	2.20	±	1.10	8.14	±	4.07	No	34.20	±	3.90	126.54	±	14.43	Yes
	10/13/21	0.65	±	0.58	2.41	±	2.15	No	23.70	±	3.00	87.69	±	11.10	Yes
	10/20/21	-0.30	±	0.51	-1.11	±	1.89	No	26.50	±	3.20	98.05	±	11.84	Yes
	10/27/21	1.05	±	0.75	3.89	±	2.78	No	21.30	±	2.80	78.81	±	10.36	Yes
	11/03/21	0.45	±	0.76	1.67	±	2.81	No	33.60	±	3.80	124.32	±	14.06	Yes
	11/10/21	1.22	±	0.86	4.51	±	3.18	No	23.10	±	3.00	85.47	±	11.10	Yes
	11/17/21	1.34	±	0.86	4.96	±	3.18	No	35.40	±	4.10	130.98	±	15.17	Yes
	11/23/21	3.20	±	1.30	11.84	±	4.81	No	29.90	±	3.80	110.63	±	14.06	Yes
	12/01/21	-0.25	±	0.62	-0.93	±	2.29	No	39.50	±	4.20	146.15	±	15.54	Yes
	12/08/21	1.80	±	1.10	6.66	±	4.07	No	48.60	±	5.10	179.82	±	18.87	Yes
	12/15/21	1.54	±	0.96	5.70	±	3.55	No	20.90	±	2.90	77.33	±	10.73	Yes
	12/22/21	-0.29	±	0.51	-1.07	±	1.89	No	23.90	±	3.00	88.43	±	11.10	Yes
RHLLW	10/06/21	0.20	±	0.69	0.74	±	2.55	No	37.00	±	4.10	136.90	±	15.17	Yes
	10/13/21	-0.28	±	0.49	-1.04	±	1.81	No	17.60	±	2.50	65.12	±	9.25	Yes
	10/20/21	2.60	±	1.10	9.62	±	4.07	No	38.60	±	4.20	142.82	±	15.54	Yes
	10/27/21	0.49	±	0.64	1.81	±	2.37	No	22.10	±	2.90	81.77	±	10.73	Yes
	11/03/21	0.99	±	0.82	3.66	±	3.03	No	25.50	±	3.20	94.35	±	11.84	Yes
	11/10/21	0.95	±	0.78	3.52	±	2.89	No	23.70	±	3.00	87.69	±	11.10	Yes
	11/17/21	5.10	±	1.40	18.87	±	5.18	Yes	24.70	±	3.10	91.39	±	11.47	Yes
	11/23/21	2.20	±	1.10	8.14	±	4.07	No	28.70	±	3.60	106.19	±	13.32	Yes
	12/01/21	2.08	±	0.96	7.70	±	3.55	No	40.70	±	4.30	150.59	±	15.91	Yes
	12/08/21	2.80	±	1.10	10.36	±	4.07	No	35.50	±	4.00	131.35	±	14.80	Yes
	12/15/21	1.15	±	0.82	4.26	±	3.03	No	20.20	±	2.70	74.74	±	9.99	Yes
	12/22/21	0.17	±	0.63	0.63	±	2.33	No	30.30	±	3.60	112.11	±	13.32	Yes
RWMC	10/06/21	1.74	±	0.92	6.44	±	3.40	No	33.00	±	3.70	122.10	±	13.69	Yes
	10/13/21	0.59	±	0.52	2.18	±	1.92	No	18.70	±	2.40	69.19	±	8.88	Yes
	10/20/21	2.22	±	0.93	8.21	±	3.44	No	29.50	±	3.40	109.15	±	12.58	Yes
	10/27/21	1.56	±	0.76	5.77	±	2.81	No	17.70	±	2.30	65.49	±	8.51	Yes
	11/03/21	0.96	±	0.78	3.55	±	2.89	No	25.80	±	3.20	95.46	±	11.84	Yes
	11/10/21	0.10	±	0.58	0.37	±	2.15	No	22.90	±	3.00	84.73	±	11.10	Yes
	11/17/21	0.87	±	0.74	3.22	±	2.74	No	25.60	±	3.10	94.72	±	11.47	Yes
	11/23/21	1.22	±	0.90	4.51	±	3.33	No	27.70	±	3.50	102.49	±	12.95	Yes
	12/01/21	0.12	±	0.60	0.44	±	2.22	No	36.30	±	3.90	134.31	±	14.43	Yes
	12/08/21	1.87	±	0.97	6.92	±	3.59	No	37.30	±	4.10	138.01	±	15.17	Yes
	12/15/21	0.71	±	0.68	2.63	±	2.52	No	19.80	±	2.70	73.26	±	9.99	Yes
	12/22/21	1.06	±	0.81	3.92	±	3.00	No	32.50	±	3.70	120.25	±	13.69	Yes
RWMC (QA-4)	10/06/21	0.99	±	0.86	3.66	±	3.18	No	35.80	±	4.10	132.46	±	15.17	Yes
	10/13/21	1.05	±	0.66	3.89	±	2.44	No	19.80	±	2.70	73.26	±	9.99	Yes
	10/20/21	0.40	±	0.69	1.48	±	2.55	No	28.90	±	3.50	106.93	±	12.95	Yes
	10/27/21	0.78	±	0.76	2.89	±	2.81	No	22.50	±	3.00	83.25	±	11.10	Yes
	11/03/21	1.34	±	0.85	4.96	±	3.15	No	28.70	±	3.50	106.19	±	12.95	Yes
	11/10/21	0.90	±	0.81	3.33	±	3.00	No	27.80	±	3.40	102.86	±	12.58	Yes
	11/17/21	2.01	±	0.95	7.44	±	3.52	No	26.40	±	3.20	97.68	±	11.84	Yes
	11/23/21	1.76	±	0.99	6.51	±	3.66	No	21.60	±	3.10	79.92	±	11.47	Yes
	12/01/21	0.93	±	0.78	3.44	±	2.89	No	29.70	±	3.40	109.89	±	12.58	Yes
	12/08/21	1.46	±	0.98	5.40	±	3.63	No	47.10	±	5.00	174.27	±	18.50	Yes
	12/15/21	1.29	±	0.83	4.77	±	3.07	No	22.00	±	2.90	81.40	±	10.73	Yes
	12/22/21	0.99	±	0.84	3.66	±	3.11	No	26.50	±	3.20	98.05	±	11.84	Yes

Table C-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
RWMC SOUTH	10/06/21	3.40	±	1.10	12.58	±	4.07	Yes	30.30	±	3.50	112.11	±	12.95	Yes
	10/13/21	1.12	±	0.66	4.14	±	2.44	No	22.90	±	2.80	84.73	±	10.36	Yes
	10/20/21	1.80	±	0.84	6.66	±	3.11	No	28.30	±	3.30	104.71	±	12.21	Yes
	10/27/21	1.16	±	0.78	4.29	±	2.89	No	21.70	±	2.80	80.29	±	10.36	Yes
	11/03/21	1.82	±	0.83	6.73	±	3.07	No	24.60	±	3.00	91.02	±	11.10	Yes
	11/10/21	1.03	±	0.68	3.81	±	2.52	No	23.00	±	2.90	85.10	±	10.73	Yes
	11/17/21	2.50	±	1.00	9.25	±	3.70	No	28.90	±	3.30	106.93	±	12.21	Yes
	11/23/21	1.43	±	0.86	5.29	±	3.18	No	22.50	±	3.00	83.25	±	11.10	Yes
	12/01/21	0.91	±	0.68	3.37	±	2.52	No	31.90	±	3.50	118.03	±	12.95	Yes
	12/08/21	2.60	±	1.00	9.62	±	3.70	No	36.10	±	4.00	133.57	±	14.80	Yes
	12/15/21	1.68	±	0.84	6.22	±	3.11	No	18.50	±	2.50	68.45	±	9.25	Yes
	12/22/21	0.61	±	0.65	2.26	±	2.41	No	23.30	±	2.90	86.21	±	10.73	Yes
SMC	10/06/21	0.86	±	0.76	3.18	±	2.81	No	33.60	±	3.80	124.32	±	14.06	Yes
	10/13/21	1.71	±	0.79	6.33	±	2.92	No	21.90	±	2.80	81.03	±	10.36	Yes
	10/20/21	0.92	±	0.75	3.40	±	2.78	No	32.80	±	3.70	121.36	±	13.69	Yes
	10/27/21	0.28	±	0.56	1.04	±	2.07	No	21.50	±	2.80	79.55	±	10.36	Yes
	11/03/21	0.82	±	0.75	3.03	±	2.78	No	24.90	±	3.20	92.13	±	11.84	Yes
	11/10/21	0.43	±	0.74	1.59	±	2.74	No	25.90	±	3.30	95.83	±	12.21	Yes
	11/17/21	0.31	±	0.73	1.15	±	2.70	No	33.00	±	3.90	122.10	±	14.43	Yes
	11/23/21	1.50	±	1.00	5.55	±	3.70	No	24.80	±	3.30	91.76	±	12.21	Yes
	12/01/21	2.40	±	1.00	8.88	±	3.70	No	41.00	±	4.30	151.70	±	15.91	Yes
	12/08/21	1.60	±	1.00	5.92	±	3.70	No	47.70	±	5.00	176.49	±	18.50	Yes
	12/15/21	2.22	±	0.99	8.21	±	3.66	No	21.30	±	2.90	78.81	±	10.73	Yes
	12/22/21	1.52	±	0.88	5.62	±	3.26	No	25.40	±	3.20	93.98	±	11.84	Yes
VAN BUREN	10/06/21	1.15	±	0.27	4.26	±	1.00	Yes	31.90	±	1.38	118.03	±	5.11	Yes
	10/06/21	1.26	±	0.92	4.66	±	3.40	No	36.50	±	4.10	135.05	±	15.17	Yes
	10/13/21	1.94	±	0.31	7.18	±	1.15	Yes	48.90	±	1.34	180.93	±	4.96	Yes
	10/13/21	1.78	±	0.83	6.59	±	3.07	No	24.50	±	3.10	90.65	±	11.47	Yes
	10/20/21	1.97	±	0.31	7.29	±	1.15	Yes	50.40	±	1.38	186.48	±	5.11	Yes
	10/20/21	2.70	±	1.10	9.99	±	4.07	No	36.50	±	4.10	135.05	±	15.17	Yes
	10/27/21	1.45	±	0.19	5.37	±	0.70	Yes	21.00	±	0.60	77.70	±	2.21	Yes
	10/27/21	-0.08	±	0.51	-0.30	±	1.89	No	21.70	±	2.80	80.29	±	10.36	Yes
	11/03/21	1.86	±	0.31	6.88	±	1.14	Yes	45.70	±	1.33	169.09	±	4.92	Yes
	11/03/21	-0.28	±	0.52	-1.04	±	1.92	No	26.50	±	3.20	98.05	±	11.84	Yes
	11/10/21	1.26	±	0.22	4.66	±	0.83	Yes	25.20	±	0.76	93.24	±	2.82	Yes
	11/10/21	-0.29	±	0.54	-1.07	±	2.00	No	26.60	±	3.30	98.42	±	12.21	Yes
	11/17/21	1.51	±	0.29	5.59	±	1.05	Yes	43.50	±	1.24	160.95	±	4.59	Yes
	11/17/21	1.23	±	0.83	4.55	±	3.07	No	29.00	±	3.40	107.30	±	12.58	Yes
	11/23/21	2.00	±	1.10	7.40	±	4.07	No	30.00	±	3.70	111.00	±	13.69	Yes
	11/24/21	1.49	±	0.29	5.51	±	1.08	Yes	27.50	±	0.87	101.75	±	3.21	Yes
	12/01/21	2.66	±	0.35	9.84	±	1.29	Yes	57.40	±	1.44	212.38	±	5.33	Yes
	12/01/21	-0.47	±	0.56	-1.74	±	2.07	No	34.80	±	4.00	128.76	±	14.80	Yes
	12/08/21	1.69	±	0.27	6.25	±	0.98	Yes	38.80	±	1.03	143.56	±	3.81	Yes
	12/08/21	1.50	±	1.10	5.55	±	4.07	No	39.70	±	4.50	146.89	±	16.65	Yes
	12/15/21	1.45	±	0.24	5.37	±	0.87	Yes	15.90	±	0.71	58.83	±	2.61	Yes
	12/15/21	-0.50	±	0.50	-1.85	±	1.85	No	17.70	±	2.50	65.49	±	9.25	Yes
	12/22/21	2.48	±	0.29	9.18	±	1.08	Yes	26.90	±	0.83	99.53	±	3.08	Yes
	12/22/21	0.46	±	0.69	1.70	±	2.55	No	23.50	±	3.00	86.95	±	11.10	Yes
	12/29/21	1.72	±	0.25	6.36	±	0.91	Yes	14.30	±	0.66	52.91	±	2.45	Yes

Table C-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	10/06/21	-1.10	±	1.24	-4.07	±	4.59	No
	10/13/21	0.30	±	1.17	1.11	±	4.33	No
	10/20/21	-3.32	±	2.14	-12.28	±	7.92	No
	10/27/21	0.16	±	1.26	0.58	±	4.66	No
	11/03/21	1.20	±	1.29	4.44	±	4.77	No
	11/10/21	1.51	±	1.92	5.59	±	7.10	No
	11/17/21	1.03	±	1.95	3.81	±	7.22	No
	11/24/21	-1.22	±	1.35	-4.51	±	5.00	No
	12/01/21	-0.98	±	2.03	-3.64	±	7.51	No
	12/08/21	-2.07	±	1.26	-7.66	±	4.66	No
	12/15/21	-1.42	±	1.29	-5.25	±	4.77	No
	12/22/21	-1.29	±	1.22	-4.77	±	4.51	No
	12/29/21	1.86	±	2.06	6.88	±	7.62	No
ARCO (QA 1)	10/06/21	-1.09	±	1.22	-4.03	±	4.51	No
	10/13/21	0.30	±	1.17	1.12	±	4.33	No
	10/20/21	-3.36	±	2.17	-12.43	±	8.03	No
	10/27/21	0.16	±	1.28	0.58	±	4.74	No
	11/03/21	1.20	±	1.29	4.44	±	4.77	No
	11/10/21	1.53	±	1.96	5.66	±	7.25	No
	11/17/21	1.05	±	1.98	3.89	±	7.33	No
	11/24/21	-1.28	±	1.42	-4.74	±	5.25	No
	12/01/21	-0.97	±	1.99	-3.57	±	7.36	No
	12/08/21	-2.18	±	1.32	-8.07	±	4.88	No
	12/15/21	-1.38	±	1.25	-5.11	±	4.63	No
	12/22/21	-1.34	±	1.26	-4.96	±	4.66	No
	12/29/21	1.86	±	2.06	6.88	±	7.62	No
ATOMIC CITY	10/6/2021	-1.07	±	1.20	-3.96	±	4.44	No
	10/13/2021	0.29	±	1.12	1.07	±	4.14	No
	10/20/2021	-3.51	±	2.26	-12.99	±	8.36	No
	10/27/2021	0.17	±	1.34	0.61	±	4.96	No
	11/3/2021	1.24	±	1.34	4.59	±	4.96	No
	11/10/2021	1.65	±	2.11	6.11	±	7.81	No
	11/17/2021	1.51	±	2.85	5.59	±	10.55	No
	11/24/2021	-1.32	±	1.46	-4.88	±	5.40	No
	12/1/2021	-0.97	±	2.00	-3.60	±	7.40	No
	12/8/2021	-2.10	±	1.27	-7.77	±	4.70	No
	12/15/2021	-1.41	±	1.28	-5.22	±	4.74	No
	12/22/2021	-1.46	±	1.38	-5.40	±	5.11	No
	12/29/2021	1.82	±	2.01	6.73	±	7.44	No
BLUE DOME	10/6/2021	-2.44	±	1.20	-9.03	±	4.44	No
	10/13/2021	-2.24	±	2.01	-8.29	±	7.44	No
	10/20/2021	-0.32	±	1.22	-1.18	±	4.51	No
	10/27/2021	0.53	±	1.20	1.97	±	4.44	No
	11/3/2021	-1.29	±	1.17	-4.77	±	4.33	No
	11/10/2021	-0.33	±	1.14	-1.22	±	4.22	No
	11/17/2021	-1.16	±	1.21	-4.29	±	4.48	No
	11/24/2021	-1.28	±	1.21	-4.74	±	4.48	No
	12/1/2021	0.76	±	1.23	2.81	±	4.55	No
	12/8/2021	2.07	±	1.22	7.66	±	4.51	No
	12/15/2021	-0.11	±	1.13	-0.39	±	4.18	No
	12/22/2021	2.33	±	1.50	8.62	±	5.55	No

Table C-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
	12/29/2021	-0.41	±	1.29	-1.51	±	4.77	No
FAA TOWER	10/06/21	-2.49	±	1.22	-9.21	±	4.51	No
	10/13/21	-2.28	±	2.05	-8.44	±	7.59	No
	10/20/21	-0.33	±	1.24	-1.20	±	4.59	No
	10/27/21	0.55	±	1.25	2.05	±	4.63	No
	11/03/21	-1.33	±	1.20	-4.92	±	4.44	No
	11/10/21	-0.34	±	1.18	-1.27	±	4.37	No
	11/17/21	-1.18	±	1.23	-4.37	±	4.55	No
	11/24/21	-1.24	±	1.18	-4.59	±	4.37	No
	12/01/21	0.75	±	1.21	2.76	±	4.48	No
	12/08/21	2.17	±	1.28	8.03	±	4.74	No
	12/15/21	-0.11	±	1.17	-0.41	±	4.33	No
	12/22/21	2.25	±	1.45	8.33	±	5.37	No
	12/29/21	-0.40	±	1.26	-1.48	±	4.66	No
HOWE	10/06/21	-2.58	±	1.26	-9.55	±	4.66	No
	10/13/21	-2.19	±	1.97	-8.10	±	7.29	No
	10/20/21	-0.30	±	1.16	-1.12	±	4.29	No
	10/27/21	0.52	±	1.17	1.93	±	4.33	No
	11/03/21	-1.22	±	1.11	-4.51	±	4.11	No
	11/10/21	-0.32	±	1.11	-1.18	±	4.11	No
	11/17/21	-1.12	±	1.17	-4.14	±	4.33	No
	11/24/21	-1.21	±	1.15	-4.48	±	4.26	No
	12/01/21	0.69	±	1.12	2.57	±	4.14	No
	12/08/21	2.04	±	1.20	7.55	±	4.44	No
	12/15/21	-0.11	±	1.17	-0.41	±	4.33	No
	12/22/21	2.06	±	1.32	7.62	±	4.88	No
	12/29/21	-0.38	±	1.19	-1.39	±	4.40	No
MONTEVIEW	10/06/21	-2.47	±	1.21	-9.14	±	4.48	No
	10/13/21	-2.26	±	2.03	-8.36	±	7.51	No
	10/20/21	-0.30	±	1.16	-1.12	±	4.29	No
	10/27/21	0.54	±	1.22	2.01	±	4.51	No
	11/03/21	-1.29	±	1.17	-4.77	±	4.33	No
	11/10/21	-0.32	±	1.11	-1.18	±	4.11	No
	11/17/21	-1.15	±	1.20	-4.26	±	4.44	No
	11/24/21	-1.29	±	1.22	-4.77	±	4.51	No
	12/01/21	0.74	±	1.19	2.72	±	4.40	No
	12/08/21	2.08	±	1.22	7.70	±	4.51	No
	12/15/21	-0.10	±	1.10	-0.38	±	4.07	No
	12/22/21	2.51	±	1.61	9.29	±	5.96	No
	12/29/21	-0.43	±	1.36	-1.59	±	5.03	No
MUD LAKE	10/06/21	-2.31	±	1.13	-8.55	±	4.18	No
	10/13/21	-2.19	±	1.96	-8.10	±	7.25	No
	10/20/21	-0.32	±	1.24	-1.20	±	4.59	No
	10/27/21	0.53	±	1.19	1.96	±	4.40	No
	11/03/21	-1.32	±	1.20	-4.88	±	4.44	No
	11/10/21	-0.34	±	1.18	-1.26	±	4.37	No
	11/17/21	-1.19	±	1.24	-4.40	±	4.59	No
	11/24/21	-1.25	±	1.19	-4.63	±	4.40	No
	12/01/21	0.74	±	1.19	2.72	±	4.40	No
	12/08/21	2.09	±	1.23	7.73	±	4.55	No
	12/15/21	-0.11	±	1.15	-0.40	±	4.26	No
	12/22/21	2.51	±	1.61	9.29	±	5.96	No

Table C-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
	12/29/21	-0.44	±	1.38	-1.61	±	5.11	No
MUD LAKE (QA 2)	10/06/21	-2.33	±	1.14	-8.62	±	4.22	No
	10/13/21	-2.22	±	1.99	-8.21	±	7.36	No
	10/20/21	-0.31	±	1.17	-1.13	±	4.33	No
	10/27/21	0.52	±	1.18	1.93	±	4.37	No
	11/03/21	-1.25	±	1.13	-4.63	±	4.18	No
	11/10/21	-0.32	±	1.10	-1.17	±	4.07	No
	11/17/21	-1.07	±	1.11	-3.96	±	4.11	No
	11/24/21	-1.22	±	1.15	-4.51	±	4.26	No
	12/01/21	0.68	±	1.09	2.50	±	4.03	No
	12/08/21	2.03	±	1.19	7.51	±	4.40	No
	12/15/21	-0.10	±	1.04	-0.36	±	3.85	No
	12/22/21	2.22	±	1.43	8.21	±	5.29	No
	12/29/21	-0.40	±	1.25	-1.46	±	4.63	No
DISTANT								
BLACKFOOT	10/06/21	-69.84	±	130.23	-258.39	±	481.85	No
	10/13/21	62.50	±	107.76	231.25	±	398.71	No
	10/20/21	8.74	±	89.20	32.35	±	330.03	No
	10/27/21	-15.45	±	105.19	-57.17	±	389.20	No
	11/03/21	-126.41	±	119.96	-467.72	±	443.85	No
	11/10/21	205.16	±	98.49	759.09	±	364.41	No
	11/17/21	-14.87	±	115.09	-55.02	±	425.83	No
	11/23/21	22.10	±	153.53	81.77	±	568.06	No
	12/01/21	-13.46	±	115.54	-49.79	±	427.50	No
	12/08/21	-93.30	±	123.86	-345.22	±	458.28	No
	12/15/21	122.87	±	112.85	454.62	±	417.55	No
	12/22/21	76.98	±	106.51	284.81	±	394.09	No
	10/6/2021	-1.08	±	1.21	-4.00	±	4.48	No
	10/13/2021	0.28	±	1.10	1.05	±	4.07	No
	10/20/2021	-3.54	±	2.28	-13.10	±	8.44	No
	10/27/2021	0.17	±	1.38	0.63	±	5.11	No
	11/3/2021	1.25	±	1.34	4.63	±	4.96	No
	11/10/2021	1.61	±	2.06	5.96	±	7.62	No
	11/17/2021	1.08	±	2.05	4.00	±	7.59	No
	11/24/2021	-1.36	±	1.50	-5.03	±	5.55	No
	12/1/2021	-1.00	±	2.07	-3.70	±	7.66	No
	12/8/2021	-2.16	±	1.31	-7.99	±	4.85	No
	12/15/2021	-1.51	±	1.37	-5.59	±	5.07	No
	12/22/2021	-1.55	±	1.47	-5.74	±	5.44	No
	12/29/2021	1.75	±	1.94	6.48	±	7.18	No
CRATERS OF THE MOON	10/06/21	20.16	±	136.25	74.58	±	504.13	No
	10/13/21	-192.55	±	214.13	-712.44	±	792.28	No
	10/27/21	-103.81	±	134.05	-384.10	±	495.99	No
	11/03/21	-81.27	±	136.86	-300.68	±	506.38	No
	11/10/21	-96.79	±	115.90	-358.11	±	428.83	No
	11/17/21	-89.19	±	138.05	-330.02	±	510.79	No
	11/23/21	-29.10	±	135.49	-107.68	±	501.31	No
	12/01/21	-40.13	±	120.11	-148.47	±	444.41	No
	12/08/21	11.26	±	133.90	41.66	±	495.43	No
	12/15/21	-56.09	±	134.59	-207.53	±	497.98	No
	12/22/21	-135.20	±	138.89	-500.24	±	513.89	No
	10/06/21	-1.13	±	1.27	-4.18	±	4.70	No

Table C-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
	10/13/21	0.43	±	1.68	1.60	±	6.22	No
	10/20/21	-84.80	±	54.60	-313.76	±	202.02	No
	10/27/21	0.18	±	1.43	0.65	±	5.29	No
	11/03/21	1.08	±	1.16	4.00	±	4.29	No
	11/10/21	1.55	±	1.98	5.74	±	7.33	No
	11/17/21	1.01	±	1.92	3.74	±	7.10	No
	11/24/21	-1.28	±	1.41	-4.74	±	5.22	No
	12/01/21	-1.02	±	2.10	-3.77	±	7.77	No
	12/08/21	-2.13	±	1.29	-7.88	±	4.77	No
	12/15/21	-1.42	±	1.29	-5.25	±	4.77	No
	12/22/21	-1.43	±	1.35	-5.29	±	5.00	No
	12/29/21	1.84	±	2.03	6.81	±	7.51	No
DUBOIS	10/06/21	-2.64	±	1.29	-9.77	±	4.77	No
	10/13/21	-2.17	±	1.95	-8.03	±	7.22	No
	10/20/21	-0.32	±	1.22	-1.18	±	4.51	No
	10/27/21	0.52	±	1.16	1.91	±	4.29	No
	11/03/21	-1.30	±	1.17	-4.81	±	4.33	No
	11/10/21	-0.31	±	1.08	-1.15	±	4.00	No
	11/17/21	-1.16	±	1.21	-4.29	±	4.48	No
	11/24/21	-1.26	±	1.19	-4.66	±	4.40	No
	12/01/21	0.73	±	1.18	2.70	±	4.37	No
	12/08/21	2.14	±	1.26	7.92	±	4.66	No
	12/15/21	-0.11	±	1.14	-0.40	±	4.22	No
	12/22/21	2.17	±	1.39	8.03	±	5.14	No
	12/29/21	-0.38	±	1.19	-1.39	±	4.40	No
IDAHO FALLS	10/06/21	77.86	±	123.55	288.09	±	457.14	No
	10/13/21	-103.36	±	116.05	-382.43	±	429.39	No
	10/20/21	-54.61	±	126.03	-202.06	±	466.31	No
	10/27/21	3.06	±	133.38	11.32	±	493.51	No
	11/03/21	-7.00	±	132.05	-25.88	±	488.59	No
	11/10/21	-137.23	±	119.37	-507.75	±	441.67	No
	11/17/21	-14.45	±	150.15	-53.47	±	555.56	No
	11/23/21	99.73	±	169.69	369.01	±	627.85	No
	12/01/21	45.62	±	119.11	168.78	±	440.71	No
	12/08/21	36.28	±	127.31	134.25	±	471.05	No
	12/15/21	10.13	±	123.22	37.48	±	455.91	No
	12/22/21	-89.36	±	153.52	-330.63	±	568.02	No
	10/06/21	-2.53	±	1.24	-9.36	±	4.59	No
	10/13/21	-2.27	±	2.04	-8.40	±	7.55	No
	10/20/21	-0.31	±	1.20	-1.16	±	4.44	No
	10/27/21	0.55	±	1.24	2.04	±	4.59	No
	11/03/21	-1.30	±	1.18	-4.81	±	4.37	No
	11/10/21	-0.33	±	1.14	-1.21	±	4.22	No
	11/17/21	-1.16	±	1.21	-4.29	±	4.48	No
	11/24/21	-1.34	±	1.27	-4.96	±	4.70	No
	12/01/21	0.74	±	1.20	2.75	±	4.44	No
	12/08/21	2.12	±	1.25	7.84	±	4.63	No
	12/15/21	-0.11	±	1.13	-0.39	±	4.18	No
	12/22/21	2.13	±	1.37	7.88	±	5.07	No
	12/29/21	-0.36	±	1.12	-1.31	±	4.14	No
IRC	10/06/21	6.37	±	136.42	23.57	±	504.75	No
	10/13/21	-13.31	±	118.95	-49.25	±	440.12	No

Table C-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
	10/20/21	-83.05	±	120.87	-307.27	±	447.22	No
	10/27/21	-22.83	±	135.90	-84.49	±	502.83	No
	11/03/21	9.52	±	144.25	35.24	±	533.73	No
	11/10/21	-2.05	±	105.40	-7.59	±	389.98	No
	11/17/21	8.61	±	135.72	31.85	±	502.16	No
	11/23/21	2.93	±	143.12	10.85	±	529.54	No
	12/01/21	-9.43	±	105.74	-34.90	±	391.24	No
	12/08/21	-60.61	±	110.42	-224.24	±	408.55	No
	12/15/21	-30.67	±	114.78	-113.48	±	424.69	No
	12/22/21	-54.76	±	134.69	-202.61	±	498.35	No
IRC NORTH	10/06/21	-10.00	±	121.46	-36.99	±	449.40	No
	10/13/21	-76.61	±	119.00	-283.45	±	440.30	No
	10/20/21	-83.86	±	130.64	-310.30	±	483.37	No
	10/27/21	-100.53	±	123.78	-371.96	±	457.99	No
	11/03/21	-161.32	±	119.32	-596.88	±	441.48	No
	11/10/21	-32.72	±	111.01	-121.07	±	410.74	No
	11/17/21	-102.18	±	119.57	-378.07	±	442.41	No
	11/23/21	-96.58	±	126.63	-357.35	±	468.53	No
	12/01/21	-1.21	±	103.20	-4.46	±	381.84	No
	12/08/21	-83.67	±	119.97	-309.57	±	443.89	No
	12/15/21	-55.90	±	113.19	-206.81	±	418.80	No
	12/22/21	-12.22	±	119.04	-45.20	±	440.45	No
JACKSON, WY	10/06/21	-1.18	±	1.33	-4.37	±	4.92	No
	10/13/21	0.32	±	1.26	1.20	±	4.66	No
	10/20/21	-3.57	±	2.30	-13.21	±	8.51	No
	10/27/21	0.16	±	1.32	0.60	±	4.88	No
	11/03/21	1.29	±	1.38	4.77	±	5.11	No
	11/10/21	1.69	±	2.15	6.25	±	7.96	No
	11/17/21	1.10	±	2.07	4.07	±	7.66	No
	11/24/21	-1.44	±	1.59	-5.33	±	5.88	No
	12/01/21	-1.05	±	2.17	-3.89	±	8.03	No
	12/08/21	-2.32	±	1.41	-8.58	±	5.22	No
	12/15/21	-1.46	±	1.32	-5.40	±	4.88	No
	12/22/21	-1.57	±	1.48	-5.81	±	5.48	No
	12/29/21	1.99	±	2.20	7.36	±	8.14	No
SUGAR CITY	10/06/21	-171.96	±	137.15	-636.25	±	507.46	No
	10/13/21	-71.77	±	118.32	-265.56	±	437.78	No
	10/20/21	-44.90	±	108.96	-166.12	±	403.15	No
	10/27/21	-63.40	±	115.19	-234.59	±	426.20	No
	11/03/21	-47.54	±	126.74	-175.89	±	468.94	No
	11/10/21	92.09	±	129.54	340.75	±	479.30	No
	11/17/21	38.41	±	127.94	142.12	±	473.38	No
	11/23/21	20.12	±	125.83	74.45	±	465.57	No
	12/01/21	5.55	±	121.95	20.53	±	451.22	No
	12/08/21	-36.20	±	126.01	-133.93	±	466.24	No
	12/15/21	7.24	±	117.63	26.78	±	435.23	No
	12/22/21	-77.39	±	116.80	-286.34	±	432.16	No
	10/06/21	-3.25	±	1.59	-12.03	±	5.88	No
	10/13/21	-2.58	±	2.32	-9.55	±	8.58	No
	10/20/21	-0.37	±	1.41	-1.36	±	5.22	No
	10/27/21	0.29	±	0.64	1.06	±	2.38	No
	11/03/21	-1.04	±	0.94	-3.85	±	3.48	No

Table C-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
	11/10/21	-0.30	±	1.05	-1.12	±	3.89	No
	11/17/21	-1.06	±	1.11	-3.92	±	4.11	No
	11/24/21	-1.23	±	1.16	-4.55	±	4.29	No
	12/01/21	0.73	±	1.17	2.69	±	4.33	No
	12/08/21	1.99	±	1.17	7.36	±	4.33	No
	12/15/21	-0.11	±	1.11	-0.39	±	4.11	No
	12/22/21	2.19	±	1.41	8.10	±	5.22	No
	12/29/21	-0.40	±	1.26	-1.48	±	4.66	No
ONSITE								
ATR Complex	10/06/21	-93.38	±	124.50	-345.49	±	460.65	No
	10/13/21	-185.20	±	128.55	-685.24	±	475.64	No
	10/20/21	0.00	±	130.93	0.00	±	484.44	No
	10/27/21	-76.91	±	104.94	-284.57	±	388.28	No
	11/03/21	8.39	±	135.96	31.04	±	503.05	No
	11/17/21	-40.32	±	151.11	-149.18	±	559.11	No
	11/23/21	6.92	±	137.15	25.59	±	507.46	No
	12/01/21	-100.77	±	120.19	-372.85	±	444.70	No
	12/08/21	-76.83	±	124.66	-284.28	±	461.24	No
	12/15/21	-15.16	±	128.32	-56.10	±	474.78	No
	12/22/21	-39.48	±	124.92	-146.06	±	462.20	No
BIG LOST RIVER REST AREA	10/06/21	0.76	±	121.21	2.82	±	448.48	No
	10/13/21	-11.95	±	127.11	-44.23	±	470.31	No
	10/20/21	-50.58	±	126.20	-187.13	±	466.94	No
	10/27/21	2.06	±	123.76	7.62	±	457.91	No
	11/03/21	-31.71	±	128.43	-117.33	±	475.19	No
	11/10/21	60.12	±	110.06	222.46	±	407.22	No
	11/17/21	7.10	±	122.55	26.26	±	453.44	No
	11/23/21	31.09	±	152.66	115.03	±	564.84	No
	12/01/21	9.14	±	108.21	33.82	±	400.38	No
	12/08/21	9.22	±	112.63	34.11	±	416.73	No
	12/15/21	-174.59	±	130.24	-645.98	±	481.89	No
	12/22/21	-5.72	±	126.00	-21.18	±	466.20	No
CFA	10/06/21	-81.23	±	135.04	-300.53	±	499.65	No
	10/13/21	-5.81	±	133.46	-21.49	±	493.80	No
	10/20/21	24.05	±	125.93	88.97	±	465.94	No
	10/27/21	-113.08	±	121.54	-418.40	±	449.70	No
	11/03/21	15.49	±	109.62	57.32	±	405.59	No
	11/10/21	85.84	±	111.65	317.60	±	413.11	No
	11/17/21	-90.90	±	145.56	-336.33	±	538.57	No
	11/23/21	-109.71	±	169.43	-405.93	±	626.89	No
	12/01/21	-71.82	±	99.59	-265.75	±	368.48	No
	12/08/21	-59.10	±	112.29	-218.66	±	415.47	No
	12/15/21	2.14	±	128.92	7.91	±	477.00	No
	12/22/21	61.59	±	98.84	227.88	±	365.69	No
EBR-I	10/06/21	-142.20	±	160.18	-526.14	±	592.67	No
	10/13/21	102.98	±	132.37	381.03	±	489.77	No
	10/27/21	-159.06	±	140.03	-588.52	±	518.11	No
	11/03/21	3.77	±	101.36	13.93	±	375.03	No
	11/10/21	-139.65	±	134.88	-516.71	±	499.06	No
	11/17/21	-70.11	±	140.11	-259.42	±	518.41	No
	11/23/21	-130.20	±	161.28	-481.74	±	596.74	No
	12/01/21	-2.88	±	99.65	-10.64	±	368.72	No

Table C-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
	12/08/21	45.91	±	143.50	169.86	±	530.95	No
	12/15/21	-170.91	±	138.91	-632.37	±	513.97	No
	12/22/21	28.59	±	124.62	105.77	±	461.09	No
EFS	10/06/21	-75.28	±	120.68	-278.54	±	446.52	No
	10/13/21	-152.32	±	126.68	-563.58	±	468.72	No
	10/20/21	-17.76	±	125.02	-65.73	±	462.57	No
	10/27/21	-42.01	±	123.15	-155.43	±	455.66	No
	11/03/21	-1.74	±	132.54	-6.43	±	490.40	No
	11/10/21	-61.18	±	121.98	-226.35	±	451.33	No
	11/17/21	-71.55	±	123.32	-264.75	±	456.28	No
	11/23/21	-205.70	±	164.92	-761.09	±	610.20	No
	12/01/21	167.12	±	104.97	618.34	±	388.39	No
	12/08/21	-8.91	±	130.16	-32.98	±	481.59	No
	12/15/21	-138.94	±	131.72	-514.08	±	487.36	No
	10/06/21	-1.18	±	1.33	-4.37	±	4.92	No
	10/13/21	0.31	±	1.19	1.14	±	4.40	No
	10/20/21	-3.43	±	2.21	-12.69	±	8.18	No
	10/27/21	0.16	±	1.30	0.60	±	4.81	No
	11/10/21	1.98	±	2.52	7.33	±	9.32	No
	11/17/21	1.04	±	1.97	3.85	±	7.29	No
	11/24/21	-1.25	±	1.38	-4.63	±	5.11	No
	12/01/21	-1.03	±	2.12	-3.81	±	7.84	No
	12/08/21	-2.19	±	1.33	-8.10	±	4.92	No
	12/15/21	-1.52	±	1.39	-5.62	±	5.14	No
	12/22/21	-1.51	±	1.43	-5.59	±	5.29	No
	12/29/21	2.06	±	2.27	7.62	±	8.40	No
GATE 4	10/06/21	-27.45	±	151.96	-101.55	±	562.25	No
	10/13/21	-117.16	±	140.39	-433.49	±	519.44	No
	10/20/21	-101.75	±	132.73	-376.48	±	491.10	No
	10/27/21	2.77	±	104.24	10.26	±	385.69	No
	11/03/21	-12.23	±	121.94	-45.27	±	451.18	No
	11/10/21	-65.06	±	140.78	-240.71	±	520.89	No
	11/17/21	47.90	±	127.32	177.23	±	471.08	No
	11/23/21	-188.73	±	169.07	-698.30	±	625.56	No
	12/01/21	-88.61	±	110.68	-327.87	±	409.52	No
	12/08/21	-54.12	±	125.04	-200.26	±	462.65	No
	12/15/21	0.74	±	123.43	2.74	±	456.69	No
	12/22/21	-51.52	±	128.78	-190.63	±	476.49	No
INTEC (QA)	10/06/21	-7.05	±	113.18	-26.08	±	418.77	No
	10/13/21	58.35	±	142.92	215.90	±	528.80	No
	10/20/21	-0.65	±	125.87	-2.39	±	465.72	No
	10/27/21	-50.89	±	122.47	-188.29	±	453.14	No
	11/03/21	12.14	±	133.18	44.91	±	492.77	No
	11/10/21	-108.48	±	120.07	-401.38	±	444.26	No
	11/17/21	-64.52	±	141.79	-238.72	±	524.62	No
	11/23/21	-41.70	±	144.52	-154.27	±	534.72	No
	12/01/21	65.78	±	127.55	243.40	±	471.94	No
	12/08/21	39.72	±	139.87	146.95	±	517.52	No
	12/15/21	25.20	±	116.33	93.22	±	430.42	No
	12/22/21	-29.81	±	143.96	-110.29	±	532.65	No
INTEC NE CORNER	10/06/21	-51.80	±	99.63	-191.66	±	368.64	No
	10/13/21	-59.78	±	131.63	-221.17	±	487.03	No

Table C-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
	10/20/21	-3.10	±	140.47	-11.46	±	519.74	No
	10/27/21	-91.50	±	115.72	-338.55	±	428.16	No
	11/03/21	-68.79	±	104.02	-254.53	±	384.87	No
	11/10/21	-25.28	±	111.04	-93.53	±	410.85	No
	11/17/21	-118.21	±	134.52	-437.38	±	497.72	No
	11/23/21	-201.37	±	154.74	-745.07	±	572.54	No
	12/01/21	-44.16	±	98.70	-163.41	±	365.19	No
	12/08/21	35.51	±	138.45	131.38	±	512.27	No
	12/15/21	64.98	±	138.92	240.43	±	514.00	No
	12/22/21	-114.27	±	140.67	-422.80	±	520.48	No
INTEC WEST SIDE	10/06/21	-66.26	±	133.33	-245.17	±	493.32	No
	10/13/21	-76.51	±	135.44	-283.10	±	501.13	No
	10/20/21	-9.76	±	128.93	-36.10	±	477.04	No
	10/27/21	32.89	±	115.48	121.70	±	427.28	No
	11/03/21	15.56	±	137.24	57.58	±	507.79	No
	11/10/21	-32.79	±	138.15	-121.32	±	511.16	No
	11/17/21	-70.04	±	136.73	-259.16	±	505.90	No
	11/23/21	0.21	±	156.42	0.76	±	578.75	No
	12/01/21	-115.00	±	137.69	-425.50	±	509.45	No
	12/08/21	-54.32	±	123.32	-201.00	±	456.28	No
	12/15/21	-15.35	±	150.29	-56.79	±	556.07	No
	12/22/21	95.11	±	115.35	351.92	±	426.80	No
MAIN GATE	10/06/21	-1.14	±	1.29	-4.22	±	4.77	No
	10/13/21	0.31	±	1.22	1.16	±	4.51	No
	10/20/21	-3.52	±	2.27	-13.02	±	8.40	No
	10/27/21	0.16	±	1.31	0.60	±	4.85	No
	11/03/21	1.26	±	1.35	4.66	±	5.00	No
	11/10/21	1.62	±	2.06	5.99	±	7.62	No
	11/17/21	1.07	±	2.02	3.96	±	7.47	No
	11/24/21	-1.33	±	1.47	-4.92	±	5.44	No
	12/01/21	-1.03	±	2.13	-3.81	±	7.88	No
	12/08/21	-2.20	±	1.33	-8.14	±	4.92	No
	12/15/21	-1.51	±	1.38	-5.59	±	5.11	No
	12/22/21	-1.53	±	1.44	-5.66	±	5.33	No
	12/29/21	1.95	±	2.16	7.22	±	7.99	No
MFC NORTH	10/06/21	-12.77	±	144.35	-47.23	±	534.10	No
	10/13/21	39.12	±	122.93	144.76	±	454.84	No
	10/20/21	39.01	±	117.96	144.34	±	436.45	No
	10/27/21	34.71	±	114.61	128.44	±	424.06	No
	11/03/21	20.61	±	110.94	76.27	±	410.48	No
	11/10/21	-23.56	±	113.74	-87.16	±	420.84	No
	11/17/21	22.58	±	119.45	83.55	±	441.97	No
	11/23/21	32.07	±	169.35	118.64	±	626.60	No
	12/01/21	-24.84	±	115.54	-91.91	±	427.50	No
	12/08/21	11.89	±	112.37	43.98	±	415.77	No
	12/15/21	-78.04	±	125.46	-288.74	±	464.20	No
	12/22/21	-90.75	±	130.50	-335.77	±	482.85	No
MFC SOUTH	10/06/21	146.98	±	111.14	543.83	±	411.22	No
	10/13/21	10.93	±	133.55	40.44	±	494.14	No
	10/20/21	46.49	±	114.25	172.00	±	422.73	No
	10/27/21	-8.34	±	127.24	-30.85	±	470.79	No
	11/03/21	66.35	±	129.47	245.48	±	479.04	No

Table C-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
	11/10/21	-108.57	±	134.61	-401.71	±	498.06	No
	11/17/21	-153.26	±	94.37	-567.06	±	349.15	No
	11/23/21	-63.16	±	142.46	-233.71	±	527.10	No
	12/01/21	-3.98	±	103.55	-14.74	±	383.14	No
	12/08/21	-3.69	±	121.30	-13.64	±	448.81	No
	12/15/21	52.18	±	134.74	193.07	±	498.54	No
	12/22/21	13.44	±	128.97	49.74	±	477.19	No
NRF	10/06/21	-5.05	±	135.62	-18.67	±	501.79	No
	10/13/21	-15.88	±	132.39	-58.74	±	489.84	No
	10/20/21	-87.55	±	136.66	-323.95	±	505.64	No
	10/27/21	-24.83	±	137.77	-91.87	±	509.75	No
	11/03/21	10.89	±	114.37	40.30	±	423.17	No
	11/10/21	-6.24	±	130.10	-23.10	±	481.37	No
	11/17/21	-68.01	±	141.92	-251.63	±	525.10	No
	11/23/21	281.13	±	136.79	1040.18	±	506.12	No
	12/01/21	-0.22	±	101.73	-0.82	±	376.40	No
	12/08/21	-89.71	±	140.17	-331.92	±	518.63	No
	12/15/21	-20.14	±	148.89	-74.53	±	550.89	No
	12/22/21	-4.09	±	109.52	-15.12	±	405.22	No
RHLLW	10/06/21	114.25	±	114.08	422.73	±	422.10	No
	10/13/21	-51.02	±	136.30	-188.79	±	504.31	No
	10/20/21	-32.10	±	140.19	-118.78	±	518.70	No
	10/27/21	100.76	±	132.53	372.81	±	490.36	No
	11/03/21	-171.89	±	143.27	-635.99	±	530.10	No
	11/10/21	-6.83	±	132.97	-25.26	±	491.99	No
	11/17/21	44.24	±	140.64	163.68	±	520.37	No
	11/23/21	8.42	±	149.29	31.16	±	552.37	No
	12/01/21	2.76	±	81.94	10.20	±	303.18	No
	12/08/21	-88.83	±	136.06	-328.66	±	503.42	No
	12/15/21	-45.42	±	140.31	-168.05	±	519.15	No
	12/22/21	1.97	±	137.22	7.28	±	507.71	No
RWMC	10/06/21	-114.07	±	98.59	-422.06	±	364.76	No
	10/13/21	-80.53	±	103.48	-297.95	±	382.88	No
	10/20/21	-80.24	±	113.31	-296.87	±	419.25	No
	10/27/21	-75.77	±	95.69	-280.36	±	354.05	No
	11/03/21	-71.72	±	129.39	-265.35	±	478.74	No
	11/10/21	-1.55	±	124.71	-5.73	±	461.43	No
	11/17/21	-91.02	±	112.82	-336.78	±	417.43	No
	11/23/21	-19.54	±	125.59	-72.29	±	464.68	No
	12/01/21	-8.55	±	113.00	-31.64	±	418.10	No
	12/08/21	-136.18	±	137.15	-503.87	±	507.46	No
	12/15/21	-59.73	±	98.99	-221.01	±	366.26	No
	12/22/21	5.13	±	123.68	18.97	±	457.62	No
RWMC (QA)	10/06/21	-98.25	±	144.23	-363.52	±	533.65	No
	10/13/21	-214.48	±	145.03	-793.58	±	536.61	No
	10/20/21	0.00	±	121.32	0.00	±	448.88	No
	10/27/21	154.54	±	93.12	571.80	±	344.53	No
	11/03/21	-33.34	±	127.12	-123.35	±	470.34	No
	11/10/21	-87.39	±	147.53	-323.34	±	545.86	No
	11/17/21	-32.28	±	124.51	-119.42	±	460.69	No
	11/23/21	-124.58	±	172.32	-460.95	±	637.58	No
	12/01/21	133.09	±	98.22	492.43	±	363.40	No

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

Sampling Group and Location	Sampling Date	Analyte	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
BOUNDARY									
ARCO	12/29/21	Cesium-137	-62.90	±	161.00	-232.73	±	595.70	No
		Strontium-90	39.80	±	10.30	147.26	±	38.11	**Yes**
QA-1 (ARCO)	12/29/21	Cesium-137	-46.40	±	169.00	-171.68	±	625.30	No
		Strontium-90	30.10	±	11.90	111.37	±	44.03	No
ATOMIC CITY	12/29/21	Cesium-137	-2.15	±	146.00	-7.96	±	540.20	No
		Strontium-90	44.20	±	10.60	163.54	±	39.22	**Yes**
BLUE DOME	12/29/21	Cesium-137	-143.00	±	155.00	-529.10	±	573.50	No
		Strontium-90	26.00	±	8.86	96.20	±	32.78	No
FAA TOWER	12/29/21	Cesium-137	131.00	±	113.00	484.70	±	418.10	No
HOWE	12/29/21	Americium-241	2.69	±	3.86	9.95	±	14.28	No
		Cesium-137	3.09	±	106.00	11.43	±	392.20	No
		Plutonium-238	9.56	±	6.50	35.37	±	24.05	No
		Plutonium-239/240	0.73	±	6.23	2.72	±	23.05	No
MONTEVIEW	12/29/21	Cesium-137	-107.00	±	151.00	-395.90	±	558.70	No
MUD LAKE	12/29/21	Americium-241	0.66	±	3.60	2.43	±	13.32	No
		Cesium-137	32.40	±	176.00	119.88	±	651.20	No
		Plutonium-238	-5.23	±	6.42	-19.35	±	23.75	No
		Plutonium-239/240	-0.58	±	3.38	-2.15	±	12.51	No
QA-2 (MUD LAKE)	12/29/21	Americium-241	4.68	±	4.34	17.32	±	16.06	No
		Cesium-137	-129.00	±	146.00	-477.30	±	540.20	No
		Plutonium-238	3.72	±	6.48	13.76	±	23.98	No
		Plutonium-239/240	17.10	±	6.46	63.27	±	23.90	No
DISTANT									
BLACKFOOT	12/29/21	Cesium-137	-102.00	±	111.00	-377.40	±	410.70	No
	12/31/21	Americium-241	-1.60	±	1.30	-5.92	±	4.81	No
		Cesium-137	-3.00	±	41.00	-11.10	±	151.70	No
		Plutonium-238	0.20	±	1.30	0.74	±	4.81	No
		Plutonium-239/240	1.40	±	1.30	5.18	±	4.81	No
		Strontium-90	15.00	±	26.00	55.50	±	96.20	No
CRATERS OF THE MOON	12/29/21	Cesium-137	-420.00	±	173.00	-1554.00	±	640.10	No
	12/31/21	Americium-241	-0.10	±	1.90	-0.37	±	7.03	No
		Cesium-137	-109.00	±	59.00	-403.30	±	218.30	No
		Plutonium-238	1.80	±	1.80	6.66	±	6.66	No
		Plutonium-239/240	1.10	±	1.50	4.07	±	5.55	No

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

Sampling Group and Location	Sampling Date	Analyte	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
		Strontium-90	27.00	±	29.00	99.90	±	107.30	No
DUBOIS	12/29/21	Americium-241	1.30	±	2.84	4.81	±	10.51	No
		Cesium-137	-301.00	±	183.00	-1113.70	±	677.10	No
		Plutonium-238	-8.00	±	6.55	-29.60	±	24.24	No
		Plutonium-239/240	6.38	±	4.85	23.61	±	17.95	No
IDAHO FALLS	12/29/21	Cesium-137	-118.00	±	177.00	-436.60	±	654.90	No
	12/31/21	Americium-241	-0.40	±	2.50	-1.48	±	9.25	No
		Cesium-137	22.00	±	41.00	81.40	±	151.70	No
		Plutonium-238	-1.20	±	2.00	-4.44	±	7.40	No
		Plutonium-239/240	0.30	±	2.00	1.11	±	7.40	No
		Strontium-90	19.00	±	28.00	70.30	±	103.60	No
IRC	12/31/21	Americium-241	-2.10	±	1.30	-7.77	±	4.81	No
		Cesium-137	53.00	±	54.00	196.10	±	199.80	No
		Plutonium-238	0.80	±	1.60	2.96	±	5.92	No
		Plutonium-239/240	-0.10	±	1.60	-0.37	±	5.92	No
		Strontium-90	47.00	±	31.00	173.90	±	114.70	No
IRC NORTH	12/31/21	Americium-241	0.00	±	1.70	0.00	±	6.29	No
		Cesium-137	-46.00	±	41.00	-170.20	±	151.70	No
		Plutonium-238	1.20	±	1.50	4.44	±	5.55	No
		Plutonium-239/240	1.30	±	1.50	4.81	±	5.55	No
		Strontium-90	0.00	±	28.00	0.00	±	103.60	No
JACKSON, WY	12/29/21	Americium-241	8.03	±	7.03	29.71	±	26.01	No
		Cesium-137	-117.00	±	159.00	-432.90	±	588.30	No
		Plutonium-238	0.78	±	4.28	2.89	±	15.84	No
		Plutonium-239/240	4.68	±	3.21	17.32	±	11.88	No
SUGAR CITY	12/29/21	Cesium-137	-98.60	±	160.00	-364.82	±	592.00	No
		Strontium-90	24.10	±	10.70	89.17	±	39.59	No
	12/31/21	Americium-241	1.50	±	2.50	5.55	±	9.25	No
		Cesium-137	-56.00	±	56.00	-207.20	±	207.20	No
		Plutonium-238	2.10	±	1.70	7.77	±	6.29	No
		Plutonium-239/240	3.40	±	1.90	12.58	±	7.03	No
		Strontium-90	11.00	±	27.00	40.70	±	99.90	No

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

Sampling Group and Location	Sampling Date	Analyte	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
ONSITE									
ATR COMPLEX	12/31/21	Americium-241	-1.80	±	1.40	-6.66	±	5.18	No
		Cesium-137	-52.00	±	64.00	-192.40	±	236.80	No
		Plutonium-238	1.00	±	2.00	3.70	±	7.40	No
		Plutonium-239/240	-0.50	±	2.00	-1.85	±	7.40	No
		Strontium-90	2.00	±	29.00	7.40	±	107.30	No
CFA	12/31/21	Americium-241	-2.60	±	1.60	-9.62	±	5.92	No
		Cesium-137	-138.00	±	55.00	-510.60	±	203.50	No
		Plutonium-238	2.00	±	1.40	7.40	±	5.18	No
		Plutonium-239/240	1.00	±	1.40	3.70	±	5.18	No
		Strontium-90	-13.00	±	24.00	-48.10	±	88.80	No
EBR-I	12/31/21	Americium-241	3.10	±	2.50	11.47	±	9.25	No
		Cesium-137	-113.00	±	66.00	-418.10	±	244.20	No
		Plutonium-238	0.00	±	1.80	0.00	±	6.66	No
		Plutonium-239/240	-2.10	±	1.80	-7.77	±	6.66	No
		Strontium-90	40.00	±	31.00	148.00	±	114.70	No
EFS	12/29/21	Cesium-137	4.74	±	159.00	17.54	±	588.30	No
		Strontium-90	12.40	±	10.50	45.88	±	38.85	No
	12/31/21	Americium-241	-0.80	±	1.50	-2.96	±	5.55	No
		Cesium-137	-34.00	±	62.00	-125.80	±	229.40	No
		Plutonium-238	1.00	±	2.10	3.70	±	7.77	No
		Plutonium-239/240	1.80	±	2.10	6.66	±	7.77	No
		Strontium-90	19.00	±	26.00	70.30	±	96.20	No
GATE4	12/31/21	Americium-241	1.50	±	2.10	5.55	±	7.77	No
		Cesium-137	-63.00	±	41.00	-233.10	±	151.70	No
		Plutonium-238	3.60	±	1.80	13.32	±	6.66	No
		Plutonium-239/240	2.50	±	1.60	9.25	±	5.92	No
		Strontium-90	50.00	±	26.00	185.00	±	96.20	No
HWY 26 REST AREA	12/31/21	Americium-241	-0.30	±	1.70	-1.11	±	6.29	No
		Cesium-137	-86.00	±	50.00	-318.20	±	185.00	No
		Plutonium-238	3.60	±	1.80	13.32	±	6.66	No
		Plutonium-239/240	1.60	±	1.40	5.92	±	5.18	No

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

Sampling Group and Location	Sampling Date	Analyte	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
		Strontium-90	27.00	±	24.00	99.90	±	88.80	No
INTEC (NE CORNER)	12/31/21	Americium-241	0.00	±	1.80	0.00	±	6.66	No
		Cesium-137	-146.00	±	74.00	-540.20	±	273.80	No
		Plutonium-238	-0.60	±	1.40	-2.22	±	5.18	No
		Plutonium-239/240	3.60	±	1.80	13.32	±	6.66	No
		Strontium-90	-10.00	±	25.00	-37.00	±	92.50	No
QA-3 (INTEC)	12/31/21	Americium-241	-1.00	±	1.60	-3.70	±	5.92	No
		Cesium-137	-42.00	±	65.00	-155.40	±	240.50	No
		Plutonium-238	0.90	±	1.30	3.33	±	4.81	No
		Plutonium-239/240	3.30	±	1.60	12.21	±	5.92	No
		Strontium-90	54.00	±	28.00	199.80	±	103.60	No
INTEC (WESTSIDE)	12/31/21	Americium-241	-2.00	±	1.40	-7.40	±	5.18	No
		Cesium-137	-33.00	±	69.00	-122.10	±	255.30	No
		Plutonium-238	0.80	±	1.50	2.96	±	5.55	No
		Plutonium-239/240	4.30	±	2.10	15.91	±	7.77	No
		Strontium-90	7.00	±	28.00	25.90	±	103.60	No
MAIN GATE	12/29/21	Americium-241	12.80	±	5.99	47.36	±	22.16	No
		Cesium-137	-210.00	±	158.00	-777.00	±	584.60	No
		Plutonium-238	6.16	±	4.82	22.79	±	17.83	No
		Plutonium-239/240	5.27	±	4.21	19.50	±	15.58	No
MFC NORTH	12/31/21	Americium-241	1.20	±	1.90	4.44	±	7.03	No
		Cesium-137	-132.00	±	78.00	-488.40	±	288.60	No
		Plutonium-238	5.40	±	2.80	19.98	±	10.36	No
		Plutonium-239/240	3.20	±	2.30	11.84	±	8.51	No
		Strontium-90	30.00	±	28.00	111.00	±	103.60	No
MFC SOUTH	12/31/21	Americium-241	-2.30	±	1.20	-8.51	±	4.44	No
		Cesium-137	73.00	±	49.00	270.10	±	181.30	No
		Plutonium-238	0.50	±	1.50	1.85	±	5.55	No
		Plutonium-239/240	0.20	±	1.50	0.74	±	5.55	No
		Strontium-90	-3.00	±	25.00	-11.10	±	92.50	No

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

Sampling Group and Location	Sampling Date	Analyte	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
NRF	12/31/21	Americium-241	0.10	±	1.80	0.37	±	6.66	No
		Cesium-137	-79.00	±	58.00	-292.30	±	214.60	No
		Plutonium-238	2.10	±	1.50	7.77	±	5.55	No
		Plutonium-239/240	1.80	±	1.50	6.66	±	5.55	No
		Strontium-90	-34.00	±	26.00	-125.80	±	96.20	No
RHLLW	12/31/21	Americium-241	-0.20	±	1.50	-0.74	±	5.55	No
		Cesium-137	58.00	±	50.00	214.60	±	185.00	No
		Plutonium-238	0.60	±	1.90	2.22	±	7.03	No
		Plutonium-239/240	3.80	±	2.10	14.06	±	7.77	No
		Strontium-90	11.00	±	29.00	40.70	±	107.30	No
RWMC	12/31/21	Americium-241	-2.40	±	1.10	-8.88	±	4.07	No
		Cesium-137	-40.00	±	50.00	-148.00	±	185.00	No
		Plutonium-238	-0.10	±	1.50	-0.37	±	5.55	No
		Plutonium-239/240	-0.60	±	1.50	-2.22	±	5.55	No
		Strontium-90	25.00	±	25.00	92.50	±	92.50	No
QA-4 (RWMC)	12/31/21	Americium-241	-0.40	±	1.60	-1.48	±	5.92	No
		Cesium-137	-41.00	±	68.00	-151.70	±	251.60	No
		Plutonium-238	-0.40	±	1.90	-1.48	±	7.03	No
		Plutonium-239/240	0.30	±	1.90	1.11	±	7.03	No
		Strontium-90	39.00	±	26.00	144.30	±	96.20	No
RWMC SOUTH	12/31/21	Americium-241	-2.70	±	1.00	-9.99	±	3.70	No
		Cesium-137	-76.00	±	43.00	-281.20	±	159.10	No
		Plutonium-238	1.30	±	1.20	4.81	±	4.44	No
		Plutonium-239/240	1.80	±	1.20	6.66	±	4.44	No
		Strontium-90	26.00	±	22.00	96.20	±	81.40	No
SMC	12/31/21	Americium-241	0.90	±	2.10	3.33	±	7.77	No
		Cesium-137	48.00	±	49.00	177.60	±	181.30	No
		Plutonium-238	4.90	±	2.80	18.13	±	10.36	No
		Plutonium-239/240	4.40	±	2.80	16.28	±	10.36	No
		Strontium-90	-3.00	±	24.00	-11.10	±	88.80	No

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

Sampling Group and Location	Sampling Date	Analyte	Result ± 1s Uncertainty ($\times 10^{-18}$ µCi/mL)			Result ± 1s Uncertainty ($\times 10^{-14}$ Bq/mL)			Result > 3s
VAN BUREN GATE	12/29/21	Americium-241	-1.88	±	6.31	-6.96	±	23.35	No
		Cesium-137	45.80	±	178.00	169.46	±	658.60	No
		Plutonium-238	3.08	±	2.12	11.40	±	7.84	No
		Plutonium-239/240	-0.51	±	3.24	-1.89	±	11.99	No
	12/31/21	Americium-241	2.70	±	2.20	9.99	±	8.14	No
		Cesium-137	-129.00	±	68.00	-477.30	±	251.60	No
		Plutonium-238	0.20	±	1.80	0.74	±	6.66	No
		Plutonium-239/240	4.20	±	2.30	15.54	±	8.51	No
		Strontium-90	35.00	±	29.00	129.50	±	107.30	No

Table C-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	10/27/21	-1.03	±	1.42	-3.81	±	5.25	No
	11/17/21	-0.62	±	1.80	-2.31	±	6.66	No
HOWE	10/20/21	0.14	±	1.39	0.53	±	5.14	No
	11/17/21	-3.34	±	1.82	-12.36	±	6.73	No
	12/29/21	1.02	±	1.14	3.77	±	4.22	No
DISTANT								
CRATERS OF THE MOON	11/23/21	-0.70	±	2.30	-2.59	±	8.51	No
IDAHO FALLS	10/06/21	3.60	±	2.40	13.32	±	8.88	No
	10/20/21	-0.09	±	1.49	-0.32	±	5.51	No
	11/10/21	1.31	±	1.73	4.85	±	6.40	No
	12/01/21	-0.10	±	2.30	-0.37	±	8.51	No
	12/08/21	9.33	±	1.80	34.52	±	6.66	**Yes**
ONSITE								
EFS	10/06/21	6.63	±	1.12	24.53	±	4.14	**Yes**
	10/27/21	0.62	±	1.63	2.28	±	6.03	No
	11/03/21	2.40	±	3.10	8.88	±	11.47	No
	11/17/21	5.00	±	1.40	18.50	±	5.18	**Yes**
	12/15/21	-3.70	±	3.10	-13.69	±	11.47	No
	12/22/21	2.97	±	1.23	10.99	±	4.55	No
MFC	12/30/21	0.70	±	2.30	2.59	±	8.51	No
VAN BUREN	10/27/21	2.30	±	2.70	8.51	±	9.99	No
	12/08/21	2.10	±	2.20	7.77	±	8.14	No

Table C-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	10/20/21	10/27/21	-83.90	±	23.10	-3.10	±	0.85	No
	10/27/21	11/03/21	-69.20	±	22.60	-2.56	±	0.84	No
	12/08/21	12/15/21	24.50	±	23.00	0.91	±	0.85	No
	12/22/21	12/29/21	45.10	±	23.60	1.67	±	0.87	No
HOWE	09/29/21	10/06/21	-57.60	±	25.00	-2.13	±	0.93	No
	10/06/21	10/13/21	-21.60	±	25.40	-0.80	±	0.94	No
	10/13/21	10/20/21	203.00	±	30.20	7.51	±	1.12	**Yes**
	10/20/21	10/27/21	-32.20	±	23.50	-1.19	±	0.87	No
	10/27/21	11/03/21	272.00	±	30.40	10.06	±	1.12	**Yes**
	11/03/21	11/10/21	391.00	±	31.20	14.47	±	1.15	**Yes**
	12/08/21	12/15/21	52.80	±	24.40	1.95	±	0.90	No
	12/15/21	12/22/21	26.10	±	23.20	0.97	±	0.86	No
	12/22/21	12/29/21	96.70	±	24.90	3.58	±	0.92	**Yes**
DISTANT									
IDAHO FALLS	10/01/21	10/31/21	-36.60	±	23.50	-1.35	±	0.87	No
	11/01/21	11/30/21	-66.20	±	23.60	-2.45	±	0.87	No
	12/01/21	12/31/21	-25.50	±	23.80	-0.94	±	0.88	No
INL SITE									
EFS	10/06/21	10/13/21	-37.20	±	25.20	-1.38	±	0.93	No
	10/20/21	10/27/21	19.00	±	24.20	0.70	±	0.90	No
	10/27/21	11/03/21	-13.30	±	22.30	-0.49	±	0.83	No
	11/17/21	11/24/21	94.40	±	24.60	3.49	±	0.91	**Yes**
	12/08/21	12/15/21	-53.10	±	23.50	-1.96	±	0.87	No
	12/22/21	12/29/21	64.90	±	23.80	2.40	±	0.88	No

Table C-6. Gross alpha, gross beta, and tritium concentrations in surface and drinking water.

Location	Sampling Date	Analyte	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			Result > 3s
SURFACE WATER									
Alpheus Spring	11/08/21	GROSS ALPHA	8.75	±	0.83	0.32	±	0.03	**Yes**
		GROSS BETA	14.10	±	1.02	0.52	±	0.04	**Yes**
		TRITIUM	-5.93	±	23.40	-0.22	±	0.87	No
Bill Jones, Jr. Trout Farm	11/08/21	GROSS ALPHA	0.58	±	0.21	0.02	±	0.01	No
		GROSS BETA	4.38	±	0.45	0.16	±	0.02	**Yes**
		TRITIUM	23.30	±	23.00	0.86	±	0.85	No
Bill Jones, Jr. Trout Farm (Duplicate)	11/08/21	GROSS ALPHA	0.62	±	0.21	0.02	±	0.01	No
		GROSS BETA	3.85	±	0.44	0.14	±	0.02	**Yes**
		TRITIUM	-11.40	±	23.00	-0.42	±	0.85	No
Clear Springs	11/08/21	GROSS ALPHA	0.10	±	0.21	0.00	±	0.01	No
		GROSS BETA	4.96	±	0.50	0.18	±	0.02	**Yes**
		TRITIUM	30.60	±	23.00	1.13	±	0.85	No
DRINKING WATER									
Atomic City	11/10/21	GROSS ALPHA	2.56	±	0.62	0.09	±	0.02	**Yes**
		GROSS BETA	8.84	±	1.03	0.33	±	0.04	**Yes**
		TRITIUM	16.00	±	22.60	0.59	±	0.84	No
Control	12/14/21	GROSS ALPHA	0.14	±	0.11	0.01	±	0.00	No
		GROSS BETA	0.76	±	0.31	0.03	±	0.01	No
		TRITIUM	18.90	±	23.20	0.70	±	0.86	No
Craters of the Moon	11/10/21	GROSS ALPHA	1.19	±	0.23	0.04	±	0.01	**Yes**
		GROSS BETA	3.40	±	0.42	0.13	±	0.02	**Yes**
		TRITIUM	-6.80	±	22.10	-0.25	±	0.82	No
Howe	11/10/21	GROSS ALPHA	0.68	±	0.21	0.03	±	0.01	**Yes**
		GROSS BETA	1.74	±	0.41	0.06	±	0.02	**Yes**
		TRITIUM	-34.70	±	22.60	-1.29	±	0.84	No
Idaho Falls	11/10/21	GROSS ALPHA	0.40	±	0.23	0.01	±	0.01	No
		GROSS BETA	4.72	±	0.50	0.17	±	0.02	**Yes**
		TRITIUM	-43.60	±	23.30	-1.61	±	0.86	No
Minidoka	11/08/21	GROSS ALPHA	0.24	±	0.20	0.01	±	0.01	No
		GROSS BETA	4.64	±	0.48	0.17	±	0.02	**Yes**
		TRITIUM	-6.80	±	23.10	-0.25	±	0.86	No
Mud Lake	11/10/21	GROSS ALPHA	0.23	±	0.15	0.01	±	0.01	No
		GROSS BETA	4.25	±	0.41	0.16	±	0.02	**Yes**
		TRITIUM	1.19	±	23.20	0.04	±	0.86	No
Rest Area	11/10/21	GROSS ALPHA	3.28	±	0.54	0.12	±	0.02	**Yes**
		GROSS BETA	5.02	±	0.79	0.19	±	0.03	**Yes**
		TRITIUM	44.60	±	23.50	1.65	±	0.87	No
Shoshone	11/08/21	GROSS ALPHA	1.46	±	0.25	0.05	±	0.01	**Yes**
		GROSS BETA	4.48	±	0.45	0.17	±	0.02	**Yes**
		TRITIUM	-14.50	±	22.70	-0.54	±	0.84	No

Table C-7. Weekly and monthly iodine-131 and cesium-137 concentrations in milk.

		Iodine-131							Cesium-137						
	Sampling	Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)				Result ± 1s Uncertainty (pCi/L)			Result ± 1s Uncertainty (Bq/L)			
Location	Date							Result > 3s							Result > 3s
CONTROL	10/06/21	3.04	±	1.69	0.11	±	0.06	No	-0.54	±	1.26	-0.02	±	0.05	No
	11/02/21	0.71	±	1.06	0.03	±	0.04	No	0.08	±	0.60	0.00	±	0.02	No
	12/06/21	0.48	±	1.77	0.02	±	0.07	No	1.20	±	1.44	0.04	±	0.05	No
DIETRICH	10/05/21	-0.40	±	0.90	-0.01	±	0.03	No	0.46	±	0.65	0.02	±	0.02	No
	11/02/21	-0.31	±	1.60	-0.01	±	0.06	No	1.53	±	1.36	0.06	±	0.05	No
	12/07/21	-2.39	±	1.83	-0.09	±	0.07	No	1.04	±	1.44	0.04	±	0.05	No
duplicate	12/07/21	-0.05	±	1.17	0.00	±	0.04	No	-0.15	±	1.48	-0.01	±	0.05	No
HOWE	10/06/21	-4.09	±	1.34	-0.15	±	0.05	No	1.37	±	1.07	0.05	±	0.04	No
	11/02/21	0.33	±	1.34	0.01	±	0.05	No	-0.63	±	1.03	-0.02	±	0.04	No
	12/06/21	-0.27	±	1.32	-0.01	±	0.05	No	0.03	±	1.04	0.00	±	0.04	No
MINIDOKA	10/05/21	-1.95	±	1.10	-0.07	±	0.04	No	1.14	±	1.36	0.04	±	0.05	No
	11/02/21	-1.14	±	1.11	-0.04	±	0.04	No	0.88	±	1.36	0.03	±	0.05	No
	12/07/21	0.27	±	0.98	0.01	±	0.04	No	0.66	±	0.66	0.02	±	0.02	No
MONTEVIEW	10/06/21	-1.42	±	1.10	-0.05	±	0.04	No	2.14	±	1.36	0.08	±	0.05	No
	11/02/21	1.13	±	1.80	0.04	±	0.07	No	0.79	±	1.32	0.03	±	0.05	No
	12/06/21	-2.53	±	1.84	-0.09	±	0.07	No	1.93	±	1.38	0.07	±	0.05	No
RIGBY	10/05/21	-0.90	±	1.00	-0.03	±	0.04	No	1.44	±	0.68	0.05	±	0.03	No
	10/13/21	-0.43	±	0.94	-0.02	±	0.03	No	1.80	±	1.37	0.07	±	0.05	No
	10/19/21	0.44	±	1.03	0.02	±	0.04	No	0.54	±	1.45	0.02	±	0.05	No
	10/27/21	0.97	±	0.84	0.04	±	0.03	No	0.28	±	0.62	0.01	±	0.02	No
	11/02/21	0.23	±	0.78	0.01	±	0.03	No	0.53	±	0.65	0.02	±	0.02	No
	11/10/21	0.37	±	0.93	0.01	±	0.03	No	1.87	±	1.44	0.07	±	0.05	No
	11/17/21	0.48	±	0.94	0.02	±	0.03	No	0.33	±	1.39	0.01	±	0.05	No
	11/24/21	-0.33	±	0.63	-0.01	±	0.02	No	1.63	±	0.71	0.06	±	0.03	No
	12/02/21	-0.54	±	1.49	-0.02	±	0.06	No	-1.17	±	1.45	-0.04	±	0.05	No
	12/06/21	-2.15	±	1.04	-0.08	±	0.04	No	0.69	±	0.69	0.03	±	0.03	No
	12/14/21	-0.04	±	1.61	0.00	±	0.06	No	-1.36	±	1.39	-0.05	±	0.05	No
	12/22/21	-1.56	±	1.61	-0.06	±	0.06	No	-1.36	±	1.31	-0.05	±	0.05	No
	12/28/21	1.44	±	1.71	0.05	±	0.06	No	-0.09	±	1.41	0.00	±	0.05	No
TERRETON	10/07/21	1.18	±	0.93	0.04	±	0.03	No	0.18	±	0.64	0.01	±	0.02	No
duplicate	10/07/21	1.05	±	1.23	-0.08	±	0.04	No	-1.49	±	1.06	-0.06	±	0.04	No
	10/13/21	0.59	±	1.15	0.02	±	0.04	No	1.43	±	1.05	0.05	±	0.04	No
	10/19/21	-2.87	±	1.75	-0.11	±	0.06	No	-0.47	±	1.35	-0.02	±	0.05	No
	10/27/21	-0.29	±	0.99	-0.01	±	0.04	No	0.06	±	1.47	0.00	±	0.05	No
	11/02/21	-0.76	±	0.93	-0.03	±	0.03	No	0.98	±	0.66	0.04	±	0.02	No
	11/10/21	0.52	±	1.12	0.02	±	0.04	No	-0.79	±	1.05	-0.03	±	0.04	No
	11/16/21	-0.34	±	1.21	-0.01	±	0.04	No	0.62	±	1.03	0.02	±	0.04	No
	11/24/21	0.13	±	0.97	0.00	±	0.04	No	-1.91	±	1.57	-0.07	±	0.06	No
	12/02/21	0.78	±	0.97	0.03	±	0.04	No	-0.61	±	1.44	-0.02	±	0.05	No
	12/06/21	-0.49	±	1.17	-0.02	±	0.04	No	1.92	±	1.46	0.07	±	0.05	No
	12/14/21	-0.57	±	1.06	-0.02	±	0.04	No	0.09	±	1.42	0.00	±	0.05	No
	12/22/21	0.24	±	0.97	0.01	±	0.04	No	0.34	±	1.37	0.01	±	0.05	No
	12/28/21	1.02	±	1.08	0.04	±	0.04	No	1.95	±	1.43	0.07	±	0.05	No

Table C-8. 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	11/02/21	0.24	±	0.11	0.01	±	0.00	No
DIETRICH	11/02/21	0.35	±	0.06	0.01	±	0.00	**Yes**
HOWE	11/02/21	0.25	±	0.18	0.01	±	0.01	No
MINIDOKA	11/02/21	0.25	±	0.08	0.01	±	0.00	**Yes**
MONTEVIEW	11/02/21	-0.43	±	0.17	-0.02	±	0.01	No
RIGBY	11/02/21	0.43	±	0.10	0.02	±	0.00	**Yes**
TERRETON	11/02/21	0.51	±	0.08	0.02	±	0.00	**Yes**
Tritium								
CONTROL	11/02/21	-40.10	±	23.50	-1.49	±	0.87	No
DIETRICH	11/02/21	-47.50	±	21.80	-1.76	±	0.81	No
HOWE	11/02/21	-23.80	±	22.10	-0.88	±	0.82	No
MINIDOKA	11/02/21	6.06	±	23.40	0.22	±	0.87	No
MONTEVIEW	11/02/21	-9.98	±	22.10	-0.37	±	0.82	No
RIGBY	11/02/21	-3.66	±	22.70	-0.14	±	0.84	No
TERRETON	11/02/21	-51.30	±	21.70	-1.90	±	0.80	No

Table C-9. Cesium-137 and strontium-90 concentrations in potatoes.

Location	Sampling Date	Result ± 1s Uncertainty pCi/kg			Result ± 1s Uncertainty (x 10^{-2} Bq/kg)			Result > 3s
Cesium-137								
Arco	10/13/21	0.88	±	0.91	3.27	±	3.36	No
Arco (Duplicate)	10/13/21	-0.15	±	1.19	-0.56	±	4.41	No
Blackfoot	10/13/21	-2.02	±	1.01	-7.48	±	3.74	No
Cincinnati OH	10/11/21	-5.97	±	2.41	-22.11	±	8.93	No
Idaho Falls	10/14/21	0.24	±	0.88	0.88	±	3.26	No
Pocatello ID	10/14/21	-1.58	±	2.04	-5.85	±	7.56	No
Rupert	10/07/21	1.23	±	1.20	4.56	±	4.44	No
Shelley	10/07/21	0.15	±	1.94	0.55	±	7.19	No
Sugar City	10/20/21	1.09	±	0.88	4.04	±	3.27	No
Terreton	10/06/21	0.26	±	0.91	0.94	±	3.39	No
Strontium-90								
Arco	10/13/21	8.61	±	8.09	31.89	±	29.96	No
Arco (Duplicate)	10/13/21	6.47	±	8.68	23.96	±	32.15	No
Blackfoot	10/13/21	17.80	±	7.39	65.93	±	27.37	No
Cincinnati OH	10/11/21	12.60	±	5.56	46.67	±	20.59	No
Idaho Falls	10/14/21	14.40	±	6.56	53.33	±	24.30	No
Pocatello ID	10/14/21	-9.23	±	12.70	-34.19	±	47.04	No
Rupert	10/07/21	4.08	±	5.00	15.11	±	18.52	No
Shelley	10/07/21	4.60	±	5.77	17.04	±	21.37	No
Sugar City	10/20/21	27.40	±	15.10	101.48	±	55.93	No
Terreton	10/06/21	15.40	±	5.29	57.04	±	19.59	No

Table C-10. Gamma-emitting radionuclides in large game animals.

Species	Collection Date	Tissue	Analyte	Result ± 1s Uncertainty (pCi/kg wet weight)			Result ± 1s Uncertainty (x 10^{-2} Bq/kg wet weight)			Result > 3s
MULE DEER	10/11/21	Liver	Cesium-137	0.26	±	1.23	0.96	±	4.55	No
			Iodine-131	-10.20	±	13.90	-37.74	±	51.43	No
ELK	11/01/21	Liver	Cesium-137	0.51	±	2.01	1.90	±	7.44	No
			Iodine-131	4.72	±	11.30	17.46	±	41.81	No
MULE DEER	11/24/21	Liver	Cesium-137	-1.75	±	2.20	-6.48	±	8.14	No
			Iodine-131	-20.20	±	18.40	-74.74	±	68.08	No
MULE DEER	10/11/21	Muscle	Cesium-137	-2.50	±	1.95	-9.25	±	7.22	No
			Iodine-131	-9.58	±	16.80	-35.45	±	62.16	No
ELK	11/01/21	Muscle	Cesium-137	2.42	±	1.01	8.95	±	3.74	No
			Iodine-131	5.70	±	6.67	21.09	±	24.68	No
ELK	11/01/21	Muscle	Cesium-137	1.79	±	1.25	6.62	±	4.63	No
			Iodine-131	6.25	±	7.27	23.13	±	26.90	No
ELK	11/24/21	Muscle	Cesium-137	0.75	±	1.07	2.78	±	3.96	No
			Iodine-131	-1.74	±	9.55	-6.44	±	35.34	No
ELK	11/01/21	Thyroid	Cesium-137	-16.40	±	59.00	-60.68	±	218.30	No
			Iodine-131	-265.00	±	407.00	-980.50	±	1505.90	No
MULE DEER	11/24/21	Thyroid	Cesium-137	-41.70	±	91.70	-154.29	±	339.29	No
			Iodine-131	-183.00	±	214.00	-677.10	±	791.80	No

Table C-11. Actinide, gamma-emitting radionuclide, and strontium-90 concentrations in edible tissues of waterfowl.

Location	Sampling Date	Analyte	Result pCi/kg	± Uncertainty(1s) pCi/kg	Result (x 10^{-2}) Bq/kg	± Uncertainty(1s) (x 10^{-2}) Bq/kg	Result > 3s
ATR Complex	10/15/21						
		AMERICIUM-241	2.33	± 1.84	8.63	± 6.81	No
		CESIUM-137	-5.92	± 4.50	-21.93	± 16.67	No
		CHROMIUM-51	-25.40	± 79.60	-94.07	± 294.81	No
		COBALT-60	4.87	± 3.15	18.04	± 11.67	No
		PLUTONIUM-238	3.02	± 1.29	11.19	± 4.78	No
		PLUTONIUM-239/240	3.01	± 1.60	11.15	± 5.93	No
		STRONTIUM-90	-2.31	± 5.24	-8.56	± 19.41	No
		ZINC-65	-10.90	± 9.48	-40.37	± 35.11	No
ATR Complex	10/15/21						
		AMERICIUM-241	-0.93	± 2.67	-3.44	± 9.89	No
		CESIUM-137	-1.08	± 4.34	-4.00	± 16.07	No
		CHROMIUM-51	70.20	± 113.00	260.00	± 418.52	No
		COBALT-60	6.34	± 2.98	23.48	± 11.04	No
		PLUTONIUM-238	2.03	± 1.21	7.52	± 4.48	No
		PLUTONIUM-239/240	0.31	± 1.21	1.15	± 4.48	No
		STRONTIUM-90	48.80	± 4.81	180.74	± 17.81	**Yes**
		ZINC-65	-28.50	± 9.71	-105.56	± 35.96	No
Control	11/04/21						
		AMERICIUM-241	0.71	± 0.81	2.62	± 3.00	No
		CESIUM-137	0.76	± 1.40	2.81	± 5.19	No
		CHROMIUM-51	25.40	± 23.90	94.07	± 88.52	No
		COBALT-60	0.96	± 1.04	3.57	± 3.85	No
		PLUTONIUM-238	-0.85	± 1.64	-3.13	± 6.07	No
		PLUTONIUM-239/240	-1.27	± 1.89	-4.70	± 7.00	No
		STRONTIUM-90	24.50	± 5.50	90.74	± 20.37	**Yes**
		ZINC-65	-9.28	± 3.29	-34.37	± 12.19	No
Control	11/30/21						
		AMERICIUM-241	1.35	± 0.93	5.00	± 3.44	No
		CESIUM-137	-0.35	± 1.46	-1.30	± 5.41	No
		CHROMIUM-51	-18.20	± 16.00	-67.41	± 59.26	No
		COBALT-60	1.81	± 1.07	6.70	± 3.96	No
		PLUTONIUM-238	-1.49	± 1.65	-5.52	± 6.11	No
		PLUTONIUM-239/240	0.99	± 2.10	3.67	± 7.78	No
		STRONTIUM-90	73.50	± 4.45	272.22	± 16.48	**Yes**
		ZINC-65	-1.25	± 3.41	-4.63	± 12.63	No

Table C-11. Actinide, gamma-emitting radionuclide, and strontium-90 concentrations in edible tissues of waterfowl.

Location	Sampling Date	Analyte	Result pCi/kg	± Uncertainty(1s) pCi/kg	Result (x 10^{-2}) Bq/kg	± Uncertainty(1s) (x 10^{-2}) Bq/kg	Result > 3s
Control	11/30/21						
		AMERICIUM-241	0.53	± 0.90	1.96	± 3.32	No
		CESIUM-137	-0.70	± 1.72	-2.59	± 6.37	No
		CHROMIUM-51	20.70	± 18.70	76.67	± 69.26	No
		COBALT-60	1.33	± 1.20	4.93	± 4.44	No
		PLUTONIUM-238	0.00	± 1.86	0.00	± 6.89	No
		PLUTONIUM-239/240	0.99	± 1.72	3.68	± 6.37	No
		STRONTIUM-90	30.40	± 3.44	112.59	± 12.74	**Yes**
		ZINC-65	-3.76	± 3.68	-13.93	± 13.63	No

Table C-12. Environmental Radiation Measurements Using OSLDs

Location	Start Date	End Date	Radiation Measurement ± 1s Uncertainty mrem			Dose mrem/day
BOUNDARY						
ARCO	05/05/21	11/03/21	73.1	±	3.66	0.40
ARCO O-1	05/05/21	11/03/21	63.0	±	6.30	0.35
ATOMIC CITY	05/05/21	11/03/21	72.4	±	3.62	0.40
ATOMIC CITY O-2	05/03/21	11/01/21	72.1	±	7.21	0.40
BIRCH CREEK/RENO RANCH	05/05/21	11/03/21	61.4	±	3.07	0.34
BIRCH CREEK/RENO RANCH O-6	05/04/21	11/01/21	56.5	±	5.65	0.31
BLUE DOME	05/05/21	11/03/21	57.7	±	2.89	0.32
HOWE	05/05/21	11/03/21	66.4	±	3.32	0.36
HOWE O-3	05/04/21	11/01/21	57.8	±	5.78	0.32
MONTEVIEW	05/05/21	11/03/21	69.4	±	3.47	0.38
MONTEVIEW O-4	05/04/21	11/01/21	60.1	±	6.01	0.33
MUD LAKE	05/05/21	11/03/21	70.5	±	3.52	0.39
MUD LAKE O-5	05/04/21	11/01/21	68.6	±	6.86	0.38
RRL 3	05/03/21	11/01/21	67.3	±	6.73	0.37
RRL 5	05/03/21	11/01/21	83.7	±	8.37	0.46
RRL 6	05/03/21	11/01/21	65.3	±	6.53	0.36
Boundary Average			**66.6**			**0.37**
DISTANT						
ABERDEEN	05/03/21	11/02/21	76.7	±	3.8	0.42
BLACKFOOT (MOUNTAIN VIEW)	05/05/21	11/03/21	61.4	±	3.1	0.34
BLACKFOOT O-9 (MOUNTAIN VIEW)	05/05/21	11/03/21	57.3	±	5.7	0.31
CRATERS OF THE MOON	05/05/21	11/03/21	67.3	±	3.4	0.37
CRATERS OF THE MOON O-7	05/05/21	11/03/21	69.7	±	7.0	0.38
DUBOIS	05/05/21	11/03/21	63.0	±	3.1	0.35
IDAHO FALLS	05/05/21	11/03/21	71.7	±	3.6	0.39
JACKSON	05/10/21	11/04/21	65.1	±	3.3	0.37
MINIDOKA	05/03/21	11/02/21	61.4	±	3.1	0.34
ROBERTS	05/04/21	11/02/21	74.9	±	3.7	0.41
SUGAR CITY	05/05/21	11/03/21	83.3	±	4.2	0.46
Distant Average			**68.3**			**0.38**
ONSITE						
ANL O-12	05/03/21	11/01/21	56.3	±	5.63	0.31
ANL O-14	05/03/21	11/01/21	72.8	±	7.28	0.40
ANL O-15	05/03/21	11/01/21	79.6	±	7.96	0.44
ANL O-16	05/03/21	11/01/21	68.5	±	6.85	0.38
ANL O-18	05/03/21	11/01/21	63.3	±	6.33	0.35
ANL O-19	05/03/21	11/01/21	63.7	±	6.37	0.35

Table C-12. Environmental Radiation Measurements Using OSLDs

Location	Start Date	End Date	Radiation Measurement ± 1s Uncertainty mrem			Dose mrem/day
ANL O-20	05/03/21	11/01/21	78.8	±	7.88	0.43
ANL O-21	05/03/21	11/01/21	103.7	±	10.37	0.57
ANL O-22	05/03/21	11/01/21	78.1	±	7.81	0.43
ANL O-23	05/03/21	11/01/21	69.0	±	6.90	0.38
ANL O-24	05/03/21	11/01/21	60.6	±	6.06	0.33
ANL O-25	05/03/21	11/01/21	80.4	±	8.04	0.44
ANL O-26	05/03/21	11/01/21	65.2	±	6.52	0.36
ANL O-7	05/03/21	11/01/21	71.6	±	7.16	0.39
ANL O-8	05/03/21	11/01/21	59.7	±	5.97	0.33
ARA I&II O-1	05/03/21	11/01/21	67.9	±	6.79	0.37
CFA O-1	05/03/21	11/01/21	75.6	±	7.56	0.42
EBR I O-1	05/03/21	11/01/21	60.2	±	6.02	0.33
EBR I O-2	05/03/21	11/01/21	88.2	±	8.82	0.49
EBR I O-3	05/03/21	11/01/21	288.3	±	28.83	1.59
EFS O-1	05/04/21	11/02/21	67.0	±	6.70	0.37
Gate4 O-1	05/04/21	11/01/21	59.2	±	5.92	0.33
Haul E O-1	05/03/21	11/01/21	64.6	±	6.46	0.36
Haul W O-2	05/03/21	11/01/21	65.1	±	6.51	0.36
Hwy20 Mile O-266	05/04/21	11/01/21	64.9	±	6.49	0.36
Hwy20 Mile O-270	05/04/21	11/01/21	65.2	±	6.52	0.36
Hwy20 Mile O-276	05/03/21	11/01/21	65.6	±	6.56	0.36
Hwy22 T28 O-1	05/04/21	11/01/21	59.6	±	5.96	0.33
Hwy28 N2300 O-2	05/04/21	11/01/21	52.0	±	5.20	0.29
Hwy33 T17 O-3	05/04/21	11/01/21	57.9	±	5.79	0.32
ICPP O-14	05/04/21	11/02/21	114.2	±	11.42	0.63
ICPP O-15	05/04/21	11/02/21	146.4	±	14.64	0.80
ICPP O-17	05/04/21	11/02/21	70.7	±	7.07	0.39
ICPP O-19	05/04/21	11/02/21	105.2	±	10.52	0.58
ICPP O-20	05/04/21	11/02/21	325.7	±	32.57	1.79
ICPP O-21	05/04/21	11/02/21	91.3	±	9.13	0.50
ICPP O-22	05/04/21	11/02/21	98.4	±	9.84	0.54
ICPP O-25	05/04/21	11/02/21	100.5	±	10.05	0.55
ICPP O-26	05/04/21	11/02/21	85.1	±	8.51	0.47
ICPP O-27	05/04/21	11/02/21	203.6	±	20.36	1.12
ICPP O-28	05/04/21	11/02/21	209.3	±	20.93	1.15
ICPP O-30	05/04/21	11/02/21	233.8	±	23.38	1.28
ICPP O-9	05/04/21	11/02/21	96.5	±	9.65	0.53
ICPP TreeFarm O-1	05/04/21	11/02/21	144.1	±	14.41	0.79

Table C-12. Environmental Radiation Measurements Using OSLDs

Location	Start Date	End Date	Radiation Measurement ± 1s Uncertainty mrem			Dose mrem/day
ICPP TreeFarm O-2	05/04/21	11/02/21	95.8	±	9.58	0.53
ICPP TreeFarm O-3	05/04/21	11/02/21	100.3	±	10.03	0.55
ICPP TreeFarm O-4	05/04/21	11/02/21	145.7	±	14.57	0.80
Idaho Falls O-10	05/04/21	11/02/21	61.7	±	6.17	0.34
IF-603E O-2	05/04/21	11/02/21	49.7	±	4.97	0.27
IF-603N O-1	05/04/21	11/02/21	57.4	±	5.74	0.32
IF-603S O-3	05/04/21	11/02/21	53.8	±	5.38	0.30
IF-603W O-4	05/04/21	11/02/21	60.5	±	6.05	0.33
IF-616N O-36	05/04/21	11/02/21	58.4	±	5.84	0.32
IF-627 O-30	05/04/21	11/02/21	55.9	±	5.59	0.31
IF-638E O-2	05/04/21	11/02/21	48.4	±	4.84	0.27
IF-638N O-1	05/04/21	11/02/21	54.4	±	5.44	0.30
IF-638S O-3	05/04/21	11/02/21	61.7	±	6.17	0.34
IF-638W O-4	05/04/21	11/02/21	57.8	±	5.78	0.32
IF-665 O-1	05/04/21	11/02/21	52.8	±	5.28	0.29
IF-665 O-2	05/04/21	11/02/21	58.6	±	5.86	0.32
IF-665 O-3	05/04/21	11/02/21	54.1	±	5.41	0.30
IF-665 O-4	05/04/21	11/02/21	59.4	±	5.94	0.33
IF-665 O-5	05/04/21	11/02/21	61.9	±	6.19	0.34
IF-665W O-37	05/04/21	11/02/21	57.8	±	5.78	0.32
IF-670D O-34	05/04/21	11/02/21	56.3	±	5.63	0.31
IF-670E O-32	05/04/21	11/02/21	55.2	±	5.52	0.30
IF-670N O-31	05/04/21	11/02/21	56.0	±	5.60	0.31
IF-670S O-33	05/04/21	11/02/21	57.2	±	5.72	0.31
IF-670W O-35	05/04/21	11/02/21	64.1	±	6.41	0.35
IF-675D O-33	05/04/21	11/02/21	53.6	±	5.36	0.29
IF-675E O-31	05/04/21	11/02/21	51.8	±	5.18	0.28
IF-675S O-34	05/04/21	11/02/21	61.9	±	6.19	0.34
IF-675W O-35	05/04/21	11/02/21	55.0	±	5.50	0.30
IF-688B O-1	05/04/21	11/02/21	50.9	±	5.09	0.28
IF-689 O-7	05/04/21	11/02/21	58.6	±	5.86	0.32
IF-689 O-8	05/04/21	11/02/21	58.3	±	5.83	0.32
IF-IDA O-38	05/04/21	11/02/21	53.3	±	5.33	0.29
IF-IRC O-39	05/04/21	11/02/21	58.2	±	5.82	0.32
LincolnBlvd O-1	05/03/21	11/01/21	69.7	±	6.97	0.38
LincolnBlvd O-15	05/04/21	11/01/21	75.8	±	7.58	0.42
LincolnBlvd O-25	05/04/21	11/01/21	66.4	±	6.64	0.37
LincolnBlvd O-3	05/04/21	11/01/21	74.1	±	7.41	0.41

Table C-12. Environmental Radiation Measurements Using OSLDs

Location	Start Date	End Date	Radiation Measurement ± 1s Uncertainty mrem			Dose mrem/day
LincolnBlvd O-5	05/04/21	11/01/21	72.5	±	7.25	0.40
LincolnBlvd O-9	05/04/21	11/01/21	70.0	±	7.00	0.39
Main Gate O-1	05/03/21	11/01/21	69.6	±	6.96	0.38
NRF O-11	05/03/21	11/02/21	68.0	±	6.80	0.37
NRF O-16	05/03/21	11/02/21	71.4	±	7.14	0.39
NRF O-18	05/03/21	11/02/21	78.6	±	7.86	0.43
NRF O-19	05/03/21	11/02/21	67.7	±	6.77	0.37
NRF O-20	05/03/21	11/02/21	68.3	±	6.83	0.37
NRF O-21	05/03/21	11/02/21	76.0	±	7.60	0.42
NRF O-22	05/03/21	11/02/21	69.7	±	6.97	0.38
NRF O-23	05/03/21	11/02/21	61.8	±	6.18	0.34
NRF O-24	05/03/21	11/02/21	68.1	±	6.81	0.37
PBF SPERT O-1	05/03/21	11/01/21	66.2	±	6.62	0.36
REST O-1	05/05/21	11/03/21	63.1	±	6.31	0.35
RHLLW O-1	05/03/21	11/03/21	72.5	±	7.25	0.39
RHLLW O-2	05/03/21	11/03/21	64.9	±	6.49	0.35
RHLLW O-3	05/03/21	11/03/21	59.2	±	5.92	0.32
RHLLW O-4	05/03/21	11/03/21	70.6	±	7.06	0.38
RHLLW O-5	05/03/21	11/03/21	67.7	±	6.77	0.37
RHLLW O-6	05/03/21	11/03/21	72.4	±	7.24	0.39
RobNOAA	05/04/21	11/01/21	65.1	±	6.51	0.36
RRL17 O-1	05/04/21	11/01/21	57.3	±	5.73	0.32
RRL24 O-1	05/04/21	11/01/21	55.4	±	5.54	0.31
RWMC O-11A	05/03/21	11/01/21	89.5	±	8.95	0.49
RWMC O-13A	05/03/21	11/01/21	223.3	±	22.33	1.23
RWMC O-19A	05/03/21	11/01/21	66.3	±	6.63	0.36
RWMC O-21A	05/03/21	11/01/21	73.5	±	7.35	0.40
RWMC O-23A	05/03/21	11/01/21	70.3	±	7.03	0.39
RWMC O-25A	05/03/21	11/01/21	69.0	±	6.90	0.38
RWMC O-27A	05/03/21	11/01/21	66.5	±	6.65	0.37
RWMC O-29A	05/03/21	11/01/21	71.5	±	7.15	0.39
RWMC O-39	05/03/21	11/01/21	73.3	±	7.33	0.40
RWMC O-3A	05/03/21	11/01/21	70.1	±	7.01	0.39
RWMC O-41	05/03/21	11/01/21	142.9	±	14.29	0.79
RWMC O-43	05/03/21	11/01/21	68.2	±	6.82	0.37
RWMC O-46	05/03/21	11/01/21	64.2	±	6.42	0.35
RWMC O-47	05/03/21	11/01/21	64.9	±	6.49	0.36
RWMC O-5A	05/03/21	11/01/21	65.1	±	6.51	0.36

Table C-12. Environmental Radiation Measurements Using OSLDs

Location	Start Date	End Date	Radiation Measurement ± 1s Uncertainty mrem			Dose mrem/day
RWMC O-7A	05/03/21	11/01/21	61.7	±	6.17	0.34
RWMC O-9A	05/03/21	11/01/21	81.5	±	8.15	0.45
TAN LOFT O-10	05/03/21	11/02/21	57.7	±	5.77	0.32
TAN LOFT O-11	05/03/21	11/02/21	75.0	±	7.50	0.41
TAN LOFT O-12	05/03/21	11/02/21	62.7	±	6.27	0.34
TAN LOFT O-13	05/03/21	11/02/21	70.2	±	7.02	0.38
TAN LOFT O-6	05/03/21	11/02/21	68.8	±	6.88	0.38
TAN LOFT O-7	05/03/21	11/02/21	76.5	±	7.65	0.42
TAN LOFT O-8	05/03/21	11/02/21	63.1	±	6.31	0.35
TAN LOFT O-9	05/03/21	11/02/21	60.8	±	6.08	0.33
TRA O-1	05/03/21	11/03/21	69.6	±	6.96	0.38
TRA O-10	05/03/21	11/03/21	121.0	±	12.10	0.66
TRA O-11	05/03/21	11/03/21	110.4	±	11.04	0.60
TRA O-12	05/03/21	11/03/21	85.3	±	8.53	0.46
TRA O-13	05/03/21	11/03/21	77.9	±	7.79	0.42
TRA O-14	05/03/21	11/03/21	69.8	±	6.98	0.38
TRA O-15	05/03/21	11/03/21	74.5	±	7.45	0.40
TRA O-16	05/03/21	11/03/21	79.5	±	7.95	0.43
TRA O-17	05/03/21	11/03/21	82.8	±	8.28	0.45
TRA O-18	05/03/21	11/03/21	89.5	±	8.95	0.49
TRA O-19	05/03/21	11/03/21	98.1	±	9.81	0.53
TRA O-20	05/03/21	11/03/21	72.3	±	7.23	0.39
TRA O-21	05/03/21	11/03/21	84.9	±	8.49	0.46
TRA O-22	05/03/21	11/03/21	68.2	±	6.82	0.37
TRA O-23	05/03/21	11/03/21	70.9	±	7.09	0.39
TRA O-24	05/03/21	11/03/21	73.0	±	7.30	0.40
TRA O-25	05/03/21	11/03/21	68.3	±	6.83	0.37
TRA O-26	05/03/21	11/03/21	73.1	±	7.31	0.40
TRA O-27	05/03/21	11/03/21	77.2	±	7.72	0.42
TRA O-28	05/03/21	11/03/21	71.3	±	7.13	0.39
TRA O-6	05/03/21	11/03/21	80.9	±	8.09	0.44
TRA O-7	05/03/21	11/03/21	84.5	±	8.45	0.46
TRA O-8	05/03/21	11/03/21	86.6	±	8.66	0.47
TRA O-9	05/03/21	11/03/21	94.0	±	9.40	0.51
TREAT O-1	05/03/21	11/01/21	60.8	±	6.08	0.33
TREAT O-2	05/03/21	11/01/21	66.9	±	6.69	0.37
TREAT O-3	05/03/21	11/01/21	71.7	±	7.17	0.39
TREAT O-4	05/03/21	11/01/21	65.0	±	6.50	0.36

Table C-12. Environmental Radiation Measurements Using OSLDs

Location		Start Date	End Date	Radiation Measurement ± 1s Uncertainty mrem			Dose mrem/day
	TREAT O-5	05/03/21	11/01/21	67.3	±	6.73	0.37
	TREAT O-6	05/03/21	11/01/21	73.2	±	7.32	0.40
	TREAT O-7	05/03/21	11/01/21	71.0	±	7.10	0.39
	TREAT O-8	05/03/21	11/01/21	73.4	±	7.34	0.40
	VANB O-1	05/03/21	11/01/21	69.5	±	6.95	0.38
Onsite Average				**78.4**			**0.41**

Table C-13. Environmental Radiation Measurements Using TLDs

Location	Start Date	End Date	Radiation Measurement ± 1s Uncertainty mR			Exposure mR/day
BOUNDARY						
ARCO	05/05/21	11/03/21	58.10	±	5.69	0.32
ATOMIC CITY	05/05/21	11/03/21	59.40	±	5.82	0.33
BIRCH CREEK/RENO RANCH	05/05/21	11/03/21	52.00	±	5.09	0.29
BLUE DOME	05/05/21	11/03/21	50.60	±	4.96	0.28
HOWE	05/05/21	11/03/21	55.70	±	5.46	0.31
MONTEVIEW	05/05/21	11/03/21	60.80	±	5.96	0.33
MUD LAKE	05/05/21	11/03/21	62.20	±	6.10	0.34
Boundary Average			**57.0**			**0.31**
DISTANT						
ABERDEEN	05/03/21	11/02/21	60.20	±	5.90	0.33
BLACKFOOT (MOUNTAIN VIEW)	05/05/21	11/03/21	51.90	±	5.09	0.29
CRATERS	05/05/21	11/03/21	62.40	±	6.12	0.34
DUBOIS	05/05/21	11/03/21	49.00	±	4.98	0.27
IDAHO FALLS	05/05/21	11/03/21	58.00	±	5.69	0.32
JACKSON	05/10/21	11/04/21	58.30	±	5.72	0.33
MINIDOKA	05/03/21	11/02/21	55.30	±	5.42	0.30
ROBERTS	05/04/21	11/02/21	63.50	±	6.22	0.35
SUGAR CITY	05/05/21	11/03/21	76.80	±	7.53	0.42
Distant Average			**59.5**			**0.33**

Appendix D
Statistical Analysis Results

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

GROSS ALPHA					
Quarter	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	91	29487.50	324.0385		
Onsite	227	51164.00	225.3921	29.59919	0.0000
Distant	147	39490.00	268.6395		
October	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	28	2619.500	93.55357		
Onsite	75	5969.500	79.59333	3.906003	0.2718
Distant	46	4029.500	87.59783		
November	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	28	2950.500	105.3750		
Onsite	74	5152.000	69.6216	13.65539	0.0034
Distant	48	4198.500	87.4688		
December	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	35	4348.500	124.2429		
Onsite	78	5975.000	76.6026	1.582434	0.4533
Distant	53	5006.500	94.4623		
GROSS BETA					
Quarter	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	91	27313.00	300.1429		
Onsite	227	56901.00	250.6652	11.97675	0.0075
Distant	147	34720.00	236.1905		
October	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	28	2862.000	102.2143		
Onsite	75	5530.000	73.7333	7.617298	0.0546
Distant	46	3884.500	84.4457		
November	**Valid N**	**Sum of Ranks**	**Mean Ranks**	**H[a]**	**P[b]**
Boundary	28	3117.500	111.3393		
Onsite	74	6209.000	83.9054	18.49195	0.0003
Distant	48	3041.500	63.3646		

Table D-1. continued.

December	Valid N	Sum of Ranks	Mean Ranks	H[a]	P[b]
Boundary	35	3241.000	92.6000		
Onsite	78	7527.000	96.5000	2.280244	0.5163
Distant	53	4440.500	83.7830		

a. Kruskal Wallis test statistic calculated using mean ranks. This test assumes H is approximately distributed as χ^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 D-2. Results of multiple comparisons of gross alpha results between locations during the fourth 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 ($x10^{-15}$) (4th_Qtr_2021_Air_combined in 4th-Qtr-21-LVf(1))
Independent (grouping) variable: GeographicName
Kruskal-Wallis test: H (35, N= 515) =32.33729 p =.5973
Include condition: v8='gross beta'

Depend.: Coded result ($x10^{-15}$)	Arco R:298.42	Atomic City R:315.65	ATR Complex R:223.64	Blackfoot R:241.16	Blue Dome R:287.92	CFA R:234.88	Craters of the Moon R:212.02	Dubois R:276.19	EBR-I R:227.50	EFS R:290.70	FAA Tower R:263.58	Gate 4 R:272.63	Highway 26 Rest Area R:199.67	Howe R:307.81	Idaho Falls R:257.34	INTEC (NE corner) R:265.04	INTEC (west side) R:221.25	IRC R:239.58	IRC North R:222.50	Jackson WY R:219.65	Main Gate R:313.77	MFC North R:198.58	MFC South R:212.92	Monteview R:314.73	Mud Lake R:312.88	NRF R:269.29	RHHLW R:253.42	RWMC R:233.67	RWMC South R:213.33	SMC R:261.46	Sugar City R:224.08	Van Buren R:285.60
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	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	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	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	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	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	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	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	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	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	1.000000
FAA Tower	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	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	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	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
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
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
Mud Lake	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	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
RHHLW	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	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
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 D-3. Results of multiple comparisons of gross beta results between locations during the fourth 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 ($x10^{-15}$) (4th_Qtr_2021_Air_combined in 4th-Qtr-21-LVf(1))
Independent (grouping) variable: GeographicName
Kruskal-Wallis test: H (35, N= 515) =32.33729 p =.5973
Include condition: v8='gross beta'

Depend.: Coded result ($x10^{-15}$)	Arco R:298.42	Atomic City R:315.65	ATR Complex R:223.64	Blackfoot R:241.16	Blue Dome R:287.92	CFA R:234.88	Craters of the Moon R:212.02	Dubois R:276.19	EBR-I R:227.50	EFS R:290.70	FAA Tower R:263.58	Gate 4 R:272.63	Highway 26 Rest Area R:199.67	Howe R:307.81	Idaho Falls R:257.34	INTEC (NE corner) R:265.04	INTEC (west side) R:221.25	IRC R:239.58	IRC North R:222.50	Jackson WY R:219.65	Main Gate R:313.77	MFC North R:198.58	MFC South R:212.92	Monteview R:314.73	Mud Lake R:312.88	NRF R:269.29	RHHLW R:253.42	RWMC R:233.67	RWMC South R:213.33	SMC R:261.46	Sugar City R:224.08	Van Buren R:285.60
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
FAA Tower	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000		1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	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
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	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	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
Mud Lake	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	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
RHHLW	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	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
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	

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